Reference number 2888

Member of the Fire Protection Association of Australia

Lot 40, DP 8075, 7 Bower Street, Manly, NSW 2095.

Friday, 24 July 2020

Prepared and certified by:	Matthew Willis *BPAD – Level 3 Certified Practitioner* Certification No: BPD-PA 09337		24/07/2020
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-29 and BAL-19	
Is referral to the RFS required?		At the discretion of Council	
Can this development comply with the requirements of PBP?		Yes	
Plans by "CplusC Architectural Workshop" (Appendix 1) dated.		23/7/2020	

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Bushfire Planning Services

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Bushfire Risk Assessment

Friday, 24 July 2020

Contact

Ryan Ng

CplusC Architectural Workshop

62 Ivy Street

Darlington NSW 2008

9690 2211

Subject Property

Lot 40, DP 8075

7 Bower Street

Manly NSW 2095

BUSHFIRE RISK ASSESSMENT CERTIFICATE

THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 79BA 1(b) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 NO 203

Property Address	Lot 40, DP 8075, number 7 Bower Street Manly
Description of the Proposal	Construction of a new dwelling
Plan Reference	23/7/2020
BAL Rating	BAL-29 and BAL-19
Does the Proposal Rely on Alternate Solutions?	**No**

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 Appendix 4 of Planning for Bushfire Protection 2006 together with recommendations as to how the relevant Specifications and requirements are to be achieved.

I hereby certify, 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 Manly 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 2006.

REPORT REFERENCE	*Friday, 24 July 2020*
REPORT DATE	*Friday, 24 July 2020*
CERTIFICATION NO/ACCREDITED SCHEME	*FPAA BPAD A BPD-PA 09337*

Attachments:

- Bushfire Risk Assessment Report
- Recommendations

SIGNATURE: ---  ------ ***DATE:*** -----*Friday, 24 July 2020*

Contents.

1 Executive Summary.

Bushfire Planning Services has been requested by Ryan Ng from CplusC Architectural Workshop to supply a bushfire compliance report on lot 40, DP 8075, 7 Bower Street, Manly.

The works proposed for the subject lot are for the construction of a new dwelling, see attached plans for details.

The subject lot is on the south-eastern side of Bower Street and at its closest point to the hazard the proposed new work has a separation distance to the south-east of approximately 19m.

The vegetation that is considered to be the hazard to this proposal is situated on land that slopes up slope away from the property at an angle of approximately 7.74° deg.

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

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-29 on its exposed north-eastern, south-eastern and south-western aspects, BAL-19 on the north-western aspects and the 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	Heath	Managed land
Slope	N/A	N/A	All up-slopes and flat land	N/A
Setback within lot 40	N/A	N/A	9m	N/A
Setback outside lot 40	N/A	N/A	10m	N/A
Total setback	N/A	N/A	19m	N/A
Bal level	N/A	N/A	29	N/A

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.

It should be noted that an area of “offsite” land has been used in the setback calculations for this development. The area used is an access handle between two areas of land that is owned by the Catholic Church. Historically this area has been incorporated into the rear yards of the houses that back onto this area. At the south-eastern side of the access handle there is a significant Sandstone wall that separated the developed area from the hazard.

It is considered reasonable to include this land in the setback requirements for this proposal however there is no “official” agreement that the land owned by the church can be managed by the proponent or any of the neighbours.

2 General.

This proposal relates to the construction of a new dwelling 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.

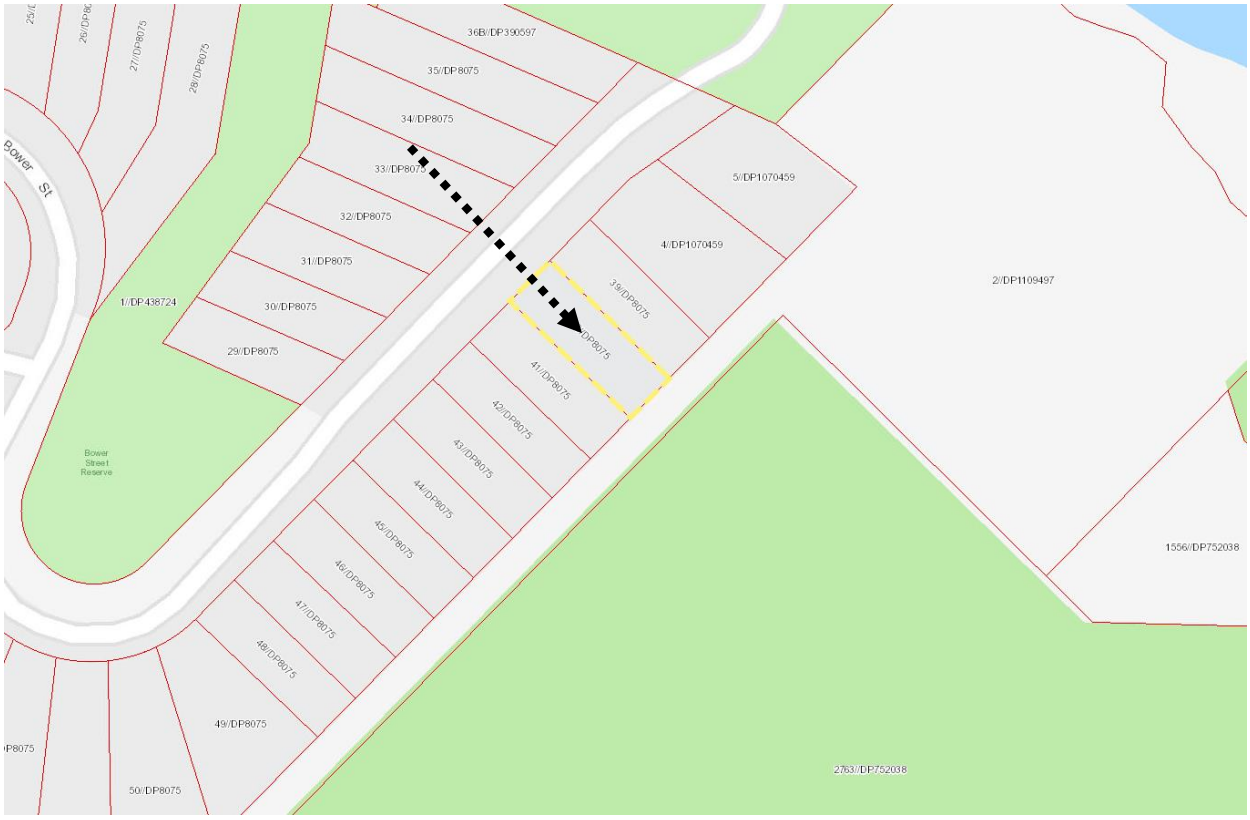
3 Block Description.

The subject block is situated on the south-eastern side of Bower Street in an established area of Manly.

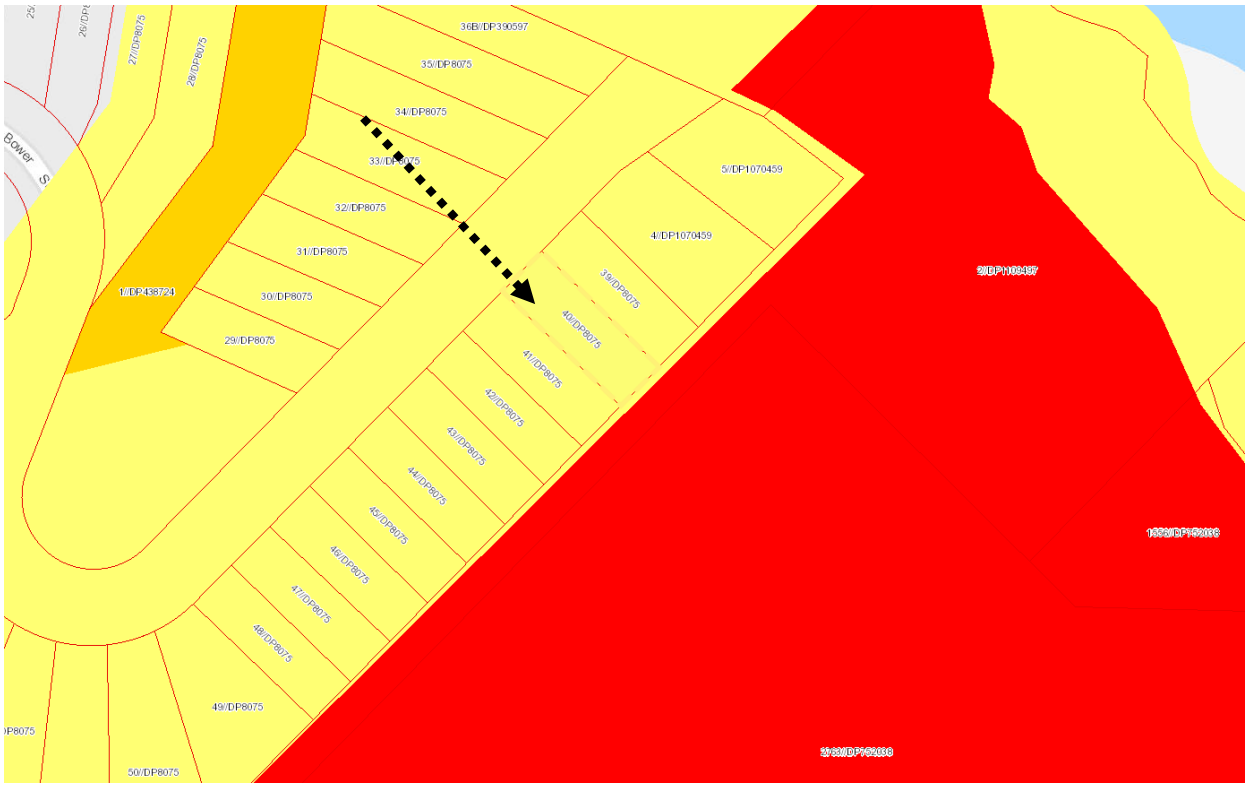
The lot currently contains a multi-level class 1 dwelling.

The lands surrounding the proposed site on the subject lot to a distance of at least 19m contain existing development or land that is otherwise not considered to be a significant bushfire hazard.

- Lot; 40
- DP; 8075.
- LGA; Manly.
- Area; 696.8.
- Address; 7 Bower Street, Manly.



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 40 to be within the buffer zone of category 1 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 south-east.

The hazard has been identified in the SydneyMetroArea_v3_2016_E_4489 vegetation overlay as Coastal Headland Banksia Heath.

Coastal Headland Banksia Heath is described as;

Coastal Headland Banksia Heath is a closed heath community found on Hawkesbury sandstone rock platforms associated with ocean and harbour headlands. These exposed environments are underlain by a skeletal and infertile soil.

Typically, heath-leaved banksia (Banksia ericifolia subsp. ericifolia) and scrub she-oak (Allocasuarina distyla) form the dominant upper strata. Tick bush (Kunzea ambigua) may also be common, and sample sites where this species was dominant appear to have suffered some soil disturbance in the past. These larger shrubs may be over-topped by a sparse cover of emergent mallee-form eucalypts. Other woody shrubs include wattle (Acacia longifolia), needlebush (Hakea teretifolia), Darwinia fascicularis, and pink tea-tree (Leptospermum squarrosum).

The rare sprawling shrub wrinkled kerrawang (Rulingia hermanniifolia) is also encountered in the lower shrub layer. Many sites have impeded drainage because the sandstone bedrock is very close to the surface. The ground can at times have a sparse cover of sedges amongst clumps of forbs.

This heath is found at many of the prominent vantage points of Sydney Harbour including Middle Head, North Head and South Head as well as the Kurnell Peninsula and Bundeena headland. These are flat plateau-like landforms that have minor sandstone benching and outcropping. It is not restricted to exposed cliff lines and can be situated some distance from the coast.

It is however restricted to low elevations (10-120 metres above sea level) in zones of high rainfall (1200-1400 millimetres per annum). Beyond the Sydney area the community extends from the Central Coast to Jervis Bay.

Some sample sites located within heathlands at Middle Harbour and La Perouse contained species that are more common in sheltered environments and may reflect decreased fire frequencies as result of fragmentation. These species include sweet pittosporum (Pittosporum undulatum), blueberry ash (Elaeocarpus reticulatus) and cheese tree (Glochidion ferdinandi).

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

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	Heath	Managed land
Setback within lot 40	N/A	N/A	9m	N/A
Off-site setback	N/A	N/A	10m	N/A
Total setback	N/A	N/A	19m	N/A

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.

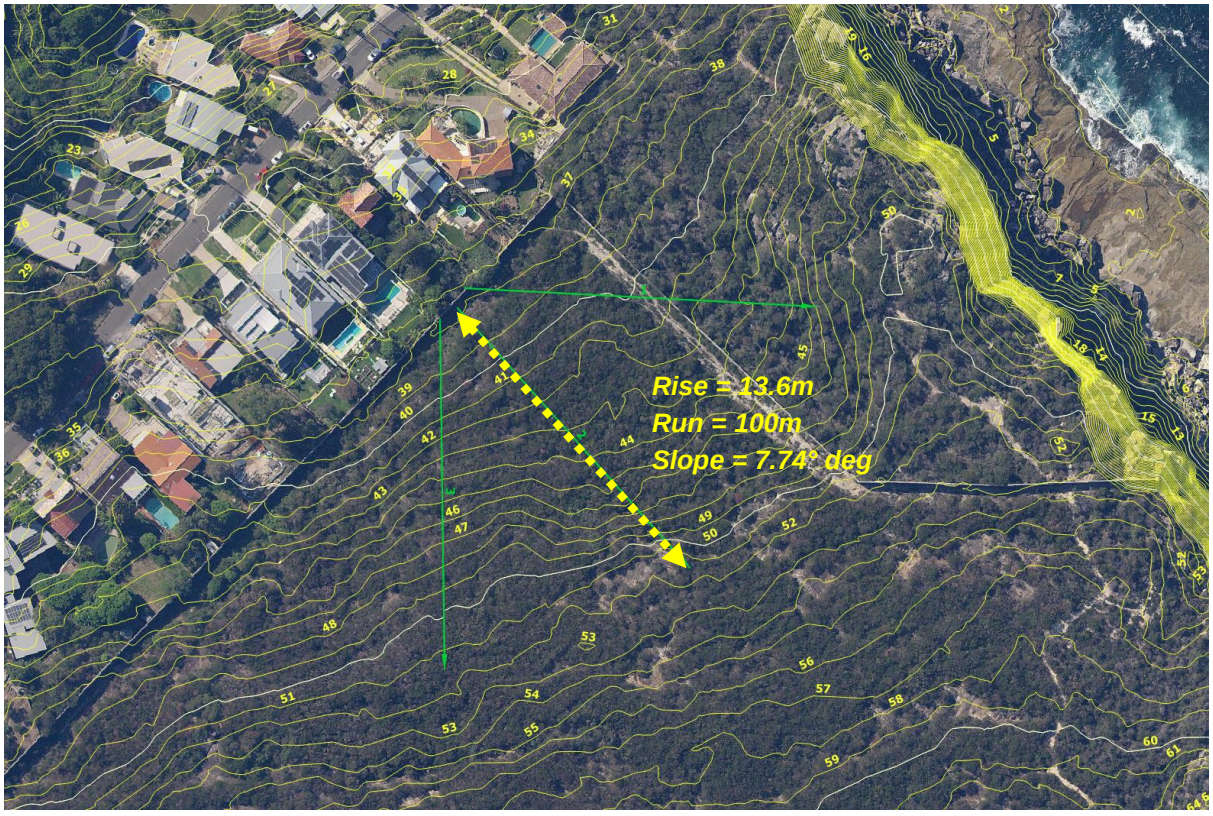


Table 2 shows the slope beneath the hazard.

Aspect	North	East	South (east)	West
Slope	N/A	N/A	All up-slopes and flat land	N/A

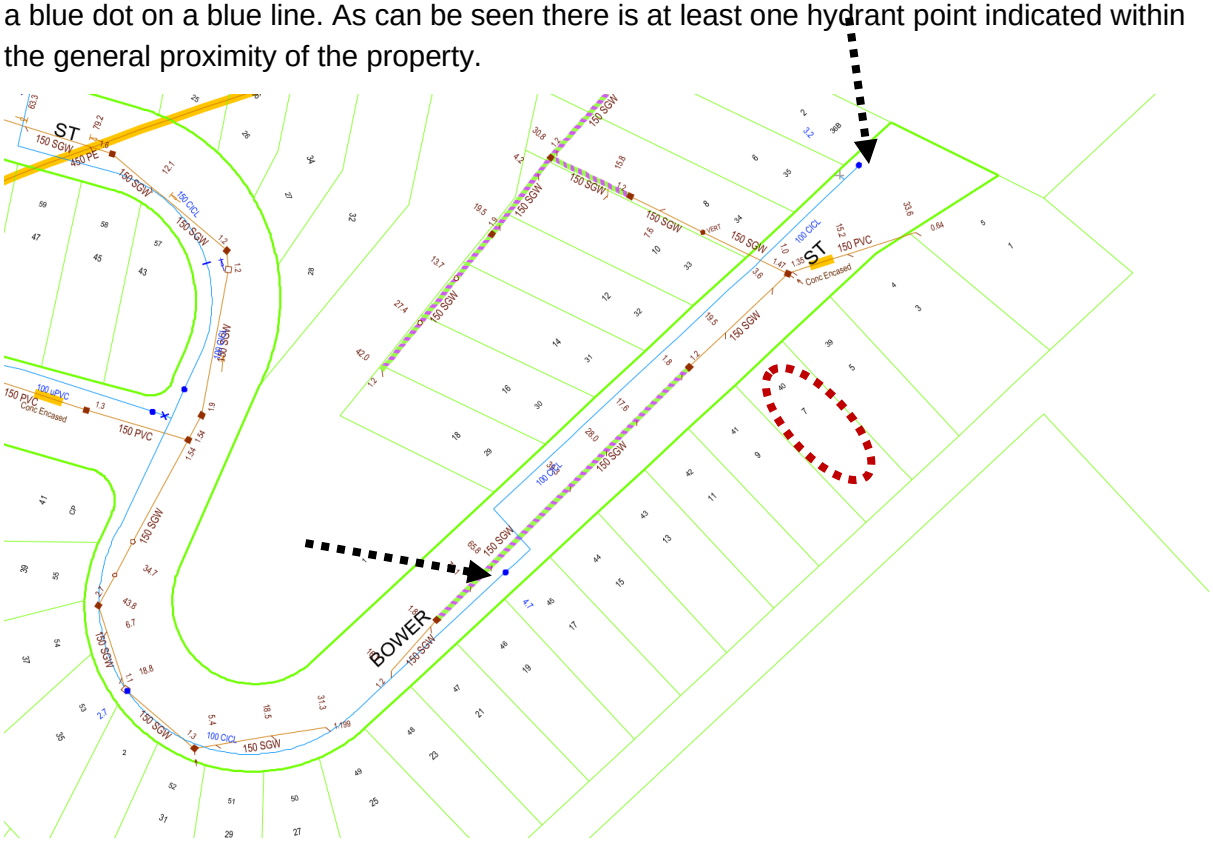
Table 2 - Any aspect marked with "N/A" in the table above indicates that it is considered there is no hazard in that direction.

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 the general proximity of the property.



7.2 Electricity

Mains 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 Bower Street.

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-29 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.

ALL UPSLOPE AND FLAT LAND	Keith Vegetation Formation	BUSH FIRE ATTACK LEVEL (BAL)				
		BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
	Rainforest	< 8	8 -< 11	11 -< 16	16 -< 23	23 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 18	18 -< 24	24 -< 33	33 -< 45	45 -< 100
	Grassy and Semi-Arid Woodland (including Mallee)	< 9	9 -< 12	12 -< 18	18 -< 26	26 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 7	7 -< 10	10 -< 14	14 -< 21	21 -< 100
	Tall Heath	< 12	12 -< 16	16 -< 23	23 -< 32	32 -< 100
	Short Heath	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
	Arid-Shrublands (acacia and chenopod)	< 5	5 -< 6	6 -< 9	9 -< 14	14 -< 100
	Freshwater Wetlands	< 4	4 -< 5	5 -< 7	7 -< 11	11 -< 100
	Grassland	< 8	8 -< 10	10 -< 15	15 -< 22	22 -< 50

For the purpose of this assessment the south-eastern 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 BCA and AS3959 2009. The following recommendations are a minimum level of construction. Constructing the proposal to a higher level than that recommended is allowable under AS3959.

Recommendation; all new work to the north-eastern, south-eastern and south-western aspects (rear and both sides).

1. New construction on the north-eastern, south-eastern and south-western aspects 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 on the north-eastern, south-eastern and south-western aspects shall also comply with the requirements of BAL-29 Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and the 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.

Recommendation; all new work to the north-western aspect (front).

3. New construction on the north-western 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 north-western aspects shall also comply with the requirements of BAL-19 Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and the 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.

AS-3959 2018 is now available as PDF for free from;

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

12 Utilities.

12.1 Water.

The subject lot will be serviced by a reticulated water supply however the nearest hydrant point is beyond the maximum allowable distance from the new works resulting in the need for a Static Water Supply (SWS) to be established on site. The SWS is to be in accordance with the following.

5. A 5,000 L water supply is to be made available for firefighting purposes and be constructed in accordance with the following features.

- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet;
- Ball valve and pipes are adequate for water flow and are metal;
- Supply pipes from tank to ball valve have the same bore size to ensure flow volume;

- Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
- Above-ground tanks are manufactured from concrete or metal;
- Unobstructed access can be provided at all times;
- Underground tanks are clearly marked;
- Tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
- All exposed water pipes external to the building are metal, including any fittings;
- A pump is to be provided which is a minimum 5hp or 3kW petrol or diesel-powered pump and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter.
- An 'SWS' marker shall be obtained from the local NSW Rural Fire Service and positioned for ease of identification by brigade personnel and other users of the SWS. In this regard:
    - a) Markers must be fixed in a suitable location so as to be highly visible; and
    - b) Markers should be positioned adjacent to the most appropriate access for the static water supply.

12.2 Electricity and Gas.

Recommendation;

6. 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;

7. 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;

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

9. 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 development[1]:

- 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;
- 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

[1] *Refer to referenced documents for a complete description.*

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.

APZ A defendable space is provided onsite. An APZ is provided and maintained for the life of the development.	Achievable with the implementation of the recommendations in section 13
SITING AND DESIGN: Buildings are sited and designed to minimise the risk of bush fire attack.	Achievable with the implementation of the recommendations in section 10
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.	Achievable with the implementation of the recommendations in section 11
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).	Achievable with the implementation of the recommendations in section 16
WATER AND UTILITY SERVICES: • 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.	Achievable with the implementation of the recommendations in section 12
LANDSCAPING: • it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause Ignitions.	Achievable with the implementation of the recommendations in section 14

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 DRAWING LIST

SHEET NUMBER	SHEET NAME
DA 000	COVER PAGE & DRAWING REGISTER
DA 001	EXISTING SITE PLAN & SITE ANALYSIS PLAN
DA 002	PROPOSED SITE PLAN
DA 003	PROPOSED GARAGE FLOOR PLAN
DA 004	PROPOSED GROUND FLOOR PLAN
DA 005	PROPOSED FIRST FLOOR PLAN
DA 006	PROPOSED ROOF PLAN
DA 007	ELEVATION - NORTH-WEST
DA 008	ELEVATION - NORTH-EAST
DA 009	ELEVATION - SOUTH-EAST
DA 010	ELEVATION - SOUTH-WEST
DA 011	SECTION A - MAIN HOUSE
DA 012	SECTION B - POOL, HOME OFFICE & GARAGE
DA 013	SECTION C - GARAGE AND LIVING
DA 014	SHADOW DIAGRAMS - 9AM WINTER
DA 015	SHADOW DIAGRAMS - 12PM WINTER
DA 016	SHADOW DIAGRAMS - 3PM WINTER
DA 017	NO.9 ELEVATIONAL SHADOW DIAGRAMS
DA 018	EROSION CONTROL & WASTE MANAGEMENT
DA 019	EXCAVATION AND FILL PLAN
DA 020	EXTERNAL FINISHES & MATERIALS
DA 021	LEP MAX 8.5M HEIGHT DIAGRAM
DA 022	VIEW FROM NO.5 FRONT TERRACE & BALCONY
DA 023	VIEW FROM NO.9 FRONT ROOM & BALCONY

LOCATION PLAN
1:1000

VIEW FROM BOWER STREET

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E: info@cplusc.com.au
W: www.cplusc.com

PROJECT
19-030 SPANGL MUNDSPERGER RESIDENCE

PROJECT ADDRESS
7 BOWER STREET
MANLY, 2095

CLIENT
JURGEN SPANGL & KARIN MUNDSPERGER

PROJECT CONTACT
RYAN NG (PROJECT ARCHITECT)
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DOCUMENTS BY OTHER CONSULTANTS

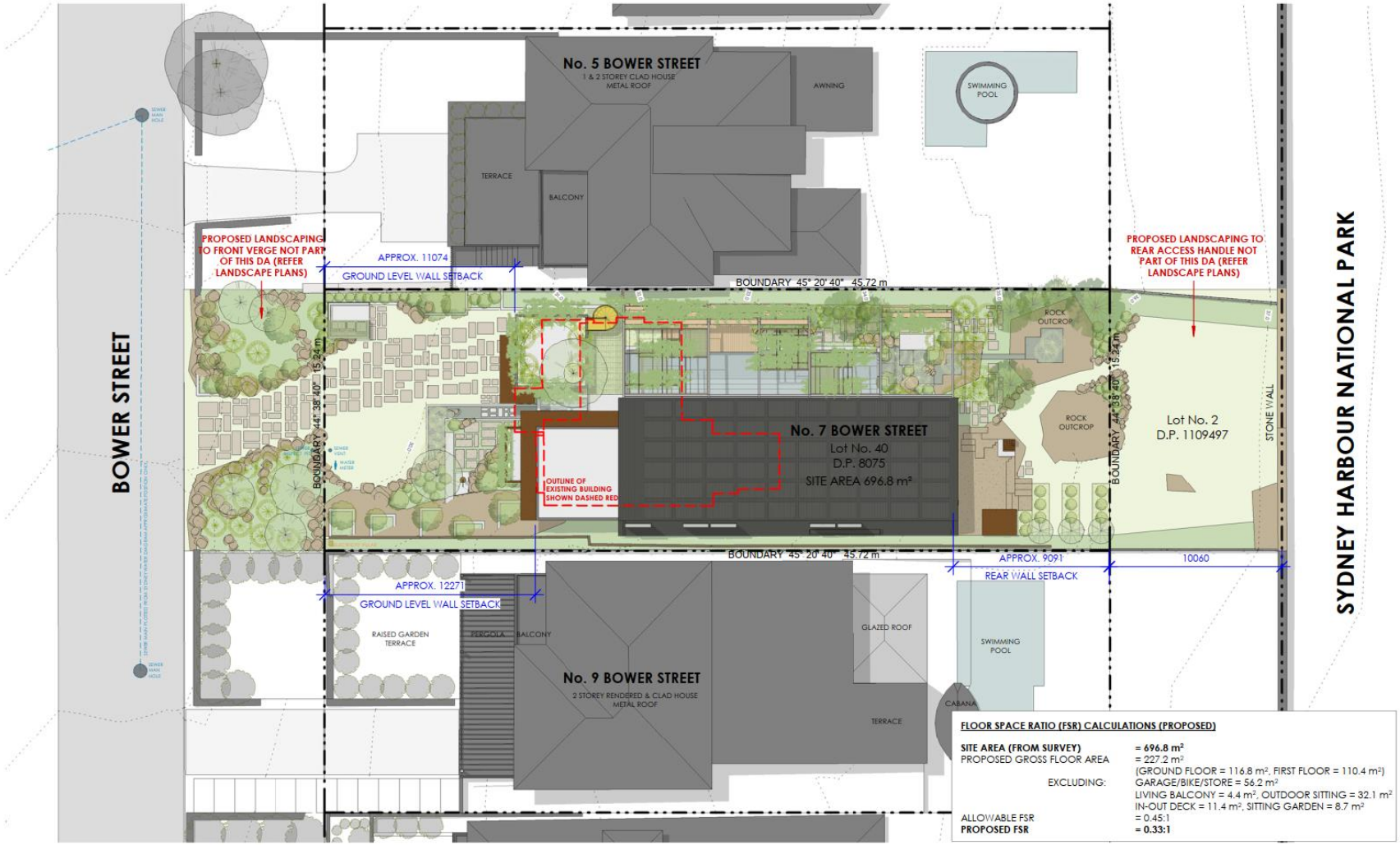
SURVEY PLAN BY C.I.L.S. SURVEYORS
BASIX CERTIFICATE BY CERTIFIED ENERGY
STATEMENT OF ENVIRONMENTAL EFFECTS BY WILLANA URBAN
LANDSCAPE PLAN BY DUNCAN GIBBS
STORMWATER MANAGEMENT PLANS BY STELLEN CONSULTING
GEOTECHNICAL REPORT BY WITT CONSULTING
BUSHFIRE REPORT BY BUSHFIRE PLANNING SERVICES
ECOLOGICAL IMPACT STATEMENT BY ACS ENVIRONMENTAL

FOR DEVELOPMENT APPLICATION

DRAWING TITLE
COVER PAGE & DRAWING REGISTER

REVISION DATE	REVISION	DRAWING NUMBER
23/07/2020	1	DA 000

PRINTED 23/07/2020 9:53:31 AM



DEVELOPMENT APPLICATION ONLY - NOT FOR CONSTRUCTION

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PROJECT	SCALE	DRAWING TITLE
19-030 SPANGL MUNDSPERGER RESIDENCE	1 : 200 @ A3	PROPOSED SITE PLAN

PROJECT ADDRESS	CLIENT	DRAWN BY	REVISION DATE	REVISION	DRAWING NUMBER
7 BOWER STREET MANLY, 2095	JURGEN SPANGL & KARIN MUNDSPERGER	RN/CAR REVIEWED BY CC	23/07/2020	1	DA 002

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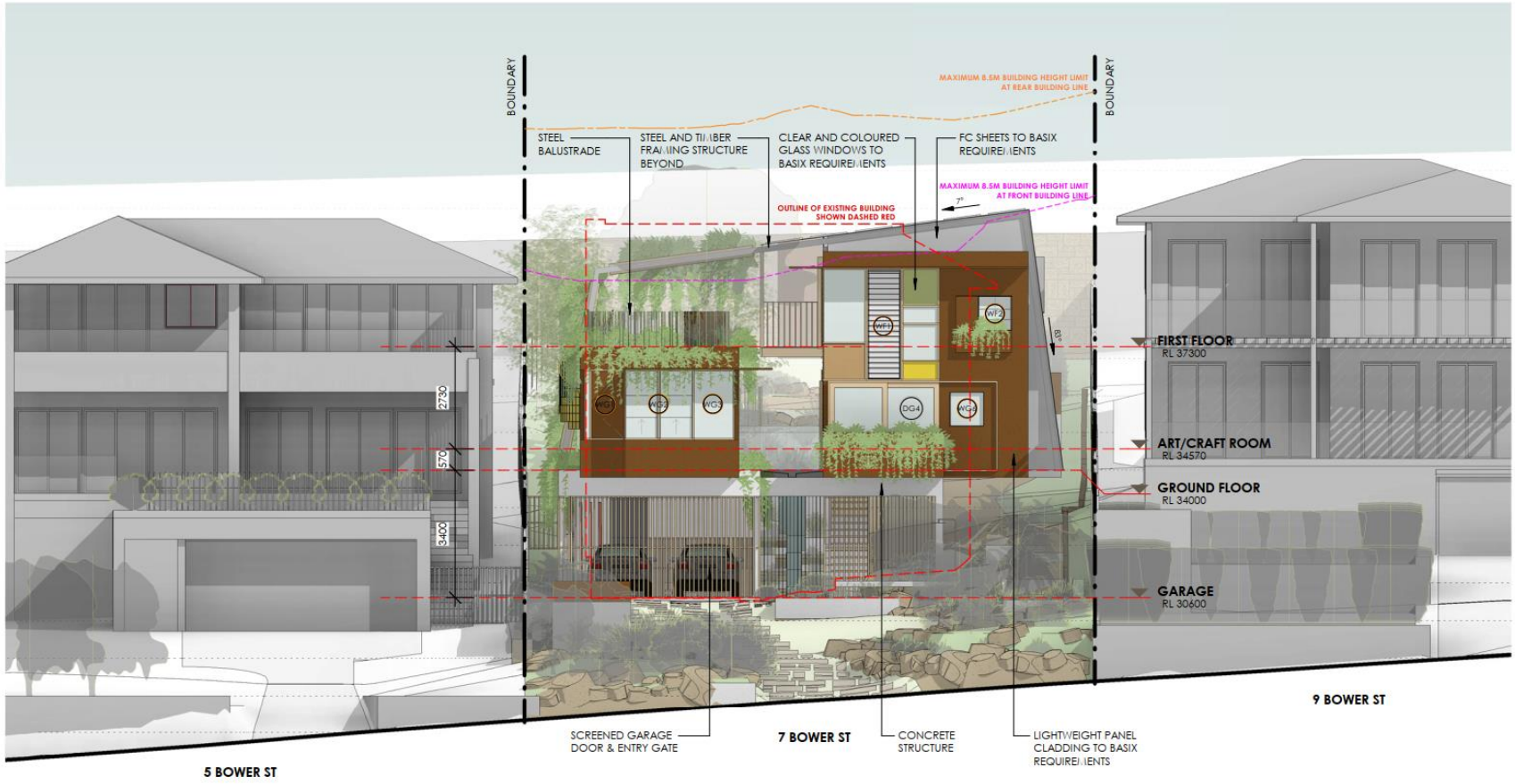

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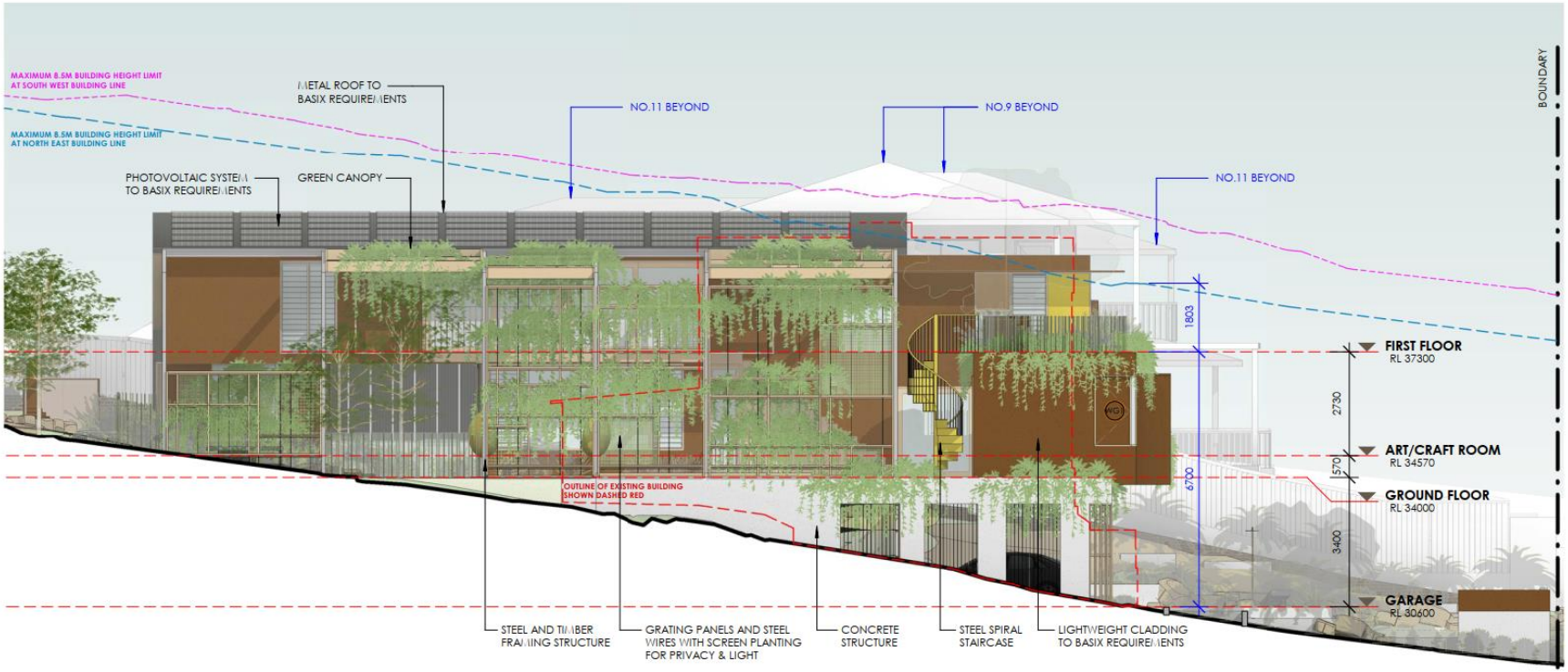

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PROJECT		SCALE	DRAWING TITLE		
19-030 SPANGL MUNDSPERGER RESIDENCE		1 : 100 @ A3	ELEVATION - NORTH-EAST		
PROJECT ADDRESS	CLIENT	DRAWN BY	REVISION DATE	REVISION	DRAWING NUMBER
7 BOWER STREET MANLY, 2095	JURGEN SPANGL & KARIN MUNDSPERGER	RN/CAR REVIEWED BY CC	23/07/2020	1	DA 008

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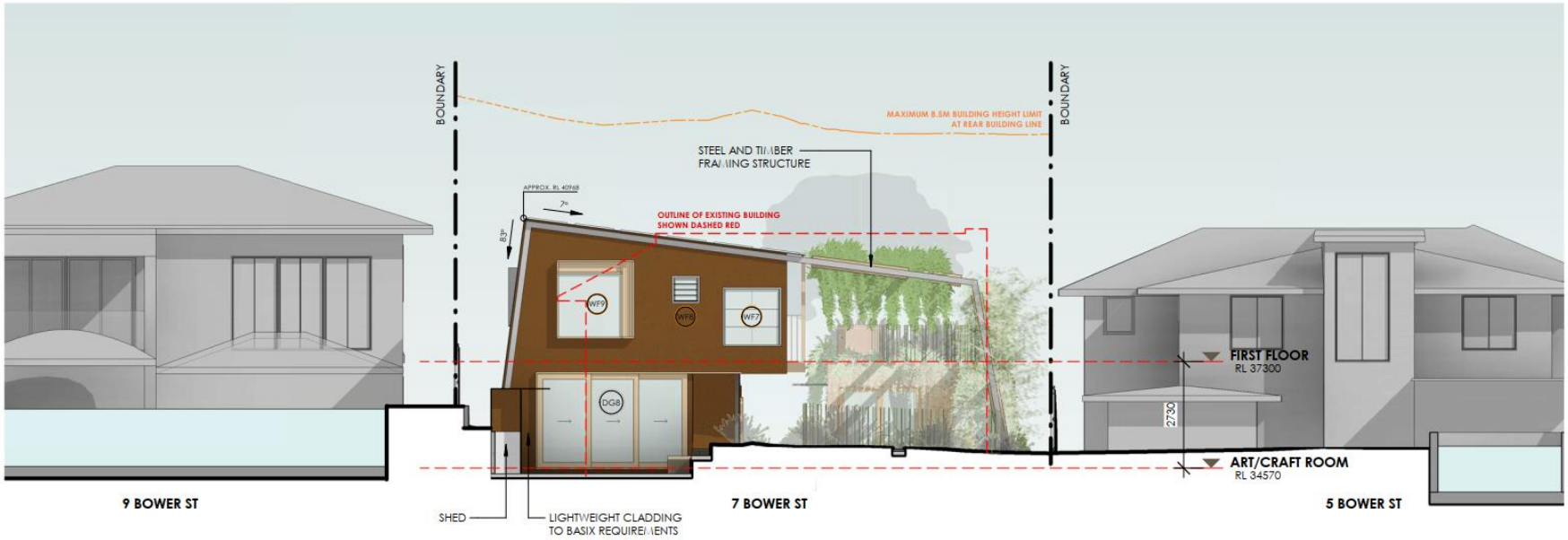

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PROJECT		SCALE	DRAWING TITLE		
19-030 SPANGL MUNDSPERGER RESIDENCE		1 : 100 @ A3	ELEVATION - SOUTH-EAST		
PROJECT ADDRESS	CLIENT	DRAWN BY	REVISION DATE	REVISION	DRAWING NUMBER
7 BOWER STREET MANLY, 2095	JURGEN SPANGL & KARIN MUNDSPERGER	RN/CAR REVIEWED BY CC	23/07/2020	1	DA 009

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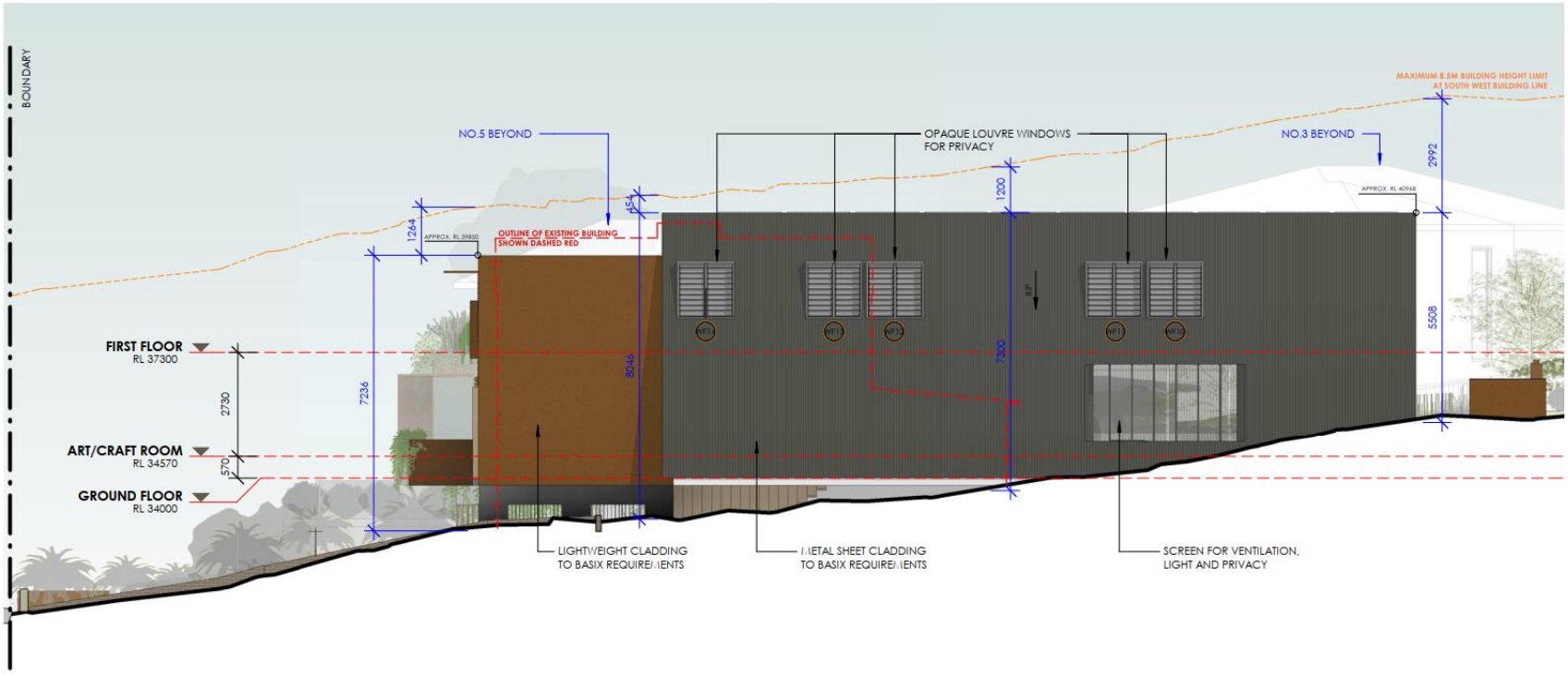

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PROJECT: 19-030 SPANGL MUNDSPERGER RESIDENCE			SCALE: 1 : 100 @ A3	DRAWING TITLE: ELEVATION - SOUTH-WEST	
PROJECT ADDRESS: 7 BOWER STREET MANLY, 2095	CLIENT: JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY: RN/CAR REVIEWED BY: CC	REVISION DATE: 23/07/2020	REVISION: 1	DRAWING NUMBER: DA 010

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