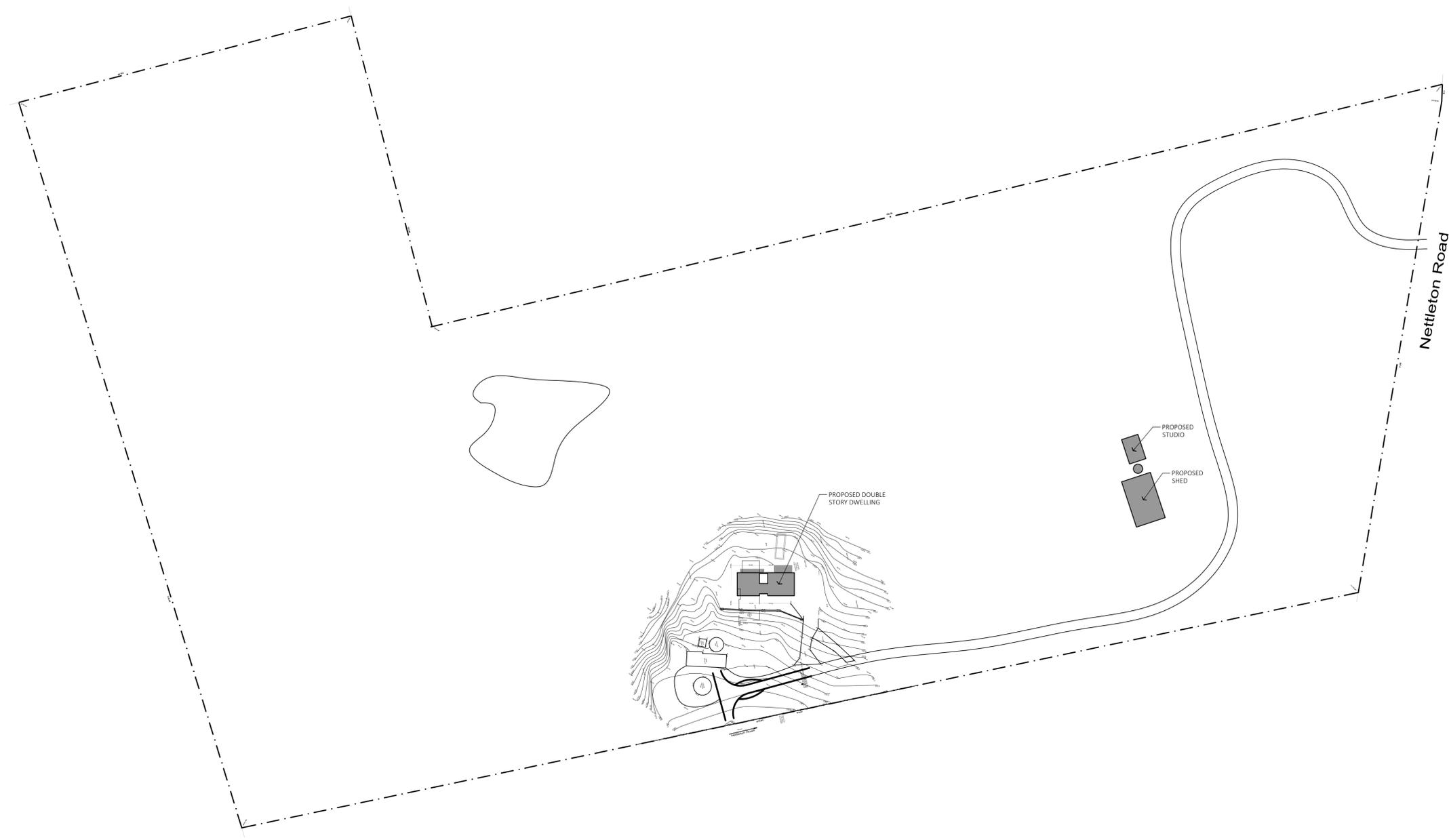
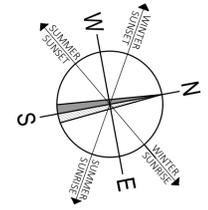
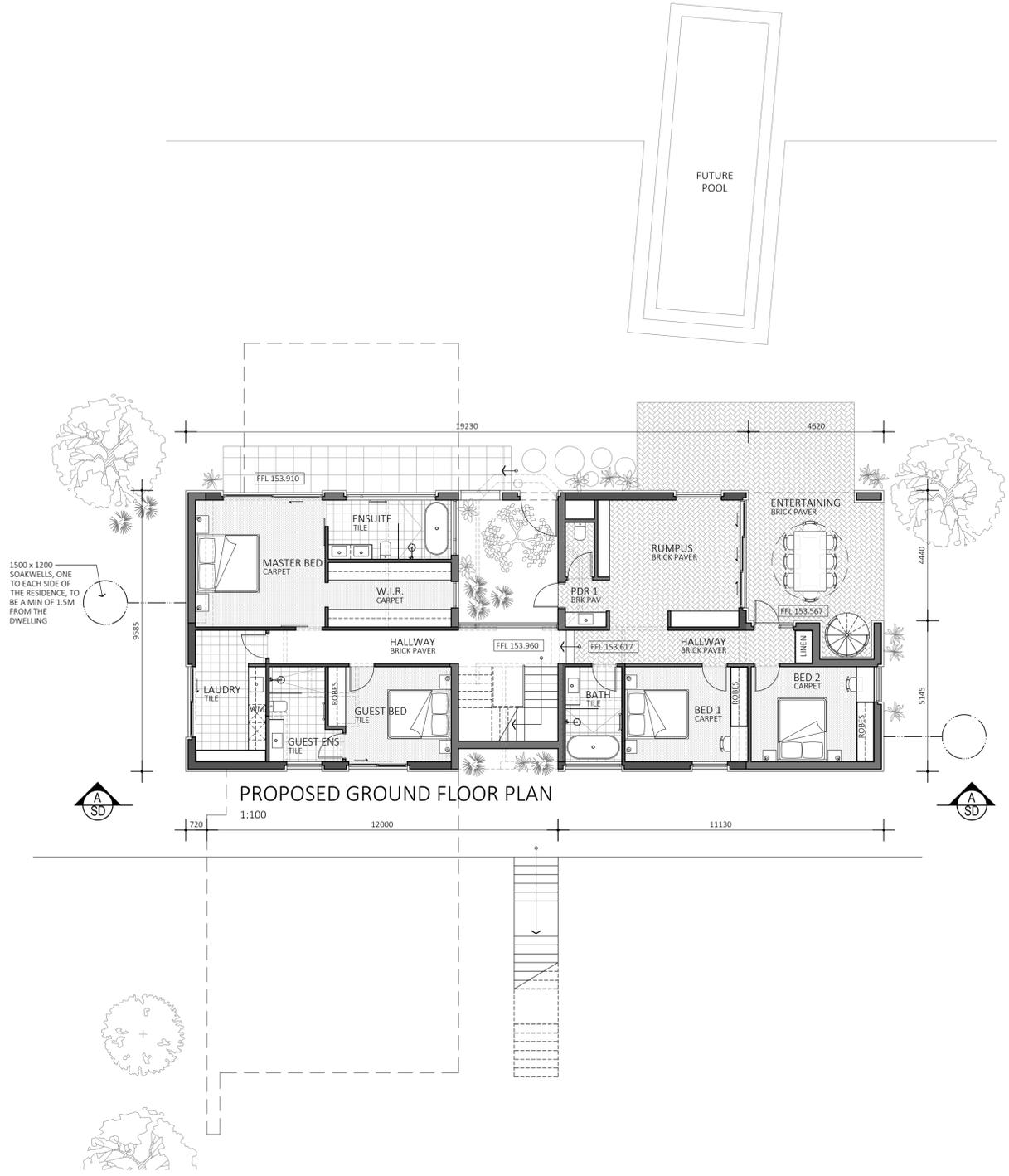
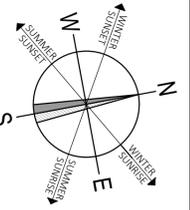


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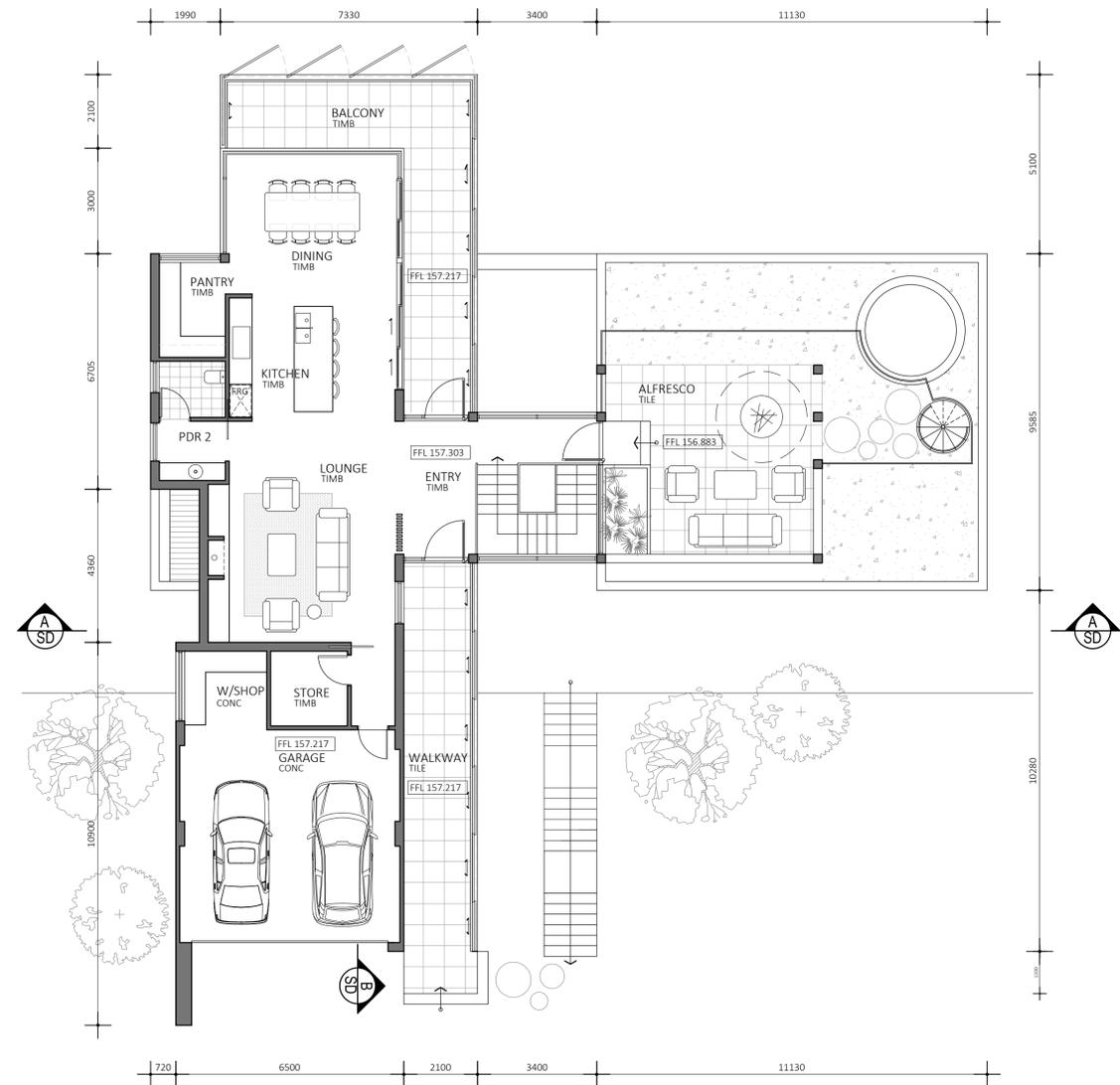


CLIENT			
BEN THEOBALD & TEAGAN WATSON			
PROJECT ADDRESS			
No. 192 NETTLETON ROAD, BYFORD, WA			
DRAWING	JOB NO.	ISSUE DATE	DRAWING NO.
SITE PLAN	2101	10.06.2021	SK02
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	KK	1:1000	SK06

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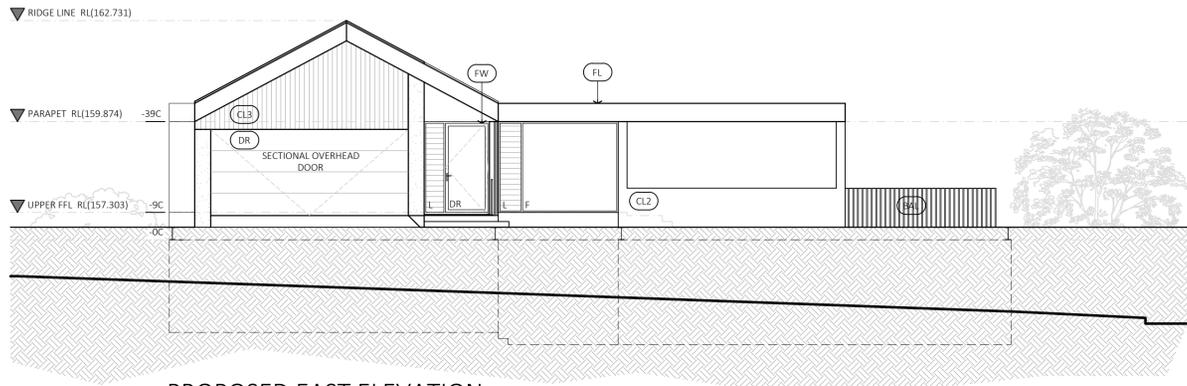


PROPOSED GROUND FLOOR PLAN



CLIENT			
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PROJECT ADDRESS			
No. 192 NETTLETON ROAD, BYFORD, WA			
DRAWING			
JOB NO.	ISSUE DATE	DRAWING NO.	
2101	10.06.2021	SK04	
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DRAWN	SCALE	OF	
KK	1:100	SK06	

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PROPOSED EAST ELEVATION
1:100



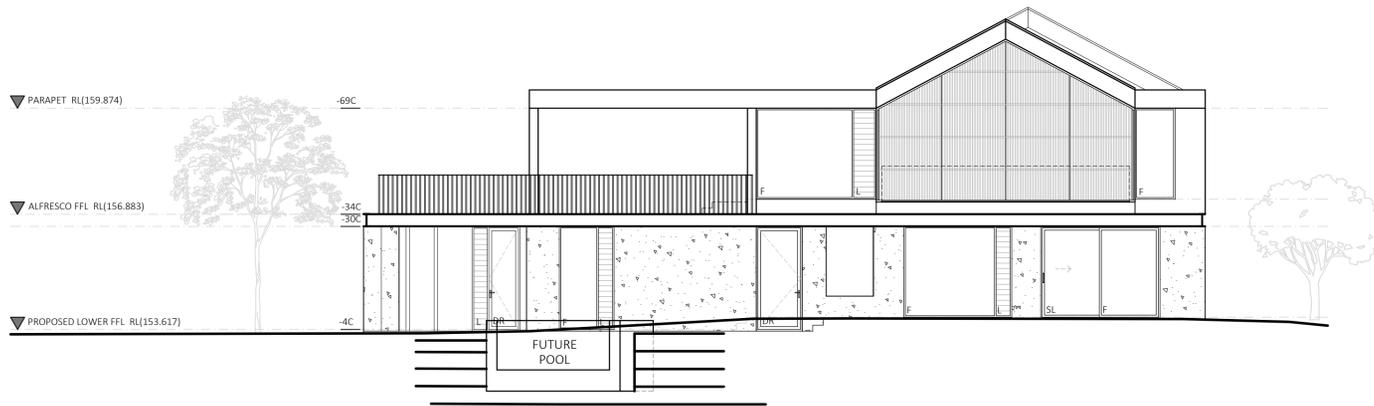
PROPOSED EAST ELEVATION/SECTION
1:100



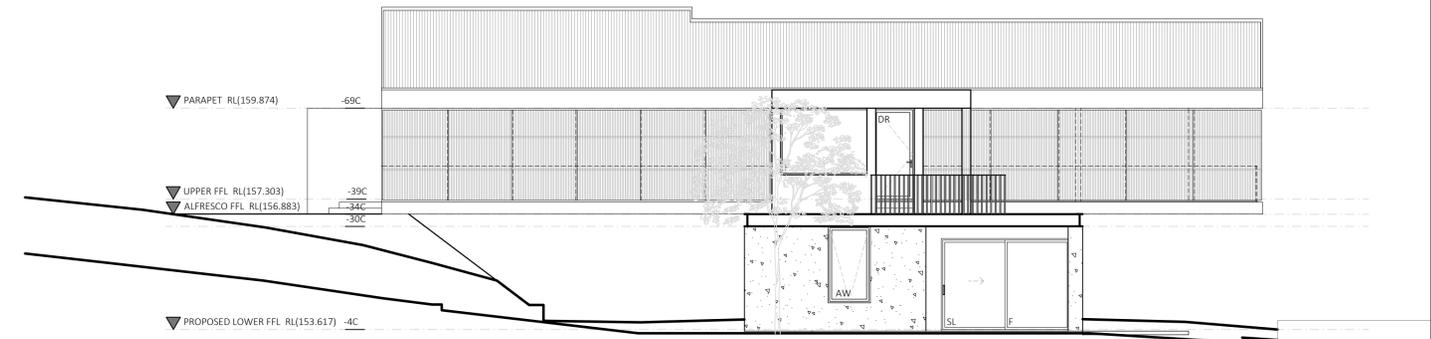
PROPOSED SOUTH ELEVATION
1:100

FINISHES SCHEDULE

- (CL1) CLADDING TBC.
- (CL2) CLADDING TBC.
- (CL3) CLADDING TBC.
- (REN) RENDER TBC.
- (FW) STEEL FRAMED WINDOWS PAINTED FINISH COLOUR DULUX 'TBC'.
- (RS1) ROOF SHEETING TBC.
- (FL1) TBC FACIAS, BARGE BOARDS AND TRIM AND GLAV STEEL GUTTERING PAINTED FINISH COLOUR 'TBC'.
- (BAL) STEEL BALUSTRADE COLOURBOND FINISH COLOUR 'TBC'.
- (DECK) TIMBER VERANDAH FLOOR TBC.



PROPOSED WEST ELEVATION
1:100



PROPOSED NORTH ELEVATION
(WITH SCREENS)
1:100



PROPOSED NORTH ELEVATION
(WITHOUT SCREENS)
1:100

BEN THEOBALD & TEAGAN WATSON

No. 192 NETTLETON ROAD,
BYFORD, WA

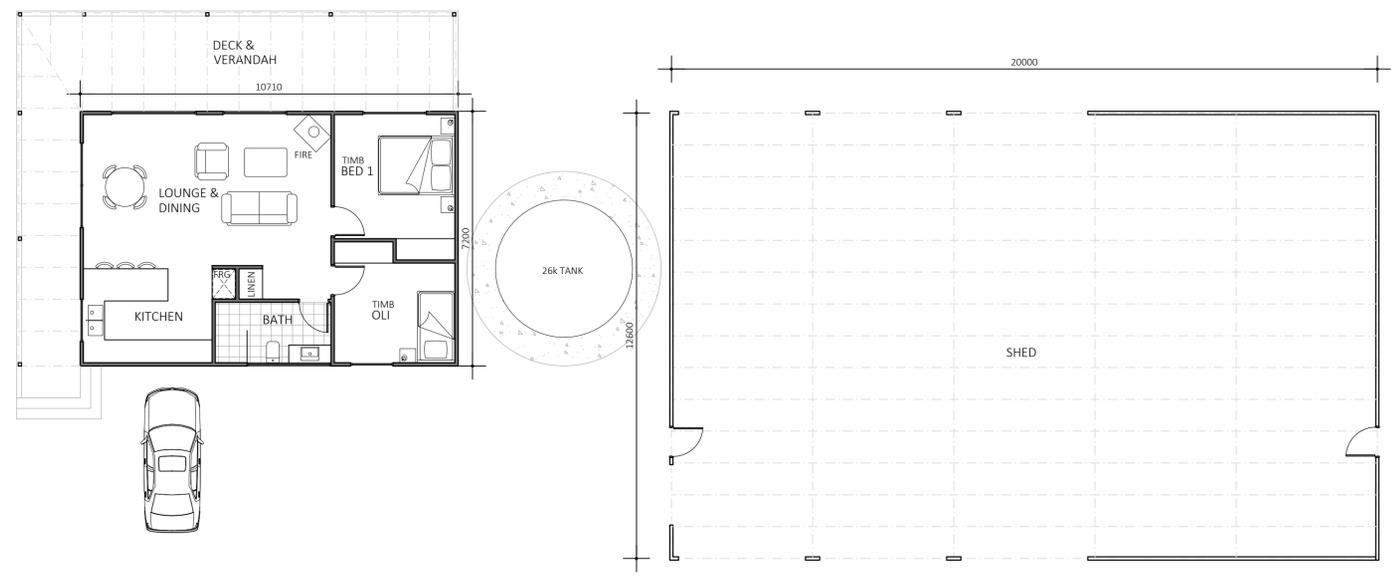
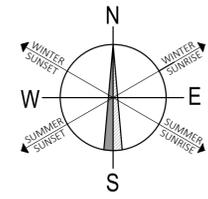
ELEVATIONS

JOB NO. 2101
ISSUE DATE 10.06.2021
DRAWING NO. SK05

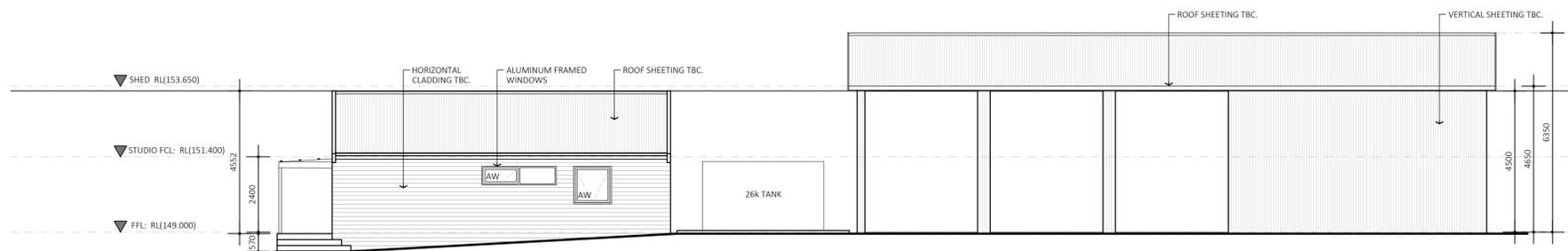
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SCALE 1:100
OF SK06

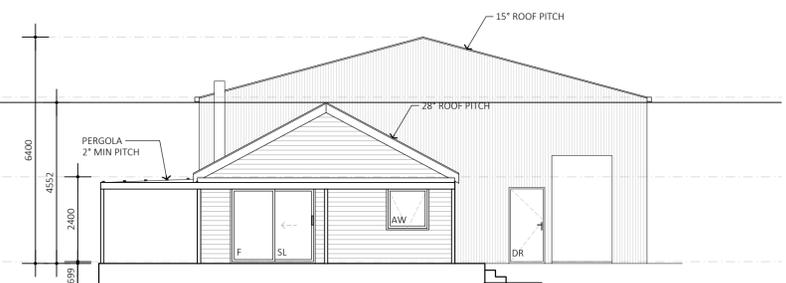
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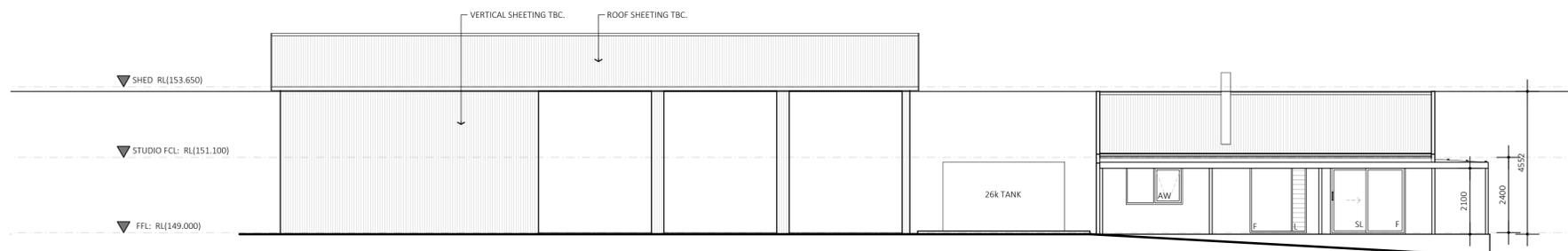
PROPOSED STUDIO & SHED
FLOOR PLAN
1:100



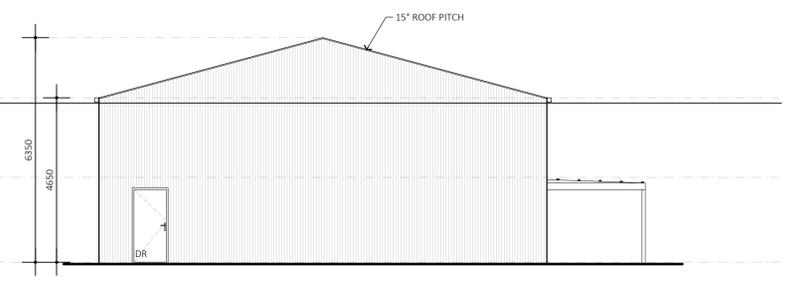
PROPOSED SOUTH ELEVATION
1:100



PROPOSED WEST ELEVATION
1:100



PROPOSED NORTH ELEVATION
1:100



PROPOSED EAST ELEVATION
1:100

BEN THEOBALD & TEAGAN WATSON

No. 192 NETTLETON ROAD,
BYFORD, WA

STUDIO & SHED
JOB NO. 2101 ISSUE DATE 23.07.2021 DRAWING NO. SK06

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DRAWN BY KK SCALE 1:100 OF SK06

Bushfire Management Plan (DA)



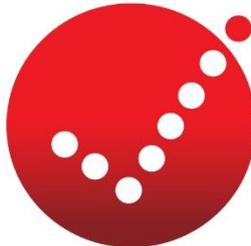
Property Details and Description of Works

Address Details	Unit no	Street no	Lot no	Street name / Plan Reference		
		192	54	Nettleton Road		
	Suburb			State	Postcode	
	Byford			WA	6122	
Local government area	Shire of Serpentine – Jarrahdale					
Main BCA class of the building	Class 1a	Use(s) of the building	Residential Dwelling/s			
Description of the building or works	Extension/Renovations to existing Primary Building & Construction of Ancillary Dwelling					

Report Details

Report / Job Number	Report Version	Assessment Date	Report Date
21-8682	2	1 April 2021	18 July 2021

BPAD Accredited Practitioner Details

<p>Name Nathan Peart</p> <p>Company Details 08 9555 9444 BAL@bushfiresmart.com.au Address: 71 Allnutt Street, Mandurah, 6210 Postal: PO Box 4160, Mandurah North, WA, 6210</p> 	 <p>BPAD Bushfire Planning & Design Accredited Practitioner Level 2</p> <p><i>Authorised Practitioner Stamp</i></p>
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Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the date of issue of the report. If this report was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated report issued.

Bushfire Management Plan (DA)



Disclaimer and Limitation

This report is prepared solely for the client, any future landowners of the subject lot and is not for the benefit of any other person and may not be relied upon by any other person. Bushfire Smart accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material by any third party.

The mitigation strategies contained in this report are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that Bushfire Smart and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or destroyed by bushfire or that lives will not be lost in a bush fire. Fire is an extremely unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire.

Further, the growth, planting or removal of vegetation; poor maintenance of any fire prevention measures; addition of structures not included in this report; or other activity can and will change the bushfire threat to all properties detailed in the report. Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which Bushfire Smart has no control.

This report does not negate the need to follow Local government authority requirements for Firebreak and Fuel Hazard Reduction. The client agrees that in submitting this report they approve of and will comply with all requirements detailed.

Author	
Nathan Peart	BPAD 38808
Level 2 Bushfire Planning and Design (BPAD) Accredited Practitioner	
E: BAL@BushfireSmart.com.au	Ph: 9555 9444



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Bushfire Management Plan (DA)



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Figure 2: Vegetation Classification

Lot 54 (#192) Nettleton Road, Byford

Assessment Date: 1 April 2021
 Prepared by: Nathan Peart
 Accreditation Level: 2
 Accreditation Number: 38808

Legend

- | | | |
|----------------------|------------------|---------------------|
| 150m Buffer Line | Photo Points | Class A - Forest |
| 100M Buffer Line | Distance | Class B - Woodland |
| Subject Lot | Driveway/Carpark | Class C - Shrubland |
| Proposed Development | Hydrants | Class D - Scrub |
| Existing Structure | Water Pipe | Class G - Grassland |
| APZ | | Excludable |

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Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Photo ID: 1	Plot: 1	
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
Low lying foliage – mixed shrub/scrub species (Xanthorrhoea in abundance) with unmanaged grasses (over 100mm) and leaf litter fuel loads present. Average tree height of 12m, dominated by Eucalyptus (juvenile & mature) with foliage cover approximately 50%		

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Photo ID: 4	Plot: 2	
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
<p>Low lying foliage – mixed shrub/scrub species (Xanthorrhoea in abundance) with unmanaged grasses (over 100mm) and leaf litter fuel loads present. Average tree height of 12m, dominated by Eucalyptus (juvenile & mature) with foliage cover approximately 50%</p>		
Photo ID: 5	Plot: 3	
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
<p>Low lying foliage – mixed shrub/scrub species (Xanthorrhoea in abundance) with unmanaged grasses (over 100mm) and leaf litter fuel loads present. Average tree height of 12m, dominated by Eucalyptus (juvenile & mature) with foliage cover approximately 50%</p>		
Photo ID: 6	Plot: 3	
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
<p>Low lying foliage – mixed shrub/scrub species (Xanthorrhoea in abundance) with unmanaged grasses (over 100mm) and leaf litter fuel loads present. Average tree height of 12m, dominated by Eucalyptus (juvenile & mature) with foliage cover approximately 50%</p>		

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Photo ID: 7	Plot: 4	
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
Vegetation Classification or Exclusion Clause		
Class A Forest - Open forest A-03		
Description / Justification for Classification		
Vegetation Classification or Exclusion Clause		
Excludable - 2.2.3.2(e) Non Vegetated Areas & (f) Low Threat Vegetation		
Description / Justification for Classification		
Part APZ – managed garden beds, cleared areas – prepared for building, grasses less than 100mm with trees managed and under pruned and reduced fuel loads.		

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Photo ID:	10	Plot:	5	
Vegetation Classification or Exclusion Clause				
Class A Forest - Open forest A-03				
Description / Justification for Classification				
<p>Low lying foliage – mixed shrub/scrub species (Xanthorrhoea in abundance) with unmanaged grasses (over 100mm) and leaf litter fuel loads present. Average tree height of 12m, dominated by Eucalyptus (juvenile & mature) with foliage cover approximately 50%</p>				

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Bushfire Management Plan (DA)



Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site. All vegetation within 100 metres of the site was classified in accordance with clause 2.2.3 of AS3959-2018.

Fire Danger Index

FDI 40

Table 2.7

FDI 50

Table 2.6

FDI 80

Table 2.5

FDI 100

Table 2.4

Potential Bushfire Impacts – BUILDING A

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	8° Downslope	11	BAL – FZ
2	Class A - Forest	11.5° Downslope	13.9	BAL – FZ
3	Class A - Forest	20° Downslope	9.5	BAL – FZ
4	Class A - Forest	Upslope	37.4	BAL – 19
5	Class A - Forest	8° Downslope	105.5	BAL – LOW
-	Excludable – Clause 2.2.3.2(e)(f)	N/A	N/A	BAL – LOW

Table 1: BAL Analysis

Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the proposed development has been determined in accordance with clause 2.2.6 of AS 3959 – 2018 using the above analysis.

Determined Bushfire Attack Level

BAL – FZ

Potential Bushfire Impacts – BUILDING B

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	Upslope	0	BAL – FZ
2	Class A - Forest	11.5° Downslope	0	BAL – FZ
3	Class A - Forest	Upslope	139.9	BAL – LOW
4	Class A - Forest	Upslope	110.9	BAL – LOW
5	Class A - Forest	8° Downslope	0	BAL – FZ
-	Excludable – Clause 2.2.3.2(e)(f)	N/A	N/A	BAL – LOW

Table 1: BAL Analysis

Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the proposed development has been determined in accordance with clause 2.2.6 of AS 3959 – 2018 using the above analysis.

Determined Bushfire Attack Level

BAL – FZ

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Bushfire Management Plan (DA)



Indicative Bushfire Attack Level (BAL) – BUILDING A

The Bushfire Attack Level (highest BAL) for the proposed development can be reduced to the level indicated below with the inclusion of an Asset protection Zone as prescribed in this report as shown in the following table.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	8° Downslope	33	BAL – 29
2	Class A - Forest	11.5° Downslope	42	BAL – 29
3	Class A - Forest	20° Downslope	52	BAL – 29
4	Class A - Forest	Upslope	37.4	BAL – 19
5	Class A - Forest	8° Downslope	105.5	BAL – LOW

Table 2: BAL Analysis with APZ requirements

Indicative Bushfire Attack Level

BAL – 29

NOTE: The indicative APZ clearing required has been demonstrated on the Figure 1 with the Blue Line around the Proposed Development.

Indicative Bushfire Attack Level (BAL)

The Bushfire Attack Level (highest BAL) for the proposed development can be reduced to the level indicated below with the inclusion of an Asset protection Zone as prescribed in this report as shown in the following table.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	8° Downslope	26	BAL – 40
2	Class A - Forest	11.5° Downslope	33	BAL – 40
3	Class A - Forest	20° Downslope	42	BAL – 40
4	Class A - Forest	Upslope	34.9	BAL – 19
5	Class A - Forest	8° Downslope	105.5	BAL – LOW

Table 2: BAL Analysis with APZ requirements

Indicative Bushfire Attack Level

BAL – 40

NOTE: The indicative APZ clearing required has been demonstrated on the Figure 1 with the Blue Line around the Proposed Development.

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Indicative Bushfire Attack Level (BAL) – BUILDING B

The Bushfire Attack Level (highest BAL) for the proposed development can be reduced to the level indicated below with the inclusion of an Asset protection Zone as prescribed in this report as shown in the following table.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	Upslope	21	BAL – 29
2	Class A - Forest	11.5° Downslope	42	BAL – 29
3	Class A - Forest	Upslope	139.9	BAL – 29
4	Class A - Forest	Upslope	110.9	BAL – 19
5	Class A - Forest	8° Downslope	33	BAL – 29

Table 2: BAL Analysis with APZ requirements

Indicative Bushfire Attack Level

BAL – 29

NOTE: The indicative APZ clearing required has been demonstrated on the Figure 1 with the Blue Line around the Proposed Development.

Indicative Bushfire Attack Level (BAL)

The Bushfire Attack Level (highest BAL) for the proposed development can be reduced to the level indicated below with the inclusion of an Asset protection Zone as prescribed in this report as shown in the following table.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	Upslope	16	BAL – 40
2	Class A - Forest	11.5° Downslope	33	BAL – 40
3	Class A - Forest	Upslope	139.9	BAL – LOW
4	Class A - Forest	Upslope	110.9	BAL – LOW
5	Class A - Forest	8° Downslope	26	BAL – 29

Table 2: BAL Analysis with APZ requirements

Indicative Bushfire Attack Level

BAL – 40

NOTE: The indicative APZ clearing required has been demonstrated on the Figure 1 with the Blue Line around the Proposed Development.

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Bushfire Management Plan (DA)



2. Assessment against the Bushfire Protection

2.1 Compliance Table

The following table summarises the compliance with SPP 3.7 and the Guidelines to Planning in Bushfire Prone Areas V1.3-Dec2017 Text. All references to Acceptable Solutions in the compliance notes can be read in detail from the Guidelines to Planning in Bushfire Prone Areas V1.3-Dec2017

Element	Acceptable Solution	Able to meet acceptable solution?	Compliance notes.
1: Location	A1.1 Development location	YES	The development is within a rural living area classified as an extreme bush fire hazard level. This development attains a determined BAL-FZ with the possibility of an indicative BAL-29 with the establishment of an Asset Protection Zone as per requirements of this Bushfire Management Plan.
	A2.2 Asset Protection Zone(APZ)	YES	An APZ should be created by builder at site development stage to achieve a maximum BAL - 29. It is the responsibility of landowners to re-establish the APZ before occupation of the building and maintain the APZ throughout the life of the building. The APZ must extend 52 metres (South) and be maintained. – See Spatial Representation (Appendix A). Whist the size of the property allows for a BAL-29 APZ to be established, due to various issues on the site such a slope, vegetation type and erosion risk, this may not be logistically viable. Consultant with the relevant authorities is recommended to determine best course of action – a BAL- 40 may be more achievable for the development.
3: Vehicular Access	A3.1 Two access routes	YES	Two access routes are available, via Nettleton Road in a western direction towards South Western Highway or in a Easterly direction on Nettleton Road to Jarrahdale Road. Both South Western Highway and Jarrahdale Roads are main roads with public access at all times.
	A3.2 Public roads	YES	Public Roads comply with Table 6 of Element 3 of the Guidelines.
	A3.3 Cul-de-sacs	N/A	The development will not include installation of new cul-de-sacs.
	A3.4 Battle axes	N/A	The development will not include installation of new Battle Axe Blocks.
	A3.5 Private driveways	YES	The driveway is greater than 50 metres and must comply with Table 6 of the guidelines and including the installation turn around bays within 50m of the house, passing bays every 200m and a 4m trafficable surface. The current driveway in place will require upgrading and modifications to ensure compliance to specifications.
	A3.6 Emergency access ways	N/A	The development will not include installation of new Emergency Access Ways.
	A3.7 Fire service access routes	N/A	Fire Service access routes are supplied by existing public roads.
	A3.8 Firebreak widths	YES	The property is required to comply with Firebreaks requirements of the Shire of Serpentine - Jarrahdale attached as appendix C to this report

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4: Water	A4.1 Reticulated Areas	NO	The site is not serviced by a reticulated, the closest water hydrant is located directly adjacent to Lot 209 (2) Henry George Close, which is approximately 150m south of the subject lot.
	A4.2 Non - Reticulated Areas	N/A	The subject lot is non-reticulated.
	A4.3 Individual Lots within non-reticulated areas	YES	The subdivision is non-reticulated and requires a water tank with a minimum capacity of 10,000 litres for firefighting purposes. Hardstand and turnaround with a minimum diameter of 17.5 metres, to be provided and maintained within three metres of the tank. There are currently tanks on site which may require upgrading to be compliant to specifications, an additional tank has also been indicated at proposed Building B.

Table 3: Assessment against the Bushfire Protection Criteria

2.1 Acknowledgement

Acknowledgement - Proponent

The proponent acknowledges the responsibilities as listed above and the requirement to ensure that should the land transfer to a new owner, that the new owner is aware of the BMP and their ongoing responsibility.

3. General References

WA Department of Planning 2016, *Visual Guide for bushfire risk assessment in Western Australia*

Standards Australia 2009, *AS 3959-2018 Construction of buildings in bushfire-prone areas*, Sydney

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5. Appendices

Appendix A: Spatial Representation of proposed risk management measures (Next Page)

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Legend	
100M Buffer Line	Driveway/Carpark
Subject Lot	Proposed Development
Distance	Class A - Forest
APZ - BAL - 29	Excludable
APZ - BAL - 40	Water Pipe
Water Tank	Water Hydrants

- Bushfire Protection Criteria**
1. Forest at 20° downslope is the primary vegetation.
 2. For a BAL-29 for building A, a maximum 52 metre asset protection zone is required to comply with schedule 1 element 2 of the guidelines. For a BAL-29 for building B, a maximum 42 metre asset protection zone is required to comply with schedule 1 element 2 of the guidelines.
 3. Driveway is greater than 50 metres, therefore must comply with Acceptable Solution A3.5 of Element 3 in the appendices to the guidelines, including but limited to; passing bays at a maximum of every 200m and a turnaround circle within 50m of the house.
 4. Water tank is to be fitted with firefighting fittings and have 17.5m turnaround bay within 3 metres.
- NOTE: Due to the level of clearing required and the slope on the property a BAL-29 may not be logistically attainable. A BAL-40 has therefore also been demonstrated in this circumstance.**

Figure 3: Spatial Representation of proposed risk management measures.

Lot 54 (#192) Nettleton Road, Byford

Assessment Date: 1 April 2021
 Prepared by: Nathan Peart
 Accreditation Level: BPAD Level 2
 Accreditation Number: 38808
 Accreditation Expiry: May 2022

Bushfire Management Plan (DA)

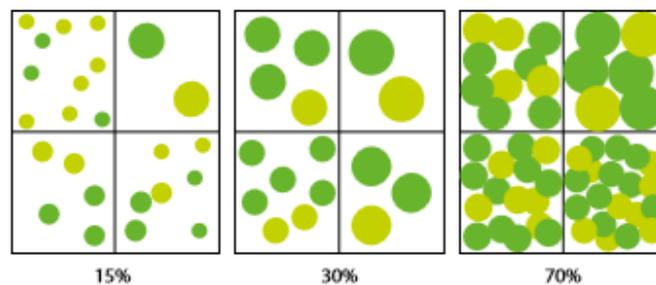
Appendix B: Asset Protection Zone Standards

ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

- **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity



- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

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Appendix C: Firebreak Notice – Shire of Serpentine - Jarrahdale

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