

11 October 2013

General Manager Pittwater Council PO Box 882 MONA VALE NSW 1660

Dear Sir/Madam,

Development Application No. N0216/13 41 Attunga Road, Newport

For Council's information, please find enclosed Construction Certificate No. 2013/5150 issued for deck extension at the above address, accompanied by:

- Copy of Construction Certificate application form
- Notice of Commencement of Work and Appointment of Principal Certifying Authority
- Home Warranty Insurance Certificate
- Cheque for \$36.00 being the prescribed fee to receive the above certificate.

NB: Please forward receipt for the above fee to Insight Building Certifiers Pty Ltd, PO Box 326, Mona Vale 1660.

Yours faithfully

Tom Bowden Insight Building Certifiers Pty Ltd

RN: 350452.

RECEIVED

2 1 OCT 2013

PITTWATER COUNCIL



### Construction Certificate Determination

issued under the Environmental Planning and Assessment Act 1979 Section 109C (1) (b), 81A (2) and 81A (4)

### Certificate No. 2013/5150

Council	Pittwater		
Determination			
Date of issue	11 October 2013		
Subject land			
Address	41 Attunga Road, Newport		
Lot No, DP No.	Lot 105 DP 752046		
Applicant			
Name	Mr Lawrence Puddy		
Address	41 Attunga Road, Newport NSW 2106		
Contact No.	9973 3472 / 0418 921 087		
Owner			
Name	Mrs Rosemary Puddy		
Address	41 Attunga Road, Newport NSW 2106		
Contact No.	9973 3472		
Description of Development			
Type of Work	Deck Extension		
Builder or Owner/Builder			
Name	Northern Beaches Constructions		
Contractor Licence No/Permit	106302 <i>C</i>		
Value of Work			
Building	\$11,900.00		
Attachments			

Suite 13/90 Mona Vale Road Mona Vale NSW 2103 PO Box 326 Mona Vale NSW 1660 ph: 9999 0003 fax: 9979 1555 email: info@insightcert.com.au web: www.insightbuildingcertifiers.com.au ABN 54 115 090 456

Plans & Specifications certified

The development is to be carried out in compliance with the following plans and documentation listed below and endorsed with *Insight Building Certifiers* stamp.

- Architectural Plans & Construction Specification, including Sydney Water approval dated 3 October 2013, reference no. 1315, drawing no's. A-01, A-02, A-03 (all issue A), prepared by Gartner Trovato dated 8 July 2013
- Structural Details reference no. 130812, drawing no's. 51.00, 52.00 & 52.01, prepared & endorsed by Barrenjoey Consulting Engineers Pty Ltd dated August 2013
- Completed Form 2 (Parts A & B) of Pittwater Council Geotechnical Risk Management Policy, endorsed by Barrenjoey Consulting Engineers Pty Ltd dated 30 September 2013 & Jack Hodgson Consultants Pty Ltd dated 30 September 2013, respectively

### Certificate

I hereby certify that the above Plans, documents or Certificates, satisfy:

- The relevant provisions of the Building Code of Australia
- The relevant conditions of this Development Consent

and that work completed in accordance with the documentation accompanying the application for this Certificate (and any modifications as verified by me and shown on that documentation) will comply with the requirements of the Environmental Planning & Assessment Regulation referred to in Section 81A(5) of the Environmental Planning & Assessment Act, 1979.

Signed
--------

Date of endorsement Certificate No.

2013/5150

**Certifying Authority** 

Name of Accredited Certifier Accreditation No.

Accreditation Authority

Contact No.

Address

Tom Bowden BPB0042

**Building Professionals Board** 

(02) 9999 0003

13/90 Mona Vale Road, Mona Vale NSW 2103

**Development Consent** 

Development Application No.

Date of Determination

N0216/13

16 September 2013

**BCA Classification** 

10b

	Construction Certificate					
	Marie Control of the State of					
APPLICATION FOR A C	ONSTRUCTION CERTIFICATE  4 Environmental Planning and Assessment Regulation 2000					
Description of Building Work						
DECK EXTENSION						
Estimated cost of work	BCA Classification(s)					
\$11,900.00	10b					
Development Consent Reference no.	Date of Issue					
NO216/13	16 SEPT 2013					
Modified Consent Reference no. (If applicable						
_	-					
Property Address						
Unit/Street no. Street name						
41 ATTUNG	A ROAD					
Suburb	Post code					
NEWPORT	2106					
Lot no. DP no.						
105 7520	16					
Accompanying Documents i. Appropriate Architectural Plans and Specifications						
ii. All information required by Part 3 of Schedule 1 For						
I/We, the owner/s of the abovementioned property, hereby make application to Tom Bowden/Heath McNab of Insight Building Certifiers Pty Ltd ('Insight') for a Construction Certificate for the building work descibed above and, in doing so, I/we also declare that the documents provided and asserted by me as a copy of a development consent and incorporated plans are a true copy of same as issued by the relevant consent authority or the Land and Environment Court.						
Owner 1 Name: TANKENCE PU	DDI Owner 2 Name: ROSE WARY PUDDY					
Owner's Signature:  Owner's Signature:						
Date: 3048.13	Date: 30 8 13					
Owner's Address: L+1 ATTILALC	LA ROAD NEWFORT					
Daytime Telephone: 02 997 33472   Mobile: 045921087. \						
[Office Use Only]: Date received by Accredited Certifier:						
email: info@insightcert.com.au web; www.insightbuildingcertifiers.com.au ABN 54 115 090 456						

### Environmental Planning & Assessment Regulations 2000 Schedule 1 – Part 3(6) – Documents to accompany application for Construction Certificates

- (1) An application for a construction certificate must be accompanied by the following documents:
  - (a) if the development involves building work (including work in relation to a dwelling-house or a building or structure that is ancillary to a dwelling-house):
    - (i) a detailed description of the development, and
    - (ii) appropriate building work plans and specifications,
  - (b) if the development involves building work (other than work in relation to a dwelling-house or a building or structure that is ancillary to a dwelling-house or work that relates only to fire link conversion):
    - (i) a list of any existing fire safety measures provided in relation to the land or any existing building on the land, and
    - (ii) a list of the proposed fire safety measures to be provided in relation to the land and any building on the land as a consequence of the building work.
  - (c) if the development involves subdivision work, appropriate subdivision work plans and specifications,
  - (d) in the case of development to which clause 6A applies, such other documents as any BASIX certificate for the development requires to accompany the application.
- (2) A detailed description of the development referred to in subclause (1) (a) (i) must indicate the following matters:
  - (a) for each proposed new building:
    - (i) the number of storeys (including underground storeys) in the building,
    - (ii) the gross floor area of the building (in square metres),
    - (iii) the gross site area of the land on which the building is to be erected (in square metres),
  - (b) for each proposed new residential building:
    - (i) the number of existing dwellings on the land on which the new building is to be erected,
    - (ii) the number of those existing dwellings that are to be demolished in connection with the erection of the new building,
    - (iii) the number of dwellings to be included in the new building,
    - (iv) whether the new building is to be attached to any existing building,
    - (v) whether the new building is to be attached to any other new building,
    - (vi) whether the land contains a dual occupancy,
  - (vii) the materials to be used in the construction of the new building (using the abbreviations set out in clause 7 of this Schedule).
- (3) Appropriate building work plans and specifications referred to in subclause (1) (a) (ii) include the following:
  - (a) detailed plans, drawn to a suitable scale and consisting of a block plan and a general plan, that show:
    - (i) a plan of each floor section, and
    - (ii) a plan of each elevation of the building, and
    - (iii) the levels of the lowest floor and of any yard or unbuilt on area belonging to that floor and the levels of the adjacent ground, and
    - (iv) the height, design, construction and provision for fire safety and fire resistance (if any),
  - (b) Specifications for the development:
    - (i) that describe the construction and materials of which the building is to be built and the method of drainage, sewerage and water supply, and
    - (ii) that state whether the materials to be used are new or second-hand and (in the case of second-hand materials) give particulars of the materials to be used,
  - (c) a statement as to how the performance requirements of the *Building Code of Australia* are to be complied with (if an alternative solution, to meet the performance requirements, is to be used).
  - (d) a description of any accredited building product or system sought to be relied on for the purposes of section 79C (4) of the Act,
  - (e) copies of any compliance certificate to be relied on,
  - (f) if the development involves building work to alter, expand or rebuild an existing building, a scaled plan of the existing building,
  - (g) in the case of development to which clause 6A applies, such other matters as any BASIX certificate for the development requires to be included in the plans and specifications.
- (3A) An application for a construction certificate that relates only to fire link conversion need only be accompanied by a document that describes the design and construction, and mode of operation, of the new fire alarm communication link.
- (4) Appropriate subdivision work plans and specifications referred to in subclause (1) (c) include the following:
  - (a) details of the existing and proposed subdivision pattern (including the number of lots and the location of roads),
  - (b) details as to which public authorities have been consulted with as to the provision of utility services to the land concerned,
  - (c) details engineering plans as to the following matters:
    - (i) earthworks,
    - (ii) roadworks,
    - (iii) road pavement,
    - (iv) road furnishings,
    - (v) stormwater drainage,
    - (vi) water supply works,
    - (vii) sewerage works.
    - (viii) landscaping works,
    - (ix) erosion control works,
  - (d) copies of any compliance certificates to be relied on.
- 6A BASIX certificate required for certain development
- (1) This clause applies to:
  - (a) BASIX affected development, and
  - (b) BASIX optional development in relation to which a person made a development application that has been accompanied by a BASIX certificate or BASIX certificates (despite there being no obligation under clause 2A for it to be so accompanied).
- (2) In addition to the documents required by clause 6, an application for a construction certificate for any development to which this clause applies must also be accompanied by a BASIX certificate or BASIX certificates for the development, being either the BASIX certificate applicable to the development when the relevant development consent was granted or some other BASIX certificate or BASIX certificates that has or have been issued no earlier than 3 months before the date on which the application is made.
- (3) If the proposed development involves the alteration, enlargement or extension of a BASIX affected building that contains more than one dwelling, a separate BASIX certificate is required for each dwelling concerned.

### GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER FORM NO. 2 – PART A – To be submitted with detailed design for Construction Certificate

**Development Application for** 

**Puddy Family** 

Address of site

41 Attunga Rd Newport

PART A: Declaration made by Structural or Civil Engineer in relation to the incorporation of the Geotechnical issues into the project design

Lucas Molloy on behalf of

Barrenjoey Consulting Engineers pty ltd

(insert name)

(trading or company name)

on this the

30th Sept 2013

(date)

certify that I am a Structural or Civil Engineer as defined by the Geotechnical Risk Management Policy for Pittwater - 2009. I am authorised by the above organisation/company to issue this document and to certify that the organisation/company has a current professional indemnity policy of at least \$2million. I also certify that I have prepared the below listed structural documents in accordance with the recommendations given in the Geotechnical Report for the above development and that

Please mark appropriate box

- the structural design meets the recommendations as set out in the X Geotechnical Report or any revision thereto.
- the structural design has considered the requirements set out in the X Geotechnical Report for Excavation and Landfill both for the excavation/construction phase and the final installation in accordance with Clause 3.2 (b)(iv) of the Geotechnical Risk Management Policy.

Geotechnical Report Details:

41 Attunga Rd Newport Minor Works Report Title:

Report Date:

19th July 2013

Author:

Peter Thompson

Author's Company/Organisation: Jack Hodgson Consultants pty ltd

Structural Documents list:

Plans by Barrenjoey Consulting Engineers pty ltd Job No 130806 **Drawing Nos S1.00, S2.00, and S2.01** 

I am also aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy, including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified.

Signature

**Chartered Professional Status** 

Membership No.

Company

ucas Molloy

CPEng / NPER

788184

Barrenjoey Consulting Engineers ply ltd

forms part of

Construction Cortilionte

no. 201,3/5150

### GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER FORM NO. 2 – PART B - To be submitted with detailed design for construction certificate

PART B Declaration made by Geotechnical Engineer or Engineering Geologist and/or Coastal Engineer (where applicable) in relation to the incorporation of the Geotechnical issues into the project design

l	Peter Thompson (insert name)	or	n behalf of	Jack Hodgson Consultants Pty Ltd (trading or company name)			
on th	is the 30 <sup>TH</sup> SEPTEMBER, 2013		<del></del>				
certify that I am a Geotechnical Engineer or Engineering Geologist and/or Coastal Engineer as defined by the Geotechnical Risk Management Policy for Pittwater — 2009 and I am authorised by the above organization/company to issue this document and to certify that the organization/company has a current professional indemnity policy of at least \$2million. I also certify that I have reviewed the design plans and structural design plans in accordance for the Construction Certificate Stage and that I am satisfied that:  Please mark appropriate box							
1771	the structural design meets the r	ecommenda	tions as set out in th	e Geotechnical Report or any revision thereto			
the structural design meets the recommendations as set out in the Geotechnical Report or any revision thereto the structural design has considered the requirements set out in the Geotechnical Report for Excavation and Landfill both for the excavation/construction phase and the final installation in accordance with Clause 3.2 (b)(iv) of the Geotechnical Risk Management Policy							
	Geotechnical Report Det						
	Report Title: MINOR WO	ORKS FOR	41 ATTUNGA ROA	AD, NEWPORT MO 28960			
	Report Date: 19TH JULY,	2013					
	Author: BEN WHITE						
	<u> </u>						
Documentation which relates to or is relied upon in report preparation:  ARCHITECTURAL PLANS PREPARED BY GARTNER TROVATO PROJECT 1315 DWG NO: A-01 TO 03 DATED JULY, 2013							
STRUCTURAL PLANS PREAPRED BY BARRENJOEY CONSULTING ENGINEERS JOB NO 130806 DWG NO: S1.00, S2.00 & S2.01 DATED AUGUST 2013							
I am also aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy, including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified.  Peter Thompson  (name)							
I am also aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy, Including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk  Signature							
		Name	Peter Thompso	n esta Na Na			
Membership No. 146800							
Company Jack Hodgson Consultants Pty Ltd							
This plan / do tumoni							
Policy of Operations and Procedures		Council Polic	y-No.178 Page 22				
			Constructi	un Colambalo			
			no. 2013	/5150			

# **GENERAL NOTES**

0 G1 - These drawings are to be read in conjunction with all architectural and other consultants drawings and specifications. Any discrepancies are to be referred all parties and rectified before proceeding with the works.

G3 - During construction the structure shall be kept in a stable condition and no G2 - Dimensions shall not be obtained by scaling from these drawings.

Australian Standards, OH&S requirements, and the by-laws and ordinances of G4 - All materials and workmanship are to be in accordance with the current any relevant statutory authority. part shall be over stressed.

## FOUNDATIONS

F1 - The foundation material is to be WEATHERED ROCK 1000KPa bearing capacity.

sound and consistent with minimal possibility of differential settlement across the Geotechnical Consultant as being in accordance with the above and that it is F2 -The foundation material is to be Inspected, verified and approved by a

contacted and it is likely all foundations are to be piered to similar material of the F3 - Should variable foundation material be encountered the engineer is to be greatest bearing capacity and that additional detailing of the foundation reinforcement will be required.

F4 - Any excavation works are to include measures to ensure the temporary and long term stability of any existing structure within its vicinity.

F5 - All foundations shall be a minimum 300mm into the approved material

F6 - Foundation depth dimensions are a minimum only and final depth will be unless otherwise noted.

F7 - All organic matter and top soil shall be removed from the underside of all dependent on the adequacy of the bearing material. slabs and foundations.

F8 - Any soft or questionable excavated areas are to be brought to the attention of the Geotechnical Consultant and may require controlled filling.

F9 - Any filling shall be to the approval of the Geotechnical Consultant and will generally be granular material compacted in not more than 150mm layers to a minimum dry density ratio of 98%.

C1 - All workmanship and materials shall be in accordance with AS3600.

C3 - All concrete shall have a slump of 80mm and maximum aggregate size or Concrete quality shall be verified by tests.

C4 - Concrete strength and cover shall be as detailed on the plans.

C5 - Size of concrete members do not include thickness of applied finishes.

C7 - No penetrations are to be made to the concrete members without the C6 - Beam depths are written first and include slab thickness if any written approval of the engineer.

C9 - All construction joints shall be located to the approval of the engineer. C8 - No water is to be added to the concrete prior to placement.

C10 - Fire rating requirements and adequacy is to be reviewed and specified by C11 - All concrete members are to be cured by keeping the surfaces

continuously wet for a period of 3 days followed by the prevention of loss of

C12 - All concrete elements shall be compacted to form a dense homogenous mass using mechanical vibrators moisture for a further 7 days.

C13 - All formwork shall be installed and stripped in accordance with AS3610. C14 - All formwork is to be free of debris prior to pouring of concrete

C16 - Exposed finished concrete surfaces (such as polished floors etc) will be C15 - Exposed finished concrete surfaces (such as polished floors etc) will require additional reinforcement (SL 102 Top min) plus curing / shrinkage controlling additives as per the concrete suppliers recommendations. susceptible to cracking.

- Top reinforcement is to be continuous over supporting elements and lapped All reinforcement shall be Grade D500. between supporting elements only.

R3 - Bottom reinforcement is to be continuous between supporting elements and lapped at supporting elements only

R4 - Reinforcement is represented diagrammatically only and is not necessarily shown in its true projection.

R5 - Welding of reinforcement is not permitted.

R6 - All reinforcement shall be supported on bar chairs at max 750mm spacing R7 - Reinforcement shall be tied at alternate intersections.

R8 - Reinforcement bars are to lap a minimum length equal to 40 times the bar diameter (ie min 480mm for N12 bars, 640mm for N16 bars).

R9 - Reinforcement fabric is to lap 1 complete square plus 25mm.

M1 - All workmanship and materials shall be in accordance with AS3700.

M2 - An approved slip joint material is to be placed over all load bearing masonry supporting a concrete slab and laid on smooth brick work or a trowed mortar

M3 - Masonry shall be constructed on suspended concrete structures only after all propping has been removed and the concrete has achieved its specified finish, this material may constitute two layers of greased metal.

M4 - Control joints are to be placed in all walls at a maximum of 8m centres and engineer. The joints are to be 10mm wide and sealed with an approved flexible between new and existing structures or closer as deemed necessary by the sealant, with ties at 600mm centres vertical.

M6 - Core filling shall be 20 MPa concrete with 10mm aggregate, 230mm slump M5 - Concrete blocks shall have a minimum compressive strength of 15 MPa.

M7 - Concrete blocks used in retaining wall construction are to be Double Web H and compacted adequately.

M9 - All masonry components are to be tied at not more than 600mm centres to M8 - Maximum pour height for unrestrained blockwork is 1.8m. adjacent steel or concrete columns.

STEEL S1 - All workmanship and materials shall be in accordance with AS4100. S2 - Hot rolled plates shall comply with AS 3678.

S3 - Hot rolled sections shall comply with AS3679.

S4 - Cold formed sections shall comply with AS4600.

S6 - Unless noted otherwise all welds shall be 6mm continuous fillet from E4xx S5 - Welded and seamless hollow sections shall comply with AS1163.

electrodes, unless noted otherwise. S7 - Unless noted otherwise all bolts shall be M16 high strength structural bolts

and 6mm continuous weld. **S9** - All structural steel work shall have the following level of corrosion protection grade 8.8, snug tightened, uno. S8 - Unless noted otherwise all connections shall be 3M16 bolts, 10mm plate

equivalent) All coatings/finishes shall be applied in accordance with the manufacturers specifications and recommendations including surface

visible - a first coat (75 microns) of Zincanode 402 and a second coat (100 not visible - a single coat (75 microns) of Zincanode 402. microns) of Weathermax HBR.

specified within these documents correspond

DESIGN LIFE OF THE STRUCTURE D1 - The design life of all elements as

External elements (> 100m from waterfront including members with an external not visible - a first coat (90 microns) of Zincanode 402 a second coat (60 cavity or within 1m of a significant opening)

External elements (marine environment is < 100m from waterfront)
Specialist specification from paint manufacturers is to be applied to all members. S10 - All work shop drawings are to be reviewed and approved by the Engineer visible - a first coat (75 microns) of Zincanode 402 and a second coat (100 microns) of Ferreko No 5 and a third coat (60 microns) of Ferreko No 5. microns) of Ferreko No3 and a third coat (100 microns) of Ferreko No3. or Hot Dipped Galvanised to AS 4680 and a decorative coating or Hot Dipped Galvanised to AS 4680.

a rigorous maintenance and inspection schedule

and cover specifications as detailed within

these plans.

together with additional concrete strength

Management Policy by the implementation of required by Pittwater Councils Interim Risk

D2 - The Design Life of elements relevant

of Australia and the relevant Australian

to that required by the Building Code

to slope stability maybe extended to that

T1 - All workmanship and materials shall be in accordance with AS1720 and AS1684.

T3 - All timber in contact with the ground shall be H4 treated or of durability class T2 - All exposed timber shall be H3 treated or of durability class 1.

T4 - All exposed cuts shall be treated to achieve H3 or H4 requirements.

T5 - All softwood shall be minimum F7.

T6 - All hardwood shall be a minimum F14.

T7 - All bott hole s shall be exact size and washers shall be 2.5 x the bott diameter.

NATA

stamping

S2.01 - DECK FRAMING & FOUNDATION DETAILING 1

S2.00 - DECK FRAMING & FOUNDATION PLAN

S1.00 - GENERAL NOTES

DRAWING SCHEDULE

11 - Barrenjoey Consulting Engineers shall only inspect works within its capacity as an Engineering Consultancy and will not carry out Mandatory Critical Stage.

12 - All inspections are to be carried out at the request of the projects Principal 12 - Barrenjoey Consulting Engineers will not inspect or certify foundation material adequacy, see F2.

Certifying Authority, or should independent certification be required at the 13 - Typical inspections include request of the client or builder.

000

Jetion

Suspended concrete reinforcement Slab on ground reinforcement Foundation reinforcement Steel structures

Timber structures

Completed Stormwater Management systems

14 - The client shall be responsible for any fees for inspections regardless of whom requested them.

15 - All re inspection required due to no compliance with issued drawings or that deemed necessary by Barrenjoey Consulting Engineers shall be charged to the

16 - No certification will be given for works not inspected by Barrenjoey

17-48 Hrs notice is required for any inspection within the Sydney region and 72 Hrs notice is required for any inspection outside of this region Consulting Engineers.

This plan / document

2013/5150 Construction

130806

Job No:

Document Certification

**PROJECT** Barrenjoey Consulting Engineers ptyltd Structural F: 9918 5841 E: lucasbce@bigpond.com ABN: 13124694917 Avalon NSW 2107 ACN: 124694917 M: 0418 620 330 P: 9918 6264 POBox 672 Stormwater

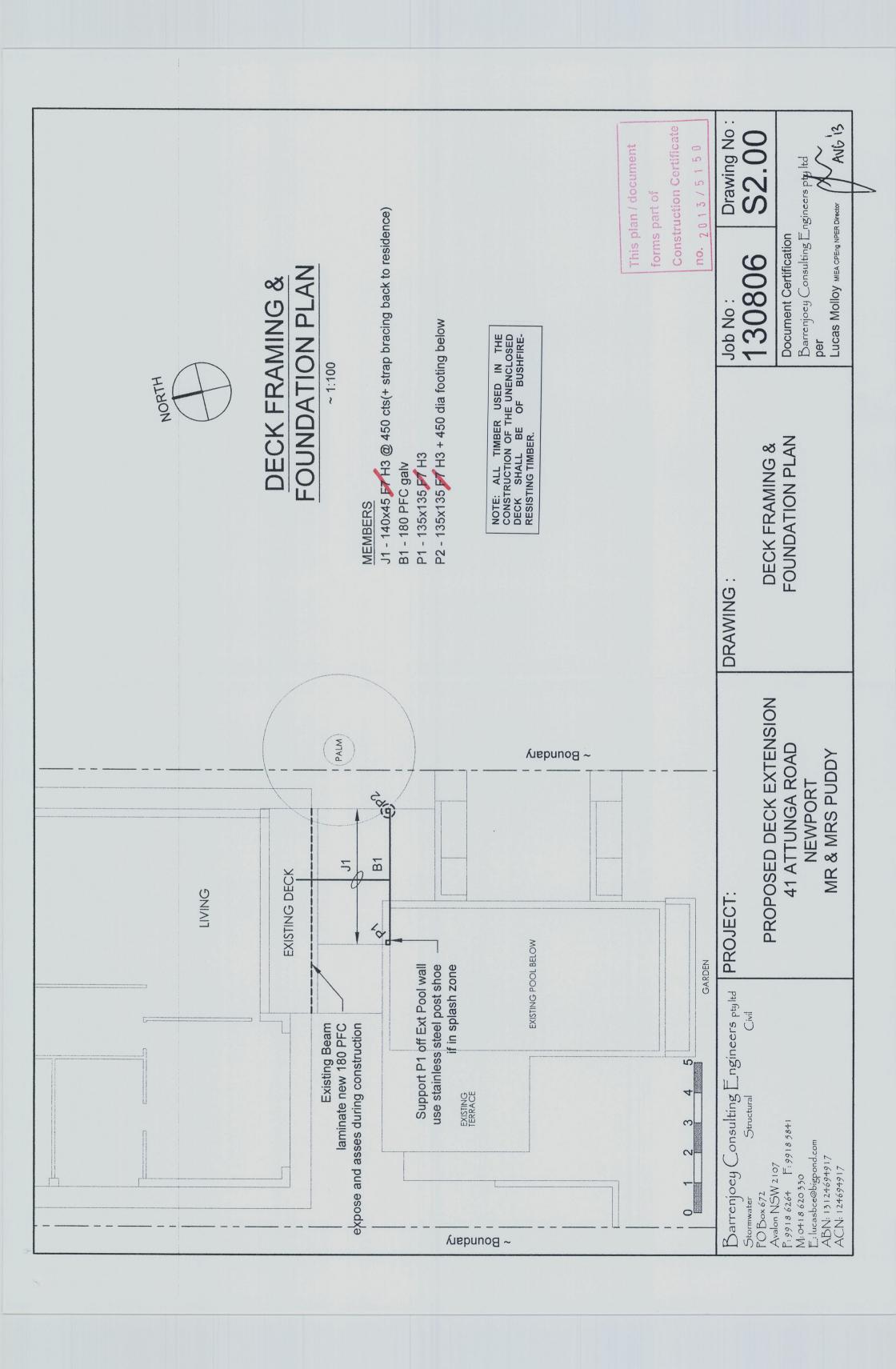
PROPOSED DECK EXTENSION 41 ATTUNGA ROAD MR & MRS PUDDY NEWPORT

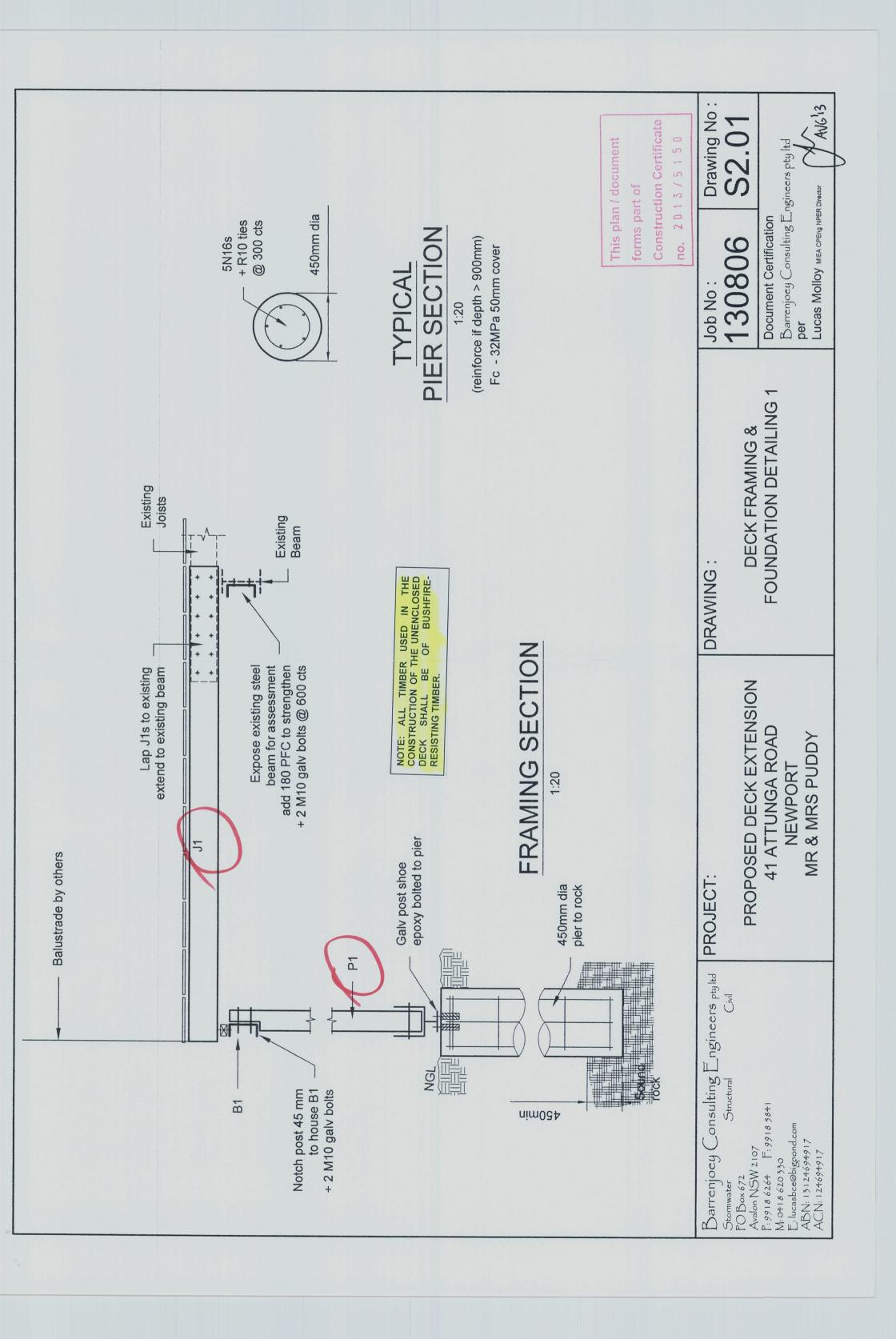
GENERAL NOTES

DRAWING:

Barrenjocy Consulting Engineers pty Itd LUCAS MOTION MEA CPENS NPER DIRECTOR

A613





## Bushfire Construction Specification

**BAL 19** 

(as modified by Planning for Bushfire Protection)

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This plan / document forms part of Construction Certificate no. 2013/5150

### SECTION 6 CONSTRUCTION FOR BUSHFIRE ATTACK LEVEL 19 (BAL — 19)

### SARKING

Any sarking used for BAL-12.5, BAL-19, BAL-29 or BAL-40 shall be:

- a) Non-combustible; or
- b) Breather-type sarking complying with AS/NZS 4200.1 and with a flammability index of not more than 5 (see AS1530.2) and sarked on the outside of the frame; or
- c) An insulation material conforming to the appropriate Australian Standard for that material.

### 6.1 GENERAL

A building assessed in Section 2 as being BAL—19 shall comply with Section 3 and Clauses 6.2 to 6.8.

NOTE: There are a number of Standards that specify requirements for construction; however, where this Standard does not provide construction requirements for a particular element, the other Standards apply.

Any element of construction or system that satisfies the test criteria of AS 1530.8.1 may be used in lieu of the applicable requirements contained in Clauses 6.2 to 6.8 (see Clause 3.8).

NOTE: BAL—19 is primarily concerned with protection from ember attack and radiant heat greater than 12.5 kW/m2 up to and including 19 kW/m2.

### **6.2 SUBFLOOR SUPPORTS**

This Standard does not provide construction requirements for subfloor supports where the subfloor space is enclosed with—

- a) a wall that complies with Clause 7.4; or
- b) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion resistant steel, bronze or aluminium; or
- c) a combination of Items (a) and (b) above.

- d) Where the subfloor space is unenclosed, the support posts, columns, stumps, piers and poles shall be—
- (i) of non-combustible material; or
- (ii) of bushfire-resisting timber (see Appendix F); or
- (iii) a combination of Items (i) and (ii) above.

NOTE: This requirement applies to the principal building only and not to verandas, decks, steps, ramps and landings (see Clause 7.7).

### 6.3 FLOORS

6.3.1 Concrete slabs on the ground

This Standard does not provide construction requirements for concrete slabs on ground.

### 6.3.2 Elevated floors

This Standard does not provide construction requirements for elevated floors, including bearers, joists and flooring.

### 6.4 EXTERNAL WALLS

### 6.4.1 Walls

That part of an external wall surface that is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the wall (see Figure D3, Appendix D) shall be made from—

- a) non-combustible material; or
- b) fibre-cement external cladding, a minimum of 6 mm in thickness; or
- c) bushfire-resisting timber (see Appendix F); or
- d) a timber species as specified in Paragraph E1, Appendix E; or
- e) a combination of any of Items (a), (b), (c) or (d) above.

This Standard does not provide construction requirements for external wall surfaces 400mm or more from the ground or for external wall surfaces 400 mm or more above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the wall (see

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Figure D3, Appendix D).

6.4.2 Joints

All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed to prevent gaps greater than 3 mm. alternatively; sarking-type material may be applied over the outer face of the frame prior to fixing any external cladding.

6.4.3 Vents and weepholes

Vents and weepholes in external walls shall be screened with mesh with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium, except where they are less than 3 mm (see Clause 3.6), or are located in an external wall of a subfloor space.

### 6.5 EXTERNAL GLAZED ELEMENTS AND ASSEMBLIES AND EXTERNAL DOORS

6.5.1 Bushfire shutters

Where fitted, bushfire shutters shall comply with Clause 3.7 and be made from—

- a) non-combustible material; or
- b) a timber species as specified in Paragraph E1, Appendix E; or
- c) bushfire-resisting timber (see Appendix F); or
- d) a combination of any of Items (a), (b), or (c) above.

### 6.5.1A Screens for windows and doors

Where fitted, screens for windows and doors shall have a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium. Gaps between the perimeter of the screen assembly and the building element to which it is fitted shall not exceed 3 mm.

The frame supporting the mesh or perforated sheet shall be made from—

- a) metal; or
- b) bushfire-resisting timber (see Appendix F); or
- c) a timber species as specified in Paragraph E2, Appendix E. '

### 6.5.2 Windows

Window assemblies shall comply with one of the following:

- a) They shall be completely protected by a bushfire shutter that complies with Clause 6.5.1. or
- b) They shall be completely protected externally by screens that comply with Clause 6.5.1A. or
- c) They shall comply with the following:
- (i) For window assemblies less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings, having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the window frame (see Figure D3, Appendix D), window frames and window joinery, shall be made from one of the following:
- (A) Bushfire-resisting timber (see Appendix F). or
- (B) A timber species as specified in Paragraph E2, Appendix E. or
- (C) Metal. or
- (D) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel and the frame and the sash shall satisfy the design load, performance and structural strength of the member.
- (ii) Externally fitted hardware that supports the sash in its functions of opening and closing, shall be metal.
- (iii) Where glazing is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings, having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the window frame (see Figure D3, Appendix D), the glazing shall be toughened glass minimum 5 mm, or glass blocks with no restriction on glazing methods.

NOTE: Where double-glazed units are used, the above requirements apply to the external face of the window assembly only.

(iv) Where glazing is other than that specified in Item (iii) above, annealed glass may be used. Where annealed glass is used, both the fixed and openable portions of windows shall be screened externally with screens that comply with Clause 6.5.1A.

- (v) Where toughened glass is used, it shall be toughened glass of minimum 5 mm and the openable portions of windows shall be screened internally or externally with screens that comply with Clause 6.5.1A.
- (vi) Glazed elements that are designed to take internal screens shall use toughened glass of minimum 5 mm and the openable portion shall be screened with screens that comply with Clause 6.5.1A.
- 6.5.3 Doors—Side-hung external doors (including French doors, panel fold and bi-fold doors)

Side-hung external doors, including French doors, panel fold and bi-fold doors, shall comply with one of the following:

- a) They shall be protected by a bushfire shutter that complies with Clause 6.5.1. or
- b) They shall be completely protected externally by screens that comply with Clause 6.5.1A. or
- c) They shall comply with the following:
- (i) Doors shall be-
  - (A) non-combustible; or
  - (B) a solid timber door, having a minimum thickness of 35 mm for the first 400 mm above the threshold; or
  - (C) a door, including a hollow core door, with a non-combustible kick-plate on the outside for the first 400 mm above the threshold; or
  - (D) a fully framed glazed door, where the framing is made from materials specified for bushfire shutters (see Clause 6.5.1), or from a timber species as specified in Paragraph E2, Appendix E.
- (ii) Where doors incorporate glazing, the glazing shall be toughened glass minimum 5 mm.
- (iii) Doors shall be tight-fitting to the door frame and to an abutting door, if applicable.
- (iv) Where the door frame is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the

door (see Figure D3, Appendix D), the door frame shall be made from one of the following:

- (A) Bushfire-resisting timber (see Appendix F). or
- (B) A timber species as specified in Paragraph E2, Appendix E. or
- (C) Metal. or
- (D) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel and the door assembly shall satisfy the design load, performance and structural strength of the member.
- (v) Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

### 6.5.4 Doors—Sliding doors

Sliding doors shall comply with one of the following:

- a) They shall be completely protected by a bushfire shutter that complies with Clause 6.5.1., or
- b) They shall be completely protected externally by screens that comply with Clause 6.5.1A., or
- c) They shall comply with the following:
- (i) Any glazing incorporated in sliding doors shall be toughened glass minimum 5 mm.
- (ii) Both the door frame supporting the sliding door and the framing surrounding any glazing shall be made of one of the following:
  - (A) Bushfire-resisting timber (see Appendix F). or
  - (B) A timber species as specified in Paragraph E2, Appendix E. or
  - (C) Metal. or
  - (D) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel and the frame and the sash shall satisfy the design load, performance and structural strength of the member.
- (iii) There is no requirement to screen the openable part of the sliding door. However, if screened, the screens shall comply with Clause 6.5.1A.

NOTE: The construction of manufactured sliding doors should prevent the entry of embers when the door is closed. There is no requirement to provide screens to the openable part of these doors as it is assumed that a sliding door will be closed if occupants are not present or during a bushfire event. Screens of materials other than those specified may not resist ember attack

- (iv) Sliding doors shall be tight-fitting in the frames.
- 6.5.5 Doors—Vehicle access doors (garage doors)

The following apply to vehicle access doors:

- (a) The lower portion of a vehicle access door that is within 400 mm of the ground when the door is closed (see Figure D4, Appendix D) shall be made from—
  - (i) non-combustible material; or
  - (ii) bushfire-resisting timber (see Appendix F); or
  - (iii) fibre-cement sheet, a minimum of 6 mm in thickness; or
  - (iv) a timber species as specified in Paragraph E1, Appendix E; or
  - (v) a combination of any of Items (i), (ii), (iii) or (iv) above.
- (b) Panel lift, tilt doors or side-hung doors shall be fitted with suitable weather strips, draught excluders, draught seals or guide tracks, as appropriate to the door type, with a maximum gap no greater than 3 mm.
- (c) Roller doors shall have guide tracks with a maximum gap no greater than 3 mm and shall be fitted with a nylon brush that is in contact with the door (see Figure D4, Appendix D).
- (d) Vehicle access doors shall not include ventilation slots.
- 6.6 ROOFS (INCLUDING VERANDA AND ATTACHED CARPORT ROOFS, PENETRATIONS, EAVES, FASCIAS, GABLES, GUTTERS AND DOWNPIPES) 6.6.1 General

The following apply to all types of roofs and roofing systems:

a) Roof tiles, roof sheets and roof-covering accessories shall be non-combustible.

- b) The roof/wall junction shall be sealed, to prevent openings greater than 3 mm, either by the use of fascia and eaves linings or by sealing between the top of the wall and the underside of the roof and between the rafters at the line of the wall.
- c) Roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

### 6.6.2 Tiled roofs

Tiled roofs shall be fully sarked. The sarking shall—

- a) have a flammability index of not more than 5, when tested to AS 1530.2;
- b) be located directly below the roof battens;
- c) cover the entire roof area including the ridge; and
- d) be installed so that there are no gaps that would allow the entry of embers where the sarking meets fascias, gutters, valleys and the like.

### 6.6.3 Sheet roofs

Sheet roofs shall—

- a) be fully sarked in accordance with Clause 6.6.2, except that foil-backed insulation blankets may be installed over the battens; or
- b) have any gaps greater than 3 mm under corrugations or ribs of sheet roofing and between roof components sealed at the fascia or wall line and at valleys, hips and ridges by—
- (i) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium; or
- (ii) mineral wool; or
- (iii) other non-combustible material; or
- (iv) a combination of any of Items (i), (ii), or (iii) above.
- 6.6.4 Veranda, carport and awning roofs

The following apply to veranda, carport and awning roofs:

- a) A veranda, carport or awning roof forming part of the main roof space [see Figure D1(a), Appendix D] shall meet all the requirements for the main roof, as specified in Clauses 6.6.1, 6.6.2, 6.6.3, 6.6.5 and 6.6.6.
- b) A veranda, carport or awning roof separated from the main roof space by an external wall [see Figures D1(b) and D1(c), Appendix D] complying with Clause 6.4 shall have a non-combustible roof covering.

NOTE: There is no requirement to line the underside of a veranda, carport or awning roof that is separated from the main roof space.

6.6.5 Roof penetrations

The following apply to roof penetrations:

- a) Roof penetrations, including roof lights, roof ventilators, roof-mounted evaporative cooling units, aerials, vent pipes and supports for solar collectors shall be adequately sealed at the roof to prevent gaps greater than 3 mm. The material used to seal the penetration shall be non-combustible.
- b) Openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
- c) All overhead glazing shall be Grade A safety glass complying with AS 1288.
- d) Glazed elements in roof lights and skylights may be of polymer provided a Grade
   A safety glass diffuser, complying with AS 1288, is installed under the glazing.
   Where glazing is an insulating glazing unit (IGU), Grade A toughened safety
   glass of minimum 4 mm shall be used in the outer pane of the IGU.
- e) Flashing elements of tubular skylights may be of a fire-retardant material, provided the roof integrity is maintained by an under-flashing of a material having a flammability index no greater than 5.
- f) Evaporative cooling units shall be fitted with butterfly closers at or near the ceiling level, or the unit shall be fitted with non-combustible covers with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

6.6.6 Eaves linings, fascias and gables

The following apply to eaves linings, fascias and gables:

- a) Gables shall comply with Clause 6.4.
- b) Eaves penetrations shall be protected the same as for roof penetrations, as specified in Clause 6.6.5.
- c) Eaves ventilation openings greater than 3 mm shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

Joints in eaves linings, fascias and gables may be sealed with plastic joining strips or timber storm moulds.

This Standard does not provide construction requirements for fascias, bargeboards and eaves linings.

6.6.7 Gutters and downpipes

This Standard does not provide material requirements for-

- a) gutters, with the exception of box gutters; and
- b) downpipes.

If installed, gutter and valley leaf guards shall be non-combustible.

Box gutters shall be non-combustible and flashed at the junction with the roof with noncombustible material.

### 6.7 VERANDAS, DECKS, STEPS, RAMPS AND LANDINGS

The following specifications have been varied to include the requirements of the NSW RFS variation to the Australian Standard as outlined in the Addendum to Appendix 3 of Planning for Bushfire Protection 2006

### 6.7.1 General

Decking may be spaced.

There is no requirement to enclose the subfloor spaces of verandas, decks, steps, ramps or landings.

C7.7.1 Spaced decking is nominally spaced at 3 mm (in accordance with standard industry practice); however, due to the nature of timber decking with seasonal changes in moisture content, that spacing may range from 0–5 mm during service. The preferred dimension for gaps is 3 mm (which is in line with other 'permissible gaps') in other parts of this Standard. It should be noted that recent research studies

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have shown that gaps at 5 mm spacing afford opportunity for embers to become lodged in between timbers, which may contribute to a fire. Larger gap spacing of 10 mm may preclude this from happening but such a spacing regime may not be practical for a timber deck.

6.7.2 Enclosed subfloor spaces of verandas, decks, steps, ramps and landings

### 6.7.2.1 Materials to enclose a subfloor space

The subfloor spaces of verandas, decks, steps, ramps and landings are considered to be 'enclosed' when—

a) the material used to enclose the subfloor space complies with Clause 7.4; and all openings greater than 3 mm are screened with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

### 6.7.2.2 Subfloor supports

This Standard does not provide construction requirements for support posts, columns, stumps, stringers, piers and poles.

### **6.7.2.3** Framing

This Standard does not provide construction requirements for the framing of verandas, decks, ramps or landings (i.e., bearers and joists).

### 6.7.2.4 Decking, stair treads and the trafficable surfaces of ramps and landings

Decking, stair treads and the trafficable surfaces of ramps and landings shall be—

- a) of non-combustible material; or
- b) of bushfire-resisting timber (see Appendix F); or a combination of Items (a) and (b) above.
- 6.7.3 Unenclosed subfloor spaces of verandas, decks, steps, ramps and landings

### 6.7.3.1 Supports

Support posts, columns, stumps, stringers, piers and poles shall be—

- a) of non-combustible material; or
- b) of bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (a) and (b) above.

### **6.7.3.2** Framing

Framing of verandas, decks, ramps or landings (i.e., bearers and joists) shall be—

a) of non-combustible material; or

- b) of bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (a) and (b) above.

### 6.7.3.3 Decking, stair treads and the trafficable surfaces of ramps and landings

Decking, stair treads and the trafficable surfaces of ramps and landings shall be—

- a) of non-combustible material; or
- b) of bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (a) and (b) above.

### 6.7.4 Balustrades, handrails or other barriers

Those parts of the handrails and balustrades less than 125 mm from any glazing or any combustible wall shall be—

- a) of non-combustible material; or
- b) bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (i) and (ii) above.

Those parts of the handrails and balustrades that are 125 mm or more from the building have no requirements.

### 6.8 WATER AND GAS SUPPLY PIPES

Above-ground, exposed water and gas supply pipes shall be metal.

### Appendix E list of Timbers AS3959, 2009

Standard trade name Botanical name Ash, alpine Eucalyptus delegatensis Ash, Crow's Flindersia australis Ash, mountain Eucalyptus regnans Ash, silvertop Eucalyptus sieberi Balau (selangan batu) Shorea spp. Bangkirai Shorea laevifolia Beech, myrtle Nothofagus cunninghamii Belian Eusideroxylon zwageri Blackbutt Eucalyptus pilularis Blackbutt, New England Eucalyptus andrewsii Eucalyptus campanulata Blackwood Acacia melanoxylon Box, brush Lophostemon confertus Box, grey Eucalyptus microcarpa Box, grey, coast Eucalyptus bosistoana Box, white-topped Eucalyptus quadrangulata Box, yellow Eucalyptus melliodora Brownbarrel Eucalyptus fastigata Candlebark Eucalyptus rubida Cypress Callitris glaucophylla Gum, blue, southern Eucalyptus globulus

Gum, sugar Eucalyptus cladocalyx Hardwood, Johnstone River Backhousia bancroftii Ironbark, grey Eucalyptus paniculata Ironbark, red Eucalyptus sideroxylon Jarrah Eucalyptus marginata Kapur Dryobalanops spp. Karri Eucalyptus diversicolor Kempas Koompassia malaccensis Keruing Dipterocarpus spp. Kwila (Merbau) Intsia bijuga Mahogany, Philippine red, dark Shorea spp. Mahogany red Eucalyptus resinifera Mahogany, southern Eucalyptus botryoides Mahogany, white Eucalyptus acmenoides Messmate Eucalyptus obliqua Messmate, Gympie Eucalyptus cloeziana Northern Box (Pelawan) Tristaniopsis spp. Oak, American Quercus spp. Peppermint, narrow-leaved Eucalyptus australiana Pine, celery-top Phyllocladus asplenifolius Pine, slash Pinus elliottii

Corymbia citriodora

Gum, blue, Sydney Eucalyptus saligna

Gum, grey Eucalyptus propinqua

Gum, grey, mountain Eucalyptus cypellocarpa

Gum, Maiden's Eucalyptus maidenii

Gum, manna Eucalyptus viminalis

Gum, mountain Eucalyptus dalrympleana

Gum, red, forest Eucalyptus tereticornis

Gum, red, river Eucalyptus camaldulensis

Gum, rose Eucalyptus grandis

Gum, shinning Eucalyptus nitens

Corymbia maculata

Corymbia henryi

Gum, spotted

Ramin Gonystylus spp.

Rosewood, New Guinea Pterocarpus indicus

Satinay Syncarpia hillii

Stringybark, Blackdown Eucalyptus sphaerocarpa

Stringybark, blue-leaved Eucalyptus agglomerata

Stringybark, brown Eucalyptus baxteri

Stringybark, silvertop Eucalyptus laevopinea

Stringybark, white Eucalyptus eugenioides

Stringybark, yellow Eucalyptus muelleriana Tallowwood Eucalyptus microcorys

Taun Pometia pinnata

Turpentine Syncarpia glomulifera Vitex, New Guinea Vitex cofassus

Woollybutt Eucalyptus longifolia

### Appendix F list of Timbers AS3959, 2009

Black-butt - Eucalyptus pilularis

Turpentine - Syncarpia glomulifera

Silver Top Ash - Eucalyptus sieberi

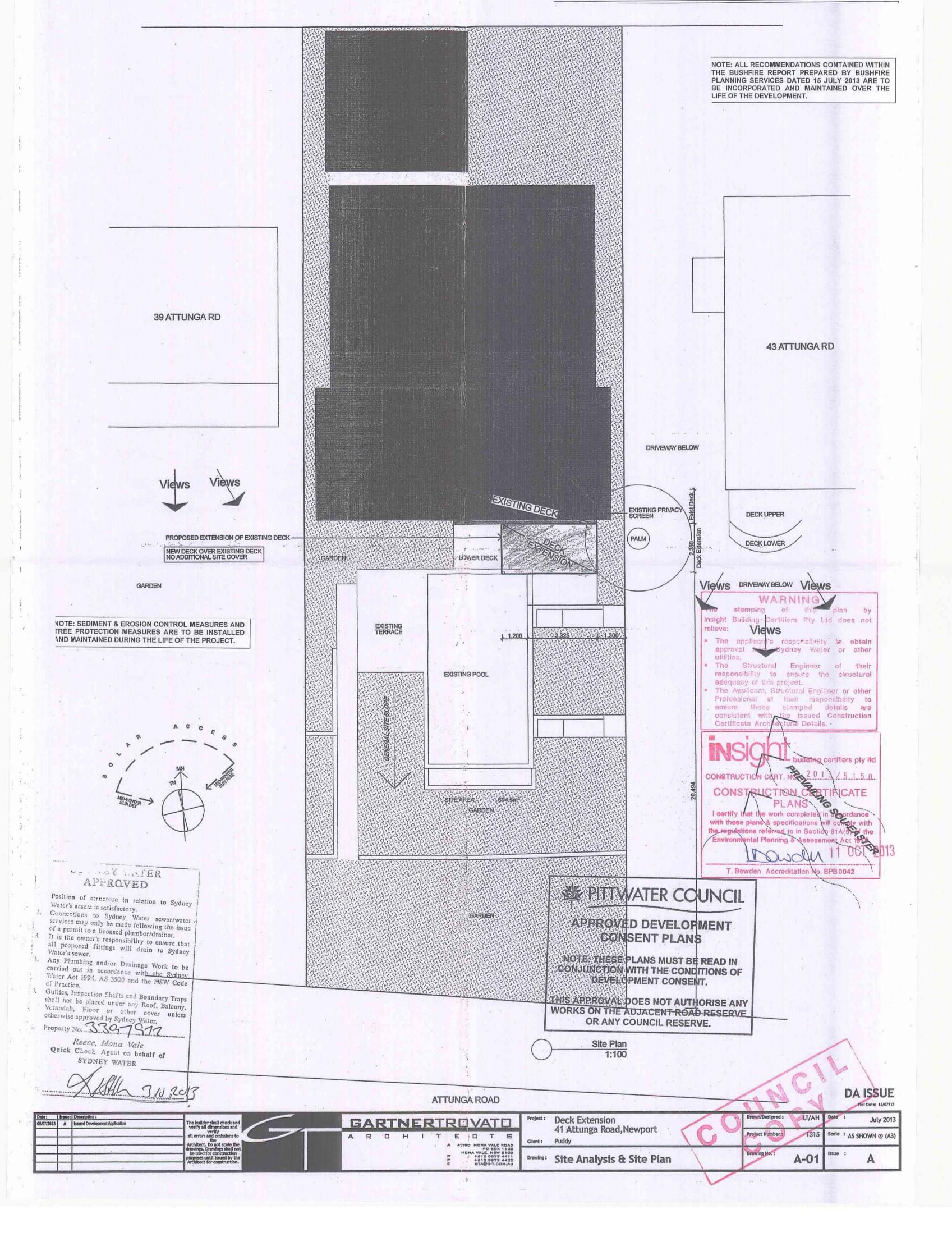
Spotted Gum - Corymbia maculate - Corymbia henryi - Corymbia citriodora

Red Iron Bark - Eucalyptus sideroxylon

Kwila[Merbau] - Intsia bijuga

Red River Gum - Eucalyptus camaldulensis

NOTE: IF THE EXISTING SWIMMING POOL SAFETY BARRIER IS FOUND TO BE DEFICIENT OR IS TO BE ALTERED OR MODIFIED AS PART OF THIS DEVELOPMENT THEN THE EXISTING SWIMMING POOL IS TO BE SURROUNDED BY A SWIMMING POOL SAFETY BARRIER THAT COMPLIES WITH THE CURRENT REQUIREMENTS OF THE SWIMMING POOLS ACT I.E. AUSTRALIAN STANDARD AS1926.1-2012



NOTE: IF THE EXISTING SWIMMING POOL SAFETY BARRIER IS FOUND TO BE DEFICIENT OR IS TO BE ALTERED OR MODIFIED AS PART OF THIS DEVELOPMENT THEN THE EXISTING SWIMMING POOL IS TO BE SURROUNDED BY A SWIMMING POOL SAFETY BARRIER THAT COMPLIES WITH THE CURRENT REQUIREMENTS OF THE SWIMMING POOLS ACT I.E. AUSTRALIAN STANDARD AS1926.1-2012

