PENRITH
CITY COUNCIL

MAJOR ASSESSMENT REPORT

Application number:	DA17/0559
Proposed development:	Proposed 45 x Unit Residential Flat Building Including Area for a Future Potential Ground Floor Child Care Centre with Associated Basement Car parking, Landscaping & Drainage works
Property address:	72 Park Avenue, KINGSWOOD NSW 2747
Property description:	Lot 10 DP 1224143
Date received:	27 June 2017
Assessing officer	Jane Hetherington
Zoning:	Zone R4 High Density Residential - LEP 2010
Class of building:	Class 2 , Class 9b , Class 7a
Recommendations:	Approve

Executive Summary

Reason for Determination by Penrith Local Planning Panel: *The development application is for a residential flat building under the Provisions of State Environmental Planning Policy No. 65 - Design Quality of Residential Apartment Development*

Council is in receipt of a development application for the construction of a residential flat building containing 45 units, including an area for a future potential ground floor child care centre and 2 levels of basement car parking at 72 Park Avenue, Kingswood.

The subject site is zoned R4 High Density Residential under the Penrith Local Environmental Plan 2010. *Residential flat buildings* are a permissible land use (under the residential accommodation group term) in the R4 High Density Residential zone, with Council consent. The application also seeks in principle approval of an area for a future child care centre. *Centre-based child facilities* are also a permissible land use in the R4 High Density zone.

The Minister for Planning recently gave directions under Section 9.1 of the *Environmental Planning and Assessment Act 1979* on the development applications that are to be determined on behalf of Council by a local planning panel. These directions, dated 23 February 2018, outline that development within the Penrith Local Government Area (LGA) that is for a residential flat building under the provisions of *State Environmental Planning Policy No. 65 - Design Quality of Residential Apartment Development* require determination by a local planning panel.

The development application as originally lodged included 50 residential units and variations to the building height requirements within the LEP. Through the course of the assessment and in response to issues raised by Council, the development has been amended to reduce the extent of the height variation, improve design quality and reduce the density to 45 x units as now proposed.

The development application has been advertised in a local newspaper and notified to all adjoining properties and adjacent property owners and placed on public exhibition between 14 July and 28 July 2017. One submission was received in response raising concerns relating to over supply of child care services in the Penrith area. The amended plans were re-notified between 2 July 2018 and 16 July 2018. No further submissions were received.

Key issues identified for the proposed development include:

Impact of Future Child Care Centre
While the current development application does not seek approval for the fit-out and use of the child care centre (CCC), concept approval within the ground floor of the development is sought. The application was accompanied by an acoustic report and traffic report which addressed any potential impacts from a future potential CCC. These documents have provided Council a level of assurance that a CCC within the development could comply with relevant policies and criteria. However, detailed assessments will still be required to accompany the future fit-out and use development application.

Extent of Retaining Walls
There are numerous retaining walls located across the site which is due to the natural topography. While the development has incorporated a split level slab construction, cut (up to 2m) is still required across the site. The majority of retaining walls will not be visible from adjoining properties or the street and as such, is not considered to impact on the amenity of adjoining residents or the streetscape. However, the development includes a solid masonry wall along the eastern boundary which has a maximum height of 2.6m. This is due to the basement height (which is required to accommodate Council's Waste Services vehicles) and the provision of fire stairs. Given that the ground floor of the adjoining RFB development consists of garages and that the common driveway is located adjacent to the site, the proposed wall is not considered to have any adverse amenity impacts. In addition, the highest point of the wall (2.6m) is setback approximately 23m from the street and therefore not considered highly visible from the street.

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

Site & Surrounds

The subject site is a single residential allotment located on the northern side of Park Avenue known as 72 Park Avenue, Kingswood. The site is a vacant lot and was created from a subdivision of land previously owned by St Josephs Primary School, which shares the northern boundary of the subject site.

The site has a frontage of 30 metres with an overall area of 1960.4m^2. The site is orientated in a southern alignment. The site falls from north to the street by approximately 6 metres. The site is not identified as bush fire prone land and is not affected by local overland flow or mainstream flooding.

The surrounding locality is characterised by older medium to high density housing stock. Existing developments in the area, particularly on Park Avenue, are older style strata titled residential units which are unlikely to be redeveloped in the medium to long term.

The subject site is bound by St Jospehs Primary School to the north, a 3 storey flat building to the east, the Western Railway adjacent Park Avenue and a two storey townhouse development to the west.

Proposal

The proposed development involves:

- The construction of a 5 storey residential flat building comprising the following:
- 45 units (15 x 1 bedroom units & 30 x 2 bedroom units) - including 5 adaptable units; and
- Rooftop common open space.

- Area within ground floor for child care centre (subject to future development application);

- Two levels of basement car parking comprising:
- 45 x resident car parking spaces (including five accessible spaces);
- 10 x visitor car parking spaces;
- 11 x staff parking spaces for child care workers;
- 3 x motorcycle parking spaces;
- Bicycle parking; and
- Waste infrastructure.

- Associated landscaping and drainage works.

Plans that apply

- Local Environmental Plan 2010 (Amendment 4)
- Development Control Plan 2014
- State Environmental Planning Policy (Infrastructure) 2007
- State Environmental Planning Policy No 65—Design Quality of Residential Flat Development
- Sydney Regional Environmental Plan No.20 - Hawkesbury Nepean River

Planning Assessment

- ### Section 79C - Evaluation

  The development has been assessed in accordance with the matters for consideration under Section 4.15 (formerly Section 79C) of the *Environmental Planning and Assessment Act 1979*, and having regard to those matters, the items below have been identified for further consideration.

Section 79C(1)(a)(i) The provisions of any environmental planning instrument

State Environmental Planning Policy (Infrastructure) 2007

Clause 86 - Excavation in, above, below or adjacent to rail corridors

Clause 86 of *State Environmental Planning Policy (Infrastructure) 2007* applies to development that involved the penetration of ground to a depth of at least 2m below ground level (existing) on land:
(a) within, below or above a rail corridor, or
(b) within 25m (measured horizontally) of a rail corridor, or
(b1) within 25m (measured horizontally) of the ground directly below a rail corridor, or
(c) within 25m (measured horizontally) of the ground directly above an underground rail corridor.

Given the proximity of the subject site to the Main Western Rail and that the development includes the construction of a basement car park, the application has been referred to Sydney Trains albeit late in the assessment and as such the recommendation for approval is subject to agreement in writing from Sydney Trains being received.

Clause 87 - Impact of rail noise or vibration on non-rail development

Clause 87 of *SEPP (Infrastructure) 2007* specifies that if development is for the purposes of residential accommodation, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following LAeq levels are not exceeded:

(a) in any bedroom in the residential accommodation - 35 dB(A) at any time between 10.00 pm and 7.00 am,
(b) anywhere else in the residential accommodation (other than a garage, kitchen, bathroom or hallway) - 40 dB(A) at any time.

The application was supported by an acoustic report titled *'Acoustic and Railway Vibration DA Assessment'* prepared by Acrouras Consultancy and dated 6 August 2018. This report specifies the external construction materials and glazing thickness required to achieve the above noise criteria. A condition of consent is recommended to ensure that the recommendations of the acoustic report are incorporated into the construction certificate plans.

State Environmental Planning Policy No 65—Design Quality of Residential Flat Development

As assessment has been undertaken of the proposal against the relevant criteria within the State Environmental Planning Policy No. 65—Design Quality of Residential Apartment Development and the proposal is found to be satisfactory, subject to recommended conditions of consent. The proposal is considered to be acceptable when assessed against the nine Design Quality Principles of Schedule 1.

Table 2 below provides an assessment against the applicable provisions of the accompanying Apartment Design Guide (ADG).

Table 2: Assessment Against the Apartment Design Guide (ADG)			
Part 3	Required	Discussion	Complies
3A-1	Each element in the Site Analysis Checklist should be assessed.	A Site Analysis plan was submitted with the application and identifies applicable elements as required within the Checklist. A written description of the proposal and subject site are also included in the submitted Statement of Environmental Effects and accompanying plans and reports.	Yes.
3B-1	Buildings to address street frontages.	The south elevation adequately addresses Park Avenue. The common entry and foyer areas are of an appropriate design and location.	Yes.
3B-2	Living areas, Private Open Space (POS) and Communal Open Space (COS) to receive compliant levels of solar access.	Refer discussion under Parts 3D and 4A.	N/A.

	Solar access to living spaces and POS of neighbours to be considered.	Due to the orientation of the site, acceptable levels of solar access can be maintained to the open spaces and living zones of neighbouring properties. Additional over shadowing attributed to the development will predominantly fall toward Park Avenue to the south.	Yes.
	If the proposal will significantly reduce the solar access of neighbours, building separation should be increased.	Acceptable levels of solar access is achieved between the primary daylight hours at the winter solstice. An increase in building separation is not required.	Yes.
3C-1	Courtyard apartments should have direct street access.	The ground floor apartment does not have direct access to the street, which is due to the topography of the site and the provision of the access ramp and fire stairs making it unfeasible.	No - minor variation considered supportable.
	Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings.	The ground floor apartment adjacent to Park Street is approximately 1.36m above street level which is due to the sites natural topography. A 4.5m wide landscaped area is provided reducing the visual impact and protecting unit privacy.	Yes.
	Upper level balconies and windows to overlook the street.	All apartments are provided with balconies and living areas overlooking Park Avenue.	Yes.
	Length of solid walls should be limited along street frontages.	Given the natural topography of the site, retaining walls are required along the street frontage. However, the majority are located behind landscaping which will provide a visual barrier.	Yes.
	Opportunity for concealment to be minimised.	Entryways are wide, straight and located to reduce opportunity for crime and concealment.	Yes.
3C-2	Ramping for accessibility should be minimised.	Ramping is proposed relative to the street.	Yes.
3D-1	Communal Open Space (COS) to have minimum area of 25% of site.	524m² of COS is proposed to be provided at the roof top level which complies with the ADG requirement for 25% of site (or 490m²) to be provided as COS.	Yes.
3D-4	Boundaries should be clearly defined between public open space and private areas.	The private open space areas of the development are clearly defined by the use of landscaping, walls, fencing and paving elements.	Yes.
3E-1	Deep soil is to be provided at a rate of 7% of site area with a min. dimension of 3m.	19% of the site is provided as deep soil which complies with the ADG minimum requirement of 7%.	Yes.

3F-1	1-4 Storeys – 6m habitable to habitable and 3m for non-habitable. 5-8 storeys – 9m habitable to habitable and 4.5m for non-habitable.	The development complies with the guideline separation distances as provided by the ADG. The subject site adjoins a three storey RFB to the east and a two storey townhouse development to the west. The following separation distances are provided: - 12m to the three storey RFB; and - 8m to the two storey townhouse development (noting 6m are proposed to the western boundary as per the ADG).	Yes.
3G-1	Building entries to be clearly identifiable.	Building entryways are visible from the street.	Yes.
3G-2	Building access ways and lift lobbies to be clearly visible from the public domain and communal spaces.	The main pedestrian entryways to the lobbies are visible from Park Avenue.	Yes.
	Steps and ramps to be integrated into the overall building and landscape design.	Steps and ramps are integrated into the design.	Yes.
3H-1	Carpark access should be integrated with the building's overall façade.	The car parking is adequately integrated into the design with the car park entry (off Park Avenue) setback from the building façade.	Yes.
	Clear sight lines to be provided for drivers and pedestrians.	Adequate sight lines are provided for drivers and pedestrians at the street frontage. A condition of consent is also recommended in this regard.	Yes. Condition recommended.
	Garbage collection, loading and servicing areas are screened.	The waste collection, loading and servicing areas are contained within the basement.	Yes.
3J-1	The site is located within 800m of a railway station and as such car parking rates are set by the RMS (formerly RTA) Guide to Traffic Generating Developments document.	Complies - Refer discussion under Penrith DCP 2014 in the appendix.	Yes.
3J-2	Secure undercover bicycle parking should be provided for motorbikes and scooters.	Secure bicycle and motorcycle parking is proposed within the basement of the building.	Yes.
3J-3	A clearly defined and visible lobby area or waiting area should be provided to lifts and stairs.	Lobby areas are clearly defined and appropriately located with sufficient safe manoeuvring areas provided.	Yes.
	Supporting facilities within car parks, including garbage, plant and switch rooms, storage areas, and car wash bays can be accessed without crossing car parking spaces.	The basement areas are provided with bicycle parking and garbage rooms that are accessed from common areas and do not rely on access through parking spaces.	Yes.

3J-6	Positive street address and active frontages to be provided at ground floor.	Wide and direct pedestrian access pathways are provided to the communal entries and lift lobby areas via Park Avenue and internal common open space areas.	Yes.
4A-1	Living rooms and private open spaces of at least 70% of apartments to receive 2 hours direct sunlight between 9am and 3pm mid-winter.	Submitted documentation confirms that 73% of apartments are provided with compliant levels of solar access.	Yes.
4A-3	Sun shading devices are to be utilised.	Balconies are proposed to be covered by the levels over. Submitted elevations include sun shading devices and louvres.	Yes.
4B-3	60% of apartments are to be naturally ventilated and overall depth of cross-through apartments 18m maximum glass-to-glass line.	Submitted documentation confirms that 76% of apartments receive natural cross flow ventilation.	Yes.
4C-1	Finished floor to finished ceiling levels are to be 2.7m for habitable rooms, 2.4m for non-habitable rooms.	The proposal is for a minimum of 2.7m measured from finished floor to finished ceiling level.	Yes.
4D-1	Apartments are to have the following min. internal floor areas: 1 bed – 50sqm 2 bed – 70sqm 3 bed – 90sqm Additional bedroom areas increase minimum area by 5sqm.	All proposed apartment sizes comply with the ADG requirements.	Yes.
4D-2	In open plan layouts the maximum habitable room depth is 8m from a window.	All units comply with this requirement.	Yes
4D-3	Master bedrooms to be 10sqm's and other rooms 9sqm's.	All units comply with this requirement.	Yes.
	Bedrooms to have a minimum dimension of 3m.	All units comply.	Yes
	Living rooms to have minimum width of 3.6m for a 1 bedroom unit and 4m for 2 & 3 bedrooms.	All units comply.	Yes
4E-1	All units to have the following primary balcony areas: 1 bed – 8sqm (2m deep) 2 bed – 10sqm (2m deep) 3 bed – 12sqm (2.4m deep)	All units comply.	Yes.

4E-3	Downpipes and balcony drainage are integrated with the overall facade and building design.	A condition of consent is recommended in this regard.	Yes. Condition recommended.
	Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design.	A condition of consent is recommended in this regard.	Yes. Condition recommended.
4F-1	Daylight and natural ventilation to be provided to all common circulation spaces.	Natural light is provided to the central lobby and lift core circulation spaces via glazing on the front door.	Yes.
4G-1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is to be provided: 1 bed – 4m^3 2 bed – 6m^3 3 bed – 10m^3 With 50% of the above to be provided within the Units.	Adequate storage is provided within each unit.	Yes.
4K-1	Flexible apartment configurations are provided to support diverse household types.	The development proposes a range of unit sizes, configurations and number of bedrooms to accommodate change over time and cater for differing households. Unit mix is proposed as follows: 15 x 1 bedroom apartments (33%) 30 x 2 bedroom apartments (67%) The application was accompanied by a Access Report confirming that the five (5) adaptable units can comply with the spatial requirements of AS 4299 for Adaptable Housing. Adaptable apartments are to be allocated an accessible car parking space. It is noted that 5 accessible car parking spaces for residents are proposed on basement level 1.	Yes. Conditions recommended.
4L-1	Direct street access should be provided to ground floor apartments.	Due to the natural topography of the site and the provision of a ramp and fire stairs direct access to the ground floor apartments is unable to be provided.	No - minor variation considered supportable.
4M-1	Building facades to be well resolved with an appropriate scale and proportion to the streetscape and human scale.	The proposal was subject to a review by Council's Urban Design Review Panel. Varying ground, mid and upper level elements are provided to break up the bulk of the building and provide elements of contrast.	Yes.

4O-1	Landscape design to be sustainable and enhance environmental performance.	The submitted landscape plan prepared by A Total Concept indicates a selection of trees, shrubs and ground covers appropriate for the site. Conditions of consent are recommended with regard to landscape maintenance.	Yes. Conditions recommended.
4Q-2	Adaptable housing is to be provided in accordance with the relevant Council Policy.	Five (5) units are provided as adaptable which equates to 11% complying with Council's policy.	Yes.
4U-1	Adequate natural light is provided to habitable rooms.	All habitable rooms are provided with appropriate levels of natural light. Apartment depths and open floor plan arrangements allow light into kitchens, dining and living areas.	Yes.
4V-2	Water sensitive urban design systems to be designed by suitably qualified professional.	The application has been referred to Council's internal Environmental Waterways Unit with no objections raised. The proposed development can comply with Council's WSUD Policy requirements with the use of enviropods and stormfilter cartridges and water conservation managed with the installation of rainwater tanks.	Yes.
4W-1	A Waste Management Plan is to be provided.	A Waste Management Plan has been submitted.	Yes.
	Circulation design allows bins to be easily manoeuvred between storage and collection points.	The waste collection area is located within the basement. Councils waste department have confirmed that the design is adequate and has the ability to accommodate the number of bins required to service the site and manoeuvring area.	Yes.

Penrith Urban Design Review Panel

The application was reviewed by Council's Urban Design Review Panel (UDRP) on a number of occasions. At the final review (which took place on 20 May 2018) Council's UDRP confirmed that the application was supportable subject to amendments in regards to: increased basement and side setbacks; additional cross section details; a reduction in hard stand elements in the front setback; and planting on top of the waste collection area. Amended plans were received addressing these issues and as such the application is supportable from the an urban design perspective.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

The SEPP has provisions for the construction of new child care facilities which focuses on providing a consistent approach to planning for child care services with good design and functionality. The SEPP requires new child care centres to address the controls and guidance criteria in the Child Care Planning Guideline.

The plans indicate the internal layout for the future child care centre, however these have not been assessed against the requirements of the *SEPP (Educational Establishments and Child Care Facilities) 2017* given that the applicant has advised that the fit-out and use of the child care centre will be subject to a future application.

Sydney Regional Environmental Plan No.20 - Hawkesbury Nepean River

Sydney REP No. 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 REP No. 11 - Penrith Lakes Scheme*. The REP is supported by an Action Plan, which includes actions necessary to improve existing conditions.

The proposed development is in accordance with the general planning considerations set out in Clause 5 of the REP and the relevant specific planning policies and related recommended strategies set out in Clause 6. In particular, provision will be made for adequate erosion and sediment control measures to ensure sediment as a result of the development is not deposited in the Hawkesbury-Nepean River via the stormwater system.

Stormwater run-off from the development is proposed via stormwater drainage pipes to a detention tank where the water will be appropriately treated in accordance with Council's WSUD policies before being discharged to the street drainage system.

Council's Development Engineer and Waterways Officers have reviewed the proposed development with regard to stormwater drainage and treatment and is satisfied that this aspect of the proposal complies with Councils requirements.

Local Environmental Plan 2010 (Amendment 4)

Provision	Compliance
Clause 1.2 Aims of the plan	Complies
Clause 2.3 Permissibility	Complies - See discussion
Clause 2.3 Zone objectives	Complies
Clause 4.1A Minimum lot sizes for dual occupancies, multi dwelling housing and residential flat buildings	Complies - See discussion
Clause 4.3 Height of buildings	Does not comply - See discussion
Clause 4.4 Floor Space Ratio	N/A
Clause 4.6 Exceptions to development standards	Complies - See discussion
Clause 5.9 Preservation of trees or vegetation	Complies - See discussion
Clause 7.1 Earthworks	Complies
Clause 7.2 Flood planning	N/A
Clause 7.4 Sustainable development	Complies
Clause 7.6 Salinity	Complies
Clause 7.7 Servicing	Complies

Clause 2.3 Permissibility
The subject site is zoned R4 High Density Residential under the provisions of Penrith Local Environmental Plan 2010. The proposal is defined as a *residential flat building* (type of *residential accommodation)* and a *centre-based child care* facility, which are permissible land uses in the R4 zone subject to Council consent.

Clause 4.1A Minimum lot sizes for dual occupancies, multi dwelling housing and residential flat buildings
In accordance with Clause 4.1A, within the R4 High Density Residential Zone, a lot is to have a minimum area of 800m² for Residential Flat Building development. The subject site complies with this requirement with an area of 1960m².

Clause 4.3 Height of buildings

In accordance with Clause 4.3 of Penrith LEP 2010, the maximum height of any building permitted on the subject site is 15 metres. The proposal is for a maximum of 15.94m and as such, does not comply. The encroachment is a maximum of approximately 0.94 metres or 6%. This variation can be considered by Council under Clause 4.6 Variations to Development Standards, as discussed below.

Clause 4.6 Exceptions to development standards
Clause 4.6(2) of the LEP specifies that consent may be granted for development even though the development would contravene a development standard imposed by the LEP, or any other environmental planning instrument. However, Clause 4.6(3) states that:

Development consent must not be granted for development that contravenes a development standard unless the consent authority has written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstance of the case, and
(b) there are sufficient environmental planning grounds to justify contravening the development standard.

Further, Clause 4.6(4) states that:
Development consent must not be granted for development that contravenes a development standard unless:
(a) the consent authority is satisfied that:
(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and
(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and
(b) the concurrence of the Secretary has been obtained.

Clause 4.3(2) Height of Buildings specifies that 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. The Height of Buildings Map sets out a maximum building height of 15m applying to the site. The rear or northern lift overrun provides a RL of 69.3 over an existing ground level of RL 53.36 and therefore provides a maximum building height of 15.94m, which represents a 6.26% variation to the building height standard.

In accordance with Clause 4.6, the development application was lodged with a written request to vary the maximum building height control of 15m. The Clause 4.6 variation submission has been prepared and responds to the case of Four2Five Pty v Ashfield Council [2015] NSWLEC 90 as well as the 'five part test' established in Wehbe v Pittwater Council [2007] NSWLEC 827. The applicant's response to the matters listed in Clause 4.6(3) and (4) are discussed below:

- *"The subject development has been able to excise an underutilised section of an adjoining primary school for development purposes which in turn has allowed for the achievement of orderly development of the land and an environmental planning outcome that has been contemplated by both the strategic and statutory planning framework.*
- *The development of a slightly taller form that the LEP would otherwise allow has in turn reduced the building footprint and allowed for large areas of the site to be provided as deep soil landscaping. In this regard, the development is required to provide only 7% deep soil landscaping but actually provides 19% of the site as deep soil landscaping.*
- *This increased provision of deep soil area allows for retention of the prevailing site topography and existing vegetation on adjacent lands. Similarly, this allows for the greater provision of large trees as part of the sites landscape response.*
- *The use of a narrower, yet taller build form also allows for better environmental performance in terms of solar access and natural ventilation. In this regard the development proposal exceeds the Apartment Design Guide (ADG) requirements for solar access (71%) and cross ventilation (62%) respectively.*
- *Much of the area that exceeds the development standard is not discernible as viewed form the public domain as it is setback from the front of the site and the lift overrun have been located centrally on*

the roof. Accordingly, the proposed elements that breach the height standard do not contribute to distinguishable bulk, scale or density of the building.

- *Further, the non-compliance is primarily a result of the sites raised natural ground level at the mid to rear of the site and as such a complying development would require additional excavation of the site.*
- *The proposed development actually seeks to retain the site natural topography at this location and therefore is considered to better represent a more site responsive development.*
- *There will be no adverse amenity impacts to the surrounding properties or the public domain areas as a result of the proposed variation.*
- *The proposal does not result in any unacceptable overshadowing impacts to adjoining properties other than what is anticipated by Council's controls."*

In response to Clause 4.6(4)(b), the NSW Department of Planning and Environments planning circular, *PS18-003 - Variations to development standards,* outlines Secretary's concurrence may be assumed for applications being considered by a local planning panel.

In accordance with sub-clause (4), the applicant's objection is well founded and is consistent with the aims of the clause. The objection has adequately addressed the matters prescribed in the LEP, and has demonstrated that full compliance with the maximum building height requirement would be unreasonable and unnecessary in the circumstances of the case. The environmental planning grounds put forward by the applicant are supported in this instance. The proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out.

Of particular importance is the overarching objective of the standard which is to facilitate development that is of an appropriate built form. The proposed design accommodates a high quality urban design outcome for the site. The architectural features proposed improve the appearance of the development and will add to the residential amenity for future occupants.

As a result the proposed variation and associated justification is considered to be reasonable and the variation to the lot size requirements in the DCP is supportable.

Clause 5.9 Preservation of trees or vegetation

The vegetation on the site is mapped as Shale Plains Woodland. The site contains ten (10) trees with a further seven (7) trees located on adjoining properties within close proximity to the sites boundary. To assess the health and condition of the trees and make recommendations for their retention or removal the application was supported by an Aboricultural Assessment Report, prepared by Tree and Landscape Consultants and dated 28 February 2017. This report details that the development will necessitate the removal of all trees located on the site, which are native and of medium significance. The report also details that three (3) of the trees located on adjoining properties are of medium significance while the remaining four (4) are of low significance, being smaller exotic specimens. The report outlines that all seven (7) trees on adjoining properties should be retained. A condition of consent will require that these trees are retained in accordance with the arborists report.

The proposed landscaping works for the site, which includes the planting of replacement trees will compensate for the removal of the ten (10) trees.

Section 79C(1)(a)(iii) The provisions of any development control plan

Development Control Plan 2014

Provision	Compliance
DCP Principles	Complies
C1 Site Planning and Design Principles	Complies
C2 Vegetation Management	Complies
C3 Water Management	Complies
C4 Land Management	Complies
C5 Waste Management	Complies
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	Does not comply - see Appendix - Development Control Plan Compliance
C11 Subdivision	N/A
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	N/A
D2.5 Residential Flat Buildings	Does not comply - see Appendix - Development Control Plan Compliance
D2.6 Non Residential Developments	N/A

Section 79C(1)(a)(iv) The provisions of the regulations

In accordance with Section 143 of the *Environmental Planning and Assessment Regulation 2000*, an assessment of the fire protection and structural capacity of the proposed building is necessary. The application was referred to Council's Building Surveyor for assessment with no objections raised, subject to the recommended conditions.

The proposed development complies with the requirements of the Regulations.

Section 79C(1)(b)The likely impacts of the development

Context and Setting

Initially the proposal included a six storey building incorporating 50 apartments. To respond to the character of the surrounding area and improve the amenity for adjoining residents, the scale of the development was reduced and the side setbacks increased. The amended design now provides a five storey building however, it presents as four storeys at the street frontage. From that originally proposed, the front and western side setbacks have been increased and the development is now considered to be compatible to the surrounding locality in terms of bulk and scale. In addition, the basement has been amended to allow the retention of established trees on adjoining properties. The proposal has been reviewed by Council's Urban Design Review Panel who are supportive of the amended design.

Noise and Vibration Impacts

The application was supported by an acoustic report titled *'Acoustic and Railway Vibration DA Assessment'* prepared by Acouras Consultancy and dated 6 August 2018. This report included an assessment of the major noise sources associated with the development including the future child care centre, construction noise and railway noise and vibration.

To quantify the existing acoustic environment both long term unattended noise logging and attended noise measurements was undertaken. Unattended noise monitoring was conducted over a 7 day period from 19 January to 25 January 2017. Attended monitoring was also conducted on both 19 January 2017 and 25 January 2017 to verify the background noise level.

Child Care Centre

While the fit-out and use of the child-care centre (CCC) will be subject to a future development application, the acoustic report included an initial assessment to provide a level of assurance that a CCC in this location could comply with the noise limits set by the Association of Australian Acoustical Consultants (AAAC). Typical sound power of children activity noise was based on the AAAC document *'Guideline for Child Care Centre Acoustic Assessment*'. Modelling was undertaken on the assumption of a 70 place child care centre comprising 20 x 0-2 years; 20 x 2-3 years; and 30 x 3-5 years will be provided on the site. The report concludes that the noise limits can be achieved if a 1.8m high boundary fence is constructed, 10.38mm thick laminated glazing is used and a number of management practices implemented (i.e. limiting outdoor activity to between 9am - 5pm). While Council is satisfied that a CCC could comply with relevant noise criteria, a detailed acoustic assessment will be required to accompany the future fit-out and use development application, when the operational activities have been finalised.

Construction Activity

A condition of consent will restrict earthworks and construction activities to be undertaken to hours in accordance with the NSW Environmental Protection Authority (EPA) Noise Control Guidelines. The acoustic report recommends that a detailed assessment be undertaken when the construction schedule and equipment to be operated has been finalised. This recommendation has formed a condition of consent.

Mechanical Plant/Equipment Noise

The acoustic report included a preliminary assessment of the mechanical plant/equipment noise which was based on similar projects. As the specific mechanical plant/equipment has not been selected, a detailed acoustic assessment is unable to be completed at this stage. The acoustic report recommends that this be completed during the Construction Certificate design stage. This recommendation has formed a condition of consent.

Accessibility

The application was supported by an Access report titled *'Statement of Compliance - Access for People with a Disability'* prepared by Accessible Building Solutions and dated 15 February 2017. This report confirms that the five (5) adaptable units can comply with the spatial requirements of AS 4299 for Adaptable Housing. It is recommended that a condition be included in the consent requiring that the recommendation contained within this report be shown on the construction certificate plans.

Access, Traffic and Parking

The application was supported by a traffic report titled *'Traffic Impact Assessment'*, prepared by Ason Group and dated 28/02/2017. This report provided an assessment of the relevant traffic and parking implications of the proposal. This report confirms that the moderate increase in traffic volumes as a result of the development will have minimal impact on the surrounding road network.

Vehicular access to the site is provided via a 6m wide driveway off Park Avenue. The basement design will allow vehicles (including Council's 10.5m waste collection vehicle) to enter and exit the site in a forward direction.

As the subject site is located within 800m of a railway station, in accordance with the Apartment Design Guideline (ADG), the rates outlined in the RMS document 'Guide to Traffic Generating Development' are applicable for the residential component. Penrith Development Control Plan 2014 provides the applicable rates for the future child care component. The development provides car parking in accordance with these documents (as discussed in the DCP section of this report marked appendix). The accompanying traffic

report concludes that the development will not result in any adverse impacts on the availability of on-street parking.

Council's Traffic Engineer and Development Engineer have reviewed the application and raise no objection to the development.

Waste Management
The application was supported by a Waste Management Plan prepared by Dickens Solutions and dated 1/06/2018. This plan details the way in which all waste and materials resulting from the excavation, construction and on-going use of the building on the site are to be dealt with.

The development proposes on-site collection by Council's waste contractors and incorporates waste collection/storage rooms and a bulky goods area within basement 1. A linear shoot system is provided for waste and recycling streams for both residential cores. Council's Waste Department have confirmed there is sufficient area to accommodate the required number of bins and allow for adequate manoeuvring. The application has demonstrated that a 10.5m waste collection vehicle can enter and exit the site in a forward direction with minimal manoeuvring.

The proposed arrangements have been reviewed by Council's Waste Officer and Traffic Engineer who are supportive of the application subject to conditions.

Section 79C(1)(c)The suitability of the site for the development

The site is suitable for the following reasons:

- The site is zoned to permit the proposed use.
- The use is compatible with surrounding and adjoining land uses.
- The grade of the site is suitable for the design proposed.
- The site is able to drain to Council's satisfaction.
- The site is located within close proximity to Kingswood Railway Station.

Section 79C(1)(d) Any Submissions

Community Consultation

In accordance with the Act and Regulations, consideration has been given to any necessary referrals and any submissions made.

Community consultation
In accordance with Appendix F4 of the Penrith Development Control Plan 2014, the proposed development was notified to nearby and adjoining residents between 14 July and 28 July 2017.

Council received one submission in response. A table is provided below which summarises the concerns raised in the submission received.

Concerns raised	Response
Community needs There are vacancies at surrounding child care centres which represents a lack in the demand for child care in the area.	A community needs analysis has not been provided with the application. The SEPP (Child care and educational establishments) states that there is no minimum distance required between child care centres or the number of centres within a local government area. In addition, the SEPP does not require an applicant to demonstrate the demand for these services.

The amended plans were re-notified between 2 July 2018 and 16 July 2018. No submissions were received.

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
Waste Services	No objections - subject to conditions
Traffic Engineer	No objection subject to conditions
Community Safety Officer	No objections
Social Planning	No objections

Section 79C(1)(e)The public interest

The proposed development will not generate any significant issues of public interest.

Section 94 - Developer Contributions Plans

The following Section 94 plans apply to the site:

- Section 94 - District Open Space Facilities
- Section 94 - Cultural Facilities
- Section 94 - Penrith City Local Open Space

The following Section 94 calculations apply to the proposed development.

Calculation for Residential Flat Building x 45 Apartments

Open Space

No. of units	x	Rate	-	Credit for existing dwelling/s	Contribution rate
45	*x*	*2*	*-*	*3.1*	*86.9*

City wide

No. of units	x	Rate	-	Credit for existing dwelling/s	Contribution rate
45	*x*	*2.4*	*-*	*3*	*105*

AMOUNT

S.94 Contribution Plan	Contribution Rate x Calculation rate	Total
District Open Space	*86.9 x $1,942*	$168,760
Local Open Space	*86.9 x $702*	$61,004
Cultural facilities	*105 x $164*	$17,220
	NET TOTAL	**$246,984**

Conclusion

In assessing this application against the relevant environmental planning policies, in particular the State Environmental Planning Policy No. 65 - Design Quality of Residential Apartment Development, Penrith Local Environmental Plan 2010 and the Penrith Development Control Plan 2014, the proposal is considered to satisfy the primary aims, objectives and provisions of these policies.

In its current form, the proposal will have an acceptable impact on the surrounding character of the area. The proposed design is considered to be site responsive and is not contrary to the public interest. The application is therefore worthy of support, subject to recommended conditions.

Recommendation

1. That the submitted variation to a development standard under clause 4.6 of the standard instrument be supported.
2. That those making submissions are notified of the determination.
3. That DA17/0559 for the construction of a 45 x unit Residential Flat Building including area for a Future Potential Ground Floor Child Care Centre at 72 Park Avenue, Kingswood, be approved following receipt of concurrence/agreement from Sydney Trains, incorporation of any requirements stemming from this concurrence as conditions, and subject to the attached conditions within this report.

CONDITIONS

General

1 A001

The development must be implemented substantially in accordance with the following plans stamped approved by Council, the application form, the BASIX Certificate and any supporting information received with the application, except as may be amended in red on the approved plans and by the following conditions.

Drawing Title	Drawing Reference	Prepared By	Dated
Architectural Plans	17-090 DA001-DA093 (Rev F)	Urban Link	04/07/2018
Landscape Plans	L/00 – L/03	A Total Concept – Landscape Architects	08/06/2018
Stormwater Concept Plan	20160414 Sheets SW01-07	SGC Consulting Engineers P/L	23/02/2017
Waste Management Plan	Version 3	Dickens Solutions	1/06/2018

2 A019 - OCCUPATION CERTIFICATE (ALWAYS APPLY)

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

3 A029 - HOURS OF OPERATION AND DELIVERY TIMES

Delivery, waste and service vehicles generated by the development are limited to the hours of 8am and 8pm on Saturday, Sundays and public holidays, and 7am to 8pm Monday to Friday.

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 landuses. 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 (BLANK)

Prior to the issue of a Construction Certificate, the design recommendations of 'Statement of Compliance - Access for People with a Disability', prepared by Accessible Building Solutions and dated 15 February 2017 shall be incorporated into the Construction Certificate plans. The works shall be certified accordingly by a suitably qualified access consultant **prior to the issue of an Occupational Certificate.**

A minimum of 5 apartments shall be constructed as adaptable apartments to meet the requirements for persons with a disability and in accordance with the stamped approved plans. The adaptable units shall each be allocated an accessible car parking space compliant with AS 2890.6 and shall be evenly distributed throughout the building and not be concentrated in any one area or level.

8 A Special (BLANK)

Prior to the issue of an Occupation Certificate, a design verification statement from a qualified designer shall be submitted. The design verification statement shall verify that the development achieves the design quality shown in the approved Construction Certificate plans and specifications, having regard to the design quality principles set out in Part 2 of *State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development*.

9 A Special (BLANK)

Prior to the issue of a Construction Certificate, a design verification statement from a qualified designer shall be submitted. The design verification statement shall verify that the Construction Certificate plans and specifications achieve or improve the design quality of the development for which development consent was granted, having regard to the design quality principles set out in Part 2 of *State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development*.

10 A Special (BLANK)

All mechanical ventilation equipment, ducts, air conditioning services and the like shall be shown on the Construction Certificate documentation as being contained within the building.

11 A Special (BLANK)

Prior to the issue of a Construction Certificate and/or Occupation Certificate (as relevant), the following Crime Prevention Through Environmental Design measures shall be incorporated into the development:

Car Parking	• A security system must be installed on any pedestrian and vehicle entry/exit points to the car park, including the lift and stairwell, to minimise opportunities for unauthorised access. • All areas of the car park (including lift lobbies, stairwells, garbage rooms and storage areas) must be well-lit, with consistent lighting to prevent shadowing or glare. • Signage must be in place to clearly identify exit and access points, the location of lifts and stairwells. • All surfaces in the car park should be painted in light coloured paint or finished in light coloured concrete to reflect as much light as possible.
Residential Developments Building Identification Building Security & Access Control	• Each building entry should clearly state the unit numbers accessed from that entry. • Each individual dwelling should be clearly numbered. • Unit numbers should be clearly provided on each level. • Intercom, code or swipe card locks or similar must be installed for main entries to buildings including car parks. • Main entry doors for apartment buildings should be signed requesting residents to not leave doors wedged open. • Australian Standard 220 door and window locks must be installed in all dwellings including doors onto balconies, to minimise the risk of break and enter offences. • If security grills are used on windows they should be operable from inside in case of emergencies. • Ensure skylights and /or roof tiles cannot be readily removed or opened from outside. • Consider monitored alarm systems. • CCTV cameras must be provided to public areas of the development. As a minimum, cameras must be positioned to provide coverage of vehicular and pedestrian entry/exit points (including entries/exits to buildings), key thoroughfares and activity nodes as well as all areas of the car park. Signage must be provided to indicate that CCTV cameras are in operation.
Graffiti/Vandalism	• Procedures must be in place to ensure the prompt removal and/or repair of graffiti or vandalism to the buildings, fencing, commercial tenancies and common areas. This includes reporting incidents to police and/or relevant authorities. • Graffiti resistant coatings must be used to external surfaces where possible, including signage, furniture, retaining walls, the architectural screen shielding the car park etc.
Way Finding/Finding Help	• Signs should be strategically located at entrances and near activity nodes such as intersections of corridors or paths. • Signs should indicate how to report maintenance problems in the complex. • Signs throughout the development should be large and legible, and strong colours, standard symbols and simple graphics. They should indicate where to go for help or assistance.
Fencing	• Front fences should preferably be no higher than 1.2 metres. Where a higher fence is proposed, it will only be considered if it is constructed of open materials e.g. spaced pickets, wrought iron etc. • Fence design to the ground floor units should maximise natural surveillance from the street to the building and from the building to the street, and minimise the opportunities for intruders to hide.

12 A Special (Child care centre use)

A separate development approval is to be obtained from Penrith City Council regarding the occupation and fit-out of any child care centre, as a child care centre does not firm an approved land use as part of this consent.

Environmental Matters

13 D004 - Dust

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

14 D005 - Mud/Soil

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

15 D005 – No filling without prior approval (may need to add D006)

No fill material is to be imported to the site without the prior approval of Penrith City Council in accordance with Sydney Regional Environmental Plan No.20 (Hawkesbury- Nepean River) (No.2-1997). No recycling of material for use as fill material shall be carried out on the site without the prior approval of Council.

16 D006 - No filling without prior approval (Use always, except for bulk earthworks/ major fill operations)

No fill material shall be imported to the site until such time as a Validation Certificate(with a copy of any report forming the basis for the validation) for the fill material has been submitted to, considered and approved by Council. The Validation Certificate shall:

- state the legal property description of the fill material source site,
- be prepared by an appropriately qualified person (as defined in Penrith Contaminated Land Development Control Plan) with consideration of all relevant guidelines (e.g. EPA, ANZECC, NH&MRC), standards, planning instruments and legislation,
- clearly indicate the legal property description of the fill material source site,
- provide details of the volume of fill material to be used in the filling operations,
- provide a classification of the fill material to be imported to the site in accordance with the Environment Protection Authority's "Environmental Guidelines: Assessment, Classification & Management of Non-Liquid Wastes" 1997, and
- (based on the fill classification) determine whether the fill material is suitable for its intended purpose and land use and whether the fill material will or will not pose an unacceptable risk to human health or the environment.

{Note: Penrith Contaminated Land Development Control Plan defines an appropriately qualified person as "a person who, in the opinion of Council, has a demonstrated experience, or access to experience in hydrology, environmental chemistry, soil science, eco-toxicology, sampling and analytical procedures, risk evaluation and remediation technologies. In addition, the person will be required to have appropriate professional indemnity and public risk insurance."}.

If the Principal Certifying Authority or Penrith City Council is not satisfied that suitable fill materials have been used on the site, further site investigations or remediation works may be requested. In these circumstances the works shall be carried out prior to any further approved works.

17 D007 - Cut and fill of land requiring Validation Certificate –limited to footprint

Cut and fill operations on the property are only permitted in conjunction with the building works as detailed on the approved plans and specifications, and shall not extend more than 2 metres past the defined building footprint.

Before any fill material is imported to site, a validation certificate issued by an appropriately qualified person is to be provided to the Principal Certifying Authority. The validation certificate must demonstrate that the fill material is free from contaminants and weeds, that it is suitable for its intended purpose and land use, and that it will not pose an unacceptable risk to human health or the environment.

If Penrith City Council is not the Principal Certifying Authority, a copy of the validation certificate is to be submitted to Council for their reference.

{Note: Penrith Contaminated Land Development Control Plan defines an appropriately qualified person as "a person who, in the opinion of Council, has a demonstrated experience, or access to experience in hydrology, environmental chemistry, soil science, eco-toxicology, sampling and analytical procedures, risk evaluation and remediation technologies. In addition, the person will be required to have appropriate professional indemnity and public risk insurance."}

18 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.

19 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.

20 D013 - Approved noise level 1

Noise levels from the premises shall not exceed the relevant noise criteria detailed in "71 Park Avenue Kingswood - Acoustic and Railway Vibration DA Assessment" Reference SYD2017-1005-R001E, prepared by Acouras Consultancy dated 09/07/2018. The recommendations provided in the above-mentioned acoustic report shall be implemented and incorporated into the design and construction of the development, and shall be shown on plans accompanying the Construction Certificate application. A certificate is to be obtained from a qualified acoustic consultant certifying that the building has been constructed to meet the noise criteria in accordance with the approved acoustic report. This certificate is to be submitted to the Principal Certifying Authority prior to the issue of an Occupation Certificate.

The provisions of the Protection of the Environment Operations Act 1997 apply to the development, in terms of regulating offensive noise.

21 D014 - Plant and equipment noise

All mechanical plant and equipment associated with the development is to be located in enclosed plant rooms in the basement, in accordance with the "71 Park Avenue Kingswood - Acoustic and Railway Vibration DA Assessment" Reference SYD2017-1005-R001E, prepared by Acouras Consultancy dated 09/07/2018.

22 D Special (BLANK)

A construction and excavation management plan report which assesses the impact of the development during the construction phase is to be forwarded to Council and agreed to, **prior to the issue of the Construction Certificate**. This report is to address issues such as noise and vibration associated with the basement construction and nearby school and detail necessary mitigation measures to be incorporated into the works for the development.

23 D Special (BLANK)

A detailed acoustic assessment is to be carried out **prior to the issue of the construction certificate**, as recommended in section 3.4 of "71 Park Avenue Kingswood – acoustic and railway vibration DA assessment" Reference SYD2017-1005-R001F, dated 06/08/2018 . The acoustic assessment is to include noise from all mechanical plant and equipment associated with the development.

24 D Special (BLANK)

Should any "unexpected finds" occur during the excavation and earthworks, including, but not limited to, the identification/finding of contaminated soils, buried building materials, asbestos, odour and/or staining, works are to cease immediately and Council is to be notified. Any such "unexpected finds" shall be addressed by an appropriately qualified environmental consultant.

All remediation works within the Penrith Local Government Area are considered to be Category 1 works under State Environmental Planning Policy No. 55 - Remediation of Land. Should any contamination be found during development works and should remediation be required, development consent is to be sought from Penrith City Council prior to remediation works commencing.

25 D special BLANK

In the event of complaints relating to the development being received by Council, the owner and / or occupier of the development may be required by Council to obtain the services of a suitably qualified acoustic consultant to undertake a noise impact assessment of the development to address the concerns of the community.

The noise impact assessment report is to be prepared and provided to Council for approval within 45 days of being requested. Any mitigation works are to be undertaken within 30 days from the date of notice from Council, unless otherwise specified.

26 D Special BLANK

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

• For the internal movement of 1100L bins a bin tug device is required to be provided and stored within the development in accordance with section 3.6 of the 'Residential Flat Building Guideline' document. Device specifications, use and operational requirements are required to be submitted to Council for approval
• 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.

27 D Special BLANK

Councils bin infrastructure and collection service will be provided/commenced for the development upon the completion of all on-site waste collection infrastructure and the attainment of an Occupation Certificate.

28 D Special BLANK

The current on-waste infrastructure provided within the development is to be built in accordance with configurations specified in the 'Amended Architectural Plans', Issue E and dated 09/07/2018 on ECM. On-site waste infrastructure permissible to change only in accordance with conditions stipulated by Councils Waste Service department.

29 D Special BLANK

The following waste management requirements must be complied with and details of compliance demonstrated to Council **prior to the issue of a Construction Certificate**:

• All on-site waste collection infrastructure, doors and access points (Waste Chute Room, Waste Collection Room, Bulky Household Waste Collection Room and the Secure Roller Door to the Basement) are to be locked through Councils Abloy Key System. System specifications are outlined in section 3.5.5 of the 'Residential Flat Building Guideline' document.
• All on-site waste collection infrastructure (Waste Chute Room, Waste Collection Room, Bulky Household Waste Collection Room and Loading bay) are to provide wash facilities through the use of a centralised mixing valve and hose cock. Respective drainage and water proofing to be installed to support the use of hose facilities as outlined within the Building Code of Australia.
• The proposed 'Traffic Signalling' system to provide supporting device specifications and an amended 'Plan of Operations' outlining how Council will use the system to restrict traffic movements during on-site waste collection periods.
• Acoustic treatments/infrastructure to be implemented within the basement to permit the use of Councils 10.5m Heavy Rigid Vehicle for waste collection within Basement 1.
• Amended swept path models to be submitted outlining the proposed access pathway for Councils 10.5m Heavy Rigid Vehicle in accordance with section 2.2.3 of the 'Residential Flat Building Waste Management Guideline' document.

BCA Issues

30 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).

31 E009 - Annual fire safety-essential fire safety (Class 2-9 buildings)

The owner of a building, to which an essential fire safety measure is applicable, shall provide Penrith City Council with an annual fire safety statement for the building. The annual fire safety statement for a building must:
(a) deal with each essential fire safety measure in the building premises, and
(b) be given:

- within 12 months after the last such statement was given, or
- if no such statement has previously been given, within 12 months after a final fire safety certificate was first issued for the building.
-

As soon as practicable after the annual fire safety statement is issued, the owner of the building to which the statement relates:

- must also provide a copy of the statement (together with a copy of the current fire safety schedule) to the Commissioner of New South Wales Fire Brigades, and
- prominently display a copy of the statement (together with a copy of the current fire safety schedule) in the building.

Utility Services

32 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.

33 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.

34 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

35 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.

36 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 tocause pedestrian or vehicular traffic in a public place to be obstructed orrendered inconvenient, or involves the enclosure of a public place, ahoarding 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 publicplace,
- 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.

37 H033 – Clothes line

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

38 H041 - Hours of work (other devt)

Construction works that are carried out in accordance with an approved consent that involve the use of heavy vehicles, heavy machinery and other equipment likely to cause offence to adjoining properties shall 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 work is permitted on Sundays and Public Holidays.

Other construction works carried out inside a building/tenancy and do not involve the use of equipment that emits noise are not restricted to the construction hours stated above.

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

Engineering

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 the issue of any Construction Certificate. 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 City Works Department on (02) 4732 7777 or visit Penrith City Council's website for more information.

40 K202 - S138 Roads Act – Works and Structures - Minor Works in the public road DRIVEWAYS ROAD OPENINGS

Prior to the issue of any Construction Certificate, a Section 138 Roads Act applications, including payment of application and inspection fees, shall be lodged and approved by Penrith City Council (being the Roads Authority for any works required in a public road). These works may include but are not limited to the following:

a) Vehicular crossings (including kerb reinstatement of redundant vehicular crossings)
b) Concrete footpaths and or cycleways
c) Road opening for utilities and stormwater (including stormwater connection to Penrith City Council roads and other Penrith City Council owned drainage)
d) Road occupancy or road closures
e) The placement of hoardings, structures, containers, waster skips, signs etc. in the road reserve
f) Temporary construction access

All works shall be carried out in accordance with the Roads Act approval, the development consent, including the stamped approved plans, and Penrith City Council's specifications, guidelines and best engineering practice.

Contact Penrith City Council's City Works Department on (02) 4732 7777 or visit Penrith City Council's website for more information.

Note:

a) Where Penrith City Council is the Certifying Authority for the development, the Roads Act approval for the above works may be issued concurrently with the Construction Certificate.

b) Separate approvals may also be required from the Roads and Maritime Services for classified roads.

c) All works associated with the Roads Act approval must be completed prior to the issue of any Occupation Certificate or Subdivision Certificate as applicable.

d) On completion of any awning over the road reserve, a certificate from a practising structural engineer certifying the structural adequacy of the awning is to be submitted to Council before Council will inspect the works and issue its final approval under the Roads Act

41 K210 - Stormwater Management

The stormwater management system shall be provided generally in accordance with the concept plan/s lodged for development approval, prepared by SGC, reference number 20160414, drawing no SW01 - SW07, revision A, dated 23/02/17.

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

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

42 K211 - Stormwater Discharge – Basement Car parks

Prior to the issue of any Construction Certificate, the Certifying Authority shall ensure that the stormwater drainage system for the basement car park has been designed in accordance with the requirements for pumped systems in AS 3500.3 (or as amended) (Plumbing and Drainage – Stormwater Drainage).

43 K212 - No loading on easements

Prior to the issue of any Construction Certificate, the Certifying Authority shall ensure that the foundations of proposed structures adjoining the drainage and/ or services easement have been designed clear of the zone of influence.

44 K301 - Sediment & Erosion Control

Prior to commencement of works sediment and erosion control measures shall be installed in accordance with the approved Construction Certificate and to ensure compliance with the Protection of the Environment Operations Act 1997.

The erosion and sediment control measures shall remain in place and be maintained until all disturbed areas have been rehabilitated and stabilised.

45 K501 - Penrith City Council clearance – Roads Act/ Local Government Act

Prior to the issue of any Occupation Certificate, the Principal Certifying Authority shall ensure that all works associated with a S138 Roads Act approval or S68 Local Government Act approval have been inspected and signed off by Penrith City Council.

46 K502 - Works as executed – General and Compliance Documenation

Prior to the issue of an Occupation Certificate, works-as-executed drawings, final operation and maintenance management plans and any other compliance documentation shall be submitted to the Principal Certifying Authority in accordance with Penrith City Council's Engineering Construction Specification for Civil Works, WSUD Technical Guidelines and Stormwater Drainage for Building Developments.

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 Certificate where Council is not the Principal Certifying Authority.

47 K503 - Stormwater Compliance

Prior to the issue of an Occupation Certificate, the Principal Certifying Authority 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 and the requirements of this consent.
- Have met the design intent with regard to any construction variations to the approved design.
- Any remedial works required to been 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 K503 - Works as executed – General and Compliance Documentation

Prior to the issue of an Occupation Certificate, works-as-executed drawings, final operation and maintenance management plans and any other compliance documentation shall be submitted to the Principal Certifying Authority in accordance with Penrith City Council's Engineering Construction Specification for Civil Works, WSUD Technical Guidelines and Stormwater Drainage for Building Developments.

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 Certificate where Penrith City Council is not the Principal Certifying Authority.

49 K504 - Restriction as to User and Positive Covenant

Prior to the issue of an Occupation Certificate, a restriction as to user 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 as to user and positive covenant shall be in Penrith City Council's standard wording as detailed in Penrith City Council's Stormwater Drainage for Building Development.

50 K504 - Stormwater Compliance

Prior to the issue of any Occupation Certificate, the Principal Certifying Authority shall ensure that the stormwater management systems (including on-site detention and water sensitive urban design).

- Have been satisfactorily completed in accordance with the approved Construction Certificate and the requirements of this consent.
- Have met the design intent with regard to any construction variations to the approved design.
- Any remedial works required to been undertaken have been satisfactorily completed.

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

51 K505 - Restriction as to User and Positive Covenant

Prior to the issue of any Occupation Certificate, a restriction as to user and positive covenant relating to the stormwater management systems (including on-site detention and water sensitive urban design).

Shall be registered on the title of the property. The restriction as to user and positive covenant shall be in Penrith City Council's standard wording as detailed in Penrith City Council's Stormwater and Drainage for Building Developments policy.

52 K511 - Directional signage

Prior to the issue of any Occupation Certificate, directional signage and linemarking shall be installed indicating directional movements and the location of customer parking to the satisfaction of the Principal Certifying Authority.

53 K601 - Stormwater Management system operation and maintenance

The stormwater management systems 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.

54 K Special (BLANK)

All car parking and manoeuvring must be in accordance with AS 2890.1-2004; AS 2890.2- 2—2; AS 2890.6-2009 and Council's requirements.

55 K Special (BLANK)

All car spaces are to be line marked and dedicated for the parking of vehicles only and not be used for storage of materials/products/waste materials etc.

56 K Special (BLANK)

Subleasing of car parking spaces is not permitted by this Consent.

57 K Special (BLANK)

Signage indicating the location of staff/ visitor/customer parking is required at the driveway entrance.

58 K Special (BLANK)

All vehicles are to enter/exit the site in a forward direction.

59 K Special (BLANK)

The policing of those parking spaces that are to be shared by residential visitors and child care centre clients is to be managed by the body corporate/child care centre management.

60 K Special (BLANK)

Prior to the issue of an Occupation Certificate, secure bicycle parking is to be provided at convenient location(s) in accordance with AS 2890.3:2015 Bicycle Parking Facilities.

61 K Special (BLANK)

Prior to the issue of an Occupation Certificate, the car parking spaces are to be allocated as follows: 36 spaces for residents; 9 spaces for visitors; 1 space for service vehicles; and 14 spaces for a potential future child care centre (subject to separate development consent).

Landscaping

62 L001 - General

All landscape works are to be constructed in accordance with the stamped approved Landscape Plan, prepared by A Total Concept and dated 8/06/2018 and 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.

63 L002 - Landscape construction

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

64 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 developmentand 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.

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.

65 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.

66 L Special (BLANK)

The Trees No. 11, 12, 13, 14, 15, 16 & 17 must be retained and protected in accordance with the recommendations of the Arboricultural Assessment, prepared by Tree and Landscape Consultants and dated 28 February 2017.

Development Contributions

67 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, $17,220 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.

68 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 District Open Space. Based on the current rates detailed in the accompanying schedule attached to this Notice, $168,760 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 District Open Space may be inspected at Council's Civic Centre, 601 High Street, Penrith.

69 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 Local Open Space. Based on the current rates detailed in the accompanying schedule attached to this Notice, $61,004 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 Local Open Space may be inspected at Council's Civic Centre, 601 High Street, Penrith.

Certification

70 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.

71 Q05F - Occupation Certificate for Class10
An Occupation Certificate is to be obtained from the Principal Certifying Authority on completion of all works and prior to the occupation of the building.

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

C10 Transport, Access and Parking

The proposal requires the following on-site parking provision:

Land Use Element	***Parking Rate***	***Required***
Residential Flat Buildings	1 space per 1 or 2 bedrooms 2 spaces per 3 or more bedrooms 1 space per 40 units for service vehicles Visitor parking: 1 space per 5 dwellings 1 space for car washing for every 50 units	45 NA 1 9 1 = 56 spaces
Child Care Centre	1 space per 10 children plus 1 per employee	70 children & 7 staff = 14 spaces
Total Required		***70***

The development provides a total of 66 parking spaces within the development, which does not comply with the requirements of the DCP. Despite this the Apartment Design Guide, specifies that on sites within 800m of a railway station the minimum car parking requirement for residents and visitors is set out in the RMS document titled *'Guide to Traffic Generating Developments*', or the car parking requirement prescribed by the relevant council whichever is the lesser. The RMS rates are outlined below:

Land Use Element	***Parking Rate***	***Required***
Residential Flat Buildings	0.6 space per 1 bedrooms 0.9 spaces per 2 bedroom Visitor parking: 1 space per 5 dwellings 1 space per 50 units for service vehicles	9 27 9 1 = 46 spaces

Using this RMS rate for the residential component (being 46 car spaces), the development requires the provision of 60 on-site car spaces (46 resident car spaces and 14 spaces for the child care centre). The development complies with this requirement, with a total of 66 on-site parking spaces. The plans indicate that the spaces will be allocated as follows: 45 car spaces (including 5 accessible spaces) for residents; 7 spaces for visitors; 11 spaces for the child care; and 3 spaces for the shared use of the child care centre and visitors. No spaces have allocated for service vehicles. In order to reduce potential conflict, it is recommended that a condition of consent be included requiring that the car space allocation align is provided as follows: 36 spaces for residents; 9 spaces for visitors; 1 space for service vehicles; and 14 spaces for the future child care centre.

D2 Residential Development

2.5.2 Preferred Configuration for Residential Flat Buildings

The DCP stipulates that new residential flat building development incorporate traditional

configurations of cottage development in that patterns of buildings and private gardens are adopted and traditional features are employed to soften the development.

The proposed residential flat building, although contemporary in design, is considered to comply with the objectives of this clause. The proposed front and side setbacks are comparable with existing setbacks in the vicinity. In-set balconies and screening devices will soften the bulk of the building.

2.5.6 The Development Site
Under the DCP a 20m minimum lot frontage is required for residential flat buildings in the R4 High Density Residential zone. The subject site has a frontage of 30.575m to Park Avenue complying with this control.

2.5.4 Urban Form
The proposal complies with the objectives and controls of this clause in that each façade is articulated. Varying architectural elements are provided to the east and west side elevations including screened inset balconies, windows in each elevation and a variety of materials. Although contemporary in style, the development is traditional in orientation with frontage to Park Avenue.

2.5.5 Landscaped Area
Under the DCP, a minimum landscaped area of 35% is to be provided within the R4 High Density Residential zone. The proposal provides a landscaped area of 421m² (21%) of the site, which include deep soil zones. This is a shortfall of 14%. However, the proposal still complies with the objectives for that zone in that it provides deep soil zones, communal open spaces areas (located on the roof top) and building separation on ground level which complies with the ADG under SEPP65. Therefore, the proposed variation is considered warranted in this case.

2.5.6 Front and Rear Setbacks
The DCP states that the minimum rear setback is 4m for any single storey component and 6m for any element above ground floor. The proposal has a 6m rear setback complying with this requirement.

The DCP specifies that the front setback is to be 5.5m or the average of the adjoining properties, whichever is greater. The townhouse development to the west is setback approximately 7.8m and the RFB to the east is setback 12m, giving an average of 9.9m. The development provides a 7m setback to the front façade from Park Avenue. This variation is supported given that the front setback includes a significant landscaping at the street frontage including deep soil zone.

Refer also to building separation discussions under State Environmental Planning Policy No. 65 - Design Quality of Residential Apartment Development.

2.5.8 Visual and Acoustic Privacy
The proposal demonstrates a range of measures to assist in protecting and providing visual and acoustic privacy including highlight windows, privacy screens and awnings. Windows and balcony areas are generally oriented toward the street front or toward the rear of the site or are provided with screening devices. To ensure that the acoustic privacy of the adjacent residential development, a condition of consent is recommended to require that all recommendations of the acoustic report be incorporated into the construction certificate plans.

2.5.9 Solar Planning
Refer to discussion regarding solar access under State Environmental Planning Policy No. 65 - Design Quality of Residential Apartment Development.

2.5.18 Fences and Retaining Walls
The DCP requires that fences shall be no taller than 1.8m generally and walls of solid construction and taller than 1.2m shall be of see through construction. A solid wall up to 2.6m high is located on the eastern boundary which is a result of the height required for the

basement (which needs to accommodate Council's waste vehicle) and the second set of fire stair. The highest point of the wall is setback approximately 23m from the street frontage and therefore will not be highly visible from the street frontage. In addition, it is not considered to impact on adjoining properties given that it will be located adjacent to their common driveway and garages.

2.5.20 Accessibility and Adaptability

The design of the building has been assessed to comply with the key provisions of this Clause. It is noted that >10% of units are designed as adaptable in accordance with this DCP requirement.

Element	Material	Detail
External walls	Hebel Power Panel	Insulation: None
		Light colour
Internal walls	Plasterboard	
Party walls	Hebel Power Panel	To neighbour, corridors
	Hebel Power Panel	To lift core, firestairs and services
Windows	6mm Single glazed, clear with Aluminium frame for sliding doors, sliding & fixed windows	Total Window System Properties U-value 6.7 & SHGC 0.70
	6mm Single glazed, clear with Aluminium frame for awning windows	Total Window System Properties U-value 6.7 & SHGC 0.57
	Window Operability	Balcony windows: 30% & 45% (i.e. sliding) Bedroom windows: 10% (BCA D2.24) All other non-balcony windows: 0% (i.e. fixed) & 90% (i.e. awning)
	Shading device	Balcony windows: As per plans and elevations Non-balcony windows: As per plans and elevations
Roof	Concrete	Insulation: None
		Light colour
Ceilings	Plasterboard	Insulation: See Table 3
Floors	Concrete	Insulation: See Table 3
		Tiles: Wet areas only
		Carpet: Living/Dining and Bedrooms
Common corridors naturally ventilated		NO
Recessed downlights assessed		NO

	Component	Commitment
Common Areas and Central Systems	Hot Water System	• No Central HWS
	Lifts	• All lifts to use Gearless traction with VVVF motor servicing all levels
	Alternative Energy Supply	• Not Required
	Ventilation	• Car park: Ventilation (supply + exhaust) with a CO monoxide monitor & VSD fan • Garbage Rooms: Ventilation (exhaust only) • Hallways & lobbies: Ventilation (supply + exhaust), controlled by time clock or BMS
	Lighting	• Car park: Fluorescent lighting with time clocks and motion sensors • Lift Cars: LED lighting, connected to lift call button • Garbage Rooms: Fluorescent lighting with motion sensors • All Hallways & lobbies: Compact Fluorescent lighting with motion sensors + time clock
Private Dwellings	Hot Water System	• Individual 5 Stars Gas Instantaneous HWS
	Ventilation	• Kitchen Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch • Bathroom Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch • Laundry Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch
	Heating & Cooling	• Heating: Living & Beds to have individual 1-phase air-conditioning with 1.5 Stars Rating (New Rating) • Cooling: Living & Beds to have individual 1 phase air-conditioning with 1.5 Stars Rating (New Rating)
	Lighting	• At least 80% of light fittings (including the main light fitting) in all hallways, laundries, bathrooms, kitchen areas and all bedrooms to use Fluorescent or LED lights with dedicated fittings[1]
	Others	• Gas cook top and electric oven in all units

Project Schedule Summary

Site Area	**1,960 m2**	
Gross Floor Area	4,313 m2	
FSR	2.2 :1	

Unit Mix

1Bed	7	*16%*
1Bed + Study	8	*18%*
2Bed	8	*18%*
2Bed + Study	22	*49%*
3Bed	0	*0%*
3Bed + Study		
Child Care		
Total Units	**45**	100%

Compliance Summary

Control		Requirement		Proposed		Complies
Floor Space Ratio (FSR)		2.20 : 1 max			2.04 : 1	×
Gross Floor Area (GFA		4,313 m2 max			3,990 m2	✓
Building Height		15 max			15.00 m	✓
Car Parking		68 min.			64	✓
Motorcycle Parking (1/15units)		3 min.			3	✓
Bicycle Parking (1/10units)		5 min.			5	✓
Solar Access		70% min.		32	71%	✓
Cross Ventilation		60% min.		5	62%	✓
Adaptable Units		10% min.		5	11%	✓
Single orientated south facing units		10% max		0	0%	✓
Communal Open Space (ADG)		25%	490.1	524 m2	27%	✓
Communal Open Space (Child Care)				476 m2		
Deep Soil (Min. 7% of site area as per ADG)		137 min.		372 m2	19%	✓
Unit Storage (typical)	*1Bed*	6 m3 min.			6 m3	✓
	2Bed	8 m3 min.			8 m3	✓
	3Bed	10 m3 min.			10 m3	✓

Detailed Calculations

Gross Floor Area		UNIT SCHEDULE											ADG COMPLIANCE				
		1Bed	Adapabtable (Gold)	1Bed + Study	Adapabtable (Gold)	2Bed	Adapabtable (Gold)	2+ Bed + Study	Adapabtable (Gold)	3Bed	Adapabtable (Gold)	Child Care(m2)	Adaptable	Solar Access	Cross Ventilated	Single Orientated South Facing	Deep Soil Zone
Lower Level	690 m2	2		1				1				359		4	1		372
Upper Level	825 m2	1		2		2		6						6	7		
Level 1	825 m2	1		2		2		6						6	7		
Level 2	825 m2	1		2		2		6						8	7		
Level 3	825 m2	2		1		2		3						8	6		
		7	0	8	0	8	0	22	0	0	0		5	32	28		372
		15				30				0			11%	71%	62%	0%	19%
Total GFA 3,990 m2																	
Total Units 45																	

Carparking

Carparking Factor(AS PER DCP)	1	1	2	1per 10 Children & 1 per staff	1 per 5 units	10%
Unit Type	15	30	0	Child Care	Visitor	Adaptable
Spaces required	45			13.6	9	5
Total Spaces Required	68					

Carparking Spaces provided	Car Spaces (Residential)	Bicycle	Motorbike	CHILD CARE	Visitor	Adaptable
Basement 1	1			14	10 (3 shared)	
Basement 2	44	4	3			5
Total Spaces Provided	**45**	**4**	**3**	**14**	**10**	**5**

Drawing No:	Description
DA-000	DRAWING LIST
DA-001	SITE ANALYSIS
DA-002	SURVEY PLAN
DA-003	STREETSCAPE
DA-004	PHOTOMONTAGE
DA - 009	SITE PLAN
DA - 010	BASEMENT 02 PLAN
DA - 011	BASEMENT 01 PLAN
DA - 012	LOWER GROUND
DA - 013	UPPER GROUND
DA - 014	LEVEL 1 PLAN
DA - 015	LEVEL 2 PLAN
DA - 016	LEVEL 3 PLAN
DA - 017	ROOF
DA - 021	SOUTH ELEVATION AND MATERIALS & FINISHES
DA - 022	EAST ELEVATION AND MATERIALS & FINISHES
DA - 023	WEST ELEVATION AND MATERIALS & FINISHES
DA - 024	NORTH ELEVATION MATERIALS & FINISHES
DA - 031	SECTION A - G
DA - 032	SECTION B - H
DA - 033	SECTION D - E
DA - 034	SECTION C - F
DA - 035	DETAIL SECTIONS
DA - 041	ACCESS DRIVEWAY PROFILE
DA - 061	SHADOW DIAGRAMS 21ST JUNE
DA - 071	ADAPTABLE UNIT LAYOUTS
DA - 081	HEIGHT PLANE DIAGRAM
DA - 082	SEPP65 COMPLIANCE TABLES AND UNIT SCHEDULE
DA - 083	GFA/FSR CALCULATIONS
DA - 084	LANDSCAPE & DEEP SOIL AREA CALCULATIONS
DA - 085	COMMUNAL OPEN SPACE CALCULATIONS
DA - 086	CROSS VENTILATION DIAGRAMS
DA - 091	SOLAR ACCESS DIAGRAMS
DA - 092	SOLAR ACCESS DIAGRAMS (21ST JUNE 1PM-3PM) & CALCULATION SCHEDULE
DA - 093	PERSPECTIVE

Common Areas and Central Systems	
Area of Indigenous or low water species	• Please refer to Appendix B
Rainwater collection	• Minimum 5,000L rainwater tank • Roof collection area – minimum 100 m² • Rainwater to be used for common & private landscape irrigation
Fixtures for Common Areas	• 4-star (Water Rating) toilets • 5-star (Water Rating) taps
Fire sprinkler system	• Fire sprinkler test water to be contained in a closed system
Private Dwellings	
Fixtures for apartments	• 3-star (Water Rating) showerheads with a flow rate > 6.0L/min & ≤ 7.5L/min • 4-star (Water Rating) toilets • 5-star (Water Rating) kitchen taps • 5-star (Water Rating) bathroom taps • 4-star (Water Rating) dishwashers

Rev	Description	Date	App'd
F	GENERAL REVISION - WASTE	040718	CH
E	GENERAL REVISION - REDESIGN	070518	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

No. Rev Drawing Name

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 29745 2014

Project

KINGSWOOD
MIXED USE MULTI RESIDENTIAL

71 PARK AVENUE
KINGSWOODNSW2747AUSTRALIA

Project Number
17-090

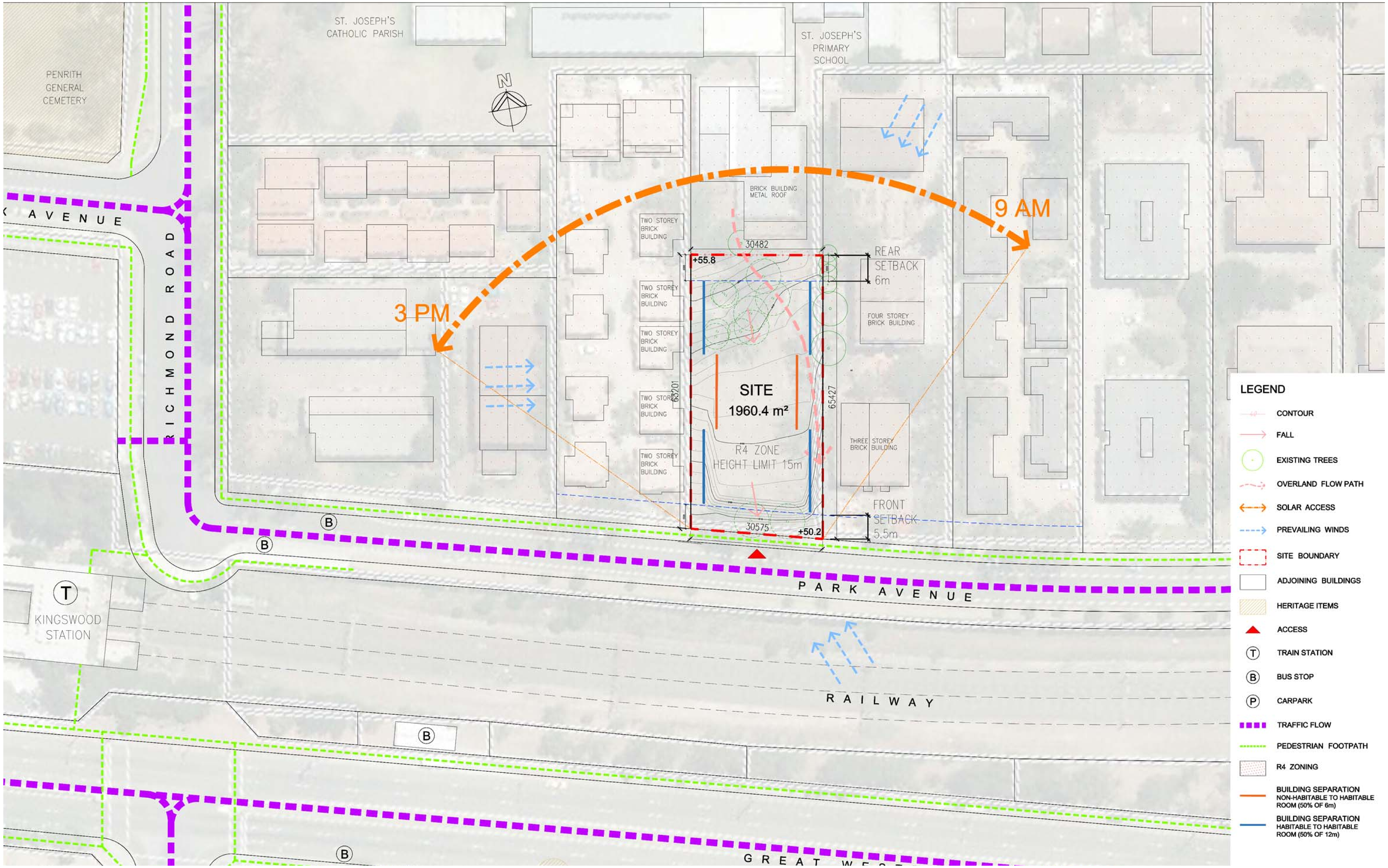
Nominated Architects:
Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicholas Toubia Reg no 9336

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:28 PM

Document Set ID: 8389425
Version: 1, Version Date: 20/09/2018

Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
DO NOT SCALE DRAWINGS.



Rev	Description	Date	App'd
F	GENERAL REVISION - WASTE	040718	CH
E	GENERAL REVISION - URDP	070518	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
MIXED USE MULTI RESIDENTIAL
71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 29745 2014
Nominated Architects:
Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
SITE ANALYSIS

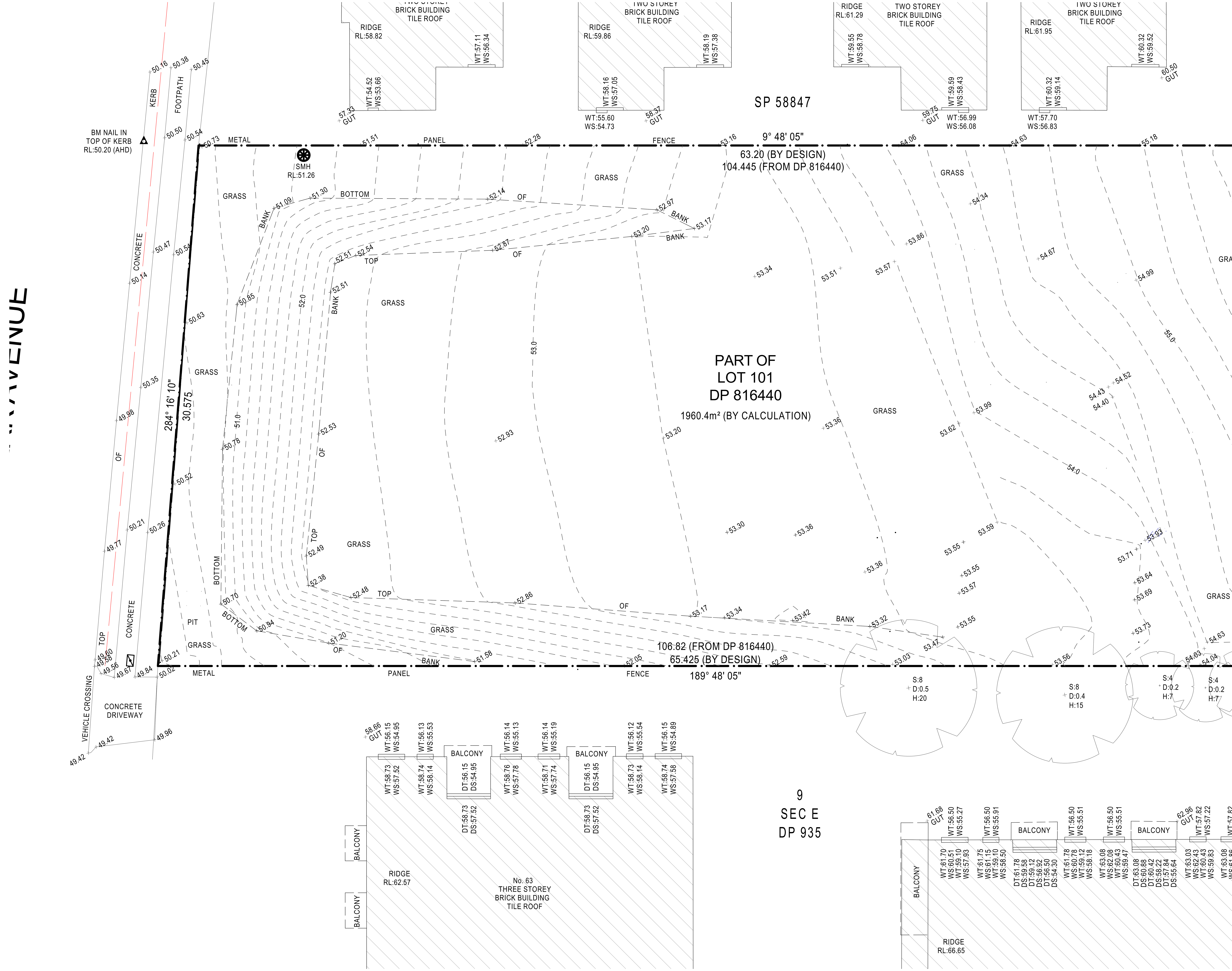
Date of Issue: 4/07/2018
Checked
Approved

Scale
1:0.56
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number: **17-090**
Drawing Number: **DA-001** Revision: **F**

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:28 PM



Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS
DO NOT SCALE DRAWINGS

Rev	Description	Date	App'd
F	GENERAL REVISION - WASTE	040718	CH
E	GENERAL REVISION - URDP	070518	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
MIXED USE MULTI RESIDENTIAL
71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 29745 2014
Nominated Architects:
Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
SURVEY PLAN

Date of Issue: 4/07/2018 Checked Approved
Scale: 1:100 @A1 Sheet Size, 50% @A3 Sheet Size
50mm on original
Project Number: 17-090
Drawing Number: DA-002 Revision: F
Status: DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:28 PM

Notes
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F	GENERAL REVISION - WASTE	040718	CH
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A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
MIXED USE MULTI RESIDENTIAL
71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

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Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
STREETSCAPE

Date of Issue: 4/07/2018
Checked
Approved

Scale
1:200
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number: **17-090**
Drawing Number: **DA-003** Revision: **F**

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:28 PM

Notes
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F	GENERAL REVISION - WASTE	040718	CH
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B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
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Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
PHOTOMONTAGE

Date of Issue: 4/07/2018
Checked:
Approved:

Scale
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number: 17-090
Drawing Number: DA-004
Revision: F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

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F	GENERAL REVISION - WASTE	040718	CH
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C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
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MIXED USE MULTI RESIDENTIAL
71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

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Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
ROOF

Date of Issue 4/07/2018 Checked Approved

Scale 1:100 @A1 Sheet Size 50% @A3 Sheet Size
50mm on original

Project Number 17-090
Drawing Number Revision DA - 017 F
Status DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

Document Set ID: 8389425
Version: 1, Version Date: 20/09/2018

Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
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LEGEND

A	PORTALS: RENDER & PAINT DULUX COLOUR 'PEPLUM QUARTER'
B	POWDERCOATED METAL BATTENS TIMBER FINISH
C	RENDER & PAINT DULUX COLOUR 'TIMELESS GREY'
D	'L' ANGLE DULUX POWDERCOAT METAL NEW HAMMERSLEY BROWN
E	CLEAR GLASS BALUSTRADE
F	VERTICAL BALUSTERS DULUX POWDERCOAT BLACK
G	PERGOLA
H	RENDER & PAINT ENTRY FEATURE DULUX COLOUR MURRAY RED
J	ROOF - DULUX POWDERCOAT 'WOODLAND GREY'
K	RENDER & PAINT DULUX COLOUR STEPNEY
L	RENDER & PAINT DULUX COLOUR PEPLUM HALF

PG2C4
Stepney

Dulux Colour
Peplum Half

Rev	Description	Date	App'd
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
MIXED USE MULTI RESIDENTIAL
71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

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Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
SOUTH ELEVATION AND MATERIALS & FINISHES

Date of Issue 4/07/2018 Checked Approved

Scale
1:100
@A1 Sheet Size
50% @A3 Sheet Size

50mm on original

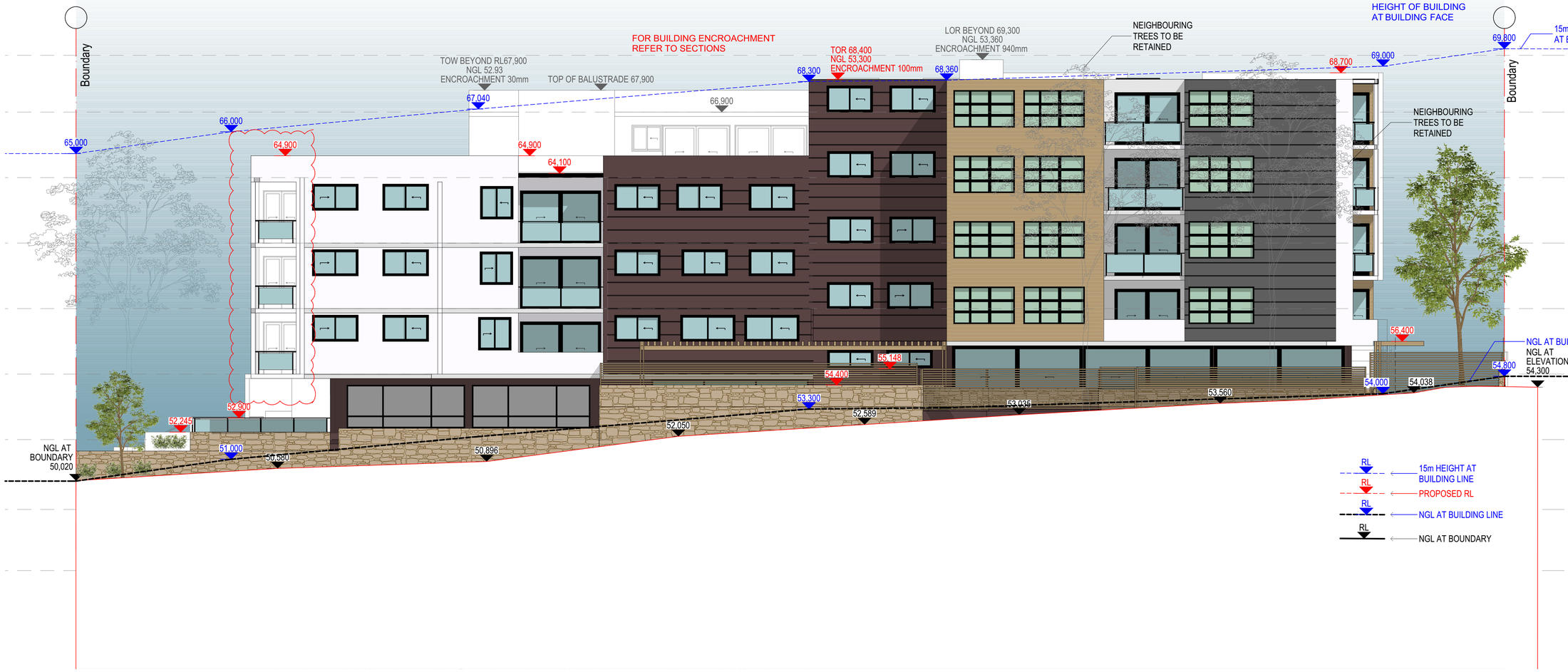
Project Number
17-090

Drawing Number Revision
DA - 021 C

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
DO NOT SCALE DRAWINGS.



LEGEND

A
PORTALS: RENDER & PAINT
DULUX COLOUR 'PEPLUM QUARTER'

B
POWDERCOATED METAL BATTENS
'TIMBER FINISH'

C
RENDER & PAINT
DULUX COLOUR 'TIMELESS GREY'

D
'L' ANGLE
DULUX POWDERCOAT METAL
'NEW HAMMERSLEY BROWN

E
CLEAR GLASS BALUSTRADE

F
VERTICAL BALUSTERS
DULUX POWDERCOAT BLACK

G
PERGOLA

H
RENDER & PAINT ENTRY FEATURE
DULUX COLOUR MURRAY RED

J
ROOF - DULUX POWDERCOAT
'WOODLAND GREY'

K
RENDER & PAINT
DULUX COLOUR STEPNEY
PG2C4
Stepney

L
RENDER & PAINT
DULUX COLOUR PEPLUM HALF
Dulux Colour
Peplum Half

Rev	Description	Date	App'd
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
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Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
EAST ELEVATION AND MATERIALS & FINISHES

Date of Issue 4/07/2018
Checked
Approved

Scale
1:100
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 022 C

Status
DEVELOPMENT APPLICATION

Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
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LEGEND

A
PORTALS: RENDER & PAINT
DULUX COLOUR 'PEPLUM QUARTER'

B
POWDERCOATED METAL BATTENS
TIMBER FINISH

C
RENDER & PAINT
DULUX COLOUR 'TIMELESS GREY'

D
'L' ANGLE
DULUX POWDERCOAT METAL
NEW HAMMERSLEY BROWN

E
CLEAR GLASS BALUSTRADE

F
VERTICAL BALUSTERS
DULUX POWDERCOAT BLACK

G
PERGOLA

H
RENDER & PAINT ENTRY FEATURE
DULUX COLOUR MURRAY RED

J
ROOF - DULUX POWDERCOAT
'WOODLAND GREY'

K
RENDER & PAINT
DULUX COLOUR STEPNEY

PG2C4
Stepney

L
RENDER & PAINT
DULUX COLOUR PEPLUM HALF

Dulux Colour
Peplum Half

Rev	Description	Date	App'd
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
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Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
WEST ELEVATION AND MATERIALS & FINISHES

Date of Issue: 4/07/2018
Checked
Approved

Scale
1:100
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number: 17-090
Drawing Number: DA - 023
Revision: C

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

Document Set ID: 8389425
Version: 1, Version Date: 20/09/2018

Notes
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LEGEND

A
PORTALS: RENDER & PAINT
DULUX COLOUR 'PEPLUM QUARTER'

B
POWDERCOATED METAL BATTENS
TIMBER FINISH

C
RENDER & PAINT
DULUX COLOUR 'TIMELESS GREY'

D
'L' ANGLE
DULUX POWDERCOAT METAL
NEW HAMMERSLEY BROWN

E
CLEAR GLASS BALUSTRADE

F
VERTICAL BALUSTERS
DULUX POWDERCOAT BLACK

G
PERGOLA

H
RENDER & PAINT ENTRY FEATURE
DULUX COLOUR MURRAY RED

J
ROOF - DULUX POWDERCOAT
'WOODLAND GREY'

K
RENDER & PAINT
DULUX COLOUR STEPNEY

PG2C4
Stepney

L
RENDER & PAINT
DULUX COLOUR PEPLUM HALF

Dulux Colour
Peplum Half

Rev	Description	Date	App'd
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
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Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
NORTH ELEVATION MATERIALS & FINISHES

Date of Issue 4/07/2018
Checked
Approved

Scale
1:100
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 024 C

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

Document Set ID: 8389425
Version: 1, Version Date: 20/09/2018

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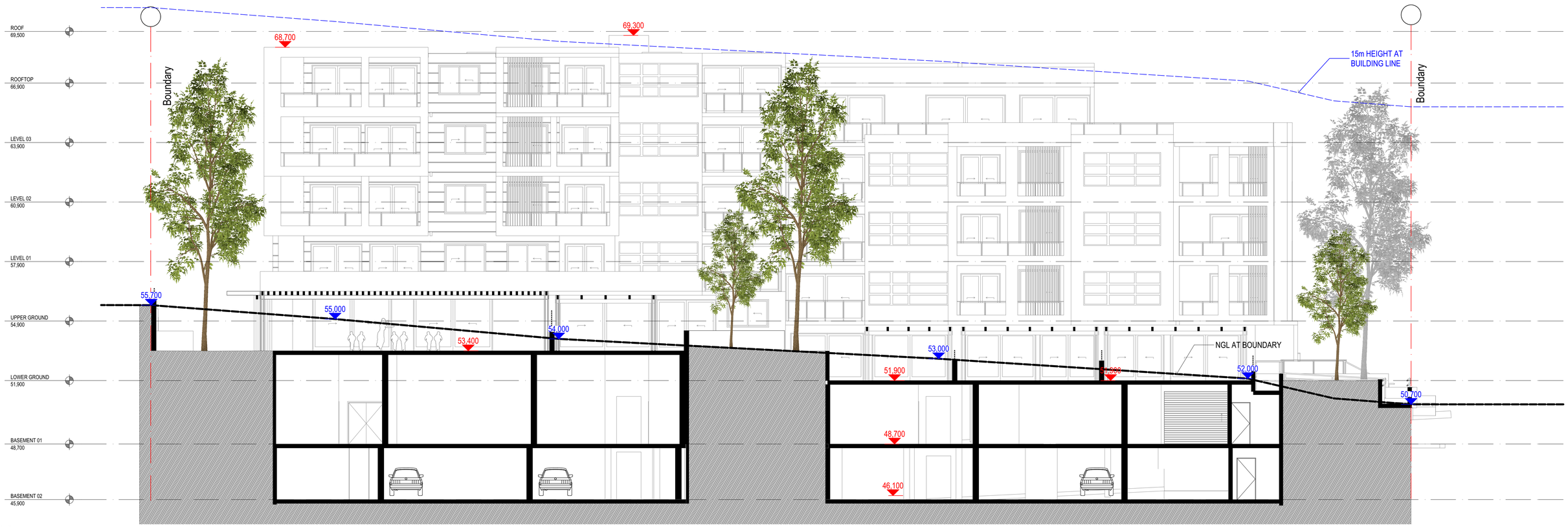

A SECTION
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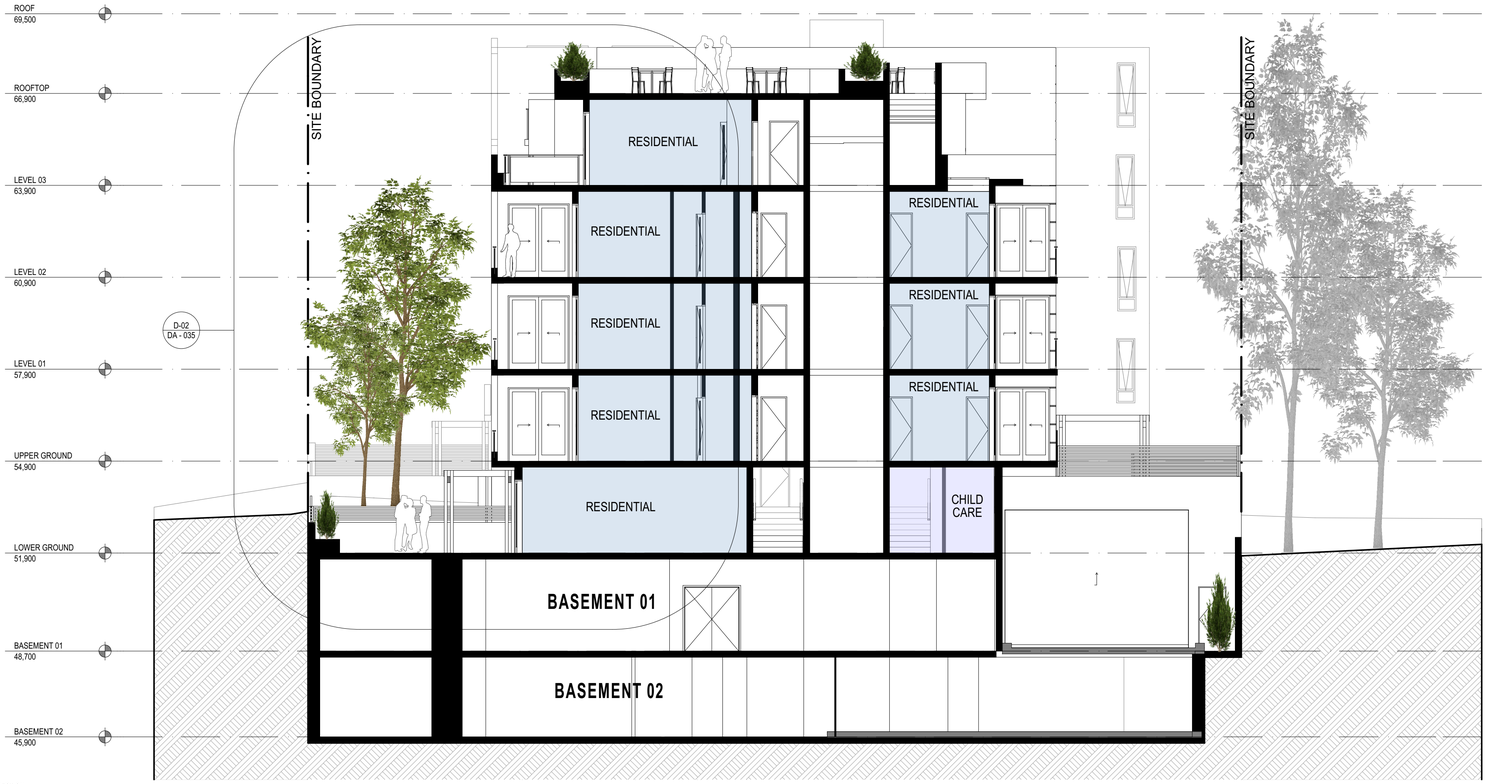

G SECTION
SCALE 1:100

Rev	Description	Date	App'd
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E	GENERAL REVISION - URDP	070518	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
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A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
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Drawing Title
SECTION A - G

Date of Issue 4/07/2018 Checked Approved

Scale
1:100
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50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 031 F

Status
DEVELOPMENT APPLICATION

Notes
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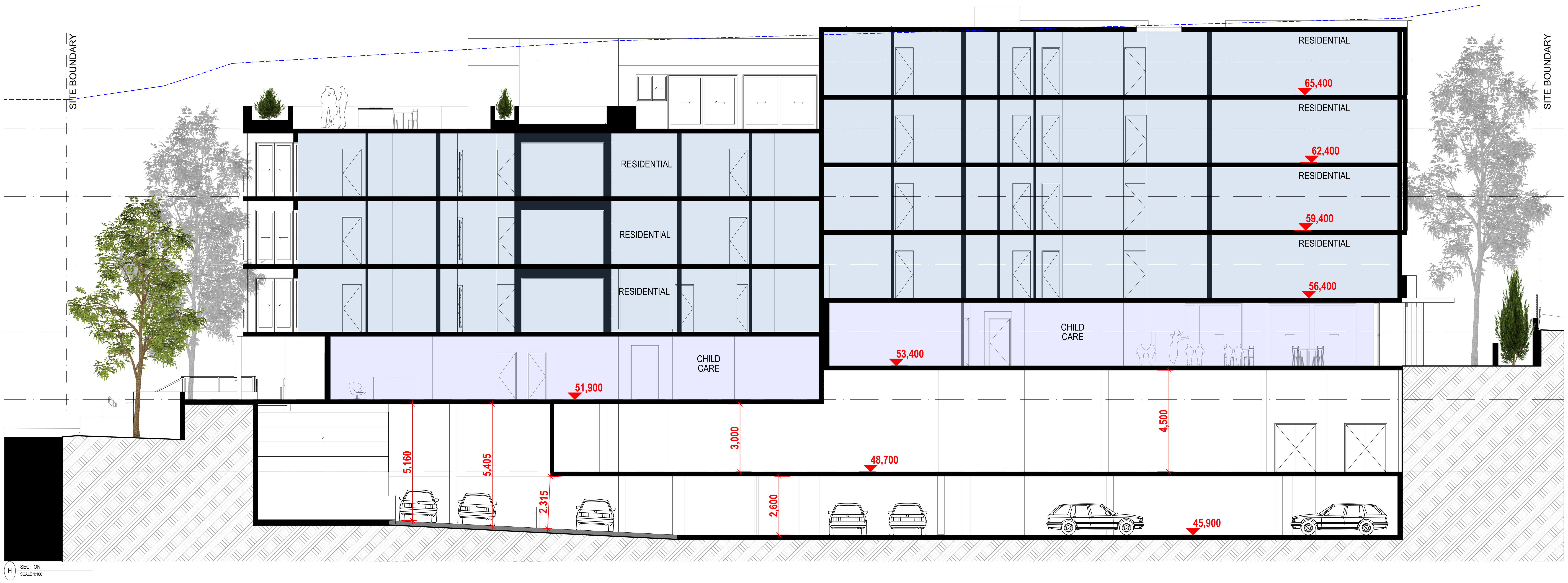
B SECTION
SCALE 1:100



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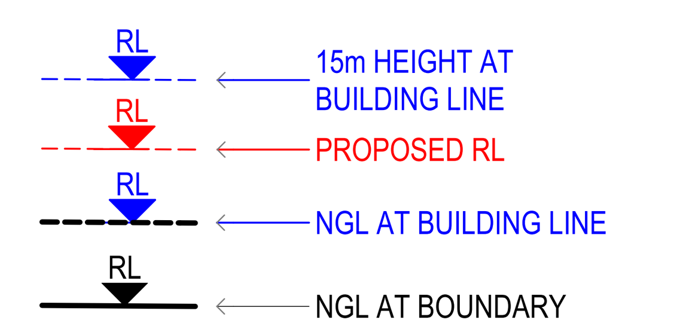

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A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
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Drawing Title
SECTION B - H

Date of Issue: 4/07/2018
Checked
Approved

Scale
1:100
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number: DA - 032
Revision: F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

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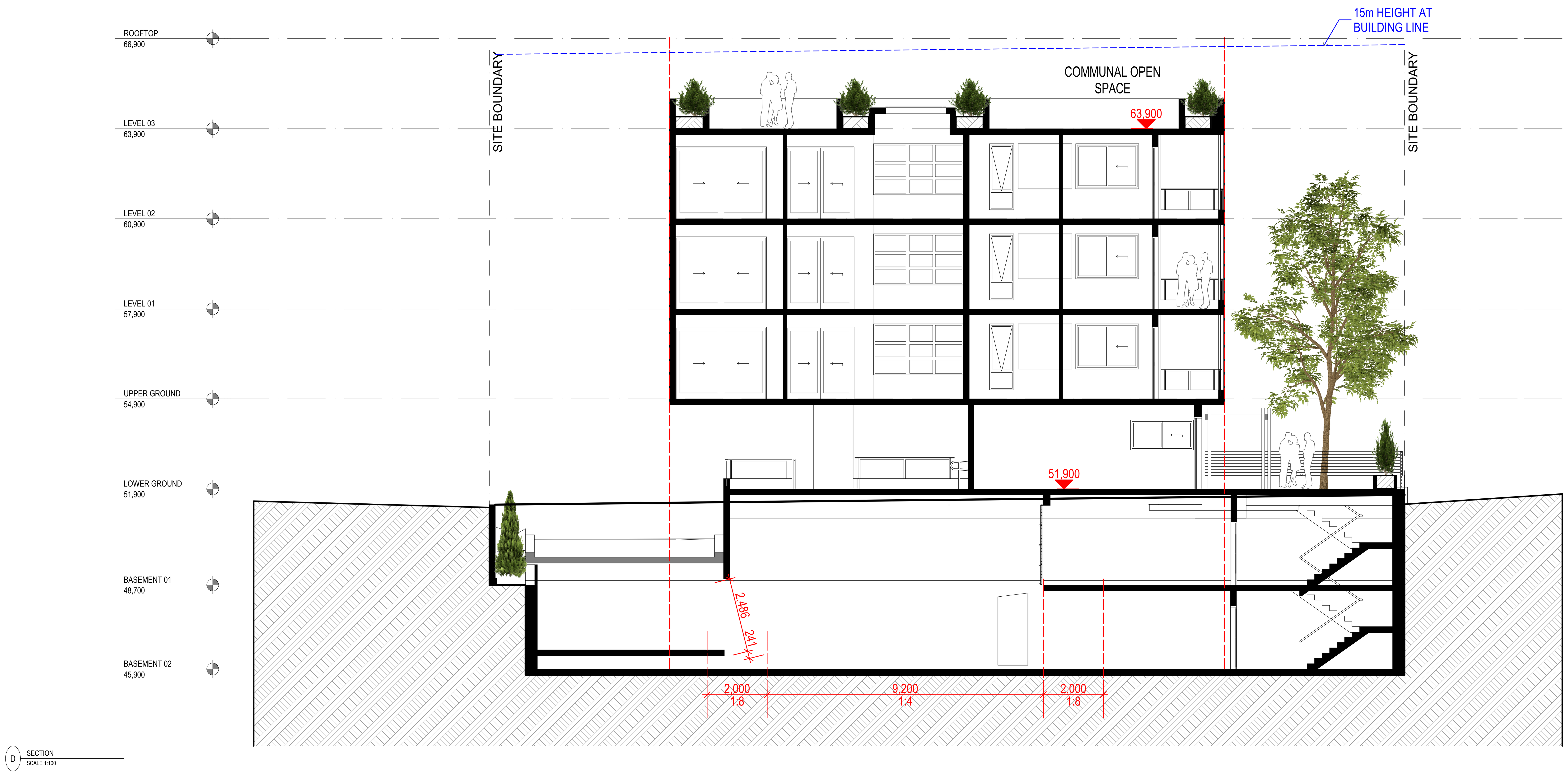
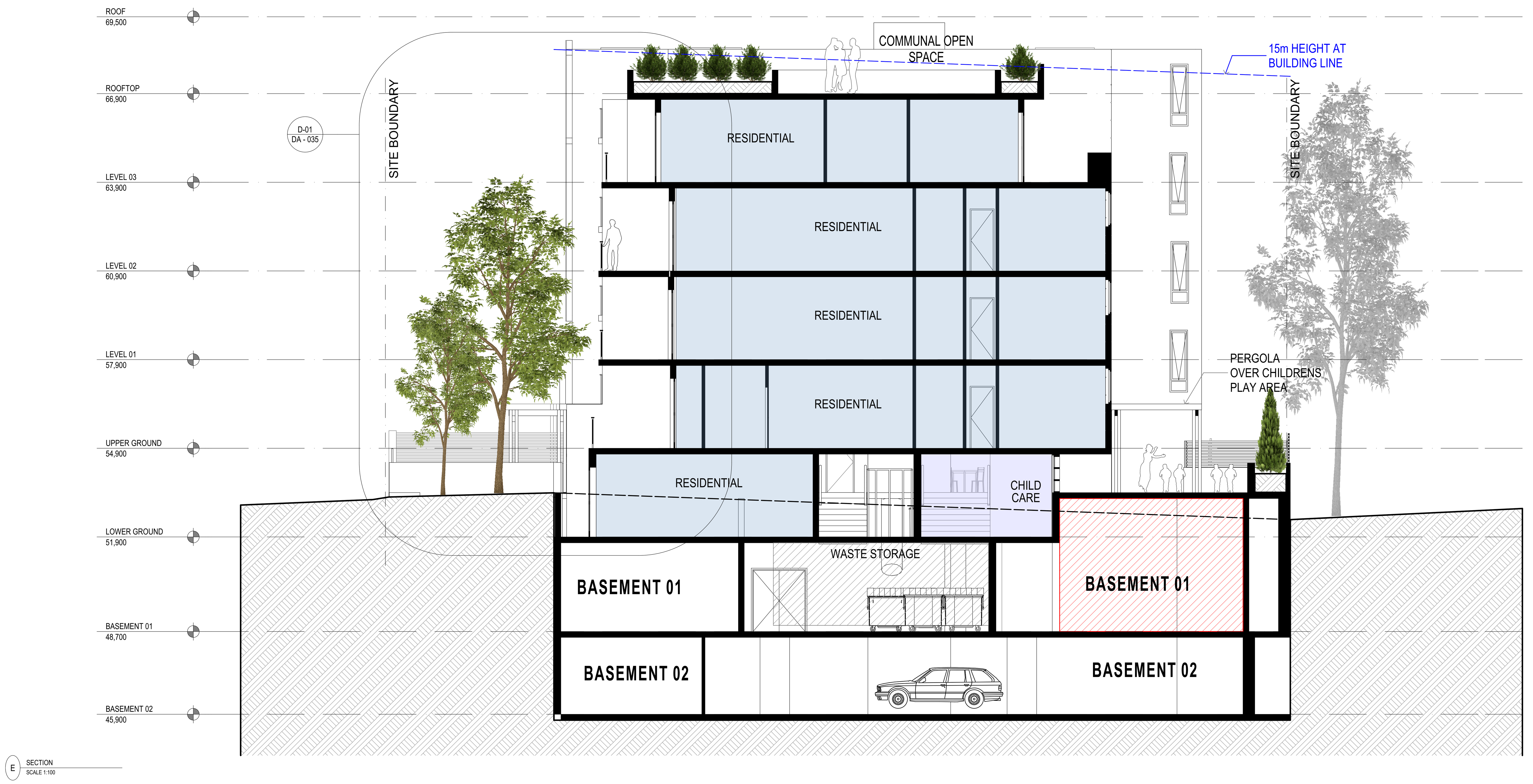


RL 15m HEIGHT AT BUILDING LINE
RL PROPOSED RL
RL NGL AT BUILDING LINE
RL NGL AT BOUNDARY



Rev	Description	Date	App'd
F	GENERAL REVISION - WASTE	040718	CH
E	GENERAL REVISION - URDP	070518	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

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Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
SECTION D - E

Date of Issue 4/07/2018 Checked Approved

Scale
1:100
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 033 F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

Document Set ID: 8389425
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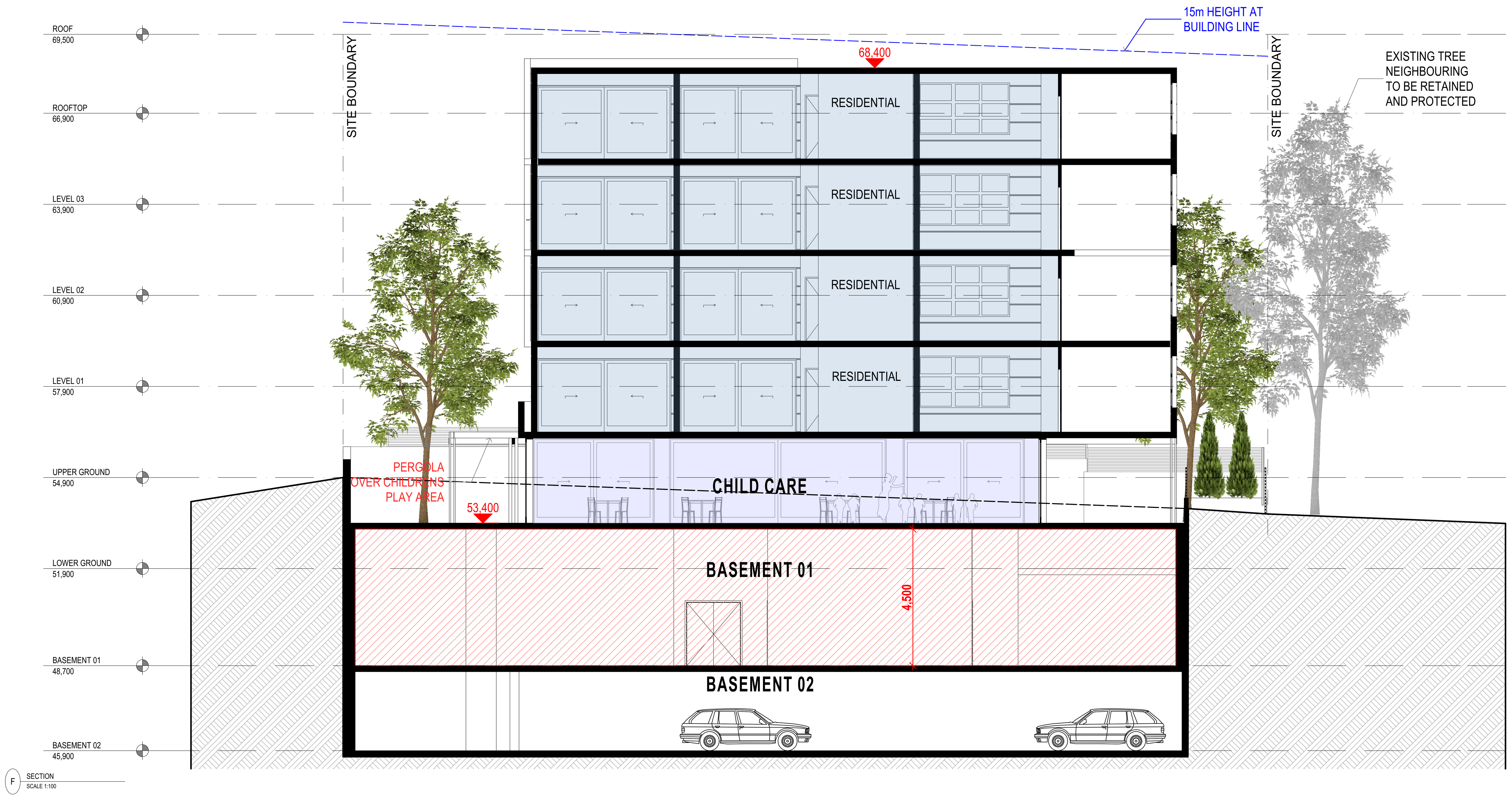

Rev	Description	Date	App'd
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A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
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Drawing Title
SECTION C - F

Date of Issue 4/07/2018
Checked
Approved

Scale 1:100
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number 17-090
Drawing Number DA - 034 Revision F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:29 PM

Notes
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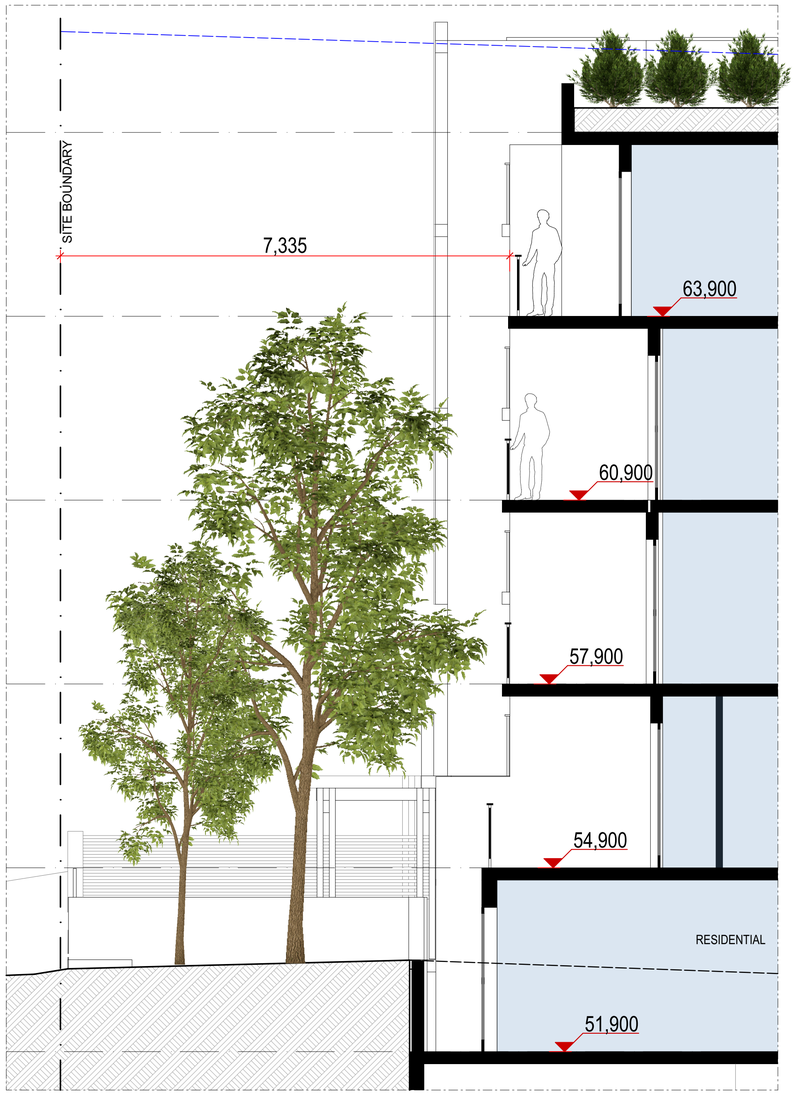
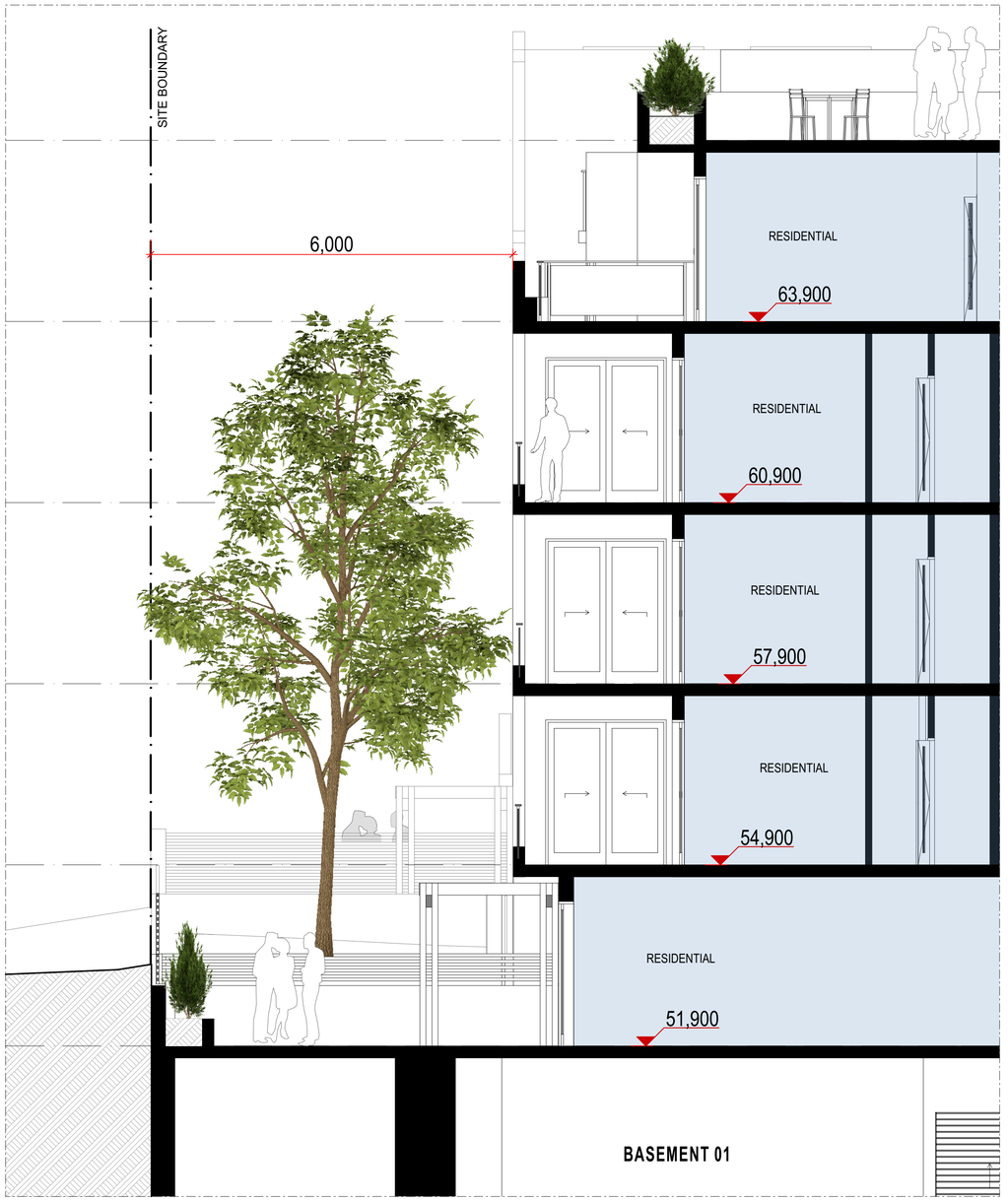


D-01 Detail
SCALE 1:50



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SCALE 1:50

Rev	Description	Date	App'd
F	GENERAL REVISION - WASTE	040718	CH
E	GENERAL REVISION - URDP	070518	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

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Drawing Title
DETAIL SECTIONS

Date of Issue 4/07/2018
Checked
Approved

Scale
1:50
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 035 F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave Kingswood\BIM Server: URBLNKBIM01 - BIM Server 2020\17-090 DA 71 Park Ave Kingswood\071201841.rvt PM

Notes
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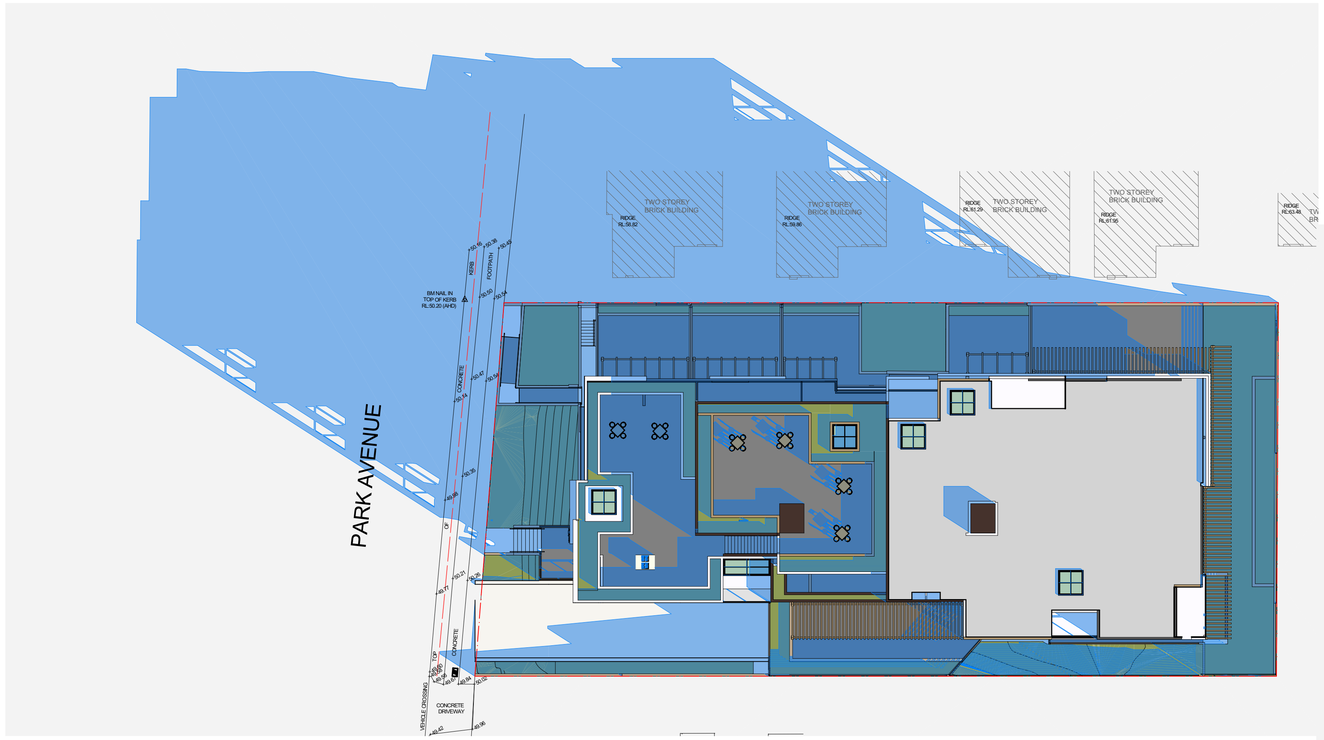
LEGEND

SHADOW OF PROPOSED DEVELOPMENT

SUBJECT SITE



Rev	Description	Date	App'd
F	GENERAL REVISION - WASTE	040718	CH
E	GENERAL REVISION - URDP	070518	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project

KINGSWOOD
MIXED USE MULTI RESIDENTIAL

71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 29745 2014
Nominated Architects:
Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title

SHADOW DIAGRAMS 21ST JUNE

Date of Issue 4/07/2018
Checked
Approved

Scale
1:250
@A1 Sheet Size
50% @A3 Sheet Size

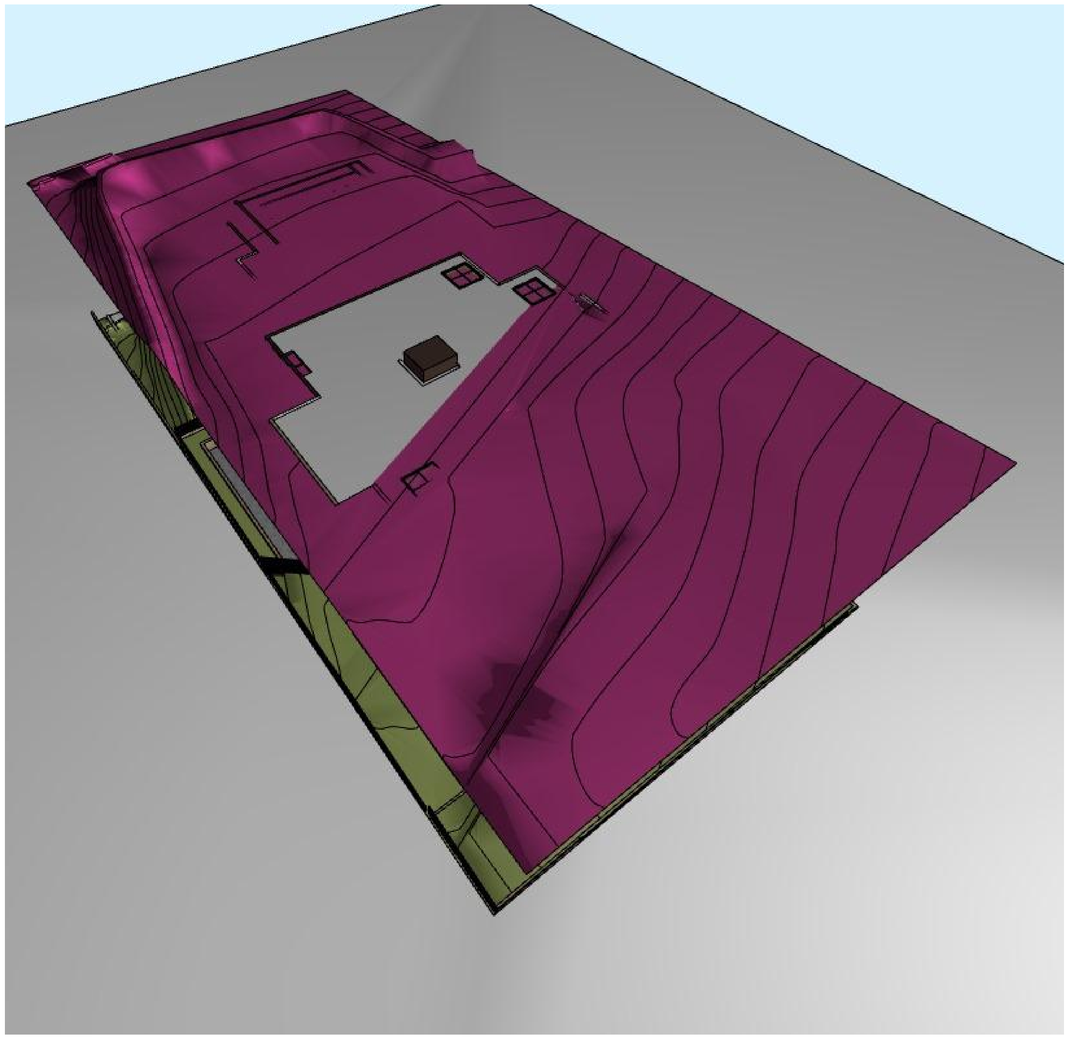
50mm on original

Project Number
17-090

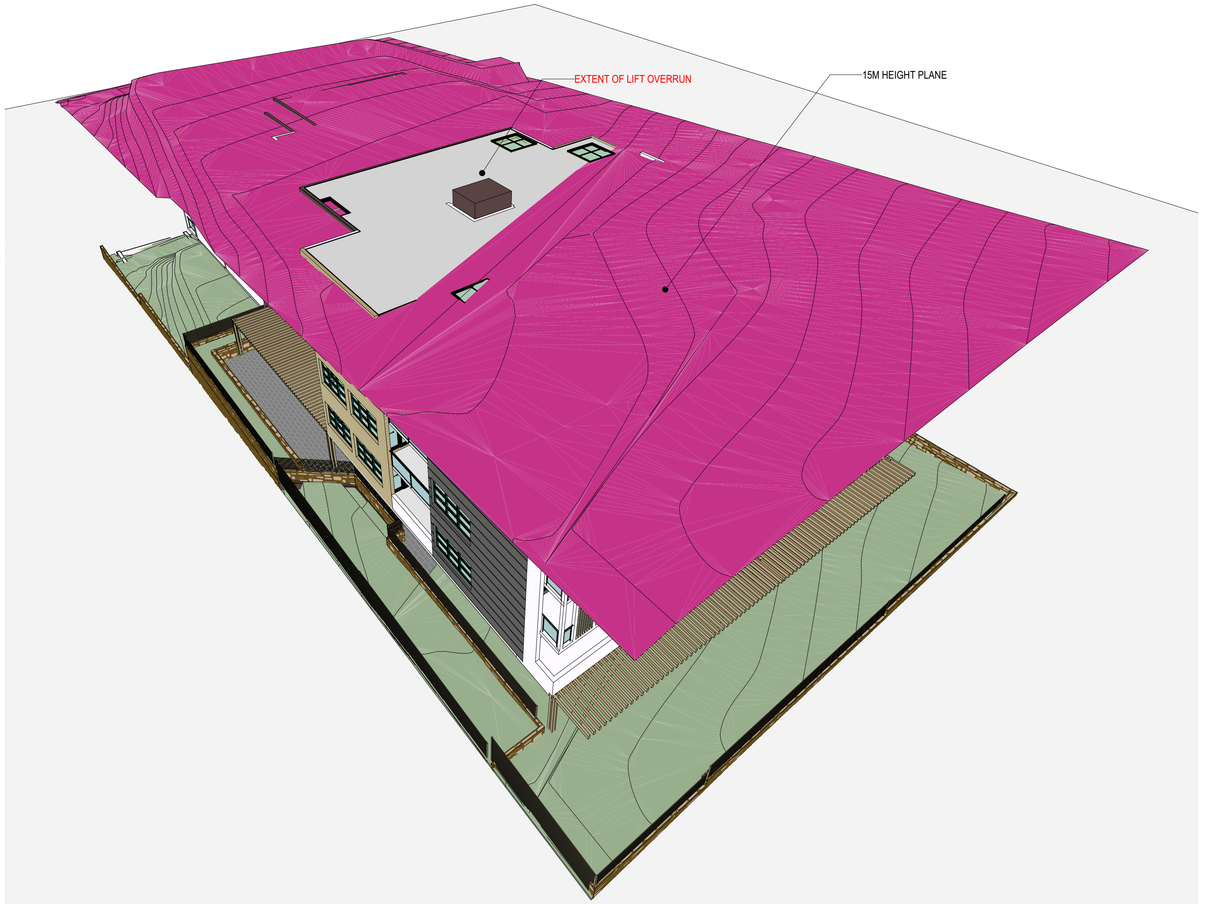
Drawing Number **DA - 061** Revision **F**

Status
DEVELOPMENT APPLICATION

Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
DO NOT SCALE DRAWINGS.



1 Generic Perspective 1:83.33



1 HEIGHT OF BUILDING MAX. 1:2000

Rev	Description	Date	App'd
F	GENERAL REVISION - WSTE	040718	CH
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Drawing Title
HEIGHT PLANE DIAGRAM

Date of Issue 4/07/2018 Checked Approved

Scale
1:2000, 1:83.33
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 081 F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave Kingswood.BIM Server: URBLNKBIM01 - BIM Server 20/07/17-090 DA 71 Park Ave Kingswood.rvt7/7/2018 4:35 PM

Notes
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DO NOT SCALE DRAWINGS.

Project Schedule Summary

Site Area	**1,960 m2**	
Gross Floor Area	4,313 m2	
FSR	2.2 :1	

Unit Mix

Unit	Number	%
1Bed	7	*16%*
1Bed + Study	8	*18%*
2Bed	8	*18%*
2Bed + Study	22	*49%*
3Bed	0	*0%*
3Bed + Study		
Child Care		
Total Units	**45**	100%

Compliance Summary

Control		Requirement		Proposed		Complies
Floor Space Ratio (FSR)		2.20 : 1	max		2.04 : 1	✗
Gross Floor Area (GFA		4,313 m2	max		3,990 m2	✓
Building Height		15	max		15.00 m	✓
Car Parking		68	min.		64	✓
Motorcycle Parking (1/15units)		3	min.		3	✓
Bicycle Parking (1/10units)		5	min.		5	✓
Solar Access		70%	min.	32	71%	✓
Cross Ventilation		60%	min.	5	62%	✓
Adaptable Units		10%	min.	5	11%	✓
Single orientated south facing units		10%	max	0	0%	✓
Communal Open Space (ADG)		25%	490.1	524 m2	27%	✓
Communal Open Space (Child Care)				476 m2		
Deep Soil (Min. 7% of site area as per ADG)		137	min.	372 m2	19%	✓
Unit Storage (typical)	*1Bed*	6 m3	min.		6 m3	✓
	2Bed	8 m3	min.		8 m3	✓
	3Bed	10 m3	min.		10 m3	✓

Detailed Calculations

Gross Floor Area		UNIT SCHEDULE											ADG COMPLIANCE				
		1Bed	Adapabtable (Gold)	1Bed + Study	Adapabtable (Gold)	2Bed	Adapabtable (Gold)	2+ Bed + Study	Adapabtable (Gold)	3Bed	Adapabtable (Gold)	Child Care(m2)	Adaptable	Solar Access	Cross Ventilated	Single Orientated South Facing	Deep Soil Zone
Lower Level	690 m2	2		1				1				359		4	1		372
Upper Level	825 m2	1		2		2		6						6	7		
Level 1	825 m2	1		2		2		6						6	7		
Level 2	825 m2	1		2		2		6						8	7		
Level 3	825 m2	2		1		2		3						8	6		
		7	**0**	**8**	**0**	**8**	**0**	**22**	**0**	**0**	**0**		**5**	**32**	**28**		**372**
		15				**30**				**0**			**11%**	**71%**	**62%**	**0%**	**19%**
Total GFA 3,990 m2																	
Total Units 45																	

Carparking

Carparking Factor(AS PER DCP)	1	1	2	1per 10 Children & 1 per staff	1 per 5 units	10%
Unit Type	15	30	0	Child Care	Visitor	Adaptable
Spaces required		45		13.6	9	5
Total Spaces Required	68					

Carparking Spaces provided	Car Spaces (Residential)	Bicycle	Motorbike	CHILD CARE	Visitor	Adaptable
Basement 1	1			14	10 (3 shared)	
Basement 2	44	4	3			5
Total Spaces Provided	**45**	**4**	**3**	**14**	**10**	**5**

Detailed Calculation Per Floor

		Unit Type	Area (m2)	Balcony Area (m2)	Adaptable	Storage (m3)	Solar Access (hrs)	Cross Ventilated	Single Orientated South Facing
Ground Level	**1**	1	56	22	y	6	0.0	y	
	2	1	56	34		6	0.0		
	3	1	57	26		6	0.0	y	
	4	2	84	46		8	3.0		
Upper Ground	**5**	2	75	10		8	2.0	y	
	6	1	51	8		6			
	7	2	76	10		8			
	8	2	70	10		8	6.0	y	
	9	2	75	10		8	6.0	y	
	10	2	75	10		8	2.0	y	
	11	2	75	10		8	6.0		
	12	1	50	11		6	6.0	y	
	13	1	57	8		6	6.0	y	
	14	2	70	10		8	3.0	y	
	15	2	76	10	y	8	1.5	y	
Level 01	**16**	2	75	10		8	2.0	y	
	17	1	51	8		6			
	18	2	76	10		8			
	19	2	70	10		8	6.0	y	
	20	2	75	10		8	6.0	y	
	21	2	75	10		8	2.0	y	
	22	2	75	10		8	6.0		
	23	1	50	11		6	6.0	y	
	24	1	57	8		6	6.0	y	
	25	2	70	10		8	3.0	y	
	26	2	76	10	y	8	1.5	y	
Level 02	**27**	2	75	10		8	2.0	y	
	28	1	51	8		6			
	29	2	76	10		8			
	30	2	70	10		8	6.0	y	
	31	2	75	10		8	6.0	y	
	32	2	75	10		8	2.0	y	
	33	2	75	10		8	6.0		
	34	1	50	11		6	6.0	y	
	35	1	57	8		6	6.0	y	
	36	2	70	10		8	3.0	y	
	37	2	76	10	y	8	1.5	y	
Level 03	**38**	2	70	35	y	8	6.0	y	y
	39	1	50	22	y	6	6.0	y	
	40	2	75	10		8	6.0	y	
	41	2	75	10		8	6.0	y	
	42	1	50	8		8	2.0	y	
	43	1	57	10		8	2.5	y	
	44	2	70	10		8	3.5	y	
	45	2	76	10		8	2.0	y	

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Drawing Title
SEPP65 COMPLIANCE TABLES AND UNIT SCHEDULE

Date of Issue 4/07/2018 Checked Approved

Scale 1:0.67 @A1 Sheet Size 50% @A3 Sheet Size — 50mm on original

Project Number **17-090** Drawing Number Revision **DA - 082 F**

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:30 PM

Notes
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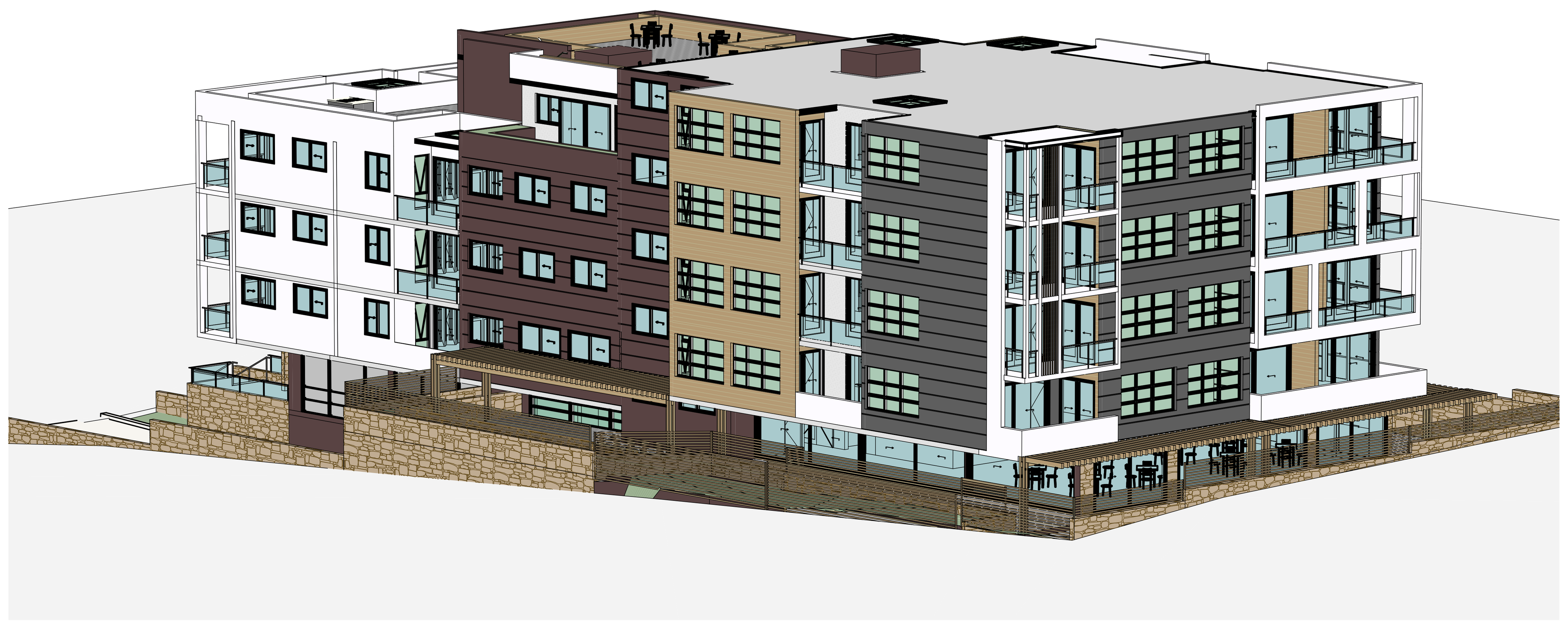
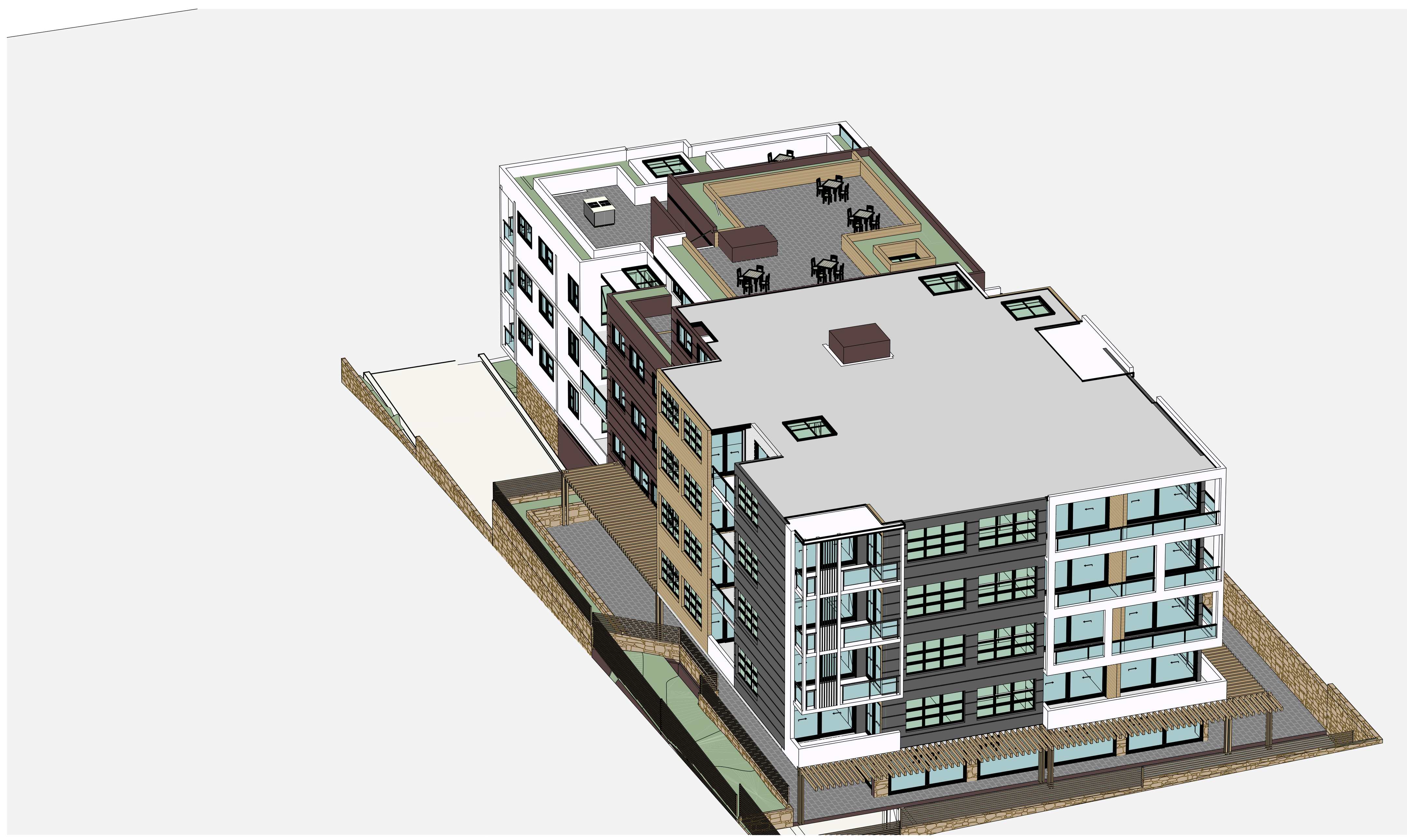


1 VIEW FROM SUN 0800 1:2001

VIEW FROM SUN 0900 1:200



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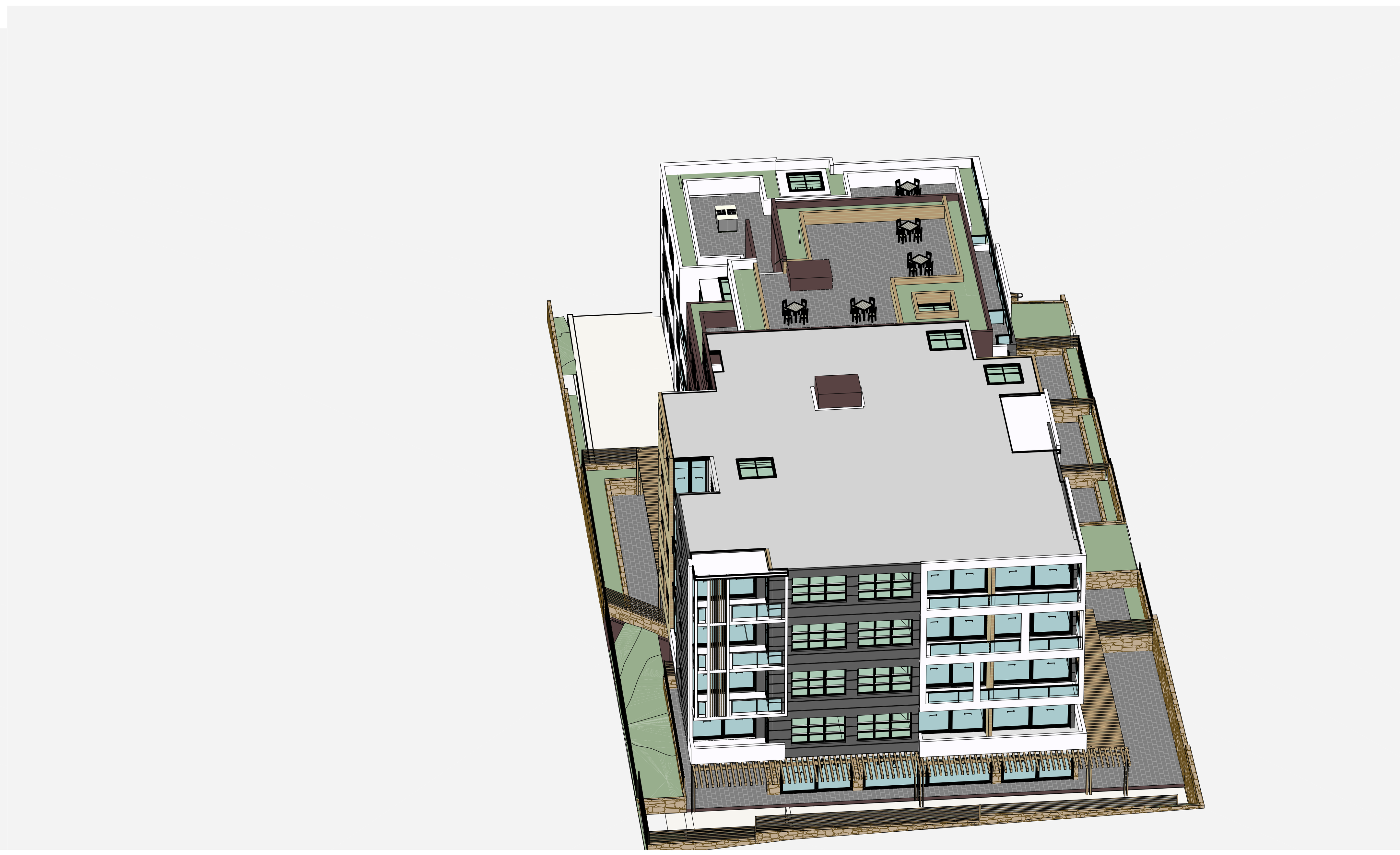

VIEW FROM SUN 1100 1:200

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Drawing Title

SOLAR ACCESS DIAGRAMS

Date of Issue: 4/07/2018 Checked Approved

Scale
1:200
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number: 17-090
Drawing Number: DA - 091 Revision: F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:30 PM

1 VIEW FROM SUN 1200 1:2001

VIEW FROM SUN 1300 1:200

1 VIEW FROM SUN 1400 1:2001

VIEW FROM SUN 1500 1:200

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Drawing Title
SOLAR ACCESS DIAGRAMS (21ST JUNE 1PM-3PM) & CALCULATION SCHEDULE

Date of Issue 4/07/2018 Checked Approved

Scale
1:200
@A1 Sheet Size
50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 092 F

Status
DEVELOPMENT APPLICATION

17-090 DA 71 Park Ave KingswoodBIM Server: URBLNKBIM01 - BIM Server 20/2017/17-090 DA 71 Park Ave Kingswood4/07/20184:31 PM

Document Set ID: 8389425
Version: 1, Version Date: 20/09/2018

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Drawing Title
PERSPECTIVE

Date of Issue 4/07/2018 Checked Approved

Scale

50mm on original

@A1 Sheet Size
50% @A3 Sheet Size

Project Number **17-090**

Drawing Number **DA - 093** Revision **F**

Status **DEVELOPMENT APPLICATION**

17-090 DA 71 Park Ave Kingswood.BIM Server URBLNKBIM01 : BIM Server 2020\17-090 DA 71 Park Ave Kingswood.rvt 07/2/18 4:31 PM

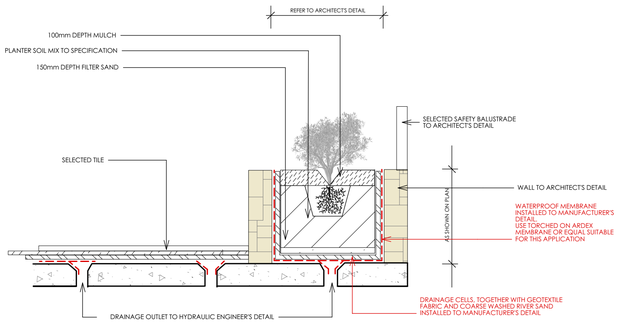
DEVELOPMENT APPLICATION
PROPOSED LANDSCAPE PLANS

MULTI RESIDENTIAL DEVELOPMENT
71 PARK AVENUE, KINGSWOOD

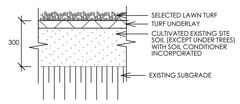
DRAWING LIST

SHEET NO.	SHEET TITLE	DATE
L/00	COVER SHEET	08/06/18
L/01	LANDSCAPE PLAN- GROUND LEVEL	08/06/18
L/02	LANDSCAPE PLAN-LEVEL 3	08/06/18
L/03	LANDSCAPE PLAN-ROOF	08/06/18

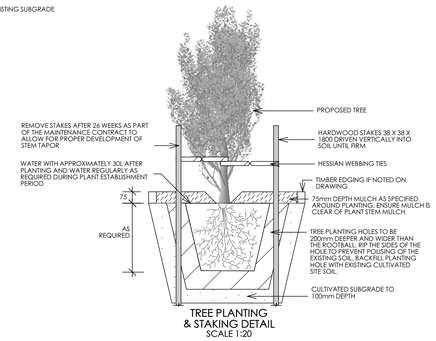
LANDSCAPE DETAILS



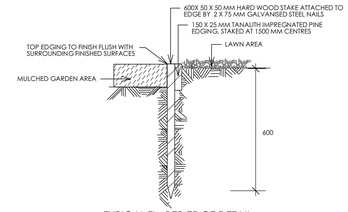
LANDSCAPED AREAS ON SLAB TYPICAL DETAIL
SCALE 1:20



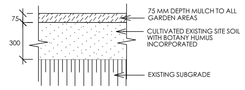
TYPICAL TURF DETAIL
SCALE 1:20



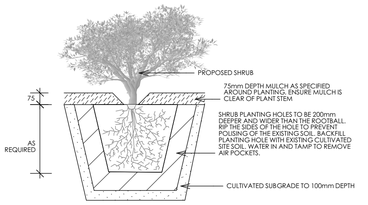
TREE PLANTING
& STAKING DETAIL
SCALE 1:20



TYPICAL TIMBER EDGE DETAIL
SCALE 1:10
DO NOT SCALE



SOIL TO GARDEN AREAS
SCALE 1:20



PLANTING DETAIL
SCALE 1:20

OUTLINE LANDSCAPE SPECIFICATION

Preparation by Builder: Builder shall remove all existing concrete pathways, fences, footings, walls etc. not notated to be retained and complete all necessary excavation work prior to commencement on site by Landscape Contractor (Contractor). Builder shall also install new retaining walls, kerbs, layback kerb, crossover, pathways etc. and make good all existing kerbs, gutters etc. as necessary and to approval of Council. Builder shall ensure that a minimum 450mm of topsoil in garden areas and a minimum 150mm of topsoil in lawn areas exists. Should required depths not exist Builder shall contact Landscape Architect and ask for instructions prior to completion of excavation works.
Excavate as necessary, then fill with approved site topsoil to allow for minimum 500mm soil depth in garden areas and 150mm soil depth in lawn areas and to gain required shapes & levels. Ensure all garden and lawn areas drain satisfactorily. All levels & surface drainage shall be determined by others & approved on site by Head Contractor. Note: Approved imported topsoil mix may be utilised if there is insufficient site topsoil available. State in Tender a m3 rate for additional imported topsoil and the quantities of both site topsoil and imported topsoil allowed for in Tender.
Initial Preparation: Verify all dimensions & levels on site prior to commencement. Do not scale from drawings. Locate all underground & above ground services & ensure no damage occurs to them throughout contract. Spray approved weedicide to all proposed lawn & garden areas to manufacturer's directions. Remove existing concrete pathways, footings, walls etc. not notated to be retained & weeds from site. Levels indicated on Plan are nominal only and are derived from Architectural Plans & Drawings by others. Final structural integrity of all items shall be the sole responsibility of Landscape Contractor.
Tree Protection: Trees to be retained shall be protected during site works and construction by the erection of solid barricades to the specification of Council. Storage of machinery or materials beneath canopy of trees to be retained shall not be permitted. Changes to soil level and cultivation of soil beneath canopy of trees to be retained shall not be permitted unless under direct supervision of Landscape Architect. Existing trees shall be pruned to Landscape Architects onsite instructions.
Soil Preparation: Cultivate to depth of 300mm all proposed lawn & garden areas incorporating minimum 100mm depth of organic clay breaker into existing site soil. Do not cultivate beneath existing trees to be retained. In areas where fill is required gain required shapes & levels using a premium grade soil mix. In areas where excavation is required (if in clay) over excavate as required to to allow for installation of 500mm depth of premium grade topsoil mix to garden areas and 300mm depth of premium grade topsoil mix to lawn areas. Undertake all required action to ensure that no rootballs of proposed plants sit in clay wells and that all garden areas and lawn areas drain satisfactorily. Note it is intended that wherever possible existing levels shall not be altered through garden and lawn areas. It is the Contractors responsibility to ensure that the end result of the project is that all lawn and garden areas drain sufficiently (both surface & subsurface), are at required finished levels and have sufficient soil depths to enable lawn and plants to thrive and grow. Should alternative works to those specified be required to achieve the above result, Contractor shall inform Builder at time of Tender and request instructions.
Lawn Edging and Stepping Stones:(i) 125 x 25mm approved tanalith impregnated pine edging shall be installed, to lines as indicated on plan and staked with approved stakes at maximum 1500mm centres at ends and changes of direction; stakes shall be nailed to edging with approved galvanised steel nails. Top of edging shall finish flush with surrounding surfaces. Top of stakes shall finish 25mm below top of edging.(ii)Contractor shall install approved bricks on edge on a minimum 100mm deep x 90mm wide concrete footing with brick for set in, to lines nominated on plan as brick edging. Bricks shall be laid with a nominal 10mm wide approved coloured mortar joint. Bricks needing to be cut shall be done so with clean sharp cuts. Top of edging shall finish flush with surrounding finished surfaces. Approved sandstone stepping stones shall be positioned as indicated on plan on a 25mm river sand bed. Approved sandstone stepping stones shall be positioned as indicated on plan on a 25mm river sand bed.
Retaining Walls: Positions, detail and heights of retaining walls shall be by others.
Planting: Purchase plants from an approved nursery. Plants to be healthy & true to type & species. Set out plants to positions indicated on plan. Following approval, plant holes shall be dug approximately twice width and to 100mm deeper than plant rootballs that they are to receive. Base and sides of hole shall be further loosened. Fertiliser, followed by 100mm depth of topsoil mix shall then be placed into base of hole and lightly consolidated. Base of hole shall then be watered.
Remove plant container and install plant into hole. Rootball shall be backfilled with surrounding topsoil and topsoil firmed into place. An approved shallow dish shall be formed to contain water around base of stem. Base of stem of plant shall finish flush with finished soil level. Once installed plant shall be thoroughly watered and maintained for the duration of the Contract.
Staking: All trees shall be staked using 2 x 38mm x 38mm x 2000mm long hardwood stakes per plant and with hessian webbing ties installed to Landscape Architect's on site instructions.
Mulching: Install 75mm depth of 25mm diameter hardwood mulch to all garden areas, coving mulch down around all plant stems & to finish flush with adjacent surfaces.
Turfing: Prepare for, level & lay cultivated Polmetto Buffulo turves to all areas nominated on plan as being lawn. Roll, water, fertilise, mow & maintain lawns as necessary until completion of maintenance period. At same time make good all existing lawn areas using same lawn type. Lawns in shade shall be over sown with an approved seed mix. Allow to retrim and returf councils nature strip as required.
Fencing: Retain all existing fences unless advised otherwise by builder. Install timber paling fences to heights indicated on Plan.
Paving: Areas to be paved shall be excavated or filled to allow for installation of bedding materials. Levels and falls shall be as per Plan. Surface drainage on paving shall be towards grated drains with all drains connected to stormwater system and installed by Builder.
Irrigation: Contractor shall supply and install an approved fully automatic, vandal resistant, computerised irrigation system to all garden and lawn areas, excluding council nature strip. Entire system shall be to approval of Water Board
Completion: Prior to practical completion remove from site all unwanted debris occurring from work. Satisfy Council that all landscaping work has been undertaken in strict accordance with Councils landscape codes & guidelines.

Maintenance Period: A twelve month maintenance period shall be undertaken by owner or owners representative as set out herein. Owner shall have care and maintenance of all work specified under this Contract and shall rectify any defective work for a period of 52 weeks following Practical Completion of Landscape Works. This period shall be herein known as the Maintenance Period. Work shall also include for the care and maintenance of all existing vegetation to be retained and proposed vegetation. Site shall be attended at least weekly and as otherwise required. The following works shall be undertaken during the Maintenance Period.
(a) Recurrent works Undertake recurrent works throughout the Maintenance Period. These works shall include but are not limited to watering, weeding, fertilising, pest and disease control, returfing, staking and tying, replanting, cultivation, pruning, aerating, renovating, top dressing and the like.
(b) Watering Regularly water all plants and lawn areas to maintain optimal growing conditions. Contractor shall adjust the water quantity utilised with regard to climatic conditions prevalent at the time.
(c) Replacements Immediately replace plants which die or fail to thrive (at discretion of Landscape Architect) with plants of same species or variety and of same size and quality unless otherwise specified. Plant replacement shall be at Contractors expense, unless replacement is required due to vandalism or theft, which shall be determined by Landscape Architect. Required replacement of plants due to vandalism or theft shall be undertaken by Contractor and shall be paid for by Client at an agreed predetermined rate.
(d) Mulched surfaces Maintain mulched surfaces in clean, tidy, weed-free condition and shall reinstate mulch as necessary to maintain specified depths.
(e) Stakes & ties Adjust and/or replace stakes and ties as required. Remove stakes and ties at end of Maintenance Period if directed by Landscape Architect.
(f) Lawn areas Lawn areas shall be mown at regular intervals to ensure non heading of lawn with a fine-cutting mulching mower and clippings left on lawn to mulch and self-fertilise lawn areas. Primary cut after laying of lawn by others shall be determined on site taking into consideration season, watering and growth rate of lawn. Following the primary cut all lawns shall be regularly mown as required to ensure a healthy lawn and a neat appearance. Care shall always be taken to ensure that no clippings are left on surrounding roads or garden areas after mowing. Replace lawn areas that fail to thrive at discretion of Landscape Architect. All new and made good lawn areas shall be barricaded off from pedestrian traffic by use of star pickets and brightly coloured plastic safety mesh until establishment of lawn. Barricades shall be removed upon establishment of lawn area.
(g) Weeding Remove by hand, or by carefully supervised use of weedicide, any weed growth that may occur throughout Maintenance Period. This work shall be executed at weekly intervals so that all lawn and garden areas may be observed in a weed-free condition.
(h) Pruning Prune new and existing plants (excluding existing trees) as necessary to maintain dense foliage conditions. Any rogue branches, or branches overhanging or obstructing pathways, roads, doorways, etc., shall be removed by approved horticultural methods.
(i) Spraying Spraying for insect, fungal and disease attack shall be undertaken as required and in accordance with spray manufacturers recommendations at intervals taking into account the season of year during which landscape works are to be implemented.
(j) Tree Care Should any existing trees be damaged during construction works immediately engage an experienced arboriculturist and then undertake any rectification work recommended by arboriculturist.

Client

PAM CORNERSTONE P/L

Architect

URBAN LINK PTY LTD

Project

PROPOSED MULTI RESIDENTIAL DEVELOPMENT

Notes

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Revision	Description	Date
A	PRELIMINARY	24/01/17
B	AMENDMENTS TO ARCHITECTURAL PLANS & LANDSCAPE CONFIGURATION	09/02/17
C	AMENDMENTS TO ARCHITECTURAL PLANS	17/02/17
D	STORMWATER OSD PLAN	21/02/17
E	RE-SUBMISSION	11/12/17
F	COUNCIL LETTER DATED 07.06.18	08/06/18

DRAWING
PROPOSED LANDSCAPE PLAN- COVER SHEET

ADDRESS
71 PARK AVENUE, KINGSWOOD.

DWG # L/00

A Total Concept Landscape Architects & Swimming Pool Designers
65 West Street, North Sydney NSW 2060
Tel: (02) 9957 5122 Fx: (02) 9957 5922
atc a total concept landscape architects & swimming pool designers

DATE #	24/01/17
SCALE @ A1	1:100
DRAWN	JC
CHKD	JRS
PROJECT #	

SP 58847

PARK AVENUE

BM NAIL IN TOP OF KERB RL:50.20 (AHD)

KERB

FOOTPATH

CONCRETE

63.20

30.575

30.485

65.425

11-Philodrendron 'Xanadu'

16-Nandina 'Gulf Stream'

4-Cycas revoluta

10-Doryanthes excelsa

18-Yucca elephantipes

3-Stenocarpus sinuatus

61-Philodrendron 'Xanadu'

2-Cupaniopsis anacardioides

15-Lomandra 'Tanika'

14-Syzygium australe 'Pinnacle'

21-Philodrendron 'Xanadu'

2-Tristianiopsis laurina

TREE 2 EUCALYPTUS MOLUCCANA TO BE RETAINED

3-Buckinghamia celsissima

9-Nandina 'Gulf Stream'

TREE 2 EUCALYPTUS MOLUCCANA TO BE REMOVED

TREE 3, 4, 5, 6 EUCALYPTUS MOLUCCANA TO BE REMOVED

TREE 11 EUCALYPTUS MOLUCCANA TO BE RETAINED & PROTECTED

19-Lomandra 'Tanika'

14-Bambusa textilis 'Gracilis'

84-Carpobrotus glaucescens

3-Stenocarpus sinuatus

TREE 12 EUCALYPTUS TERETICORNIS TO BE RETAINED & PROTECTED

17-Syzygium australe 'Pinnacle'

TREE 13 EUCALYPTUS MOLUCCANA TO BE RETAINED & PROTECTED

19-Doryanthes excelsa

TREE 14 ROBINIA PSEUDOCACIA 'FRISIA' TO BE RETAINED & PROTECTED

TREE 15 ROBINIA PSEUDOCACIA 'FRISIA' TO BE RETAINED & PROTECTED

TREE 16 ROBINIA PSEUDOCACIA 'FRISIA' TO BE RETAINED & PROTECTED

TREE 17 ROBINIA PSEUDOCACIA 'FRISIA' TO BE RETAINED & PROTECTED

Private Open Space 50 m²

Private Open Space 47 m²

Private Open Space 43 m²

Private Open Space 46 m²

DEEP SOIL AREA 39 m²

DEEP SOIL ZONE 21 m²

COS GF 47 m²

DEEP SOIL AREA 47 m²

DEEP SOIL AREA 6 m²

CHILD CARE 359 m²

OUTDOOR PLAY AREA SHADED 309 m²

DEEP SOIL AREA CHILDRENS PLAY 241 m²

OUTLINE OF SLAB OVER

PERGOLA OVER CHILDRENS PLAY AREA

CHAIR LIFT

RAMP 1:14

RAMP 1:20

RAMP 1:16

CONCRETE DRIVEWAY

VEHICLE CROSSING

TOP

BALCONY

BALCONY

9

SEC E

DP 935

SINGLE S

BRICK BU

S:6 D:0.4 H:15

S:8 D:0.5 H:20

S:8 D:0.4 H:15

S:4 D:0.2 H:7

TREE PROTECTION ZONE

B/E

Legend

- PROPOSED LAWN AREA
- PROPOSED PAVED AREA
- T/E PROPOSED TIMBER LAWN EDGE
- TREE PROTECTION ZONE
- BASEMENT LINE BELOW
- PROPOSED 1.8m HIGH HORIZONTAL TIMBER SLAT COURTYARD FENCE
- PROPOSED 1.5m HIGH HORIZONTAL TIMBER SLAT BOUNDARY FENCE
- OUTLINE OF SLAB OVER
- PROPOSED RETAINING WALL
- PROPOSED 1.8m HIGH TIMBER PALING FENCE
- PROPOSED CONCRETE DRIVEWAY
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE RETAINED
- B/E BRICK LAWN EDGE

Architect

URBAN LINK PTY LTD

Project

PROPOSED MULTI RESIDENTIAL DEVELOPMENT

CLIENTS

PAM CORNERSTONE P/L

Notes

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A	PRELIMINARY	24/01/17
B	AMENDMENTS TO ARCHITECTURAL PLANS & LANDSCAPE CONFIGURATION	09/02/17
C	AMENDMENTS TO ARCHITECTURAL PLANS	17/02/17
D	STORMWATER OSD PLAN	21/02/17
E	RE-SUBMISSION	11/12/17
F	COUNCIL LETTER DATED 07.06.18	08/06/18

DRAWING
PROPOSED LANDSCAPE PLAN- GROUND LEVEL

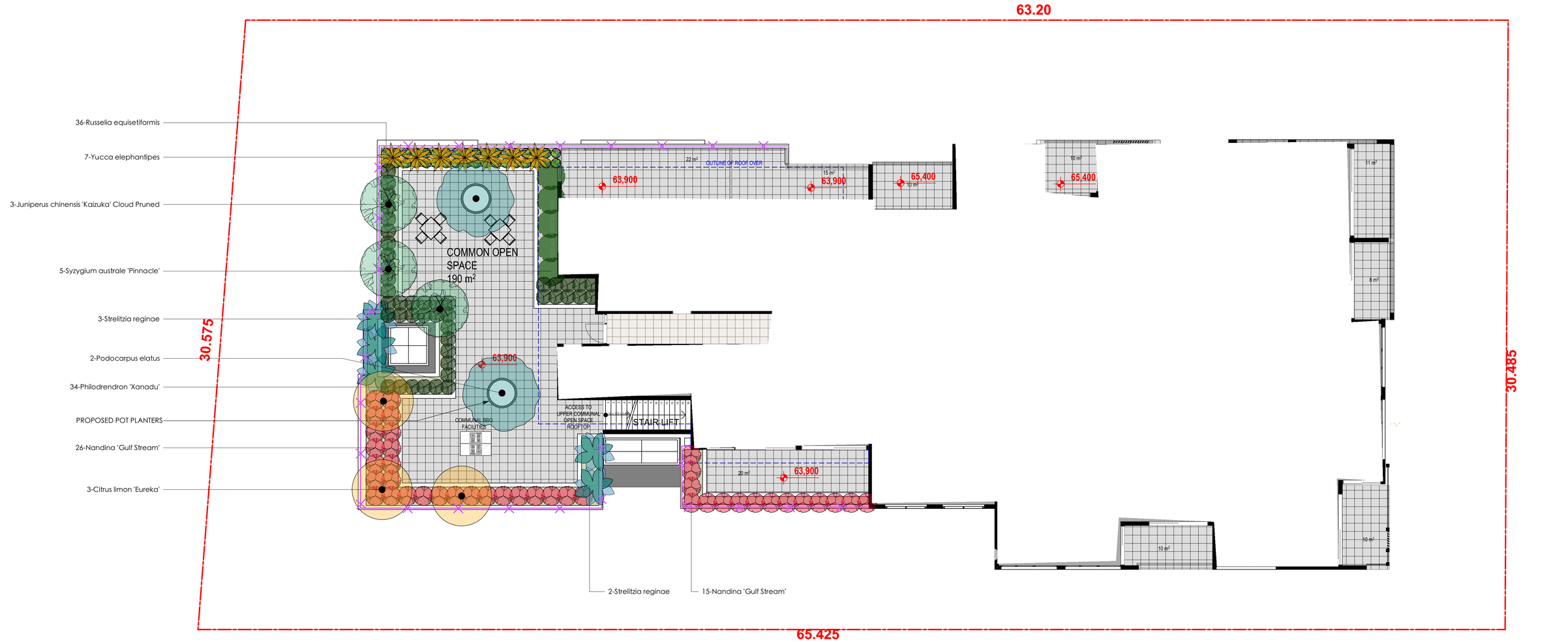
ADDRESS
71 PARK AVENUE, KINGSWOOD.

DWG # L/01

A Total Concept Landscape Architects & Swimming Pool Designers
65 West Street, North Sydney NSW 2060
Tel: (02) 9957 5122 Fx: (02) 9957 5922
atc a total concept landscape architects & swimming pool designers

DATE # 24/01/17
SCALE @ A1 1:100
DRAWN JC
CHKD JRS
PROJECT #

SP 58847



CONCEPT IMAGES FOR POT PLANTERS

Legend

PROPOSED PAVED AREA

PROPOSED RETAINING WALL

PROPOSED 1.2m HIGH BALUSTRADE FENCE

PROPOSED POT PLANTERS

Architect

URBAN LINK PTY LTD

Project

PROPOSED MULTI RESIDENTIAL DEVELOPMENT

CLIENTS

PAM CORNERSTONE P/L

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D	STORMWATER OSD PLAN	21/02/17
E	RE-SUBMISSION	11/12/17
F	COUNCIL LETTER DATED 07.06.18	08/06/18

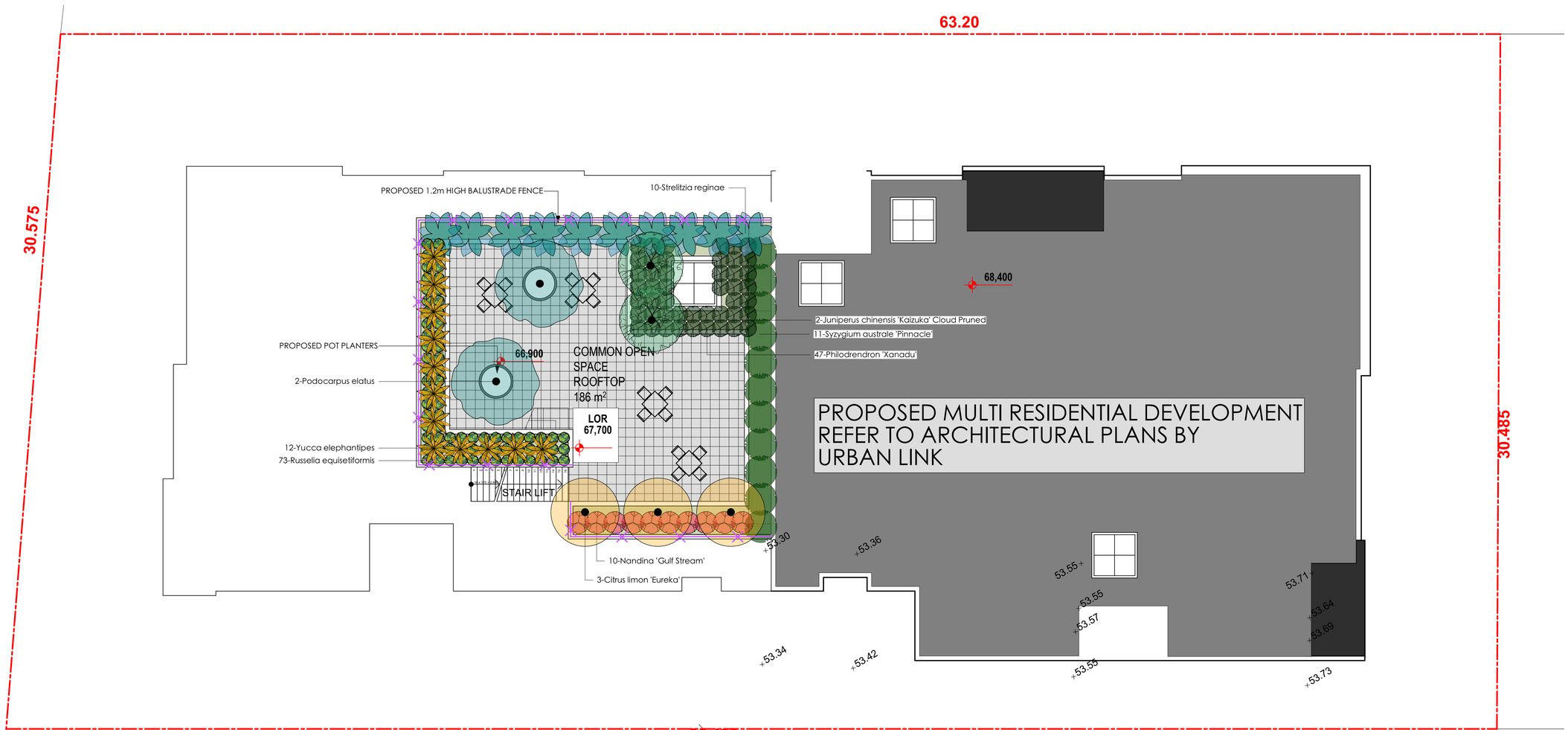
DRAWING
PROPOSED LANDSCAPE PLAN- LEVEL 5

ADDRESS
71 PARK AVENUE, KINGSWOOD.

DWG # L/02

A Total Concept Landscape Architects & Swimming Pool Designers
65 West Street, North Sydney NSW 2060
Tel: (02) 9957 5122 Fx: (02) 9957 5922
atc a total concept landscape architects & swimming pool designers

DATE # 24/01/17
SCALE @ A1 1:100
DRAWN JC
CHKD JRS
PROJECT #



CONCEPT IMAGES FOR POT PLANTERS

PLANTING SCHEDULE NOTE: PROPOSED PLANT SCHEDULE FOR THE ENTIRETY OF SITE

Latin Name	Common Name	Quantity	Scheduled Size	Spread	Height
Bambusa textilis 'Gracilis'	Slender Weavers	14	35lt	1500	4000
Buckinghamia celsissima	Ivory Curl Tree	6	75lt	6000	10000
Carpobrotus glaucescens	Pigface	84	140mm	600	1500
Citrus limon 'Eureka'	Eureka Lemon	6	45lt	3000	5000
Cupaniopsis anacardioides	Tuckeroo	2	75lt	5000	10000
Cycas revoluta	Sago Palm	9	25lt	2500	2000
Doryanthes excelsa	Gymea Lily	45	250mm	1500	2500
Juniperus chinensis 'Kaizuka' Cloud Pruned	Hollywood Juniper Cloud Pruned	5	75lt	3000	3000
Lomandra 'Tanika'	Dwarf Lomandra	130	140mm	500	500
Nandina 'Gulf Stream'	Sacred Bamboo	100	200mm	1000	1000
Philodrendron 'Xanadu'	Dwarf Philodendron	231	200mm	800	1000
Podocarpus elatus	Illawara Plum	4	45lt	4000	5000
Russelia equisetiformis	Coral Plant	109	200mm	500	1200
Stenocarpus sinuatus	Firewheel Tree	6	75lt	6000	15000
Strelitzia reginae	Bird of Paradise	15	250mm	2000	2000
Syzygium australe 'Pinnacle'	Lillypilly	48	45lt	1500	8000
Tristianiopsis laurina	Water Gum	2	75lt	6000	10000
Yucca elephantipes	Yucca	55	250mm	1500	2000

Legend

PROPOSED PAVED AREA
PROPOSED RETAINING WALL
PROPOSED 1.2m HIGH BALUSTRADE FENCE
PROPOSED POT PLANTERS

Architect

URBAN LINK PTY LTD

Project

PROPOSED MULTI RESIDENTIAL DEVELOPMENT

CLIENTS

PAM CORNERSTONE P/L

Notes

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Revision	Description	Date
A	PRELIMINARY	24/01/17
B	AMENDMENTS TO ARCHITECTURAL PLANS & LANDSCAPE CONFIGURATION	09/02/17
C	AMENDMENTS TO ARCHITECTURAL PLANS	17/02/17
D	STORMWATER OSD PLAN	21/02/17
E	RE-SUBMISSION	11/12/17
F	COUNCIL LETTER DATED 07.06.18	08/06/18

DRAWING
PROPOSED LANDSCAPE PLAN- LEVEL 5

ADDRESS
71 PARK AVENUE, KINGSWOOD.

DWG # L/03

A Total Concept Landscape Architects & Swimming Pool Designers
65 West Street, North Sydney NSW 2060
Tel: (02) 9957 5122 Fx: (02) 9957 5922
atc a total concept landscape architects & swimming pool designers

DATE #	24/01/17
SCALE @ A1	1:100
DRAWN	JC
CHKD	JRS
PROJECT #	

PROPOSED MIX-USED DEVELOPMENT
71 PARK AVENUE, KINGSWOOD
STORMWATER CONCEPT DESIGN

LOCALITY PLAN
NOT TO SCALE

PREPARED BY:

SGC
Engineering Value

Unit 412, Level 4,
14-16 LEXINGTON DRIVE
BELLA VISTA, NSW 2153
T: +61 2 8883 4239
F: +61 2 9672 6977
Email: office@sgce.com.au
Web: www.sgce.com.au

A.B.N. 21 118 222 530

ARCHITECT:

STEPHEN BOWERS ARCHITECTS

CLIENT :

PAM CORNERSTONE P/L

SGC Reference Number: 2 0 1 6 0 4 1 4

Revision Number: A

DRAWING REGISTER		
No.	TITLE	REV
SW01	COVER SHEET	A
SW02	STORMWATER CONCEPT DESIGN - BASEMENT 02 PLAN	A
SW03	STORMWATER CONCEPT DESIGN - GROUND FLOOR PLAN	A
SW04	STORMWATER CONCEPT DESIGN - ROOF PLAN	A
SW05	EROSION AND SEDIMENT CONTROL - PLAN AND DETAILS	A
SW06	STORMWATER CONCEPT DESIGN - DETAILS SHEET	A
SW07	STORMWATER CONCEPT DESIGN - MUSIC CATCHMENT PLAN	A

SUBSOIL DESIGN CALCS:

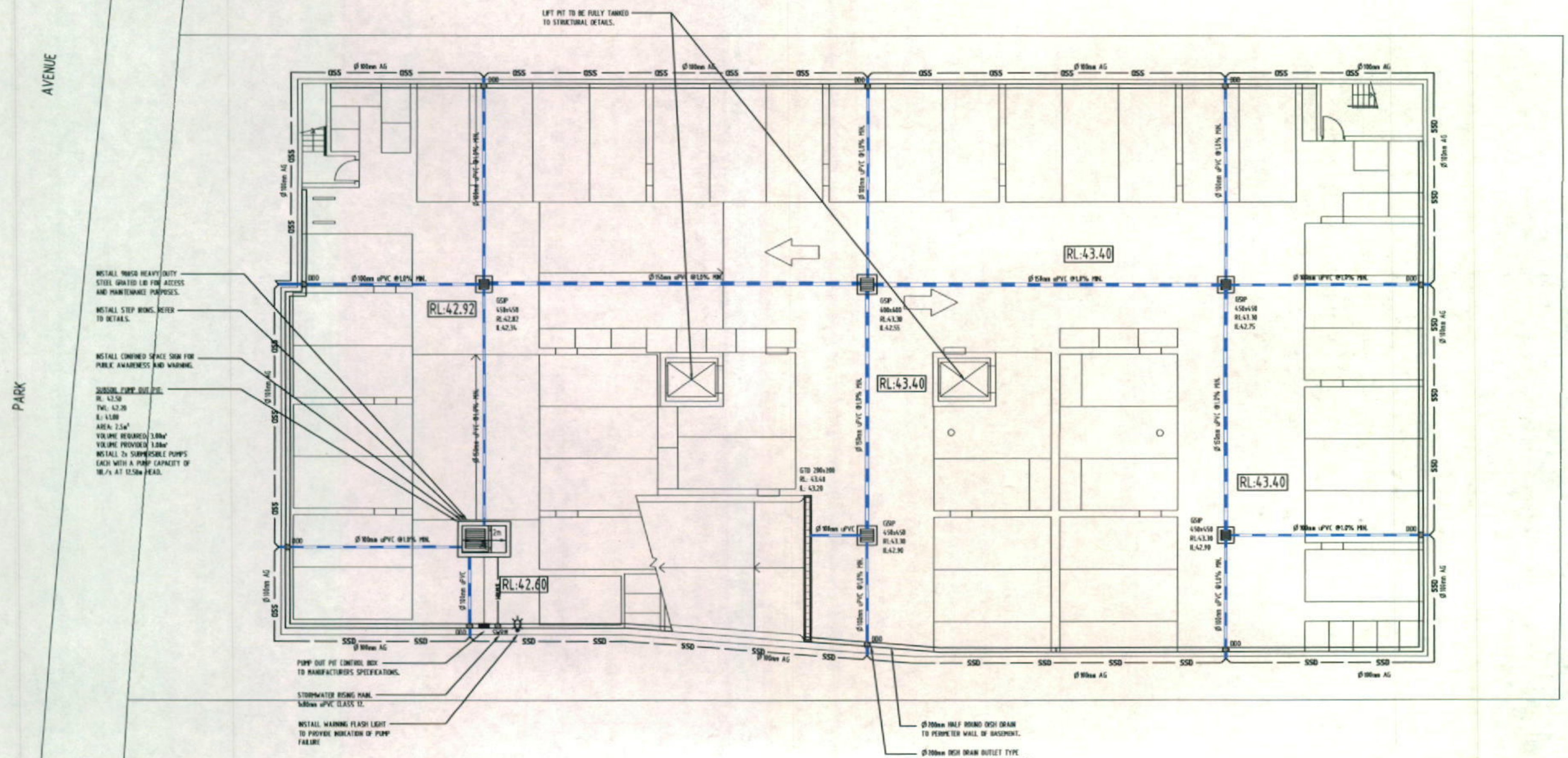
100yr 2hr ARI STORM= 44.20mm/hr
ARIx2=88.40mm
AREA OF DRIVEWAY
RAMP UNCOVERED= 12.13m²

V=Axd
=12.13x(88.40/1000)
=12.13x0.0884
=1.07m³

THEREFORE, A VOLUME OF 3.00m³ SUBSOIL PUMP OUT PIT WILL BE APPLIED AS PER AUSTRALIAN STANDARD.

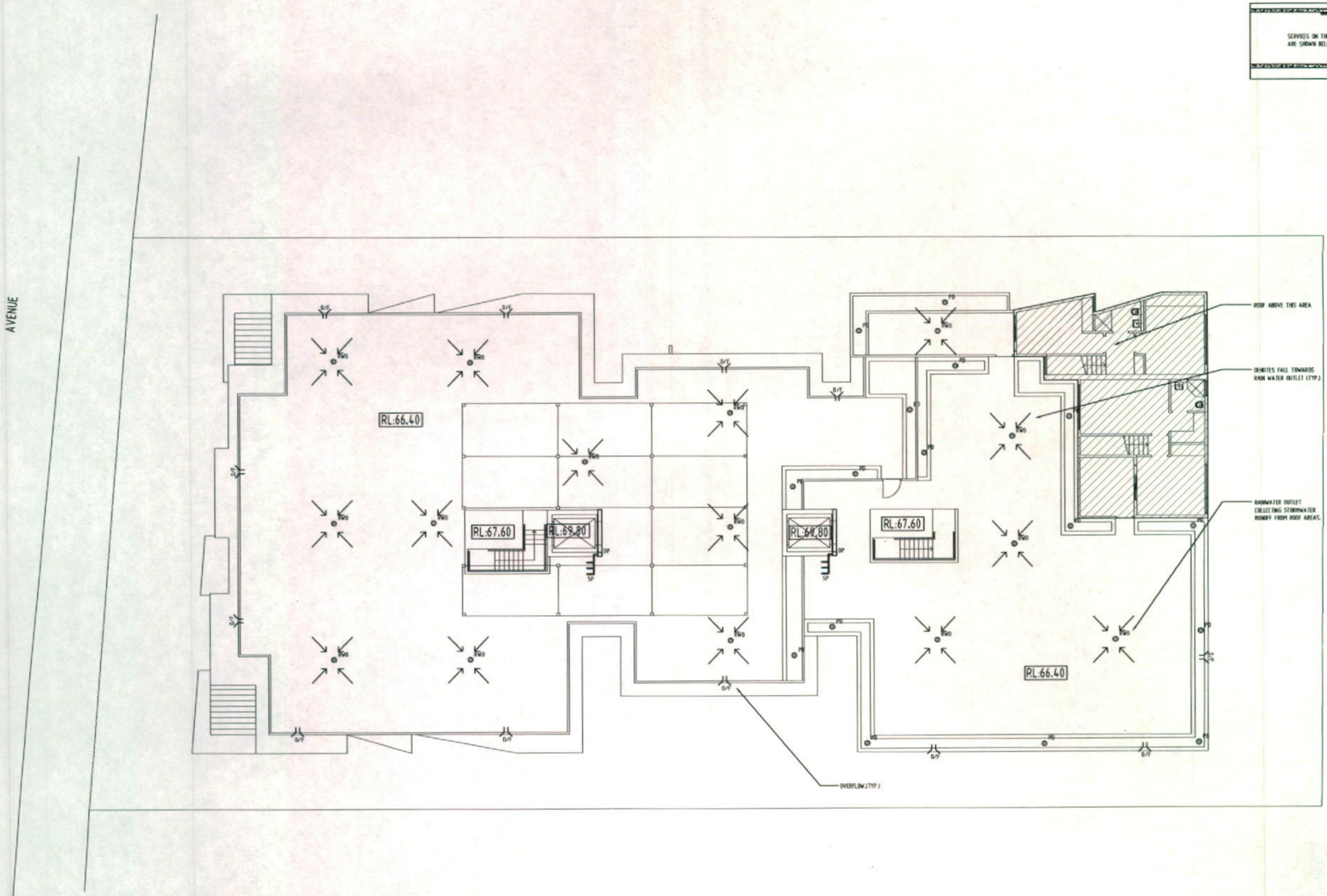
NOTE:
BASEMENT DRAINAGE DESIGN SUBJECT TO GEOTECHNICAL INVESTIGATION AND STRUCTURAL DESIGN OF WALLS AND SLABS.

SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.N.O



CLIENT	ARCHITECT		PROJECT	
PAM CORNERSTONE P/L	STEPHEN BOWERS ARCHITECTS	SGC Engineering Value Unit 412, Level 4, 14-16 LEXINGTON DRIVE BELLA VISTA, NSW 2153 T: +61 2 8883 4239 F: +61 2 9672 6977 Email: office@sgce.com.au Web: www.sgce.com.au A.B.N. 21 118 222 530	PROPOSED MIX-USED DEVELOPMENT 71 PARK AVENUE, KINGSWOOD	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES STORMWATER CONCEPT DESIGN BASEMENT 02 PLAN

Grid	Datum	Sheet	Scale (at original size)	Project No	Drawing No	Revision No
-	A.H.D.	2 of 9	1:100 @ A1	20160414	SW02	A



SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.N.O

Issue	Last revision title	by	Date	Status
A	ISSUE FOR DA	CZ	21.03.17	2
P1	PRELIMINARY - FOR REVIEW ONLY	CZ	21.02.17	1

Issuer internal sequence and revision history
1-preliminary 2-development application 3-construction certificate 4-tender 5-construction 6-other

Reference Coordination Drawing

Discipline	Drawing Title and Number	Date	Rev.
ARCH	DA-03	21.02.17	#
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
FIRE			
LANDS			
CIVIL			
SURVEY			

QUALITY CONTROL

DRAWN DATE
CHECKED DATE
APPROVED DATE 15.12.16

Scales: SCALE 1:100 ON ORIGINAL SIZE

CLIENT
PAM CORNERSTONE P/L

ARCHITECT
STEPHEN BOWERS ARCHITECTS

SGC Engineering Value
Unit 412, Level 4,
14-16 LEXINGTON DRIVE
BELLA VISTA, NSW 2153
T: +61 2 8883 4239
F: +61 2 9672 6977
Email: office@sgce.com.au
Web: www.sgce.com.au
A.B.N. 21 118 222 530

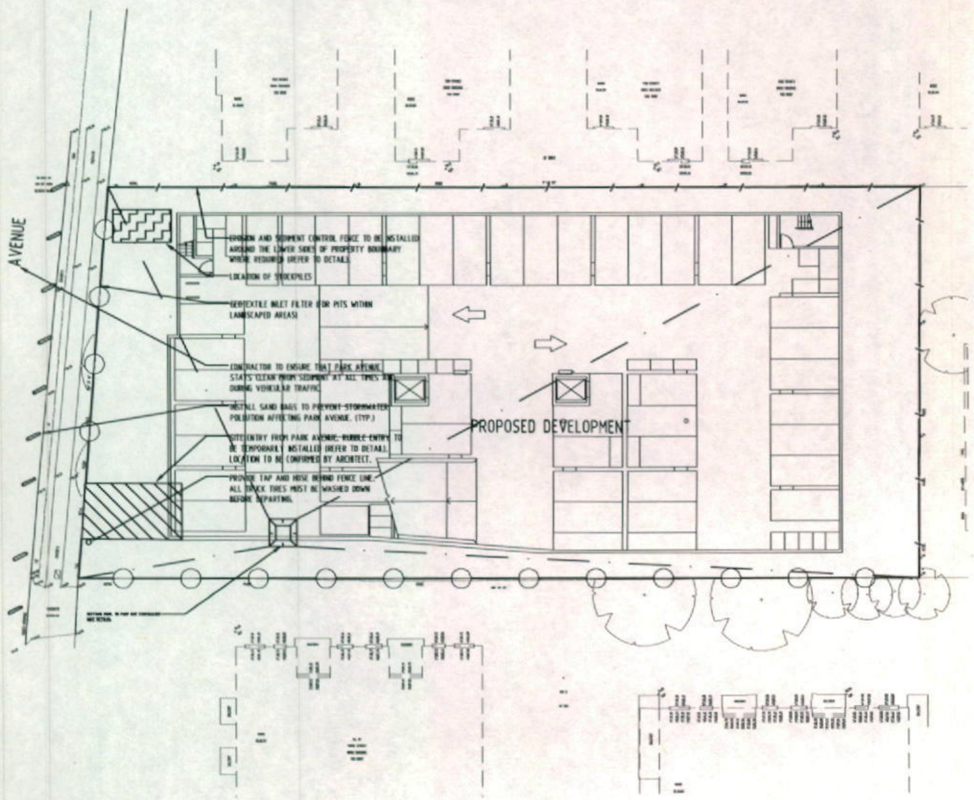
PROJECT
PROPOSED MIX-USED DEVELOPMENT
71 PARK AVENUE, KINGSWOOD

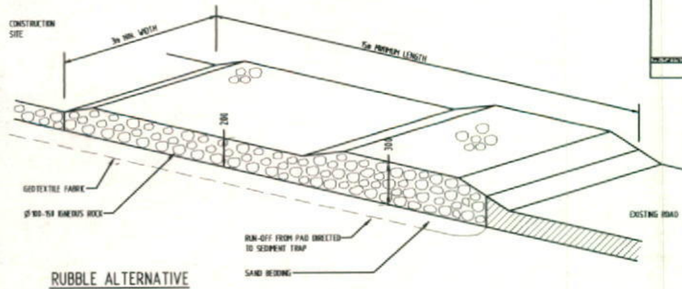
Grid	Datum	Sheet	Scale (at original size)
-	A.H.D.	4 of 7	1:100 @ A1

Drawing Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Drawing Title: STORMWATER CONCEPT DESIGN
ROOF PLAN

Project No	Drawing No	Revision No
20160414	SW04	A





TEMPORARY CONSTRUCTION EXIT

NOT TO SCALE

EROSION & SEDIMENTATION CONTROL NOTES

1. CONTRACTOR SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE OF THE WORKS. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (EG. HUMES PROPEX SILT STOP) STANDING 300mm ABOVE GROUND & EXTENDING 150mm BELOW GROUND.
2. EXISTING DRAINS LOCATED WITHIN THE SITE SHALL ALSO BE ISOLATED BY SEDIMENT FENCING MATERIAL.
3. NO PARKING OR STOCKPILING OF MATERIALS IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.
4. GRASS VERGES SHALL BE MAINTAINED AS MUCH AS PRACTICAL TO PROVIDE A BUFFER ZONE TO THE CONSTRUCTION SITE.
5. CONSTRUCTION ENTRY/EXIT SHALL BE VIA THE LOCATION NOTED ON THE DRAWING. CONTRACTOR SHALL ENSURE ALL DROPPABLE SOIL & SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITING SITE. CONTRACTOR SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING & LEAVING THE SITE DO SO IN A FORWARD DIRECTION.

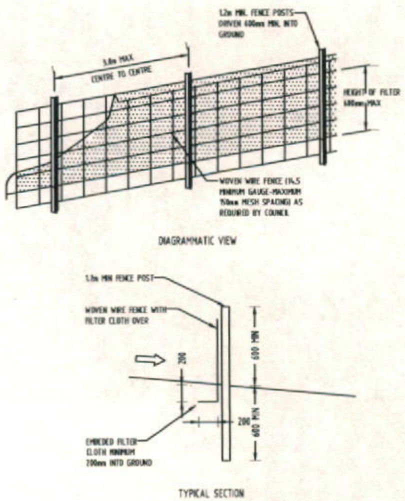
GENERAL NOTES

1. THIS PLAN IS A CONCEPT PLAN ONLY FOR STORMWATER DISPOSAL & EROSION CONTROL. IT IS NOT SUITABLE FOR CONSTRUCTION. THIS PLAN SHOULD BE ADAPTED BY THE BUILDER DURING DEMOLITION, EXCAVATION & CONSTRUCTION PHASES TO ENSURE ADEQUATE PERFORMANCE.
2. ALL DRAINAGE LAYOUT & DETAILS ARE DIAGRAMMATIC & INDICATIVE ONLY. ACTUAL LOCATION, SIZES, LEVELS & GRADES MAY ALTER WHEN DETAIL DESIGN WORKS ARE DOCUMENTED.

CLAY SOILS

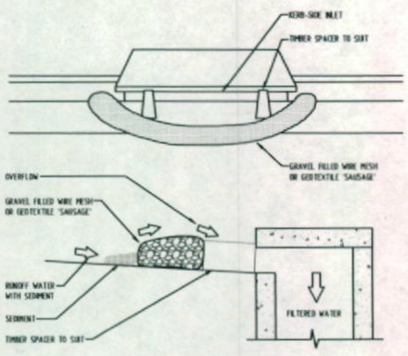
A SYSTEM SHALL BE INSTALLED TO EITHER:

1. TRANSPORT STORMWATER RUNOFF WITH SUSPENDED SOLIDS FROM SITE VIA PUMP TRUCKS.
2. TREAT THE STORMWATER RUNOFF WITH SUSPENDED SOLIDS SO THE DISCHARGE WATER QUALITY TO COUNCIL STORMWATER DRAINAGE SYSTEM HAS A MAXIMUM CONCENTRATION OF SUSPENDED SOLIDS THAT DOES NOT EXCEED 50 MILLIGRAMS PER LITRE IN ACCORDANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATION ACT (POEO 1997) AND SHALL BE APPROVED BY LOCAL COUNCIL.



SEDIMENT FENCE

NOT TO SCALE



CONSTRUCTION NOTES:

FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAT THE LENGTH OF THE INLET PIT

FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL

FORM AN ELLIPTICAL CROSS-SECTION OF THE KERB INLET LEAVING A 100mm GAP AT THE TOP TO ACT AS AN EMERGENCY SPILLWAY

MAINTAIN THE OPENING WITH SPACER BLOCKS

FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER

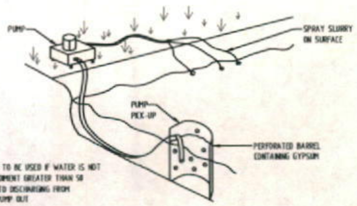
FIT TO ALL KERB INLETS AT SAG POINTS

GRAVEL INLET FILTER (SAUSAGE)

NOT TO SCALE

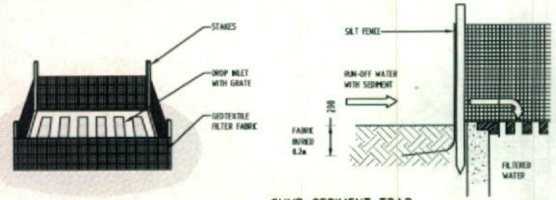
NOTE:

1. FLOCCULATION TO BE USED IF WATER IS NOT CLEAR (ie. SEDIMENT GREATER THAN 50 mg/L) PRIOR TO DISCHARGING FROM TEMPORARY PUMP OUT
2. FOR RATES & AGENTS SEE APPENDIX E OF NEW SOUTH WALES DEPARTMENT OF HOUSING "MANAGING URBAN STORMWATER SOILS & CONSTRUCTION".



FLOCCULATION DETAIL

NOT TO SCALE



SUMP SEDIMENT TRAP

NOT TO SCALE

Reference Coordination Drawing

QUALITY CONTROL

DRAWN — DATE

CHECKED — DATE

APPROVED — DATE 15.12.16

SELH MEAUST CPENG NPER 3 CIVIL 2247040

SCALE 1:200 ON ORIGINAL SIZE

CLIENT: PAM CORNERSTONE P/L

ARCHITECT: STEPHEN BOWERS ARCHITECTS

SGC Engineering Value

Unit 412, Level 4, 14-16 LEXINGTON DRIVE BELLA VISTA, NSW 2153
T: +61 2 8883 4239
F: +61 2 9672 6977
Email: office@sgce.com.au
Web: www.sgce.com.au

A.B.N. 21 118 222 530

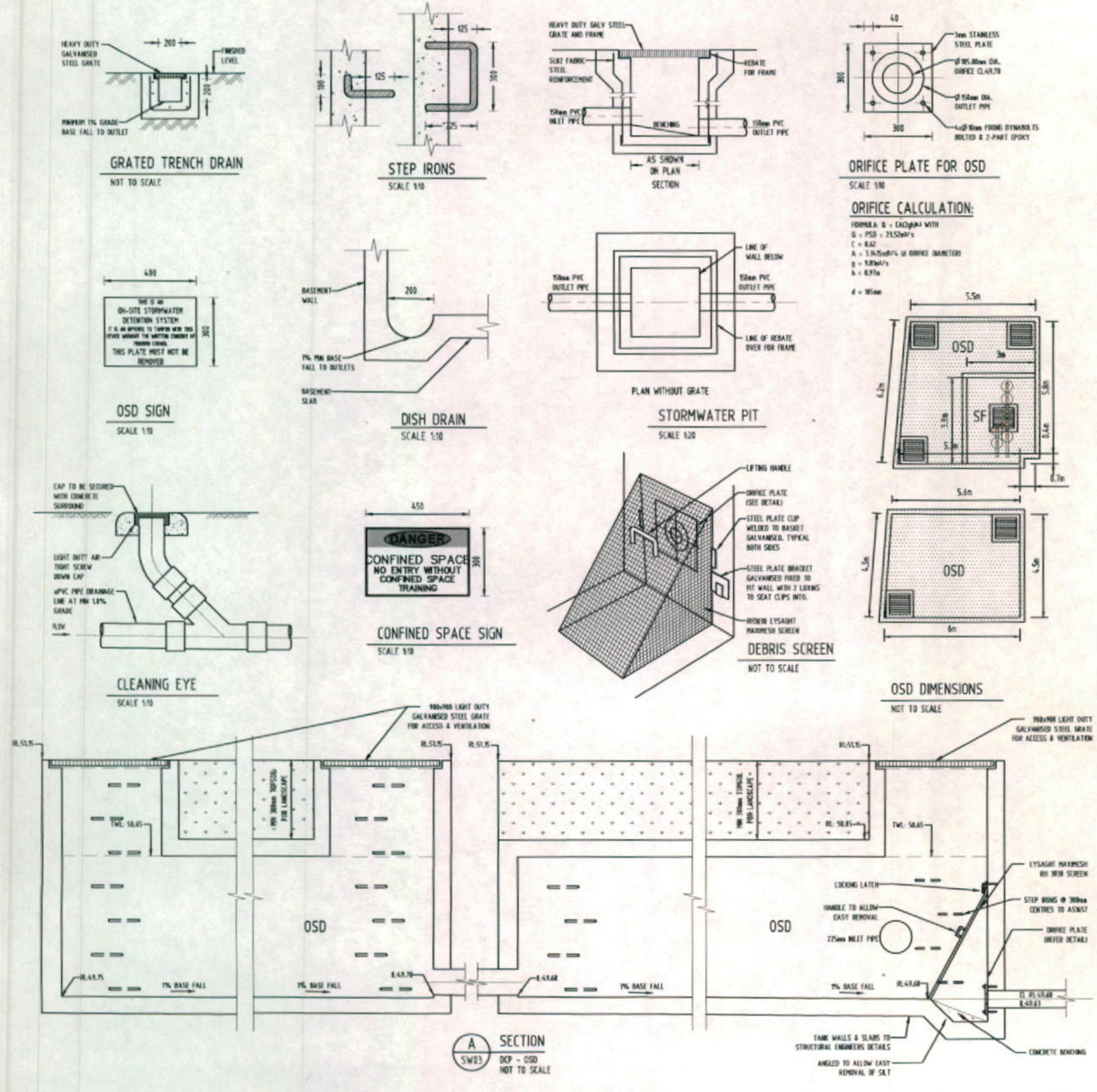
PROJECT: PROPOSED MIX-USED DEVELOPMENT, 71 PARK AVENUE, KINGSWOOD

Datum: A.H.D. — Sheet: 5 of 7 — Scale: 1:100 @ A1

Drawing Status: PRELIMINARY — NOT TO BE USED FOR CONSTRUCTION PURPOSES

Drawing Title: EROSION AND SEDIMENT CONTROL PLAN AND DETAILS

Project No: 20160414 — Drawing No: SW05 — Revision No: A



GENERAL NOTES

1. THIS PLAN IS A CONCEPT PLAN ONLY FOR STORMWATER DISPOSAL & EROSION CONTROL. IT IS NOT SUITABLE FOR CONSTRUCTION. THIS PLAN SHOULD BE ADAPTED BY THE BUILDER DURING DEMOLITION, EXCAVATION & CONSTRUCTION PHASES TO ENSURE ADEQUATE PERFORMANCE.
2. ALL DRAINAGE LAYOUT & DETAILS ARE DIAGRAMMATIC & INDICATIVE ONLY. ACTUAL LOCATION, SIZES, LEVELS & GRADES MAY ALTER WHEN DETAIL DESIGN WORKS ARE DOCUMENTED.

SURVEY LEGEND

- EXISTING STORMWATER LINE
- AUTHORITY STORMWATER LINE
- AUTHORITY SEWER LINE
- AUTHORITY WATER LINE
- AUTHORITY GAS LINE
- AUTHORITY ELECTRICITY LINE
- AUTHORITY COMMS LINE
- EXISTING BOUNDARY
- EXISTING GULLY PIT
- EXISTING TELSTRA PIT
- EXISTING HYDRANT
- EXISTING STOP VALVE

SITEWORK LEGEND:

- STORMWATER LINE
- JUNCTION PIT
- KERB INLET PIT
- GRATED SURFACE INLET PIT
- EXISTING GRATED SURFACE INLET PIT
- EXISTING KERB INLET PIT
- DOWN PIPE
- RAIN WATER OUTLET
- RAIN WATER DOWN PIPE
- FIRST FLUSH DEVICE
- DROP PIPE

DRAINAGE NOTES:

1. ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY SUPPORTED

100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1% GRADE

MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR LOADING TO BE 300mm

ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS

BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL

HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS

PIT GRATE TO BE TYPE WELDLOK OR APPROVED EQUIVALENT

ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP

ALL PITS SHALL BE MAINTAINED REGULARLY

TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE DIAMETER

Ø 100mm SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES

COMPRESSIVE STRENGTH f'_c FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 20MPa AT 28 DAYS

PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS

ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS

ALL TRENCH GRATES PROVIDED SHALL HAVE A MINIMUM CLEAR WIDTH OF 200mm

STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL

LEGEND

- SEDIMENT FENCE
- TEMPORARY DIVERSION CHANNEL
- GEOTEXTILE INLET FILTER (FOR PITS WITHIN LANDSCAPED AREAS)
- GEOTEXTILE INLET FILTER (FOR PITS WITHIN PAVEMENT AREAS)
- MESH & GRAVEL INLET FILTER
- MESH & GRAVEL KERB FILTER
- STRAW BALE FILTER
- STABILISED SITE ACCESS

CLAY SOILS

1. A SYSTEM SHALL BE INSTALLED TO EITHER:

TRANSPORT STORMWATER RUNOFF WITH SUSPENDED SOLIDS
2. FROM SITE VIA PUMP TRUCKS.

TREAT THE STORMWATER RUNOFF WITH SUSPENDED SOLIDS SO THE DISCHARGE WATER QUALITY TO COUNCIL STORMWATER DRAINAGE SYSTEM HAS A MAXIMUM CONCENTRATION OF SUSPENDED SOLIDS THAT DOES NOT EXCEED 50 MILLIGRAMS PER LITRE IN ACCORDANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATION ACT (POEO 1997) AND SHALL BE APPROVED BY LOCAL COUNCIL

CLIENT	PAM CORNERSTONE P/L
ARCHITECT	STEPHEN BOWERS ARCHITECTS
PROJECT	PROPOSED MIX-USED DEVELOPMENT 71 PARK AVENUE, KINGSWOOD
Drawing Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES
Drawing Title	STORMWATER CONCEPT DESIGN DETAILS SHEET
Grid	-
Datum	A.H.D.
Sheet	6 of 7
Scale (at original size)	AS SHOWN
Project №	20160414
Drawing №	SW06
Revision №	A

SGC
Engineering Value
Unit 412, Level 4,
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A.B.N. 21 118 222 530

Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
DO NOT SCALE DRAWINGS.

LEGEND

A
PORTALS: RENDER & PAINT
DULUX COLOUR 'PEPLUM QUARTER'

B
POWDERCOATED METAL BATTENS
'TIMBER FINISH

C
RENDER & PAINT
DULUX COLOUR 'TIMELESS GREY'

D
'L' ANGLE
DULUX POWDERCOAT METAL
NEW HAMMERSLEY BROWN

E
CLEAR GLASS BALUSTRADE

F
VERTICAL BALUSTERS
DULUX POWDERCOAT BLACK

G
PERGOLA

H
RENDER & PAINT ENTRY FEATURE
DULUX COLOUR MURRAY RED

J
ROOF - DULUX POWDERCOAT
'WOODLAND GREY'

K
RENDER & PAINT
DULUX COLOUR STEPNEY

PG2C4
Stepney

L
RENDER & PAINT
DULUX COLOUR PEPLUM HALF

Dulux Colour
Peplum Half

Rev	Description	Date	App'd
E	GENERAL REVISION - SOLAR	020818	CH
D	GENERAL REVISION - REDESIGN	240518	CH
C	GENERAL REVISION - REDESIGN	080318	CH
B	GENERAL REVISION	301017	CH
A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
MIXED USE MULTI RESIDENTIAL
71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 29745 2014
Nominated Architects:
Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
WEST ELEVATION AND MATERIALS & FINISHES

Date of Issue 2/08/2018
Checked
Approved

Scale
1:100
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50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 023 **E**

Status
DEVELOPMENT APPLICATION

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Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
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LEGEND

A
PORTALS: RENDER & PAINT
DULUX COLOUR 'PEPLUM QUARTER'

B
POWDERCOATED METAL BATTENS
'TIMBER FINISH'

C
RENDER & PAINT
DULUX COLOUR 'TIMELESS GREY'

D
'L' ANGLE
DULUX POWDERCOAT METAL
NEW HAMMERSLEY BROWN

E
CLEAR GLASS BALUSTRADE

F
VERTICAL BALUSTERS
DULUX POWDERCOAT BLACK

G
PERGOLA

H
RENDER & PAINT ENTRY FEATURE
DULUX COLOUR MURRAY RED

J
ROOF - DULUX POWDERCOAT
'WOODLAND GREY'

K
RENDER & PAINT
DULUX COLOUR STEPNEY
PG2C4
Stepney

L
RENDER & PAINT
DULUX COLOUR PEPLUM HALF
Dulux Colour
Peplum Half

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Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
NORTH ELEVATION MATERIALS & FINISHES

Date of Issue: 2/08/2018
Checked:
Approved:
Scale: 1:100
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50mm on original
Project Number: 17-090
Drawing Number: DA - 024
Revision: E
Status: DEVELOPMENT APPLICATION

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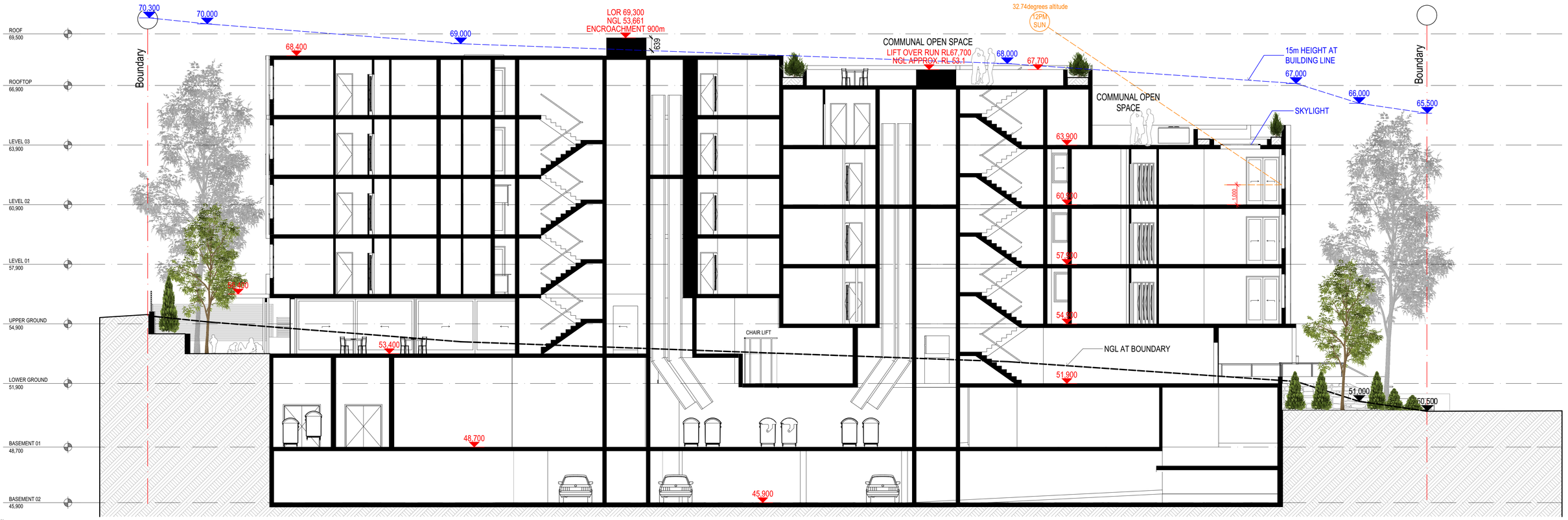

B SECTION
SCALE 1:100

H SECTION
SCALE 1:100

RL 15m HEIGHT AT BUILDING LINE
RL PROPOSED RL
RL NGL AT BUILDING LINE
RL NGL AT BOUNDARY

Rev	Description	Date	App'd
G	GENERAL REVISION - SOLAR	020818	CH
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C	GENERAL REVISION - REDESIGN	080318	CH
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A	DEVELOPMENT APP. STEPHEN BOWERS	FEB 2017	-

Project
KINGSWOOD
MIXED USE MULTI RESIDENTIAL
71 PARK AVENUE
KINGSWOOD NSW 2747 AUSTRALIA

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Nominated Architects:
Ziad Boumelhem Reg no 8008
Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
SECTION B - H

Date of Issue 2/08/2018 Checked Approved
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Project Number 17-090
Drawing Number Revision DA - 032 G
Status DEVELOPMENT APPLICATION

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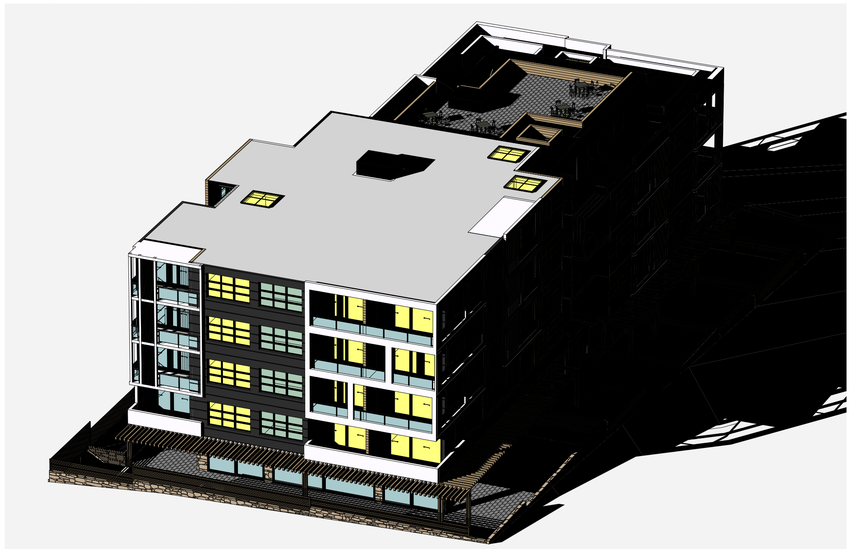

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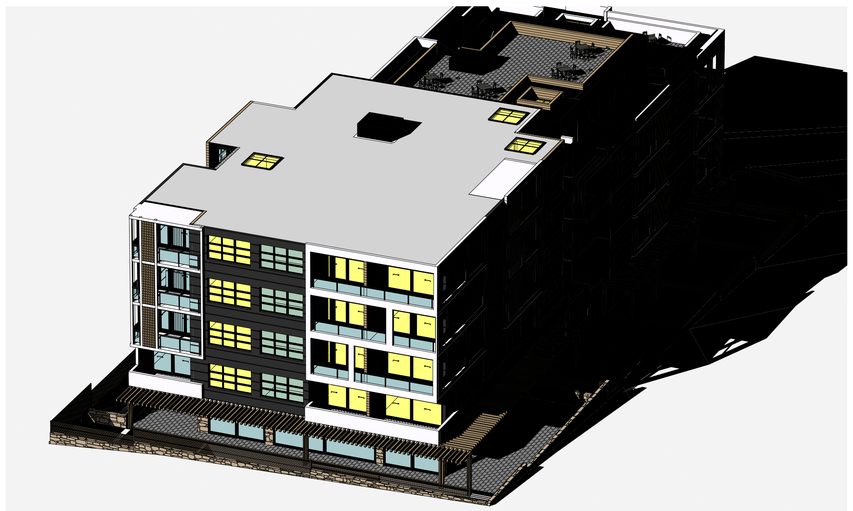

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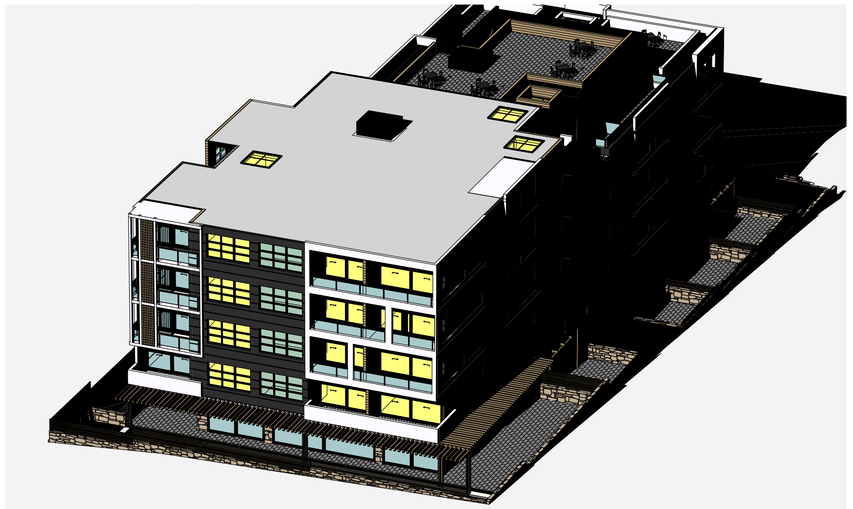

11AM Perspective
SCALE 1:200

12PM Perspective
SCALE 1:200

ACHIEVES SOLAR MIN.2HR TO LIVING ROOM

LIMITED SOLAR ACCESS TO LIVING LESS THAN 2HR

Rev	Description	Date	App'd
B	ADDITIONAL INFO. SOLAR	02/08/18	CH
A	ISSUE TO PLANNING PANEL	27/07/18	CH

Project
KINGSWOOD
MIXED USE MULTI RESIDENTIAL
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KINGSWOOD NSW 2747 AUSTRALIA

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Youssef El Khawaja Reg no 8933 Nicolas Toubia Reg no 9336

Drawing Title
SOLAR ACCESS DIAGRAMS 9-12

Date of Issue 2/08/2018 Checked Approved

Scale
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50mm on original

Project Number
17-090

Drawing Number DA - 089 Revision B

Status
DEVELOPMENT APPLICATION

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Notes
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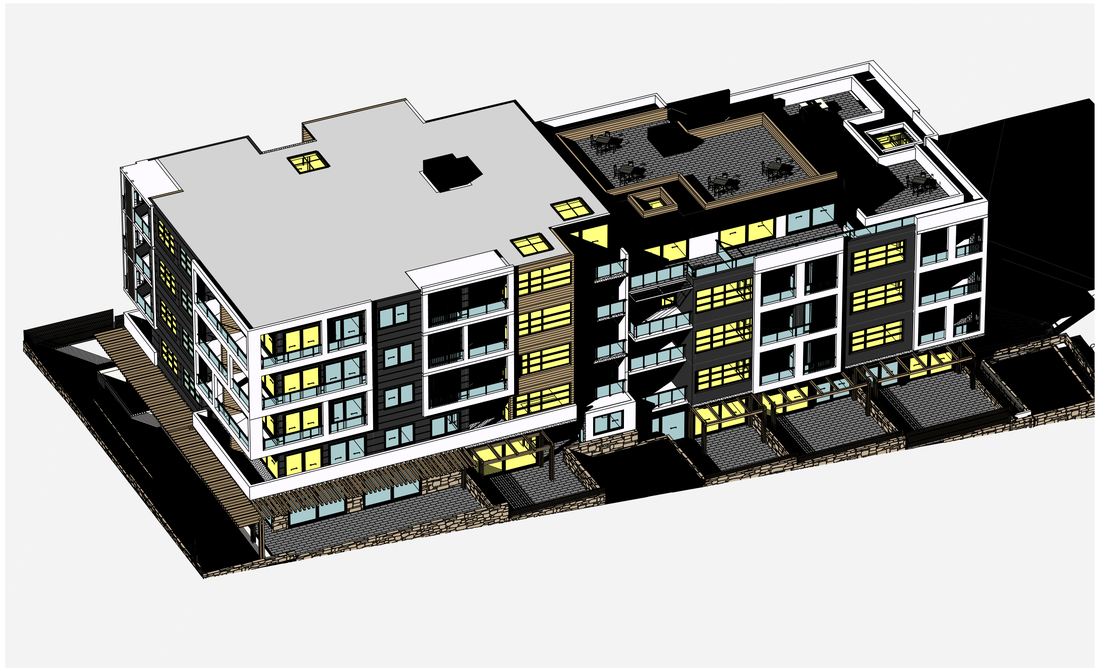

1PM Perspective
SCALE 1:200

2PM Perspective
SCALE 1:200

3PM Perspective
SCALE 1:200

ACHIEVES SOLAR MIN.2HR TO LIVING ROOM

LIMITED SOLAR ACCESS TO LIVING LESS THAN 2HR

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B	ADDITIONAL INFO. SOLAR	02/08/18	CH
A	ISSUE TO PLANNING PANEL	27/07/18	CH

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KINGSWOOD
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Drawing Title
SOLAR ACCESS DIAGRAMS 1-3PM

Date of Issue 2/08/2018 Checked Approved

Scale
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50mm on original

Project Number
17-090

Drawing Number DA - 090 Revision B

Status
DEVELOPMENT APPLICATION

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Notes
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
DO NOT SCALE DRAWINGS.

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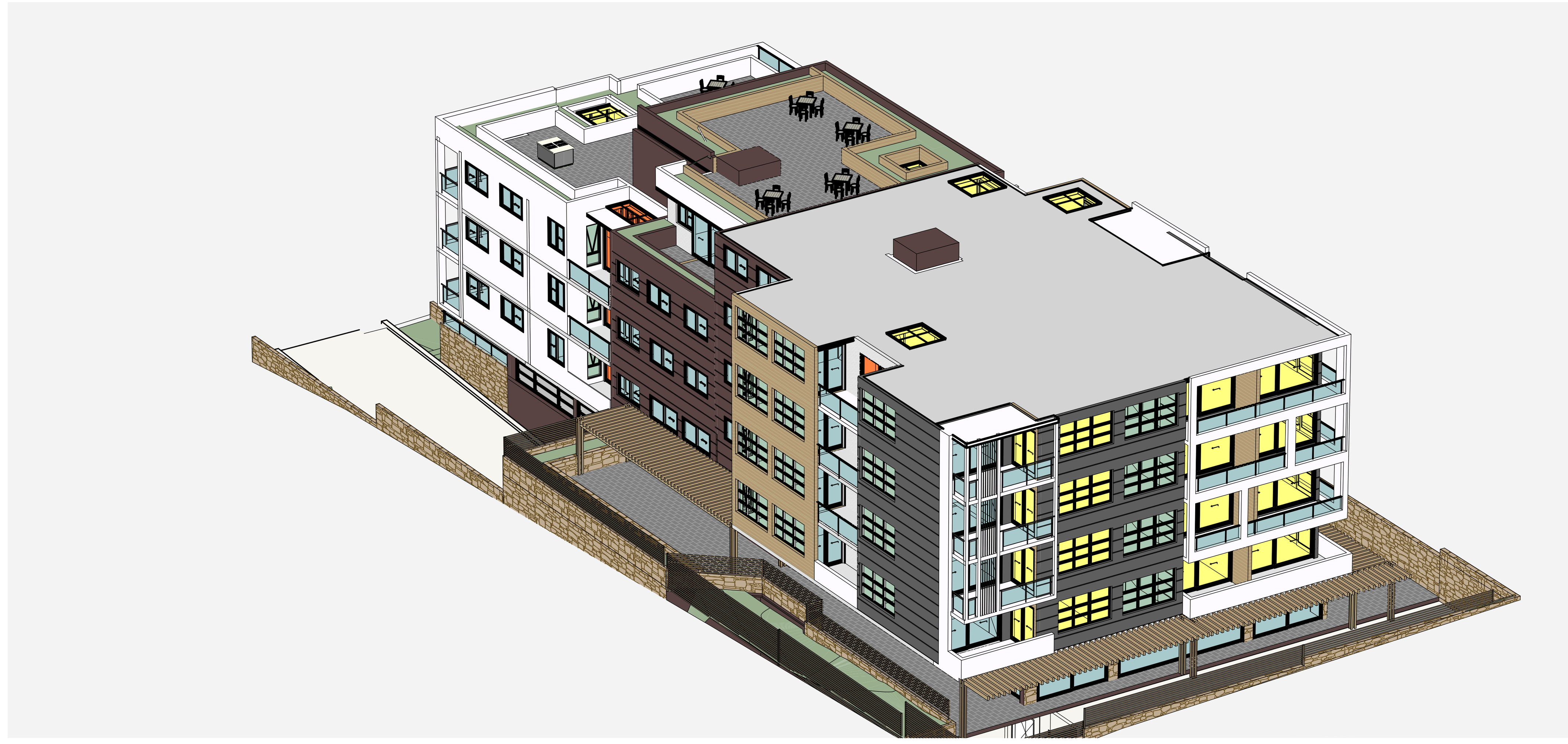

1 VIEW FROM SUN 0900 1:200

1 VIEW FROM SUN 1000 1:100

1 VIEW FROM SUN 1100 1:100

ACHIEVES SOLAR MIN.2HR TO LIVING ROOM

LIMITED SOLAR ACCESS TO LIVING LESS THAN 2HR

Rev	Description	Date	App'd
G	GENERAL REVISION - SOLAR	020818	CH
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Drawing Title
VIEWS FROM THE SUN

Date of Issue 2/08/2018 Checked Approved

Scale
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50% @A3 Sheet Size
50mm on original

Project Number
17-090

Drawing Number Revision
DA - 091 G

Status
DEVELOPMENT APPLICATION

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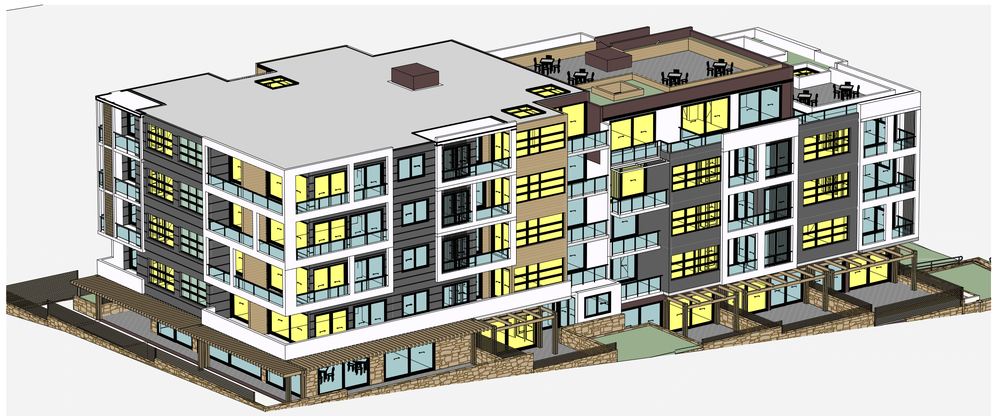
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
DO NOT SCALE DRAWINGS.

1 VIEW FROM SUN 1200 1:200

1 VIEW FROM SUN 1300 1:200

1 VIEW FROM SUN 1400 1:2001



VIEW FROM SUN 1500 1:200

ACHIEVES SOLAR MIN.2HR TO LIVING ROOM

LIMITED SOLAR ACCESS TO LIVING LESS THAN 2HR

Rev	Description	Date	App'd
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Drawing Title
VIEWS FROM THE SUN

Date of Issue 2/08/2018
Checked
Approved

Scale
1:200
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50% @A3 Sheet Size

50mm on original

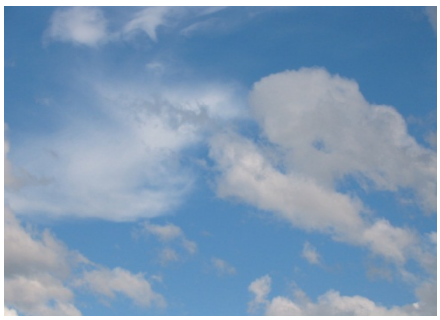
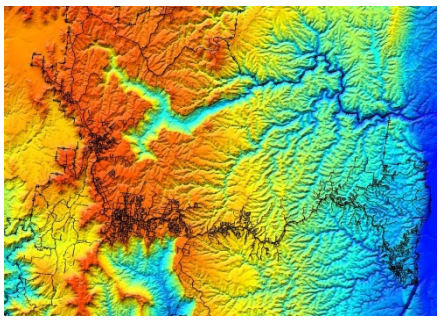
Project Number
17-090

Drawing Number DA - 092 Revision G

Status
DEVELOPMENT APPLICATION

17-090 DA T1 Park Ave Kingswood BIM SERVER BACKUP.pln2 Date2017 Jan\2017-090 71 Park Ave Kingswood4. CAD1. DA17-090 DA T1 Park Ave Kingswood BIM SERVER BACKUP.pln2/2018/2:02 PM




cityscapeplanning+projects

CLAUSE 4.6 VARIATION REQUEST – HEIGHT OF BUILDINGS DEVELOPMENT STANDARD

PROPOSED APARTMENTS AND CHILD CARE CENTRE
72 PARK AVE, KINGSWOOD

SEPTEMBER 2018

cityscape planning + projects

abn: 37 089 650 386

phone: 4739 3374
fax: 4739 3408
mobile: 0408 866913
email: cityscape@cityscape.net.au
www.cityscape.net.au
post: PO Box 127
Glenbrook NSW 2773

This report has been prepared by:

Vince Hardy BTP, RPIA
URBAN PLANNING CONSULTANT

Planning Institute Australia
Registered Planner

TABLE OF CONTENTS

1.0 INTRODUCTION

This report seeks a variation to a development standard prescribed by the Penrith Local Environmental Plan (PLEP) 2012. The report relates to a Development Application (DA) seeking consent for the development of a Residential Flat Building and Child Care Centre at No.72 Park Ave, kingswood. (the subject site).

The variation is sought pursuant to Clause 4.6 under the PLEP in relation to the maximum building height standard applicable to the subject development site.

This request has been prepared in accordance with the Department of Planning & Environment (DP&E) Guideline *Varying Development Standards: A Guide, August 2011* and has also incorporated the relevant principles identified in relevant NSW Land and Environment Court judgements.

2.0 WHAT IS THE NAME OF THE ENVIRONMENTAL PLANNING INSTRUMENT THAT APPLIES TO THE LAND?

The Environmental Planning Instrument (EPI) to which this variation relates is the Penrith Local Environmental Plan 2010 (PLEP).

3.0 WHAT IS THE ZONING OF THE LAND?

In accordance with clause 2.2 of the PLEP the subject site is zoned **R4 High Density Residential.**

4.0 WHAT ARE THE OBJECTIVES OF THE ZONE?

The land use table under the FLEP provides the following objectives for the zone:

1 Objectives of zone

- *To provide for the housing needs of the community within a high density residential environment.*
- *To provide a variety of housing types within a high density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To ensure that a high level of residential amenity is achieved and maintained.*
- *To encourage the provision of affordable housing.*
- *To ensure that development reflects the desired future character and dwelling densities of the area.*

COMMENT:

The proposed residential element of the development provides for the community's housing needs in an emerging high-density residential environment. It does through providing a mix of bedroom and apartment styles and arrangements inclusive of smaller units that will provides affordable housing options within the building

A high level of residential amenity is provided for in the design of the proposal through the provision of high architectural design, private courtyards, terraces and balconies and common open space.

The proposal also includes another land use for a child-care centre. This is considered to be supportive of high-density residential areas, the adjoining school and nearby medical facilities.

Accordingly the development is considered to be consistent with the relevant zone objectives.

5.0 WHAT IS THE DEVELOPMENT STANDARD BEING VARIED?

The development standard being varied is the maximum height of buildings.

6.0 UNDER WHAT CLAUSE IS THE DEVELOPMENT STANDARD LISTED IN THE ENVIRONMENTAL PLANNING INSTRUMENT?

The development standard being varied is prescribed under clause 4.1 of PLEP.

7.0 WHAT ARE THE OBJECTIVES OF THE DEVELOPMENT STANDARD?

The objectives of the relevant development standard are set out below:

4.3 Height of buildings

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

(a) to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of the locality,

(b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development and to public areas, including parks, streets and lanes,

(c) to minimise the adverse impact of development on heritage items, heritage conservation areas and areas of scenic or visual importance,

(d) to nominate heights that will provide a high quality urban form for all buildings and a transition in built form and land use intensity.

8.0 WHAT IS THE NUMERIC VALUE OF THE DEVELOPMENT STANDARD IN THE ENVIRONMENTAL PLANNING INSTRUMENT?

The relevant map pertaining to clause 4.3(2) of the PLEP provides a maximum building height of 15m. An extract of that map is provided at Figure 1 below:

FIGURE 1: EXTRACT OF BUILDING HEIGHT MAP

9.0 WHAT IS THE NUMERIC VALUE OF THE DEVELOPMENT STANDARD IN THE DEVELOPMENT APPLICATION?

The rear or northern lift overrun provides a RL of 69.3 over an existing ground level of RL 53.36 and therefore provides a maximum building height of 15.94m.

10.0 WHAT IS THE PERCENTAGE VARIATION?

The development represents a 6.26% variation to the building height standard.

11.0 MATTERS TO BE CONSIDERED UNDER CLAUSE 4.6

The following table provides a summary of the key matters for consideration under Clause 4.6 of the PLEP and a response as to where each is addressed in this written request:

TABLE 1: MATTERS FOR CONSIDERATION UNDER CLAUSE 4.6

Requirements/Sub-clause 4.6	Response/Comment
(1) The objectives of this clause are as follows: (a) to provide an appropriate degree of flexibility in applying certain development standards to particular development, (b) to achieve better outcomes for and from development by allowing	It is key to note that the objectives of the clause are to provide flexibility in applying development standards in that in so doing better development outcomes ensue.

flexibility in particular circumstances.	
(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.	The maximum building height development standard is not expressly excluded from the operation of this clause.
(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating: (a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and (b) that there are sufficient environmental planning grounds to justify contravening the development standard.	This written request justifies the variation by demonstrating (a) is achieved in Section 12, and (b) is achieved in Section 16.
(4) Development consent must not be granted for development that contravenes a development	This written request addresses all requirements of sub-clause (3).

standard unless: (a) the consent authority is satisfied that: (i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and	
(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and	As set out in Section 4 and 12 of this written request, the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for the zone.
(b) the concurrence of the Secretary has been obtained.	Concurrence is assumed. Due to the extent of the variation, the application is required to be determined by the relevant consent authority.
(5) In deciding whether to grant concurrence, the Secretary must consider: (a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and	There is no prejudice to planning matters of State or Regional significance resulting from varying the development standard as proposed by this application.
(b) the public benefit of maintaining the development standard, and (c) any other matters required to	Pursuant to Ex Gratia P/L v Dungog Council (NSWLEC 148), the question that needs to be answered is "whether the public advantages of the proposed

be taken into consideration by the Secretary before granting concurrence.	development outweigh the public disadvantages of the proposed development". There is no public benefit in maintaining strict compliance with the development standard given that there are no unreasonable impacts that will result from the variation to the Height of Buildings standard and hence there are only minor public disadvantages. The public advantage of the development is that it facilitates urban renewal of the site in a manner that is consistent with both local and metropolitan strategic planning objectives. We therefore conclude that the benefits of the proposal outweigh any disadvantage and as such the proposal will have an overall public benefit.
(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone E2 Environmental Conservation, Zone E3 Environmental Management or	Not relevant to the proposed development or the subject site.

Zone E4 Environmental Living if: (a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or (b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.	
(7) After determining a development application made pursuant to this clause, the consent authority must keep a record of its assessment of the factors required to be addressed in the applicant's written request referred to in subclause (3).	This is a matter for the consent authority.
(8) This clause does not allow development consent to be granted for development that would contravene any of the following: (a) a development standard for complying development, (b) a development standard that arises, under the regulations under the Act, in connection with a commitment set out in a BASIX certificate for a building to which State Environmental Planning Policy (Building	This does not apply to the subject site or its proposed development.

Sustainability Index: BASIX) 2004 applies or for the land on which such a building is situated, (c) clause 5.4.	

12.0 HOW IS STRICT COMPLIANCE WITH THE DEVELOPMENT STANDARD UNREASONABLE OR UNNECESSARY IN THIS PARTICULAR CASE?

The proposed variation from the development standard is assessed below against the accepted "5 Part Test" for the assessment of a development standard variation established by the NSW Land and Environment Court in *Wehbe v Pittwater Council [2007] NSWLEC 827* and the principles outlined in *Winten Property Group Limited v North Sydney Council [2001] NSWLEC 46*. Whilst the principle applied to SEPP 1, we believe that it is still useful these considerations and this too has been confirmed by more recent judgements inclusive of *Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90.*

The five part test described in *Wehbe* are therefore appropriately considered in this context, as follows:

1. The objectives of the standard are achieved notwithstanding non-compliance with the standard

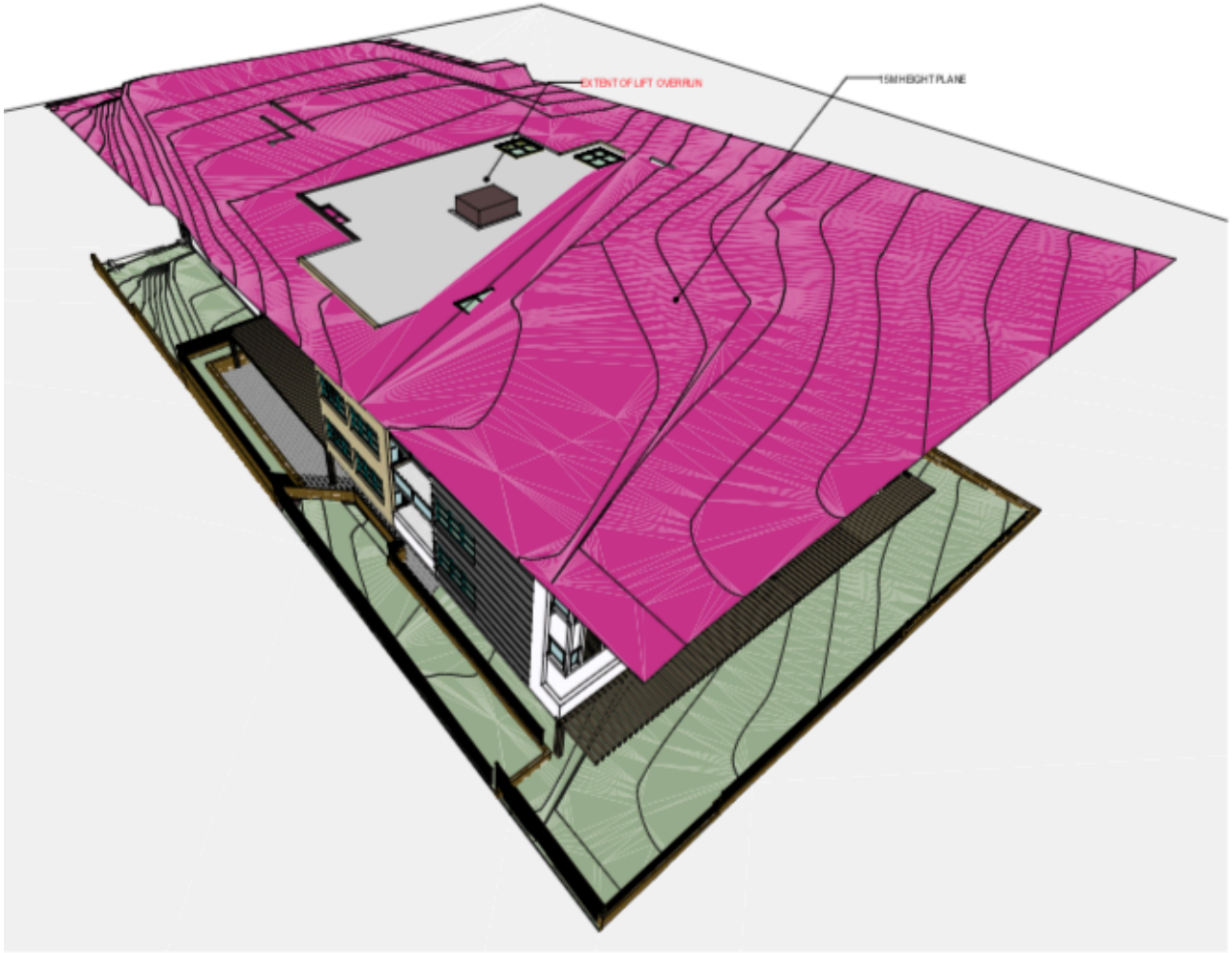
The relevant LEP clause objectives together with an assessment of the development against them is provided below:

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

(a) to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of the locality,

The desired future character of the area provides for development with a 15m building height. The development provides a building that sits largely within that height limit, other than other than a small section of just one of the lift over-runs and the roof area immediately adjacent to that lift over-run. This is demonstrated at the height plane diagram provided at Figure 2.

FIGURE 2: HEIGHT NON-COMPLIANCE



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The parts of the building that are above the height standard are located centrally on the site. Therefore, these elements do not contribute to perceivable bulk as viewed from the surrounding area and public domain, and the proposal maintains a scale as anticipated for a high-density zoned residential areas.

The proposed variation of the standard therefore does not affect achievement or consistency with this objective.

(b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development and to public areas, including parks, streets and lanes,

The development is not located in an area that enjoys key views to any important scenic or landscape features.

Further, there is no adjacent development that will have any visibility of the lift overrun so it cannot cause any disruption of views. Similarly, these built features are of limited volume and therefore present very limited opportunity to provide disruption to views of future development.

The built features also do not provide any habitable floor space and as such cannot cause loss of visual privacy.

The shadow diagrams demonstrate that the non-complying lift over-run doesn't cast a shadow beyond the roof area of the development and the non-complying roof area of the proposed development has limited shadow, which is cast primarily within the shadow of the complying parts of the built form.

As such they have no potential to cause any significantly adverse solar impact to any existing development or any important public domain spaces.

The proposed variation of the standard therefore does not affect achievement or consistency with this objective.

(c) to minimise the adverse impact of development on heritage items, heritage conservation areas and areas of scenic or visual importance,

Not relevant as the site is not located within any proximity to heritage items, conservation areas or areas of scenic or visual importance.

The proposed variation of the standard therefore does not affect achievement or consistency with this objective.

(d) to nominate heights that will provide a high quality urban form for all buildings and a transition in built form and land use intensity.

The development generally achieves the building height, other than a small section of one of the lift overruns and the adjoining roof area.

These elements provides very limited built volume and therefore will not be legible in the streetscape and can not be expected to provide any contribution to the built character of the local area.

The limited extent of the non-compliance can also not be expected to cause any exceedence of residential density or land use intensity.

The proposed variation of the standard therefore does not affect achievement or consistency with this objective.

2. The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary;

We do not rely on this reason. The underlying objective or purpose of the standard is relevant to the development and is achieved.

3. The underlying object of purpose would be defeated or thwarted if compliance was required and therefore compliance is unreasonable;

We do not rely on this reason.

4. The development standard has been virtually abandoned or destroyed by the council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable;

We do not rely on this reason.

5. The compliance with development standard is unreasonable or inappropriate due to existing use of land and current environmental character of the particular parcel of land. That is, the particular parcel of land should not have been included in the zone.

We do not rely on this reason.

13.0 HOW WOULD STRICT COMPLIANCE HINDER THE ATTAINMENT OF THE OBJECTS SPECIFIED IN THE ACT.

Section 1.3 of the *Environmental Planning and Assessment Act 1979* provides:

> ***The objects of this Act are as follows:***
>
> ***(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,***
> ***(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,***
> ***(c) to promote the orderly and economic use and development of land,***
> ***(d) to promote the delivery and maintenance of affordable housing,***
> ***(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,***
> ***(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),***
> ***(g) to promote good design and amenity of the built environment,***
> ***(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,***
> ***(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,***
> ***(j) to provide increased opportunity for community participation in environmental planning and assessment.***

The subject site accommodates limited features of natural or ecological significance and the accompanying SEE report has demonstrated that the development will cause no significantly adverse impact to the natural environment.

Further, the proposed development seeks to make the most efficient use of existing infrastructure and services in an area undergoing substantial urban renewal.

As such the development represents orderly and economic development of the land and therefore can be considered to be consistent with the objects of the Act.

14.0 IS THE DEVELOPMENT STANDARD A PERFORMANCE BASED CONTROL?

No. The development standard is clearly a numerical standard.

15.0 WOULD STRICT COMPLIANCE WITH THE STANDARD BE UNREASONABLE OR UNNECESSARY?

Strict compliance with the development standard would demand that an alternate development proposal be advanced that reduces the building height.

However, the proposed non-compliance with the building height is very limited in terms of proposed building volume. Indeed, the non-compliance is only caused by the site topography, which result in a raised ground level at the mid to rear sections of the site.

Further, the 15m height limit could be reasonably be expected to deliver 5 storey developments and the proposed development does not exceed this expected building scale.

In the context of these factors, it is considered that strict compliance with the development standard is both unreasonable an unnecessary in the circumstances of the case.

16.0 ARE THERE SUFFICIENT ENVIRONMENTAL PLANNING GROUNDS TO JUSTIFY CONTRAVENING THE DEVELOPMENT STANDARD?

The SEE prepared for this DA provides a holistic environmental planning assessment of the proposed development and concludes that subject to adopting a range of reasonable mitigation measures, there are sufficient environmental planning grounds to support the development. There is robust justification throughout the SEE and accompanying documentation to support the overall development and contend that the outcome is appropriate on environmental planning grounds.

Some additional specific environmental grounds to justify the breach of the standard are summarised as follows:

- The subject development has been able to excise an underutilised section of an adjoining primary school for development purposes which in turn has allowed for the achievement of orderly development of the land and an environmental planning outcome that that has been contemplated by both the strategic and statutory planning framework.
- The development of a slightly taller form that the LEP would otherwise allow has in turn reduced the building footprint and allowed for large areas of the site to be provided as deep soil

landscaping. In this regard, the development is required to provide only 7% deep soil landscaping but actually provides 19% of the site as deep soil landscaping.

- This increased provision of deep soil area also allows for retention of the prevailing site topography and existing vegetation on adjacent lands. Similarly, this allows for the greater provision of large trees as part of the sites landscape response.
- The use of a narrower, yet taller built form also allows for better environmental performance in terms of solar access and natural ventilation. In this regard the development proposal exceeds the Apartment Design Guide (ADG) requirements for solar access (71%) and cross ventilation (62%) respectively.
- Much of the area that exceeds the development standard is not discernible as viewed from the public domain as it setback form the front of the site and the lift overrun have been located centrally on the roof. Accordingly, the proposed elements that breach the height standard do not contribute to distinguishable bulk, scale or density of the building.
- Further, the non-compliance is primarily a result of the sites raised natural ground level at the mid to rear of the site and as such a complying development would require additional excavation of the site.
- The proposed development actually seeks to retain the site natural topography at this location and therefore is considered to a better represent a more site responsive development.
- There will be no adverse amenity impacts to the surrounding properties or the public domain areas as a result of the proposed variation.

- The proposal does not result in any unacceptable overshadowing impacts to adjoining properties other than what is anticipated by Council's controls.
- Compliance with the development standard would be unreasonable and unnecessary in the circumstances of this development because the development is consistent with the objectives of the development standard and the objectives of the R4 High Density Residential Zone, notwithstanding the variation

The above points are environmental planning grounds that warrant the non-compliance. They are not "generic" grounds, but rather, specific to the site and circumstances of the development.

In that context, there is considered to be sufficient environmental and planning grounds to justify a contravention of the development standard.

17.0 CONCLUSION

Given the circumstances of the case, as outlined in the preceding sections of this report, strict compliance with the standard would be unreasonable or unnecessary.

Further, this report has also demonstrated that there are sufficient environmental planning grounds to justify contravening the development standard.

H.Corp National Pty Ltd

72 Park Ave Kingwoods

Acoustic and Railway Vibration DA Assessment

Author	Fu Siong Hie, B.Eng, MAAS Principal Consultant
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Comments:	Section 3.6

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1 Introduction

The following report has been prepared by Acouras Consultancy on behalf of H.Corp National Pty Ltd to assess the potential for noise impact associated with the 72 Park Ave Kingwoods. The residential development will include:

- Two (2) basement carpark.
- Childcare centre on lower ground level.
- Residential apartment on lower ground to level 3.
- Communal space on level 3 and roof top.

The proposed residential development is surrounded by existing residential buildings. Traffic noise along the Park Ave, to a lesser extent the Great Western Highway and railway noise contributes to the surrounding ambient noise levels. The site location is shown in Figure 1.

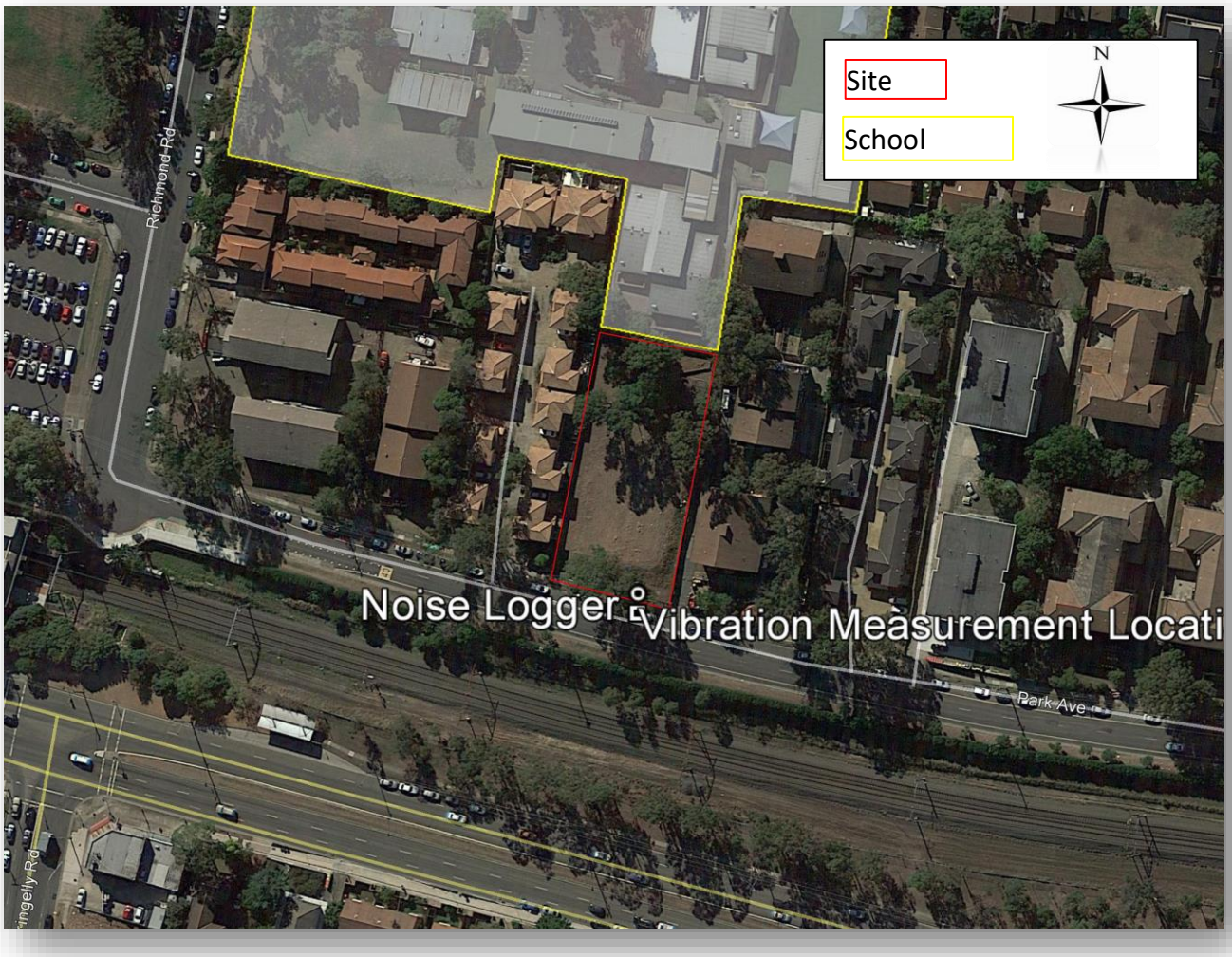


Figure 1 – Site Location, Nearest Residents and Noise Logger Position

2 Noise Criteria

The following standards and guidelines are applicable to this project:

- Penrith City Council: Development Control Plan (2014) Part C12.
- NSW Department of Planning "Development Near Rail Corridors and Busy Roads".
- NCC/BCA Part F5.
- NSW EPA "Noise Guide for Local Government" (NGLG).
- NSW EPA "Interim Construction Noise Guideline" (ICNG).
- DEC/EPA's guideline "Assessing vibration: a technical guideline"
- Association of Australian Acoustical Consultants (AAAC) "Guideline for Child Care Centre Acoustic Assessment" (September 2010).
- Australian standard AS/NZS 2107-2000: Acoustics – Recommended design sound levels and reverberation times for building interiors.
- Australian standard AS 1055.1-1997: Acoustics – Description and measurement of environmental noise - General procedures.

2.1 Internal Noise Levels

For road traffic noise, the DCP does not provide specific a guideline to implement. However, the NSW Department of Planning recommends Clause 102 (road) of the SEPP (Infrastructure) which requires that if the development is for the purpose of a building for residential use, the following L_{Aeq} levels are not exceeded.

Table 1— Development near Rail Corridors and Busy Roads – Interim Guideline

Residential Space	Internal Noise Criteria
in any bedroom in the building	35dB(A) at any time 10pm–7am
anywhere else in the building (other than a garage, kitchen, bathroom or hallway)	40dB(A) at any time

Mitigation measures are based on having windows and external doors closed. If internal noise levels with windows or doors open exceed the criteria by more than 10dBA, the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also to meet the ventilation requirements of the Building Code of Australia.

The AS/NZS 2107–2000 outlines the acceptable internal noise levels such that a satisfactory acoustic environment within non-residential spaces in new buildings.

2.2 Childcare Centre Internal Noise

For the childcare centre on the ground floor of Building G, Australian Acoustical Consultants (AAAC) "Guideline for Child Care Centre Acoustic Assessment" (September 2010) recommends the following criteria for noise intrusion from traffic, rail and industry.

> *The noise level $L_{eq,1hr}$ from road, rail traffic or industry at any location within the outdoor play or activity area during the hours when the Centre is operating shall not exceed 55 dB(A). The noise level $L_{eq,1hr}$ from road, rail traffic or industry at any location within the indoor play or sleeping areas of the Centre during the hours when the centre is operating shall not exceed 40 dB(A).*

Also, AS/NZS 2107–2000 outlines the acceptable internal noise levels within occupied spaces in new and existing buildings. Table 2 presents the recommended internal design noise levels for the various spaces in a childcare centre.

Table 2— Recommended Internal Design Noise Levels (AS/NZS 2107)

Type of occupancy/activity	Recommended design sound level, L_{eq} in dB(A)	
	Satisfactory	Maximum
Reception and lobbies	45	50
Staff common rooms	40	45
Toilets	45	55

2.3 Railway Vibration Criteria

The proposed development is located within 60m of the nearest railway corridor, therefore vibration levels such as the intermittent vibration emitted by trains should be assessed in accordance with the criteria given in the EPA/DECC "Assessing Vibration: a technical guideline (2006)". Human comfort is normally assessed with reference to the above British Standard or Australian Standard AS 2670.2 1990. When assessing intermittent vibration, the vibration dose value (VDV) is used to determine the vibration energy received over the daytime and night-time periods. Acceptable values of vibration dose are presented in Table 3.

Table 3 – Acceptable vibration dose values for intermittent vibration ($m/s^{1.75}$)

Location	Daytime (7.00 am to 10.00 pm)		Night-time (10.00 pm to 7.00 am)	
	Preferred value	Maximum value	Preferred value	Maximum value
Residence	0.20	0.40	0.13	0.26

2.4 Sound Insulation Requirement (Part F5 NCC/BCA)

For sound transmission and insulation between sole occupancy units (SOU) within the same development, walls and floors to be constructed in accordance with requirements of Part F5 of the Building Code of Australia (BCA). Sound insulation requirements are summarised in Table 4.

Table 4 - NCC Part F5 Requirements (Class 2 or 3)

Building Element	Minimum NCC Part F5 Requirements
Sound Insulation Rating of Walls (Class 2 or 3)	
Walls between separate sole occupancy units.	Rw + Ctr 50 (airborne)
Walls between wet areas (bathrooms, sanitary compartment, laundry or kitchen) and a habitable room (other than kitchen) in adjoining apartments.	Rw + Ctr 50 (airborne) & of discontinuous construction
Walls between sole occupancy unit and stairway, public corridors, public lobby or the like or parts of a different classification.	Rw 50 (airborne)
Walls between a plant room or lift shaft and a sole occupancy unit.	Rw 50 (airborne) & of discontinuous construction
Sound Insulation Rating of Floors (Class 2 or 3)	
Floors between sole occupancy units or between a sole occupancy unit and plant room, lift shaft, stairway, public corridor, public lobby or the like.	Rw + Ctr 50 (airborne) & Ln,w + CI < 62 (impact)
Apartment Entry Doors (Class 2 or 3)	
A door incorporated in a wall that separates a sole-occupancy unit from a stairway, public corridor, public lobby or the like.	Rw 30 (airborne)
Services (Class 2, 3 or 9c)	
If a storm water pipe, a duct, soil, waste or water supply pipe including a duct or pipe that is located in a wall or floor cavity serves or passes through more than one sole occupancy unit must be separated:	
if the adjacent room is a habitable room (other than a kitchen); or	Rw + Ctr 40
if the room is a kitchen or non-habitable room	Rw + Ctr 25

Construction Deemed to Satisfy

The forms of construction must be installed as follows:

(a) Masonry—Units must be laid with all joints filled solid, including those between the masonry and any adjoining construction.

(b) Concrete slabs—Joints between concrete slabs or panels and any adjoining construction must be filled solid.

(c) Sheeting materials—

(i) if one layer is required on both sides of a wall, it must be fastened to the studs with joints staggered on opposite sides; and

(ii) if two layers are required, the second layer must be fastened over the first layer so that the joints do not coincide with those of the first layer; and

(iii) joints between sheets or between sheets and any adjoining construction must be taped and filled solid.

(d) Timber or steel-framed construction—perimeter framing members must be securely fixed to the adjoining structure and—

(i) bedded in resilient compound; or

(ii) the joints must be caulked so that there are no voids between the framing members and the adjoining structure.

(e) Services—

(i) Services must not be chased into concrete or masonry elements.

(ii) A door or panel required to have a certain Rw + Ctr that provides access to a duct, pipe or other service must—

(A) not open into any habitable room (other than a kitchen); and

(B) be firmly fixed so as to overlap the frame or rebate of the frame by not less than 10 mm, be fitted with a sealing gasket along all edges and be constructed of—

(aa) wood, particleboard or blockboard not less than 33 mm thick; or

(bb) compressed fibre reinforced cement sheeting not less than 9Â mm thick; or

(cc) other suitable material with a mass per unit area not less than 24.4 kg/m^2

(iii) A water supply pipe must—

(A) only be installed in the cavity of discontinuous construction; and

(B) in the case of a pipe that serves only one sole-occupancy unit, not be fixed to the wall leaf on the side adjoining any other sole-occupancy unit and have a clearance not less than 10 mm to the other wall leaf.

(iv) Electrical outlets must be offset from each other—

(A) in masonry walling, not less than 100 mm; and

(B) in timber or steel framed walling, not less than 300 mm.

2.5 Construction Noise Criteria

The NSW EPA "Interim Construction Noise Guideline" (ICNG) provides guidance on noise limits from construction sites. Table 5 is an extract from the EPA guideline. When assessing short-term construction works, best management practices should be implemented to reduce any impact as far as practically possible.

Table 5 – Noise at Residences Using Quantitative Assessment

Time of Day	Management Level $L_{Aeq\ (15min)}$*	How to Apply
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL + 10 dB	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured $L_{Aeq\ (15\ min)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences 2. if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.

* Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5m above ground level. If the property boundary is more than 30m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

2.6 Construction Vibration Criteria

The DEC/EPA's guideline "Assessing vibration: a technical guideline" is based on the "BS 6472–1992: Evaluation of human exposure to vibration in buildings (1–80 Hz)" which presents preferred and maximum vibration values for use in assessing human responses to vibration. Vibration and its associated effects are usually classified as follows:

- **Continuous** vibration continues uninterrupted for a defined period (usually throughout daytime and/or night-time).
- **Impulsive** vibration is a rapid build up to a peak followed by a damped decay that may or may not involve several cycles of vibration (depending on frequency and damping). It can also consist of a sudden application of several cycles at approximately the same amplitude, providing that the duration is short, typically less than 2 seconds.
- **Intermittent** vibration can be defined as interrupted periods of continuous (e.g. a drill) or repeated periods of impulsive vibration (e.g. a pile driver), or continuous vibration that varies significantly in magnitude.

Higher levels of vibration are generated during excavation and piling operations, which are intermittent and are assessed using the Vibration Dose Value (VDV). The VDV criteria for a range of receiver types are stated in Table 6 below.

Table 6—Acceptable Vibration Dose Values for Intermittent Vibration (m/s $^{1.75}$)

Location	Daytime[1]		Night-time[1]	
	Preferred Value	Maximum Value	Preferred Value	Maximum Value
Critical Areas	0.10	0.20	0.10	0.20
Residence	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

[1] Daytime is 7.00 am to 10.00 pm and night-time is 10.00 pm to 7.00 am.

Guidance for acceptable vibration at the foundation of buildings to limit cosmetic damage or nearby buildings is given in the British Standard "BS 7385 (1993): Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground-borne vibration". It is recommended that vibration from construction activities should be limited to the values given in Table 7 below.

Table 7—BS 7385 Construction vibration criteria for buildings, PPV mm/s

Construction	Limits for Transient Vibration	
	4 – 15 Hz	>15 Hz
Heavy or reinforced	50 mm/s	
Light (e.g. normal dwellings)	15 mm/s at 4 Hz rising to 20 mm/s at 15 Hz	20 mm/s at 15 Hz rising to 50 mm/s for 40 Hz and above

Typically, it would be expected that no cosmetic damage would occur provided intermittent vibration levels do not exceed 15mm/s at low frequencies rising to 20mm/s at 15Hz and 50mm/s at 40Hz and above.

2.7 Noise Survey and Project Specific Limits

An unattended noise survey was carried out at the site to measure the background and ambient noise levels. Nose monitoring was conducted between Thursday 19th to Wednesday 25th January 2015. The monitor was positioned as shown in Figure 1. Measurements were conducted using the following equipment:

- SVAN 958A Type 1 Real time Analyser/Noise Logger. Serial No. 36624.
- SVAN SV30A Type 1 Sound Level Calibrator. Serial No. 31830.

Noise monitoring was conducted in general accordance with Australian standard AS 1055.1-1997: Acoustics-Description and measurement of environmental noise-General procedures. The noise analyser was calibrated immediately before and after measurements were taken with no discernible differences between these two recorded levels. The sound analyser is Type 1 and complies with Australian standard AS1259.2: 1990.

During the monitoring period any adverse weather condition have been excluded. The noise logger results are presented in Appendix C.

2.7.1 Traffic Noise Levels

Table 8 presents a summary of the measured ambient noise level and traffic noise impacting the development.

Table 8 – Measured Ambient and Traffic Noise and Levels, dBA

Location	Period	Average L_{eq}	Highest L_{eq} 1hr
Park Ave	Day (07:00-22:00)	56	63
	Night (22:00-07:00)	53	58

2.7.2 Railway Noise Levels

To assess the noise impact from rail vehicle movements both day and night period, attended measurements were take of at least 20 pass-bys. The following formula has been applied to determine the $L_{Aeq(T)}$ for each period as shown in Table 9.

$$L_{Aeq(T)} = 10\log_{10}\frac{1}{T}\sum_{i=1}^{N}\left(n_i \times 10^{\left(\frac{LAE_i}{10}\right)}\right)$$

Table 9 – Railway Vehicle Noise and Levels, dBA

Period	Average	Highest
Day (07:00-22:00)	$L_{eq(15hr)}$ 58	L_{eq1hr} 60
Night (22:00-07:00)	$L_{eq(9hr)}$ 52	L_{eq1hr} 53

2.7.3 Project Noise Limits

Table 10 presents a summary of the measured background noise level and the allowable intrusive noise limit for this project in accordance with the EPA NGLG. For the purpose of the assessment, the background noise level has been determined using the RBL in accordance with the method given in the EPA INP.

Table 10—Noise Survey Summary and Project Limits, dBA

Time Period	Existing Noise Levels		DCP Noise Limits, L_{eq}
	$L_{eq\ (period)}$	RBL	
Day	56	46	51
Evening	55	46	51
Night	53	37	42

During detailed design stage, the design and selection of the mechanical equipment required to service the proposed development will be required to achieve the DCP noise limits as presented in the table above.

2.7.4 Children Activity Noise Limits (AAAC)

Penrith City Council DCP does not have any specific guide for controlling noise emission from children activity and from the operation of mechanical equipment that is associated with this type of development. Also, the EPA Noise Guide for Local Government (NGLG) and the Industrial Noise Policy (INP) does not provide an objective noise goal in assessing the intrusive impact from children activity to nearby residential receivers.

Therefore, to provide an objective assessment of the proposed childcare centre the Association of Australian Acoustical Consultants (AAAC) "Guideline for Child Care Centre Acoustic Assessment" (September 2010) as a best practice method to determine the intrusive noise levels. The AAAC guideline recommends that outdoor play be assessed as follows:

- Up to 2 hours (total) per day - The L_{eq} 15 min noise level emitted from the outdoor play area shall not exceed the background noise level by more than 10 dB at the assessment location.
- More than 2 hours per day - The L_{eq} 15 min noise level emitted from the outdoor play area shall not exceed the background noise level by more than 5 dB at the assessment location.

The assessment location is defined as the most affected point on or within any residential receiver property boundary. Examples of this location may be:

- 1.5 m above ground level;
- On a balcony at 1.5 m above floor level;
- Outside a window on the ground or higher floors.

For the purpose of the assessment, the background noise level RBL has been determined based on the average noise level recorded during the expected play time periods. Table 11 presents a summary of the measured background noise level and the allowable intrusive noise limit for this project from children activity noise.

Table 11—Children Activity Noise Limits, dBA (AAAC)

Location	Time Period	Existing Noise Levels			AAAC Noise Limits, $L_{eq\ (15min)}$[2]
		$L_{eq\ (period)}$	$L_{90\ (period)}$	RBL	
Residential	Day (07:00-18:00)	56	48	46	51
	Evening (18:00-22:00)	55	47	46	51
	Night (22:07:00)	53	41	37	N/A

At this stage of the DA assessment, the proposed future tenant and operational activities of the childcare centre have not been finalised. Following the DA approval of the future tenant for the centre is to provide a separated detailed assessment of all activities to the be undertake to ensure compliance with the AAAC noise limits as given in Table 11.

[2] More than 2 hours per day - not exceed the background noise level by more than 5 dB.

2.7.5 EPA's Construction Noise Management Level

Table 12 presents a summary of the measured background noise level and the noise management level for this project in accordance with EPA's ICNG.

Table 12 — EPA ICNG Noise Limits, dBA

Receiver	Time Period	Existing Noise Levels		Management Level
		$L_{eq\ (period)}$	RBL	$L_{Aeq\ (15min)}$
Residential	Mon-Fri: 07.00-18.00	56	46	56
	Sat: 08.00-13.00	56	47	57
Classrooms at schools and other educational institutions	When in use	-	-	45

3 Assessment and Recommendations

3.1 Façade Glazing Requirements

Acoustic glazing for the apartments are given in Table 13 are required to reduce noise impact on the internal occupants and should result in noise levels within such units in accordance with the Department of Planning Noise Guidelines.

Table 13 – Schedule of Window and Glazing (R_w)

Level	Apt No.	Space	Glazing Thickness	Minimum R_w (Glazing+Frame)
LG	G01 to G04	Living & Bed	6.38mm laminated	30
	Childcare centre	All	10.38mm laminated	32
UG	U01, U02, U05 to U11	Living & Bed	6.38mm laminated	30
	U03	Living	6.38mm laminated	30
		Bed 1 (ensuite)	6.38mm laminated	30
		Bed 2 (south)	10.38mm laminated	32
	U04	Living	6.38mm laminated	30
		Bed 1	10.38mm laminated	32
1	101, 102, 105 to 111	Living & Bed	6.38mm laminated	30
	103	Living	6.38mm laminated	30
		Bed 1 (ensuite)	6.38mm laminated	30
		Bed 2 (south)	10.38mm laminated	32
	104	Living	6.38mm laminated	30
		Bed 1 & 2	10.38mm laminated	32
2	201, 202, 205 to 211	Living & Bed	6.38mm laminated	30
	203	Living	6.38mm laminated	30
		Bed 1 (ensuite)	6.38mm laminated	30
		Bed 2 (south)	10.38mm laminated	32
	204	Living	6.38mm laminated	30
		Bed 1 & 2	10.38mm laminated	32
3	301 to 308	Living & Bedroom	6.38mm laminated	30

All other non-habitable spaces, such as bathrooms and laundries require minimum 6mm monolithic glass (Rw 28). All Windows/doors should be well sealed (air tight) when closed with good acoustic seals around the top and bottom sliders. Mohair seals are not considered to be acoustic seals.

3.2 Building Façade Construction

To provide sufficient acoustic attention of noise, the general external construction of the proposed building would need to be constructed as detailed in Table 14.

Table 14 – External Façade Construction (R_w)

Building Element	Proposed Construction	Minimum R_w
External Wall	Masonry or cavity brick	45
Roof and ceiling	Concrete with a plasterboard cavity ceiling	45

3.3 External Noise Levels

The following are the predicted external noise levels at the various external locations based on the traffic and railway noise survey conducted at the site. Table 15 summaries the results.

Table 15—Predicted External Noise Levels, dBA

Space	Location/Façade	Predicted External Noise Level, L_{eq} dBA
Balcony	South	60-63
	East & West	51-54
	North	46
Childcare Centre Outdoor Playarea	Ground-West	53[3]
	Roof	51[3]
Communal Open Space	Ground-East	53
	Roof	50

[3] AAAC recommends a noise level $L_{eq,1hr}$ within the outdoor area not to exceed 55 dB(A).

3.4 Mechanical Services

At the DA stage of the design, there are no specific equipment selection of the mechanical ventilation systems for proposed development. The following sections details our review of the mechanical system based on the developments knowledge of similar projects.

In assessing the operation of the carpark exhaust ventilation system, the following assumptions and general recommendation are recommended:

- Exhaust and supply fans operate with a VSD and CO sensor.
- It is recommended that during the night-time (10pm-7am) for the operation speed of the fan not exceed 50% of the maximum speed.
- Exhaust and supply fans could have acoustic attenuators and air ducts can be internally lined with 50/25mm acoustic insulation.
- All mechanical plant equipment are to be located in enclosed plantrooms located in the basement.

It is recommended that during the Construction Certificate design stage, a detailed acoustic assessment is conducted to ensure compliance with the project noise limits.

3.5 Railway Vibration Measurement Results

On-site measurements were conducted on 19th and on 25th January 2017 to determine the tactile vibration amplitude due to train pass-bys. Measurements of at least 20 train-pass-by events and background levels were recorded. From the measured vibration levels, the eVDV in Table 16 indicates a low probability of adverse comment during the daytime or night time. The measured vibration levels are below the base vibration curve for residential development during the day and night, as shown in Figure 2 and unlikely that there will be complaints. Based on these results, there is no further requirement to treat the rail vibration impacts.

Table 16 – eVDV of Ground Vibration Measurements of Rail Pass-by

Time	eVDV	Adverse Comment
Day	0.003	Low probability
Night	0.002	Low probability

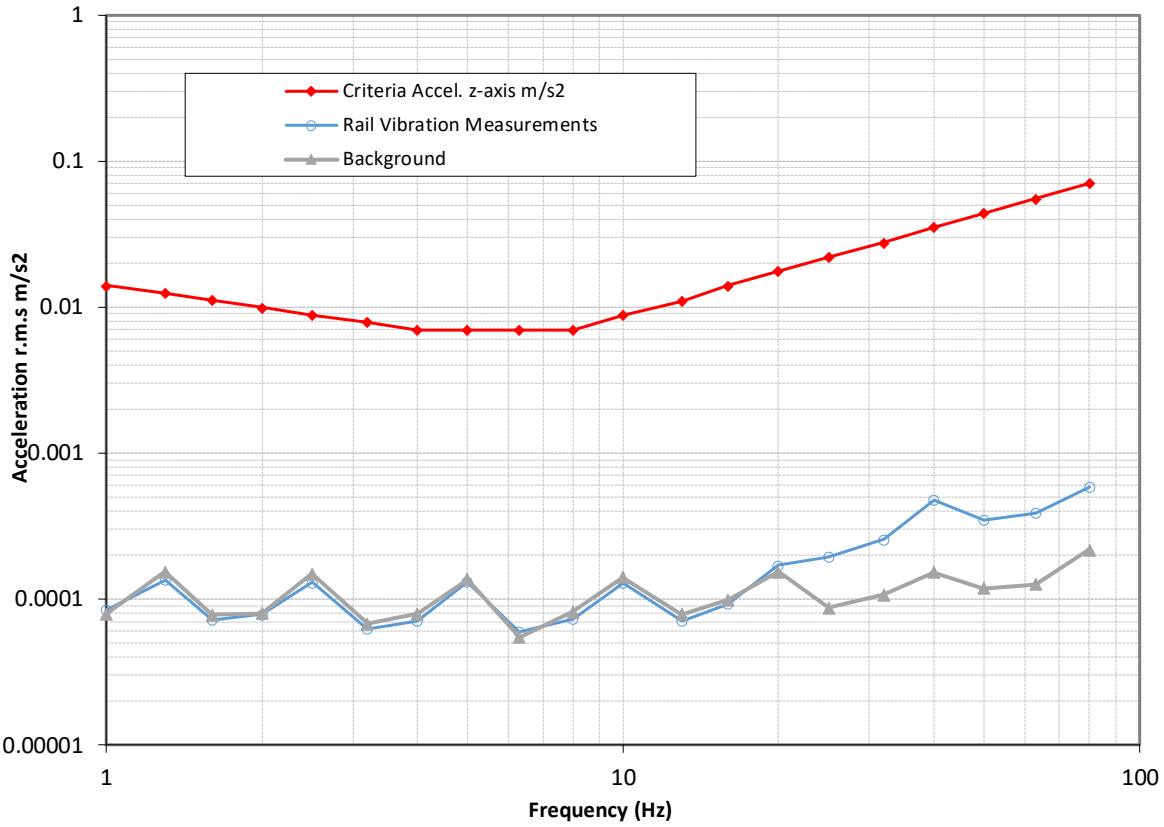


Figure 2 –Railway Train Vibration RMS Acceleration (Z-Axis)

3.6 Childcare Centre Noise Management

It is assumed that the proposed childcare centre intends to operate Monday to Friday between 7.30am to 6.00pm. The centre will be closed on Public Holidays. At this stage, the number of children to attend the centre and the operational activities of the childcare centre have not been finalised and following DA approval a separate detailed assessment of all activities is to be undertaken

Typical sound power of children activity noise is based on the AAAC's "Guideline for Child Care Centre Acoustic Assessment" (September 2010) as given in Table 17. The mid-level of the sound power levels given in Table 17 are extrapolated for the proposed number of children in the playscape. This is considered the worst case scenario.

Table 17—Typical Sound Power Levels from Children (Source: AAAC)

Description	Sound Power Level
10 Children aged 0-2 years	77-80
10 Children aged 2-3 years	83-87
10 Children aged 3-6 years	84-90

To manage noise from the centre, the following are the recommended managerial practices to be implemented:

- Outdoor activities have been assessed to allow more than 2 hours of external play. All activities are educational and supervised.
- Source noise is averaged of the entire area of the outdoor playarea. For outdoor playarea we have assumed a maximum of 70 children in the following age groups:
    - 30 children in the 3-5 age group.
    - 20 children in the 2-3 age group.
    - 20 children in the 0-2 age group.
- Restricted outdoor activity before 9:00am and after 5.00pm. The outdoor sessions are based on supervised learning activities and designed to be educational.
- The outdoor playarea on ground level is to have a 1.8m high boundary fence.
- The acoustic barrier on the boundary can be constructed of lapped and capped timber fence (40-50mm thick), masonry or brick with a minimum acoustic performance of Rw45. Refer to Figure 3.
- Pre-recorded music played in the centre has not been included in these predictions. However, if any pre-recorded music is played in the indoors activity rooms, it is recommended that all doors and windows closed.

- The recommended façade glazing for the childcare centre is a minimum 10.38mm laminated (Rw 32) as given in Table 13.
- Calculations have been conducted based on ISO9613 using CadnaA (version 4.5.149).
- Staff are to be properly trained and instructed in controlling the level of noise emissions from the external play activity areas. For example, staff should:
  - Not shout and to speak to children and to each other at a normal conversation noise level.
  - Remind parents who are talking too loudly while outdoors and request that they be mindful of the neighbours.
  - Pacify crying and over excited children, if necessary taking them indoors where necessary to ensure that the neighbours are not unduly impacted.
- Appropriate signage shall be placed within the premises to remind staff and parents to respect the rights of neighbours to quiet enjoyment.
- The childcare centre operator is to maintain a complaints register to record any noise complaints received by neighbours. Such complaints will be thoroughly investigated and where such complaints are justified, appropriate measures will be put in place to ensure that the offence is not repeated.
- Neighbours should be able to refer complaints directly to management by calling the telephone number posted on the outside of the premises.

Table 18 presents the predicted noise from the ground outdoor playground fully occupied and the cumulative noise level at the nearest receivers. The predictions are based on the assumed maximum children numbers in outdoor playground.

Potentially, the nearest affected receiver are the adjacent residents located to the 69 Park Ave (R1) and 73 Park Ave(R2). To the north is St. Joesph's Primary School.

Table 18 – Predicted Cumulative Noise from Outdoor Playarea

Receiver	No. Children (max)	SWL dBA	Receiver Noise Level, $L_{eq15min}$ dBA	Noise Limit $L_{eq15min}$ dBA (Day)	Complies (Y/N)
R1	70	93	45-47	51	Y
R2	70	93	49-51	51	Y

Note, this is considered the worst case scenario with the outdoor fully occupied, which is a scenario that is unlikely or would rarely occur during outdoor play time.

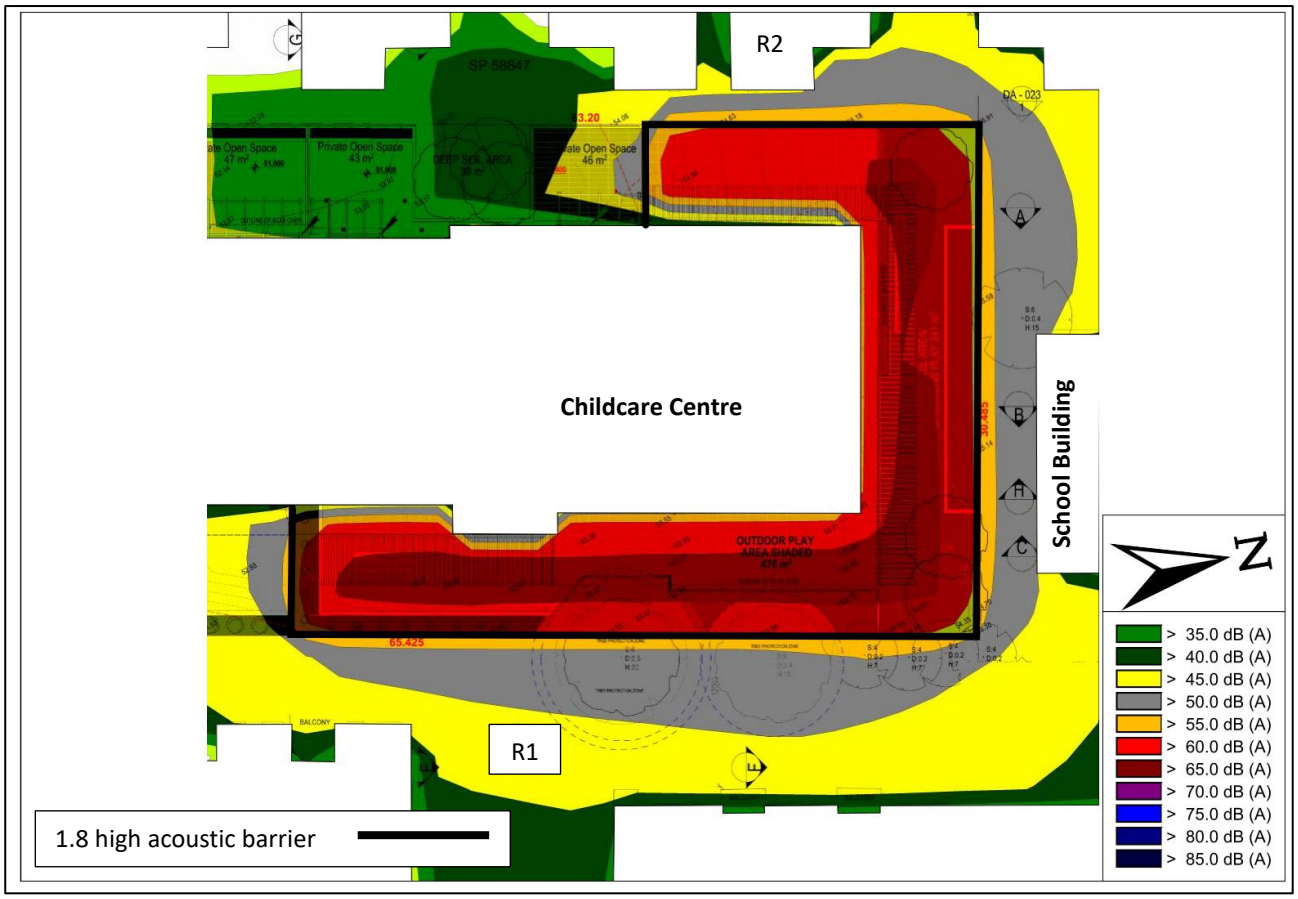


Figure 3 – Ground Outdoor Play Area – Noise Model (Ground Level)

3.7 Construction Noise and Vibration Assessment

3.7.1 Construction Activity

The following sections are an assessment of the demolition, excavation and construction work and the potential noise at receiver locations. At this stage, there is no detail on the expected construction schedule and equipment to be operated and a more detailed assessment is to be conducted prior to commencement on site once a contractor has been appointed.

The following is based on knowledge from the developer and previous experience. Proposed hours of construction, and the delivery of materials will be restricted to the following times:

- Monday to Friday: 7 am to 6 pm.
- Saturday 8 am to 1 pm.
- No work on Sunday and Public Holidays.

The demolition and construction work will broadly consist of four (4) major phases:

- Phase 1-Demolition: Initial clearing, demolition and removal of waste from the site.
- Phase 2-Excavation: Includes bulk excavation, substructure and retailing walls.
- Phase 3-Building Construction: Main structure, façade and internal finishes.

3.7.2 Management of Construction Noise

In order to manage the noise from the construction activities the following work practices and procedures are to be considered:

- Adherence to the recommended preferred hours for construction and deliveries. Truck drivers are to be informed of site access routes, acceptable delivery hours and minimising extended periods of engine idling.
- When selecting equipment ensure where feasible and reasonable it has the most effective mufflers, enclosures and low-noise tool bits and blades. Always seek the manufacturer's advice before making modifications to plant to reduce noise.
- If diesel generates are located with 40m of the nearest residence, the generator is to be located within the site shielded by the hoarding. Refer to Table 19 for the expected noise reduction.
- Locate the use of noisy plant, cherry pickers, forklifts, and mobile cranes away from boundary of noise-sensitive receivers where possible.
- Turn off plant that is not being used.
- Table 19 is an excerpt from Appendix E 'Noise Sources, remedies and their effectiveness' Australian Standard 2436:2010, presenting possible noise reductions from various control mechanisms.

Table 19 – Relative Effectiveness of Various forms of Noise Control[4]

Control by	Noise Reduction Possible in Practice, dB(A)
Distance	Approximately 6 for each doubling of distance
Screening	Normally 5 to 10, maximum 15
Enclosure	Normally 15 to 25, maximum 50
Silencing	Normally 5 to 10, maximum 20

3.7.3 Management of Construction Vibration

Vibration levels due to construction activities are very difficult to predict due to variations in ground and structural conditions. The construction of this development is unlikely to require the operation of rock-breakers, jack-hammering and piling due to the nature of the soil.

In all cases, where the vibration levels are found to exceed the relevant criteria, alternative construction methods should be considered to reduce the impact. This may include the following strategies:

- Prior to start of construction work and after the construction activities, prepare a dilapidation report on the state of the adjacent existing buildings.
- During the construction, consider the following procedure to minimise the impact of construction vibration:
    - Use smaller equipment - This will reduce the level of impact, but will need longer duration. The number of smaller equipment can be increased to compensate for the longer duration.
    - Allowance for respites - When human comfort levels are exceeded, breaking up the longer exposure periods to allow for rest will reduce the degree of impact.

[4] Australian Standard 2436:2010

3.8 Delivery and Waste Collection Vehicles

For all delivery vehicles and privately operated waste collection vehicles used for the community centre and restaurant/café, Part 4.3.3 of EPA Noise Guide for Local Government it is recommends the following time restrictions:

- Before 8.00 am or after 8.00 pm on any Saturday, Sunday or public holiday.
- Before 7.00 am or after 8.00 pm on any other day.

This excludes residential motor vehicles entering of existing the premises.

Additional management controls of the delivery and rubbish collection vehicles to minimise noise impact to the units on ground floor could include:

- Using up-to-date equipment that uses 'quieter' technology such as low-noise bin lifters.
- Maintaining rubbish trucks and braking materials to minimise or eliminate noise such as squeaky brakes.
- Educating drivers and collectors to be careful and to implement quiet work practices.
- Setting more appropriate times for the rubbish collection.

4 Conclusion

An acoustic assessment of the proposed development has been carried out in accordance with the requirements of Penrith City Council DCP.

An environmental noise survey of the site has been conducted and the noise limiting criteria for mechanical plant/equipment noise emission has been determined based on the EPA NGLG. The limits are presented in Table 10.

Construction for glazing, external walls and the roof/ceiling systems have been provided to achieve the internal noise criteria and are detailed in Section 3.1 and Section 3.2 based on the impact of road, rail and aircraft noise.

An assessment of railway vibration levels has been conducted accordance with the Department of Planning guidelines and EPA criteria. Section 3.5 details the assessment and results indicate there is a “low probability” of impact.

At this stage of the DA assessment, the proposed future tenant and operational activities of the childcare centre have not been finalised. Following the DA approval of the future tenant for the centre is to provide a separated detailed assessment of all activities to the be undertake to ensure compliance with the AAAC noise limits as given in Table 11.

Noise management level for construction activity noise and construction vibration limits has been determined based on the on the EPA ICNG and DEC/EPA’s “Assessing vibration: a technical guideline”. General guidelines for the management of noise and vibration from the site is outlined in Section 3.7.2 and Section 3.7.3 . It is recommended that a more detailed assessment is to be conducted prior to commencement on site once a contractor has been appointed.

Providing the recommendations in this report are implemented, the noise from the proposed development is predicted to comply with acoustic requirements of the Penrith City Council DCP, Department of Planning (SEEP), BCA Part F5 and relevant Australian standards.

Appendix A – Acoustic Terminology

Decibel, dB: A dimensionless unit which denotes the ratio between two quantities that are proportional to power, energy or intensity. One of these quantities is a designated reference by which all other quantities of identical units are divided. The sound pressure level in decibels is equal to 10 times the logarithm (to the base 10) of the ratio between the pressure squared divided by the reference pressure squared. The reference pressure used in acoustics is 20 micro Pascals.

A-WEIGHTING: A measure of sound pressure level designed to reflect the response of the human ear, which does not respond equally to all frequencies. To describe sound in a manner representative of the human ear's response it is necessary to reduce the effects of the low and high frequencies with respect to medium frequencies. The resultant sound level is said to be A-weighted, and the units are in decibels (dBA). The A-weighted sound level is also called the noise level.

Sound Pressure Level, L p (dB), of a sound: 20 times the logarithm to the base 10 of the ratio of the r.m.s. sound pressure to the reference sound pressure of 20 micro Pascals. Sound pressure level is measured using a microphone and a sound level meter, and varies with distance from the source and the environment.

Ambient Noise/Sound: All noise level present in a given environment, usually being a composite of sounds from many sources far and near. Traffic, HVAC, masking sound or even low-level background music can contribute to ambient level of noise or sound.

Percentile Level - L 90 , L 10 , etc: A statistical measurement giving the sound pressure level which is exceeded for the given percentile of an observation period, e.g. L 90 is the level which is exceeded for 90% of a measurement period. L 90 is commonly referred to as the "background" sound level.

Background Noise (L 90): The sum total of all unwanted residual noise generated from all direct and reflected sound sources in a space that can represent an interface to, or interfere with good listening and speech intelligibility.

Rating Background Level – RBL: Method for determining the existing background noise level which involves calculating the tenth percentile from the L A90 measurements. This value gives the Assessment Background Noise Level (ABL). Rating Background Level is the median of the overall ABL.

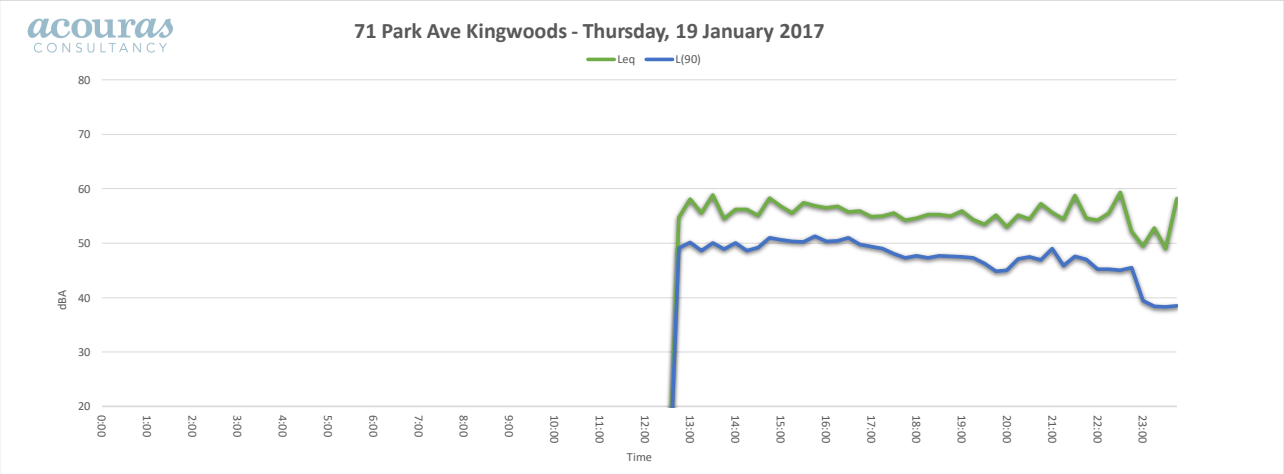
L AEQ,T : Equivalent continuous A-weighted sound pressure level. The value of the A-weighted sound pressure level of a continuous steady sound that, within a measurement time interval T, has the same A-weighted sound energy as the actual time-varying sound.

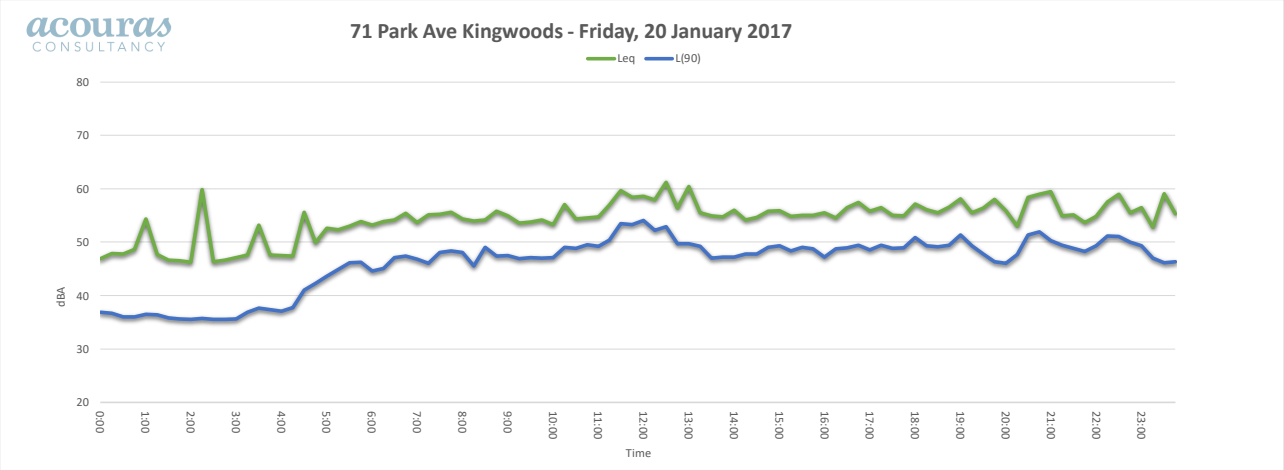
Appendix B – Architectural Drawings

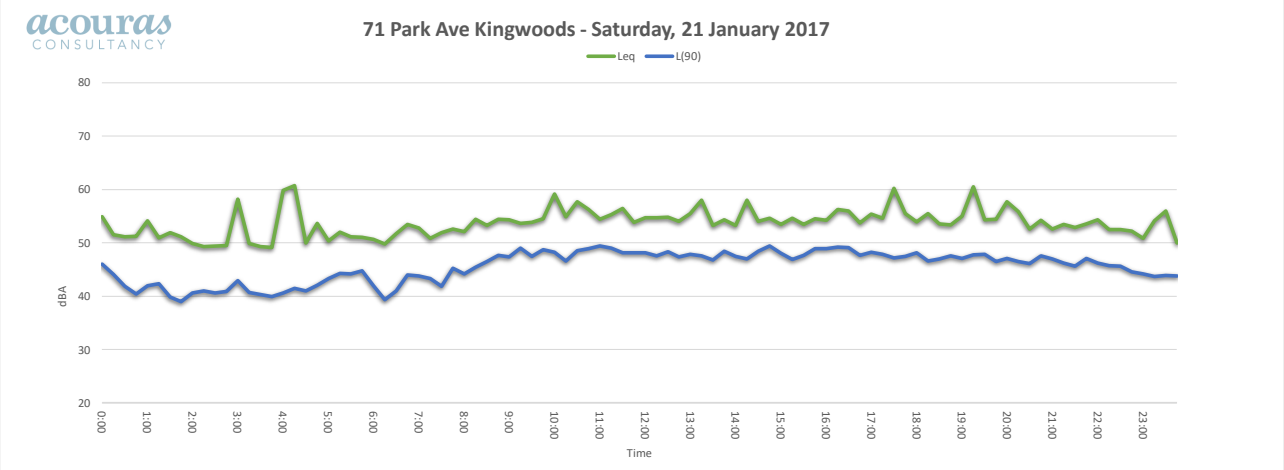
This assessment was based on the following architectural drawings provided by Urban Link.

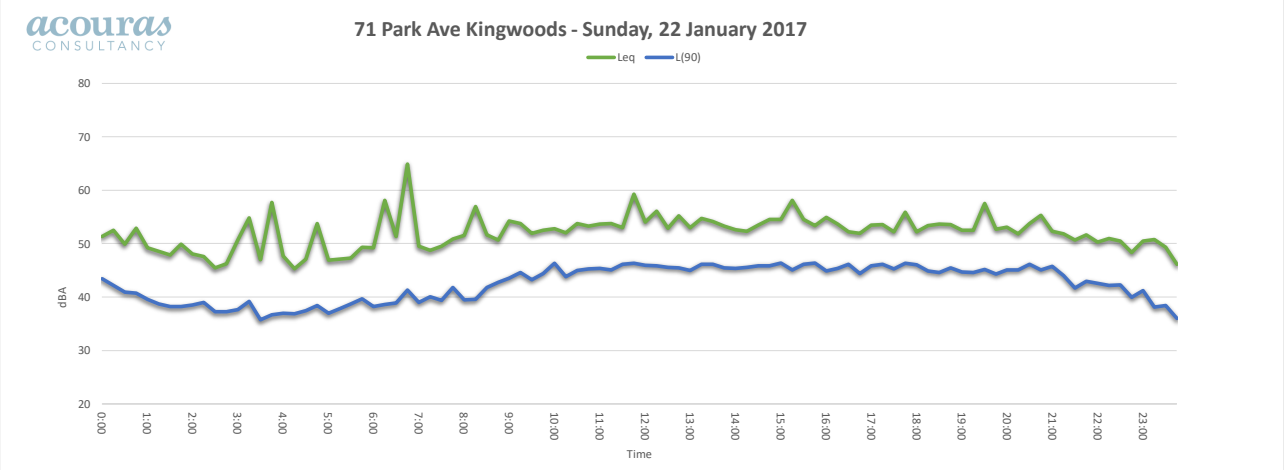
Drawing	Issue	Date	Description
DA-009	F	04.07.2018	Site Plan
DA-010	F	04.07.2018	Basement 2 Plan
DA-011	F	04.07.2018	Basement 1 Plan
DA-012	F	04.07.2018	Ground Floor Plan
DA-013	F	04.07.2018	Level 1 Plan
DA-014	F	04.07.2018	Level 2 Plan
DA-015	F	04.07.2018	Level 3 Plan
DA-016	F	04.07.2018	Level 4 Plan
DA-017	F	04.07.2018	Level 5 Plan
DA-021	D	24.05.2018	South Elevation
DA-022	D	24.05.2018	East Elevation
DA-023	D	24.05.2018	West Elevation
DA-024	D	24.05.2018	North Elevation

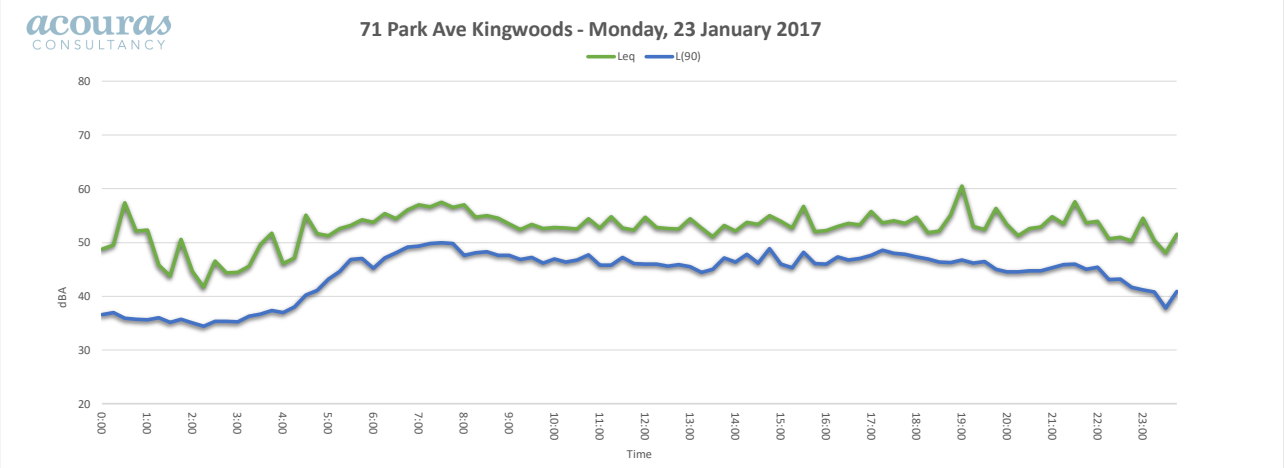
Appendix C – Noise Logger Results

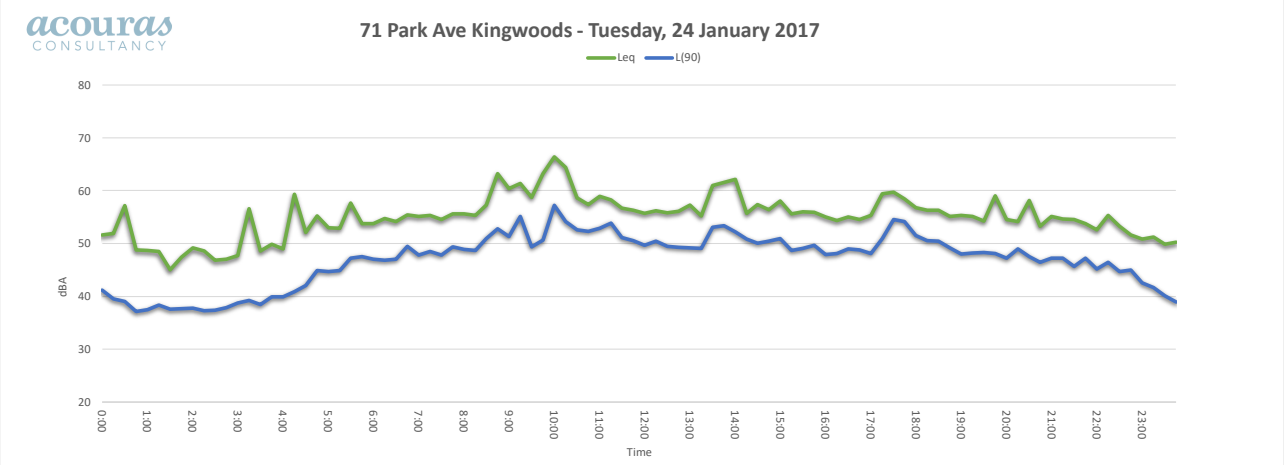


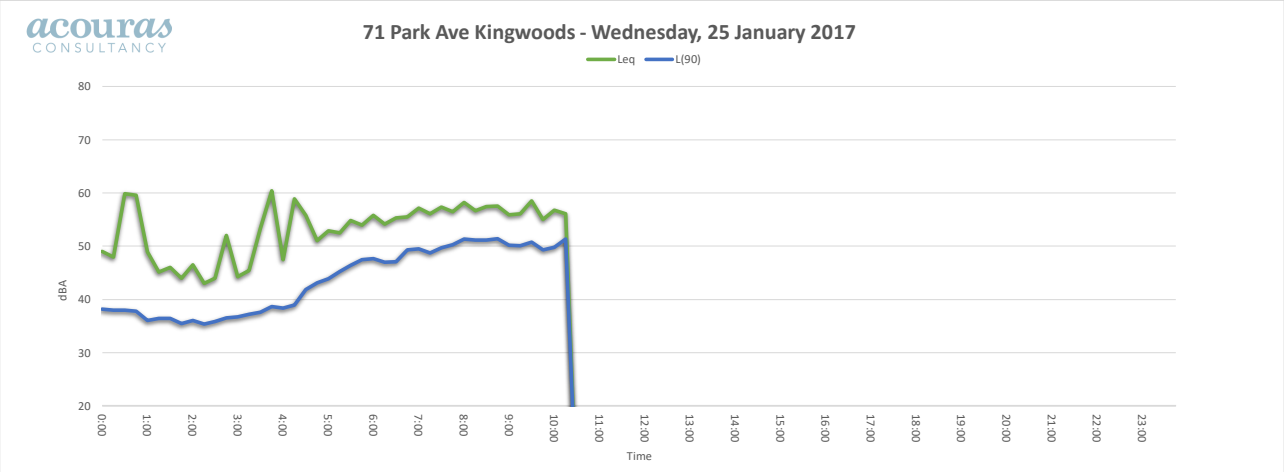












DICKENS SOLUTIONS

AMENDED
WASTE MANAGEMENT PLAN
(VERSION 3)

FOR
URBAN LINK PTY LTD
(H. CORP NATIONAL PTY LTD)

PROPOSED
RESIDENTIAL FLAT BUILDING
(INCORPORATING A CHILD CARE CENTRE)
@
71 PARK AVENUE
KINGSWOOD
JUNE 2018

Dickens Solutions Pty Ltd
(ABN 41 603 040 446)
1214 Botany Road, Botany NSW 2019
Telephone (Mb) 0400 388 996
Website: www.dickenssolutions.com.au E-mail: garry@dickenssolutions.com.au

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PART 1 – OVERVIEW AND PROPOSAL

1.1 EXECUTIVE SUMMARY

This Waste Management Plan (WMP) is an operational plan that describes in detail the manner in which all waste and other materials resulting from the demolition, construction and on-going use of the building on the site are to be dealt with.

The aims and objectives of this WMP are to: -

a) Satisfy all State and Local Government regulatory controls regarding waste management and minimisation practices;
b) Promote the use of recyclable materials in the excavation, demolition, construction and on-going operation of the building;
c) Maximise waste reduction, material separation, and resource recovery in all stages of the development;
d) Ensure the design of waste and recycling storage facilities are of an adequate size, appropriate for the intended use of the building, hygienic with safe and manoeuvrable access; and,
e) Ensure that the provision of waste and recycling services to the completed building is carried out in an efficient manner, which will not impact negatively on the health, safety and convenience of all stakeholders.

This WMP is prepared in accordance with: -

- Penrith Local Environment Plan 2010;
- Penrith DCP 2014 – Part C5 – Waste Management;
- All conditions of consent issued under the approved Development Application;
- The 'Better Practice Guide for Waste Management in Multi Unit Dwellings';
- The objective of ensuring that all waste management facilities and collection services will provide an outcome that will be effective and efficient, as well as promote the principles of health, safety and convenience.

This Waste Management Plan has been prepared for a Development Application to be submitted to Penrith City Council, for the construction of a five (5) storey residential flat building, containing 50 x one, two and three bed units, as well as incorporating a child care centre on part of the ground floor area, at 71 Park Avenue, Kingswood.

This Amended WMP is dated 1 June 2018 and supercedes all previous versions of the document.

The WMP has been amended to address all waste management issues in relation to Council's correspondence dated 30 April 2018.

The specific issues that Council referred to in that correspondence have also been attached to this Amended WMP as Addendum 1 on pages 27-30 of this document. All of the information in the Addendum has been incorporated into this Amended Waste Management Plan.

1.2 INTRODUCTION

This Waste Management Plan (WMP) has been specifically designed for the development described below: -

DESCRIPTION	**One x five (5) Storey Residential Flat Building.**
NUMBER OF UNITS	**50 Sole Occupancy Residential Units consisting of: -** - **4 x 1 bed units;** - **44 x 2 bed units;** - **2 x 3 bed units;** - **1 x Child Care Centre on the ground floor; and,** **Two (2) basement Levels for the provision of car parking, service and ancillary facilities**
LOCATION	**71 Park Avenue, Penrith**
LGA	**Penrith City Council**

1.3 DESCRIPTION OF PROPERTY

PROPERTY DESCRIPTION	**The development is to be constructed over one (1) existing Torrens Title allotment at Lot 101, DP 816440, No 71 Park Avenue, Kingswood**
STREET ADDRESS	**71 Park Avenue, Kingswood.**
DIMENSIONS	**- Front (Park Road) Boundary – 30.58m;** **- Rear (North) Boundary – 30.49m;** **- Side (West) Boundary – 63.20m; and,** **- Side (East) Boundary – 65.43m.**
AREA	**1,960.4 square metres**
ZONING	**Zone R4 – High Density Residential**
PLANNING INSTRUMENTS	**Penrith LEP 2010.** **Penrith DCP 2014.**

The site occupies one (1) large Torrens Title allotment, on the northern side of Park Avenue, Kingswood, a short distance east of Richmond Road.

The site is directly opposite the Kingswood Railway Station and a short distance north of the Kingswood Town Centre, which is on the opposite of the railway line, and the Great Western Highway.

The site is situated approximately 3km east of the Penrith CBD, and 1.5km east of the Nepean Hospital.

The land is currently vacant. The immediate surrounding development to the north, and east primarily consists of medium density residential housing, with some pockets of low density (villa, town houses, single dwellings) in its vicinity. South of the site, also consists of low density housing.

To the west of the site are low density housing areas, small pockets, of light industrial, and passive and active recreation areas.

1.4 APPLICANTS DETAILS

APPLICANT	**Urban Link Pty Ltd (H. Corp National Pty Ltd)**
ADDRESS	**PO Box 2223, Burwood. NSW. 2134.**
TELEPHONE	**02 9745 2014**
E-MAIL	**lujie@urbanlink.com.au**

1.5 PROPOSAL

The proposal involves the construction of a five (5) storey residential flat building, at 71 Park Avenue, Kingswood, comprising:

- 50 residential units (4 x 1 bed, 44 x 2 bed, and 2 x 3 bed);
- A child care centre on part of the ground floor area; and,
- Two (2) basement levels.

The basements provide for: -

- Resident, visitor, and adaptable car parking;
- Storage spaces, bicycle spaces;
- Provision for waste management facilities; and,
- Ancillary services, areas for lift wells, and other facilities in each basement.

Vehicular egress from the site will be onto Park Avenue on the southern side of the site.

All waste management activities and facilities are located and will take place from dedicated storage and collection areas located in Basement 1.

Two garbage chute systems for the reception of all waste and recyclable material, will be incorporated into the building design.

The site is vacant.

The project consists of:

a) The excavation of the site to construct two (2) basement levels for car parking and other services;
b) The construction of a five (5) storey residential flat building;
c) The provision of landscaping, driveways, concrete pathways and other elements associated with the development; and,
d) The on-going use of the building.

PART 2 – DEMOLITION

2.1 DEMOLITION

2.1.1 Generally

The land is vacant. As such there is no demolition component to this WMP. All materials removed as part of excavation and site-works will be dealt with under Part 3 ‘Construction’ of this WMP.

PART 3 – CONSTRUCTION

3.1 CONSTRUCTION – GENERALLY

Upon completion of all demolition works, construction of the building will commence with the excavation of the site for the basement levels of the building. All materials sourced from these activities will be disposed of in accordance with the information provided in Part 3.2 on pages 7, 8, 9,10 and 11 of this WMP.

Additionally, all materials used in the construction of the building that are not required to be incorporated into it, shall be recycled, reused or disposed of in accordance with these provisions, and the requirements of the Protection of the Environment Operations Act (1997). It will be the developer's overall responsibility to ensure compliance in this regard.

Mobile Bins of an appropriate size will be located on site for the collection of food scraps, beverage containers, and other waste generated on site by workers.

3.2 CONSTRUCTION – RECYCLING, REUSE & DISPOSAL DETAILS

The following details prescribe the manner in which all materials surplus to the construction of the building will be dealt with, and includes: -

a) An estimate of the types and volumes of waste and recyclables to be generated;
b) A site plan showing sorting and storage areas for construction waste and vehicle access to these areas (see Part 3.3 of this Plan);
c) How excavated and other materials surplus to construction will be reused or recycled and where residual wastes will be disposed (see below); and,
d) The total percentage of construction waste that will be reused or recycled.

1. Excavated Materials

Volume / Weight	13,650 cubic metres / 23,205 Tonnes
On Site Reuse	Yes. Keep and reuse topsoil for landscaping. Store on site. Use some for support of retaining walls (Excavated Materials are only to be used if the material is not contaminated or has been remediated in accordance with any requirements specified by any Environmental Consultancy engaged to carry out any contamination assessment of excavated material).
Percentage Reused or Recycled	To be determined (see above comments)
Off Site Destination	To an approved Agency – excavated materials may need to be assessed to determine the quality of the material to ensure that all excavated material will be acceptable to the designated receival authority.

2. Bricks

Volume / Weight	10 cubic metres / 10 Tonnes
On Site Reuse	Clean and remove lime mortar from bricks. Re-use in new footings. Broken bricks for internal walls. Crush and reuse as drainage backfill. Crushed and used as aggregate.
Percentage Reused or Recycle	75% - 90%
Off Site Destination	Brandown, Lot 9 Elizabeth Drive, Kemps Creek (Tel 02 9826 1256) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116)

3. Concrete

Volume / Weight	5 cubic metres / 12 Tonnes
On Site Reuse	Existing driveway to be retained during construction. Crushed and used as aggregate, drainage backfill.
Percentage Reused or Recycled	60% - 75%
Off Site Destination	Brandown, Lot 9 Elizabeth Drive, Kemps Creek (Tel 02 9826 1256) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116)

4. Timber

Volume / Weight	5 cubic metres / 7 Tonnes
On Site Reuse	Re-use for formwork and studwork, and for landscaping
Percentage Reused or Recycled	65% - 90%
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883)

5. Plasterboard & Fibro

Volume / Weight	12 cubic metres / 4 Tonnes
On Site Reuse	Break up and use in landscaping. Any material containing asbestos will be dealt with separately
Percentage Reused or Recycled	To be determined – depended on quantities of asbestos
Off Site Destination	Ecocycle, 155 Newtown Road, Wetherill Park (Tel 02 0757 2999) or, Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116)
Off Site Destination (Asbestos)	Jacks Gully Waste Management Centre, Richardson Road, Narellan (Tel 1300 651 116) or, Enviroguard, Cnr Mamre and Erskine Roads, Erskine Park (Tel 02 9834 3411).

6. Metals / Steel / Guttering & Downpipes

Volume / Weight	15 cubic metres / 3.75 Tonnes
On Site Reuse	No
Percentage Reused or Recycled	60 – 90%
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Boral Recycling, 3 Thackeray Street, Camelia (Tel 9529 4424) or, Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883), or Jacobson Metaland, 62-70 Silverwater Road, Silverwater (Tel 02 9748 2487)

7. Roof Tiles / Tiles

Volume / Weight	8 cubic metres / 6 Tonnes
On Site Reuse	Broken up and used as fill.
Percentage Reused or Recycled	80% - 90%
Off Site Destination	Obsolete Tiles, 3 South Street, Rydalmere. (Tel 02 9684 6333) or, Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646)

8. Plastics

Volume / Weight	6 cubic metres / 1 Tonne
On Site Reuse	Nil
Percentage Reused or Recycled	80% - 95%
Off Site Destination	Recycle Works, 45 Parramatta Road, Annandale (Tel 02 9517 2711)

9. Glass, Electrical & Light Fittings, PC items

Volume / Weight	6 cubic metres / 1 Tonne
On Site Reuse	No
Percentage Reused or Recycled	70% - 90%
Off Site Destination	To an approved agency, or agencies.

10. Fixture & Fittings (Doors Fittings, Other Fixtures, etc.)

Volume	25 cubic metres / 8 Tonnes
On Site Reuse	Broken up and used as fill.
Percentage Reused or Recycle	80% - 90%
Off Site Destination	Recycle Works, 45 Parramatta Road, Annandale (Tel 02 9517 2711)

11. Pallets

Volume / Weight	25 cubic metres / 8 Tonne
On Site Reuse	No
Percentage Reused or Recycle	90% - 100%
Off Site Destination	To an approved agency, or agencies, for reuse and resale.

It is noted that the quantities of materials detailed in this section (Part 3.2) are estimates only, based on current industry standards and quantity analysis, and may vary due to the prevailing nature of construction constraints, weather conditions, and any other unforeseeable activities associated with the construction of the building, which are beyond the control of the developer, including but not being limited to theft, accidents, and other acts of misadventure.

The facilities and agencies that have been nominated to receive the materials listed above have been identified within the NSW waste industry as being a facility or agency that will accept the materials specified in each respective table. The developer

understands that any costs associated with the transportation and receival of these materials will be their responsibility.

The developer is under no obligation to use any nominated facility or agency, but should any alternative arrangements be made, it will be the developers' responsibility to ensure that all demolished materials removed from the site are disposed of, or processed, appropriately.

The developer will keep a written record of all documentation associated with the transportation, disposal and processing of all materials excess to the construction of the building.

Additionally, during the construction of the building, every effort will be made to reduce and minimise the amount of building materials excess to construction.

3.3 CONSTRUCTION – ON SITE STORAGE OF MATERAILS

During the construction of the buildings, an area will be set aside on the site as a compound for the on-site storage of materials prior to their removal from the site. This compound will provide for: -

- Material sorting;
- Segregation of materials that may be hazardous and which will be required to be disposed of;
- Recovery equipment, such as concrete crushers, chippers, and skip bins;
- Material storage; and,
- Access for transport equipment.

Appropriate vehicular access will be provided on and off site, and to the compound, to enable the efficient removal of reusable, recyclables, and waste materials.

Prior to the commencement of construction works, the developer will provide Council with a 'Site Plan for the On-Site Storage of Materials at Construction'. This plan will show in detail the location of each area within the compound, set aside for the segregated storage of all materials involved in the demolition of all buildings on the site.

3.4 CONSTRCUCTION – EXCAVATED MATERIAL

All excavated material removed from the site, as a result of any activities associated with the construction of the building, must be classified in accordance with the Department of Environment, Climate Change and Water NSW Waste Classification Guidelines prior to removal, transportation and disposal to an approved waste management facility.

All relevant details must be reported to the PCA.

PART 4 – GARBAGE CHUTE SYSTEM

4.1 DESIGN REQUIREMENTS

A linear Garbage Chute System, for the reception of both waste and recycling material emanating from the occupation and use of all units, will be incorporated into the building design.

Two (2) Garbage Chute Systems will be provided, one for each core of the building: -

- Chute 1 – South Core; and,
- Chute 2 – North Core.

The Garbage Chute System will contain two (2) separate chutes: -

- one for the reception and transfer of waste; and,
- one for the reception and transfer of recyclables.

All waste deposited into the waste chutes for both cores, will discharge into 1100 mobile bins placed onto a two (2) bin mechanically operated linear track system in the bin room in Basement 1.

All recyclable material deposited into the recycling chutes for both cores, will discharge into 1100 mobile bins placed onto a two (2) bin mechanically operated linear track system in the bin room in Basement 1.

Each chute will be located adjacent to one another in a 'Chute Compartment'. A chute compartment will be located on each residential floor of both buildings.

At a minimum the Garbage and Recycling Chute Systems will be designed to meet the following requirements: -

1. Chutes and service openings must be constructed of metal or other smooth faced, durable, fire resistant and impervious material of non-corrosive nature.
2. Chutes will be cylindrical in section with a minimal internal diameter of 500 mm. The diameter around each chute will be a minimum width of 750 mm to allow for infrastructure fittings, such as fixing brackets and noise insulation.
3. Chutes will be vertical without bends or "off-sets" (except for the chute outlets) and not be reduced in diameter.
4. The waste chute in the South Core will terminate on the southern side of the Bin Room located in Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
5. The recycling chute in the South Core will terminate on the southern side of the Bin Room located in Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
6. The waste chute in the North Core will terminate on the northern side of the Bin Room located in Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
7. The recycling chute in the Northern Core will terminate on the northern side of the Bin Room located in Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
8. The Chute and service openings must be capable of being easily cleaned.
9. Chutes must be ventilated to ensure that air does not flow from the chute through any service opening.

10. The Garbage Chute systems must comply with the relative provisions of the Building Code of Australia, and relevant Australian Standards (e.g., AS1530.4-2005).
11. All Linear Bin Systems will be designed, manufactured and installed in accordance with relevant Australian Standards and to manufacturers specifications.

4.2 USE & OPERATION OF GARBAGE CHUTE – CHUTE 1 – SOUTH CORE

In the South Core of the building, a 'Chute Compartment' is provided to each residential floor level of the building. Each chute compartment is located at the end of the lobby on the eastern side of the lift.

The two (2) chutes will be installed in a fire rated chute compartment. Each chute will be fire separated in accordance with the relative provisions of the BCA.

4.2.1 – Waste Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Waste Chute – Reception of Garbage Only'. Waste from the chute outlet will fall directly into an 1100 litre mobile waste bin located in the Garbage Chute Outlet Compartment on the southern side of the Bin Room, in Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of waste into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre waste bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of Basement 1 (See Basement 1 Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Garbage Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

4.2.2 – Recycling Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Recycling Chute – Reception of Recycling Material Only'. Recycling material from the chute outlet will fall directly into an 1100 litre mobile recycling bin located in the Recycling Chute Outlet Compartment on the southern side of the Bin Room, in Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of recyclables into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100-litre recycling bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of Basement 1 (See Basement 1 Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Recycling Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

4.3 USE & OPERATION OF GARBAGE CHUTE – CHUTE 2 – NORTH CORE

4.3.1 – Waste Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Waste Chute – Reception of Garbage Only'. Waste from the chute outlet will fall directly into an 1100 litre mobile waste bin located in the Garbage Chute Outlet Compartment on the northern side of the Bin Room, in Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of waste into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100 litre waste bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of Basement 1 (See Basement 1 Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Garbage Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

4.3.2 – Recycling Chute

Residents will deposit waste material into the chute inlet hopper, labelled 'Recycling Chute – Reception of Recycling Material Only'. Recycling material from the chute outlet will fall directly into an 1100 litre mobile recycling bin located in the Recycling Chute Outlet Compartment on the northern side of the Bin Room, in Basement 1.

The 1100 bin will be placed onto a two (2) bin mechanically operated linear track system, which will be programmed to move the bins so that when one bin is full, an empty one will automatically be placed under the chute outlet.

Representatives of the Owners Corporation will monitor all activities associated with the use and operation of the Chute, the depositing of recyclables into it, and the operation of the 2 Bin Linear track system, in order to ensure that there will be no spillage as a result of these activities, and that the system operates effectively.

Representatives of the Owners Corporation will be responsible for transferring full 1100 litre recycling bins from the Bin Room, into the Residential Waste Collection Area located in the north-eastern corner of Basement 1 (See Basement 1 Plan).

Bins will be transferred to the collection area on the ground floor by way of a Mobile Bin Towing Device.

The Garbage Chute Outlet Compartment will be inspected daily in order to ensure that receptacles will be removed when full. Full bins will be removed from the Chute compartment and replaced immediately with an empty one.

4.4 LINEAR BIN TRACK SYSTEM

The 2 Bin Linear Track System is to be designed, manufactured and installed strictly in accordance with applicable Australian Standards and to manufacturers specifications. The system is to be monitored and serviced on a regular basis.

Any breakdowns or system malfunctions are to be attended to and addressed immediately.

In the event of any system breakdown, the Owners Corporation shall make immediate alternative arrangements to ensure that there is no disruption to the provision of scheduled waste and recycling services, and that any spillage from the bins as a result of any disruption to the system is removed and cleaned up immediately.

4.5 ON GOING MANAGEMENT & MAINTENANCE OF CHUTE SYSTEM

4.5.1 Generally

The Owners Corporation will be responsible for all issues associated with the on-going management and maintenance of the Garbage Chute Systems and all activities associated with it.

These activities will include, but not be limited, to the following: -

1. Displaying signage indicating appropriate use of all waste management systems, including what is and what is not recyclable.
2. Educating residents in the correct use of the chute, and the need to keep bulky items out of the chute systems.
3. Providing regular maintenance, including cleaning and unblocking chutes.
4. Regular inspection of the Garbage Chute Compartments, the Garbage Chute Outlet Compartments, and the Bin Rooms to ensure that all waste and recyclables are managed appropriately.
5. Educating residents in the correct use of each chute, to ensure that waste material is not deposited into the recycling chute, and that recycling material is not placed into the waste chute.

4.5.2 Chute Room Infrastructure

In accordance with Council requirements, the following infrastructure will be incorporated into the design of all chute rooms: -

1. Suitable door access for the service of bins;
2. Where roller doors are provided, an additional service door will be provided inclusive of an Abloy key system;
3. All floors will be finished with a non-slip and smooth and even surface covered at all intersections;
4. The floor will be graded to a central drainage point connected to the sewer;
5. The room will be fully enclosed and roofed with a minimum internal room height in accordance with the BCA 2016
6. The room is to be provided with an adequate supply of water through a centralised mixing valve with hose cock; and.
7. Incorporation of adequate light and ventilation to meet the requirements of the BCA 2016.

4.5.3 Chute Construction Requirements

As Council would appreciate, whilst the installation of chutes has a range of generic requirements, the actual installation of the chute system is dependent upon the unique characteristics of the design of the building. In this regard each system is specifically designed to each building specification and requirements.

Due to the positioning of the dual chutes in the Waste and Recycling Compartments above the chute outlet points in the Chute Room, and Council's requirement to locate the tracks a minimum of 900mm from one wall and 1.8m from the other, it will be necessary to extend the distance of the chute ductwork up to a maximum of 1.8 metres to reach the centre bin in the linear track system. This would mean that the angle of the chute, from its horizontal outlet point to the centre bin of the track would be approximately 35-degrees.

In contacting a number of chute manufacturers, Standards Australia, and examining the relevant requirements of the BCA, it is unable to establish whether or not there is an Australian Standard or other regulation that quantifies a minimum standard for chute angles, as well as chute ductwork travel distances. Notwithstanding, this particular method of chute installation demonstrates, that the physical properties of a horizontal gravity drop into a 35-degree angle, both waste and recycling material will fall into the bins as required.

As each system is specifically designed to each building specification and requirements, it is not uncommon for chute ductwork below the horizontal outlet to travel lengthy distances to the final point of discharge.

Manufacturers specifications, prescribe requirements for securing, mounting and bracketing chute ductwork to walls, ceilings and floors (including angling) in order to ensure structural integrity and maintain system function-ability, without limiting the effectiveness of waste disposal.

Upon the appointment of the chute manufacturer, supporting documentation, in the form of a comprehensive Manufacturers Specification will be submitted to Council on the design, manufacture and installation of the dual chute system.

PART 5 – ON GOING USE OF BUILDING

5.1 OBJECTIVES

1. To ensure the storage, amenity and management of waste is sufficient to meet the needs of the development.
2. To ensure that all waste management activities are carried efficiently, and in a manner, that is efficient, and promotes the principles of health, safety, and convenience.
3. To promote waste minimisation practices.

5.2 ASSUMPTIONS

In preparing this proposal, the following assumptions have been made: -

1. Two (2) Garbage Chute Systems will be incorporated into the development, with separate Chute Systems being installed in both its southern and northern core.
2. The chutes will be dual chutes for the reception of both waste and recyclables.
3. Waste and Recycling Chute Compartments will be provided to both the southern and northern cores of all residential levels for the use of residents to deposit both waste (into the garbage chute) and recyclable material (into the recycling chute) – (see Floor Plans).
4. All waste and recycling material deposited into the chutes will discharge into separate waste and recycling bins located on a linear track system in the Bin Room in Basement 1 of the building.
5. The waste chute in the South Core will terminate on the southern side of the Bin Room located in Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
6. The recycling chute in the South Core will terminate on the southern side of the Bin Room located in Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
7. The waste chute in the North Core will terminate on the northern side of the Bin Room located in Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
8. The recycling chute in the Northern Core will terminate on the northern side of the Bin Room located in Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.
9. All waste will be stored in 3 x 1100-litre mobile bins.
10. All recycling will be stored in 3 x 1100-litre mobile bins.
11. All waste services will be provided twice weekly.
12. All recycling services will be provided weekly.
13. The number and size of bins have been calculated from information provided by Penrith City Council, by Council staff and from information contained in Penrith Council's DCP 2014.
14. A Residential Waste Collection Room located in the north-eastern section of Basement 1 will be provided to facilitate all storage and collection activities.
15. All waste and recycling collections will take place from a dedicated waste collection loading zone adjacent to the residential waste collection room.
16. Penrith City Council will provide all residential waste and recycling services to the development.

17. A Child Care Centre is to be incorporated into the development. As such, a commercial waste and recycling service will be provided to the centre.
18. All commercial waste and recycling services will be provided by a licensed private waste and recycling collection contractor.

5.3 WASTE HANDLING & MANAGEMENT

A cabinet will be located within each residential unit so that a receptacle, or receptacles, may be stored or housed in a convenient and practical location within the unit, for the reception of waste and recyclable material.

All waste and recyclables should be appropriately bagged or wrapped prior to being deposited into the designated garbage chute or recycling bin.

5.4 WASTE & RECYCLING – SERVICE REQUIREMENTS

All waste and recycling materials will be stored in approved receptacles of an appropriate size. The lids of the bins shall be closed at all times to reduce litter, stormwater pollution, odour and vermin.

The Council in general requires that colour coded receptacle lids that distinguish each service component are to be provided: -

- Waste Service – Red Lidded receptacle;
- Recycling Service – Yellow Lidded receptacle; and,
- Green Waste – Green Lidded receptacle.

All bins will be colour coded appropriately to reflect the nature of each service component.

No green waste services will be provided to this development.

All garden and green waste generated from the on-going use of the building will be collected and disposed of privately.

5.5 WASTE & RECYCLING – SERVICE ARRANGEMENTS

The following table (Table 1) specifies the criteria for waste and recycling generation rates (as specified by Penrith City Council) based on: -

- Waste – 120 litres of bin space per unit per week; and,
- Recycling – 60 litres of bin space per unit per week.

All waste and recycling generation rates were obtained from discussions with and advice from Council staff, and from information contained in Penrith City Council's DCP 2014 – Part C5 – Waste Management.

TABLE 1 – RESIDENTIAL WASTE & RECYCLING GENERATION RATES

SERVICE TYPE	UNITS	BIN SPACE PER UNIT	TOTAL SPACE REQUIRED	BINS SIZE	SERVICES PER WEEK	BINS REQUIRED	BINS PROVIDED
Waste	50	120	6,000	1100	2	2.73	3
Recycling	50	60	3,000	1100	1	2.73	3

The following table (Table 2) specifies the proposed bin servicing requirements for the building and is based on the above waste and recycling generation rates.

TABLE 2 – PROPOSED SERVICING ARRANGEMENTS

WASTE	RECYCLING
3 x 1100 litre bins / twice weekly	3 x 1100 litre bins / weekly

5.6 PROVISION OF WASTE & RECYCLING SERVICES

5.6.1 Waste and Recycling Collection Service Provider Details

Penrith City Council's respective waste and recycling contractors will provide all waste and recycling services to the building.

5.6.2 Details of Mobile Containers

In relation to the size and design of the waste and recycling mobile bins, the following technical information is provided: -

CONTAINER TYPE	HEIGHT (metres)	DEPTH (metres)	WIDTH (metres)
1100 litre mobile container	1.470	1.070	1.240

In addition to the 3 x 1100 litre mobile waste bins required by Council as part of their service requirements, the Owners Corporation will provide an additional number of 1100 litre mobile waste bins in order to ensure that a bin is provided at all times below each Waste Chute Outlet Compartment.

Similarly, in addition to the 3 x 1100 litre mobile recycling waste bins required by Council as part of their service requirements, the Owners Corporation will provide an additional number of 1100 litre mobile recycling bins in order to ensure that a bin is provided at all times below each Recycling Chute Outlet Compartment.

5.6.3 Mobile Bin Towing Device

A Mobile Towing Device will be provided to transport bins through the basement. It will be designed and manufactured to transport a minimum of 4 x 1100 litre waste bins with a weight of 1,200kg's at any one time.

As soon as the device is purchased and prior to the occupation of the building a full and comprehensive manufacturers specification of the mobile bin towing device (tug) will be provided to Council.

Prior to the occupation of the building the Owners Corporation will carry out a risk assessment of this activity and as a result will provide Council with a Safe Work Method Statement (SWMS) demonstrating how this work will be undertaken to comply with all relative work, health and safety requirements.

The Mobile Bin Towing Device will be stored in a secure location, within the Residential Waste Collection Room in Basement 1.

5.6.4 Waste & Recycling Requirements

Waste and recycling requirements are provided in the table below.

SERVICE	NUMBER OF CONTAINERS	COLLECTION FREQUENCY
Waste Service	3 x 1100 litre mobile containers	Weekly
Recycling Service	3 x 1100 litre mobile containers	Weekly

5.6.5 Location, Design, and Construction of Waste Storage Areas

5.6.5.1 Waste and Recycling Compartments – All Residential Floors

Waste and recycling compartments will be located on each residential floor level of the complex, in both cores.

Each compartment will have dimensions of 0.8m x 0.8m, and will provide space for: -

- A Garbage Chute compartment, which will have internal dimensions of 750 mm x 750 mm. The Garbage Chute will be installed within these confines in a fire rated compartment.
- A Recycling Chute compartment, which will have internal dimensions of 750 mm x 750 mm. The Garbage Chute will be installed within these confines in a fire rated compartment.

Residents will deposit waste into the garbage chute and recyclable material into the recycling chute.

5.6.5.2 Bin Room

The bin room houses the waste and recycling chutes for both cores of the building. It is located next to Lifts 1 and 2, in the middle of Basement 1.

The waste chute in the South Core will terminate on the southern side of the Bin Room located in Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.

The recycling chute in the South Core will terminate on the southern side of the Bin Room located in Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.

The waste chute in the North Core will terminate on the northern side of the Bin Room located in Basement 1 and discharge all waste directly into an 1100 receptacle placed onto the 2 Bin Linear track system.

The recycling chute in the Northern Core will terminate on the northern side of the Bin Room located in Basement 1 and discharge all recyclable material directly into an 1100 receptacle placed onto the 2 Bin Linear track system.

Within the confines of the room will be separate areas for: -

- Waste and recycling chute outlets for both the south and north cores;
- 4 x 1100-litre 2 bin linear track systems;
- 2 x 1100-litre spare mobile waste bins;
- 2 x 1100-litre spare mobile recycling bins;
- The mobile towing device and,
- The provision of washing and ancillary facilities.

All electrical equipment, including the provision of lighting, will be installed in accordance with the relevant Australian Standards.

Natural and mechanical ventilation will be required to be installed within each WSA in accordance with the relative provisions of the Building Code of Australia.

According to the architectural drawings the size and design of the WSA is an irregular shaped rectangular shaped structure, with a floor area of approximately 55 square metres (See Basement Floor Plan).

In assessing the size and design of the WSA, it is considered that it is of a sufficient size and dimension to adequately facilitate all waste management activities.

5.6.5.3 Waste Collection Room

A waste collection room is provided to store all 1100-litre waste and recycling bins prior to their servicing. The waste collection room is located in the north-eastern corner of basement 1.

Within the confines of the room will be storage space for:

- 3 x 1100-litre mobile waste bins; and,
- 3 x 1100-litre mobile recycling bins.

In assessing the size and design of the waste collection room, it is considered that it is of a sufficient size and dimension to adequately house all waste management equipment required for the building.

5.6.6 Servicing Arrangements – Waste Collections

All waste services will be provided by Penrith City Council.

Representatives of the Owners Corporation will be responsible for presenting the bins for servicing and returning them to the waste collection room, after collection.

All waste services will be provided twice per week, on days to be determined by Council.

On the evening prior to each collection day, all 1100-litre waste bins will be removed from the waste collection area and transferred to the loading zone for servicing.

The bins will be returned to the waste collection area as soon as practicable after servicing.

All 3 x 1100-litre mobile waste bins will be presented for servicing on each collection day.

5.6.7 Servicing Arrangements – Recycling Collections

All recycling services will be provided by Penrith City Council.

Representatives of the Owners Corporation will be responsible for presenting the bins for servicing and returning them to the waste collection room, after collection.

All recycling services will be provided weekly, on a day to be determined by Council.

On the evening prior to each collection day, all 1100-litre waste bins will be removed from the waste collection area and transferred to the loading zone for servicing.

The bins will be returned to the waste collection area as soon as practicable after servicing.

All 3 x 1100-litre mobile recycling bins will be presented for servicing on each collection day.

5.7 COMMERCIAL WASTE & RECYCLING SERVICES – CHILD CARE CENTRE

5.7.1 Waste & Recycling Generation – Child Care Centres

A Child Care Facility, of 420 square metres, providing day care for 90 children, will be incorporated into the development. It will be located on the ground floor of the building, on the western side of the development.

The Table below (Table 3) details the waste and recycling generation rates for the land uses proposed. These rates have been obtained from Council's DCP 'Commercial Waste Generation Rates Guideline'.

TABLE 3 – FORMULA FOR CALCULATION WASTE & RECYCLING GENERATION RATES FOR CHILD CARE CENTRES

SERVICE	WASTE & RECYCLING GENERATION RATES
Waste	80 litres of waste per 100m2 of floor area per day
Recycling	80 litres of recyclable material per 100m2 of floor area per day

The following table (Table 4) specifies the criteria for waste and recycling generation rates based on the above formula.

TABLE 4 – COMMERCIAL WASTE & RECYCLING SERVICE REQUIREMENTS

DESCRIPTION	WASTE	RECYCLING
Proposed Use	Child Care Centre	Child Care Centre
Waste Generation Rate	80L / 100m2 Floor Area / Day	80L / 100m2 Floor Area / Day
Total Floor Area	420m2	420m2
Total Waste Generation (Week)	80 X 4.2 x 5	80 x 4.25 x 5
Litres of Space per Week	1,680	1,680
Bin Size	1 x 1100-litre mobile bin	1 x 1100-litre mobile bin
Services Per Week	2	2
Total Litres of Space	2,200	2,200
Service Requirements	**1 x1100 Bins / Twice per Week**	**1 x 1100 Bin / Twice per Week**

5.7.2 Waste and Recycling Collection Service Provider Details

A licensed private waste and recycling collection contractor will provide all commercial waste and recycling services to the Child Care Centre.

5.7.3 Child Care Centre – Waste & Recycling Requirements

Waste and recycling requirements are provided in the table below.

SERVICE	NUMBER OF CONTAINERS	COLLECTION FREQUENCY
Waste Service	1 x 1100-litre mobile container	Twice Weekly
Recycling Service	1 x 1100-litre mobile container	Twice Weekly

5.7.4 Location, Design, and Construction of Waste Storage Area

A Commercial Waste Storage Area (WSA) is provided to facilitate all waste and recycling storage and collection activities. The Commercial WSA is located next to the Residential WSA, in the north-eastern corner of Basement 1.

All mobile waste and recycling bins required for the on-going operation of the development will be stored within the confines of this WSA.

5.7.5 Servicing Arrangements – Commercial Waste and Recycling

A Service Agreement will be entered into between the Owners Corporation and the appointed Contractor describing the manner in which all commercial waste and recycling services will be provided. A copy of this agreement will be provided to the Council.

The proprietors of the complex will be responsible for managing their waste and recycling activities and will be required to enter into a Service Level Agreement with the contractor.

Written evidence of this agreement with the contractor will be kept on site in order to ensure that the regular collection and disposal of all waste and recycling materials generated from these activities, has taken place appropriately.

All commercial waste and recycling services are to be undertaken in a manner that will not adversely impact on the principles of health, safety or convenience.

All waste and recycling services will be carried out so as not to impede or impact on vehicular and pedestrian traffic movement throughout and adjacent to the development.

If for any reason, the land use activity, generates more waste and, or recyclables than specified in Table 1, it will be the responsibility of the occupant of that unit to provide additional bins or services to ensure that adequate waste management facilities are provided, and that the impact to the health, safety and convenience of any other person or unit, will not be compromised.

5.8 GREEN WASTE

No formal green waste service will be provided to the development.

It will be the responsibility of the Owners Corporation to ensure that all green waste generated from the on-going use of the development is disposed of appropriately.

5.9 BULKY WASTE STORAGE

Secure storage spaces are required to be provided for each residential unit in accordance with the provisions of Council's DCP 2014.

This space may be used to store bulky waste items that can be disposed of as part of any Council Clean Up services to be provided to this complex.

Consistent with these requirements, a secured Bulky Waste Storage Area has been provided for residents to place unwanted materials awaiting collection and removal.

This area is located next to the Residential WSA in the north-eastern corner of Basement 1 (See Basement 1 Floor Plan). It has a total floor area of approximately 17 square metres. Council's requirements for 50 units is 7.7 square metres.

All residents of the building will be provided with unrestricted 24-hour access to this facility.

The Owners Corporation will monitor this area regularly to ensure that all materials stored within its confines are done so in a manner that will not adversely impact on the health, safety and convenience.

Regular maintenance of the Bulky Waste Storage area is area will be carried out by the Owners Corporation.

The Owners Corporation will also be responsible for arranging 'Clean Ups' with the Council, to ensure the efficient and regular removal at these materials.

It will be the responsibility of the occupants of individual residential units, to dispose of this material, appropriately.

In accordance with Council requirements, the following infrastructure will be incorporated into the design of all chute and bin rooms, and waste storage and collection areas: -

a) Suitable door access for the service of bins;
b) Where roller doors are provided, an additional service door will be provided inclusive of an Abloy key system;
c) All floors will be finished with a non-slip and smooth and even surface covered at all intersections;
d) The floor will be graded to a central drainage point connected to the sewer;
e) The room will be fully enclosed and roofed with a minimum internal room height in accordance with the BCA 2016
f) The room is to be provided with an adequate supply of water through a centralised mixing valve with hose cock; and.
g) Incorporation of adequate light and ventilation to meet the requirements of the BCA 2016.

5.10 ON GOING OPERATION, USE & MAINTENANCE OF WASTE MANAGEMENT FACILITIES

All waste management facilities will be maintained in a clean and hygienic condition that will promote the principles of health, safety and convenience.

In order to achieve these objectives, the following facilities and devices will be required: -

1. The Chute and Linear Tack Systems will be appropriately maintained in accordance with relevant manufacturers specifications and regular maintenance programs will be undertaken to ensure the efficient operation of all systems at all times.
2. The walls and floors of all Bin Rooms, Waste Storage and Collection Areas (WSA's) are to be constructed of smooth faced masonry or concrete, and all walls will be painted with light coloured and washable paint.
3. The junction between all floors and walls will be coved and sealed up to 100mm above the floor level, in order to eliminate the build-up of dirt and grime.
4. A floor waste, connected to the Sydney Water drainage system in accordance with that Authority's requirements, will be provided to all WSA's, and the floors will be graded to drain into it.
5. Appropriate washing facilities will be provided to all WSA's, including appropriate plumbing and drainage fixtures and fittings, and the provision of running water.

6. The WSA's will be washed and cleaned on a regular basis.
7. All mobile bins will be washed and cleaned on a regular basis.
8. All electrical equipment, including the provision of lighting, will be installed in accordance with the relevant Australian Standards.
9. Natural and mechanical ventilation will be required to be installed within each WSA in accordance with the relative provisions of the Building Code of Australia.
10. A Mobile Bin Towing Device, of an approved type, will be provided to transport and manoeuvre bins through the development.
11. Appropriate signage will be displayed in both basements clearly identifying waste and recycling bins and the waste storage areas.
12. Appropriate signage will be erected within each WSA providing instruction to residents on how to use waste and recycling facilities, including what is and what is not recyclable.
13. The Building Manager / Caretaker will be responsible for the supervision and management of all waste activities and facilities.
14. The Owners Corporation will be responsible for ensuring that all waste and recyclable matter and materials are placed and stored within the appropriate containers provided.

PART 6 – SUMMARY

6.1 SUMMARY

In summarising this proposal, the following information is provided:

1. Penrith City Council have insisted that all activities associated with the installation of waste management facilities and the provision of waste management services are to take place in accordance with the requirements of their DCP.
2. This Waste Management Plan has been developed and documented in accordance with the Councils directions.
3. The number and size of bins have been calculated from information provided by Penrith City Council.
4. All residential waste and recycling services will be provided by Council's respective waste and recycling collection contractors.
5. The Owners Corporation will be responsible for ensuring that all on-going waste management activities are carried out in accordance with the provisions of this Waste Management Plan.

This is a unique development with a unique set of arrangements for its waste management activities.

The measures set out in this WMP aim to demonstrate that all such activities will be carried out effectively and efficiently, in a healthy, safe and convenient manner, to acceptable community standards, and to the requirements of Penrith City Council.

PART 7 - ADDENDUMS

7.1 ADDENDUM 1- WASTE MANAGEMENT REPORT

In an E-Mail from Council to the Applicant dated 30 April 2018, Council has sought additional information in relation to a number of waste management issues associated with the proposed development.

In response to this E-Mail the following information is provided.

1. Dual Chute System

Residential flat buildings are required to incorporate dual chute systems in accordance with section 5.2.2.4, subsection 2 of the C5 DCP: 'The waste chute system will provide a separate chute for both residual and recyclable material. The submitted plans show a single chute system which does not comply with this requirement;

A dual chute system is to be incorporated into the building design – as originally intended – refer to Part 4 (pages 12-16) of the Amended Waste Management Plan (Version 3) dated 1 June 2016.

2. Positioning of Dual Chutes over Linear Track System

The northern and southern chute currently extent 2.67m to the centre of the linear track system. This configuration is not in accordance with Council's requirements. The dual chutes are required to be located over the centre of the track system to perform a waste collection service. Amended plans are to be submitted illustrating the revised location of the dual chute inlets on each level to allow the outlets to be located over the centre of the linear track system;

In relation to the positioning of the chute outlet points, advice from chute manufacturers has indicated that the installation of the chute in the Chute Room as indicated on the Basement 1 Floor Plan is an accepted form of chute installation.

As Council would appreciate, whilst the installation of chutes has a range of generic requirements, the actual installation of the chute system is dependent upon the unique characteristics of the design of the building. In this regard each system is specifically designed to each building specification and requirements.

Due to the building design, the positioning of the dual chutes in the Waste and Recycling Compartments above the chute outlet points in the Chute Room, and Council's requirement to locate the tracks a minimum of 900mm from one wall and 1.8m from the other, it will be necessary to extend the distance of the chute ductwork up to a maximum of 1.8m to reach the centre bin in the linear track system. This would mean that the angle of the chute, from its horizontal outlet point to the centre bin of the track would be approximately 35-degrees.

In contacting a number of chute manufacturers, Standards Australia, and examining the relevant requirements of the BCA, it is unable to establish whether or not there is an Australian Standard or other regulation that quantifies a minimum standard for chute angles, as well as chute ductwork travel distances. Notwithstanding, this particular method of chute installation demonstrates, that the physical properties of a

horizontal gravity drop into a 35-degree angle, both waste and recycling material will fall into the bins as required.

This angle is considered satisfactory to allow the continuous fall of waste, and, or recycling material from the end of the horizontal drop point in to the bin on the middle of the track. It is also considered that this would provide additional benefits to the overall functioning of the system, as the angle would potentially reduce the impact of material falling into the bins by reducing noise and more importantly reducing potential breakage and contamination of the recycling stream by minimising the velocity of the fall.

As each system is specifically designed to each building specification and requirements, it is not uncommon for chute ductwork below the horizontal outlet to travel lengthy distances to the final point of discharge.

Manufacturers specifications, prescribe requirements for securing, mounting and bracketing chute ductwork to walls, ceilings and floors (including angling) in order to ensure structural integrity and maintain system function-ability, without limiting the effectiveness of waste disposal.

Upon the appointment of the chute manufacturer, supporting documentation, in the form of a comprehensive Manufacturers Specification will be submitted to Council on the design, manufacture and installation of the dual chute system.

3. Clearance Zones – Access to Chutes/Tack System

A 1.8m unobstructed clearance zone between the linear/circular track system and the entrance for access and manoeuvrability is required. Plans submitted show a 1.4m clearance which is not supported;

A distance of 2.815m is provided on both sides of the Waste/Store (Chute Room) to allow for an unobstructed clearance zone to access and manoeuvre the bins – refer to Basement 1 Floor Plan.

4. Size of Waste Storage Areas

Rooms are required to be built to store the entire fleet of bins plus 0.4m between bins to allow adequate manoeuvrability. The current configuration does not provide adequate storage for the entire fleet of bins (6x 1100L bins);

The Residential Waste Collection Room in the northern end of Basement 1 will house all waste and recycling bins required to be serviced (6 x 1100-litre bins in total). The distance between each bin and adjoining walls varies between 1.0m and 1.8m.

The Basement 1 Floor Plan clearly demonstrates that this configuration provides adequate clearance between bins, and the bins can be stored and manoeuvred in and out of the room in a manner that safe, and in compliance with Council's requirements.

5. Access to Waste Collection Areas

Suitable door access for the service of bins with a minimum width of 1.8m and 1.8m unobstructed access corridor. Should a roller door be provided an additional 0.9m service door is required

All access points to all waste storage and collection areas have a minimum access doorway of 1.8m. Where roller doors are installed an additional 900mm single door, opening outwards will be provided.

6. Bulky Household Goods Room

The bulky households goods room is to be 8m2 in area to allow service of the development;

The bulky waste storage area is a 17 square metres in floor area, and as such complies with Council's requirements in this regard.

7. Access to Bulky Waste Area

The bulky households goods room is to be enclosed with separate unobstructed access. The current configuration permits items/storage into the waste collection room. A separate, enclosed and unobstructed access/room is required for the storage of bulky waste items;

Access to the Bulky Waste Storage Area is by a 1.8m roller door. As required by the BCA, an additional 900mm single door, opening outwards will be provided. As such this complies with Council's requirements in this regard.

8. Room Dimensions

Room dimensions are to be designed to ensure items can be placed and manoeuvred within the room, with a minimum width of 1.8m;

The Bulky Waste Storage Area is a fully enclosed rectangular structure measuring 5.8m x 2.8m, with an access doorway of 1.8m. As such all items stored within this area are able to be place and manoeuvred in and out of the room in a satisfactory manner.

9. Door Access to Bulky Waste Area

Suitable door access for the service of bulky items with a minimum width of 1.8m and 1.8m unobstructed access corridor;

The Bulky Waste Storage Area is a fully enclosed rectangular structure measuring 5.8m x 2.8m, with an access doorway of 1.8m.

10. Minimum Room Width

Minimum room width of 1.8m to all internal walls

The minimum room width to all internal walls is 1.8m.

11. Location of Rooms

A room is to be located in close proximity to the on-site loading bay

All waste collection areas are located within close proximity to the Onsite loading bay (waste collection area).

12. Bin Movement and Transportation

The movement of bins from the basement to the waste collection room is not permitted via the basement ramp.

No bins will be transported from the basement to the waste collection rooms by the basement ramp – this is not considered practical.

13. Waste Infrastructure

Plans are required to show the following:

- **The floor must be finished so that it is non-slip and has a smooth and even surface covered at all intersections;**
- **Floor graded to a central drainage point connected to the sewer, enabling all waste to be contained and safely disposed of;**
- **Fully enclosed and roofed with a minimum internal room height in accordance with the Building Code of Australia 2016 (BCA);**
- **The room is to be provided with an adequate supply of water through a centralized mixing valve with hose cock;**
- **Incorporation of adequate lighting and naturally/mechanical ventilation to meet Building Code of Australia 2016 requirements.**

As required by Council, all onsite waste infrastructure including the Waste Chute Room Waste Chute Room, temporary Waste Storage Room, Waste Collection Room and Bulky Household goods room will need to incorporate the following minimum design specifications:

a) The floor must be finished so that it is non-slip and has a smooth and even surface covered at all intersections;
b) Floor graded to a central drainage point connected to the sewer, enabling all waste to be contained and safely disposed of;
c) Fully enclosed and roofed with a minimum internal room height in accordance with the Building Code of Australia 2016 (BCA);
d) The room is to be provided with an adequate supply of water through a centralized mixing valve with hose cock; and,
e) Incorporation of adequate lighting and naturally/mechanical ventilation to meet Building Code of Australia 2016 requirements

All of the above information has been incorporated into the Waste Management Plan.

Garry Dickens
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1 June 2018.