BUSHFIRE ASSESSMENT REPORT (BAR)

MODIFICATION TO EXISTING DEVELOPMENT APPROVAL FOR A RESIDENTIAL FLAT BUILDING (SENIORS LIVING) (PBP, 2019, PART 6 – SPECIAL FIRE PROTECTION PURPOSE)

118A SOLDIERS POINT ROAD, SOLDIERS POINT, NSW, 2317
(LOT 2, DP 627638)

Prepared by Perception Planning on behalf of Soldiers Point Bowling Club

Above: 3D Visualisation of the Residential Flat Building

10 March 2020

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Table 1 – Document Versions and Disclaimer

No:	Perception Planning Reference:	Author:	Reviewer:
Version 1	10/03/20_BAR_118A Soldiers Pt Rd_Version1	JB	MM
Version 2	10/03/20_BAR_118A Soldiers Pt Rd__Version2	JB	MB

Disclaimer:

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The scope of services has been defined in consultation with the client with consideration to time, budgetary constraints and the availability of reports and other data relating to the site. Changes to information, legislation and schedule are made on an ongoing basis in consultation with the client. Stakeholders should therefore obtain up-to-date information.

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Any recommendation or advice expressed in this report is made in good faith and in accordance with the relevant legislation for bushfire prone development in NSW. It should be borne in mind that the measures recommended in this report cannot guarantee that a building will survive a bushfire event on every occasion. This is due to the degree of vegetation management, the unpredictable behaviour of bushfires and extreme weather conditions. As such, the author is not liable to any person for any damage or loss whatsoever which has occurred or may occur in relation to the person acting or not acting based on the recommendations of this report.

This bush fire assessment report shall remain valid for 12 months from the date of issue.

Charitable Donation:

Please note that a donation of $10.00 will be made by Perception Planning to the Soldiers Point Local Brigade of the NSW Rural Fire Service. The donation is made at the end of the financial year and is intended to assist the NSW RFS with community activities.

Table 2 – Council and RFS Summary

Question:	Response:
Has this Assessment been certified by a Bushfire Protection and Design (BPAD) Practitioner?	Yes - This Assessment has been completed by Jeffrey Bretag, who has completed the Graduate Diploma in Bushfire Protection from the University of Western Sydney and has current Bushfire Planning and Design (BPAD – Level 2) Accreditation from the Fire Protection Association (FPA). It has then been peer reviewed by Matilda Munn, who has completed the Graduate Certificate in Bushfire Protection from the University of Western Sydney.
What is the recommended level of compliance with AS3959-2018?	The recommended level of compliance is that the development be constructed to BAL-LOW in accordance with AS3959-2018, as appropriate, with the exception of the construction requirements of the RFS, 2019, 'Planning for Bushfire Protection' (Clause 7.5.2 – NSW State Variations).
Can the proposed development comply with AS3959-2018 and RFS, 2019, Planning for Bushfire Protection?	Yes - The Architectural Plans need to be updated to identify that the building needs to be constructed to BAL-LOW. An additional note should be added to the Architectural Plans to ensure that consideration is provided to the RFS, 2019, 'Planning for Bushfire Protection' (Clause 7.5.2 – NSW State Variations).
Does the proposed development comply with the aims and objectives of the RFS, 2019, Planning for Bushfire Protection?	Yes – A table that demonstrates that the proposal is consistent with the aims and objectives of the RFS, 2019, Planning for Bushfire Protection is provided as **(ATTACHMENT 3)**.
Is referral to the NSW Rural Fire Service required?	Yes– The development is defined SFPP under the Rural Fire Act 1997 (100B) and therefore does require a Bush Fire Safety Authority (BFSA).
What is the Architectural Plan Reference?	O'Connell Architecture and Design **(ATTACHMENT 6)** Project No: 2012B Date: 3/11/2019

EXECUTIVE SUMMARY

Perception Planning has been engaged by Soldiers Point Bowling Club (the client) to prepare a Bushfire Assessment Report (BAR) for a Residential Flat Building (Seniors Living)(the development) at 118A Soldiers Point Road, Soldiers Point, NSW, 2317 (Lot 2, DP 627638) (the site).

The development is defined as a Special Fire Protection Purpose (SFPP) development under RFS, 2019, 'Planning for Bushfire Protection' (PBP), Rural Fire Act 1997 (s100B) and/or Rural Fires Regulation 2013 (s46). It is therefore defined as 'integrated development' under the Environmental Planning & Assessment Act 1979 (s4.46) and will be referred to the RFS for the issue of a Bush Fire Safety Authority (BFSA) under the Rural Fires Act 1997 (s100b).

The site is an existing residential property, which is a 17-minute drive or 11.2km to the west of Nelson Bay and is located within the Port Stephens Local Government Area (LGA). The site is identified as Bushfire Prone Land (BPL), being Vegetation Category 1, 2 and Buffer under the Environmental Planning & Assessment Act 1979 (s10.3) (EPA&A).

A site inspection took place on 20 November 2019. A Dial Before You Dig (DBYD) request identified that mains electricity and water is located in the road reserve **(ATTACHMENT 4)**. A Deposited Plan (DP) was also obtained from 'NSW Land Registry Services', which identified that the site has access to Soldiers Point Road via a Right of Way over the eastern lot.

This BAR identifies that no classified vegetation is located within 140m of the development footprint and in turn recommends no Bushfire Protection Measures (BPM)s.

Table 3– BAL Table

Direction	Vegetation	Surface Fuel (t/ha)	Overall Fuel (t/ha)	Rise (m)	Run (m)	Slope (°)	Separ-ation(m)	BAL
Transect 1 (N)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 2 (E)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 3 (S)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 4 (W)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW

Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small, always remains and although the standard is designed to improve the performance of such buildings, there can be no guarantee because of the variable nature of bushfires that any one building will withstand bushfire attack on every occasion.

This BAR provides the above required information to assist Council and the RFS in determining compliance in accordance with the PBP and AS 3959. Council is the final consenting authority and the future construction works must comply with the recommendations included in the Council's conditions of consent.

TERMS & ABBREVIATIONS

APZ	Asset Protection Zone
AS3959	Australian Standard 3959
BAL	Bushfire Attack Level
BAR	Bushfire Assessment Report
BFSA	Bush Fire Safety Authority
BPAD	Bushfire Planning and Design
BPL	Bushfire Prone Land
BPM	Bushfire Protection Measures
DA	Development Application
DBYD	Dial Before You Dig
DP	Deposited Plan
DSF	Dry Sclerophyll Forest
EP&A Act	Environmental Planning and Assessment Act 1979
FDI	Fire Danger Index
FPAA	Fire Protection Association of Australia
IPA	Inner Protection Area
LEP	Local Environmental Plan
LGA	Local Government Area
NCC	National Construction Code
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection
RFS	NSW Rural Fire Service
RoW	Right of Way
SEED	Sharing and Enabling Environmental Data
SFPP	Special Fire Protection Purpose
URA	Urban Release Area
WSF	Wet Sclerophyll Forest

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1.0 INTRODUCTION

1.1 SITE PARTICULARS

Address:	118A Soldiers Point Road, Soldiers Point, NSW, 2317 (the site)
Legal Description:	Lot 2, DP 627638
Total Area:	1.61ha (Approximate)
Local Government Area:	Port Stephens
Fire Danger Index (FDI):	100 - Greater Hunter
Boundaries:	Land zoned R2 – Low Density Residential is located to the north & west and land zoned RE2 – Private Recreation is located to the east and south of the site.
Boundary Lengths:	North – 90m, east – 135m, south – 90m and west – 135m
Current Land Use:	Vacant - Cleared Land
Significant Features:	Soldiers Point is characterised by detached dwellings. The site has access to Soldiers Point Road, via a Right of Way over the adjoining eastern lot.
Environmental Features:	The is mapped as containing Biodiversity Values under the Biodiversity Conservation Act 2016 **(FIGURE 4)**.
Archaeological Features:	A basic search of the AHIMS database identified at least one sites and/or places **(ATTACHMENT 1).**
Climate/Fire History:	The Lower Hunter Bushfire Management Committee, 2009, 'Bushfire Risk Management Plan' (the Plan) states that: *'Prevailing weather conditions associated with the bush fire season in the Lower Hunter BFMC area are north-westerly winds accompanied by high daytime temperatures and low relative humidity. There are also frequently dry lightning storms in the western areas occurring during the bush fire season' (p.11).* The Plan identifies several assets in the Port Stephens Local Government Area. This Plan maps the site as an 'Asset – Human -Residential'. The Fire History Map **(FIGURE 5)** has not identified a recorded history of fires in proximity to the site. This does not mean that fires have not occurred in proximity, they may have just not been recorded.
Fire Trails:	The Plan does not identify any fire trails that exist on the property that are on the Rural Fire Act (s.620 - Register of Certified Fire Trails).

Bushfire Prone Land Map: The site is identified as BPL, being Vegetation Category 1, 2 and Buffer **(FIGURE 1)**.

Previous Approvals: The existing development approvals listed in the table below have been sourced from the Port Stephens Application Tracking website on 10 March 2020. This BAR has been prepared to support a modification to the existing approval listed in the below table.

Table 4 – Development Application History

Application	Date Lodged	Description
16-2013-757-1	09/12/2013	Seniors Living Self Care Village – 100 Units

No known compliance matters exist. The development approvals listed above pre-date the introduction of the PBP.

1.2 SCOPE

The scope of this BAR is to identify the bush fire hazard and provide measures to assist Council and the RFS that the identified fire hazard would be reduced to a level that is considered necessary to provide adequate protection to life and property.

This BAR provides the required information to assist Council and the RFS in determining compliance in accordance with the RFS, 2019, 'Planning for Bush Fire Protection' (PBP) and AS 3959-2018. Council is the final consenting authority and the future construction works must comply with the conditions listed in the Notice of Determination issued by Council.

1.3 PROPOSAL

The proposal is for a Residential Flat Building (Seniors Living) (the development) **(ATTACHMENT 6)** at 118A Soldiers Point Road, Soldiers Point, NSW, 2317 (the site).

Under the Port Stephens Local Environmental Plan 2013, the relevant definitions are:

- Residential flat building 'means a building containing 3 or more dwellings but does not include an attached dwelling or multi-dwelling housing.

- Seniors housing 'means a building or place that is:
  a. A residential care facility, or
  b. A hostel within the meaning of clause 12 of SEPP (Housing for Seniors or People with a Disability) 2004, or
  c. A group of self-contained dwellings, or
  d. A combination of any of the buildings or places referred to in paragraphs (a)-(c)

  And that is, or intended to be, used permanently, or
  e. Seniors or people who have a disability, or
  f. People who live in the same household with seniors or people who have a disability, or
  g. Staff employed to assist in the administration of the building or place or in the provision of services to persons living in the building or place,

But does not include a hospital.

The development is defined as a 'special fire protection purpose' under PBP and could be defined under the National Construction Code (NCC) as follows:

1. Apartment building (Class 2);
2. Associated deck (Class 10a); and
3. Fence and/or Retaining Wall (Class 10b);

An illustration of the proposed siting is provided as **(FIGURE 2)**.

1.4 ASSUMPTIONS OF THIS REPORT

The following assumptions have been made in the development of this report:

1. Architectural Plans have been provided **(ATTACHMENT 6)**.
2. Access to private properties, other than the site was not provided, so photos taken during the site inspection are from public areas, such as the road reserve.
3. The BAR will be referred to the RFS and then Council will assess the development application and decide on a determination. If conditions of consent are provided, then construction must comply with the conditions issued by Council, not this BAR.

Figure 1 – Bushfire Prone Land Map

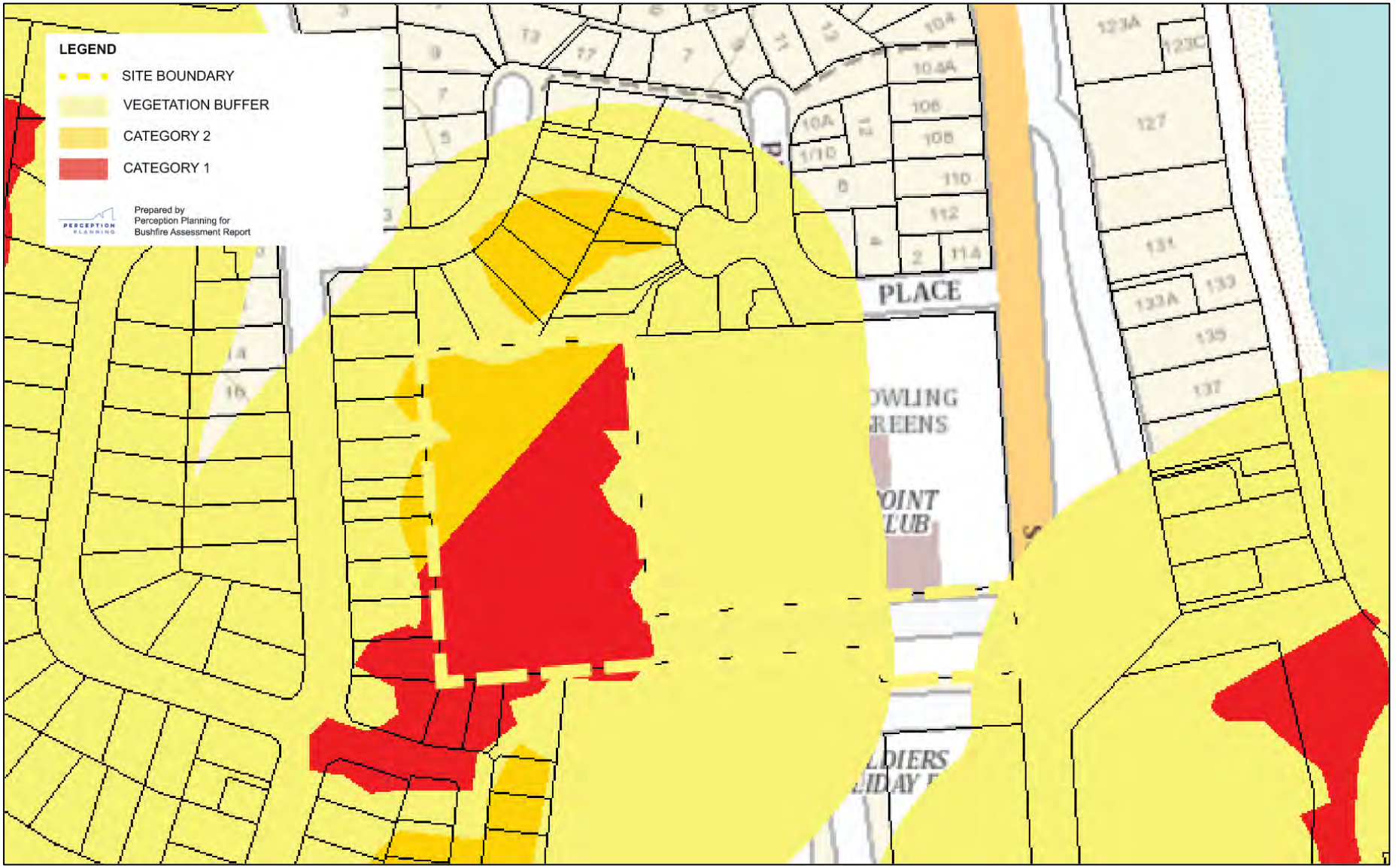


Figure 2 – Site Plan

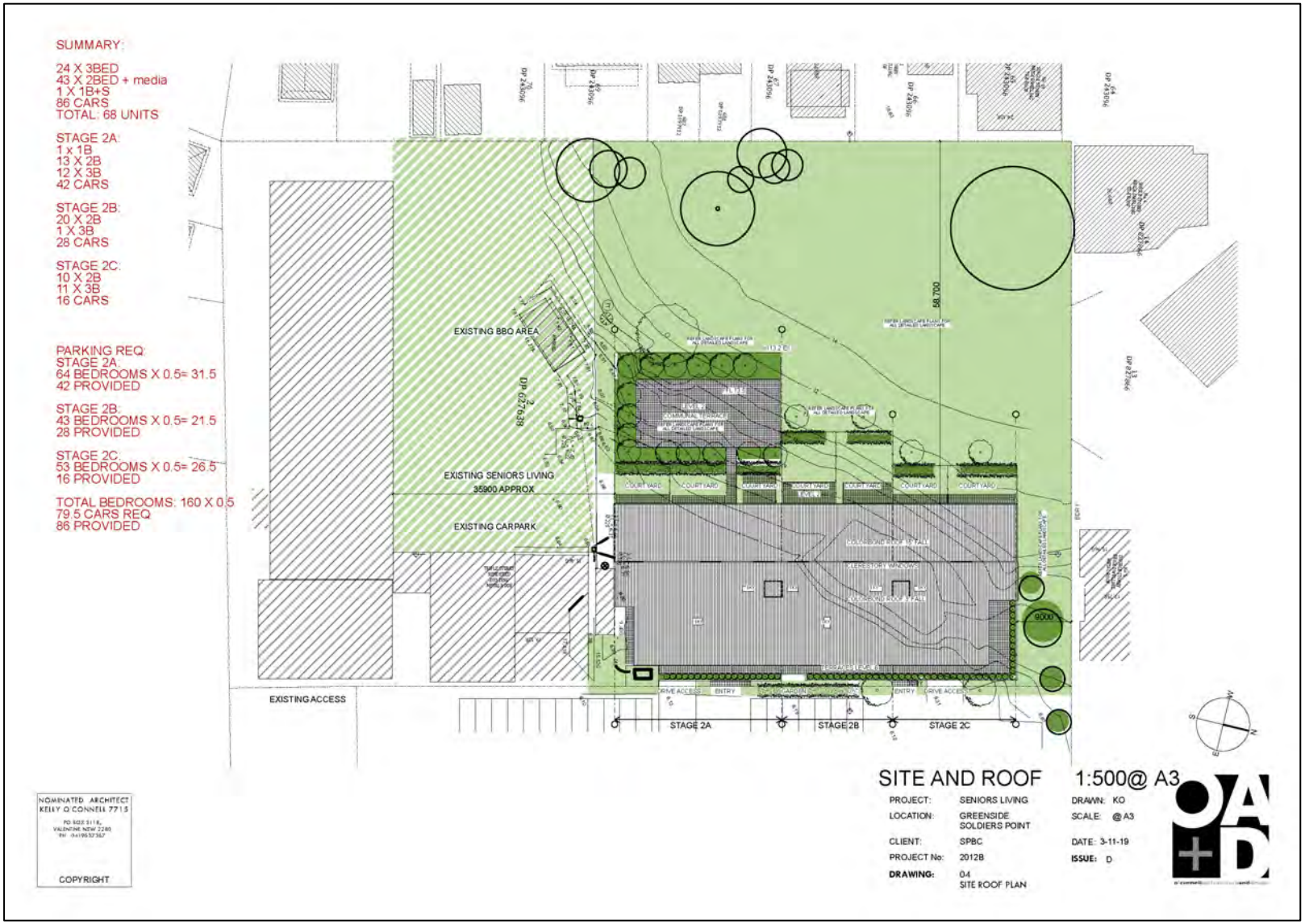


Figure 3 – Vegetation Map

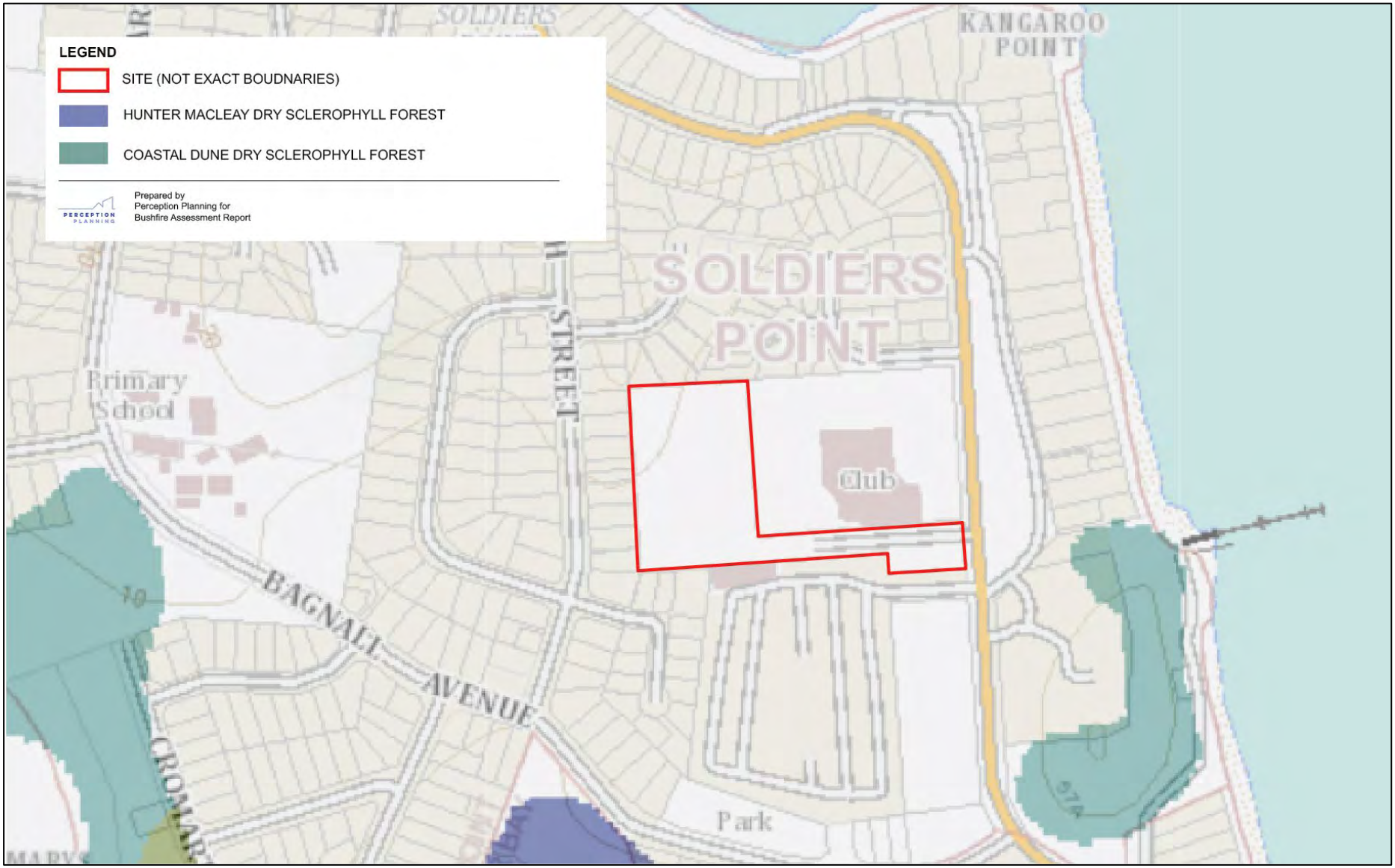


Figure 4 – Biodiversity Values Map

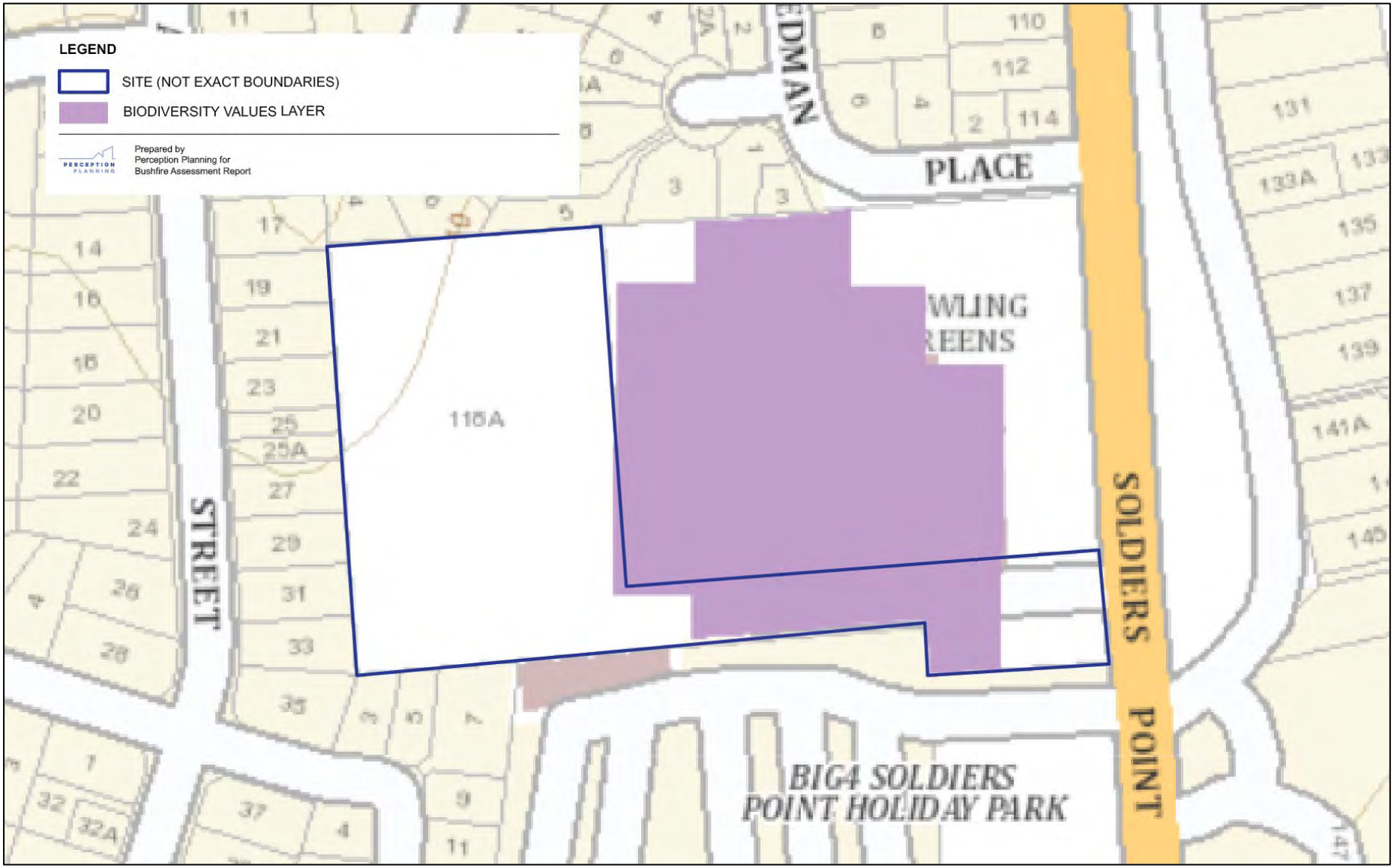
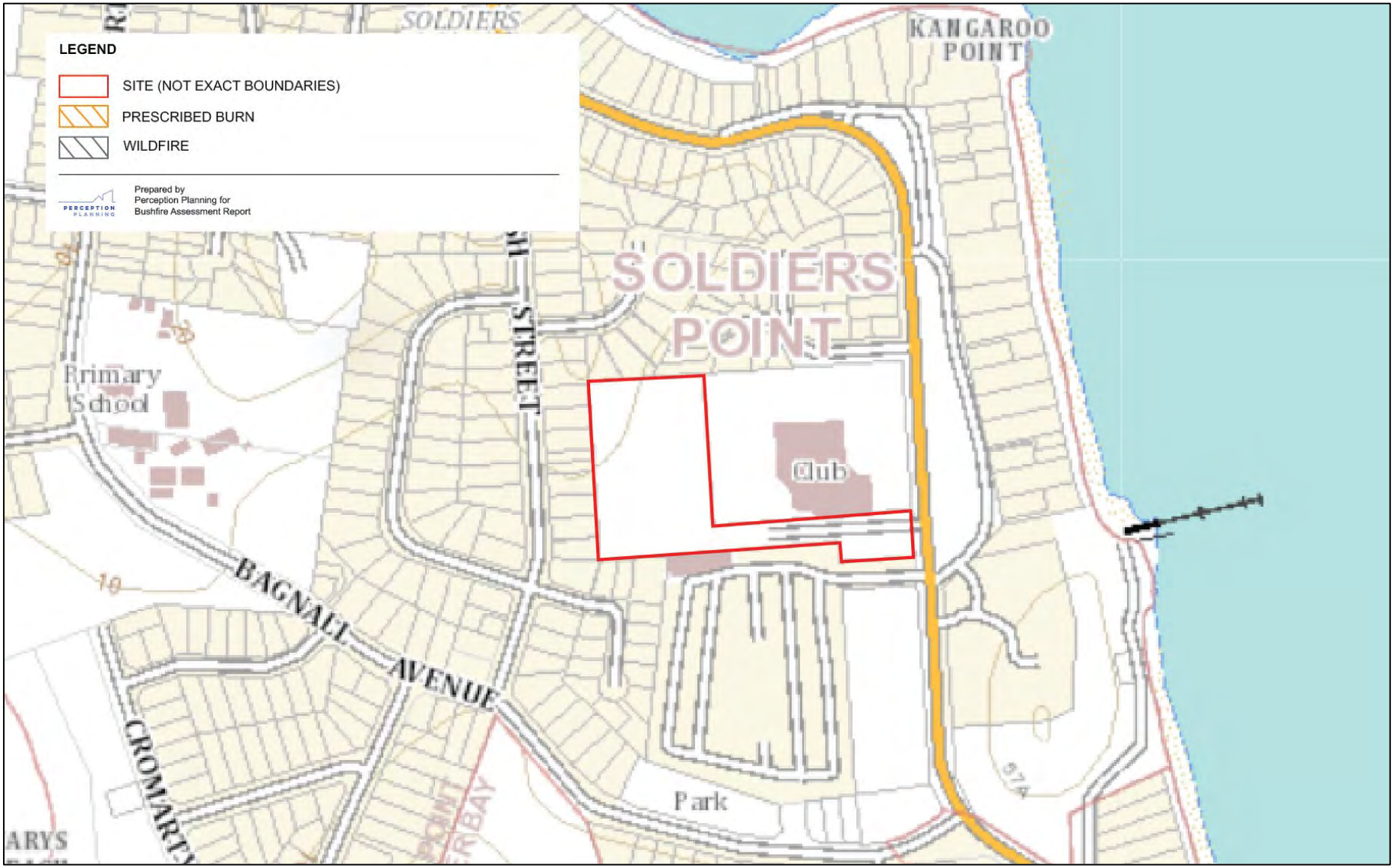
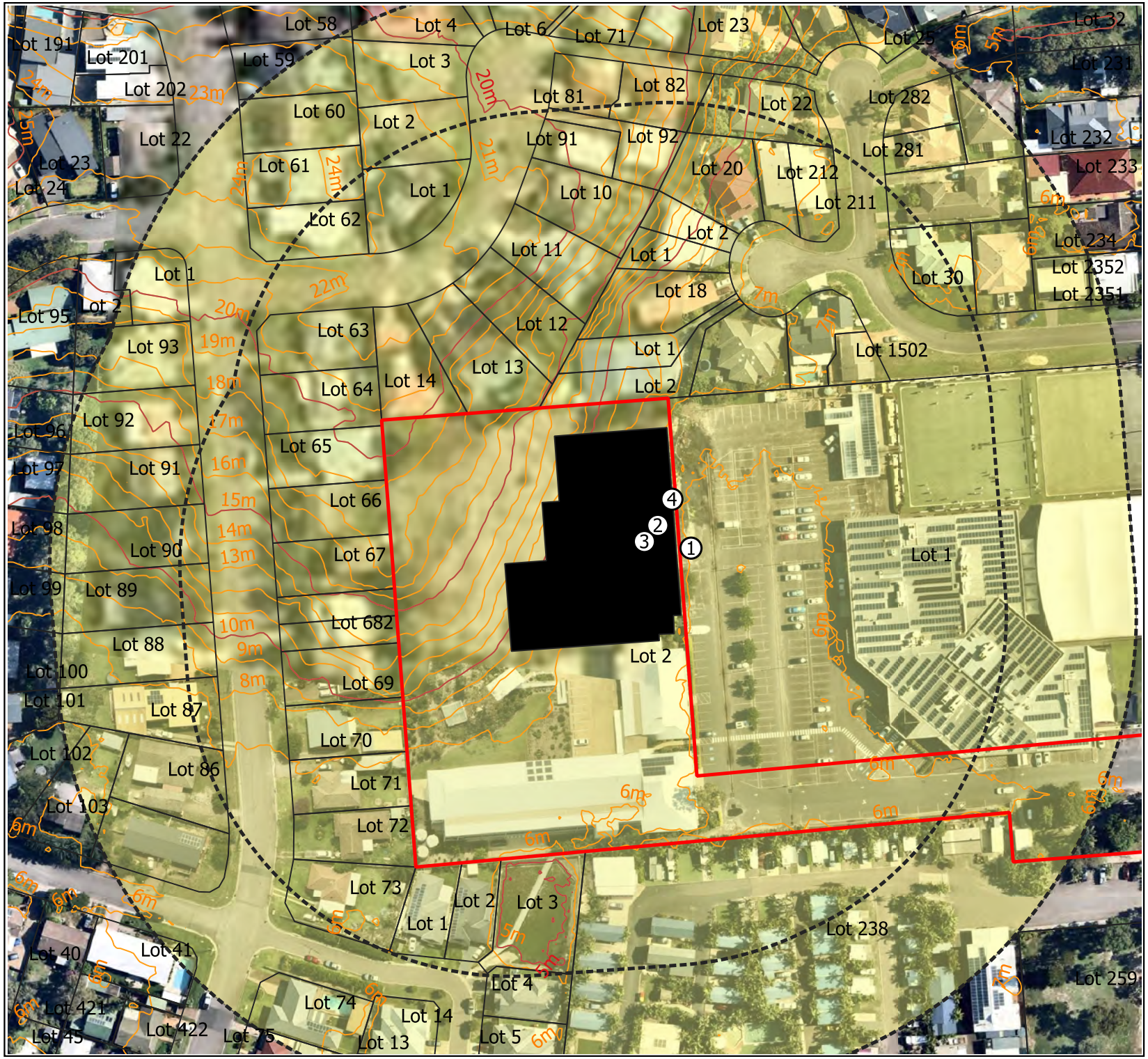


Figure 5 – Fire History





118A Soldiers Point Rd

Figure 5 - Site Assessment Map

- Site Boundary
- Lot
- Proposed Seniors Living
- Buffer - 140m
- Buffer - 100m
- Watercourses
- Waterbodies
- Contours (5m)
- Contours (1m)
- Low Threat - Managed
- Site Photos

0 25 50 m

Job No: J000726 Date: 10/03/2020

Photo 1 – Northern Perspective

Photo 2 – Eastern Perspective

Photo 3 – Southern Perspective

Photo 4 – Western Perspective

2.0 ASSESSMENT

2.1 VEGETATION ASSESSMENT

The vegetation was determined by the following methods:

- Near Map to identify vegetation cover;
- Site Survey completed by Delfs & Lascelles Consulting Surveyors **(ATTACHMENT 7)**;
- Sharing and Enabling Environmental Data (SEED) Portal to identify Vegetation Classification, Fire History and Biodiversity Values Map;
- ePlanning Spatial Viewer to identify Bushfire Prone Land Map;
- Site Inspection on 20 November 2019 to confirm vegetation formation using Keith, 2004, 'Ocean Shores to Desert Dunes'.

The predominant vegetation formation within 140m in all directions around the proposed building has been identified to be Low Threat Vegetation – Managed Lands. The 'existing managed gardens and lawns within curtilage of buildings' is identified as Low threat vegetation – exclusions under PBP (p.88).

The removal of native flora or fauna will not be required to achieve the development, including the establishment of APZs.

2.2 SLOPE ASSESSMENT

The effective slope was determined by the following methods:

- Elevation and Depth – Foundation Spatial Data (ELVIS) to identify 2m Contours;
- Site Survey completed by Delfs & Lascelles Consulting Surveyors **(ATTACHMENT 7)**;
- Site Inspection on 20 November 2019 to confirm slope using a Nikon Rangefinder.

The effective slope (slope under the vegetation) of the land within 100m in all directions around the development has not been calculated because there is no vegetation.

2.3 DETERMINATION OF FIRE DANGER INDEX (FDI)

The FDI was determined by identifying the FDI rating within PBP (Part A1.6) (p.84). The FDI is 100 - Greater Hunter.

2.4 DETERMINATION OF BUSHFIRE ATTACK LEVEL (BAL)

The assessment of vegetation and slope has been used to calculate the following BALs:

Table 5 – BAL Table

Direction	Vegetation	Surface Fuel (t/ha)	Overall Fuel (t/ha)	Rise (m)	Run (m)	Slope (°)	Separ-ation(m)	BAL
Transect 1 (N)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 2 (E)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW

Transect 3 (S)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 4 (W)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW

The development is setback over 100m from any classified vegetation and therefore is required to be constructed to BAL-LOW in accordance with National Construction Code (NCC) with the exception of the construction requirements of the RFS, 2019, 'Planning for Bushfire Protection' (Part 7 – Residential Infill Development). A description of this BAL is provided by the following table.

Table 6 – Heat flux exposure and appropriate BAL

Heat flux exposure	Description	BAL
N/A	Minimal attack from radiant heat and flame due to the distance of the building from the vegetation, although some attack by burning debris is possible. There is insufficient threat to warrant specific construction requirements.	BAL-LOW
<12.5	Attack from burning debris is significant with radiant heat (not greater than 12.5kW/m^2). Radiant heat is unlikely to threaten building elements (such as unscreened glass). Specific construction requirements for ember protection and accumulation of debris are warranted.	BAL-12.5
>12.5 ≤ 19	Attack by burning debris is significant with radiant heat flux (not greater than 19kW/m^2) threatening some building elements (such as screened glass). Specific construction requirements for embers and radiant heat are warranted.	BAL-19
>19 ≤ 29	Attached by burning debris is significant and radiant heat flux (not greater than 29 kW/m^2) threatens building integrity. Specific construction requirements for ember and higher levels of radiant heat are warranted. Some flame contact is possible.	BAL-29
>29 ≤ 40	Radiant heat flux and potential flame contact could threaten building integrity.	BAL-40
>40	Significant radiant heat and significantly higher likelihood of flame contact from the fire front will threaten building integrity and result in significant risk to residents.	BAL-FZ

2.5 SHIELDING

The RFS, 2019, PBP states that 'Where an elevation is shielded from direct radiant heat arising from a bushfire attack, then the construction requirements for that elevation can be reduced to the next lower BAL' (p. 86). The BAL has been identified as BAL-LOW, which AS3959-2018 states there is insufficient threat to warrant specific construction requirements. Therefore, the BAL cannot be reduced any further due to shielding.

3.0 BUSHFIRE PROTECTION MEASURES

3.1 ASSET PROTECTION ZONES, LANDSCAPING AND CONSTRUCTION

The RFS, 2019, PBP states that the intent of an APZ is 'to provide suitable building design, construction and sufficient space to ensure that radiant heat levels do not exceed critical limits for firefighters and other emergency services personnel undertaking operations, including supporting or evacuating occupants' (p.55).

Compliance with Section 6.8.1 – APZs and building construction is outlined in the below table.

Table 6 - Compliance with PBP for APZs, Landscaping and Building Construction

No	Performance Criteria	Acceptable Solution	Complies	Response
Asset Protection Zones				
1	Radiant heat levels of greater than 10kW/m² (calculated at 1200K) will not be experienced on any part of the building.	The building is provided within an APZ is accordance with Table A1.12.1 (see Appendix 1).	Yes	This BAR identifies no classified vegetation within 100m of the site. This has been calculated in accordance with tables A1.12.2 and A1.12.3 to demonstrate that the future building will not be exposed to radiant heat levels exceeding 10kW/m².
2	APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	The APZ is not located on lands with a slope exceeding 18 degrees.	Not Applicable	No APZ is required because classified vegetation is not within 100m of the future building.
3	APZs are managed and maintained to prevent the spread of a fire towards the building.	The APZ is managed in accordance with the requirements of Appendix 4 of this document and is wholly within the boundaries of the development site.	Not Applicable	No APZ is required because classified vegetation is not within 100m of the future building.
4	The APZ is provided in perpetuity.	APZs are wholly within the boundaries of the development site.	Not Applicable	No APZ is required because classified vegetation is not within 100m of the future building.

5		Other structures located within the APZ need to be located further than 6m from the refuge building.	Not Applicable	No APZ is required because classified vegetation is not within 100m of the future building.
6	**Camping and Primitive Camping:** No performance criteria is applicable.	N/A	Not Applicable	The development is not defined as camping or primitive camping.
7	**Bed and breakfast and farm stay:** The building will not be exposed to radiant heat levels exceeding 29kW/m^2 (1090K).	An APZ is provided in accordance with Table A1.12.1 in Appendix 1 of this document around the entire refuge building or structure.	Not Applicable	The development is not defined as bed and breakfast and farm stay.
8	**Ecotourism:** Radiant heat levels of greater than 10kW/m^2 (1200K) are not experienced by emergency service personnel and occupants during firefighting and emergency management around a building on site that can be used as a refuge.	An APZ is provided in accordance with Table A1.12.1 in Appendix 1 of this document around the entire refuge building or structure.	Not Applicable	The development is not defined as ecotourism.
9	**Manufactured home estates:** APZs achieve radiant heat levels that are commensurate with the construction standard for the proposed dwellings.	• An APZ in accordance with Table A1.12.1 in Appendix 1 of this document is provided to all new dwellings, or • An APZ in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of this document is provided where it is demonstrated that all new dwellings will be constructed in	Not Applicable	The development is not defined as manufactured home estates.

		accordance with BAL-29.		
Landscaping				
1	Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Landscaping is in accordance with 'Asset protection zone standards' (see Appendix 4).	Not Applicable	No APZ is required because classified vegetation is not within 100m of the future building. A Landscape Plan is provided as **(ATTACHMENT 8).**
2		Fencing is constructed in accordance with Section 7.6.	Not Applicable	No BPMs are required because classified vegetation is not within 100m of the future building.
Construction				
1	The proposed building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	A construction level of BAL-12.5 under AS3959 or NASH Standard and section 7.5 of PBP is applied.	Yes	This BAR identifies that the APZ has been calculated in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 to demonstrate that the development is to be constructed to BAL-LOW.
2	**Camping and primitive camping:** no performance criteria applicable.	N/A	Not Applicable	The development is not defined as camping or primitive camping.
3	**Bed and breakfast and farm stay:** the proposed building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	Construction is applied in accordance with Appendix 1 of PBP.	Not Applicable	The development is not defined as bed and breakfast and farm stay.
4	**Ecotourism:** the proposed refuge building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	A construction level of BAL-12.5 or greater is applied to the refuge building in accordance with AS3959 or NASH Standard and 7.5 of PBP.	Not Applicable	The development is not defined as ecotourism.
5		A refuge building is provided.	Not Applicable	The development is not defined as ecotourism.

6		The refuge building must have sufficient space for all occupants and comply with the occupancy levels permissible for that structure.	Not Applicable	The development is not defined as ecotourism.
7		The refuge building must be constructed to BAL-12.5 or greater in accordance with AS3959 or NASH Standard and 7.5 of PBP.	Not Applicable	The development is not defined as ecotourism.
8	**Manufactured Home Estates:** The proposed manufactured home can withstand bush fire attack int eh form of wind, embers, radiant heat and flame contact.	• Where an APZ is provided in accordance with Table A1.12.1 in Appendix 1 of this document the construction standards of BAL-12.5 shall apply, or • Where an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of this document the construction standards for BAL-29 shall apply.	Not Applicable	The development is not defined as manufactured home estates.

3.2 SITING AND DESIGN PRINCIPLES

The RFS, 2019, PBP does not include siting and design principles. In turn, the siting and design principles from the RFS, 2006, PBP (Section 4.3.5 – Specifications and Requirements for Bush Fire Protection Measures for Infill Development).

Commentary about the Siting and Design of the development is outlined in the below table.

Table 7 – Compliance with PBP for Siting and Design

No	Performance Criteria	Acceptable Solution	Complies	Response
1	Buildings are sited and designed to minimise the	Buildings are designed and sited in accordance	Yes	The performance of the building is enhanced through the following siting and design principles:

	risk of bush fire attack.	with the siting and design principles in this section (see also Figure 4.7 (p.42)).		1. Not built on a ridge top or saddle; 2. Reduction in the bulk of a building (height and width) facing a bushfire hazard; 3. Simple building design with reduced numbers of re-entrant corners; 4. Provision of a simplified roofline; and 5. Avoiding raised floors and utilising concrete slabs (raft construction); 6. Reducing the number of windows facing the bushfire hazard. The performance of the building could be further enhanced by the following siting and design principles: 1. Gutter and gutter valleys installed with gutter guarding. Built on level ground.

3.3 ACCESS

The RFS, 2019, PBP states that the intent of measures for access is 'to provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area' (p.57).

Compliance with Section 6.8.2 – Access is outlined in the below table.

Table 8 – Compliance with PBP for Access

No	Performance Criteria	Acceptable Solutions	Complies	Response
Fire Fighting Vehicles				
1	Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	SFPP access roads are two-wheel drive, all-weather roads.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
2		Access is provided to all structures and hazard vegetation.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
3		Traffic management devices are constructed to not prohibit access by emergency services vehicles.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
4		Access roads must provide suitable turning areas in	Not Applicable	No BPMS are required because classified vegetation

		accordance with Appendix 3.		is not within 100m of the future building.
5		One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
6	**Primitive Camping:** Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	Access is provided in accordance with the property access requirements of Table 5.3b.	Not Applicable	The development is not defined as camping or primitive camping.
7	**Bed and breakfast and farm stay:** Firefighting vehicles are provided with safe, all-weather access to structures.	Access is provided in accordance with the property requirements of Table 5.3b.	Not Applicable	The development is not defined as bed and breakfast and farm stay.
8	**Ecotourism:** Fire fighting vehicles are provided with safe, all-weather access to the proposed refuge building.	Vehicular access is provided to the refuge building from a public road in accordance with the property access requirements of Table 5.3b.	Not Applicable	The development is not defined as ecotourism.
9		Accommodation is within 100m of the refuge building	Not Applicable	The development is not defined as ecotourism.
10		Pedestrian paths from accommodation to the refuge building/s are provided and clearly signposted.	Not Applicable	The development is not defined as ecotourism.
Access Road Capacity				
11	The capacity of access roads is adequate for firefighting vehicles.	The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges and causeways are to clearly indicate load rating.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
Access to Water				

12	There is appropriate access to water supply.	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
13		Hydrants are provided in accordance with AS2419:2005.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
14		There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
Perimeter Roads				
15	Perimeter access roads are designed to allow safe access and egress for medium rigid firefighting vehicles while occupants are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	There are two-way sealed roads.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
16		8m carriage width kerb to kerb	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
17		Parking is providing outside of the carriageway width	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
18		Hydrants are to be located clear of parking areas	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
19		There are through roads, and these are linked to the internal road system at an interval of no greater than 500m	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
20		Curves of roads have a minimum inner radius of 6m.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
21		The maximum grade road is 15^{o} and the average grade is 10^{o}.	Not Applicable	No BPMS are required because classified vegetation

				is not within 100m of the future building.
22		The road crossfall does not exceed 3°.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
23		A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is provided.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
Non-Perimeter Roads				
24	Non-perimeter access roads are designed to allow safe access and egress for medium rigid firefighting vehicles while occupants are evacuating.	Minimum 5.5m carriageway width kerb to kerb.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
25		Parking is provided outside of the carriageway width.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
26		Hydrants are located clear of parking areas.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
27		There are through roads, and these are linked to the internal road system at an interval of no greater than 500m.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
28		Curves of roads have a minimum inner radius of 6m.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
29		The maximum grade road is 15° and average grade is 10°	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
30		The road crossfall does not exceed 3°	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
31		A minimum vertical clearance of 4m to any overhanding obstructions,	Not Applicable	No BPMS are required because classified vegetation

		including tree branches is provided.		is not within 100m of the future building.

3.4 WATER, ELECTRICITY AND GAS

The RFS, 2019, PBP states that the intent of measures for services is 'to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of a fire to a building' (p.59).

Compliance with Section 6.8.3 – Services – Water, gas and electricity is outlined in the below table.

Table 9 – Compliance with PBP for Water, Electricity and Gas

No	Performance Criteria	Acceptable Solutions	Complies	Response
Water				
1	A water supply is provided for firefighting purposes.	Either a reticulated water supply is provided or a 10,000 litres minimum water supply on site.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
2	Water supplies are located at regular intervals.	Fire hydrant spacing, design and sizing comply with the Australian Standard AS2419.1:2005	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
3	The water supply is accessible and reliable for firefighting operations.	Hydrants are not located within any road carriageway.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
4		Reticulated water supply to SFPPs uses a ring main system for areas with perimeter roads.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
5	Flows and pressure are appropriate.	Fire hydrant flows and pressures comply with AS2419:2005	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
6	The integrity of the water supply is maintained.	All above ground water service pipes external to the building are metal, including and up to any taps.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.

7	A static water supply is provided for firefighting purposes in areas where reticulated water is not available.	A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; a 65mm Storz outlet with ball valve is fitted to the outlet.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
8		Ball valve and pipes are adequate for water flow and are metal.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
9		Supply pipes from tank to ball valve have the same bore size to ensure flow volume.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
10		Underground tanks have an access hole of 200m to allow tankers to refill direct from the tank.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
		A hardened ground surface for truck access is supplied within 4m of the access hole.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
11		Above ground tanks are manufactured from concrete or metal.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
12		Raised tanks have their stands constructed from non-combustible material or bushfire resisting timer (see Appendix F AS3959).	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
13		Unobstructed access can be provided at all times.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
14		Tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
15		Underground tanks are clearly marked.	Not Applicable	No BPMS are required because classified

				vegetation is not within 100m of the future building.
16		All exposed water pipes external to the building are metal, including any fittings.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
17		Where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm (internal diameter).	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
18		Fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels and installed in accordance with AS2441:2005 Installation of fire hose reels.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
Electricity				
19	Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	Where practicable, electrical transmission lines are underground.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
20		Where overhead, electrical transmission lines are proposed as follows: - Lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas, and - No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guidelines	Not Applicable	- No BPMS are required because classified vegetation is not within 100m of the future building.

		for Managing Vegetation Near Power Lines.		
Gas				
21	Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	Reticulated or bottle gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
22		All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m shielded on the hazard side.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
23		Connections to and from gas cylinders are metal.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
24		If gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m from any combustible material, so they do not act as a catalyst to combustion.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
25		Polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
26		Above-ground gas service pipes external to the building are metal, including and up to any outlets.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.

3.5 EMERGENCY MANAGEMENT

The RFS, 2019, PBP states that the intent of measures for emergency management is 'to provide suitable emergency and evacuation management plans for SFPP developments' (p.61).

Compliance with Section 6.8.4 – Emergency management planning is outlined in the below table.

Table 10 - Compliance with PBP for Water, Electricity and Gas

No	Performance Criteria	Acceptable Solutions	Complies	Response
Emergency Management				
1	A bushfire emergency and evacuation management plan are prepared.	A bush fire emergency management and evacuation plan is prepared consistent with the NSW RFS document: A Guide to Development a Bush Fire Emergency Management and Evacuation Plan, and the Australian Standard AS 3745:2010 Planning for Emergencies Facilities	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
2		For proposals in isolated or remote areas which involve large travel distances through bush fire prone vegetation, the following issues should also be determined and addressed: • The amount of travel likely to be generated during an emergency evacuation. • The capacity of the broader road network to facilitate safe emergency evacuation • Limitations/constraints inherent in the road system • Management of potential traffic conflicts (such as emergency vehicles evacuating members of the public), and	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
3		The emergency management and evacuation plan should include a mechanism for the early relocation of occupants on days when adverse fire activity occurs in the local government areas in which the development operates. Note: A copy of the bush fire emergency management	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.

		and evacuation plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.		
4	Appropriate and adequate management arrangements are established for consultation and implementation of the bush fire emergency and evacuation management plan.	An Emergency Planning Committee is established to consult with residents (and their families in the case of aged care accommodation and schools) and staff in developing and implementing an Emergency Procedures Manual.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.
5		Detailed plans of all emergency assembly areas including 'on-site' and 'off-site' arrangements as stated in AS3745:2010 are clearly displayed, and an annual (as a minimum) trial emergency evacuation is conducted.	Not Applicable	No BPMS are required because classified vegetation is not within 100m of the future building.

4.0 RECOMMENDATIONS

This BAR provides the following recommendations:

General

1. Council to refer the Development Application to the NSW RFS because the development has been defined as a Special Fire Protection Purpose.

Note: The above are recommendations of the BAR. Any development approval is to comply with the Conditions listed on the Council Notice of Determination, not the above recommendations. The above recommendations are only intended to assist Council in their assessment of the DA.

118A Soldiers Point Rd

Figure 7 - Bushfire Protection Measure Map

- Site Boundary
- Lot
- Water Hydrant
- Proposed Seniors Living
- Buffer - 140m
- Buffer - 100m
- Watercourses
- Waterbodies
- Site Photos

0 25 50 m

Job No: J000726 Date: 10/03/2020

5.0 CONCLUSION

This BAR identifies that no classified vegetation is located within 10m of the development footprint and in turn recommends no Bushfire Protection Measures (BPM)s.

Table 11– BAL Table

Direction	Vegetation	Surface Fuel (t/ha)	Overall Fuel (t/ha)	Rise (m)	Run (m)	Slope (°)	Separ-ation(m)	BAL
Transect 1 (N)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 2 (E)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 3 (S)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW
Transect 4 (W)	Low Threat - Managed	-	-	-	-	-	Adjoining	BAL-LOW

Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small, always remains and although the standard is designed to improve the performance of such buildings, there can be no guarantee because of the variable nature of bushfires that any one building will withstand bushfire attack on every occasion.

This BAR provides the above required information to assist Council and the RFS in determining compliance in accordance with the PBP and AS 3959. Council is the final consenting authority and the future construction works must comply with the recommendations included in the Council's conditions of consent.

REFERENCE LIST

Analytic Committee on Surveying and Mapping, 2019, Elevation and Depth – Foundation Spatial Data (ELVIS), viewed 10 March 2020, < https://elevation.fsdf.org.au/>

Australian Standard AS3959 – Construction of Buildings in Bushfire Prone Areas (AS3959), viewed 10 March 2020, < http://www.as3959.com.au/>

Dial Before You Dig, 2019, 'Lodge an Inquiry', viewed 10 March 2020, < onecall.1100.com.au>

GlobalX Terrain, 2019, 'Property Title and Deposited Plan Search', viewed 10 March 2020, < https://app.globalxterrain.com/>

Keith, 2004, 'Ocean Shore to Desert Dunes'. Published by the Department of Environment and Conservation (NSW) July 2004. PO Box 1967, Hurstville, NSW, 2220

NSW Department of Primary Industries, Office of Water, 2012, 'Guidelines for riparian corridors on waterfront land', viewed 10 March 2020, < http://www.water.nsw.gov.au>

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NSW Government, 2019, 'Biodiversity Vales Map and Threshold Tool', viewed 10 March 2020, <www.lmbc.nsw.gov.au>

NSW Government, 2019, 'Sharing and Enabling Environmental Data (SEED)', viewed 10 March 2020<geo.seed.nsw.gov.au>

NSW Office of Environment, 2016, 'Aboriginal Heritage Information Management System (AHIMS)', viewed 10 March 2020, <http://www.environment.nsw.gov.au>

RFS, 2009, 'Hunter Risk Management Committee - Bushfire Risk Management Plan', viewed 5 June 2019, <http://www.rfs.nsw.gov.au>

RFS, No Date, 'Development Assessment & Planning – Upgrading of Existing Buildings', viewed 10 March 2020 < https://www.rfs.nsw.gov.au>

Rural Fire Service, 2016, 'NSW Rural Fire Service – Guide for Bush Fire Prone Land Mapping', viewed 10 March 2020, <http://www.rfs.nsw.gov.au>

NSW Rural Fire Service, 2019, 'Bushfire Risk Management Plans', viewed 10 March 2020, < http://www.rfs.nsw.gov.au>

Rural Fire Service, 2019, 'Planning for Bushfire Protection', viewed 10 March 2020, < http://www.rfs.nsw.gov.au>

Rural Fire Service, March 2019, 'Comprehensive Fuel Loads', viewed 10 March 2020, < http://www.rfs.nsw.gov.au>

Tan, Z, Douglas, G & Midgley, S, 2006, 'Bushfire Risk Register, A Tool for Bushfire Risk Management Planning', viewed 22 September 2018, <vuws.westernsydney.edu.au>

ATTACHMENT 1 – AHIMS RESULTS

A basic search of the AHIMS database identified one site.

Office of Environment & Heritage

NSW GOVERNMENT

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : 118A Soldiers Point

Client Service ID : 490059

Jeffrey Bretag

Date: 10 March 2020

108 Fortheringay Road
Clarence Town New South Wales 2324

Attention: Jeffrey Bretag

Email: jeffrey.bretag@gmail.com

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 2, DP:DP627638 with a Buffer of 50 meters, conducted by Jeffrey Bretag on 10 March 2020.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

1	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

ATTACHMENT 2 – INFORMATION TO BE PROVIDED IN A BAR

The checklist below demonstrates that this BAR is in accordance with PBP (Appendix 2) (p.96).

No	General	Response
1	A statement that the site is Bush Fire Prone Land (BFPL).	Please refer to Part 1 – Introduction.
2	The location, extent and vegetation formation of any bushland on or within 140 metres of the site.	Please refer to Part 2 – Assessment.
3	The slope and aspect of the site and of any BFPL within 100 metres of the site.	Please refer to Part 2 – Assessment.
4	Any features on or adjoining the site that may mitigate the impact of a bush fire on the proposed development.	Please refer to Part 1 – Introduction.
5	A statement assessing the likely environmental impact of any proposed Bushfire Protection Measures (BPM)s.	Please refer to Part 1 – Introduction.
6	A site plan showing access, water supplies, APZs, BAL requirements and building footprint in relation to the bush fire hazards.	Please refer to Figures.
7	Calculated BAL construction levels.	Please refer to Part 2 – Assessment.

ATTACHMENT 3 – AIMS AND OBJECTIVES OF PBP

The below table demonstrates consistency with the aims and objectives of PBP.

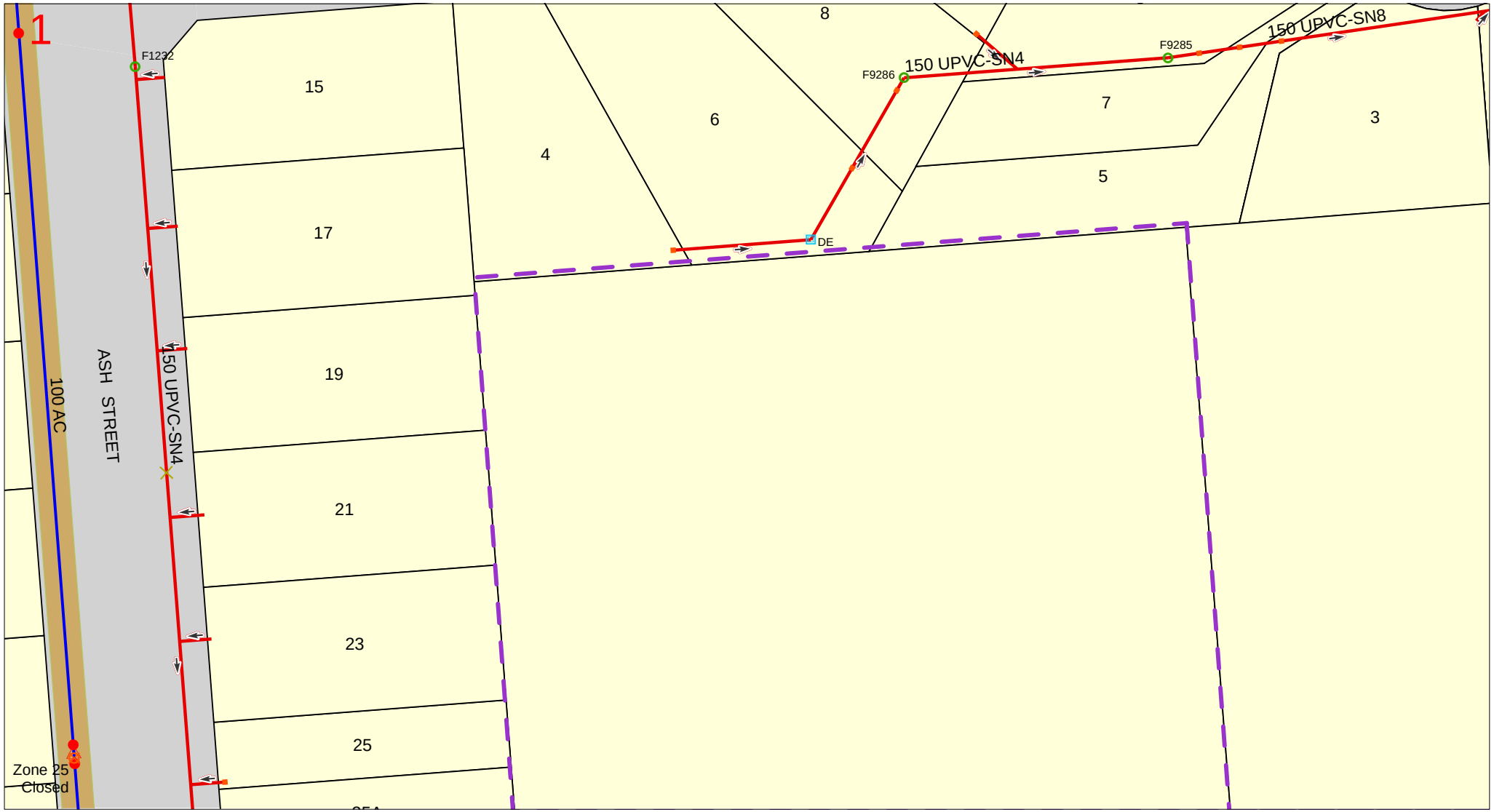
Aims and Objectives – General (p.10)		
No	**Objective**	**Bushfire Assessment Report (BAR)**
1	Afford occupants of any building adequate protection from exposure to bush fire.	Please refer to Part 4 – Recommendations.
2	Provide for defendable space to be located around buildings.	Please refer to Part 4 – Recommendations.
3	Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent the likely spread to buildings.	Please refer to Part 4 – Recommendations.
4	Ensure that safe operational access and egress for emergency service personnel and residents is available.	Please refer to Part 4 – Recommendations.
5	Provide for ongoing management and maintenance of bush fire protection measures.	Please refer to Part 4 – Recommendations.
6	Ensure utility services are adequate to meet the needs of firefighters.	Please refer to Part 4 – Recommendations.
Specific Objectives – Infill Development (p.64)		
No	**Objective**	**Bushfire Assessment Report (BAR)**
1	Provide a defendable space to enable unimpeded access for firefighting around the building.	Please refer to Part 4 – Recommendations.
2	Provide better bush fire outcomes on a redevelopment site than currently exists, commensurate with the scale of the works proposed.	Please refer to Part 4 – Recommendations.
3	Design and construct buildings commensurate with the bush fire risk.	Please refer to Part 4 – Recommendations.
4	Provide access, services and landscaping to aid firefighting operations.	Please refer to Part 4 – Recommendations.
5	Not impose an increase bush fire management and maintenance responsibly on adjoining landowners.	Please refer to Part 4 – Recommendations.
6	Increase the level of bush fire protection to existing dwellings based on the scale of the proposed work and level of bush fire risk.	Please refer to Part 4 – Recommendations.

ATTACHMENT 4 – WATER AND ELECTRICITY

Date: 12/11/2019

Map 1

Sequence No: 92028564



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IMPORTANT

THIS PLAN IS NOT TO BE USED FOR CONVEYANCING

THIS INFORMATION IS VALID FOR 30 DAYS FROM THE DATE OF ISSUE

SEWER/WATER/RECYCLED WATER/
ELECTRICAL - UTILITY DATA

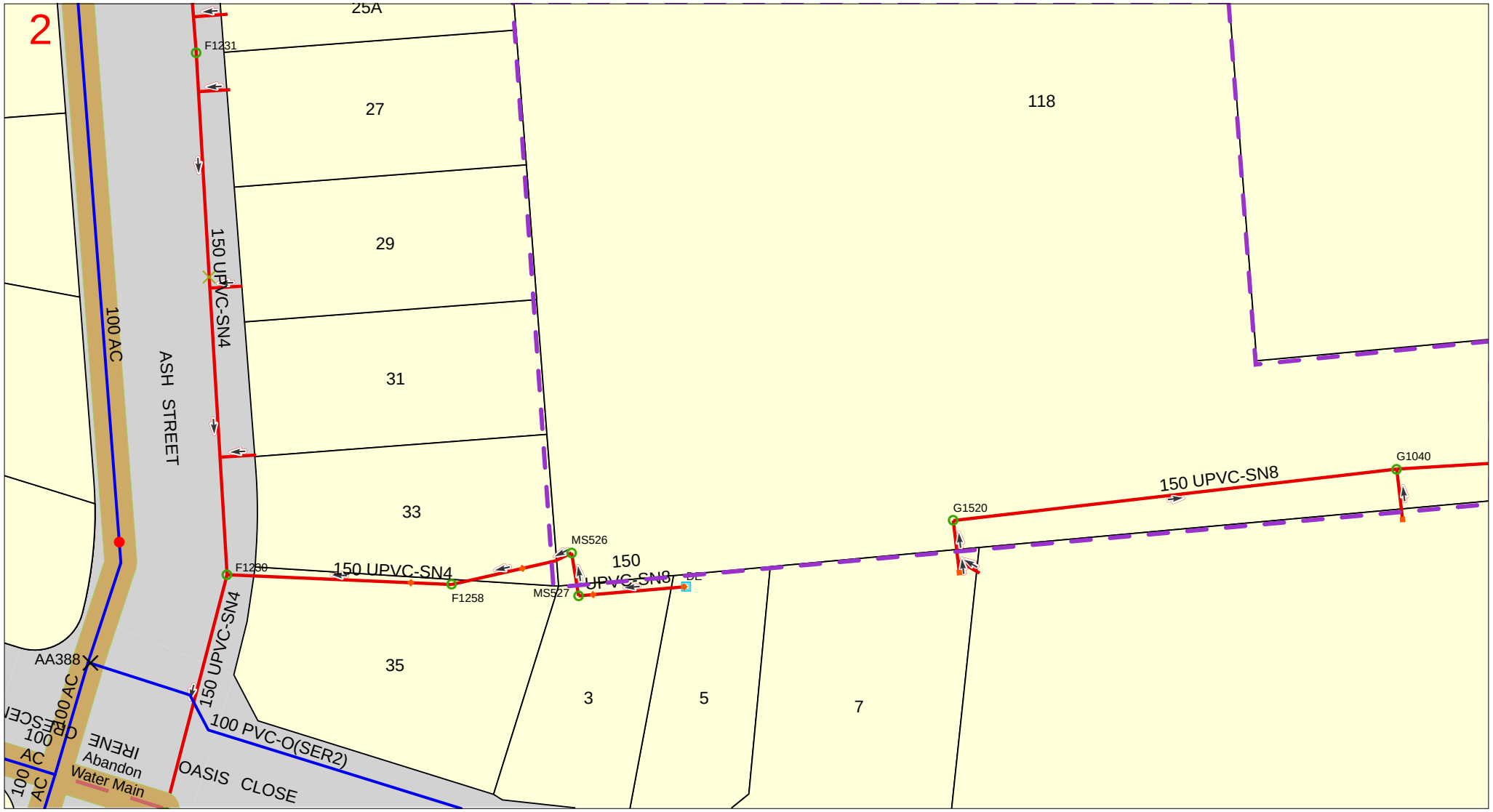
SERVICE LOCATIONS ARE APPROXIMATE.
HAND DIG UNTIL ACTUAL LOCATIONS ARE IDENTIFIED.
PROPERTY SERVICES ARE NOT SHOWN.

ANY INFORMATION ON THIS PLAN MAY NOT BE UP TO DATE AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.

Date: 12/11/2019

Map 2

Sequence No: 92028564



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IMPORTANT

THIS PLAN IS NOT TO BE USED FOR CONVEYANCING

THIS INFORMATION IS VALID FOR 30 DAYS FROM THE DATE OF ISSUE

SEWER/WATER/RECYCLED WATER/
ELECTRICAL - UTILITY DATA

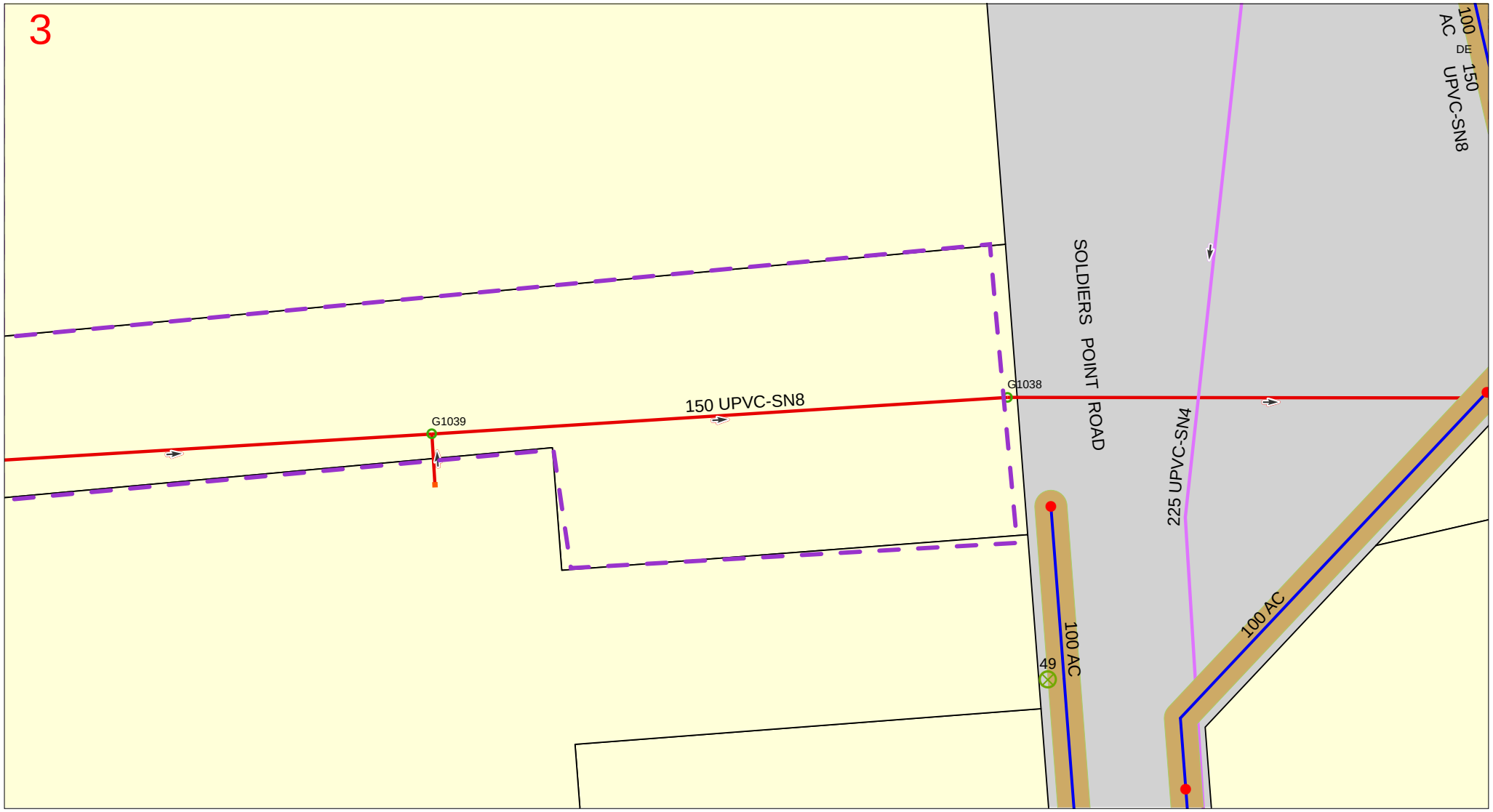
SERVICE LOCATIONS ARE APPROXIMATE.
HAND DIG UNTIL ACTUAL LOCATIONS ARE IDENTIFIED.
PROPERTY SERVICES ARE NOT SHOWN.

ANY INFORMATION ON THIS PLAN MAY NOT BE UP TO DATE AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.

Date: 12/11/2019

Map 3

Sequence No: 92028564



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IMPORTANT

THIS PLAN IS NOT TO BE USED FOR CONVEYANCING

THIS INFORMATION IS VALID FOR 30 DAYS FROM THE DATE OF ISSUE

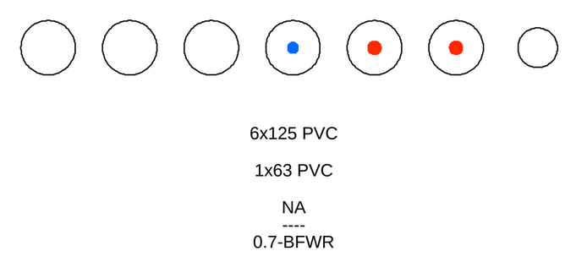
SEWER/WATER/RECYCLED WATER/
ELECTRICAL - UTILITY DATA

SERVICE LOCATIONS ARE APPROXIMATE.
HAND DIG UNTIL ACTUAL LOCATIONS ARE IDENTIFIED.
PROPERTY SERVICES ARE NOT SHOWN.

ANY INFORMATION ON THIS PLAN MAY NOT BE UP TO DATE AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.

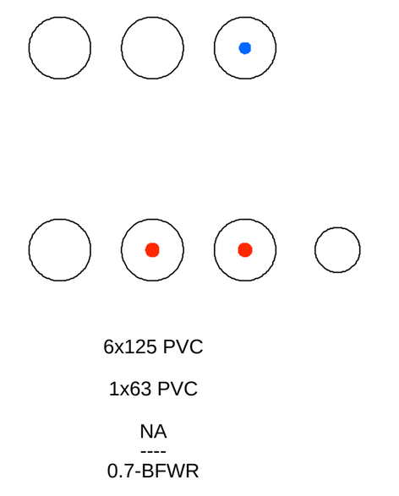
CADASTRAL DATA [Nov 2017]

OR124 - CM1

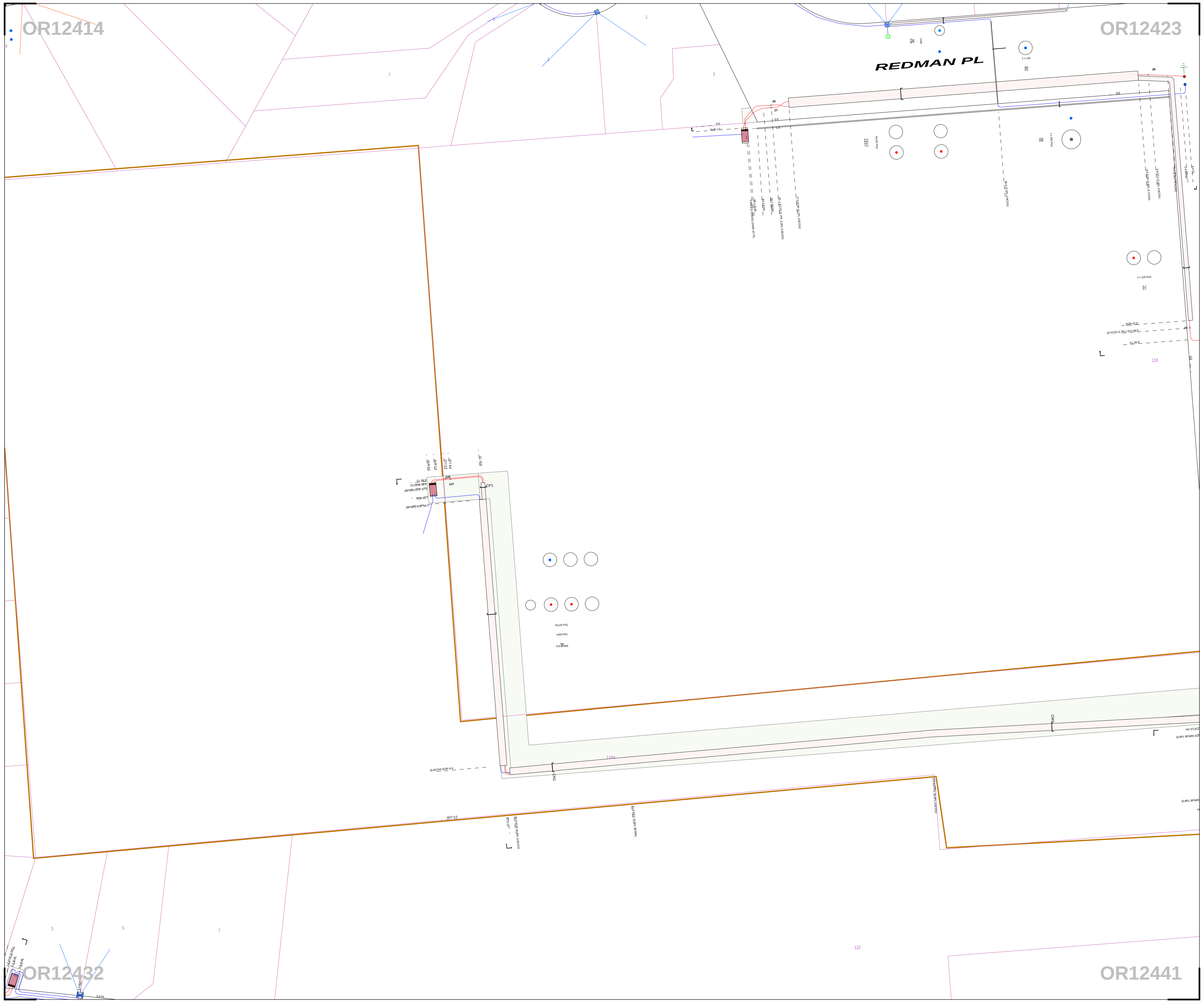


Ref: E9

OR124 - CN1



Ref: E6



WARNING

Ausgrid's plans show the position of assets at the time of installation and may not account for subsequent changes to road alignments, fences or buildings. The plans show no more than the presence or absence of Ausgrid assets in the street.
Persons working near electricity networks must exercise care and will be held responsible for any damage caused.
You must excavate by hand or use vacuum excavation to establish the location of Ausgrid underground cables and associated assets.
Underground: Working near a cable may result in electric shock even if no contact is made. Any work in the vicinity of any cable should only be performed using safe work methods developed in accordance with the recommendations included in SafeWork NSW Code of Practice for Excavation and SafeWork NSW Guide for Work Near Underground Assets
as well as recommendations of Ausgrid's Network Standard NS156.
Overhead: Do not excavate near poles or towers until the stability of the foundation has been assessed by Ausgrid. Cables or earth conductors may be present close to substations, poles or towers.
Workers must maintain safe approach distances and follow applicable SafeWork NSW Codes of Practice.
NOTE: 1. You must keep Ausgrid plans on site during excavation works. If the people actually performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret the plans. 2. This information includes data from the NSW Digital Cadastral Database by Land and Property Information (c) 2016, used under Creative Commons licence version 4.0.

ISG GRID

OR12414	OR12423	OR12424
OR12432	OR12441	OR12442
OR12434	OR12443	OR12444

GRID

41B2	41C2	41D2
41B3	41C3	41D3
41B4	41C4	41D4

GMLA0

Distr + Trans - 92028561

INFORMATION ON THIS PLAN ONLY VALID FOR 30 DAYS FROM ISSUE DATE

12 Nov 2019

Page 1 of 1

N

1:324

0 **19 metres**

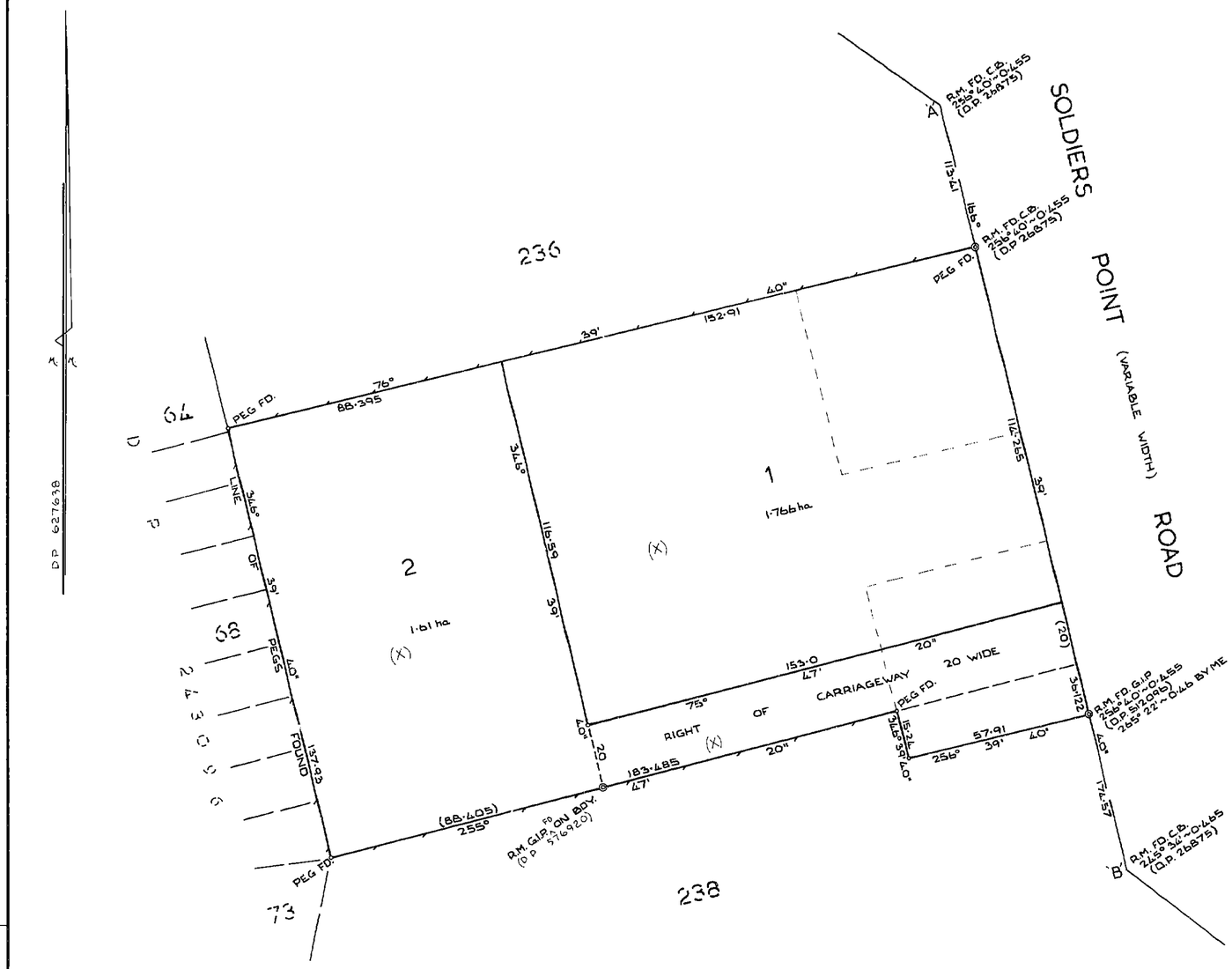
Ausgrid

A0 MOCS_std_plot

ATTACHMENT 5 – DEPOSITED PLAN

PLAN FORM 2 — Plan Drawing only to appear in this space — * OFFICE USE ONLY

Signatures and seals only



D P 627638			
Registered:	14-10-1982		
C.A.: No. 81/111	OF 16-12-81		
Title System:	TORRENS		
Purpose:	SUBDIVISION		
Ref. Map:	Z1072-1*		
Last Plan:	D P 576920		

Y 0 0 2 A 1 A

PLAN OF SUBDIVISION OF LOTS 1-3 INCLUSIVE D.P. 576920

Reduction Ratio 1: 100
Lengths are in metres.

~~Mun./~~Shire PORT STEPHENS
~~City~~

Locality: SOLDIERS POINT

Parish: TOMAREE

County: GLOUCESTER

This is sheet 1 of my plan in sheets.
(Delete if inapplicable).

I, JOHN MORRIS CASHMERE of CASHMERE MARLER & CAVANAGH PTY. LTD. 58 WATT ST. NEWCASTLE

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan is accurate and has been made *(1) ~~by me~~ (2) under my immediate supervision in accordance with the Survey Practice Regulations, 1933, and was completed on 1

18 NOV. 1981

Signature J.M. Cashmere

Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth 'A'~'B'
*Strike out either (1) or (2). †Insert date of survey.

Panel for use only for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

PURSUANT TO SEC. 88B OF THE CONVEYANCING ACT 1919~1964 IT IS INTENDED TO CREATE:-

(I) RIGHT OF CARRIAGEWAY 20 WIDE

Council Clerk's Certificate

I hereby certify that

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

*(b) the requirements of section 348 of the †~~Metropolitan Water, Sewerage and Drainage Act, 1924, as amended~~ †Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the proposed SUBDIVISION (Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. 81/111

Date 16.12.81

(Signature) Council Clerk

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.
†Delete if inapplicable

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SURVEYOR'S REFERENCE: 6584

I, Bruce Richard Davies, Under Secretary for Lands and Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this day.

15th October, 1982

ATTACHMENT 6 – ARCHITECTURAL PLANS

SUMMARY:

24 X 3BED
43 X 2BED + media
1 X 1B+S
86 CARS
TOTAL: 68 UNITS

STAGE 2A:
1 x 1B
13 X 2B
12 X 3B
42 CARS

STAGE 2B:
20 X 2B
1 X 3B
28 CARS

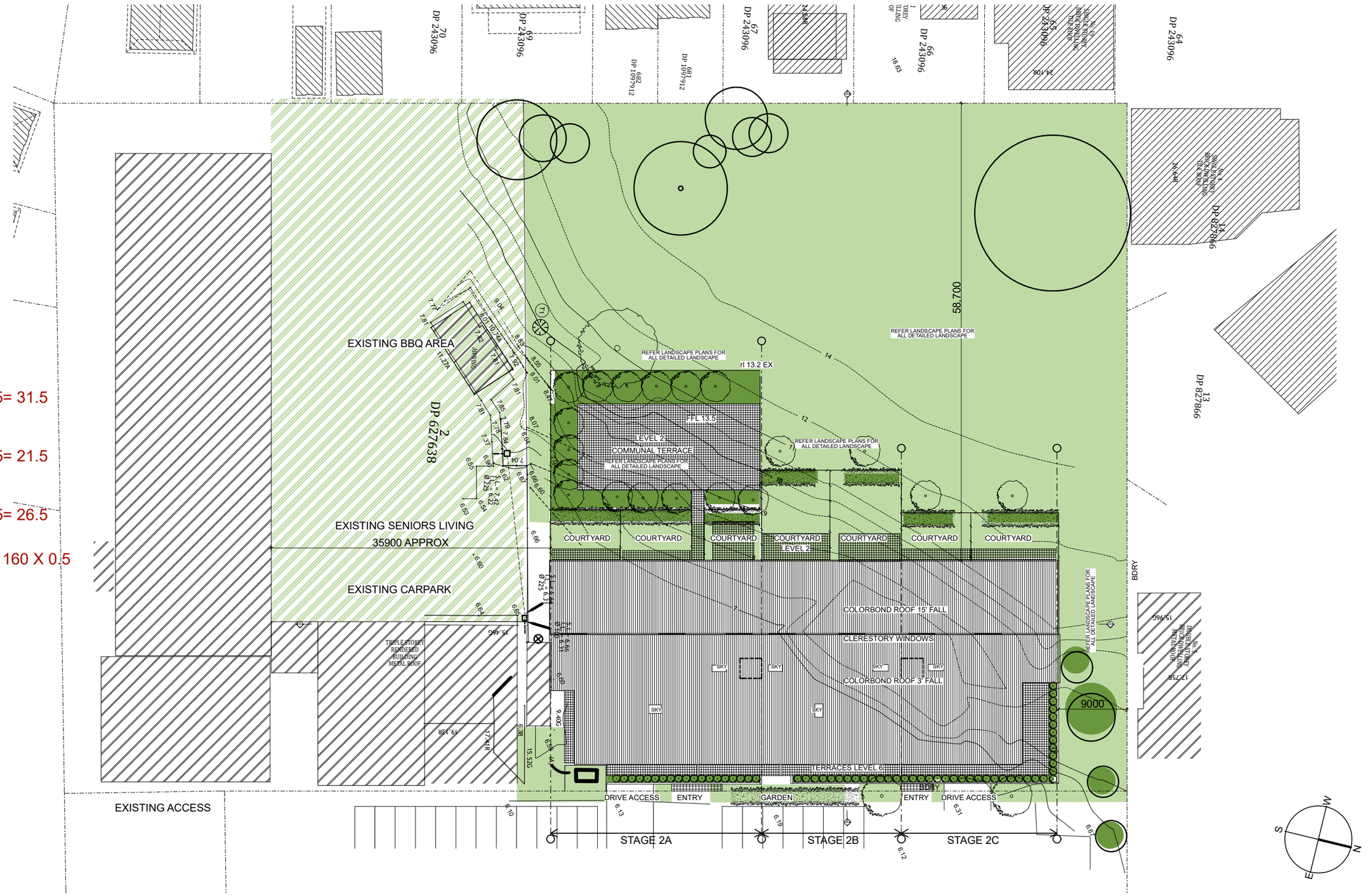
STAGE 2C:
10 X 2B
11 X 3B
16 CARS

PARKING REQ:
STAGE 2A:
64 BEDROOMS X 0.5= 31.5
42 PROVIDED

STAGE 2B:
43 BEDROOMS X 0.5= 21.5
28 PROVIDED

STAGE 2C:
53 BEDROOMS X 0.5= 26.5
16 PROVIDED

TOTAL BEDROOMS: 160 X 0.5
79.5 CARS REQ
86 PROVIDED



NOMINATED ARCHITECT
KELLY O'CONNELL 7715

PO BOX 3118,
VALENTINE NSW 2280
PH 0419637367

SITE AND ROOF 1:500@ A3

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	04 SITE ROOF PLAN		

o'connellarchitectsanddesign

SUMMARY:

24 X 3BED
43 X 2BED + media
1 X 1B+S
78 CARS
TOTAL: 68 UNITS

STAGE 2A:
1 x 1B
13 X 2B
12 X 3B
37 CARS

STAGE 2B:
20 X 2B
1 X 3B
27 CARS

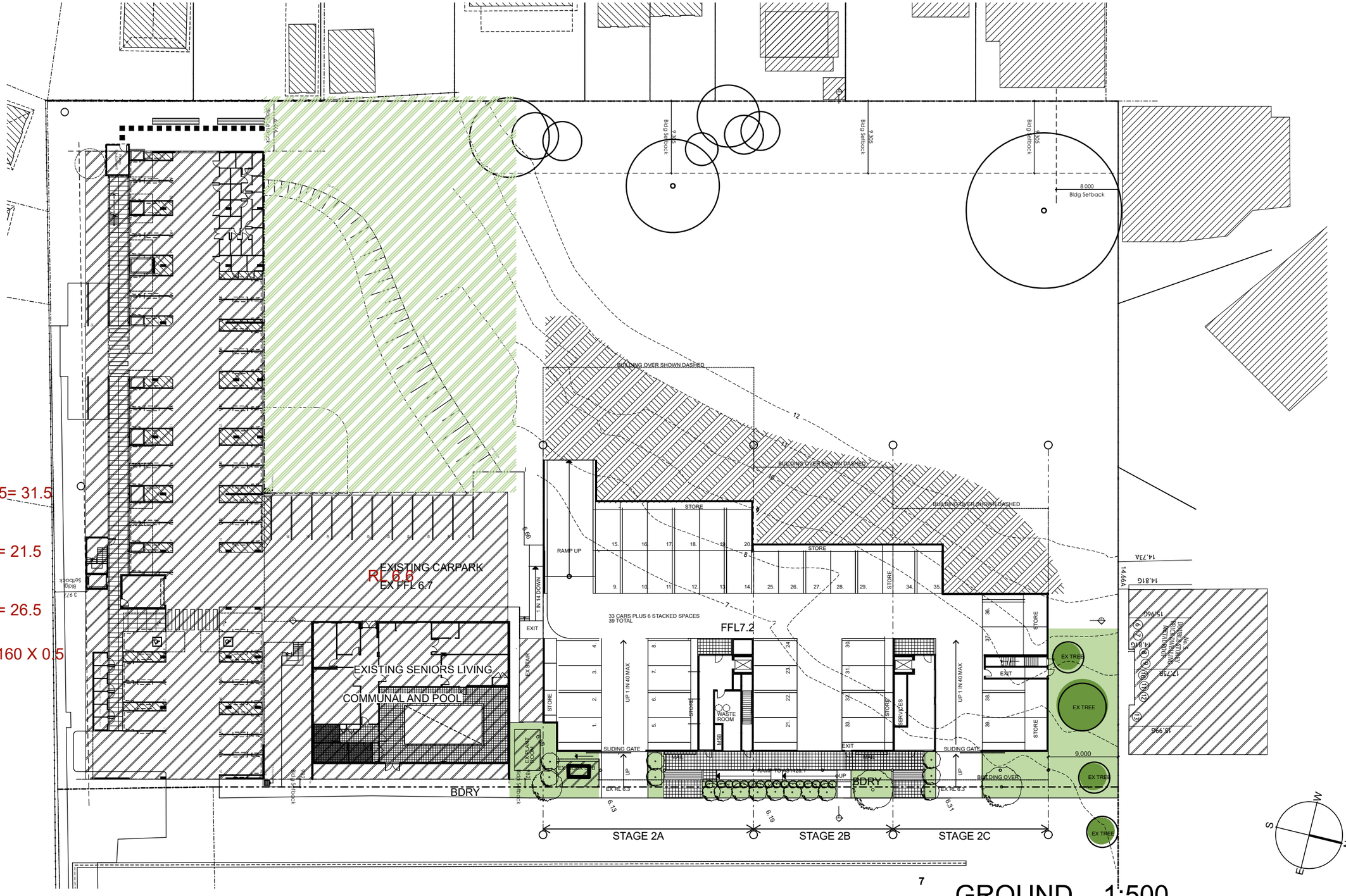
STAGE 2C:
10 X 2B
11 X 3B
18 CARS

PARKING REQ:
STAGE A:
64 BEDSROOMS X 0.5= 31.5
37 PROVIDED

STAGE 2B:
43 BEDROOMS X 0.5= 21.5
23 PROVIDED

STAGE 2C:
53 BEDROOMS X 0.5= 26.5
18 PROVIDED

TOTAL BEDROOMS: 160 X 0.5
79.5 CARS REQ
82 PROVIDED



GROUND 1:500

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	GROUND LEVEL		

NOMINATED ARCHITECT
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CONCEPTS ONLY- NOT TO BE RELIED UPON

LEVEL 1 1:500

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	06 LEVEL ONE		

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LEVEL 2 1:500

PROJECT: SENIORS LIVING

LOCATION: GREENSIDE
SOLDIERS POINT

CLIENT: SPBC

PROJECT No: 2012B

DRAWING: 07
LEVEL 2

DRAWN: KO

SCALE: @ A3

DATE: 3-11-19

ISSUE: D

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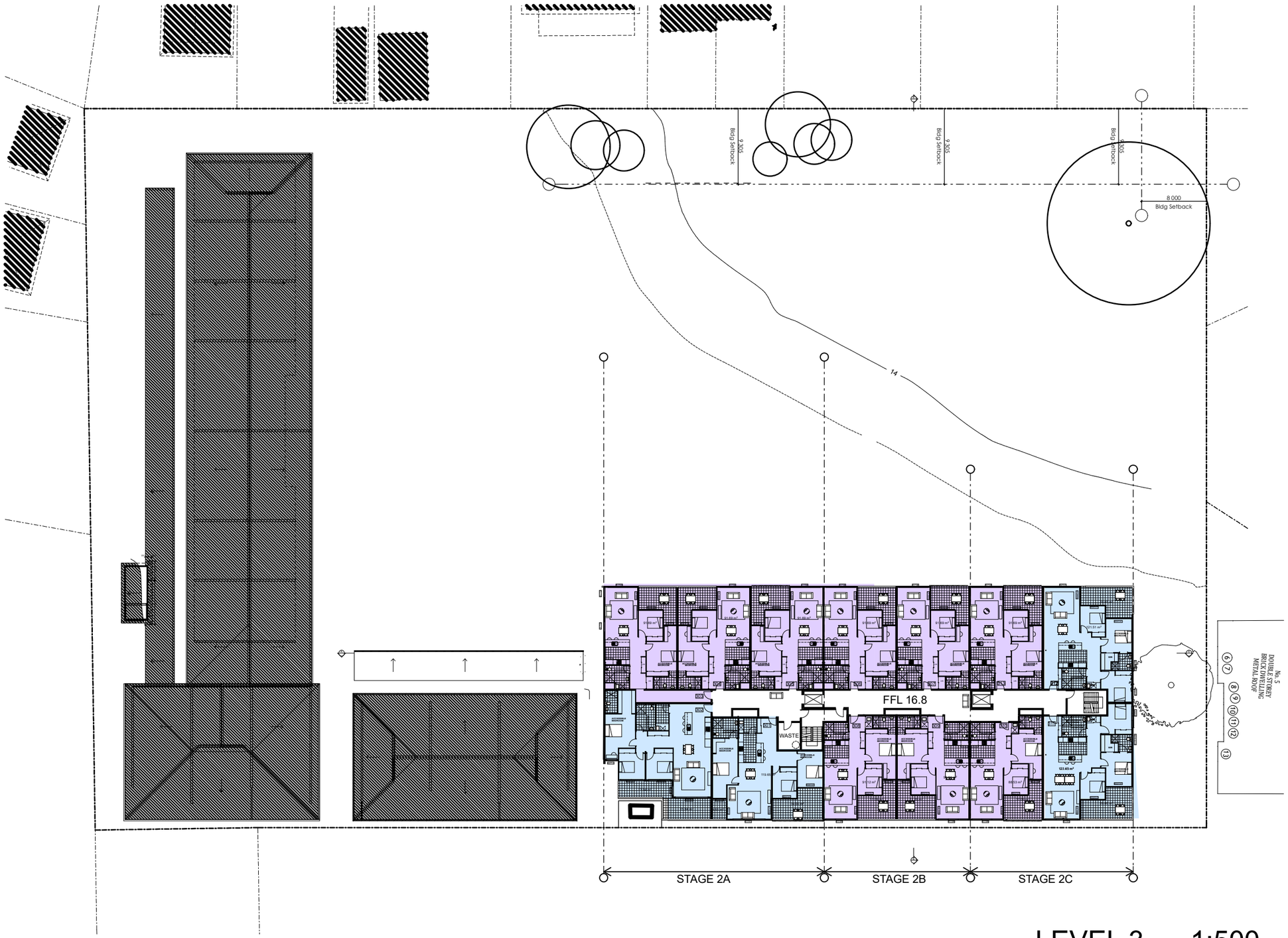

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VALENTINE NSW 2280
PH 0419637367

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LEVEL 3 1:500

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	08 LEVEL 3		

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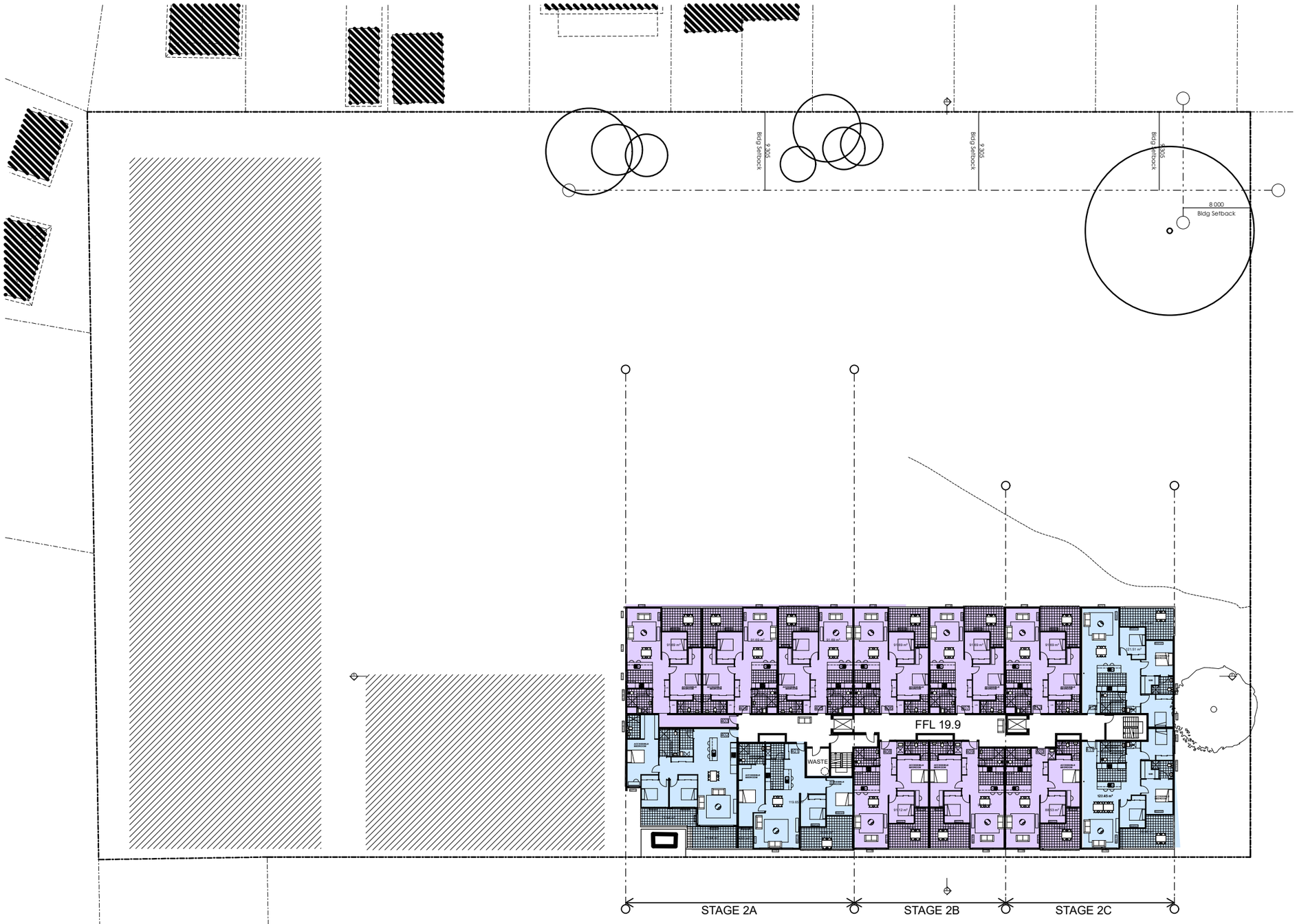

NOMINATED ARCHITECT
KELLY O'CONNELL 7715

PO BOX 3118,
VALENTINE NSW 2280
PH 0419637367

CONCEPTS ONLY- NOT TO BE RELIED UPON

LEVEL 4 1:500

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	09 level 4		

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NOMINATED ARCHITECT
KELLY O'CONNELL 7715

PO BOX 3118,
VALENTINE NSW 2280
PH 0419637367

LEVEL 5 1:500

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	10 level 5		

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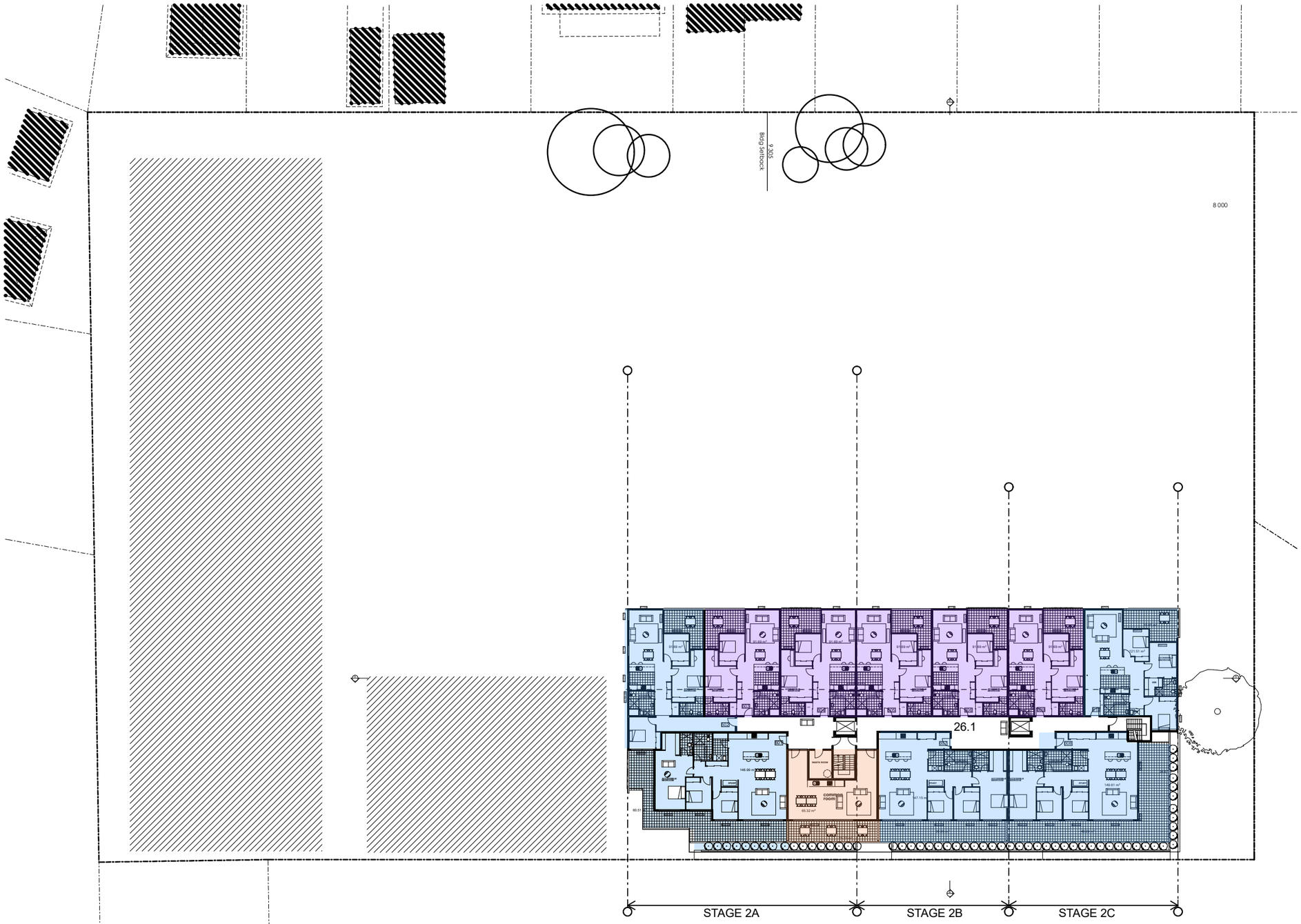

NOMINATED ARCHITECT
KELLY O'CONNELL 7715

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VALENTINE NSW 2280
PH 0419637367

CONCEPTS ONLY- NOT TO BE RELIED UPON

LEVEL 6 1:500

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	11 LEVEL 6		

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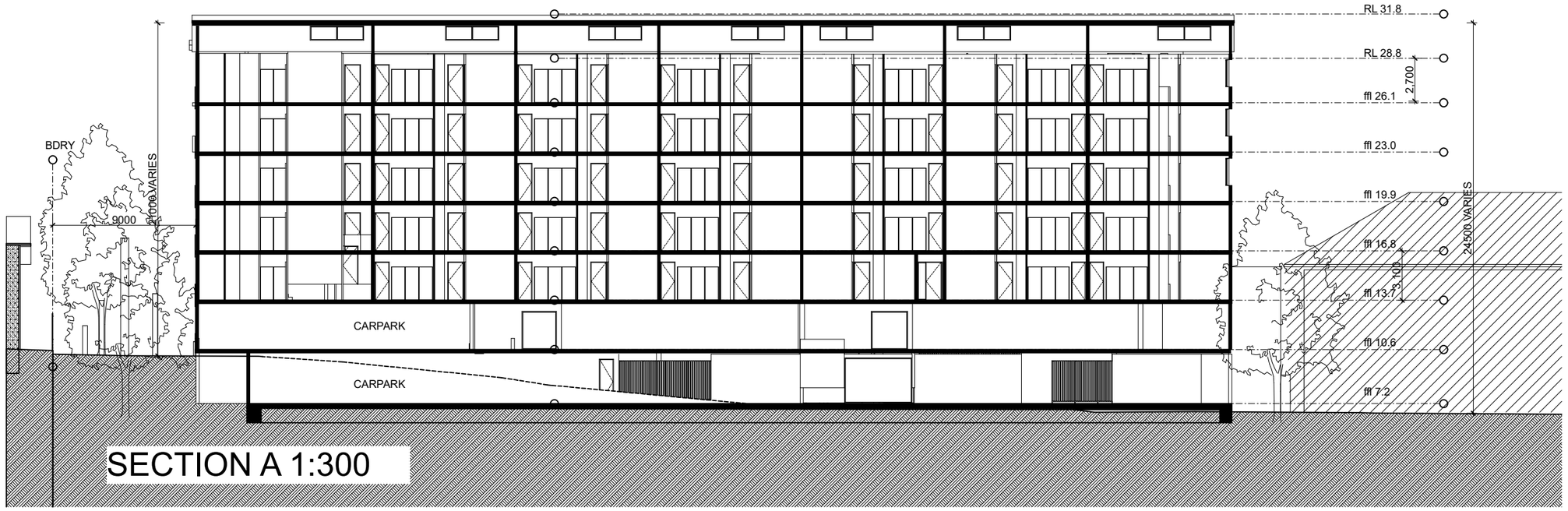
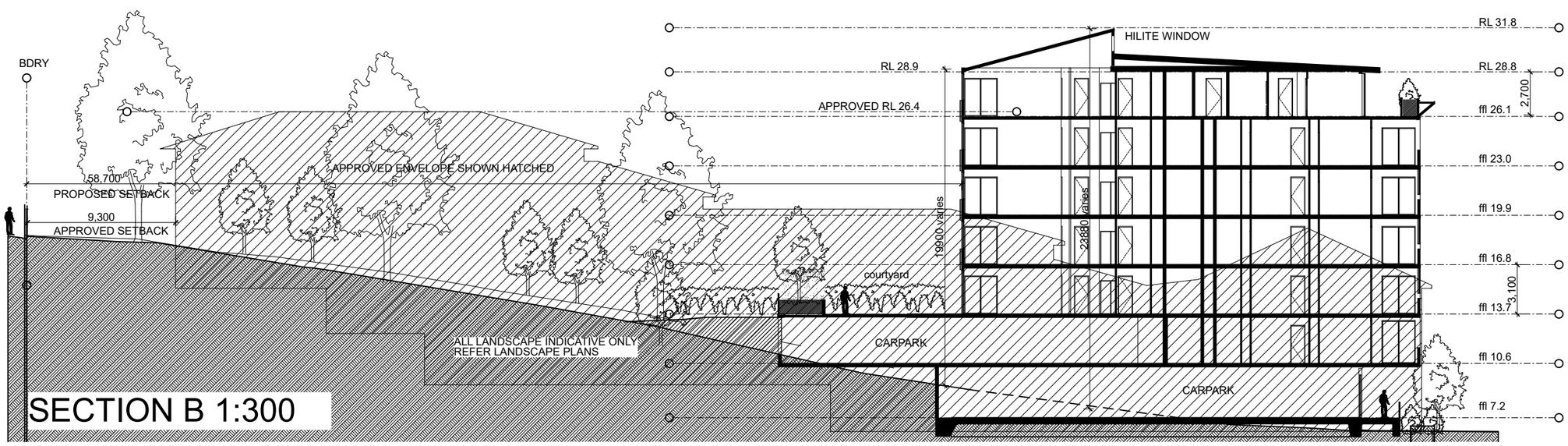


SECTION A 1:300



SECTION B 1:300

SECTIONS 1:300

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	12 SECTION		

NOMINATED ARCHITECT
KELLY O'CONNELL 7715

PO BOX 3118,
VALENTINE NSW 2280
PH 0419637367

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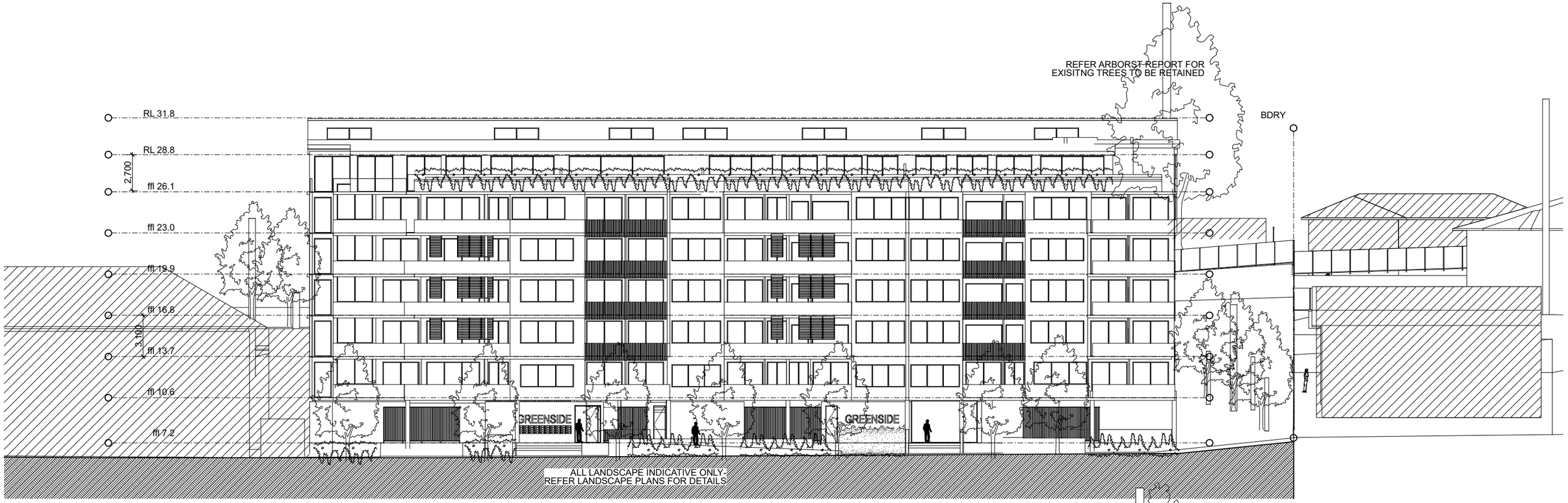
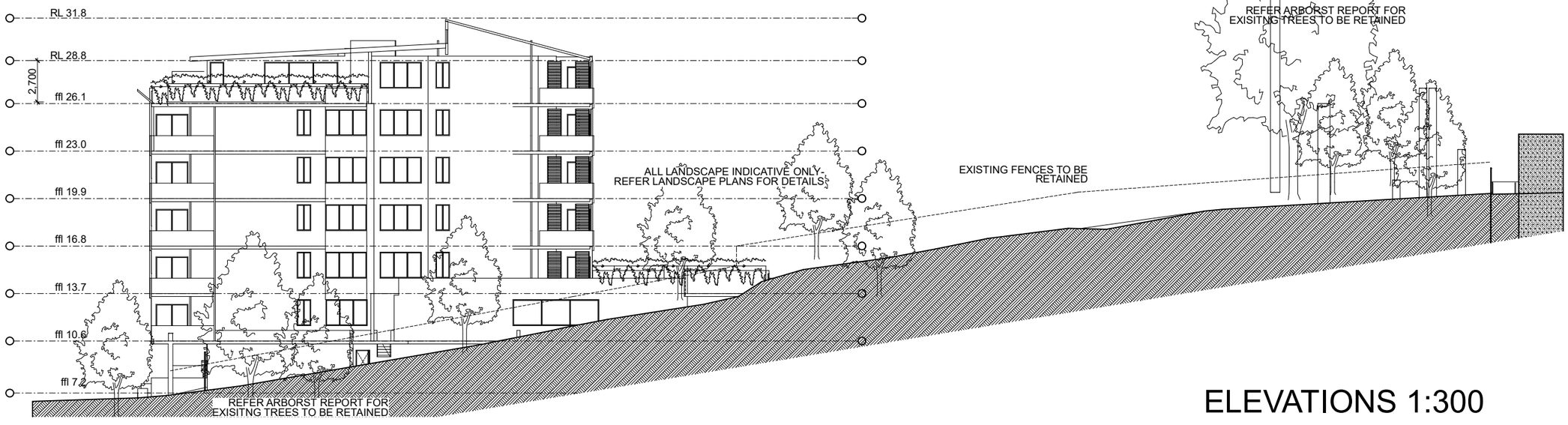


EAST ELEVATION (CARPARK) 1:300



NORTH ELEVATION 1:300

NOMINATED ARCHITECT
KELLY O'CONNELL 7715

PO BOX 3118,
VALENTINE NSW 2280
PH 0419637367

ELEVATIONS 1:300

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	13 ELEVATIONS		

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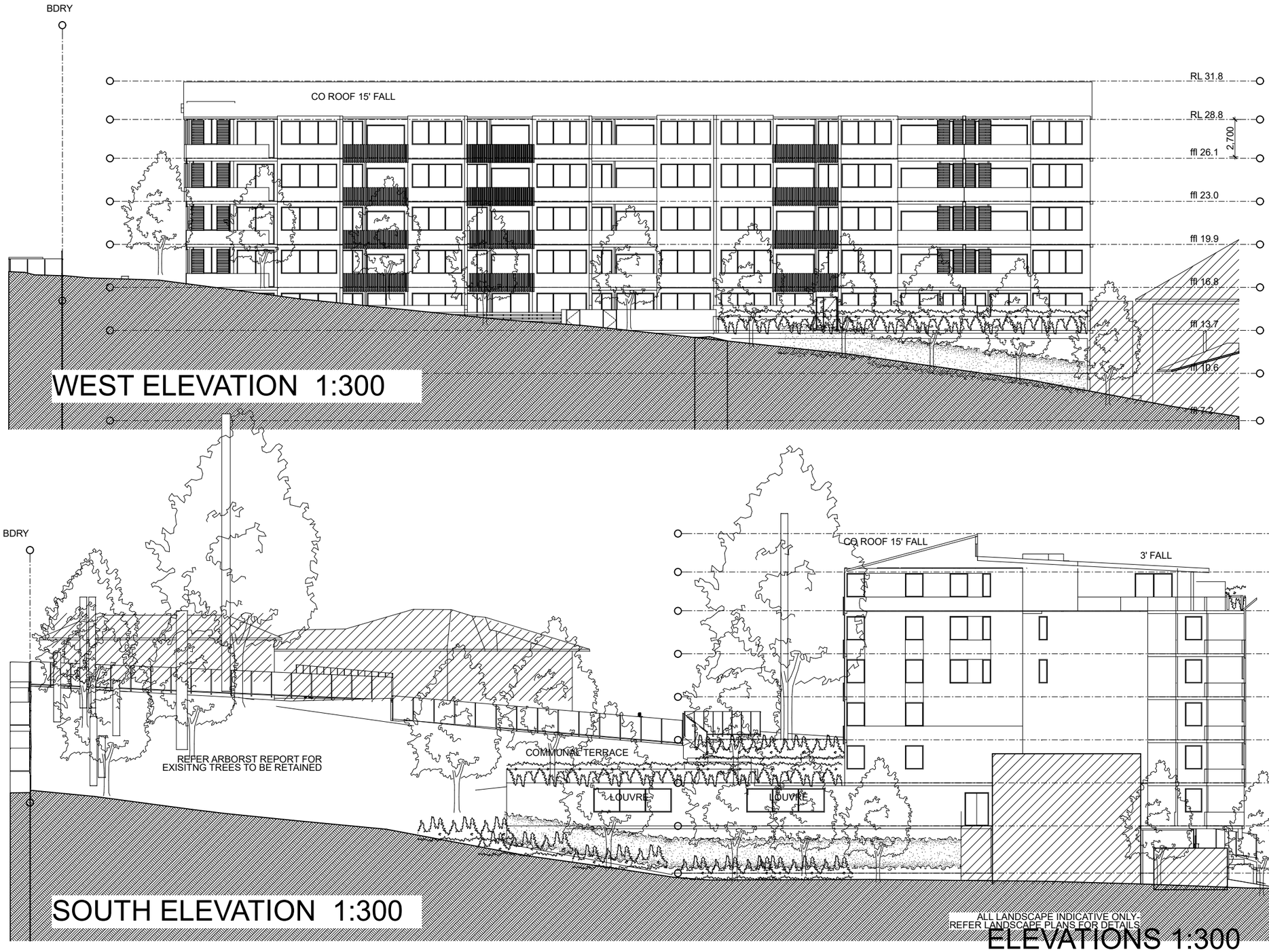

NOMINATED ARCHITECT
KELLY O'CONNELL 7715

PO BOX 3118,
VALENTINE NSW 2280
PH 0419637367

ELEVATIONS 1:300

ELEVATIONS 1:300

PROJECT:	SENIORS LIVING	DRAWN:	KO
LOCATION:	GREENSIDE SOLDIERS POINT	SCALE:	@ A3
CLIENT:	SPBC	DATE:	3-11-19
PROJECT No:	2012B	**ISSUE:**	D
DRAWING:	14 ELEVATIONS		

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ATTACHMENT 7 – SITE AND IDENT SURVEY

NOTES :

1. FEATURES SHOWN TO SCALE ACCURACY.
2. THIS PLAN IS SUITABLE FOR DETAILED PLANNING AND DESIGN AT THE SCALE/S STATED. THE PLAN MAY NOT BE SUITABLE FOR ANY OTHER PURPOSE OR FOR USE AT ANY OTHER SCALE/S.
3. SERVICES LOCATED ONLY WHERE VISIBLE.
4. THE LOCATION OF ALL UNDERGROUND SERVICES WHETHER SHOWN ON THE PLAN OR NOT, SHOULD BE PRECISELY DETERMINED BEFORE ANY CONSTRUCTION WORK COMMENCES AND MEASURES TAKEN TO PROTECT THESE SERVICES FROM DAMAGE.
5. CONTOUR INTERVAL - 0.5m
6. THE BOUNDARIES SHOWN ARE APPROXIMATE ONLY. THE BOUNDARIES SHOWN HAVE BEEN COMPILED FROM THE RELEVANT DEPOSITED PLANS. FURTHER SURVEY WILL BE REQUIRED IF CONSTRUCTION IS TO TAKE PLACE ON OR ADJACENT TO THE BOUNDARIES.

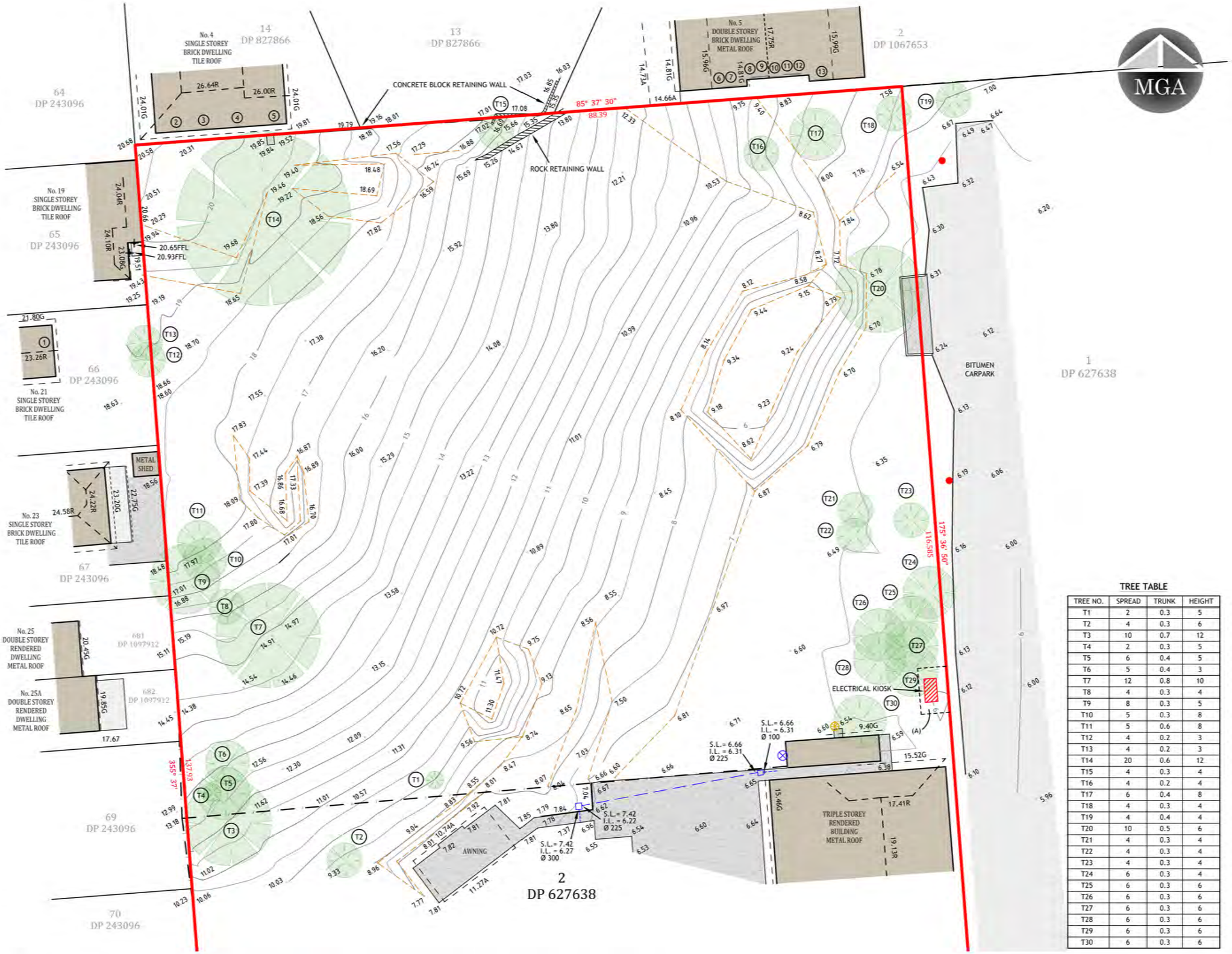
WINDOW SCHEDULE

WINDOW	TOP OF SILL	BOTTOM OF SILL
1	21.58	20.31
2	23.56	22.35
3	23.57	22.34
4	23.58	21.77
5	23.58	21.75
6	14.50	12.43
7	14.50	13.27
8	15.99	13.91
9	13.16	11.92
10	15.99	13.91
11	13.16	11.96
12	15.99	13.91
13	11.53	10.65

LEGEND

- BOUNDARY LINE
- ADJACENT BOUNDARY
- MINOR CONTOUR LINE
- MAJOR CONTOUR LINE
- EASEMENT
- RETAINING WALL
- FENCE LINE
- TOP & TOE OF BANKS
- DRAINAGE LINE
- LIGHT POLE
- DRAINAGE PIT
- HYDRANT
- SEWER INSPECTION POINT
- DENOTES TREE

R - RIDGE
G - GUTTER
A - AWNING



TREE TABLE

TREE NO.	SPREAD	TRUNK	HEIGHT
T1	2	0.3	5
T2	4	0.3	6
T3	10	0.7	12
T4	2	0.3	5
T5	6	0.4	5
T6	5	0.4	3
T7	12	0.8	10
T8	4	0.3	4
T9	8	0.3	5
T10	5	0.3	8
T11	5	0.6	8
T12	4	0.2	3
T13	4	0.2	3
T14	20	0.6	12
T15	4	0.3	4
T16	4	0.2	4
T17	6	0.4	8
T18	4	0.3	4
T19	4	0.4	4
T20	10	0.5	6
T21	4	0.3	4
T22	4	0.3	4
T23	4	0.3	4
T24	6	0.3	4
T25	6	0.3	6
T26	6	0.3	6
T27	6	0.3	6
T28	6	0.3	6
T29	6	0.3	6
T30	6	0.3	6

(A) EASEMENT FOR ELECTRICITY & OTHER PURPOSES 3.3 WIDE (D.P.1218493)

No	Amendment	Date
1	Original Issue	07.04.17

UNIT 7A
26 BALOOK DRIVE,
BERESFIELD NSW 2322
Phone: 02 4964 4886
www.delacs.com.au

DELFS LASCELLES
CONSULTING SURVEYORS

Title: DETAIL SURVEY OF PART OF LOT 2 DP 627638
Address: No. 3 184 SOLDIERS POINT ROAD SOLDIERS POINT
Client: GWH BUILD

Cad Ref: 17252_DET
Datum: AHD
Origin: CORSNET
Scale: 1:500 A2
Drawn: JD
Surveyor: PM

Project No: 17252
Drawing No: 1
Revision: 1

ATTACHMENT 8 – LANDSCAPE PLAN

Development Application
Landscape Documentation

118A Soldiers Point Road, Soldiers Point, NSW

Lot 2 DP 627638

SHEET INDEX

NO.	SHEET NAME	REV.	COMMENT
01	SITE ANALYSIS	A	FOR DISCUSSION
02	LANDSCAPE PLAN - ENTRANCE	A	FOR DISCUSSION
03	LANDSCAPE PLAN - LEVEL 02	A	FOR DISCUSSION
04	LANDSCAPE PLAN - LEVEL 06	A	FOR DISCUSSION

GREEN SPACE PLANNING Co.
3/19 BOLTON STREET NEWCASTLE NSW 2300
PH 0423 684 382

01 Site Analysis

118A SOLDIERS POINT RD, SOLDIERS POINT, NSW

DATE: OCTOBER 2019

CLIENT: SPBC

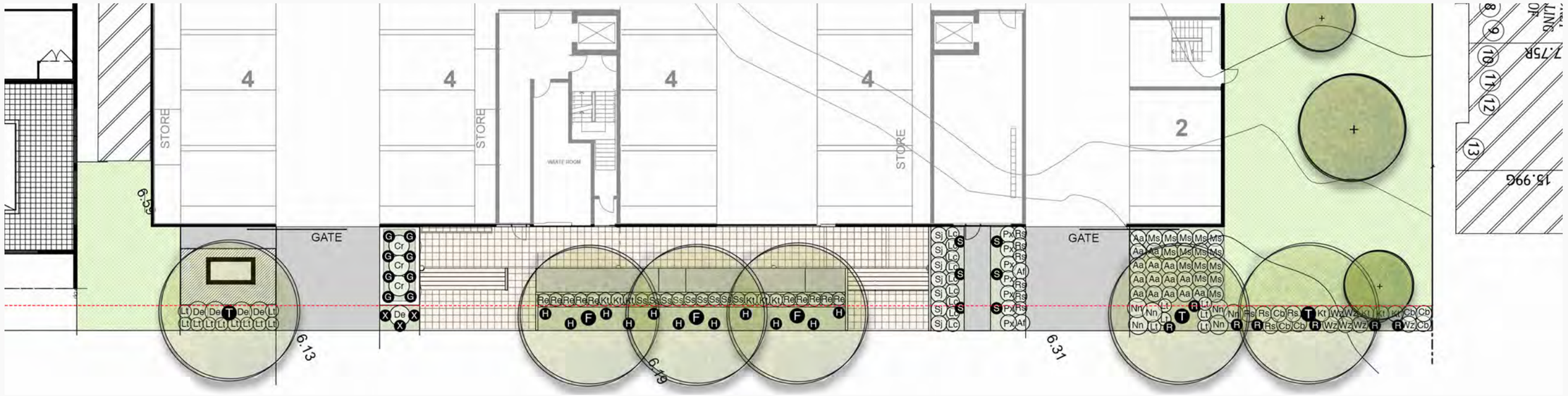
PROJECT NO. GSP180146

GREEN SPACE PLANNING Co.
3/19 BOLTON STREET NEWCASTLE NSW 2300
PH 0423 684 382

GSP

LANDSCAPE PLAN

Scale 1:250 @ A3



PLANTING SCHEDULE

Key	Botanical Name	Common Name	Pot Size	Mature Height
TREES				
F	*Corymbia ficifolia*	Red Flowering Gum	45L	10m
T	*Tristaniopsis laurina ‘Luscious’*	Water Gum	45L	8m
SHRUBS				
Aa	*Aloe arborescens*	Bush Baby Yellow	140mm	0.5m
Af	*Anigozanthos flavidus*	Kangaroo Paw	180mm	1.5m
Cb	*Crassula ovata ‘Blue Bird’*	Crassula	100mm	0.5m
Kt	*Kalanchoe tomentosa*	Panda Plant	140mm	0.5m
Lc	*Loropetalum chinense*	China Pink	140mm	0.7m
Px	*Philodendron xanadu*	Philodendron	300mm	0.5m
Re	*Russelia equisetiformis*	Firecracker Plant	140mm	1m
Rs	*Rhagodia spinescens*	Flat Bush	140mm	0.4m
Wz	*Westringia ‘Zena’*	Coastal Rosemary	200mm	1m

PLANTING SCHEDULE continued

Key	Botanical Name	Common Name	Pot Size	Mature Height
ACCENT				
Bg	*Blechnum gibbum*	Silver Lady Fern	140mm	1m
Cr	*Cycas revoluta*	Sago Palm	300mm	2m
De	*Doryanthes excelsea*	Gymea Lily	300mm	2 - 4m
Nn	*Nolina nelsonii*	Blue Nolina	300mm	2m
Sj	*Strelitzia juncea*	FineLeaf Bird of Paradise	200mm	1.5m
Ss	*Sansevieria superba*	Mother-In-Law’s Toungue	50mm	1m
Zf	*Zamia furfurcea*	Cardboard Plant	140mm	1m
GRASSES				
Lt	*Lomandra ‘Lime Tuff’*	Lime Tuff	Tube	0.4m
Ms	*Miscanthus sinensis*	Silver Feather Grass	Tube	0.6m
GROUNDCOVERS				
X	*Carpobrotus glaucescens*	Pigface	Tube	0.2m
D	*Dichondra argenta*	Silver Falls	140mm	0.2m
H	*Hardenbergia violacea*	Snow White	Tube	0.2m
R	*Dichondra repens*	Kidney Weed	Tube	0.2m
S	*Senecio serpens*	Blue Chalksticks	Tube	0.2m

02 Landscape Plan - Entrance

118A SOLDIERS POINT RD, SOLDIERS POINT, NSW

DATE: OCTOBER 2019

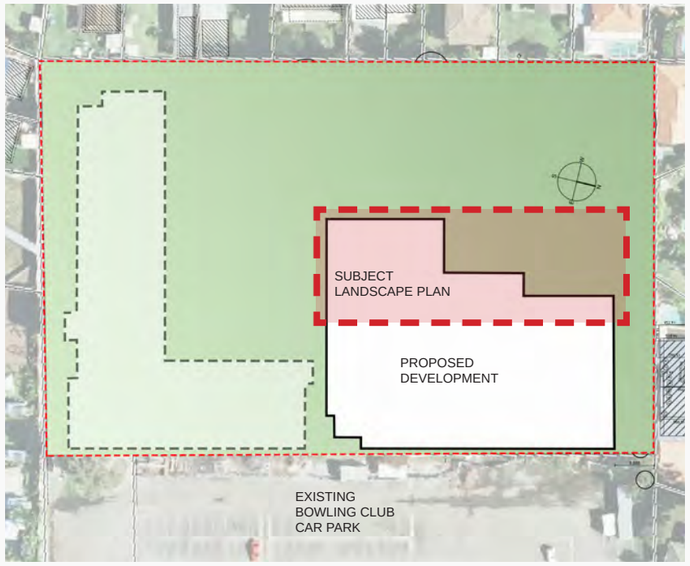
CLIENT: SPBC

PROJECT NO. GSP180146

GREEN SPACE PLANNING Co.
3/19 BOLTON STREET NEWCASTLE NSW 2300
PH 0423 684 382

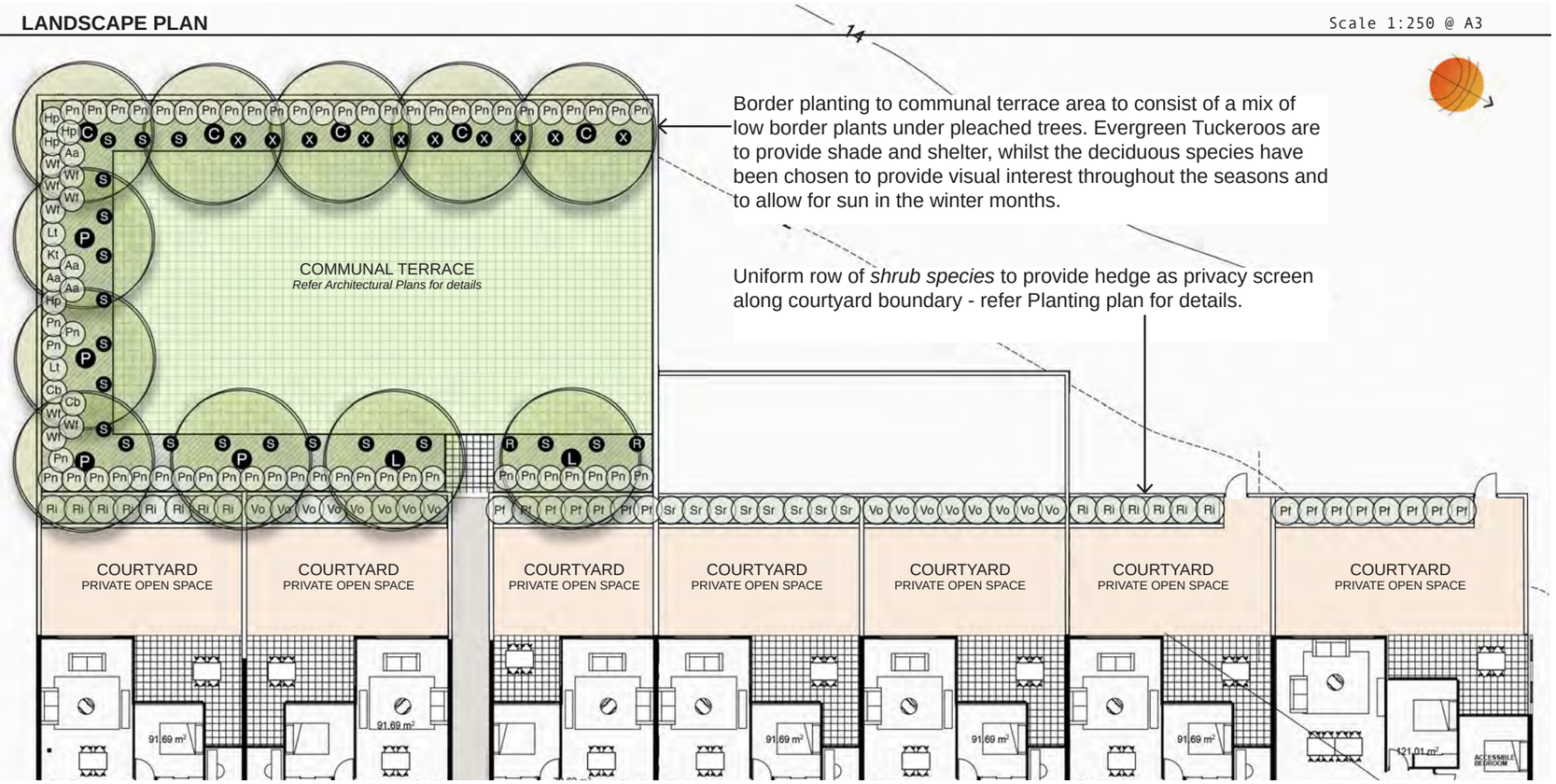
GSP

KEY PLAN



LANDSCAPE PLAN

Scale 1:250 @ A3



SUGGESTED PLANT SCHEDULE

Key	Botanical Name	Common Name	Pot Size	Mature Height
TREES				
C	*Cupaniopsis anacardioides*	Tuckeroo	45L	8m
L	*Lagerstroemia indica 'Natchez'*	Crepe Myrtle	45L	5m
P	*Pyrus nivalis*	Snow Pear	45L	6m
SCREENING SHRUBS				
Pf	*Photinia fraseri*	Red Robin	200mm	3m
Ri	*Raphiolepsis indica*	Apple Blossom	200mm	2m
Sr	*Syzygium 'Resilience'*	Lilly Pilly	300mm	4m
Vo	*Viburnum odoratissimum*	Sweet Viburnum	200mm	3m

Key	Botanical Name	Common Name	Pot Size	Mature Height
BORDER SHRUBS				
Aa	*Aloe arborescens*	Bush Baby Yellow	140mm	0.5m
Cb	*Crassula ovata 'Blue Bird'*	Crassula	100mm	0.5m
Hp	*Helichrysum petiolare*	Licorice Plant	140mm	0.5m
Kt	*Kalanchoe tomentosa*	Panda Plant	140mm	0.5m
Wf	*Westringia 'Blue Gem'*	Coastal Rosemary	200mm	1m
GRASSES				
Lt	*Lomandra 'Lime Tuff'*	Lime Tuff	Tube	0.4m
Pn	*Pennisetum 'Nafray'*	Fountain Grass	Tube	0.6m
GROUNDCOVERS				
X	*Carpobrotus glaucescens*	Pigface	Tube	0.2m
R	*Dichondra repens*	Kidney Weed	Tube	0.2m
S	*Senecio serpens*	Blue Chalksticks	Tube	0.2m

03 Landscape Plan - Level 02

118A SOLDIERS POINT RD, SOLDIERS POINT, NSW

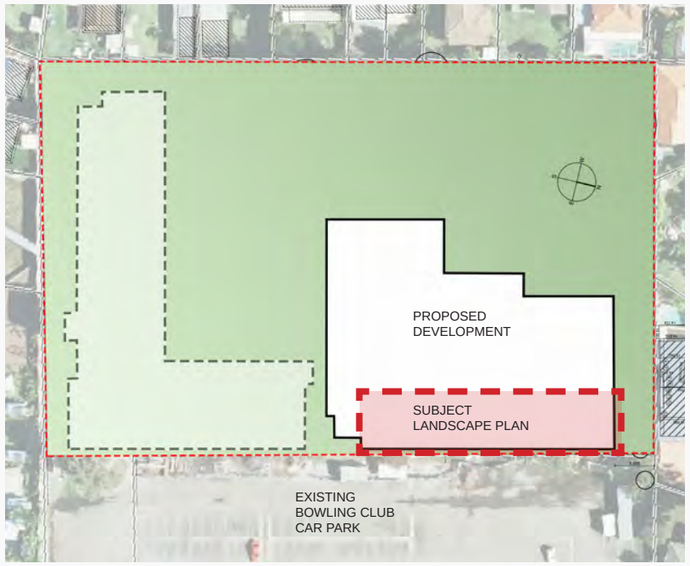
DATE: OCTOBER 2019

CLIENT: SPBC

PROJECT NO. GSP180146

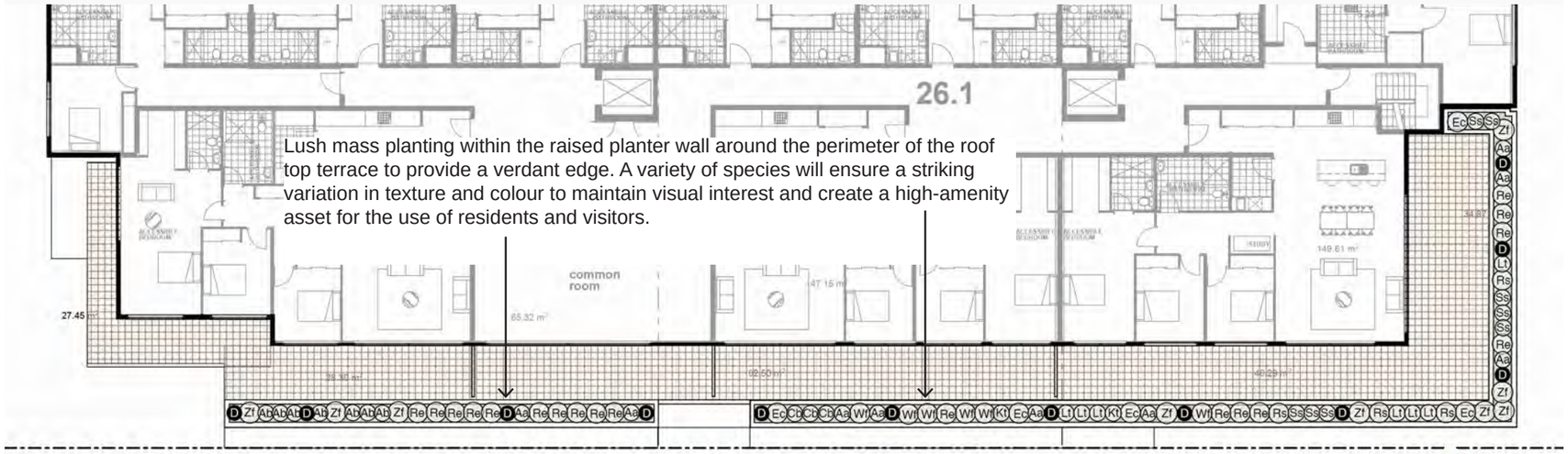
GREEN SPACE PLANNING Co.
3/19 BOLTON STREET NEWCASTLE NSW 2300
PH 0423 684 382

KEY PLAN



LANDSCAPE PLAN

Scale 1:250 @ A3



NOTES

The rooftop space comprises of a raised planter around the terrace edge, mass planted with low groundcovers, succulents and shrubs to ensure views out are unobstructed.

The planting scheme for this development incorporates a striking palette of plant species tolerant of the conditions of the roof.

Planting is intended to:

- Utilise a planting palette of proven performing plants which are hardy, tolerant of low-water conditions and are easily managed and maintained;
- Incorporate a diverse planting palette that utilises several species for each application, to ensure seasonal variation and allow for a consistent level of amenity in the instance one species under-performs;
- Create spaces, with robust species chosen for their bold and interesting texture, form and colour; which provide a high quality amenity for future residents, to ensure the roof top becomes a highly activated space;
- Provide sufficient soil depths and incorporate irrigation within the constraints of the site to ensure a healthy, productive and verdant landscape;
- Be robust, suited to the available aspect, work with ambient wind and light levels and minimise maintenance and water use.

SUGGESTED PLANT SCHEDULE

Key	Botanical Name	Common Name	Pot Size	Mature Height
Aa	*Aloe arborescens*	Bush Baby Yellow	140mm	0.5m
Ab	*Agave ‘Blue Glow’*	Blow Glow Agave	200mm	0.6m
D	*Dichondra argenta*	Silver Falls	140mm	0.2m
Ec	*Euphorbia characias*	Mediteranean Spurge	200mm	1.2m
Kt	*Kalanchoe tomentosa*	Panda Plant	140mm	0.5m
Lt	*Lomandra tanika*	Lomandra	140mm	0.5m
Re	*Russelia ‘equisetiformis*	Firecracker Plant	140mm	1m
Rs	*Rhagodia spinescens*	Flat Bush	140mm	0.4m
Ss	*Sansevieria Superba*	Mother-inlaw’s Toungue	140mm	1m
Wf	*Westringia ‘Blue Gem’*	Dwarf Rosemary	140mm	0.5m
Zf	*Zamia furfucea*	Cardboard Plant	200mm	1m

CHARACTER IMAGES

04 Landscape Plan - Level 06

118A SOLDIERS POINT RD, SOLDIERS POINT, NSW

DATE: OCTOBER 2019

CLIENT: SPBC

PROJECT NO. GSP180146

GREEN SPACE PLANNING Co.
3/19 BOLTON STREET NEWCASTLE NSW 2300
PH 0423 684 382

GSP

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PO Box 107,
Clarence Town, NSW, 2324
Phone: 04 1155 1433
Email: admin@perceptionplanning.com.au