




Reference number 4850

Member of the Fire Protection Association of Australia

Lot 75, DP 13643, 74 Elanora Road, Elanora Heights, NSW 2101.

Tuesday, 5 November 2024.

Prepared by:	Matthew Willis <i>BPAD – Level 3 Certified Practitioner</i> Certification No: BPD-PA 09337		05/11/2024
Can this proposal comply with AS3959-2018 (inc section 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019)?		Yes	
What is the recommended AS 3959-2018 level of compliance?		BAL-FZ and BAL-40	
Can this development comply with the requirements of PBP?		Yes	
Plans by "Studio Friend" (Appendix 1) dated.		29/10/24	

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Bushfire Risk Assessment

Tuesday, 5 November 2024

Contact

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Subject Property

Lot 75, DP 13643

74 Elanora Road

Elanora Heights NSW 2101

Document tracking.

<i>Date</i>	<i>Reason for change</i>	<i>Author</i>

BUSHFIRE RISK ASSESSMENT CERTIFICATE

THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 4.14 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT.

Property Address	Lot 75, DP 13643, number 74 Elanora Road Elanora Heights
Description of the Proposal	Alterations and additions to an existing building
Plan Reference	29/10/24
BAL Rating	BAL-FZ and BAL-40
Does the Proposal Rely on Alternate Solutions?	Yes

I, **Matthew Willis of Bushfire Planning Services Pty Ltd** have carried out a bushfire risk assessment on the above-mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in Planning for Bushfire Protection 2019 together with recommendations as to how the relevant Specifications and requirements are to be achieved.

I hereby advise, in accordance with Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203:

1. That I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and

2. That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements*

*The relevant specifications and requirements being specifications and requirements of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203.

I am aware that the Bushfire Assessment Report, prepared for the above-mentioned site is to be submitted in support of a development application for this site and will be relied upon by Northern Beaches Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with Planning for Bushfire Protection 2019.

REPORT REFERENCE	<i>Tuesday, 5 November 2024</i>
REPORT DATE	<i>Tuesday, 5 November 2024</i>
CERTIFICATION NO/ACCREDITED SCHEME	<i>FPAА BPAD A BPD-PA 09337</i>

Attachments:

- Bushfire Risk Assessment Report
- Recommendations

SIGNATURE: ---  ----- **DATE:** ----- *Tuesday, 5 November 2024*

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1 Executive Summary.

Bushfire Planning Services has been requested by Sam Horspool from Studio Friend to supply a bushfire compliance report on lot 75, DP 13643, 74 Elanora Road, Elanora Heights.

The works proposed for the subject lot are for the alterations and additions to an existing building, see attached plans for details.

The subject lot is on the western side of Elanora Road and at its closest point to the hazard the proposed new work has a separation distance to the west of approximately 10m.

The vegetation that is considered to be the hazard to this proposal is situated on land that slopes down slope away from the property at an angle of approximately 2.87°.

For the purposes of this assessment this vegetation is considered to be Forest.

The remaining vegetation within the study area is contained within the boundaries of established allotments and is managed land and of low threat to this proposal.

The calculations and assumptions outlined in this report show that the development will be required to comply with the construction requirements of AS 3959-2018 BAL-FZ and any additional construction requirements contained within section 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.

The following table is a summary of the pertinent findings of this assessment.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land	Forest
Slope	N/A	N/A	N/A	0-5 degrees downslope
Setback within lot 75	N/A	N/A	N/A	10m
Setback outside lot 75	N/A	N/A	N/A	N/A
Total setback	N/A	N/A	N/A	10m
Bal level	N/A	N/A	N/A	BAL-FZ

Note: The above table is a summary of the significant variables used to determine the highest BAL for this proposal. THIS TABLE IS NOT INTENDED FOR CONSTRUCTION! Only the highest BAL level is shown, aspects marked as N/A will still have a BAL. Refer to section 11 for construction requirements for these other aspects.

2 General.

This proposal relates to the alterations and additions to an existing building on the subject lot and its ability to comply with the rules and regulations for building in a bushfire prone area.

The methodology used on this report is based on Planning for Bushfire Protection 2019 (PBP) as published by the New South Wales Rural Fire Service.

Any wording that appears in *blue italics* is quotes from Planning for Bushfire Protection 2019. Some of the measurements used in this report have been taken from aerial photographs and as such are approximate only.

3 Block Description.

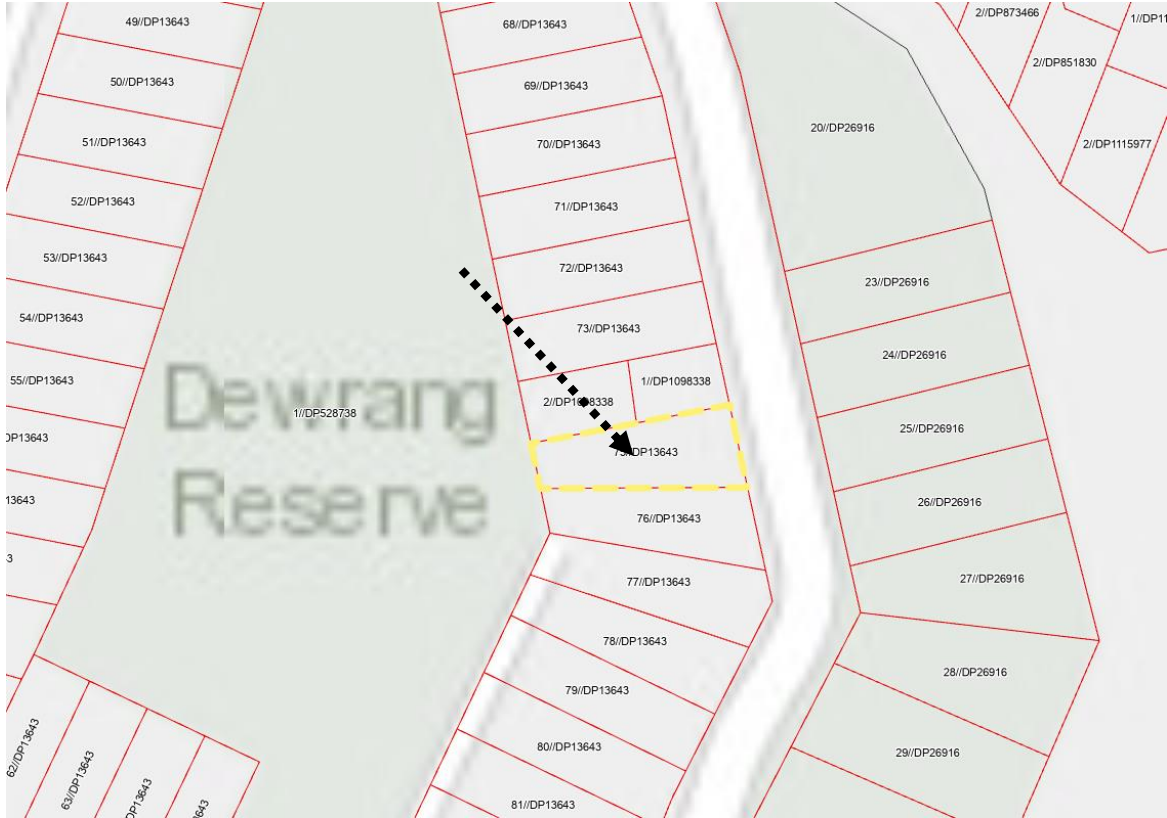
The subject block is situated on the western side of Elanora Road in an established area of Elanora Heights.

The lot currently contains a multi-level class 1 dwelling.

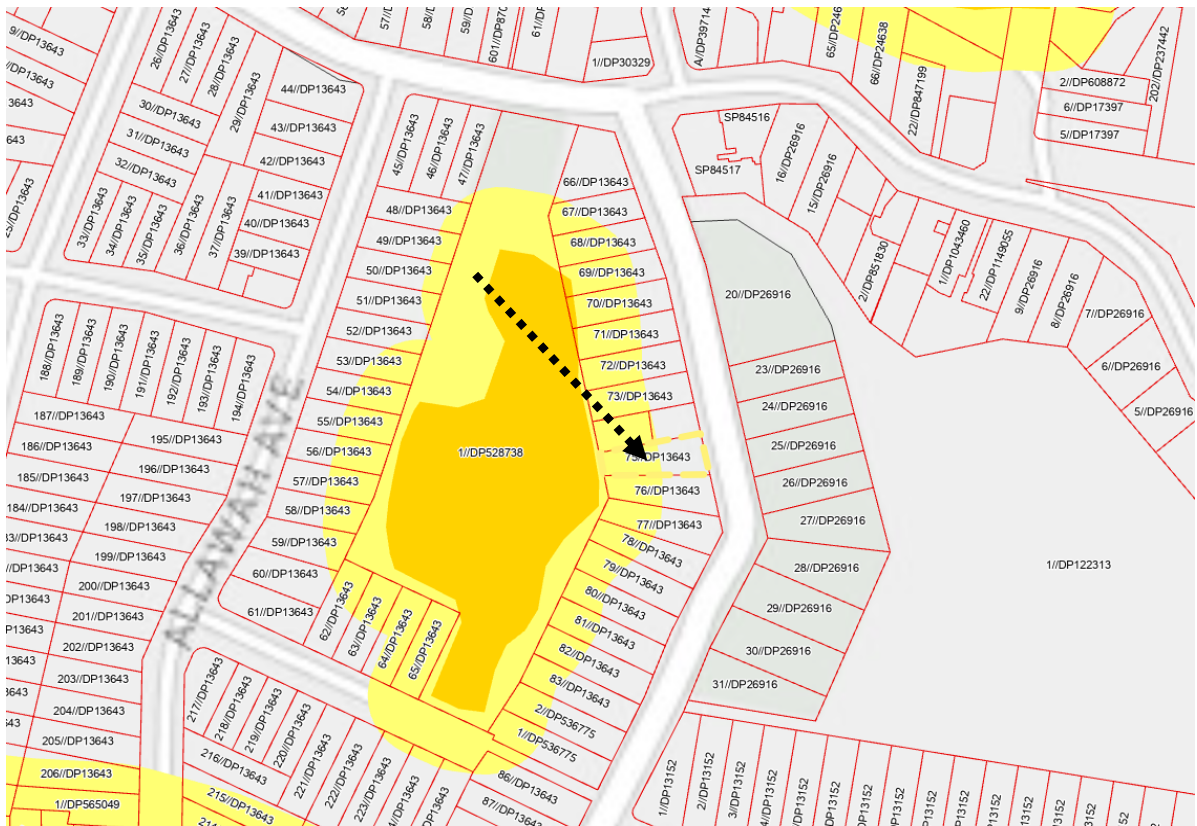
The lands surrounding the proposed site on the subject lot to a distance of at least 10m contain existing development or land that is otherwise not considered to be a significant bushfire hazard.

- Lot; 75
- DP; 13643.
- LGA; Northern Beaches.
- Area; 762.5 m²m².
- Address; 74 Elanora Road, Elanora Heights.

This section has been left blank.



Map 1 shows the cadastral layout around the subject lot.



Map 2 is an extract from the councils' bushfire prone land map. The map shows lot 75 to be within the buffer zone of category 2 bushfire vegetation.

4 Vegetation.

The study area for the vegetation is 140m surrounding the subject block.

The vegetation within the study area for this development is considered to be largely managed land.

The major potential hazard to this development is the vegetation within an area of undeveloped land to the west.

For the purpose of this assessment and compliance with Planning for Bushfire Protection this area of undeveloped land is considered to be Forest and is the hazard to this proposal.

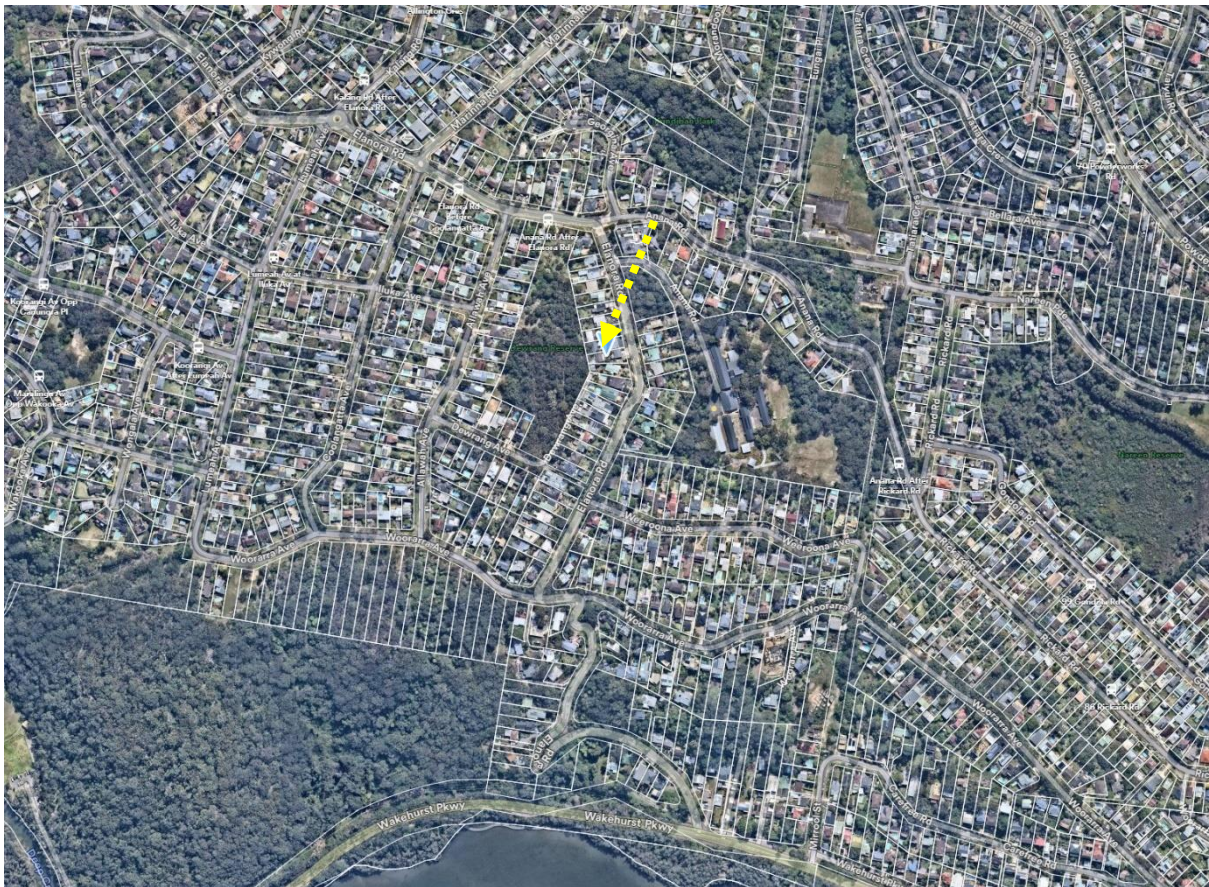


Photo 1 - An overview of the vegetation within the general area.

This area has been left intentionally blank.



Photo 2 is a closer view of the vegetation in the area.

Table 1 outlines the vegetation orientation and distance from the development area.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land	Forest
Setback within lot 75	N/A	N/A	N/A	10m
Off-site setback	N/A	N/A	N/A	N/A
Total setback	N/A	N/A	N/A	10m

Table 1 - Any aspect marked with "N/A" in the table above indicates that it is considered there is none or only a secondary hazard in that direction.

This area has been left intentionally blank.

5 Known constraints on subject block.

I have not been informed or know of any places of cultural or environmental significance within the boundaries of the subject block. Given the nature of the surrounding land it is considered highly unlikely that anything of significance will be affected by this development.

6 Slope.

The slope of the land beneath the hazard that is most likely to influence bushfire behaviour has been calculated by topographical map analysis to a distance of 100m from the subject lot.

An extract of the topographical map for the area is shown below and the relevant slope analysis is shown in Table 2.



Table 2 shows the slope beneath the hazard.

Aspect	North	East	South	West
Slope	N/A	N/A	N/A	0-5 degrees downslope

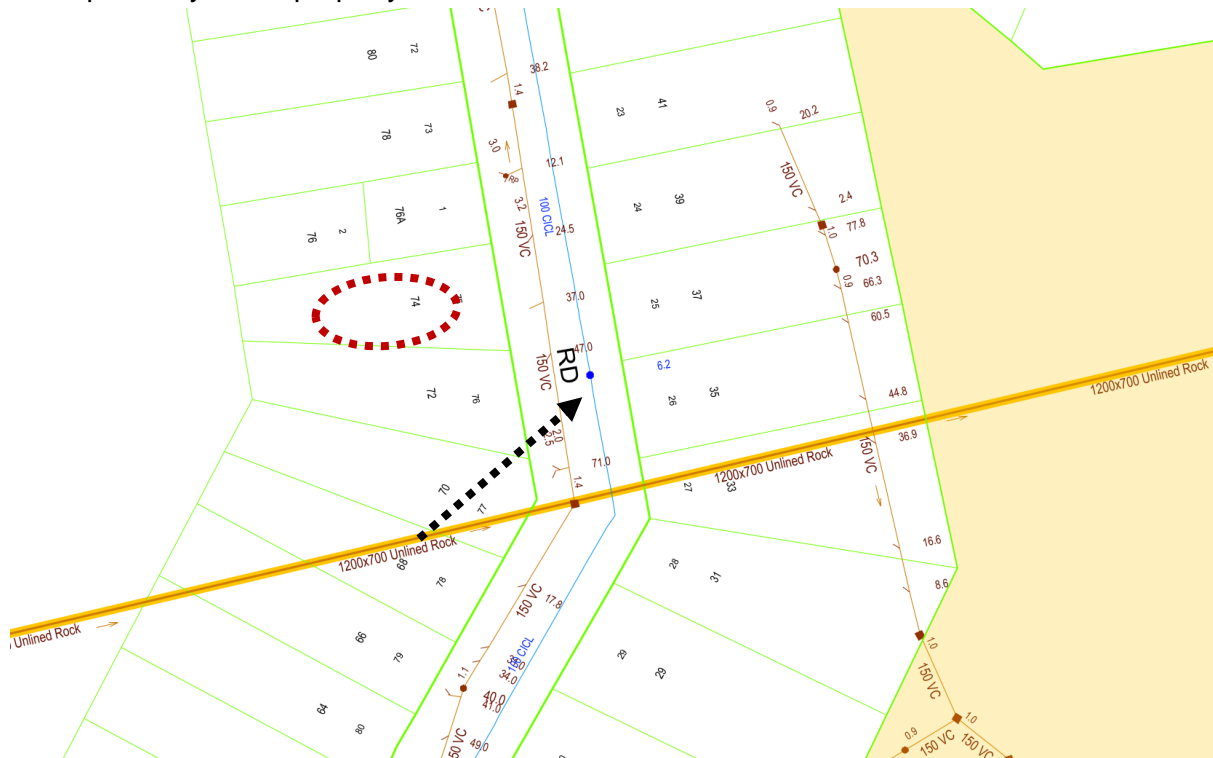
Table 2 - Any aspect marked with "N/A" in the table above indicates that it is considered there is no hazard in that direction.

7 Utilities.

7.1 Water.

The subject block will be serviced by a reticulated water supply.

The following map is an extract from Sydney waters hydrant map. Hydrants are indicated by a blue dot on a blue line. As can be seen there is at least one hydrant point indicated within close proximity of the property.



7.2 Electricity

Main's electricity is available to the block.

7.3 Gas

It is unknown if either bottled or mains gas is to be altered or installed in this proposal.

8 Access/Egress.

Access to the development site will be via a short private driveway from Elanora Road.

All roads in the vicinity are considered to be capable of carrying emergency services vehicles and pedestrian access onto the lot is also considered to be adequate.

Analysis of development and recommendation.

9 Compliance with Planning for Bushfire Protection setbacks.

Based on the development design, vegetation classification, effective slope estimates and setback distance already outlined in this report the subject development will be required to comply with the deemed to satisfy construction requirements of AS 3959-2018 BAL-FZ and the RFS requirements on all fire prone aspects.

The following table is an extract from table A1.12.5 of Planning for Bushfire Protection 2019. This table is used to calculate the BAL for a proposal in an area with an FDI of 100.

The variables that have already been outlined in this assessment are highlighted in red with the highest BAL highlighted in yellow.

	Keith Vegetation Formation	BUSHFIRE ATTACK LEVEL (BAL)				
		BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
0-5 DEGREES DOWNSLOPE	Arid-Shrublands (acacia and chenopod)	< 5	5 -< 7	7 -< 11	11 -< 16	16 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 22	22 -< 29	29 -< 40	40 -< 54	54 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 9	9 -< 12	12 -< 18	18 -< 26	26 -< 100
	Freshwater Wetlands	< 4	4 -< 6	6 -< 8	8 -< 12	12 -< 100
	Grassland	< 9	9 -< 12	12 -< 17	17 -< 25	25 -< 50
	Grassy and Semi-Arid Woodland (including Mallee)	< 12	12 -< 16	16 -< 23	23 -< 32	32 -< 100
	Rainforest	< 11	11 -< 14	14 -< 21	21 -< 29	29 -< 100
	Short Heath	< 8	8 -< 10	10 -< 15	15 -< 22	22 -< 100
	Tall Heath	< 13	13 -< 18	18 -< 26	26 -< 36	36 -< 100

For the purpose of this assessment the western aspect has been chosen as the most potentially hazardous aspect due to the effective slope, potential run of fire and the prevailing fire weather of the area.

10 Siting.

The current site provides adequate separation between the proposed building and surrounding vegetation for a compliant structure to be built.

Recommendation;

Nil.

11 Construction and design.

All new work is to be undertaken in accordance with the relevant requirements of the NCC and AS3959 2018. The following recommendations are a minimum level of construction. Constructing the proposal to a higher level than that recommended is allowable under AS3959.

Note to RFS. The works to the habitable section of the building are 10m away from the hazard. However, there is also a proposed attached class 10 alfresco area between the hazard and the house. The alfresco area is to include a concrete roof and the general works are to be non-combustible.

As the alfresco area is within 10m of the hazard section 9.1 of AS3959 is applicable to the alfresco area. The application of section 9.1 would be onerous given that the proposed construction is to be concrete and will not add any fuel load to the fire.

The recommendations within this assessment include the option to build the alfresco area to either comply with section 3 and 9 of AS3959 or the option to build the alfresco from non-combustible materials and the remainder of the house to BAL-FZ and BAL-40, this practice is not unusual and considered to be a sensible and logical approach.

Recommendation; all new work to the house roof, western, northern and southern aspects.

1. New construction on the aspects as above shall comply with the requirements of section 3 of Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and,
2. New construction as above shall also comply with the requirements of BAL-FZ Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" or NASH Standard "National Standard Steel Framed Construction in Bushfire Areas" and any additional construction requirements contained within section 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.

The separation distance between the hazard and the eastern face of the dwelling is approximately 19.4m. The calculated radiant heat at this distance has been calculated at 36.78kwm² resulting in a BAL-40 outcome for the eastern face, see next page for verification.

Recommendation; all new work to the eastern aspect.

3. New construction on the eastern aspects shall comply with the requirements of section 3 of Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and,
4. New construction on the eastern aspects shall also comply with the requirements of and BAL-40 Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" or NASH Standard "National Standard Steel Framed Construction in Bushfire Areas" and any additional construction requirements contained within section 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.

5. New roofing valleys and guttering should be fitted with a non-combustible leaf protection to stop the accumulation of debris.

And/or.

Recommendation; Class 10 structures.

6. Any proposed Class 10 buildings attached to or within 6 metres of the habitable building shall be constructed from non-combustible materials.

AS-3959 2018 is available as PDF from;

https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

Site Street Address: 74 Elanora Road, Elanora Heights
Assessor: Matthew Willis; Bushfire Planning Services
Local Government Area: Northern Beaches **Alpine Area:** No

Equations Used

Transmissivity: Fuss and Hammins, 2002
 Flame Length: RFS PBP, 2001/Vesta/Catchpole
 Rate of Fire Spread: Noble et al., 1980
 Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005
 Peak Elevation of Receiver: Tan et al., 2005
 Peak Flame Angle: Tan et al., 2005

Run Description: North-west

Vegetation Information

Vegetation Type: Forest (including Coastal Swamp Forest)
Vegetation Group: Forest and Woodland
Vegetation Slope: 2.86 Degrees **Vegetation Slope Type:** Downslope
Surface Fuel Load(t/ha): 22 **Overall Fuel Load(t/ha):** 36.1
Vegetation Height(m): 2 **Only Applicable to Shrub/Scrub and Vesta**

Site Information

Site Slope: 16.02 Degrees **Site Slope Type:** Downslope
Elevation of Receiver(m): Default **APZ/Separation(m):** 19.4

Fire Inputs

Veg./Flame Width(m): 100 **Flame Temp(K):** 1090

Calculation Parameters

Flame Emissivity: 95 **Relative Humidity(%):** 25
Heat of Combustion(kJ/kg) 18600 **Ambient Temp(K):** 308
Moisture Factor: 5 **FDI:** 100

Program Outputs

Level of Construction: BAL FZ **Peak Elevation of Receiver(m):** 5.96
Radiant Heat(kW/m2): 36.78 **Flame Angle (degrees):** 66
Flame Length(m): 25.24 **Maximum View Factor:** 0.57
Rate Of Spread (km/h): 3.22 **Inner Protection Area(m):** 19
Transmissivity: 0.849 **Outer Protection Area(m):** 0
Fire Intensity(kW/m): 59983

12 Utilities.

12.1 Water.

The proposed development will have access to a reticulated water supply. There is at least one hydrant indicated within the required distance from the dwelling.

Recommendation;

Nil.

12.2 Electricity and Gas.

Recommendation;

7. Any new electricity or gas connections are to comply with the requirements of table 7.4a of Planning for Bushfire Protection.

13 Asset Protection Zone (APZ).

The Asset Protection Zone is *“An area surrounding a development managed to reduce the bushfire hazard to an acceptable level. The width of an APZ will vary with slope, vegetation and construction level”*.

Recommendation;

8. At the commencement of building works and in perpetuity the entire property shall be managed as an Asset Protection Zone in accordance with the requirements of Planning for Bushfire Protection, the RFS document Standards for Asset Protection Zones and in a manner that does not create a bushfire hazard to the property.

14 Landscaping.

Recommendation;

9. Any new fencing is to be constructed in accordance with section 7.6 of Planning for Bushfire Protection 2019.

10. Any new landscaping to the site is to comply with the principles of Appendix 4 and section 3.7 of Planning for Bush Fire Protection 2019. In this regard the following landscaping principles are, where applicable, to be incorporated into the development¹:

- Suitable impervious areas being provided immediately surrounding the building such as courtyards, paths and driveways;
- Grassed areas/mowed lawns/ or ground cover plantings being provided in close proximity to the building;

¹Refer to referenced documents for a complete description.

- Restrict planting in the immediate vicinity of the building which may over time and if not properly maintained come in contact with the building;
- Maximum tree cover should be less than 30%, and maximum shrub cover less than 20%;
- Planting should not provide a continuous canopy to the building (i.e. trees or shrubs should be isolated or located in small clusters);
- When considering landscape species consideration needs to be given to estimated size of the plant at maturity;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas;
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such timber garden furniture way from the building; and
- Use of low flammability vegetation species.

15 Constraints on the subject block.

None known.

Recommendation;

Nil

16 Access/Egress.

All roads in the area are considered to be capable of handling emergency service vehicles. Access from the roadway onto the property is also considered to be adequate for firefighting purposes.

Recommendation

Nil

17 Compliance or non compliance with the specifications and requirements for bushfire protection measures.

<p>APZ A defensible space is provided onsite. An APZ is provided and maintained for the life of the development.</p>	<p>Achievable with the implementation of the recommendations in section 13</p>
<p>SITING AND DESIGN: Buildings are sited and designed to minimise the risk of bush fire attack.</p>	<p>Achievable with the implementation of the recommendations in section 10</p>
<p>CONSTRUCTION STANDARDS: It is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact.</p>	<p>Achievable with the implementation of the recommendations in section 11</p>
<p>ACCESS Safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire, (satisfying the intent and performance criteria for access roads in sections 4.1.3 and 4.2.7).</p>	<p>Achievable with the implementation of the recommendations in section 16</p>
<p>WATER AND UTILITY SERVICES:</p> <ul style="list-style-type: none"> adequate water and electricity services are provided for firefighting operations Gas and electricity services are located so as not to contribute to the risk of fire to a building. 	<p>Achievable with the implementation of the recommendations in section 12</p>
<p>LANDSCAPING:</p> <ul style="list-style-type: none"> it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause Ignitions. 	<p>Achievable with the implementation of the recommendations in section 14</p>

18 Conclusions.

Based on the above report and with the implementation of the recommendation contained within this report the consent authority should determine that this development can comply with the requirements of AS 3959-2018 and 'Planning for Bushfire Protection' guidelines.

The recommendations contained within this report are to be implemented in their entirety. Changing one aspect may have an adverse effect on the rest of the recommendations.

Bushfires are affected by many external influences such as climactic conditions, vegetation type, moisture content of the fuel, slope of the land and human intervention to name a few and are difficult to predict.

This report does not intend to provide a guarantee that the subject property will survive if a bushfire should impact the surrounding area. The purpose of this report is to show the developments level of compliance or in some cases non-compliance with the New South Wales legislation regarding building in bushfire prone areas.

Where non-compliance is found measures will be suggested that should make the building less susceptible to the various attack mechanisms of a bushfire and comply with the performance requirements of the Building Code of Australia.

The opinions expressed in this report are based on the writers' experience and interpretation of the relevant guidelines and standards. Notwithstanding the above, these guidelines and standards are open to interpretation. All care has been taken to ensure that the opinions expressed in this report are consistent with past successful outcomes.

Some of the information used in the compilation of this assessment has been provided by the proponent or the proponent's representatives. While we believe this information to be true and have accepted the information in good faith however this company or its representatives will not accept any responsibility if the provided information is determined to be incorrect.

This document is to assist the consenting authorities with their assessment of this proposal. The recommendations contained in this assessment reflect the normal conditions that are typically applied by the consent authority for a proposal such as this however the conditions of consent for the proposal will be supplied by the certifying authority on approval of the development and may not necessarily be the same as the recommendations of this assessment.

The recommendations in this assessment are for planning guidance only, construction details and compliance with all building requirements are the responsibility of the Architect/Designer, Builder and Certifier.

To avoid confusion, unless specifically referenced by the consenting authority, it is strongly recommended that once this proposal has been approved that this document is no longer referenced and that only the official conditions of consent as reflected in documentation by the certifying body are used for construction guidance.

If any further clarification is required for this report, please do not hesitate to contact me using the details above.

Yours Sincerely



Matthew Willis
Grad Dip Planning for Bushfire Prone Areas
Bushfire Planning Services Pty Limited

19 References.

- *Australian Building Codes Board (2019). National Construction Code Volume One - Building Code of Australia. ABCB*
- *Australian Building Codes Board (2019). National Construction Code Volume two - Building Code of Australia. ABCB.*
- *Keith, D.A. (2004). Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT. NSW Department of Environment and Conservation.*
- *National Association of Steel Framed Housing (2014). "Steel Framed Construction in Bush Fire Areas. NASH*
- *Ramsay, C and Rudolph, L (2003) "Landscape and Building Design for Bush fire Areas". CSIRO Publishing, Collingwood.*
- *Resources and Energy NSW (2016). ISSC 3 Guide for the Managing Vegetation in the Vicinity of Electrical Assets. NSW Government*
- *Rural Fire Service NSW (2005) "Standards for Asset Protection Zones"*
- *Standards Australia (2018). "AS 3959, Construction of buildings in bush fire prone areas".*
- *Standards Australia (2018). "AS/NZS 1530.8.1 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Radiant heat and small flaming sources".*
- *Standards Australia (2018). "AS/NZS 1530.8.2 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Large flaming sources".*
- *Standards Australia (2014). "AS/NZS 1596 The storage and handling of LP Gas".*

20 Appendix 1 - Plans .

DEVELOPMENT APPLICATION | REVISION A 74 ELANORA ROAD ELANORA HEIGHTS NSW 2101

LOCATION (NTS)



BASIX SPECIFICATION

DRAWINGS LIST

DRAWING No.	DESCRIPTION	REV	DATE ISSUED
DA 00	COVER PAGE	A	29/10/24
DA 01	SITE ANALYSIS	A	29/10/24
DA 02	GROUND FLOOR DEMO PLAN	A	29/10/24
DA 03	FIRST FLOOR DEMO PLAN	A	29/10/24
DA 04	ROOF DEMO PLAN	A	29/10/24
DA 10	SITE PLAN		
DA 11	GROUND FLOOR PLAN	A	29/10/24
DA 12	FIRST FLOOR PLAN	A	29/10/24
DA 13	ROOF PLAN	A	29/10/24
DA 20	NORTH ELEVATION	A	29/10/24
DA 20	SOUTH ELEVATION	A	29/10/24
DA 22	EAST ELEVATION	A	29/10/24
DA 22	WEST ELEVATION	A	29/10/24
DA 30	SECTION AA - BB	A	29/10/24
DA 40	SHADOW DIAGRAM - 9AM 21 JUNE	A	29/10/24
DA 41	SHADOW DIAGRAM - 12PM 21 JUNE	A	29/10/24
DA 42	SHADOW DIAGRAM - 3PM 21 JUNE	A	29/10/24
DA 50	LANDSCAPE CALCULATIONS	A	29/10/24
DA 51	GFA CALCULATIONS	A	29/10/24
DA 60	LANDSCAPE PLANS		

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ABBREVIATIONS

BALC - BALCONY	CT - CERAMIC TILE	FFL - FINISHED FLOOR LEVEL	P/W - PAVING	RR - ROOF RIDGE	SST - SAND STONE	TPTT - TEL STRA PIT
BL - BLOCKWORK	DEM - DEMOLISHED	G - GLASS	PF - PAINT FINISH	RT - ROOF TILE	STR - STONE	TSF - TIMBER STRIP FLOORING
BW - BRICKWORK	DP - DOWN PIPE	GM - GAS METER	PP - POWER POLE	SD - STEEL DOOR	STR - STAIR	T - TIMBER
CPT - CARPET	EO - ELECTRICITY LINE OVERHEAD	MR - METAL ROOF	RF - ROOF	SK - SKYLIGHT	TD - TREAD	TW - TOP OF WALL
CR - CEMENT RENDER	EX - EXISTING STRUCTURE	OF - OVER FLOW	RL - RELATIVE LEVEL	SP - STEEL PLATE	TG - TOP OF GUTTER	WM - WATER METER

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PROJECT
ELANORA HEIGHTS
ADDRESS
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT
JAMES HORTON AND ANNALIESE PEDAVOLI

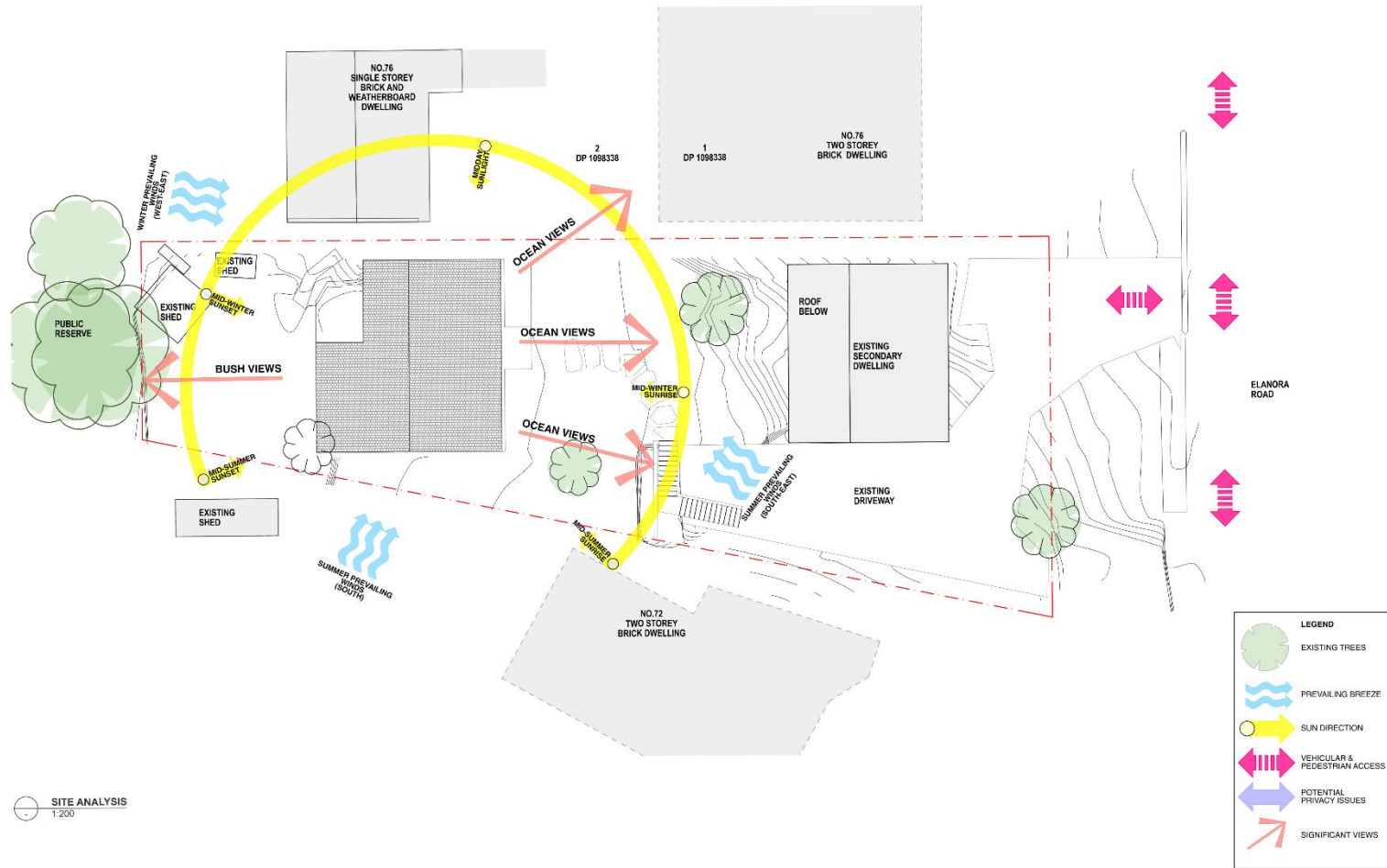
LEGEND

DATE
29/10/24
SCALE
AS SHOWN
DRAWING NO.
DA 00
DATE
29/10/24

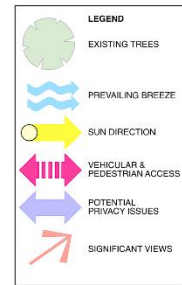


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COVER PAGE

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A
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SITE ANALYSIS
1:200



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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND

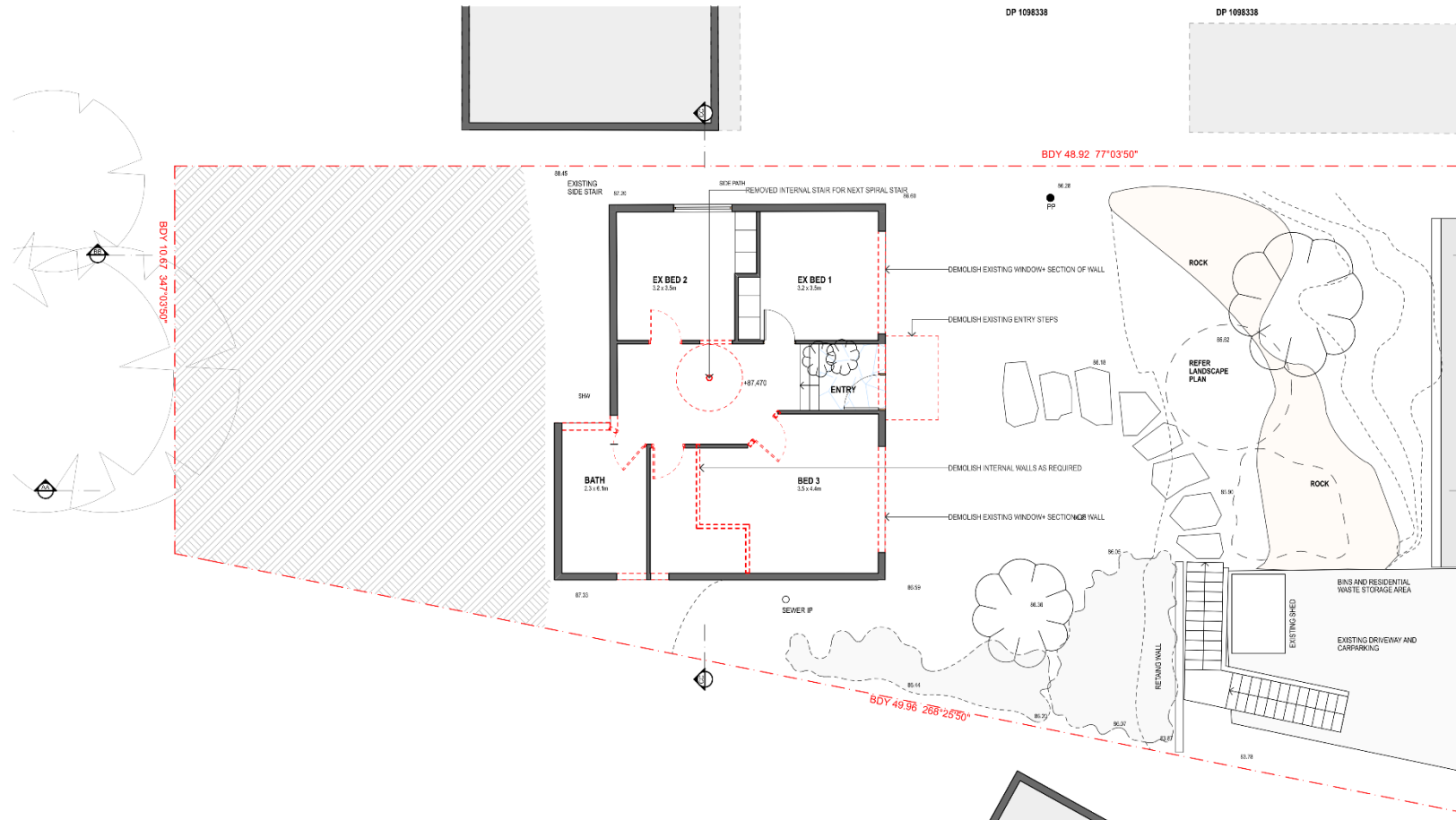
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- EXISTING DRIVEWAY
- PROPOSED DRIVEWAY
- EXISTING TREES
- PROPOSED TREES
- EXISTING BREEZE
- PROPOSED BREEZE

SEE PRELIMINARY ANALYSIS AND MEASUREMENTS FOR FURTHER DETAILS.
ALL DIMENSIONS GIVEN ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.

SCALE: @ A3
PROJECT NO.: 2408
DATE: 28/10/24

DRAWING NAME:
SITE ANALYSIS

REVISION: A
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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

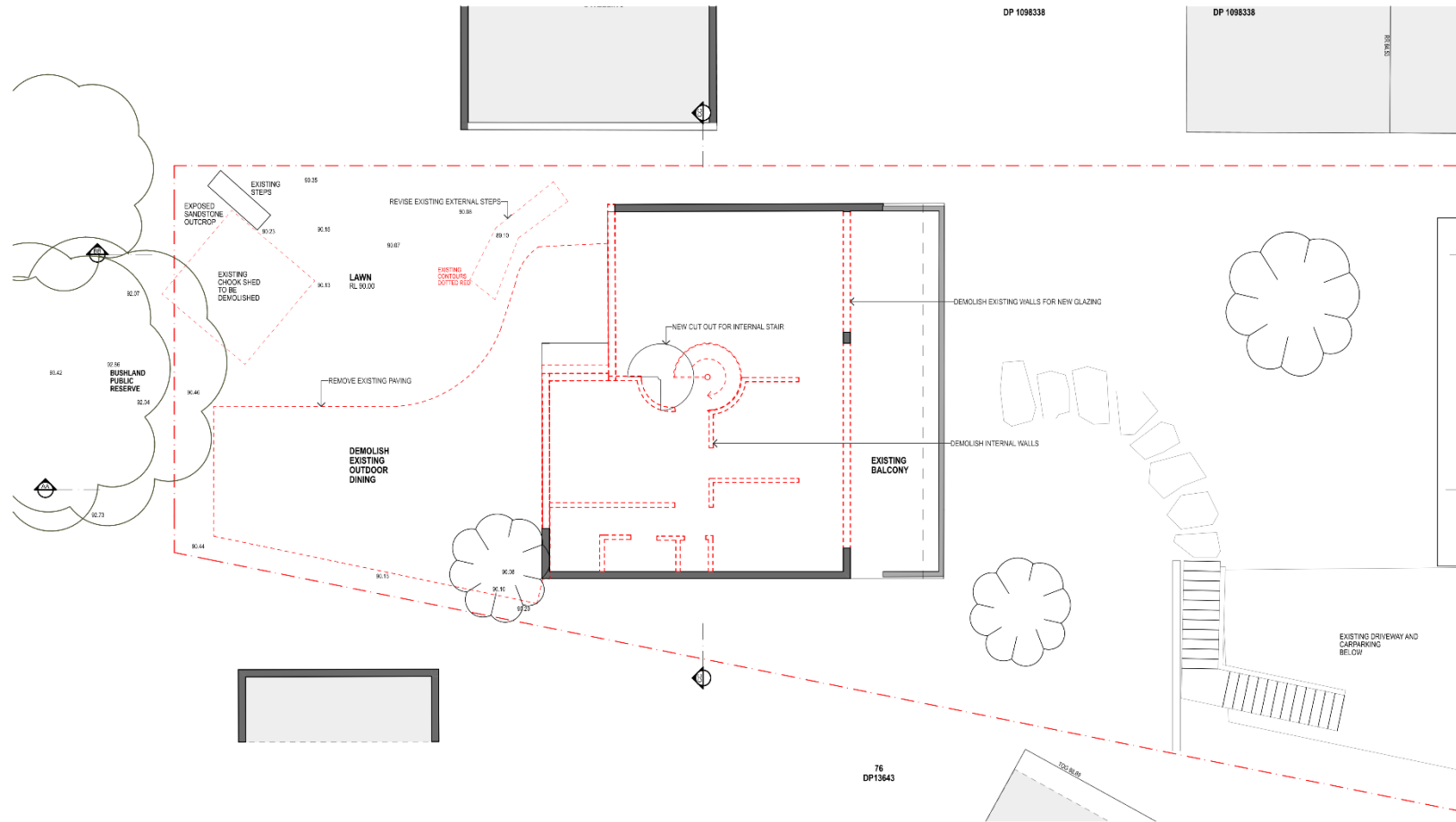
LEGEND

- EXISTING STRUCTURE
- PROPOSED DEMOLITION
- PROPOSED CONSTRUCTION
- DEMOLITION WALL
- DEMOLITION WINDOW
- DEMOLITION DOOR
- DEMOLITION STAIR
- DEMOLITION ROOF
- DEMOLITION FLOOR
- DEMOLITION CEILING
- DEMOLITION WALL
- DEMOLITION WINDOW
- DEMOLITION DOOR
- DEMOLITION STAIR
- DEMOLITION ROOF
- DEMOLITION FLOOR
- DEMOLITION CEILING

SCALE:
A3
PROJECT NO:
2408
DATE:
20/10/24

DRAWING NAME:
**GROUND FLOOR DEMO
PLAN**

REVISION
A
DRAWING NO:
DA 02



DP 1098338

DP 1098338

76
 DP13643

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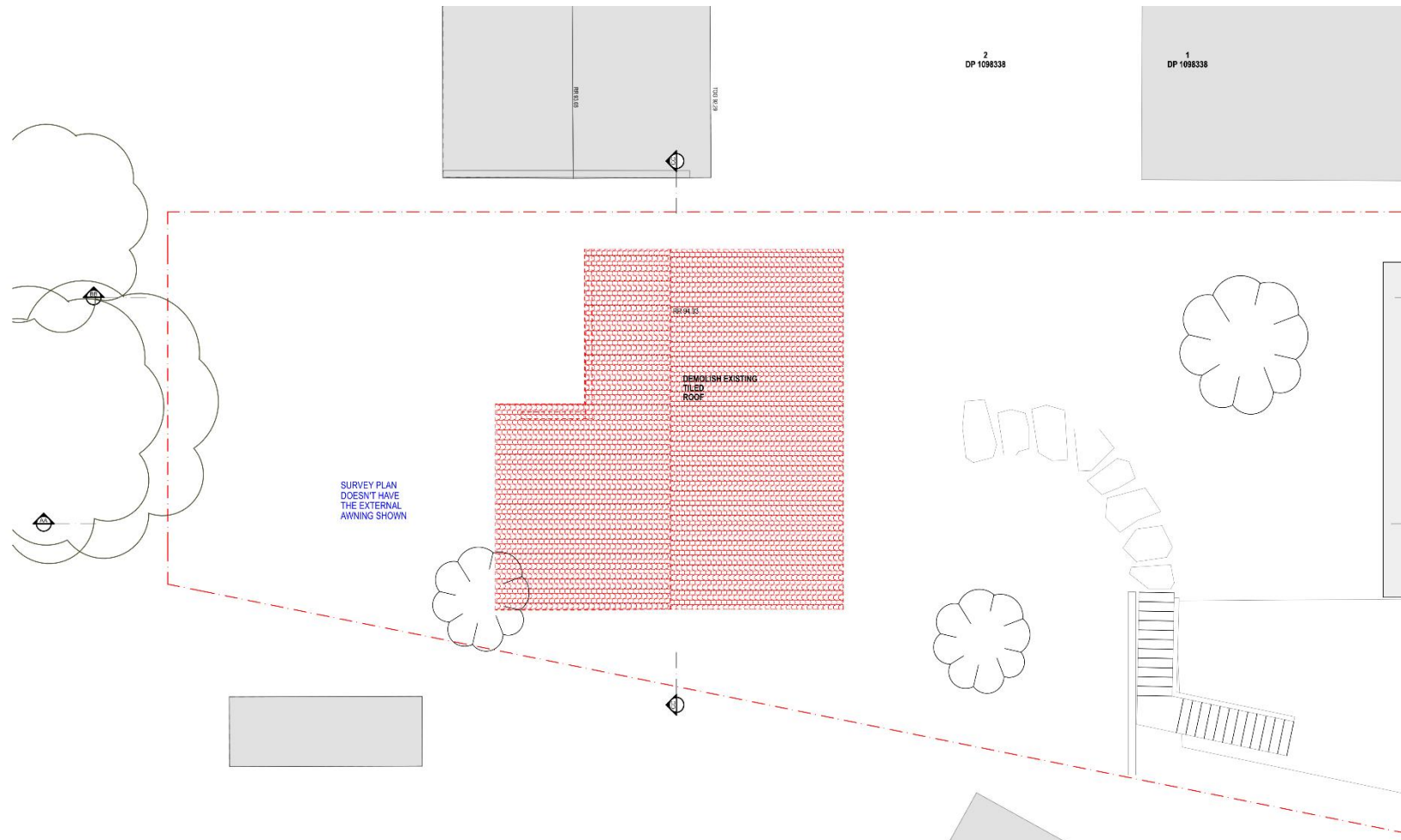
PROJECT NAME
ELANORA HEIGHTS
 ADDRESS
 74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
 CLIENT
 JAMES HORTON AND ANNALIESE PEDAVOLI

LEGEND	
	DEMOLITION STRUCTURE
	DEMOLITION
	DEMOLITION TO BE REMOVED TO EXISTING LEVEL
	NEW CONSTRUCTION
	PROPOSED CONSTRUCTION
	CONCRETE CONSTRUCTION
	WOODEN CONSTRUCTION

SEE RELATED DRAWINGS IN REFERENCE TO SCALE
 ALL DIMENSIONS GIVEN TO FACE UNLESS OTHERWISE SPECIFIED
 DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED
 ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED
 SCALE: A3
 PROJECT NO: 2408
 DATE: 29/10/24

DRAWING NAME:
FIRST FLOOR DEMO PLAN

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 REVISION: **A**
 DRAWING NO: **DA 03**



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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND

--- DEMOLITION	--- EXISTING ROOF
--- EXISTING WALLS	--- EXISTING FLOOR
--- EXISTING DRIVEWAY	--- EXISTING DRIVEWAY
--- EXISTING LAWN	--- EXISTING LAWN

SCALE: 1:100
PROJECT NO: 2408
DATE: 29/10/24

DRAWING NAME:
ROOF DEMO PLAN

REVISION: A
DRAWING NO.: DA 04

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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND

--- Dotted line	EXISTING STRUCTURE	--- Dashed line	EXISTING WALLS
--- Solid line	PROPOSED	--- Dotted line	EXISTING WALLS
--- Solid line	EXISTING UNIMPROVED DL	--- Dotted line	EXISTING WALLS
--- Solid line	EXISTING LAP	--- Dotted line	EXISTING WALLS
--- Solid line	EXISTING WALLS	--- Dotted line	EXISTING WALLS
--- Solid line	EXISTING WALLS	--- Dotted line	EXISTING WALLS
--- Solid line	EXISTING WALLS	--- Dotted line	EXISTING WALLS
--- Solid line	EXISTING WALLS	--- Dotted line	EXISTING WALLS

SEE FINISHED MEASUREMENTS IN PRELIMINARY FIRE RISK ASSESSMENT REPORT FOR MORE INFORMATION. SEE FINISHED MEASUREMENTS IN PRELIMINARY FIRE RISK ASSESSMENT REPORT FOR MORE INFORMATION.

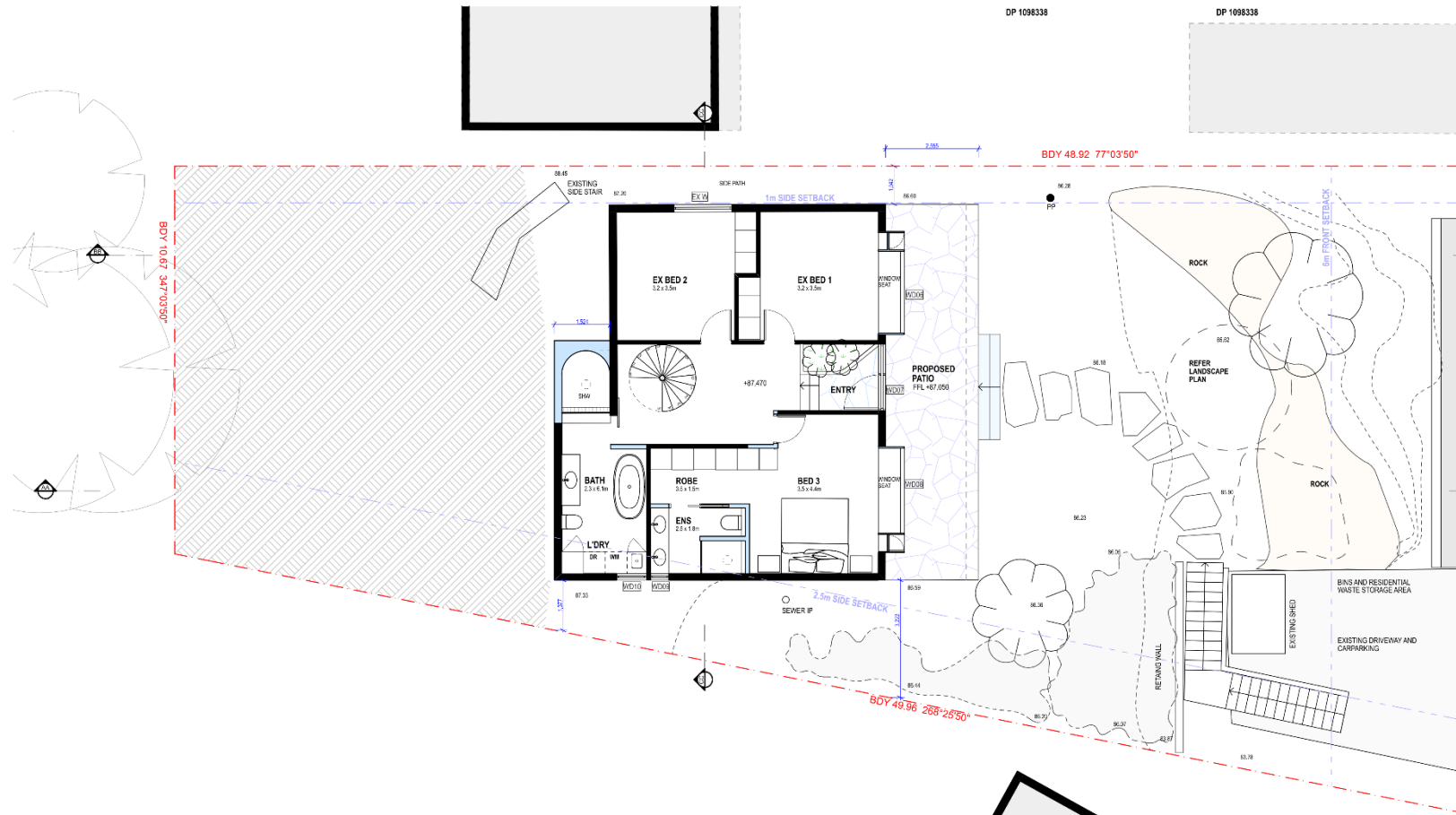
SCALE: @ A3
PROJECT NO: 2408
DATE: 29/10/24



DRAWING NAME:
SITE PLAN

REVISION	DRAWING NO:
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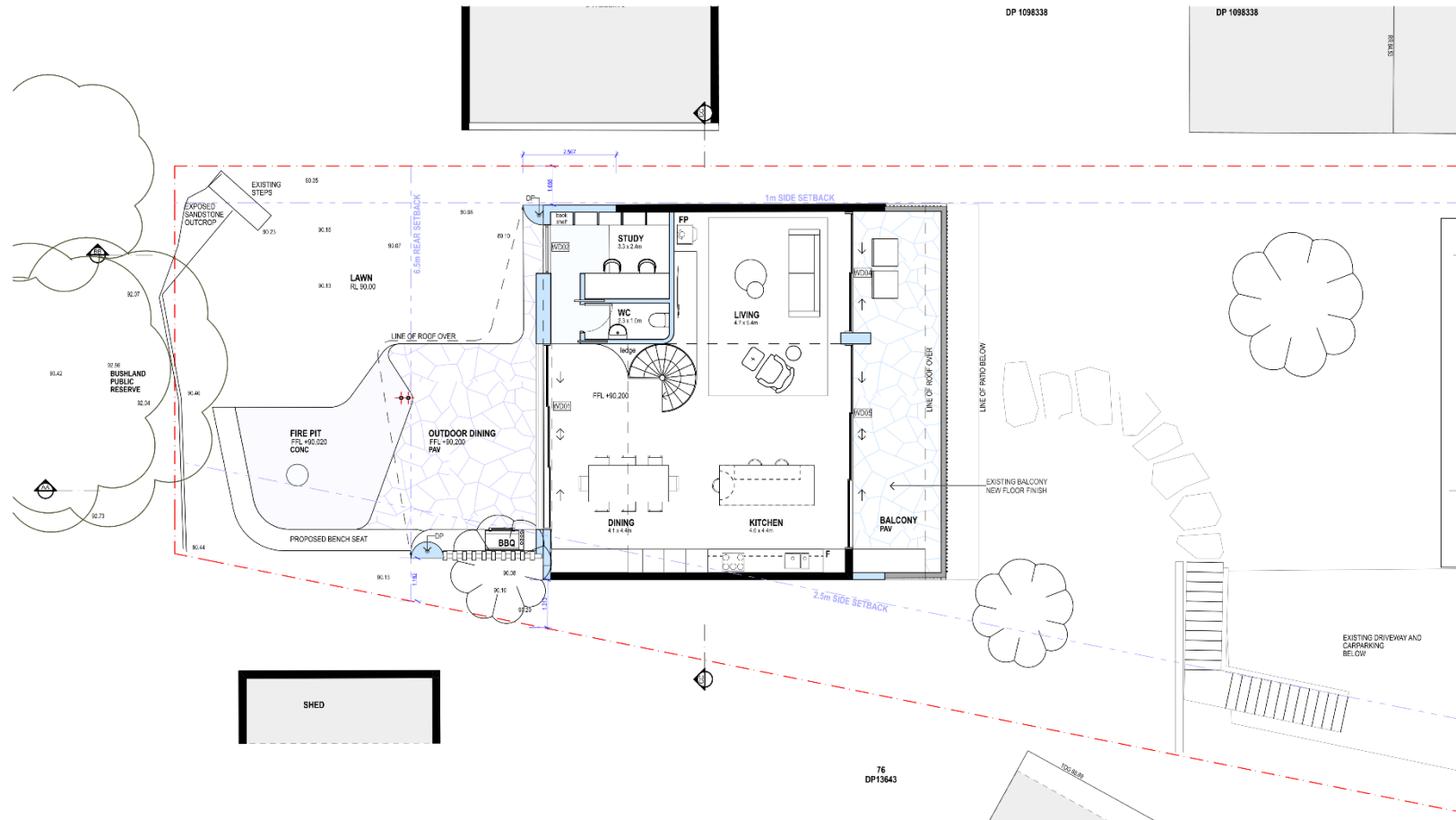
PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND	
	EXISTING STRUCTURE
	PROPOSED
	EXISTING UNIMPROVED DL
	EXISTING LIP
	WINDSHIELD
	ROCK OUTCROPS
	CONCRETE RETENTION
	EXISTING DRIVEWAY

SEE PLAN FOR DIMENSIONS AND MEASUREMENTS OF PROPOSED
ALL DIMENSIONS GIVEN TO THE BOUNDARY UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS GIVEN TO THE PROPOSED STRUCTURE UNLESS OTHERWISE SPECIFIED.
SCALE: @ A3
PROJECT NO: 2408
DATE: 28/10/24

DRAWING NAME:
GROUND FLOOR PLAN

REVISION	DRAWING NO:
A	DA 11



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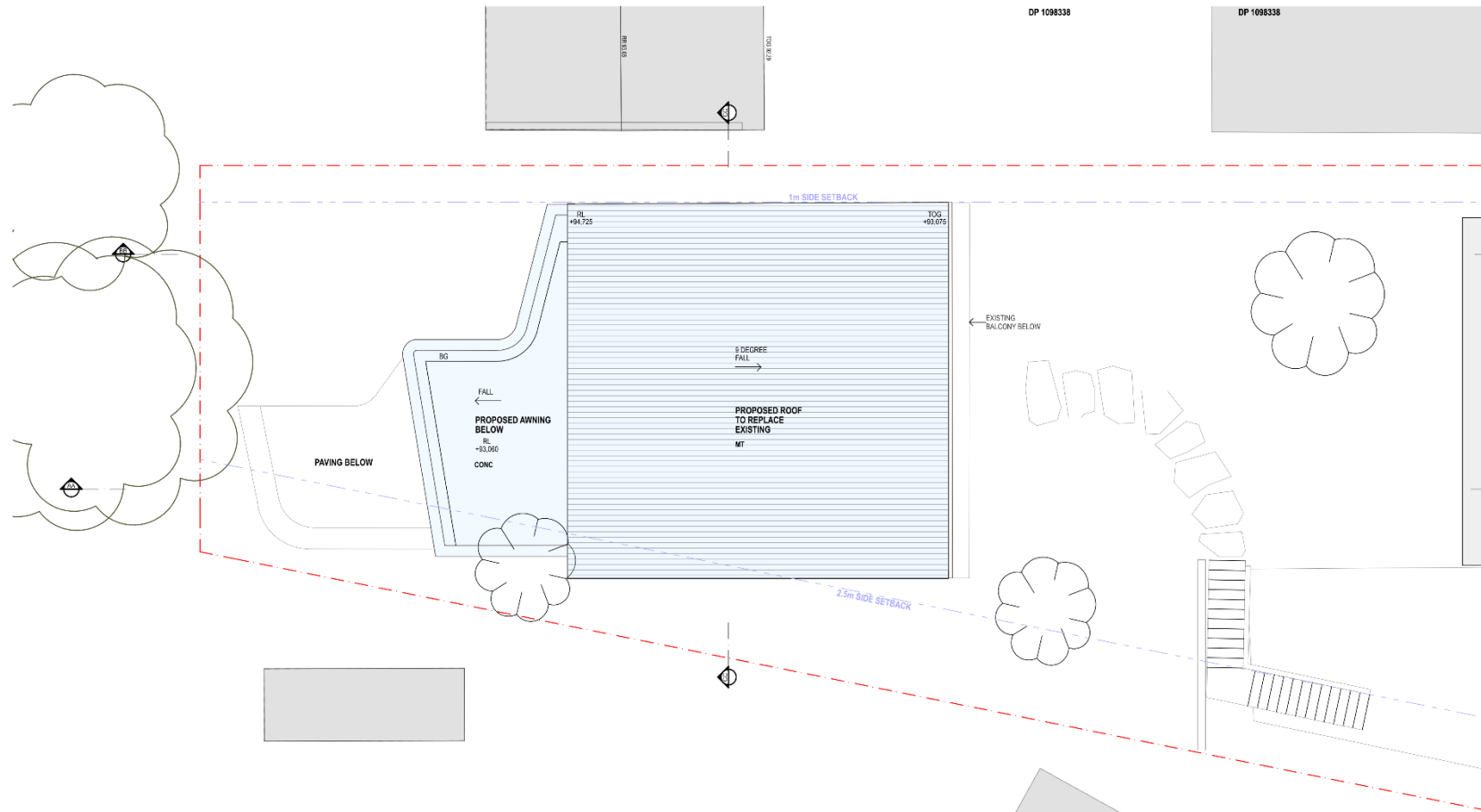
PROJECT NAME:
ELANORA HEIGHTS
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND	
	EXISTING STRUCTURE
	PROPOSED STRUCTURE
	EXISTING SETBACKS
	PROPOSED SETBACKS
	EXISTING DRIVE
	PROPOSED DRIVE
	EXISTING DRIVEWAY
	PROPOSED DRIVEWAY

SCALE: A3
PROJECT NO: 2408
DATE: 28/10/24

DRAWING NAME:
FIRST FLOOR PLAN

REVISION	DRAWING NO:
A	DA 12



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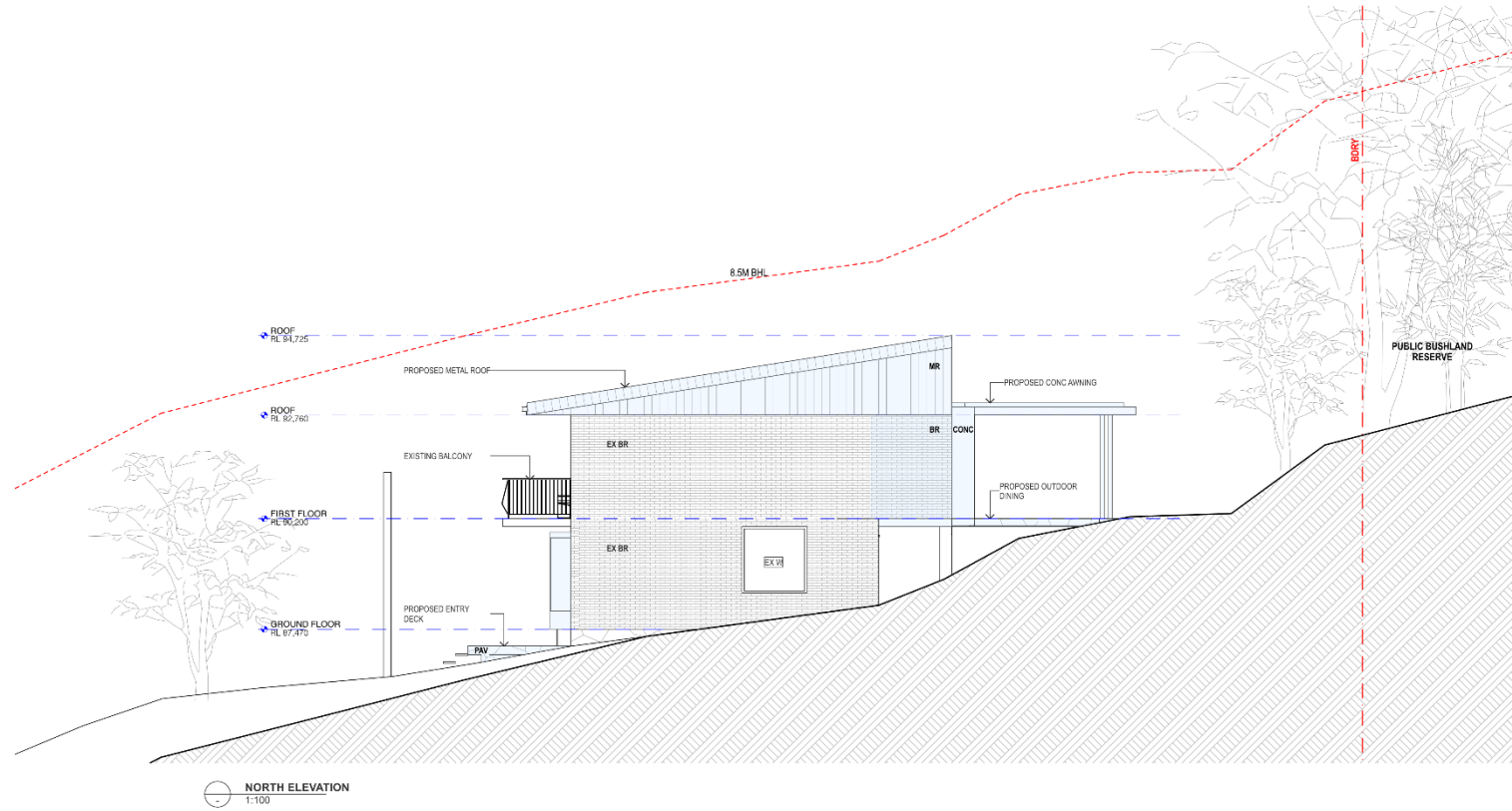
PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND
--- PROPOSED STRUCTURE
--- EXISTING
--- EXISTING IMPROVED DL
--- EXISTING LEVEL
--- EXISTING FINISH
--- EXISTING FINISH
--- EXISTING FINISH
--- EXISTING FINISH
--- EXISTING FINISH
--- EXISTING FINISH

SEE EXISTING DRAWINGS IN REFERENCE TO SCALE
ALL DIMENSIONS GIVEN ARE APPROXIMATE AND SHOULD BE CHECKED ON SITE
SCALE: 1:100
PROJECT NO: 2408
DATE: 28/10/24

DRAWING NAME:
ROOF PLAN

REVISION
A
DRAWING NO:
DA 13



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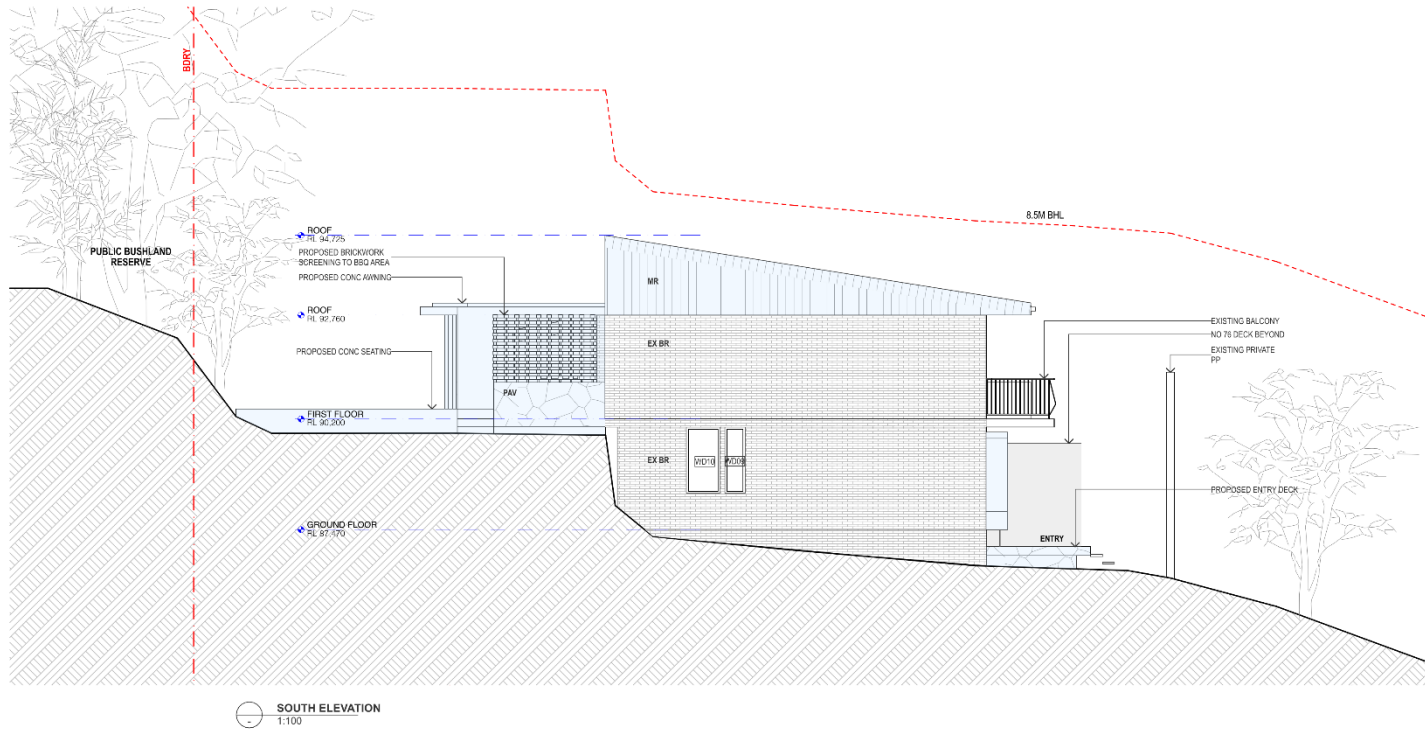
PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND	
--- (dashed red)	EXISTING STRUCTURE
--- (dashed blue)	PROPOSED
--- (dashed green)	EXISTING UNIMPROVED
--- (solid black)	EXISTING LEVEL
--- (solid red)	8.5M BHL
--- (solid blue)	ROOF
--- (solid green)	FLOOR
--- (solid purple)	CONCRETE
--- (solid yellow)	GLASS
--- (solid orange)	WOOD

SEE FINISHED MEASUREMENTS IN PRELIMINARY PROPOSAL
ALL DIMENSIONS GIVEN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY THE CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION AND CHECKED BY THE ARCHITECT.
SCALE: @ A3
PROJECT NO: 2408
DATE: 29/10/24

DRAWING NAME:
NORTH ELEVATION

REVISION	DRAWING NO:
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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND

--- BURY	--- EXISTING STRUCTURE	--- EXISTING WALL
--- PROPOSED BROCKWORK	--- PROPOSED CONC AWNING	--- EXISTING ROOF
--- PROPOSED CONC SEATING	--- PROPOSED CONC	--- EXISTING FLOOR
--- PROPOSED BROCKWORK	--- PROPOSED CONC	--- EXISTING FLOOR

SCALE: @ A3
PROJECT NO: 2408
DATE: 28/10/24

DRAWING NAME:
SOUTH ELEVATION

REVISION	DRAWING NO:
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ALL INFORMATION ON SITE

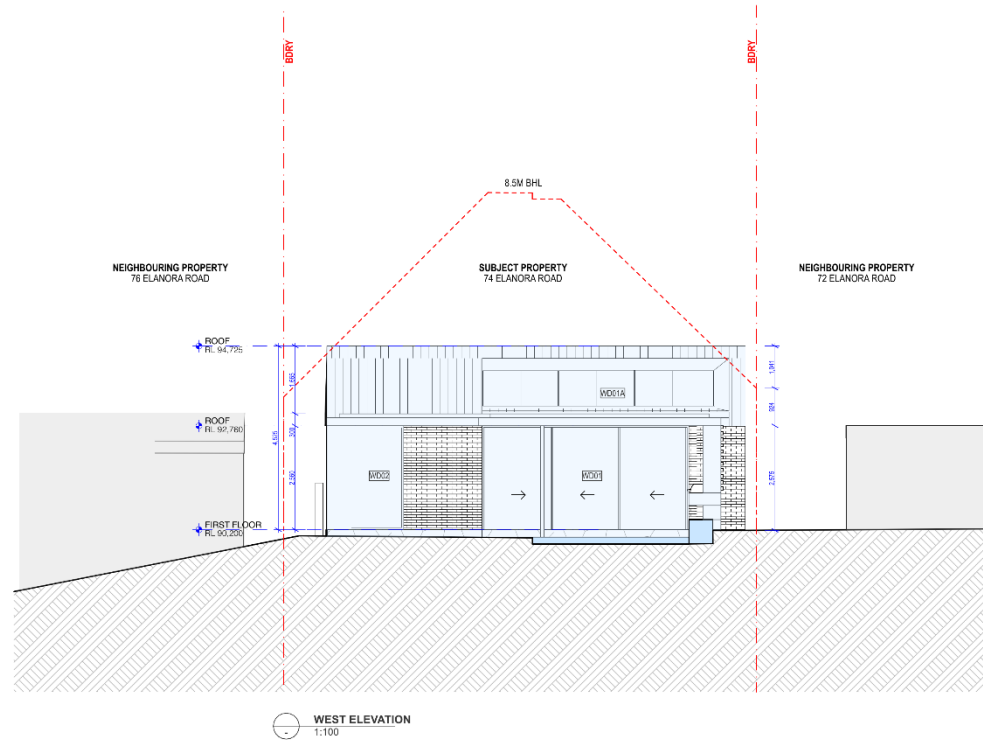
PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND
--- DASHED LINE --- EXISTING STRUCTURE
--- DASHED LINE --- EXISTING
--- DASHED LINE --- EXISTING UNIMPROVED DL
--- DASHED LINE --- EXISTING LIFT
--- DASHED LINE --- EXISTING WALL
--- DASHED LINE --- EXISTING ROOF
--- DASHED LINE --- EXISTING FLOOR
--- DASHED LINE --- EXISTING CEILING
--- DASHED LINE --- EXISTING STAIR

SCALE:
A3
PROJECT NO.:
2408
DATE:
28/10/24

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EAST ELEVATION

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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

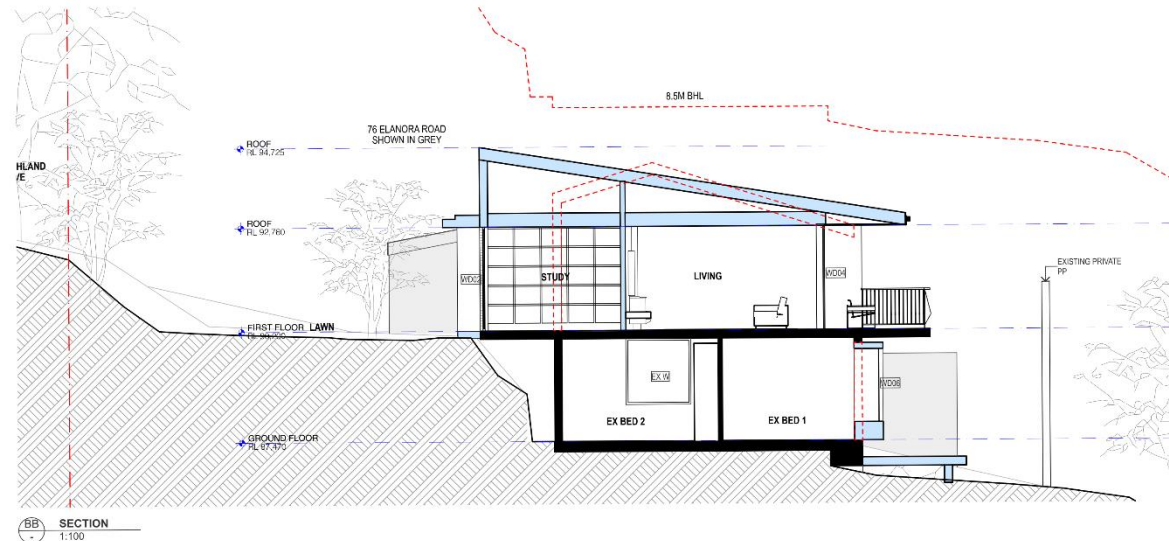
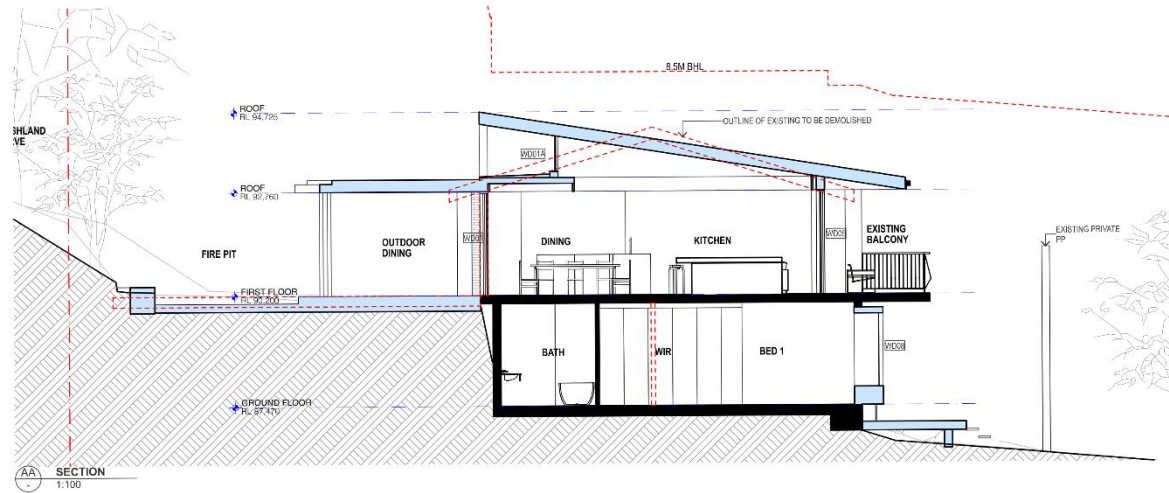
LEGEND	
--- (dashed red)	EXISTING STRUCTURE
--- (dashed blue)	PROPOSED
--- (dotted blue)	EXISTING UNIMPAVED DL
--- (solid black)	EXISTING LIFT
--- (solid red)	WINDUP WALL
--- (solid green)	GLASS WALL
--- (solid blue)	CONCRETE WALL
--- (solid purple)	CONCRETE SLAB

SEE FINISHED MEASUREMENTS IN MEASUREMENTS FOR SCALE
ALL DIMENSIONS GIVEN TO THE FACE UNLESS OTHERWISE STATED OR INDICATED TO THE CONTRARY AND SHALL BE TO FACE UNLESS OTHERWISE STATED

SCALE: @ A3
PROJECT NO: 2408
DATE: 28/10/24

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WEST ELEVATION

REVISION	DRAWING NO:
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PROJECT NAME:
ELANORA HEIGHTS
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

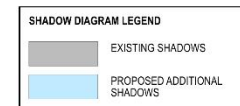
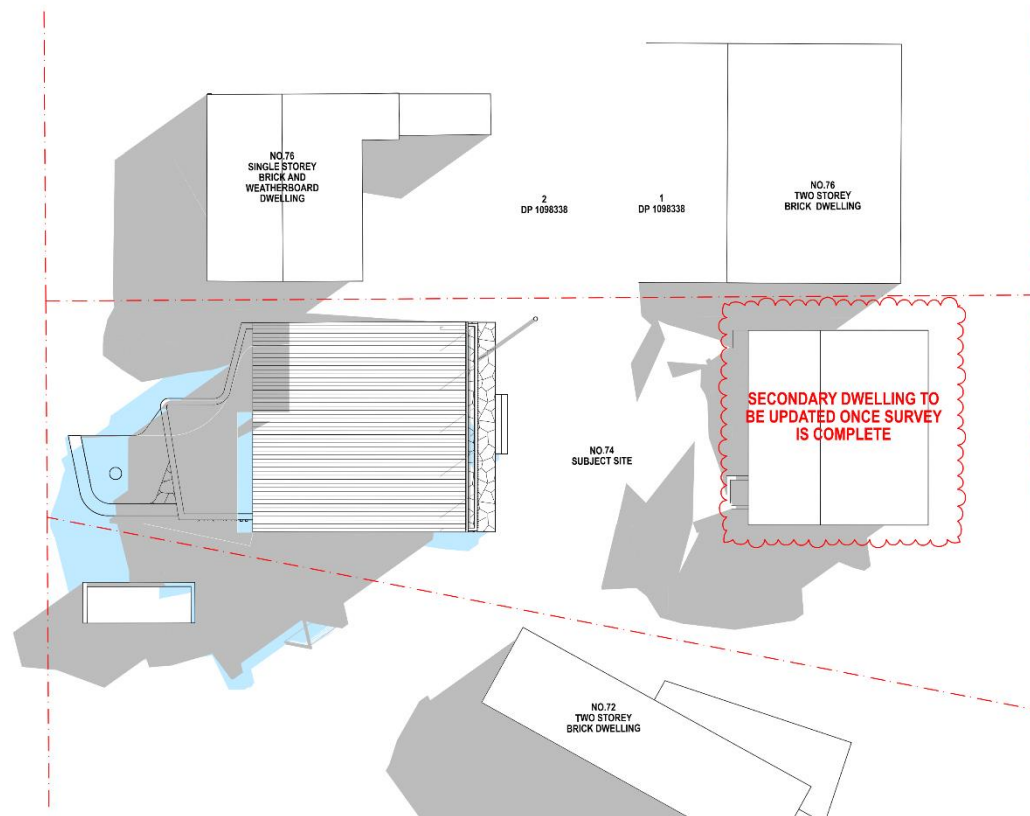
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--- DASHED LINE	PROPOSED STRUCTURE
--- DASHED LINE	DEMOLISHED STRUCTURE
--- DASHED LINE	DEMOLISHED BALCONY
--- DASHED LINE	DEMOLISHED ROOF
--- DASHED LINE	DEMOLISHED WALL
--- DASHED LINE	DEMOLISHED FLOOR
--- DASHED LINE	DEMOLISHED CEILING
--- DASHED LINE	DEMOLISHED STAIR
--- DASHED LINE	DEMOLISHED WINDOW
--- DASHED LINE	DEMOLISHED DOOR
--- DASHED LINE	DEMOLISHED BALCONY RAILING
--- DASHED LINE	DEMOLISHED BALCONY FLOOR
--- DASHED LINE	DEMOLISHED BALCONY WALL
--- DASHED LINE	DEMOLISHED BALCONY CEILING
--- DASHED LINE	DEMOLISHED BALCONY STAIR
--- DASHED LINE	DEMOLISHED BALCONY DOOR
--- DASHED LINE	DEMOLISHED BALCONY WINDOW
--- DASHED LINE	DEMOLISHED BALCONY RAILING
--- DASHED LINE	DEMOLISHED BALCONY FLOOR
--- DASHED LINE	DEMOLISHED BALCONY WALL
--- DASHED LINE	DEMOLISHED BALCONY CEILING
--- DASHED LINE	DEMOLISHED BALCONY STAIR
--- DASHED LINE	DEMOLISHED BALCONY DOOR
--- DASHED LINE	DEMOLISHED BALCONY WINDOW

SCALE: 1:100
PROJECT NO: 2408
DATE: 28/10/24

DRAWING NAME:
SECTION AA + BB

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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALIESE PEDAVOLI

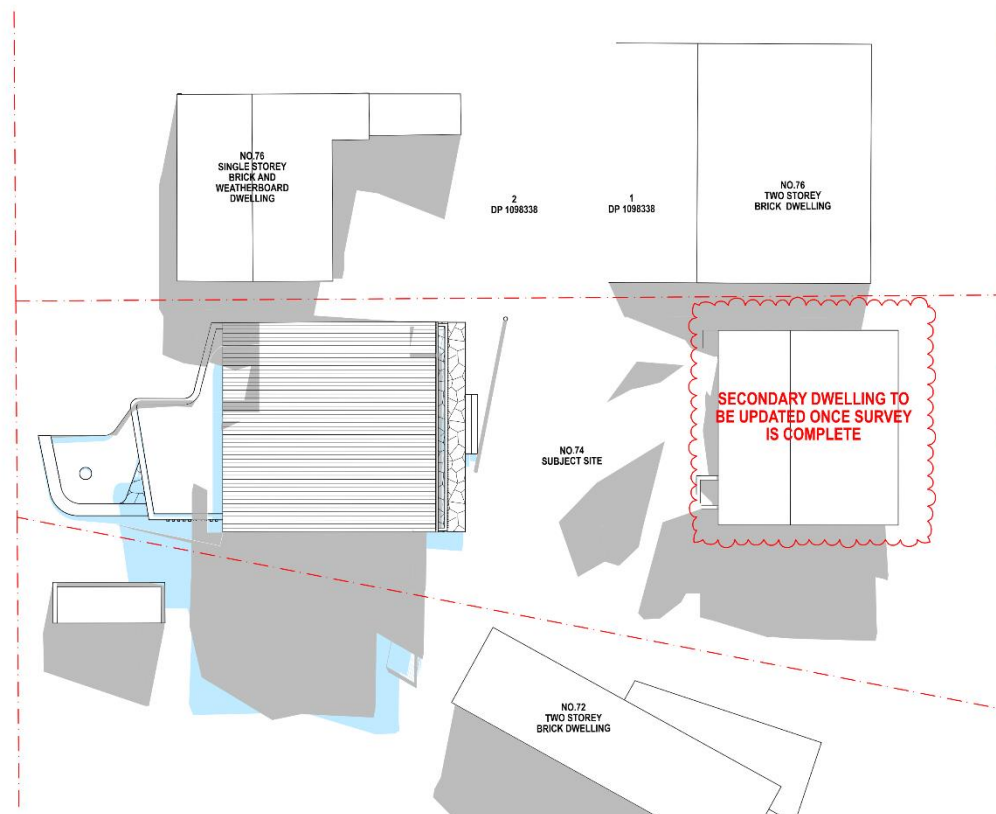
LEGEND

	EXISTING STRUCTURE		WALLS
	PROPOSED STRUCTURE		ROOF
	EXISTING DRIVEWAY		GLAZING
	PROPOSED DRIVEWAY		SCREENS
	EXISTING DRIVEWAY		SCREENS

SCALE: 1:200 @ A3
PROJECT NO.: 2408
DATE: 28/10/24

DRAWING NAME:
SHADOW DIAGRAM - 9AM
21 JUNE

REVISION	DRAWING NO.:
A	DA 40



SHADOW DIAGRAM LEGEND	
	EXISTING SHADOWS
	PROPOSED ADDITIONAL SHADOWS

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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

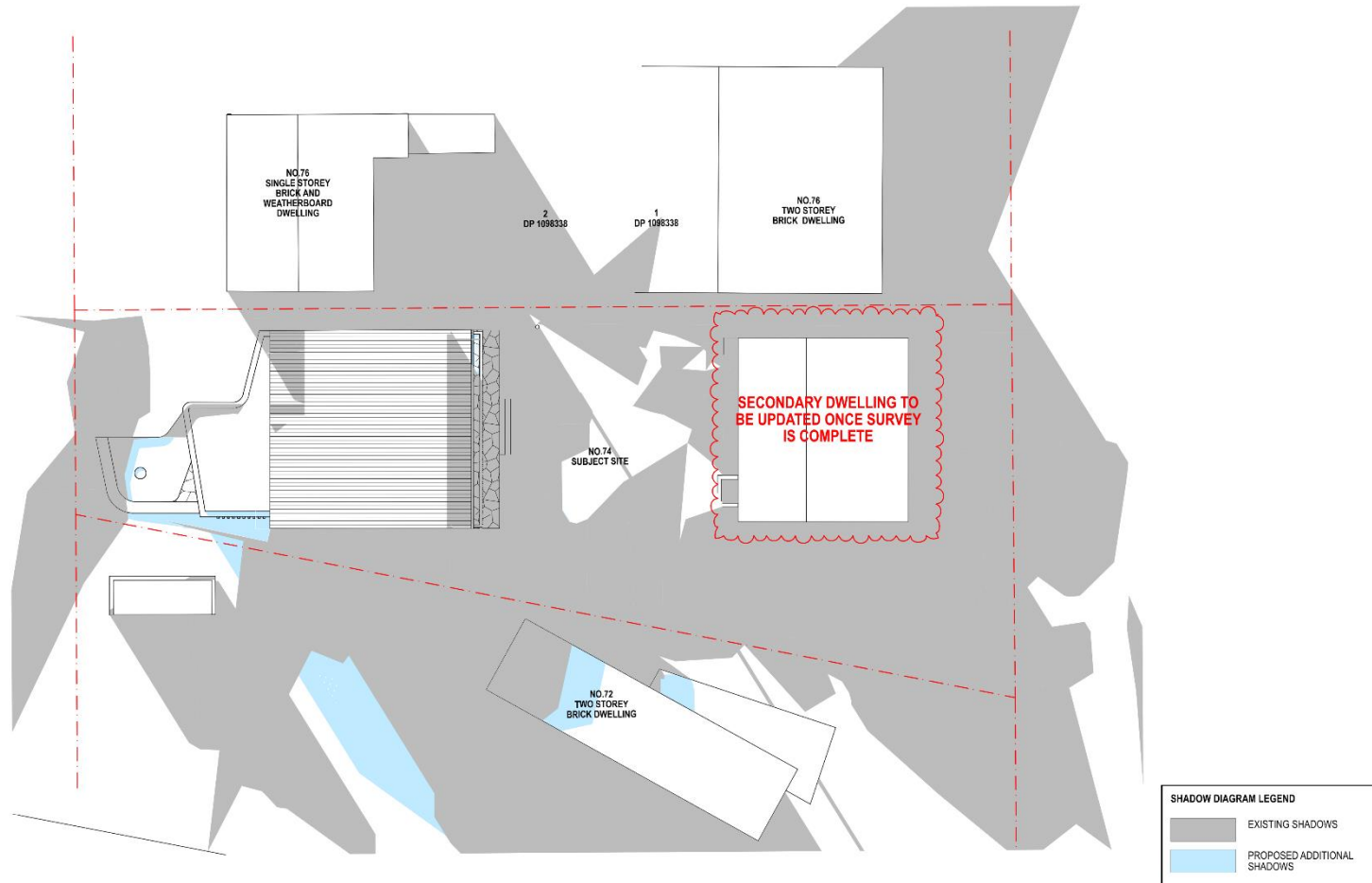
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	PROPOSED STRUCTURE
	EXISTING DRIVEWAY
	PROPOSED DRIVEWAY
	EXISTING DRIVEWAY
	PROPOSED DRIVEWAY
	EXISTING DRIVEWAY
	PROPOSED DRIVEWAY

SCALE: 1:200 @ A3
PROJECT NO: 2408
DATE: 28/10/24



DRAWING NAME:
SHADOW DIAGRAM - 12PM
21 JUNE

REVISION	DRAWING NO:
A	DA 41



SHADOW DIAGRAM LEGEND	
	EXISTING SHADOWS
	PROPOSED ADDITIONAL SHADOWS

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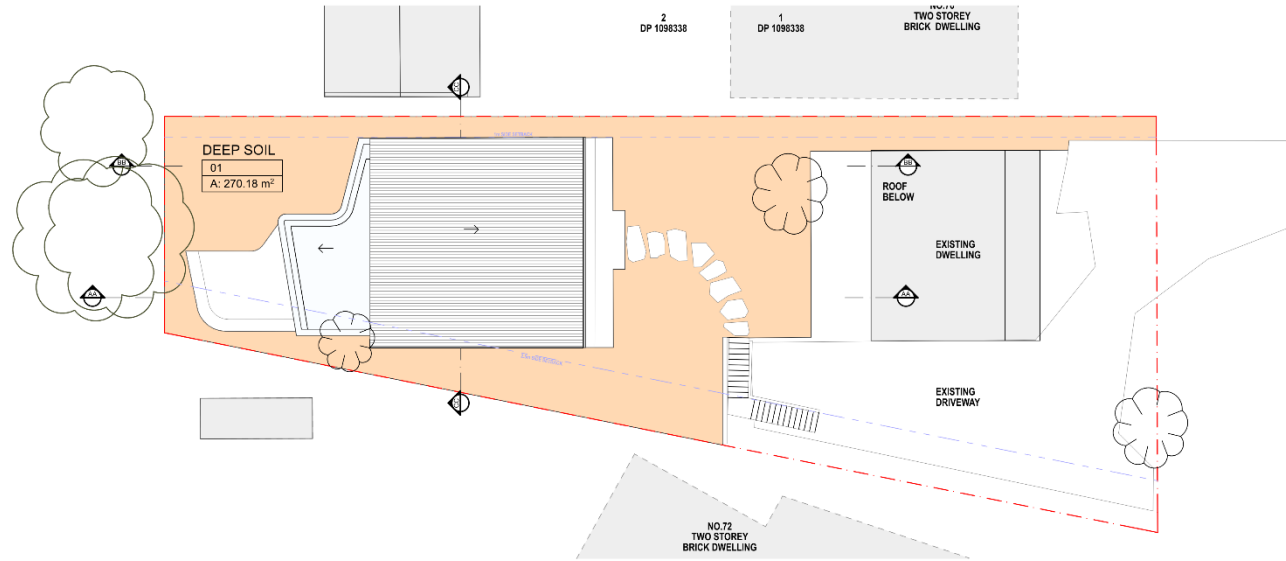
PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALIESE PEDAVOLI

LEGEND	
	BOUNDARY
	EXISTING STRUCTURE
	PROPOSED STRUCTURE
	EXISTING DRIVEWAY
	PROPOSED DRIVEWAY
	EXISTING FOOTPATH
	PROPOSED FOOTPATH

SCALE:	1:200 @ A3
PROJECT NO:	2408
DATE:	20/10/24

DRAWING NAME:	SHADOW DIAGRAM - 3PM 21 JUNE
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REVISION	DRAWING NO:
A	DA 42



DEEP SOIL
1:200

LANDSCAPE CALCS	
Zone Name	Measured Area
DEEP SOIL	11.01
DEEP SOIL	23.91
DEEP SOIL	297.23
	332.15 m²

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ALL DIMENSIONS ON SITE

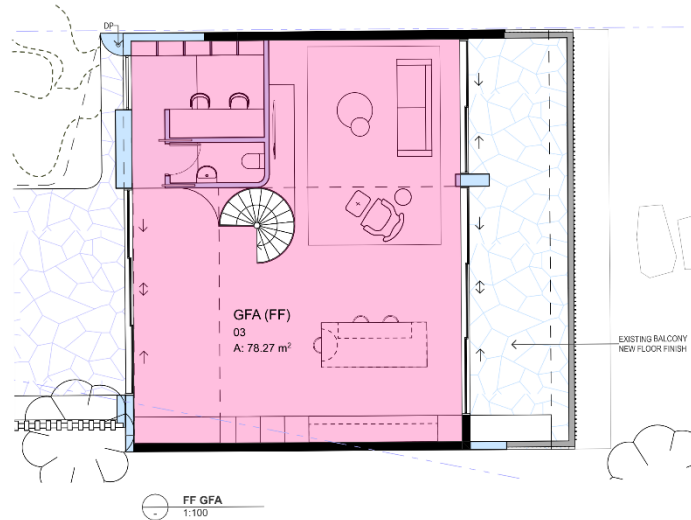
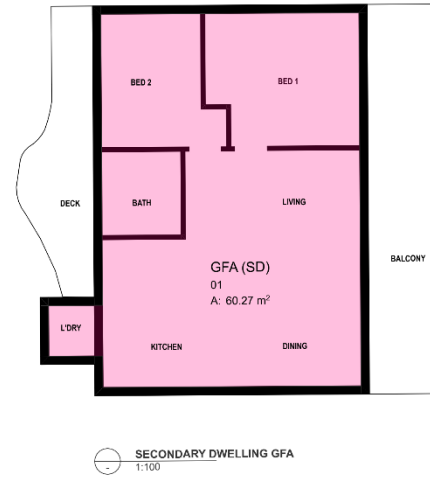
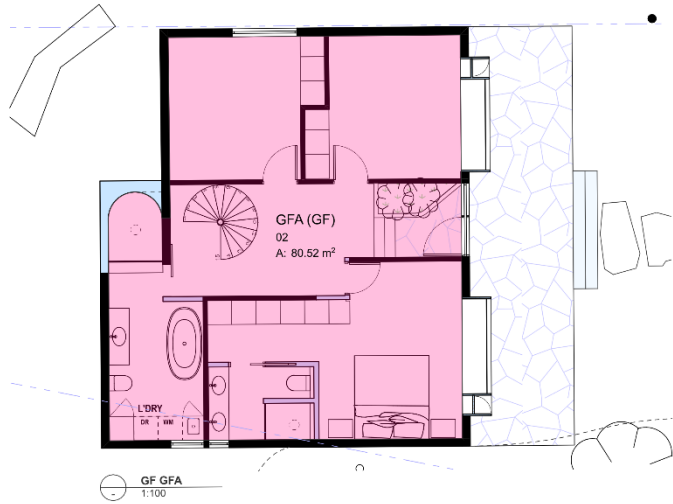
PROJECT NAME:
ELANORA HEIGHTS
SITE NO:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND

- EXISTING STRUCTURE
- EXISTING DRIVEWAY
- EXISTING FENCE
- EXISTING DRIVEWAY
- EXISTING DRIVEWAY
- EXISTING DRIVEWAY
- EXISTING DRIVEWAY
- EXISTING DRIVEWAY

SEE EXISTING MEASUREMENTS AND DIMENSIONS FOR FINALS
ALL DIMENSIONS GIVEN IN METRES UNLESS OTHERWISE STATED AND NOT TO SCALE
DATE: 28/10/24
SCALE: A3
PROJECT NO: 2408
DRAWING NAME:
LANDSCAPE CALCULATIONS

REVISION
A
DRAWING NO:
DA 50



GFA CALCULATIONS	
Zone Name	Measured Area
GFA (FF)	78.27
GFA (GF)	80.52
GFA (SD)	60.27
	219.06 m²

SITE AREA 762m²
GFA = 0.28:1

STUDIO FRIEND
ARCHITECTURE

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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND
--- EXISTING STRUCTURE
--- EXISTING
--- EXISTING IMPROVED DL
--- EXISTING LIP
--- EXISTING WALLS
--- EXISTING FLOORS
--- EXISTING ROOF
--- EXISTING DRIVE

SCALE: @ A3
PROJECT NO: 2408
DATE: 28/10/24

DRAWING NAME:
GFA CALCULATIONS

REVISION: **A**
DRAWING NO.: **DA 51**

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PROJECT NAME:
ELANORA HEIGHTS
ADDRESS:
74 ELANORA ROAD ELANORA HEIGHTS NSW 2101
CLIENT:
JAMES HORTON AND ANNALISE PEDAVOLI

LEGEND
 - - - - - DESIGN STRUCTURE
 - - - - - DESIGN
 - - - - - EXISTING IMPROVED DL
 - - - - - EXISTING LIP
 - - - - - EXISTING WETLON
 - - - - - EXISTING WETLON
 - - - - - EXISTING WETLON
 - - - - - EXISTING WETLON
 - - - - - EXISTING WETLON

SEE FINISHED MEASUREMENTS IN PRELIMINARY PLANS FOR SCALE.
ALL DIMENSIONS GIVEN TO FACE UNLESS OTHERWISE STATED OR OTHERWISE INDICATED BY THE CONTRACT AND SPECIFIC TO THE PROJECT AND SITES TO BE CONSTRUCTED.
 SCALE: @ A3
 PROJECT NO: 2408
 DATE: 29/10/24

DRAWING NAME:
LANDSCAPE PLANS

REVISION **DRAWING NO:**
A **DA 60**

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