

Bushfire Planning & Design

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Bushfire Hazard Assessment

974 Barrenjoey Road Palm Beach 2108 (Lot 22/-/DP286742).



Project Details			
Assessed as:	Residential Infill		
Assessed by	Matthew Noone (BPAD Accreditation No. BPAD-PD 25584)		
Highest BAL on any facade	BAL-40		
Planning for Bushfire Protection (2019) Compliance	The development conforms to the relevant specification and requirements of Planning for Bushfire Protection in accordance with Section 4.14 of the Environmental Planning and Assessment Act 1979.		
Project Description	Alterations and Additions.		
Report Number	BR-463422-A		
Date of Issue	03/03/2022	Report Validity:	1 year from date of issue



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974 Barrenjoey Road Palm Beach 2108

03/03/2022



BUSHFIRE RISK ASSESSMENT CERTIFICATION

Development Address	974 Barrenjoey Road Palm Beach 2108.
Parcel number	(Lot 22/-/DP286742).
Development description	Alterations and Additions.
Architectural Drawings Reviewed.	Attached to report BR-463422.
Assessed Bushfire Attack Level	BAL-40
Does the assessment rely on alternate solutions?	No.
Assessed by Matthew Noone BPAD Accreditation Scheme No.	FPAA No. BPAD-PD 25584
Certificate Number:	BR-463422-A

I hereby certify, in accordance with s.4.14 of the Environmental Planning and Assessment Act 1979 that;

1	I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and
2	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 s.4.14 of the Environmental Planning and Assessment Act 1979.

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 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).

The following have been provided and or included in our assessment.

- ☒ - Bushfire Risk Assessment Report.
- ☒ - Recommendations.
- ☒ - Statement of vegetation impact in relation to APZ.

DATE	ISSUED TO	REV.	Comments
03/03/2022	Matthew Millar	A	Issued to support Development Application

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Bushfire Planning & Design cannot be held liable for the loss of life or property caused by a bushfire event. This report has considered the relevant planning instruments, bushfire constructions codes and practices applicable at the time of writing. Should additional information be provided after this report has been issued, we reserve the right to review and if necessary modify our report. Bushfire Planning and Design has no control over workmanship, buildings degrade over time and vegetation if not managed will regrow. In addition legislation and construction standards are subject to change. Due to significant variance of bushfire behaviour, we do not guarantee that the dwelling will withstand the passage of bushfire even if this development is constructed to the prescribed standards.

AS3959 (2018) states *"It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature of behaviour of fire, and extreme weather conditions."*

The information and material contained herein is general in nature and is intended for your use and information. This report relates only to the specific development described within and cannot be used to support any other future development. Bushfire Planning and Design disclaims, to the extent permitted by law, all warranties, representations or endorsements, express or implied, with regard to the material contained herein. Bushfire Planning and Design does not warrant or represent that the material contained herein is free from errors or omissions, or that it is exhaustive.

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This report has been prepared by Matthew Noone trading as Bushfire Planning and Design. Matthew Noone holds a BPAD Level 2 accreditation with the Fire Protection Association of Australia. Under the BPAD accreditation scheme a BPAD Level 2 consultant can provide advice and undertake all types assessments with the exception of alternate solutions. In the event that alternate solution is proposed it will be undertaken outside of our accreditation. Alternate solutions are considered a deviation from the prescribed standards and as per s.4.14 of the Environmental Planning and Assessment Act (1979) are required to be required to be referred to the New South Wales Rural Fire Service (RFS) for review.

This report has been based on our interpretation of Planning for Bushfire Protection (2019), AS3959 (2018) and the methodology for site specific bushfire assessment. As a consultant, our view can be subjective. Our opinions may differ from the opinions provided by you the Client (or Client Representative), the Council, the RFS or another bushfire consultant. The Rural Fire Service (RFS) has a higher authority and can upon their review, increase a nominated BAL-rating or entirely reject a development proposal. Any such recommendations made by the RFS take precedence. Our role is intermediary between our Client (or Client Representative) and the consenting authority. We apply our knowledge of the relevant bushfire protection standards to provide the best possible outcome for our Client (or Client Representative), both from a bushfire safety and financial perspective. Should the RFS modify our recommendations or reject the proposal to which this report relates to we will not be held liable for any financial losses as a result. By using this document, you the Client (or Client Representative) agree to and acknowledge the above statements.

Bushfire Planning and Design accepts no liability or responsibility for any use or reliance upon this report and its supporting material by any unauthorized third party. The validity of this report is nullified if used for any other purpose than for which it was commissioned. Unauthorized use of this report in any form is deemed an infringement of our intellectual property. By using this document to support your development you the Client (or Client representative) agree to these terms.

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SECTION 01 - BACKGROUND AND BRIEFING NOTES

The subject site whether in whole or part is recorded as bushfire affected on a relevant map certified under Section 10.3 (2) of the Environmental Planning and Assessment Act 1979 (Refer figure 1.1). The development relates to the development of bushfire prone land and therefore must address the legislative requirements stipulated in Section 4.14 of the Environmental Planning and Assessment Act 1979. The development is required to comply with the New South Wales Rural Fire Service document Planning for Bushfire Protection (2019).

1.1 BUSHFIRE PRONE LAND

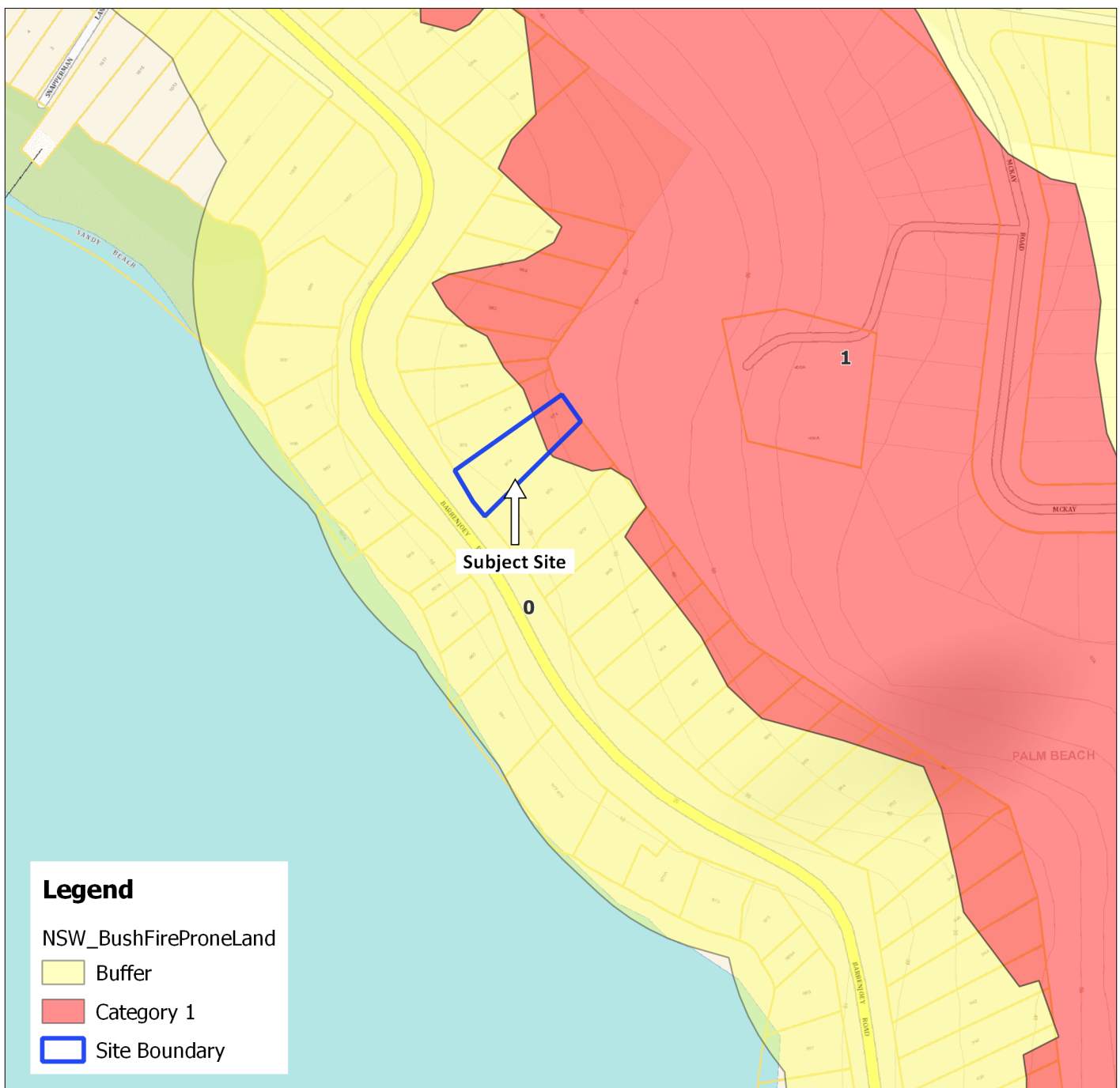


Figure 1.1: Bushfire Prone Land Map (NSW Planning Portal (2021) found at <https://www.planningportal.nsw.gov.au>) accessed 03/03/2022.

1.2 DEVELOPMENT PROPOSAL

The development relates to the undertaking of minor alterations and additions to the existing dwelling. A single bedroom is being added to the north east of the building, infilling the existing pergola space.

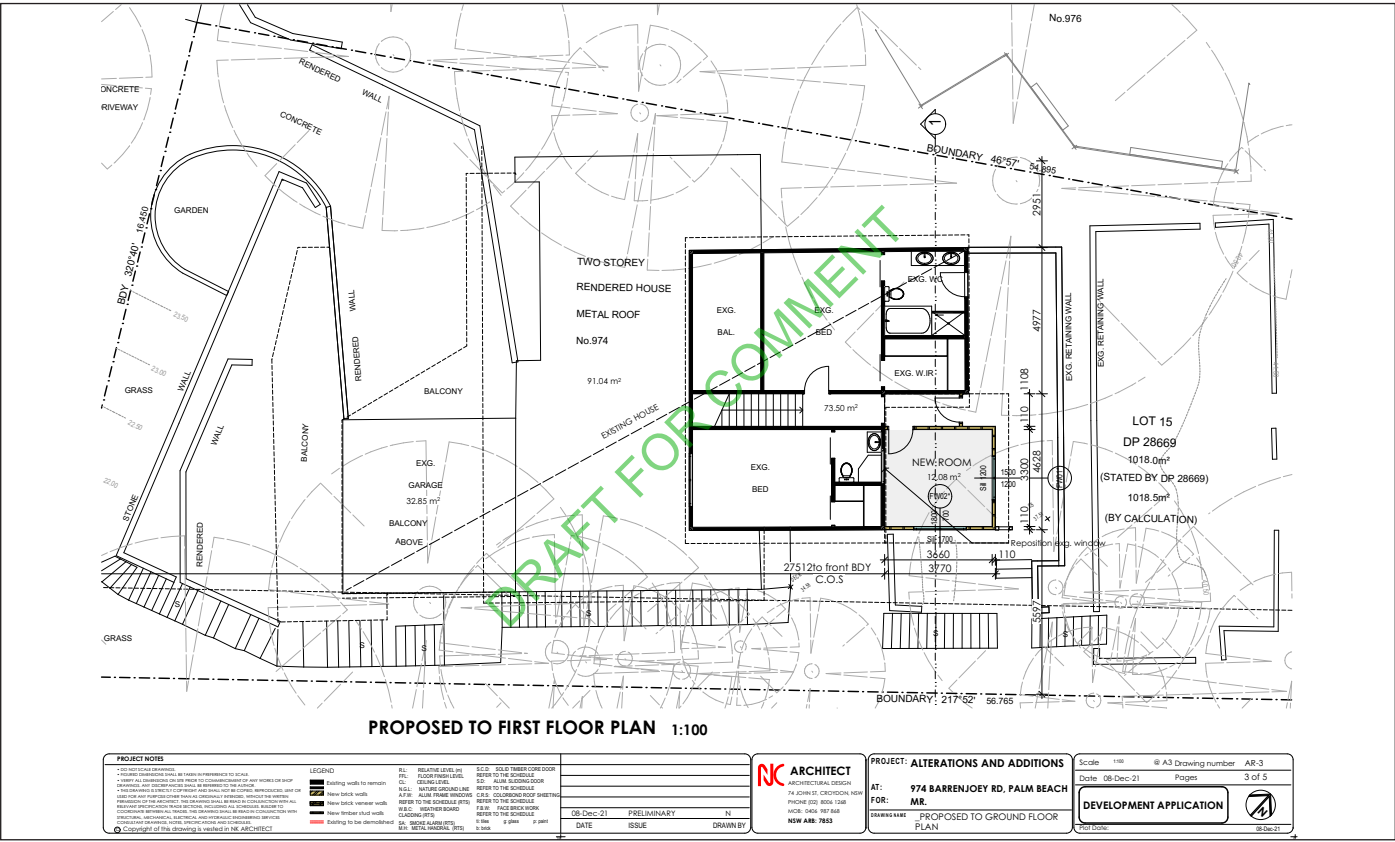


Figure 1.2: Architectural Concept Image

1.3 REGULATORY FRAMEWORK

The main legislation, planning instruments, development controls and guidelines that are related to this project are as follows;

4.14 Consultation and development consent— certain bush fire prone land

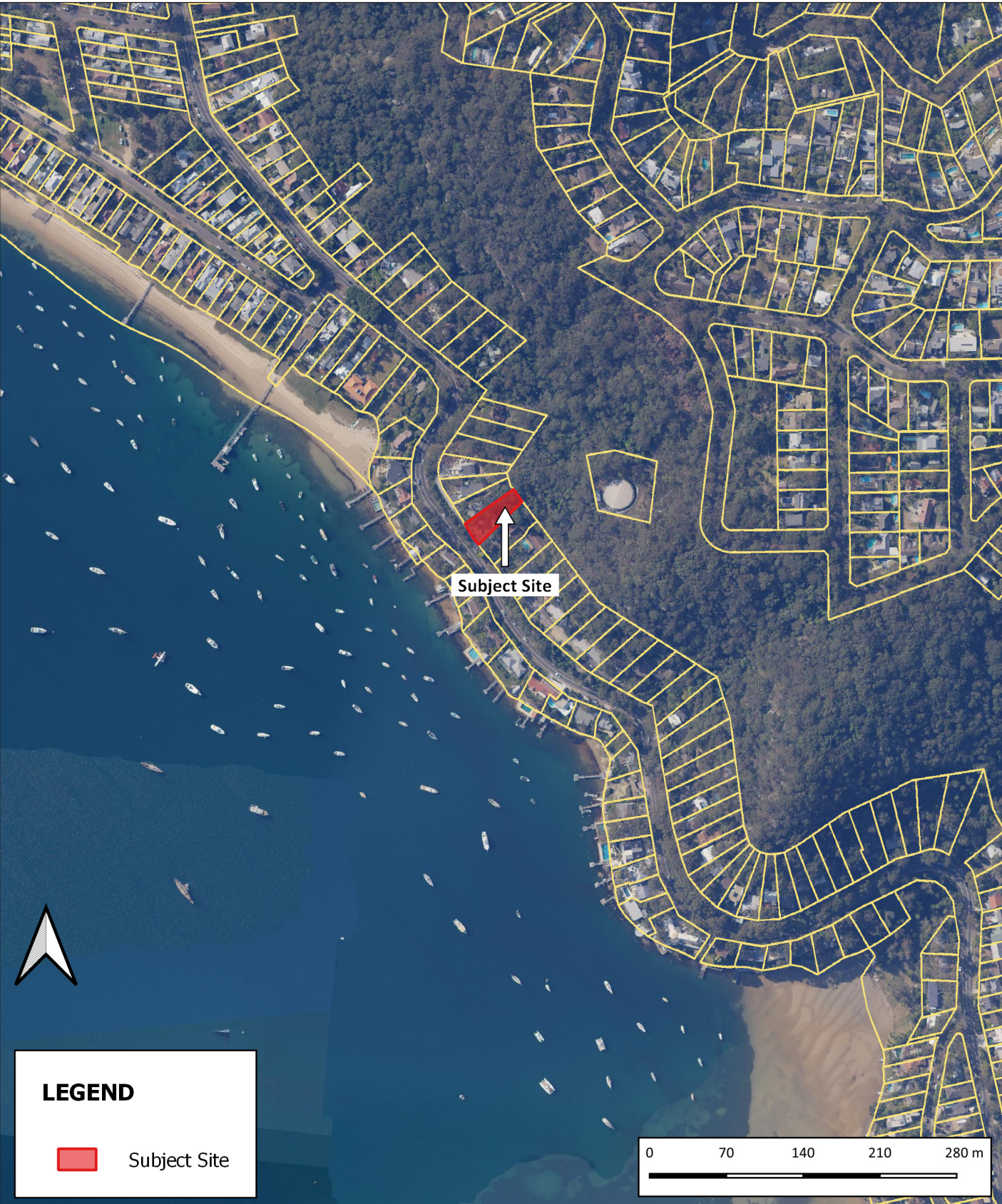
(1) Development consent cannot be granted for the carrying out of development for any purpose (other than a subdivision of land that could lawfully be used for residential or rural residential purposes or development for a special fire protection purpose) on bush fire prone land unless the consent authority:

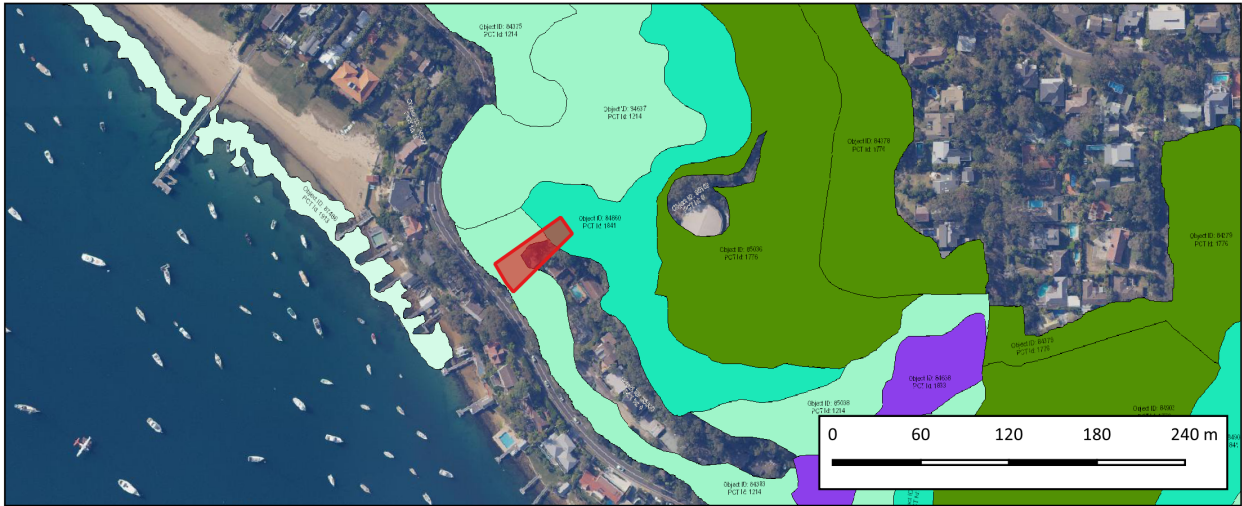
(a) is satisfied that the development conforms to the specifications and requirements of the document entitled Planning for Bush Fire Protection, prepared by the NSW Rural Fire Service in co-operation with the Department of Planning (or, if another document is prescribed by the regulations for the purposes of this paragraph, that document) that are relevant to the development (“the relevant specifications and requirements”), or

(b) has been provided with a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment stating that the development conforms to the relevant specifications and requirements. (EPA & A, 1979).

1.4 SITE LOCATION AND DESCRIPTION

The subject site is located in Palm Beach which is within the Northern Beaches Local Government Area (LGA). The site is surrounded by managed residential curtilage to the north west, south east and south west. Forest vegetation is located steeply up-slope to the north east above the rocky escarpment.

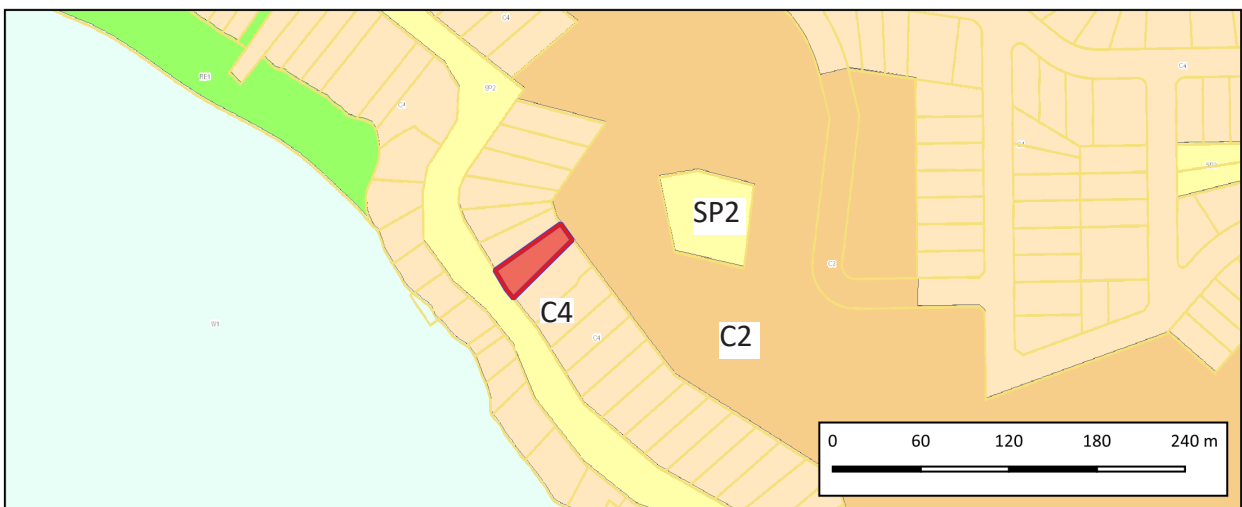




Vegetation Mapping - indicating Wet Sclerophyll Forest in the vicinity of the site.



Biodiversity Mapping - the site is mapped as having biodiversity values.



Zoning- the is zoned C4 Environmental Management.

SECTION 02 - BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT

2.0 INTRODUCTION

For the purpose of this bushfire assessment, the vegetation is required to be described to a distance of 140m from the boundary and the slope to 100m from boundary. Vegetation type and slope under vegetation are the factors that will significantly affect bushfire behaviour.

‘Research has shown that 85% of buildings are lost in the first 100m from bushland and that ember attack is a significant form of attack on properties’ (RFS 2006).

2.1 SLOPE DETERMINATION

The effective slope has been assessed for a distance of at least 100m from the proposed development. The slope data has been calculated from a 1m LiDAR Digital Elevation Model (DEM). The source data sets have been captured to standards that are generally consistent with the Australian ICSM LiDAR Acquisition Specifications which require a fundamental vertical accuracy of at least 0.30m (95% confidence) and horizontal accuracy of at least 0.80m (95% confidence). The slope arrows indicated in figure A represent the slope calculated across the length of the arrow direct from the digital elevation model. The calculated slope as shown in Figure A has not been manipulated or modified in any way.

2.2 PREDOMINANT VEGETATION CLASS

This assessment includes vegetation both within and external to the site boundaries. Where mixes of vegetation formations are located together, the vegetation formation providing the greater hazard shall be used for the purpose of assessment. The combination of vegetation and slope that yields the worst case scenario shall be used (A1.2 PBP 2019).

Space left intentionally blank.

2.2.1 VEGETATION PHOTOS



Photo 1: Rock escarpment on the north eastern end of the site. Managed to minimal fuel conditions.



Photo 2: Rock escarpment on the north eastern end of the site. Managed to minimal fuel conditions.



Photo 3: Rock escarpment on the north eastern end of the site. Managed to minimal fuel conditions.



Photo 4: Rock escarpment on the north eastern end of the site. Managed to minimal fuel conditions.

2.3 BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT.

To clarify the findings below, Forest vegetation is located greater than 18m to the north east of the proposed dwelling.

Based on the parameters identified in Table 1 below and as depicted in Figure A, the proposed development is assessed as BAL-40 as specified in AS3959 (2018).

TABLE 1 (To be read in conjunction with Figure A).						
LGA = Northern Beaches Council				Forest Fire Danger Index = FDI 100		
ASPECT ¹	Vegetation Class ²	Max Effective Slope ³	Site slope ³	Required APZ ⁴	Proposed APZ / EML ⁵	BAL-Rating
N, NE	Forest	U-S	N/A	18-24m	> 18m	BAL-40
AOD	Managed Land					
Abbreviations						
AOD All other directions		EML Extent of managed land			NVC Narrow vegetation corridor	

¹	<i>Cardinal direction from each proposed building facade based on grid north.</i>
²	<i>Vegetation Classifications are as described in PBP (2019) A1.2.</i>
³	<i>Site slope is calculated from 1m LiDAR contours.</i>
⁴	<i>Minimum APZ required stated as Acceptable Solutions within Table 1.12.2 and A1.12.5. PBP (2019).</i>
⁵	<i>Actual dimensional setback from the face of the building to the assessed vegetation. Achieved Asset Protection Zone (APZ) or extent of managed land (EML).</i>
⁶	<i>Where the direct line of sight between the proposed building and assessed vegetation is obstructed (by a wall or building) the assessed rating can be lowered by one BAL-rating (PBP 2019, s. A1.8).</i>
⁷	<i>Remnant bushland and narrow vegetation corridors (NVC) as stated in PBP (2019) s.A1.11 are assessed as rainforest as a simplified approach or be assessed as Short Fire Run using method 2 (AS3959).</i>
⁸	<i>Deeming provisions for grassland s.7.9 PBP (2019).</i>
⁹	<i>BAL-rating determined via method 2 (AS3959)</i>
¹⁰	<i>Exotic vegetation assessed as Rainforest as per PBP (2019) Table A1.9.</i>

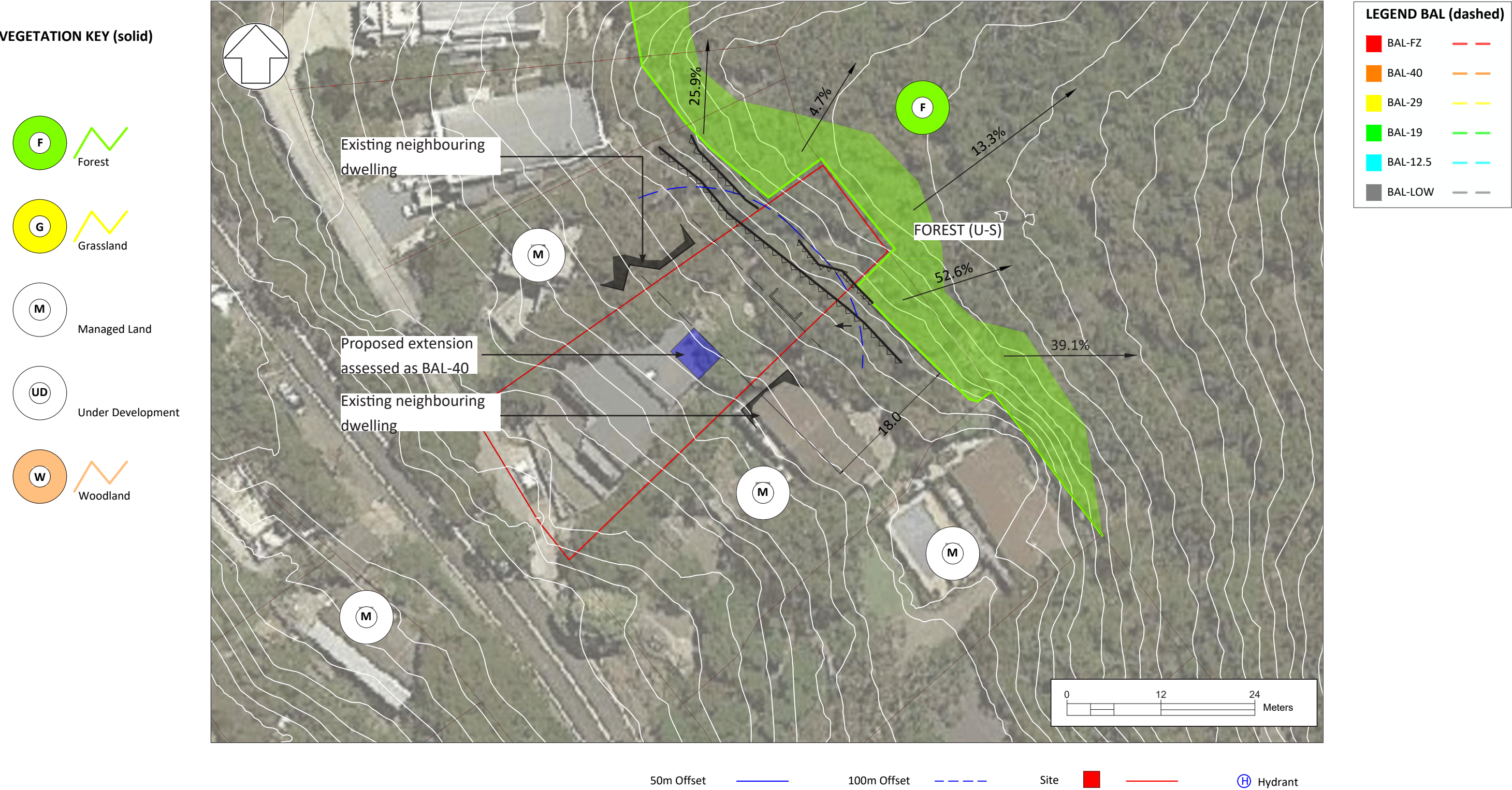
2.4 APZ PROVISIONS.

There is sufficient space within the site to provide an asset protection zone (APZ). An 18m APZ is required between the proposed dwelling and the Forest to the north east. The vegetation within the site is managed to minimal fuel conditions and satisfies the APZ performance requirements stipulated in PBP (2019). The site is mapped as having biodiversity values. We confirm no vegetation (trees or shrubs) are required to be removed or modified to achieve the recommended APZ. There is therefore no impact on existing native vegetation. We require the recommended (and currently achieved) APZ to be managed in perpetuity.

BUSHFIRE PLANNING AND DESIGN

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FIGURE A



SECTION 03 - ASSET PROTECTION ZONES (APZs)

Intent of measures: to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting fire fighting activities.

3.0 APZ PERFORMANCE CRITERIA (PBP 2019)

- | | |
|---|---|
| • | APZs are to be provided commensurate with the construction of the building. |
| • | A defendable space is to be provided. |
| • | APZs are to be managed and maintained to prevent the spread of a fire to the building. |
| • | The APZ is to be provided in perpetuity. |
| • | APZ maintenance is to be practical, soil stability is not compromised and the potential for crown fires is minimised. |

The asset protection zones (APZ) requirements have been derived from the methodology of A1.12.2 or A1.12.3 in Appendix 1 of PBP (2019). Asset protection zones and in particular the Inner Asset Protection Zones are critical for providing defendable space and reducing flame length and rate of spread (PBP 2019). APZs are designed to provide sufficient open space for emergency workers to operate and for occupants to egress the site safely. They are divided into Inner and Outer Asset Protection Zones (IPAs and OPAs) and are required to be maintained for the life of the development. The IPA provides for defendable space and a reduction of radiant heat levels at the building line and the OPA provides for the reduction of the rate of spread and filtering of embers.

GENERAL RECOMMENDATIONS

- | | |
|---|--|
| • | The APZ should be located completely within the boundary of the site. The required APZ will often be satisfied by surrounding managed land. |
| • | Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions (refer to Section 3.1 and 3.2). |
| • | The APZ should not be located on slopes greater than 18° unless terracing is introduced. |
| • | Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions |
| • | A clear area of low-cut lawn or pavement is maintained adjacent to the asset requiring protection. |

3.1 - INNER APZ (IPA) GUIDELINES

The Inner APZ (IPA) is the managed area closest to the asset (eg. dwelling). The IPA is managed to minimal fuel conditions and aims to mitigate the impact of direct flame contact and radiant heat on the development. The IPA also aims to provide defensible space.	
TREES	
•	Canopy cover should be less than 15% (at maturity) within the Inner APZ.
•	Trees (at maturity) should not touch or overhang the building.
•	Lower limbs should be removed up to a height of 2m above ground.
•	Canopies should be separated by 2 to 5m.
•	Preference should be given to smooth barked and evergreen trees.
SHRUBS	
•	Create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings.
•	Shrubs should not be located under trees shrubs should not form more than 10% ground cover.
•	Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
GRASS	
•	Should be kept mown (as a guide grass should be kept to no more than 100mm in height).
•	Leaves and vegetation debris should be removed.

3.2 - OUTER APZ (OPA) GUIDELINES

The Outer APZ (OPA) is the part of the APZ that is located between the IPA and the bushfire vegetation threat. The reduction in the available fuels and canopy connections in the OPA aims to mitigate the intensity of an approaching fire and restricts the pathways to crown fuels thus reducing the level of direct flame, radiant heat and ember attack on the IPA and asset (dwelling).	
TREES	
•	Canopy cover should be less than 30% (at maturity) within the Outer APZ.
•	Trees should have canopy separation canopies should be separated by 2 to 5m.
SHRUBS	
•	Shrubs should not form a continuous canopy.
•	Shrubs should form no more than 20% of ground cover.

SECTION 04 - CONSTRUCTION

PERFORMANCE CRITERIA (PBP 2019)

It must be demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact. The BAL construction requirements have been determined in accordance with the appropriate table from A1.12.2 to A1.12.7 (PBP 2019) and in accordance with the NCC and as modified by section 7.5.

The building requirements for the specified BAL-rating will mitigate bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact. The proposed dwelling is to be constructed to BAL-40 as indicated in Figure A and as specified in AS3959 (2018). This includes the general requirements of Section 3 of AS3959 (2018) and the additional construction requirements stipulated in s.7.5 of the New South Wales Rural Fire Service (RFS) document Planning for Bushfire Protection (PBP 2019).

It is the building contractor's responsibility to source a copy of the relevant AS3959 (2018) standard to ensure the proposed development is constructed to the correct BAL-rating specifications.

- | | |
|---|--|
| • | Where the fence is within 6m of a building or in areas of BAL-29 or greater, they should be made of non-combustible material only. |
| • | There are no bush fire protection requirements for Class 10a buildings located more than 6m from a dwelling in bush fire prone areas. Where a Class 10a building is located within 6m of a dwelling it must be constructed in accordance with the NCC. |

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BAL-40 AS3959-2018 - CONSTRUCTION REQUIREMENTS

CERTIFIED PROJECT: 974 Barrenjoey Road Palm Beach 2108

The specification below is a summary from AS3959-2018. Note the specification includes the additional construction requirements of Planning for Bushfire Protection (2019). Bushfire Planning and Design provides this simplified specification as an aid however advises that this document is not a substitute for AS3959-2018 which provides more detail. To the best of our knowledge the information below is an accurate representation of AS3959 however we do not guarantee it is free from errors or omissions. We accept no liability for any misinterpretation of our abridged specification compared to AS3959. It is the building contractors responsibility to source their own version of AS3959 to avoid errors or misinterpretation. Construction specifications change over time therefore we can only endorse this specification if attached to a certified report or certificate that we prepared. **We will not support any development that has used this specification without our permission.**

SUB FLOOR SUPPORTS - POSTS, COLUMNS, PIERS, POLES FLOORS	<ul style="list-style-type: none"> - Non combustible or, - Protect the underside with a fibre cement or metal sheet or, - AS1530.8.1 tested system.
WALLS	90mm min thick masonry, masonry veneer, clay, concrete (insitu, aerated), calcium silicate, stone, earth wall, mud brick Metal cladding or 9mm FC. Sarking required.
WINDOWS	Bushfire shutter - to be metal. (No requirement to have a shutter. If used must be metal). Framing to be metal. Glazing to be 6mm toughened. Hardware to be metal & seals to have a flammability index <5 or be silicone. Screen openable and fixed portion of window externally. Except where window complies with AS1530.8.1 or AS1530.98.2
DOORS	Bushfire shutter - then no requirement for door. Doors & frames to be non combustible. Solid core timber 35mm thick for the bottom 400mm & protected externally with a metal screen, mesh or perforated panel, or comply with AS1530.8.1 or AS1530.98.2. Fully framed glazed door where frame is non combustible. Glazing to be 6mm TG. Sliding doors screened externally (both panels) Glazing to be 6mm thick toughened glass Door framing to be metal or bushfire resisting timber or metal reinforced PVC-U/. Vehicle access doors to be non combustible. Provide brush seals..... Seals, draught excluders, weather strips etc to have a flammability index less than 5.
Roofs	Non combustible including penetrations. Tiled roof to be sarked - battens allowed above sarking. Sarking to cover ridges and hips and extend into gutter Roof lights - FRL -/30/- Verandah, carport or awning roof forming part of the main roof space is to comply with the requirements for the main roof. Verandah, carport or awning roof separated from the main roof space with a compliant wall is to be non-combustible. The roof can be framed in timber if protected with 6mm FC. Gables to comply with walls. Fascia & bargeboards to comply with AS1530.8.1 or be constructed from 9mm FC. Eaves linings to be 9mm FC sheet. Downpipes - no requirements. Box gutters to be non combustible. Box gutters to be screened. Gutter guards to be metal if used. Gutters to be non-combustible.
Verandahs & Decks	No requirement for framing and supports if enclosed with a compliant wall. Decking is not to be spaced. Decking, treads and ramps to be non combustible. Supports and framing to be non combustible or conforms to AS1530.8.1.

SECTION 05 - ACCESS

Intent of measures: To provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area.

PERFORMANCE CRITERIA (PBP 2019)

- | | |
|---|--|
| • | Fire-fighting vehicles are provided with safe, all-weather access to structures and hazard vegetation. |
| • | The capacity of access roads is adequate for fire-fighting vehicles. |
| • | There is appropriate access to water supply. |
| • | Fire-fighting vehicles can access the dwelling and exit the property safely. |

PUBLIC ROADS

Barrenjoey Road is a sealed public road. The public road system is deemed to be adequate for emergency services appliances. Figure 5.1 shows the road systems in the area.

PROPERTY ACCESS

There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency fire fighting vehicles

ADDITIONAL COMMENTS IN RELATION TO ACCESS

Pedestrian access only is provided to the rear of the property. The proposed development can comply with the intent of PBP (2019) with regards to site access requirements.

FIGURE 5.1



SECTION 06 - WATER

Intent of measures: 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 fire to a building.

PERFORMANCE CRITERIA (PBP 2019)

- An adequate water supply is to be provided for fire-fighting purposes.
- Water supplies are to be located at regular intervals.
- The water supply is to be accessible and reliable for fire-fighting operations.
- Flows and pressure are to be appropriate
- The integrity of the water supply is to be maintained.
- A static water supply is to be provided for fire-fighting purposes in areas where reticulated water is not available.

COMMENTS IN RELATION TO THE PROVISION OF ELECTRICITY AND GAS.

ACCEPTABLE SOLUTION

Reticulated water is provided. No new water services are being provided or required. In the event that this statement is untrue all new services are required to comply with PBP (2019).

SECTION 07 - ELECTRICITY & GAS

Intent of measures: 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 fire to a building.

PERFORMANCE CRITERIA (PBP 2019)

- Location of electricity services is to limit the possibility of ignition of surrounding bush land or the fabric of buildings.
- Location and design of gas services is not to lead to the ignition of surrounding bushland or the fabric of buildings.

COMMENTS IN RELATION TO THE PROVISION OF ELECTRICITY AND GAS.

ACCEPTABLE SOLUTION

No new gas or external electrical services are being provided as part of this development application. In the event that this statement is untrue all new services are required to comply with PBP (2019).

SECTION 08 - RECOMMENDATIONS

The following points are recommended for inclusion in the DA conditions of consent;

1.	Construction	Construct the dwelling to BAL-40 (Section 2 & 4).
2.	APZs	Site to be managed as an inner APZ for perpetuity (Section 3).
3.	Access	None.
4.	Services	None.
5.	In the event that Council or the NSW Rural Fire Service modifies our recommendations then this report should no longer be referred to. The bushfire requirements as stated in the DA Consent conditions will take precedence.	
6.	We strongly recommend that the applicant cross references the bushfire requirements within the DA consent conditions and our report and alert us to any discrepancies.	

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SECTION 09 - CONCLUSION

The development relates to the undertaking of minor alterations and additions to the existing dwelling. A single bedroom is being added to the north east of the building, infilling the existing pergola space.

The development is captured under Section 4.14 of the Environmental Planning and Assessment Act 1979; Consultation and development consent – certain bush fire prone land. For the purpose of bushfire assessment the development is considered infill development as described in the New South Wales Rural Fire Service document Planning for Bushfire Protection (2019).

The subject site is located in Palm Beach which is within the Northern Beaches Local Government Area (LGA). The site is surrounded by managed residential curtilage to the north west, south east and south west. Forest vegetation is located steeply up-slope to the north east above the rocky escarpment.

There is sufficient space within the site to provide an asset protection zone (APZ). An 18m APZ is required between the proposed dwelling and the Forest to the north east. The vegetation within the site is managed to minimal fuel conditions and satisfies the APZ performance requirements stipulated in PBP (2019). The site is mapped as having biodiversity values. We confirm no vegetation (trees or shrubs) are required to be removed or modified to achieve the recommended APZ. There is therefore no impact on existing native vegetation. We require the recommended (and currently achieved) APZ to be managed in perpetuity.

The proposed dwelling alteration is assessed as BAL-40 as indicated in Figure A and as specified in AS3959 (2018) the Australian Standard for the Construction of Buildings in a Bushfire Prone Area.

The project can comply with the construction requirements of AS3959 (2018) and the performance requirements of the BCA. The objectives and performance requirements of PBP (2019) are also achieved.

Site access, including access via the public road system is suitable for emergency response vehicles. The development complies with PBP (2019) with regards to the provision of water. The requirements for electricity and gas can also be complied with.

Should Council or the NSW Rural Fire Service have any objection to any part of this report, please get in contact to discuss.

Regards,



Matthew Noone

Grad.Dip. Design for Bushfire Prone Areas.

BSc (Geology)

0406077222

T/A Bushfire Planning and Design



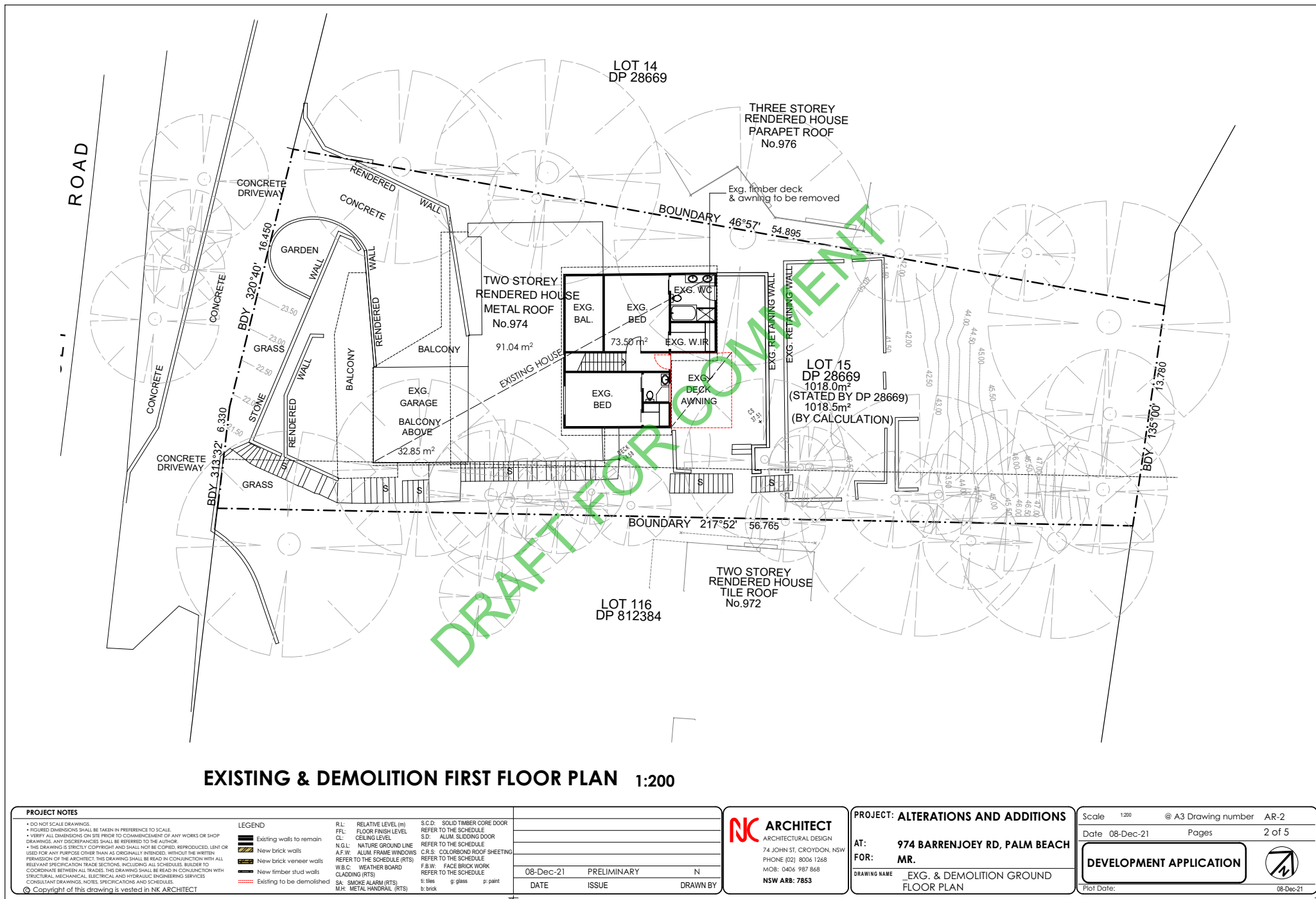
SECTION 10 - REFERENCES

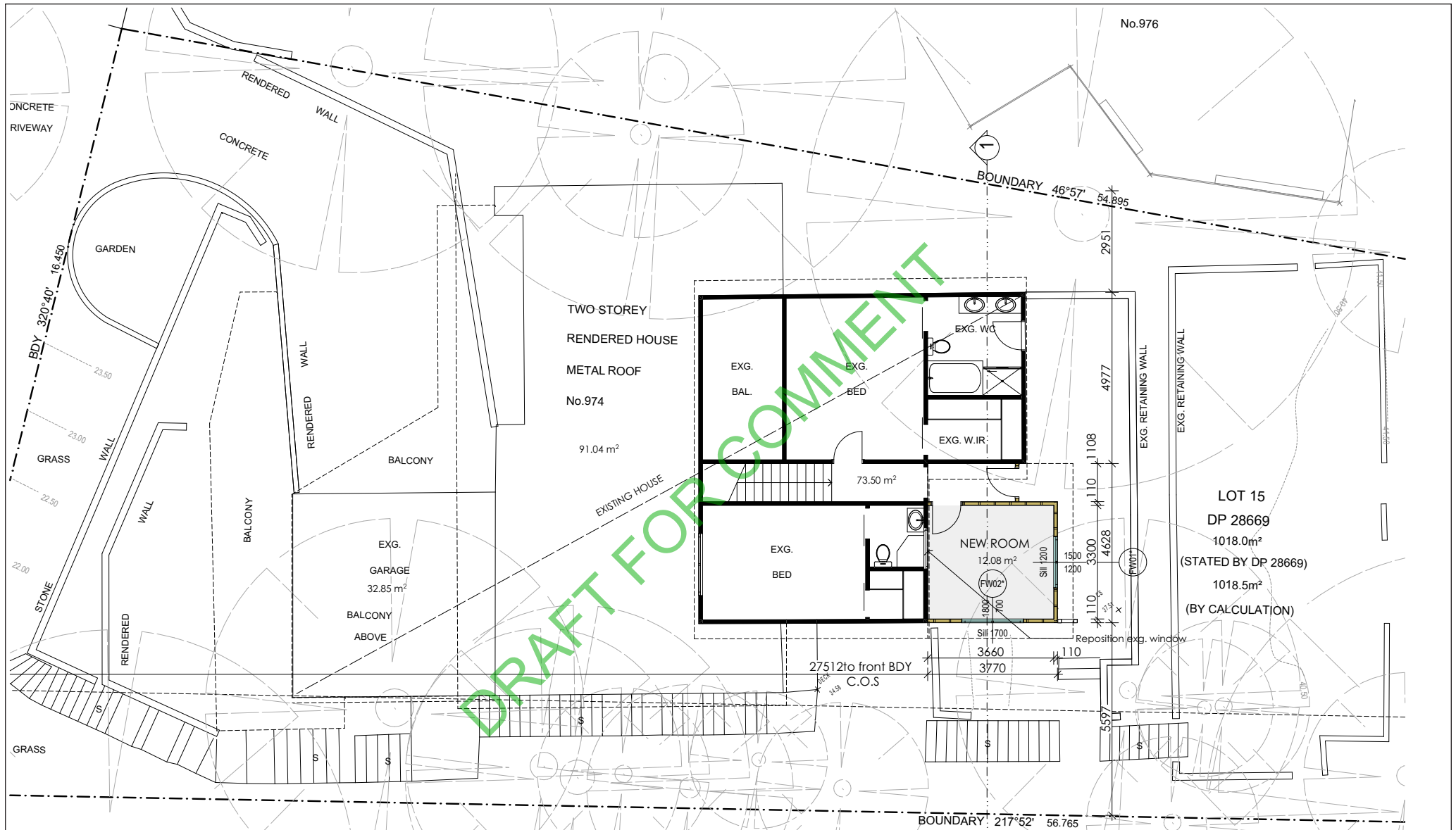
AS3959 (2018)	Australian Standard, Construction of buildings in bushfire-prone areas, AS 3959, Third edition 2018 Standards Australia International Ltd, Sydney.
BCA (2019)	Building Code of Australia 2019, Building Code of Australia, Australian Building Codes Board, Canberra 2019.
EPA Act (1979)	Environmental Planning and Assessment Act 1979, NSW Government, NSW, legislation found at www.legislation.nsw.gov.au
PBP (2019)	Planning for Bushfire Protection, a Guide for Councils,Planners, Fire Authorities, Developers and Home Owners. Rural Fire Service 2019, Australian Government Publishing Service, Canberra.
RFS (2015)	Rural Fire Service, Guide For Bush Fire Prone Land Mapping, Version 5b.

SECTION 11 - APPENDICES

Appendix A - Architectural Drawings.

APPENDIX A - ARCHITECTURAL DRAWINGS





PROPOSED TO FIRST FLOOR PLAN 1:100

PROJECT NOTES

- DO NOT SCALE DRAWINGS
- FIGURED DIMENSIONS SHALL BE GIVEN IN PREFERENCE TO SCALE
- VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS OR SHOP DRAWINGS. ANY DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT
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- © Copyright of this drawing is vested in NK ARCHITECT

LEGEND

- Existing walls to remain
- New brick walls
- New brick veneer walls
- New timber stud walls
- Existing to be demolished

RELATIVE LEVEL (m)

R.L. FFL: FLOOR FINISH LEVEL

CL: CEILING LEVEL

N.G.L: NATURE GROUND LINE

A.F.W: ALUM. FRAME WINDOWS REFER TO THE SCHEDULE (RTS)

W.B.C: WEATHER BOARD CLADDING (RTS)

SA: SMOKE ALARM (RTS)

M.H: METAL HANDRAIL (RTS)

S.C.D: SOLID TIMBER CORE DOOR

REFER TO THE SCHEDULE

S.S.D: ALUM. SLIDING DOOR REFER TO THE SCHEDULE

C.R.S: COLORBOND ROOF SHEETING REFER TO THE SCHEDULE

F.B.W: FACE BRICK WORK REFER TO THE SCHEDULE

g: glass p: paint

s: slab b: brick

NC ARCHITECT

ARCHITECTURAL DESIGN

74 JOHN ST. CROYDON, NSW

PHONE (02) 8006 1268

MOB: 0404 987 848

NSW ABB: 7853

PROJECT: ALTERATIONS AND ADDITIONS

AT: 974 BARRENJOEY RD, PALM BEACH

FOR: MR.

DRAWING NAME: PROPOSED TO GROUND FLOOR PLAN

DATE: 08-Dec-21

ISSUE: PRELIMINARY

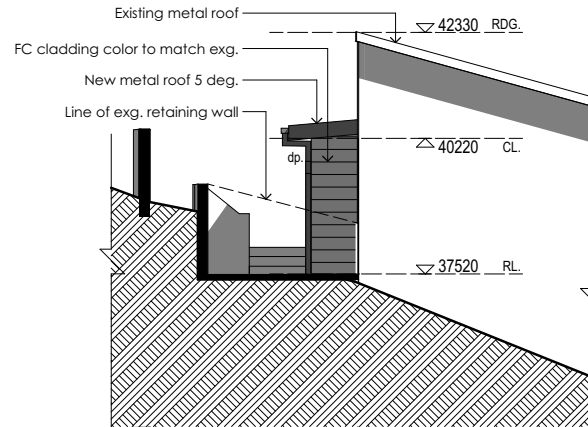
DRAWN BY: N

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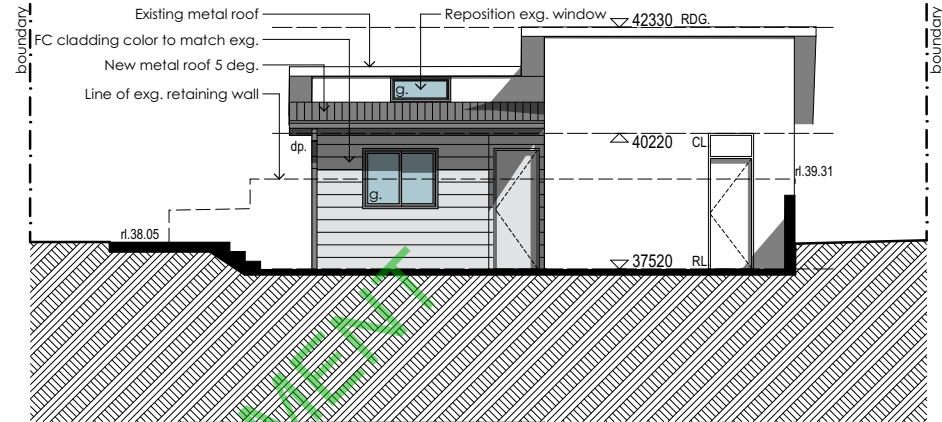
Date: 08-Dec-21 Pages: 3 of 5

DEVELOPMENT APPLICATION

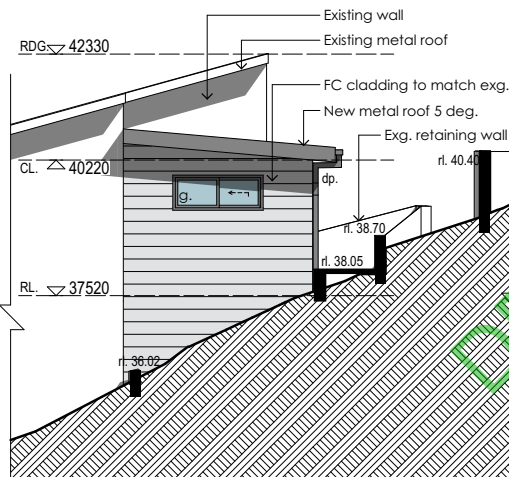
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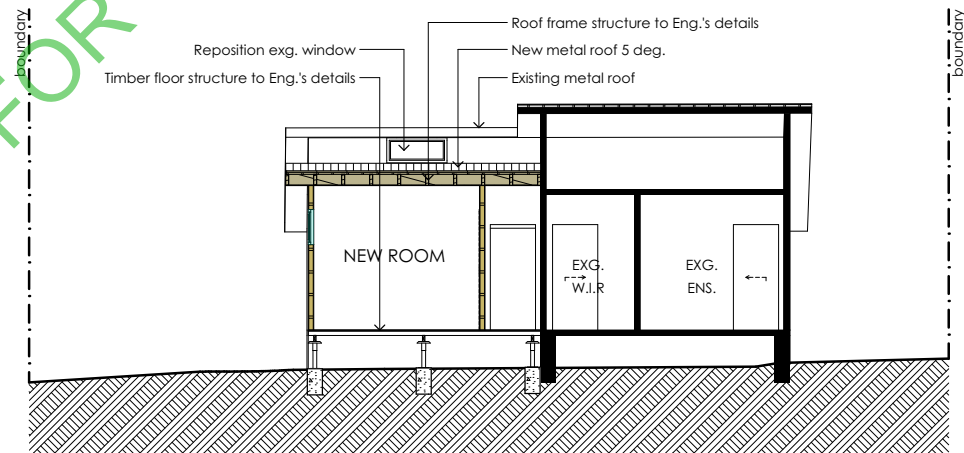
NORTH ELEVATION 1:100



EAST ELEVATION 1:100



EAST ELEVATION 1:100



SECTION 1-1 1:100

PROJECT NOTES

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LEGEND

- Existing walls to remain
- New brick walls
- New brick veneer walls
- New timber stud walls
- Existing to be demolished

- R.L. RELATIVE LEVEL (m)
- F.F.L. FLOOR FINISH LEVEL
- C.L. CEILING LEVEL
- N.G.L. NATURE GROUND LINE
- A.F.W. ALUM. FRAME WINDOWS REFER TO THE SCHEDULE (RTS)
- W.B.C. WEATHER BOARD CLADDING (RTS)
- S.A. SMOKE ALARM (RTS)
- M.H. METAL HANDRAIL (RTS)

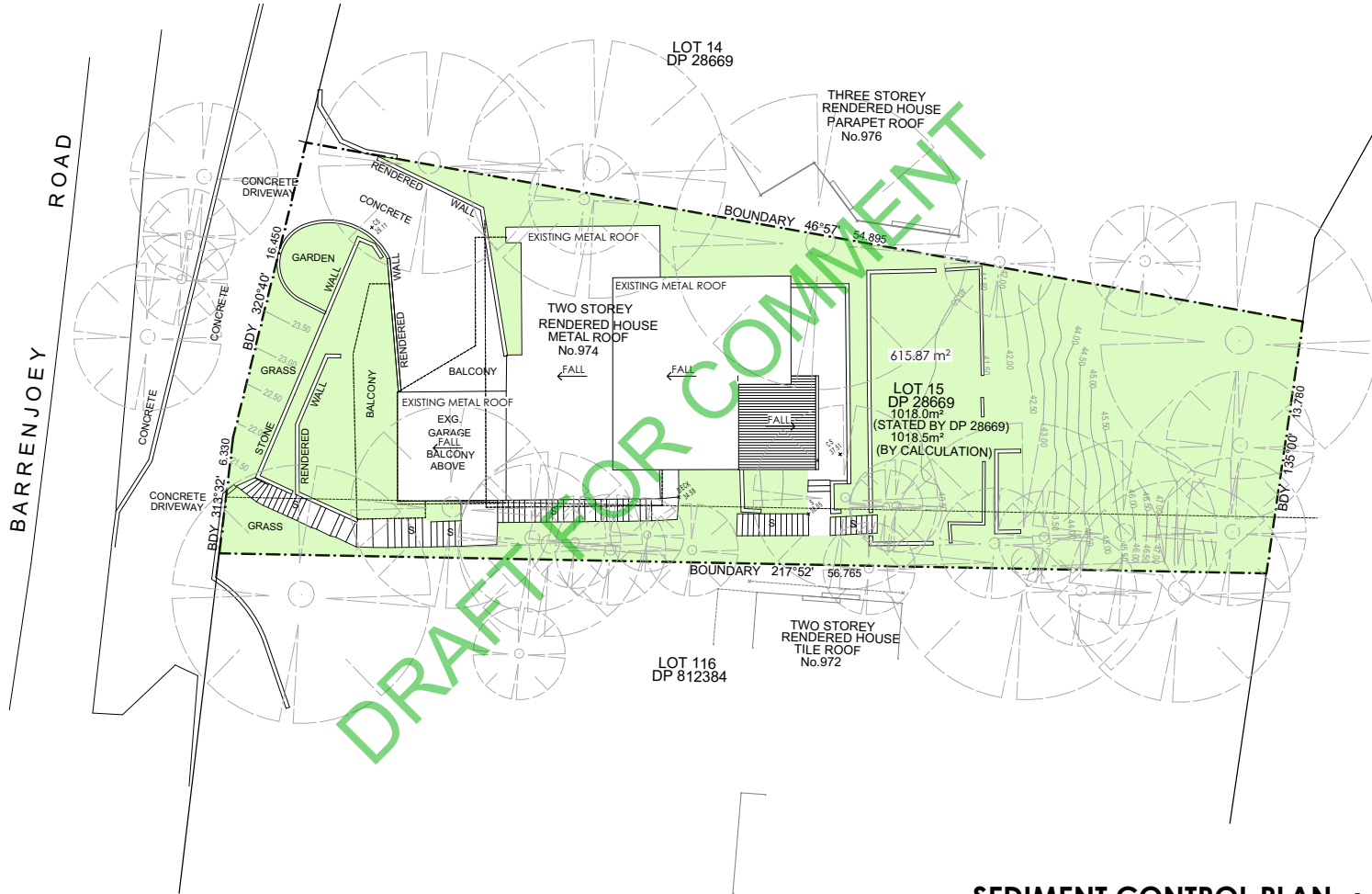
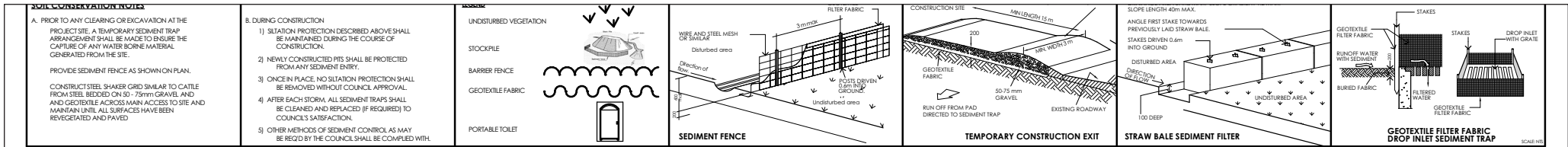
- S.C.D. SOLID TIMBER CORE DOOR REFER TO THE SCHEDULE
- S.D. ALUM. SLIDING DOOR REFER TO THE SCHEDULE
- C.R.S. COLORBOND ROOF SHEETING REFER TO THE SCHEDULE
- F.B.W. FACE BRICK WORK REFER TO THE SCHEDULE
- to: brick
- g: glass
- p: paint

08-Dec-21	PRELIMINARY	N
DATE	ISSUE	DRAWN BY

NK ARCHITECT
ARCHITECTURAL DESIGN
74 JOHN ST. CROYDON, NSW
PHONE (02) 8006 1268
MOB: 0406 987 868
NSW ARB: 7853

PROJECT: ALTERATIONS AND ADDITIONS
AT: 974 BARRENJOEY RD, PALM BEACH
FOR: MR.
DRAWING NAME: **_ELEVATIONS**

Scale 1:20, 1:100 @ A3 Drawing number AR-4
Date 08-Dec-21 Pages 4 of 5
DEVELOPMENT APPLICATION
Plot Date: 08-Dec-21



SEDIMENT CONTROL PLAN 1:250

<p>PROJECT NOTES</p> <ul style="list-style-type: none"> DO NOT SCALE DRAWINGS. FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALE. VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS OR SHOP DRAWINGS. ANY DISCREPANCIES SHALL BE REFERRED TO THE AUTHOR. THIS DRAWING IS STRICTLY COPYRIGHT AND SHALL NOT BE COPIED, REPRODUCED, LENT OR USED FOR ANY PURPOSE OTHER THAN AS ORIGINALLY INTENDED, WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATION TRADE SECTIONS, INCLUDING ALL SCHEDULES. BUILDER TO COORDINATE BETWEEN ALL TRADES. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONSULTANT DRAWINGS, NOTES, SPECIFICATIONS AND SCHEDULES. Copyright of this drawing is vested in NK ARCHITECT 	<p>LEGEND</p> <ul style="list-style-type: none"> Existing walls to remain New brick walls New brick veneer walls New timber stud walls Existing to be demolished 	<p>R.L. RELATIVE LEVEL (m)</p> <p>F.F.L. FLOOR FINISH LEVEL</p> <p>C.L. CEILING LEVEL</p> <p>N.G.L. NATURE GROUND LINE</p> <p>A.F.W. ALUM. FRAME WINDOWS</p> <p>R.T.S. REFER TO THE SCHEDULE (RTS)</p> <p>W.B.C. WEATHER BOARD CLADDING (RTS)</p> <p>S.A. SMOKE ALARM (RTS)</p> <p>M.H. METAL HANDRAIL (RTS)</p>	<p>S.C.D. SOLID TIMBER CORE DOOR</p> <p>REFER TO THE SCHEDULE</p> <p>S.D. ALUM. SLIDING DOOR</p> <p>REFER TO THE SCHEDULE</p> <p>C.R.S. COLOURBOND ROOF SHEETING</p> <p>REFER TO THE SCHEDULE</p> <p>F.B.W. FACE BRICK WORK</p> <p>REFER TO THE SCHEDULE</p> <p>t: tile g: glass p: paint</p> <p>b: brick</p>	<p>NK ARCHITECT</p> <p>ARCHITECTURAL DESIGN</p> <p>74 JOHN ST. CROYDON, NSW</p> <p>PHONE (02) 8006 1268</p> <p>MOB: 0406 987 868</p> <p>NSW ARB: 7853</p>	<p>PROJECT: ALTERATIONS AND ADDITIONS</p> <p>AT: 974 BARRENJOEY RD, PALM BEACH</p> <p>FOR: MR.</p> <p>DRAWING NAME: SEDIMENT CONTROL PLAN</p>	<p>Scale 1:200, 1:250 @ A3 Drawing number AR-5</p> <p>Date 08-Dec-21 Pages 5 of 5</p> <p>DEVELOPMENT APPLICATION</p> <p>Plot Date: 08-Dec-21</p>
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