

BASIX[®]Certificate

Building Sustainability Index www.basix.nsw.gov.au

Single Dwelling

Certificate number: 722740S_03

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 06/10/2017 published by the Department. This document is available at www.basix.nsw.gov.au

This certificate is a revision of certificate number 722740S lodged with the consent authority or certifier on 04 July 2016 with application 279/16.

It is the responsibility of the applicant to verify with the consent authority that the original, or any revised certificate, complies with the requirements of Schedule 1 Clause 2A, 4A or 6A of the Environmental Planning and Assessment Regulation 2000

Secretary

Date of issue: Sunday, 16 December 2018

To be valid, this certificate must be lodged within 3 months of the date of issue.



Project summary

Project name	3606 Avalon Casey Brown_03
Street address	41 Marine Parade Avalon Beach 2107
Local Government Area	Pittwater Council
Plan type and plan number	deposited 553660
Lot no.	6
Section no.	-
Project type	separate dwelling house
No. of bedrooms	4

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 41	Target 40

Certificate Prepared by

Name / Company Name: Victor Lin & Associates Pty Ltd

ABN (if applicable): 34097383821

Description of project

Project address

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Street address	41 Marine Parade Avalon Beach 2107
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Plan type and plan number	Deposited Plan 553660
Lot no.	6
Section no.	-

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Site details

Site area (m²)	1515
Roof area (m²)	340
Conditioned floor area (m2)	352.2
Unconditioned floor area (m2)	106.6
Total area of garden and lawn (m2)	195

Assessor details and thermal loads

Assessor number	BDAV/12/1454
Certificate number	0003485158
Climate zone	56
Area adjusted cooling load (MJ/m².year)	20
Area adjusted heating load (MJ/m².year)	38

Other

none	n/a
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Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 41	Target 40

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 6 but <= 7.5 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 5 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 2000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓
The applicant must configure the rainwater tank to collect rain runoff from at least 150 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✓	✓
The applicant must connect the rainwater tank to:			
• all toilets in the development		✓	✓
• at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)		✓	✓

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Simulation Method			
The applicant must attach the certificate referred to under "Assessor Details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for an occupation certificate for the proposed development.			
The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX certificate, including the Cooling and Heating loads shown on the front page of this certificate.			
The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Assessor Certificate requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor to certify that this is the case. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.	✓	✓	✓
The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
The applicant must construct the floors and walls of the dwelling in accordance with the specifications listed in the table below.	✓	✓	✓

Floor and wall construction	Area
floor - concrete slab on ground	280.0 square metres
floor - suspended floor/open subfloor	38.0 square metres

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 5 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
The cooling system must provide for day/night zoning between living areas and bedrooms.		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: gas hydronic system; Energy rating: n/a		✓	✓
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: gas hydronic system; Energy rating: n/a		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 3 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
Alternative energy			
The applicant must install a photovoltaic system with the capacity to generate at least 1 peak kilowatts of electricity as part of the development. The applicant must connect this system to the development's electrical system.	✓	✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Other			
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.		✓	
The applicant must install a fixed outdoor clothes drying line as part of the development.		✓	

Legend

In these commitments, "applicant" means the person carrying out the development.

Commitments identified with a  in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).

Commitments identified with a  in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.

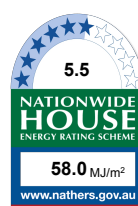
Commitments identified with a  in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate (either interim or final) for the development may be issued.

NatHERS Certification Summary

Project:	Address: 41 Marine Parade, Avalon, NSW 2107	LGA: Pittwater
	Applicant: NA	
Client:	Name: T. Ozaki	Company: Casey Brown Architecture
	Address: Level 1, 63 William St., East Sydney. 2010	
	Contact: 93607977	Email: toshio@caseybrown.com.au
Assessor:	Name: Victor Lin	Company: Victor Lin & Associates
	Address: PO 5080, Southe Turrumurra. 2074	Number: BDAV/12/1454
	Contact: 0412-988088	Email: vlin007@hotmail.com

Ext. Walls:	Construction	Insulation		Colour	Details
	Cavity Bwk	R1.0		Med	As per plans
Int. Walls:	Construction	Insulation			Details
	Brickwork	None			As per plans
Floors:	Construction	Insulation			Details
	Concrete	None			Polished
Ext. Ceilings:	Construction	Insulation			Details
	Plasterboard/framed	R3.5			Under all roofs
Roof:	Construction	Insulation		Colour	Details
	Metal	Anticon 60mm (R1.2)		Dark	As per plans
Windows:	Product ID	Glass	Frame	Uw/SHGCw	Details
	Generic	D. Glazed	Timber	3.0/0.48	Tilt & turn, casement, awning windows & doors
					3.0/0.56
Skylights:	Product ID	Glass	Frame	Uw/SHGCw	Details
	Generic	D.Glazed	Alumiinium	NA	As per drawings
Other:	Orientation	Terrain	Weatherseals	Exhaust Dampers	Recessed Downlights
	75	Suburban	Yes	Yes	YES
					100mm LED downlights at 1 per5sqm of ceiling area.

Overshadowing Details:	Trees
Assessment:	Drawings: Casey Brown DWG S4.55 (22/11/18) as stamped
	File Ref: 3606.1V
	Software: BERS Pro 4.3
	Climate Zone: 56



Certificate no.: 0003485158
 Assessor Name: Victor Lin
 Accreditation no.: VIC/BDAV/12/1454
 Certificate date: 16 Dec 2018
 Dwelling Address:
 41 Marine Parade
 Avalon, NSW
 2107



www.nathers.gov.au

Assessor Stamp

Certification Number:	0003485158	Date:	16-December-2018
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Dwellings	Floor Area (m ²)		Predict Loads (MJ/m ² /pa) & HERS Rating			Requirements	
	Cond.	Uncond.	Heat	Cool	STARS		
House	352.2	106.6	38	19.9	5.5	Refer to details above for insulation and construction requirements.	

Disclaimer: By using this summary you are accepting all the terms of this disclaimer notice. While every effort is made to ensure that the content of this summary is accurate, the summary is provided "as is" and Victor Lin & Associates Pty Ltd, makes no representations or warranties in relation to the accuracy or completeness of the information found on it. In no event will Victor Lin & Associates Pty Ltd, be liable for any damages whatsoever for any differences between this summary and the NatHERS Universal Certificates that relate to this project. You accept that it is your responsibility to check the Universal Certificates and comply with any differences that may exist on those certificates.

Nationwide House Energy Rating Scheme* Certificate



Certificate number: 0003485158

Certificate Date: 16 Dec 2018

★ Star rating: 5.5

BERS Pro v4.3.0.0 (3.13) cannot be used to model 'roof windows'. Roof windows are 'openable or fixed windows in a roof' and do not have a shaft, as distinct from skylights which incorporate a built-in shaft and are not ventilated. BERS Pro v4.3 can only model skylights. If a roof window is present on the floor plan then this certificate is not valid.

Assessor details

Accreditation

number: VIC/BDAV/12/1454

Name: Victor Lin

Organisation: Victor Lin Associates Pty Ltd

Email: victor@linassociates.com.au

Phone: 0412988088

Declaration
of interest: None

Software: BERS Pro v4.3.0.2d (3.13)

AAO: BDAV

Overview

Dwelling details

Street: 41 Marine Parade

Suburb: Avalon

State: NSW

Postcode: 2107

Type: New Dwelling

NCC Class: 1A

NatHERS

climate zone: 56

Lot/DP

number: 553660

Exposure: Suburban

Key construction and insulation materials

(see following pages for details)

Construction: Cavity Brick

Corrugated Iron

Concrete Slab on Ground

Insulation: R1.0 wall insulation

R3.5 ceiling insulation

No floor insulation

Glazing: TIM-004-01 W Timber B DG Air Fill

Clear-Clear

Net floor area (m²)

Conditioned: 352.0

Unconditioned: 107.0

Garage: 88.0

TOTAL: 459.0

Annual thermal performance loads (MJ/m²)

Heating: 38.0

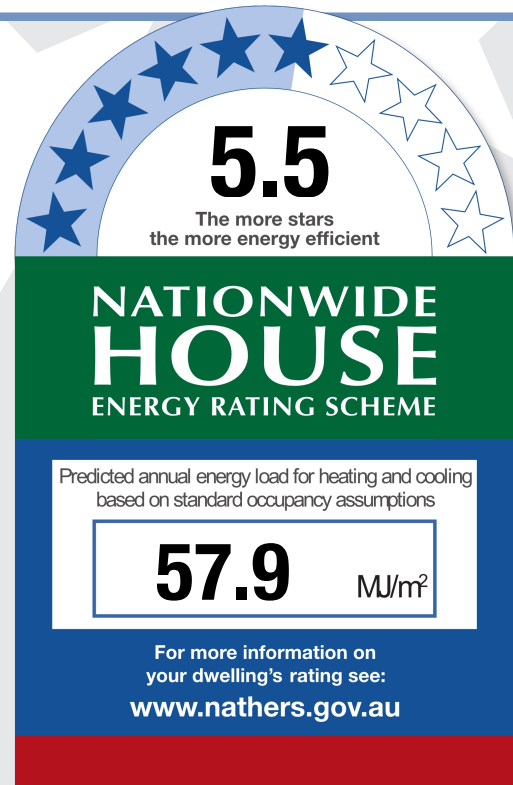
Cooling: 19.9

TOTAL: 57.9

Plan documents

Plan ref/date: 41 Marine Pde - Casey brown Arch

Prepared by: RB/TO



Ceiling penetrations

(see following pages for details)

Sealed: 95

Unsealed: 2

TOTAL:** 97

NOTE: This total is the maximum number of ceiling penetrations allowed to a ceiling (under a roof) for this certificate. **If this number is exceeded in construction then this certificate IS NOT VALID and a new certificate is required. Loss of ceiling insulation for the penetrations listed has been taken into account with the rating.

Principle downlight type: LED

Window selection - default windows only

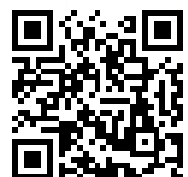
Note on allowable window values:
Only a 5% tolerance to the nominated SHGC window values shown on page 2 can be used with this rating.

Note: Only a +/- 5% SHGC tolerance is allowed with this rating.

NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated on page 2.

If any of windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.

Scan to access this
certificate online and
confirm this is valid.



Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0003485158**

Certificate Date:

16 Dec 2018

★ Star rating:

5.5



Building features

Window type and performance value

Window ID	Window type	U-value	SHGC
TIM-003-01 W	TIM-003-01 W Timber A DG Air Fill Clear-Clear	3.0	0.48
TIM-004-01 W	TIM-004-01 W Timber B DG Air Fill Clear-Clear	3.0	0.56

Window schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Orientation	Outdoor shade
Bed 4	TIM-003-01 W	n/a	1200	1200	E	No Shading
Bed 4	TIM-004-01 W	n/a	2650	2400	S	No Shading
Bed 4	TIM-004-01 W	n/a	2650	1100	S	No Shading
Corridor	TIM-004-01 W	n/a	2200	1200	S	No Shading
Bed 3	TIM-004-01 W	n/a	2500	1840	E	No Shading
Bath	TIM-004-01 W	n/a	2500	1650	S	No Shading
Bed 2	TIM-004-01 W	n/a	2500	4350	E	No Shading
Bed 2	TIM-004-01 W	n/a	2100	1500	S	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	2200	4050	W	No Shading
Liv/Kitchen/Lou	TIM-003-01 W	n/a	2200	1850	SW	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	3000	2100	E	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	2200	4050	E	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	2400	2610	S	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	2650	1200	S	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	1390	2480	E	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	1390	2700	S	No Shading
Liv/Kitchen/Lou	TIM-004-01 W	n/a	1390	2100	W	No Shading
Liv/Kitchen/Lou	TIM-003-01 W	n/a	2200	1000	W	No Shading
SAtudy 1	TIM-004-01 W	n/a	1450	2310	E	No Shading
Study 2	TIM-004-01 W	n/a	1450	2310	E	No Shading
WC	TIM-003-01 W	n/a	1550	900	NE	No Shading
Laundry	TIM-003-01 W	n/a	2200	1100	NE	No Shading
Laundry	TIM-004-01 W	n/a	1200	1800	SE	No Shading
Garage	TIM-004-01 W	n/a	2400	1000	NE	No Shading
Hall 2	TIM-003-01 W	n/a	3000	2100	E	No Shading
Hall 2	TIM-004-01 W	n/a	2550	1200	S	No Shading
Hall 2	TIM-004-01 W	n/a	2400	2100	W	No Shading
Ensuite/Robe	TIM-004-01 W	n/a	1650	1050	W	No Shading
Ensuite/Robe	TIM-004-01 W	n/a	1650	1050	W	No Shading
Ensuite/Robe	TIM-003-01 W	n/a	1200	2000	N	No Shading
Ensuite/Robe	TIM-003-01 W	n/a	900	900	E	No Shading
Ensuite/Robe	TIM-004-01 W	n/a	2200	4108	E	No Shading
Master Bed	TIM-004-01 W	n/a	2200	4440	E	No Shading
Master Bed	TIM-004-01 W	n/a	2200	1550	S	No Shading
Master Bed	TIM-003-01 W	n/a	900	900	W	No Shading
Robe	TIM-003-01 W	n/a	900	900	S	No Shading
Robe	TIM-004-01 W	n/a	1200	1800	W	No Shading
Pantry	TIM-003-01 W	n/a	2200	1000	N	No Shading

Roof window and skylight type and performance value

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0003485158**

Certificate Date:

16 Dec 2018

★ Star rating:

5.5



Building features continued

ID	Window type	U-value	SHGC
GEN-04-009a	Double-glazed opal, Timber and Aluminium Frame	0.0	0.00
GEN-04-008a	Double-glazed clear, Timber and Aluminium Frame	0.0	0.00

Roof window and skylight schedule

Location	ID	Roof window/skylight no.	Area (m ²)	Orientation	Outdoor shade	Indoor shade/diffuser
Liv/Kitchen/Lou	GEN-04-009a	1	1.7	N	None	No
Laundry	GEN-04-008a	1	1.3	NE	None	No
Laundry	GEN-04-008a	2	0.8	N	None	No
Laundry	GEN-04-009a	3	0.5	N	None	No
Hall 2	GEN-04-009a	1	1.7	N	None	No
Ensuite/Robe	GEN-04-009a	1	1.7	N	None	No
Master Bed	GEN-04-009a	1	1.7	N	None	No

External wall type

ID	Wall type	Insulation	Wall wrap or foil
EW-1	Cavity Brick	Bulk Insulation R1	No
EW-2	Single Skin Brick	No insulation	No

External wall schedule

Location	ID	Width (mm)	Height (mm)	Orientation	Fixed Shade	Eaves (mm)
Bed 4	EW-1	2000	3300	E	No	100
Bed 4	EW-1	4100	3300	S	No	2225
Bed 4	EW-1	4700	3300	W	No	2600
Bed 4	EW-1	1245	3300	S	No	6975
Corridor	EW-1	1390	3300	S	No	200
Bed 3	EW-1	2690	3300	E	No	1600
Bath	EW-1	3345	3300	S	No	2500
Bath	EW-1	800	3300	W	No	200
Bed 2	EW-1	745	3300	E	No	1600
Bed 2	EW-1	1300	3300	N	No	5800
Bed 2	EW-1	4500	3300	E	No	2700
Bed 2	EW-1	3100	3300	S	No	1200
Bed 2	EW-1	1300	3300	W	No	3550
Plant	EW-1	2300	3300	W	No	0
Plant	EW-2	4200	3300	W	No	0
Plant	EW-2	14500	3300	N	No	100
Plant	EW-2	2100	3300	E	No	500
Plant	EW-1	1100	3300	S	No	9300
Plant	EW-1	1100	3300	E	No	16100
Plant	EW-1	1300	3300	S	No	3100
Liv/Kitchen/Lou	EW-1	2345	3000	W	No	6100
Liv/Kitchen/Lou	EW-1	800	3000	N	No	7000
Liv/Kitchen/Lou	EW-1	6800	3000	W	No	850
Liv/Kitchen/Lou	EW-1	3220	3000	SW	No	25

Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0003485158**

Certificate Date:

16 Dec 2018

★ Star rating:

5.5



Building features continued

Liv/Kitchen/Lou	EW-1	726	3000	NW	No	7524
Liv/Kitchen/Lou	EW-1	2345	3000	E	No	325
Liv/Kitchen/Lou	EW-1	2000	3000	N	No	400
Liv/Kitchen/Lou	EW-1	1900	3000	E	No	0
Liv/Kitchen/Lou	EW-1	500	3000	N	No	700
Liv/Kitchen/Lou	EW-1	4200	3000	E	No	0
Liv/Kitchen/Lou	EW-1	7300	3000	S	No	500
Liv/Kitchen/Lou	EW-1	3800	3000	E	No	625
Liv/Kitchen/Lou	EW-1	5200	3000	S	No	700
Liv/Kitchen/Lou	EW-1	2700	3000	W	No	400
Liv/Kitchen/Lou	EW-1	1000	3000	S	No	400
Liv/Kitchen/Lou	EW-1	2500	3000	W	No	400
Liv/Kitchen/Lou	EW-1	900	3000	S	No	100
Liv/Kitchen/Lou	EW-1	2845	3000	W	No	500
Lift	EW-1	1345	3000	N	No	2700
SAstudy 1	EW-1	3490	3000	E	No	700
Study 2	EW-1	2300	3000	N	No	200
Study 2	EW-1	3145	3000	E	No	700
WC	EW-1	2085	3000	NE	No	0
Laundry	EW-1	3083	3000	NE	No	1938
Laundry	EW-1	3083	3000	SE	No	639
Garage	EW-1	7114	3000	SW	No	2890
Garage	EW-1	6673	3000	NW	No	347
Garage	EW-1	1972	3000	NE	No	257
Garage	EW-1	943	3000	NW	No	292
Garage	EW-1	5197	3000	NE	No	313
Garage	EW-1	1612	3000	SE	No	3795
Hall 2	EW-1	2190	3000	E	No	200
Hall 2	EW-1	1390	2550	S	No	1700
Hall 2	EW-1	2190	2400	W	No	1600
Ensuite/Robe	EW-1	6700	2400	W	No	0
Ensuite/Robe	EW-1	6900	2400	N	No	200
Ensuite/Robe	EW-1	5745	2400	E	No	1200
Ensuite/Robe	EW-1	300	2400	S	No	7400
Master Bed	EW-1	300	2400	N	No	9200
Master Bed	EW-1	6200	2400	E	No	1600
Master Bed	EW-1	3700	2400	S	No	300
Master Bed	EW-1	1400	2400	W	No	1200
Lift	EW-1	1845	2400	W	No	300
Lift	EW-1	1300	2400	N	No	2500
Robe	EW-1	3945	2400	S	No	300
Robe	EW-1	2845	2400	W	No	300
Pantry	EW-1	1745	3000	W	No	500
Pantry	EW-1	2945	3000	N	No	2700
Night Time 3	EW-1	1000	2400	N	No	6000
Night Time 3	EW-1	845	2400	E	No	200

Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0003485158**

Certificate Date:

16 Dec 2018

★ Star rating:

5.5



Building features continued

Internal wall type

Wall type	Area (m²)	Insulation	Wall wrap or foil
IW-1 - Single Skin Brick	23.0	Bulk Insulation, No Air Gap R1	No
IW-2 - Concrete Block	5.0	No insulation	No
IW-3 - Autoclaved Aerated Concrete	6.0	No insulation	No
IW-4 - Single Skin Brick	279.0	No insulation	No
IW-5 - Single Skin Brick	28.0	Bulk Insulation, No Air Gap R0.5	No
IW-6 - Single Skin Brick	15.0	Bulk Insulation, Air Gap R1	No

Floors

Location	Construction	Area (m²)	Sub floor ventilation	Added insulation	Covering
Bed 4	Concrete Slab on Ground 100mm	29.4	None	No Insulation	Bare
Lift	Concrete Slab on Ground 100mm	2.9	None	No Insulation	Bare
Corridor	Concrete Slab on Ground 100mm	14.4	None	No Insulation	Bare
Cellar	Concrete Slab on Ground 100mm	3.3	None	No Insulation	Bare
Bed 3	Concrete Slab on Ground 100mm	13.8	None	No Insulation	Bare
Bath	Concrete Slab on Ground 100mm	6.8	None	No Insulation	Bare
Bed 2	Concrete Slab on Ground 100mm	15.1	None	No Insulation	Bare
Plant	Concrete Slab on Ground 100mm	35.3	None	No Insulation	Bare
Liv/Kitchen/Lou/Bed	Concrete Above Plasterboard 150mm	27.2		No Insulation	Bare
Liv/Kitchen/Lou/Corridor	Concrete Above Plasterboard 150mm	15.3		No Insulation	Bare
Liv/Kitchen/Lou/Cellar	Concrete Above Plasterboard 150mm	3.6		No Insulation	Bare
Liv/Kitchen/Lou/Bed	Concrete Above Plasterboard 150mm	14.2		No Insulation	Bare
Liv/Kitchen/Lou/Bath	Concrete Above Plasterboard 150mm	4.7		No Insulation	Bare
Liv/Kitchen/Lou/Bed	Concrete Above Plasterboard 150mm	6.9		No Insulation	Bare
Liv/Kitchen/Lou/Plant	Concrete Above Plasterboard 150mm	19.0		No Insulation	Bare
Liv/Kitchen/Lou	Concrete Slab on Ground 100mm	42.7	None	No Insulation	Bare
Lift/Lift	Concrete Above Plasterboard 150mm	2.8		No Insulation	Bare
SAtudy 1	Concrete Slab on Ground 100mm	16.9	None	No Insulation	Bare
Study 2	Concrete Slab on Ground 100mm	15.1	None	No Insulation	Bare
WC	Concrete Slab on Ground 100mm	4.8	None	No Insulation	Bare

Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0003485158**

Certificate Date:

16 Dec 2018

★ Star rating:

5.5



Building features continued

Laundry	Concrete Slab on Ground 100mm	12.9	None	No Insulation	Bare
Garage	Concrete Slab on Ground 100mm	52.2	None	No Insulation	Bare
Hall 2/Liv/Kitchen/Lou	Concrete Above Plasterboard 150mm	23.2		No Insulation	Bare
Ensuite/Robe/Liv/K itchen/Lou	Concrete Above Plasterboard 150mm	11.9		No Insulation	Bare
Ensuite/Robe/SAtu dy 1	Concrete Above Plasterboard 150mm	8.3		No Insulation	Bare
Ensuite/Robe/Study	Concrete Above Plasterboard 150mm	11.9		No Insulation	Bare
Ensuite/Robe	Concrete Slab on Ground 100mm	7.9	None	No Insulation	Bare
Master Bed/Liv/Kitchen/Lou	Concrete Above Plasterboard 150mm	22.5		No Insulation	Bare
Lift/Lift	Concrete Above Plasterboard 150mm	2.9		No Insulation	Bare
Robe/Liv/Kitchen/L ou	Concrete Above Plasterboard 150mm	15.0		No Insulation	Bare
Pantry/Bed 4	Concrete Above Plasterboard 150mm	1.9		No Insulation	Bare
Pantry/Plant	Concrete Above Plasterboard 150mm	2.2		No Insulation	Bare
Pantry	Concrete Slab on Ground 100mm	1.0	None	No Insulation	Bare
Night Time 3/SAtudy 1	Concrete Above Plasterboard 100mm	6.0		No Insulation	Bare

Ceiling type

Location	Construction	Added insulation	Roof space above
Bed 4	Concrete Above Plasterboard	No Insulation	No
Lift	Concrete Above Plasterboard	No Insulation	No
Corridor	Concrete Above Plasterboard	No Insulation	No
Cellar	Concrete Above Plasterboard	No Insulation	No
Bed 3	Concrete Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	Yes
Bath	Concrete Above Plasterboard	No Insulation	No
Bed 2	Plasterboard	Bulk Insulation R3.5	Yes
Bed 2	Concrete Above Plasterboard	No Insulation	No
Plant	Plasterboard	Bulk Insulation R3.5	Yes
Plant	Concrete Above Plasterboard	No Insulation	No
Liv/Kitchen/Lou	Plasterboard	Bulk Insulation R3.5	Yes
Liv/Kitchen/Lou	Concrete Above Plasterboard	No Insulation	No
Lift	Concrete Above Plasterboard	No Insulation	No
SAtudy 1	Plasterboard	Bulk Insulation	Yes

Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0003485158**

Certificate Date:

16 Dec 2018

★ Star rating:

5.5



Building features continued

		R3.5	
SAtudy 1	Concrete Above Plasterboard	No Insulation	No
Study 2	Plasterboard	Bulk Insulation R3.5	Yes
Study 2	Concrete Above Plasterboard	No Insulation	No
WC	Plasterboard	Bulk Insulation R3.5	Yes
Laundry	Plasterboard	Bulk Insulation R3.5	Yes
Garage	Plasterboard	Bulk Insulation R3.5	Yes
Hall 2	Plasterboard	Bulk Insulation R3.5	Yes
Ensuite/Robe	Plasterboard	Bulk Insulation R3.5	Yes
Master Bed	Plasterboard	Bulk Insulation R3.5	Yes
Lift	Plasterboard	Bulk Insulation R3.5	Yes
Robe	Plasterboard	Bulk Insulation R3.5	Yes
Pantry	Plasterboard	Bulk Insulation R3.5	Yes
Night Time 3	Plasterboard	Bulk Insulation R3.5	Yes

Ceiling penetrations

Location	Number	Type	Diameter (mm)	Sealed/unsealed
Bed 4	5	Downlights - LED	150	Sealed
Corridor	6	Downlights - LED	150	Sealed
Cellar	2	Downlights - LED	150	Sealed
Bed 3	4	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	200	Sealed
Bed 2	4	Downlights - LED	150	Sealed
Liv/Kitchen/Lou	28	Downlights - LED	150	Sealed
Liv/Kitchen/Lou	1	Exhaust Fans	200	Sealed
Lift	2	Downlights - LED	150	Sealed
SAtudy 1	6	Downlights - LED	150	Sealed
Study 2	6	Downlights - LED	150	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	200	Sealed
Laundry	2	Downlights - LED	150	Sealed
Laundry	1	Exhaust Fans	200	Sealed
Hall 2	6	Downlights - LED	150	Sealed
Ensuite/Robe	6	Downlights - LED	150	Sealed
Ensuite/Robe	1	Exhaust Fans	200	Sealed
Master Bed	4	Downlights - LED	150	Sealed
Robe	3	Downlights - LED	150	Sealed
Pantry	2	Downlights - LED	150	Unsealed

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0003485158**

Certificate Date:

16 Dec 2018

★ Star rating:

5.5



Building features continued

Night Time 3	2	Downlights - LED	150	Sealed
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Ceiling fans

Location	Number	Diameter (mm)
None Present		

Roof type

Construction	Added insulation	Roof colour
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.2	Dark

Nationwide House Energy Rating Scheme* Certificate

Certificate number: 0003485158

Certificate Date: 16 Dec 2018

★ Star rating: 5.5



Additional information

Update Dec 18

Explanatory notes

About this report

Residential energy ratings address the quality of the building fabric i.e. walls, windows, floors and roof/ceilings. Ratings do not cover the energy or water efficiency of appliances including heating and cooling, hot water, dishwashers, ovens, fridges, TVs etc. or solar panel or water tank requirements. The efficiency or specification of these items is generally covered by other regulations, standards or guidelines.

General Information

A NatHERS House Energy Rating is a comprehensive, dynamic computer modelling evaluation of the floorplans, elevations and specifications to predict an energy load of a home. Not all of us use our homes in the same way, so ratings are generated using standard assumptions. This means homes can be compared across the country.

The actual energy consumption of your home may vary significantly from the predicted energy load figures in the report depending on issues such as the size of your household and your personal preferences, e.g. in terms of heating or cooling.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparative purposes between different house designs and for demonstrating that the design meets the required regulatory compliance.

Homes that are energy efficient use less energy, are warmer in winter, cooler in summer and cost less to run. The higher the star rating the more energy efficient.

This NatHERS House Energy Rating report was carefully prepared by your assessor on the basis of comprehensive modelling using standard procedures to rate your home using the underlying engine developed by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO).

All information relating to energy loads presented in this report is based on a range of standard assumptions in order to allow for comparisons with reports prepared for other homes and to demonstrate minimum regulatory compliance.

The standard assumptions include figures for occupancy, indoor air temperature and are based on a unique climate file for your region.

Accredited Assessors

To ensure you get a high-quality, professional NatHERS House Energy Rating report, you should always use an accredited assessor, accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

AAOs have specific quality assurance processes in place and continuing professional development requirements to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any on-going training requirements.

If you have any questions or concerns about this report, please direct them to your assessor in the first instance.

If your assessor is unable to address your questions or concerns, please contact their AAO listed under 'assessor details'. You can also find a range of information about accredited assessors on the AAO websites.

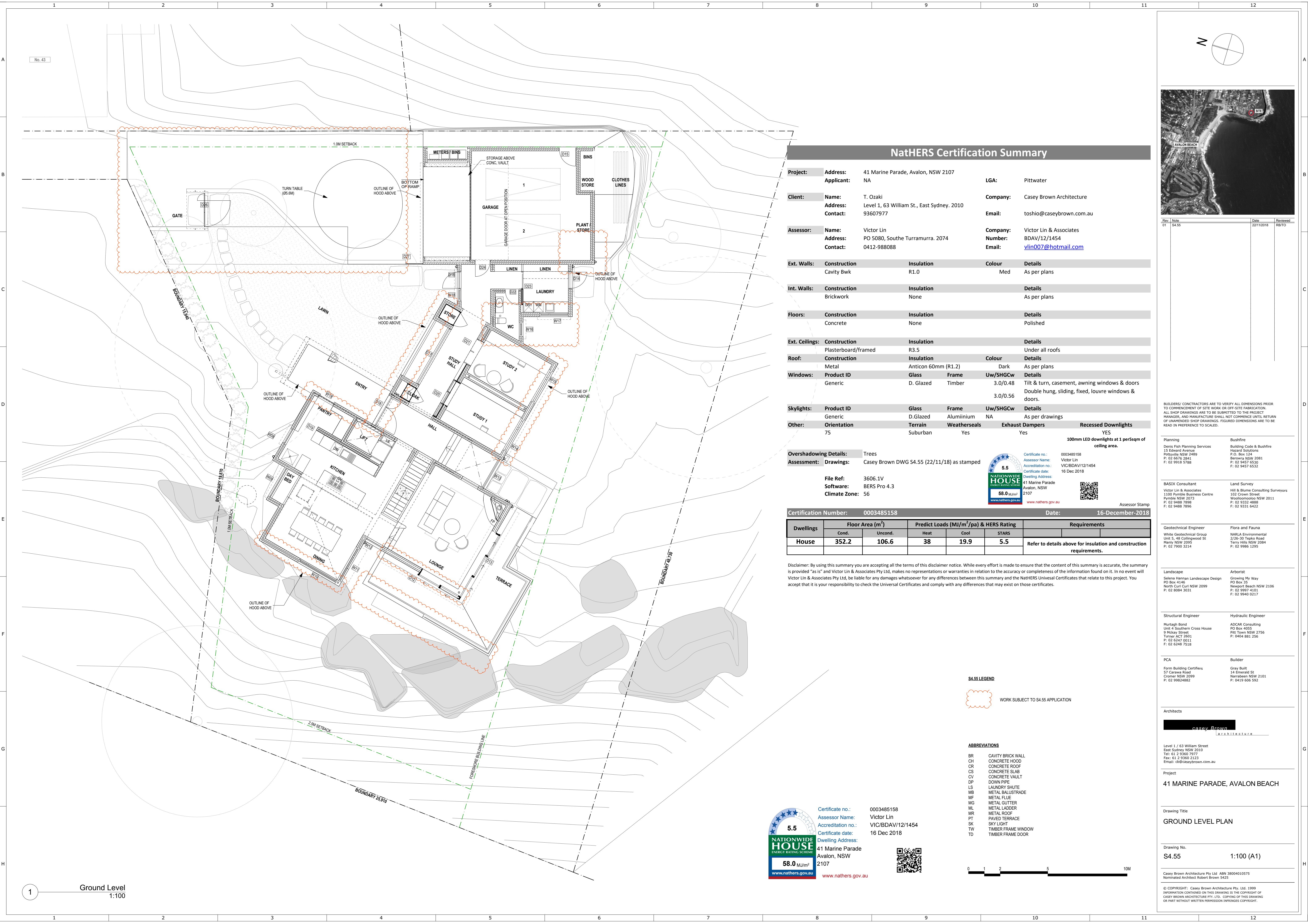
Disclaimer

The energy values quoted are for comparison purposes only; they are not a prediction of actual energy use. This rating only applies to the floor plan, construction details, orientation and climate as submitted and included in the attached drawing set that bears a stamp with the same number as this certificate. Changes to any of these details could affect the rating.

Contact

For more information on the Nationwide House Energy Rating Scheme (NatHERS), visit www.nathers.gov.au

For more information on energy efficient design and insulation visit www.yourhome.gov.au



NathERS Certification Summary

Project:	Address:	41 Marine Parade, Avalon, NSW 2107	LGA:	Pittwater
	Applicant:	NA		
Client:	Name:	T. Ozaki	Company:	Casey Brown Architecture
	Address:	Level 1, 63 William St., East Sydney. 2010		
	Contact:	93607977	Email:	toshio@caseybrown.com.au
Assessor:	Name:	Victor Lin	Company:	Victor Lin & Associates
	Address:	PO 5080, Southe Turramurra. 2074	Number:	BDAV/12/1454
	Contact:	0412-988088	Email:	vlino07@hotmail.com
Ext. Walls:	Construction	Insulation	Colour	Details
	Cavity Bwk	R1.0	Med	As per plans
Int. Walls:	Construction	Insulation		Details
	Brickwork	None		As per plans
Floors:	Construction	Insulation		Details
	Concrete	None		Polished
Ext. Ceilings:	Construction	Insulation		Details
	Plasterboard/framed	R3.5		Under all roofs
Roof:	Construction	Insulation	Colour	Details
	Metal	Anticon 60mm (R1.2)	Dark	As per plans
Windows:	Product ID	Glass	Frame	Uw/SHGCw
	Generic	D. Glazed	Timber	3.0/0.48
				3.0/0.56
Skylights:	Product ID	Glass	Frame	Uw/SHGCw
	Generic	D. Glazed	Aluminium	NA
Other:	Orientation	Terrain	Weatherseals	Exhaust Dampers
	75	Suburban	Yes	Yes
Overshadowing Details:	Trees			
Assessment:	Drawings:	Casey Brown DWG S4.55 (22/11/18) as stamped		
	File Ref:	3606.1V		
	Software:	BERS Pro 4.3		
	Climate Zone:	56		



Assessor Stamp

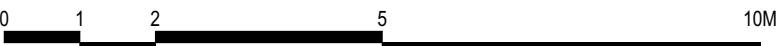
Certification Number:	0003485158	Date:	16-December-2018
Dwellings	Floor Area (m ²)	Predict Loads (MJ/m ² /pa) & HERS Rating	Requirements
	Cond. Uncond.	Heat Cool STARS	
House	352.2 106.6	38 19.9 5.5	Refer to details above for insulation and construction requirements.

Disclaimer: By using this summary you are accepting all the terms of this disclaimer notice. While every effort is made to ensure that the content of this summary is accurate, the summary is provided "as is" and Victor Lin & Associates Pty Ltd, makes no representations or warranties in relation to the accuracy or completeness of the information found on it. In no event will Victor Lin & Associates Pty Ltd, be liable for any damages whatsoever for any differences between this summary and the NathERS Universal Certificates that relate to this project. You accept that it is your responsibility to check the Universal Certificates and comply with any differences that may exist on those certificates.

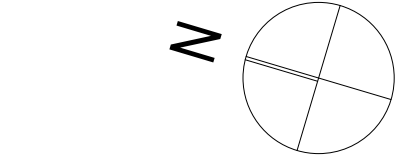
S4.55 LEGEND
WORK SUBJECT TO S4.55 APPLICATION

ABBREVIATIONS

BR	CAVITY BRICK WALL
CH	CONCRETE HOOD
CR	CONCRETE ROOF
CS	CONCRETE SLAB
CV	CONCRETE VAULT
DP	DOWN PIPE
LS	LAUNDRY SHUTE
MB	METAL BALUSTRADE
MF	METAL FLUE
MG	METAL GUTTER
ML	METAL LADDER
MR	METAL ROOF
PT	PAVED TERRACE
SK	SKY LIGHT
TW	TIMBER FRAME WINDOW
TD	TIMBER FRAME DOOR



Ground Level
1:100



Rev	Notes	Date	Reviewed
01	S4.55	22/11/2018	RBT/TL

BUILDERS/ CONTRACTORS ARE TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF SITE WORK OR OFF-SITE FABRICATION. ALL SHOP DRAWINGS ARE TO BE SUBMITTED TO THE PROJECT MANAGER, AND MANUFACTURE SHALL NOT COMMENCE UNTIL RETURN OF UNAMENDED SHOP DRAWINGS. FIGURED DIMENSIONS ARE TO BE READ IN PREFERENCE TO SCALED.

Planning	Bushfire
Denis Fish Planning Services 15 Edward Avenue Rozzville NSW 2469 P: 02 6676 2841 F: 02 9918 5708	Building Code & Bushfire Hazard Solutions P.O. Box 124 Berowra NSW 2081 P: 02 9457 6530 F: 02 9457 6532
BASIX Consultant	Land Survey
Victor Lin & Associates 1100 Pymble Business Centre Pymble NSW 2073 P: 02 9488 7898 F: 02 9488 7896	Hill & Blume Consulting Surveyors 102 Crown Street Woolloomooloo NSW 2011 P: 02 9332 4885 F: 02 9331 6422

Geotechnical Engineer	Flora and Fauna
White Geotechnical Group Unit 5, 48 Collingwood St Manly NSW 2095	NASLA Environmental 2/25-30 Teske Road Terry Hills NSW 2084 P: 02 7900 3214

Landscape	Arborist
Selena Hannan Landscape Design PO Box 4146 North Curl Curl NSW 2099 P: 02 8084 3031	Growing My Way PO Box 35 Newport Beach NSW 2106 P: 02 9997 4101 F: 02 9940 0217

Structural Engineer	Hydraulic Engineer
Murtagh Bond Unit 4 Southern Cross House 9 Mosley Street Turner ACT 2601 P: 02 6247 0011 F: 02 6248 7518	ADCAR Consulting PO Box 4055 Pitt Town NSW 2756 P: 0404 881 256

PCA	Builder
Form Building Certifiers 57 Carawa Road Croner NSW 2099 P: 02 99824882	Gray Built 14 Emerald St Narrabeen NSW 2101 P: 0419 606 592

Architects
CASEY BROWN
ARCHITECTS

Level 1 / 63 William Street
East Sydney NSW 2010
Tel: 61 2 9360 7977
Fax: 61 2 9360 2123
Email: cb@caseybrown.com.au

Project
41 MARINE PARADE, AVALON BEACH

Drawing Title
GROUND LEVEL PLAN

Drawing No.
S4.55 **1:100 (A1)**

Casey Brown Architecture Pty Ltd ABN 38004010575
Nominated Architect Robert Brown S425

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Victor Lin & Associates 1100 Pymble Business Centre Pymble NSW 2073 P: 02 9488 7898 F: 02 9488 7896	Hill & Blume Consulting Surveyors 102 Crown Street Woolloomooloo NSW 2011 P: 02 9332 4888 F: 02 9331 6422

Landscape	Arborist
Selena Hannan Landscape Design PO Box 4146 North Curl Curl NSW 2099 P: 02 8084 3031	Growing My Way PO Box 35 Newport Beach NSW 2106 P: 02 9997 4101 F: 02 9940 0217

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PCA	Builder
Form Building Certifiers 57 Carawa Road Cromer NSW 2099 P: 02 99824882	Gray Built 14 Emerald St Narrabeen NSW 2101 P: 0419 606 592

Architects

casey Brown

architecture

East Sydney NSW 2010
Tel: 61 2 9360 7977
Fax: 61 2 9360 2123
Email: cb@caseybrown.com.au

Project

41 MARINE PARADE, AVALON BEACH

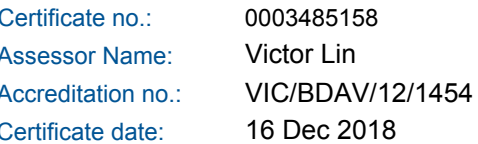
Drawing Title

LOWER LEVEL PLAN

Drawing No.	
S4.55	1:100 (A1)

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Nominated Architect Robert Brown 5425

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S4.55 LEGEND

	WORK SUBJECT TO S4.55 APPLICATION
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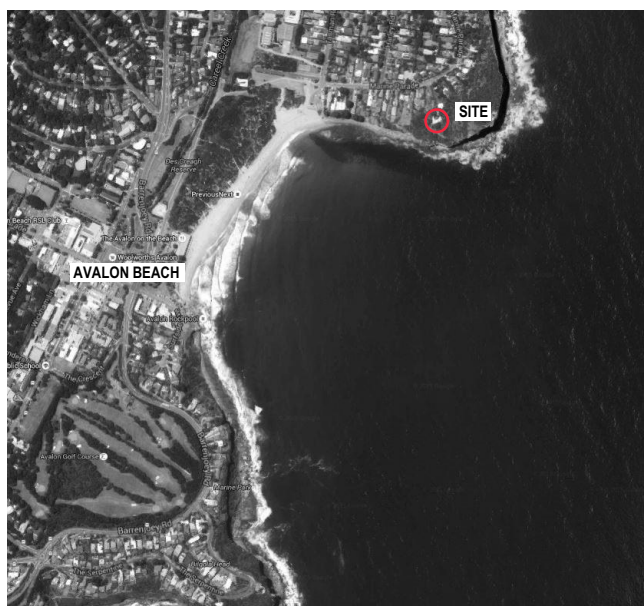
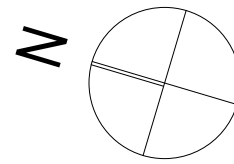
ABBREVIATIONS

BR	CAVITY BRICK WALL
CH	CONCRETE HOOD
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CV	CONCRETE VAULT
DP	DOWN PIPE
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MR	METAL ROOF
PT	PAVED TERRACE
SK	SKY LIGHT
TD	TIMBER FRAME WINDOW
TW	TIMBER FRAME DOOR



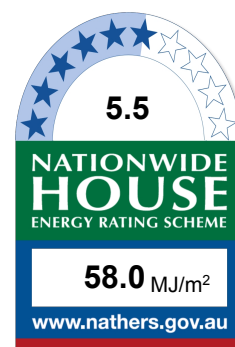


No. 43



Rev	Notes	Date	Reviewed
01	SA 05	22/12/2018	RBT/TC

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Certificate no.: 0003485158
Assessor Name: Victor Lin
Accreditation no.: VIC/BDV/12/1454
Certificate date: 16 Dec 2018
Dwelling Address: 41 Marine Parade
Avalon, NSW 2107



www.nathers.gov.au

Planning	Bushfire
Denis Fish Planning Services 15 Edward Avenue Rozelle NSW 2049 P: 02 6676 2841 F: 02 9918 5708	Building Code & Bushfire Hazard Solutions P.O. Box 124 Berowra NSW 2081 P: 02 9457 6530 F: 02 9457 6532

BASIX Consultant	Land Survey
Victor Lin & Associates 1100 Pymble Business Centre Pymble NSW 2073 P: 02 9488 7898 F: 02 9488 7896	Hill & Blume Consulting Surveyors 102 Crown Street Woolloomooloo NSW 2011 P: 02 9332 4888 F: 02 9331 6422

Geotechnical Engineer	Flora and Fauna
White Geotechnical Group Unit 5, 48 Collingwood St Manly NSW 2095 P: 02 7900 3214	NABLA Environmental 2/26-30 Teske Road Terry Hills NSW 2084 P: 02 9886 1255

Landscape	Arborist
Selena Hannan Landscape Design PO Box 4146 North Curt Curt NSW 2099 P: 02 8084 3031	Growing My Way PO Box 35 Newport Beach NSW 2106 P: 02 9997 4101 F: 02 9940 0217

Structural Engineer	Hydraulic Engineer
Murtagh Bond Unit 4 Southern Cross House 9 Mosay Street Turner ACT 2601 P: 02 6247 0011 F: 02 6248 7518	ADCAR Consulting PO Box 4055 Pitt Town NSW 2756 P: 0404 881 256

PCA	Builder
Form Building Certifiers 57 Carawa Road Croner NSW 2099 P: 02 99824882	Gray Built 14 Emerald St Narrabeen NSW 2101 P: 0419 606 592

Architects
CASEY BROWN
ARCHITECTURE

Level 1 / 63 William Street
East Sydney NSW 2010
Tel: 61 2 9360 7077
Fax: 61 2 9360 2123
Email: cb@caseybrown.com.au

Project
41 MARINE PARADE, AVALON BEACH

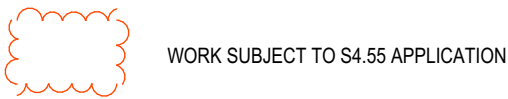
Drawing Title
UPPER LEVEL PLAN

Drawing No.
S4.55 1:100 (A1)

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Nominated Architect Robert Brown 5425

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S4.55 LEGEND



ABBREVIATIONS

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ML	METAL LADDER
MR	METAL ROOF
PT	PAVED TERRACE
SK	SKY LIGHT
TW	TIMBER FRAME WINDOW
TD	TIMBER FRAME DOOR



Upper Level
1:100

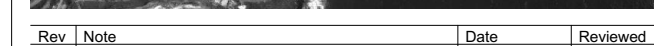


S4.55 LEGEND

 WORK SUBJECT TO S4.55 APPLICATION

ABBREVIATIONS

BR	CAVITY BRICK WALL
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CR	CONCRETE ROOF
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TD	TIMBER FRAME DOOR



01	S4.55	22/11/2018	RB/TO
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Planning	Bushfire
Denis Fish Planning Services 15 Edward Avenue Murrumbidgee NSW 2489 P: 02 6676 2841 F: 02 9918 5788	Building Code & Bushfire Hazard Solutions P.O. Box 124 Berowra NSW 2081 P: 02 9457 6530 F: 02 9457 6532

BASIX Consultant Victor Lin & Associates 1100 Pymble Business Centre Pymble NSW 2073 P: 02 9488 7898 F: 02 9488 7896	Land Survey Hill & Blume Consulting Surveyors 102 Crown Street Woolloomooloo NSW 2011 P: 02 9332 4888 F: 02 9331 6422
--	---

Geotechnical Engineer	Flora and Fauna
White Geotechnical Group Unit 5, 48 Collingwood St Manly NSW 2095 P: 02 7900 3214	NARLA Environmental 2/26-30 Tepko Road Terry Hills NSW 2084 P: 02 9986 1295

Landscape	Arborist
Selena Hannan Landscape Design	Growing My Way
PO Box 4146	PO Box 35
North Curl Curl NSW 2099	Newport Beach NSW 2106
P: 02 8084 3031	P: 02 9997 4101
	F: 02 9940 0217

Structural Engineer	Hydraulic Engineer
Murtagh Bond Unit 4 Southern Cross House 9 McKay Street Turner ACT 2601 P: 02 6247 0011 F: 02 6248 7518	ADCAR Consulting PO Box 4055 Pitt Town NSW 2756 P: 0404 881 256

PCA	Builder
Form Building Certifiers 57 Carawa Road Cromer NSW 2099 P: 02 99824882	Gray Built 14 Emerald St Narrabeen NSW 2101 P: 0419 606 592

Architects

 casey Brown

 architecture

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Tel: 61 2 9360 7977
Fax: 61 2 9360 2123
Email: cb@caseybrown.com.au

Project
41 MARINE PARADE, AVALON BEACH

Drawing Title

NORTH / WEST ELEVATION

Drawing No.	
S4.55	1:100 (A1)

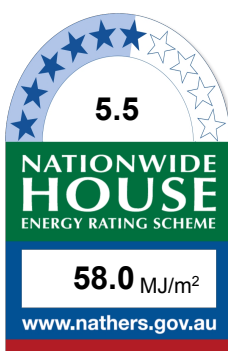
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No. 43

Roof Level
1:100



5.5
NATIONWIDE
HOUSE
ENERGY RATING SCHEME
58.0 MJ/m²
www.nathers.gov.au

Certificate no.: 0003485168
Assessor Name: Victor Lin
Accreditation no: VIC/BDV/12/1454
Certificate date: 16 Dec 2018
Dwelling Address: 41 Marine Parade
Avalon, NSW
2107

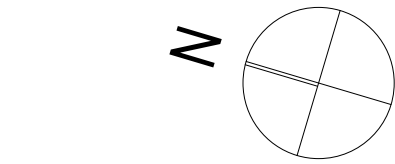


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\$4.55 LEGEND

 WORK SUBJECT TO \$4.55 APPLICATION

- ABBREVIATIONS**
- | | |
|----|---------------------|
| BR | CAVITY BRICK WALL |
| CH | CONCRETE HOOD |
| CR | CONCRETE ROOF |
| CS | CONCRETE SLAB |
| CV | CONCRETE VAULT |
| DP | DOWN PIPE |
| LS | LAUNDRY SHUTE |
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| ML | METAL LADDER |
| MR | METAL ROOF |
| PT | PAVED TERRACE |
| SK | SKY LIGHT |
| TW | TIMBER FRAME WINDOW |
| TD | TIMBER FRAME DOOR |



Rev	Issue	Date	Reviewed
01	SA 05	22/12/2018	RBT/CL

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Planning	Bushfire
Denis Fish Planning Services 15 Edward Avenue Rozzville NSW 2489 P: 02 6676 2841 F: 02 9918 5788	Building Code & Bushfire Hazard Solutions P.O. Box 124 Berowra NSW 2081 P: 02 9457 6530 F: 02 9457 6532

BASIX Consultant	Land Survey
Victor Lin & Associates 1100 Pymble Business Centre Pymble NSW 2073 P: 02 9488 7898 F: 02 9488 7896	Hill & Blume Consulting Surveyors 102 Crown Street Woolloomooloo NSW 2011 P: 02 9332 4888 F: 02 9331 6422

Geotechnical Engineer	Flora and Fauna
White Geotechnical Group Unit 5, 48 Collingwood St Manly NSW 2095 P: 02 7900 3214	NARLA Environmental 2/25-30 Teske Road Terry Hills NSW 2084 P: 02 9986 1255

Landscape	Arborist
Selena Hannan Landscape Design PO Box 4146 North Curt NSW 2099 P: 02 8084 3031	Growing My Way PO Box 35 Newport Beach NSW 2106 P: 02 9997 4101 F: 02 9940 0217

Structural Engineer	Hydraulic Engineer
Murtagh Bond Unit 4 Southern Cross House 9 Mosley Street Turner ACT 2601 P: 02 6247 0011 F: 02 6248 7518	ADCAR Consulting PO Box 4055 Pitt Town NSW 2756 P: 0404 881 256

PCA	Builder
Form Building Certifiers 57 Carawa Road Croner NSW 2099 P: 02 99824882	Gray Built 14 Emerald St Narrabeen NSW 2101 P: 0419 606 592

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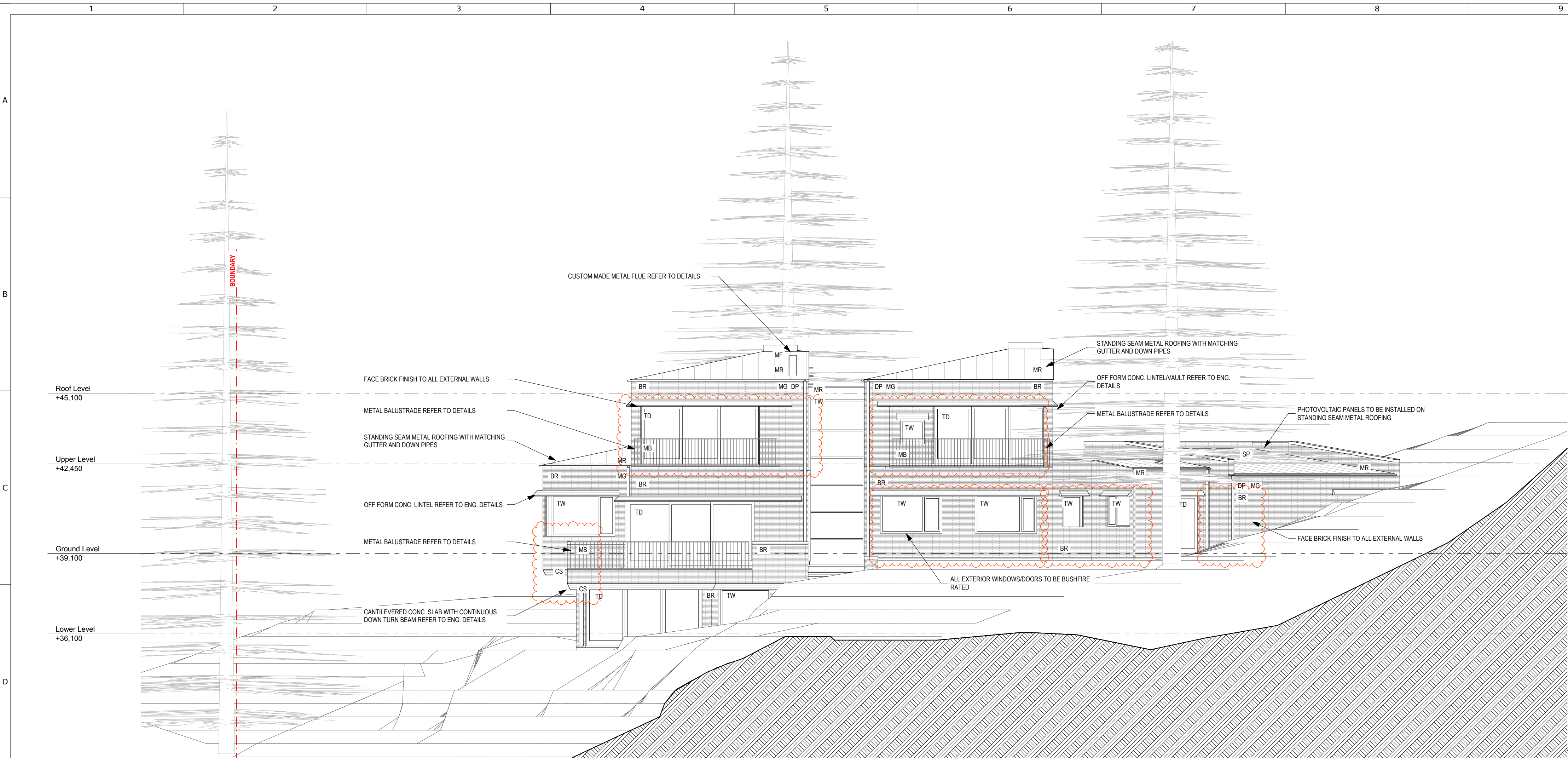
Project
41 MARINE PARADE, AVALON BEACH

Drawing Title
ROOF LEVEL PLAN

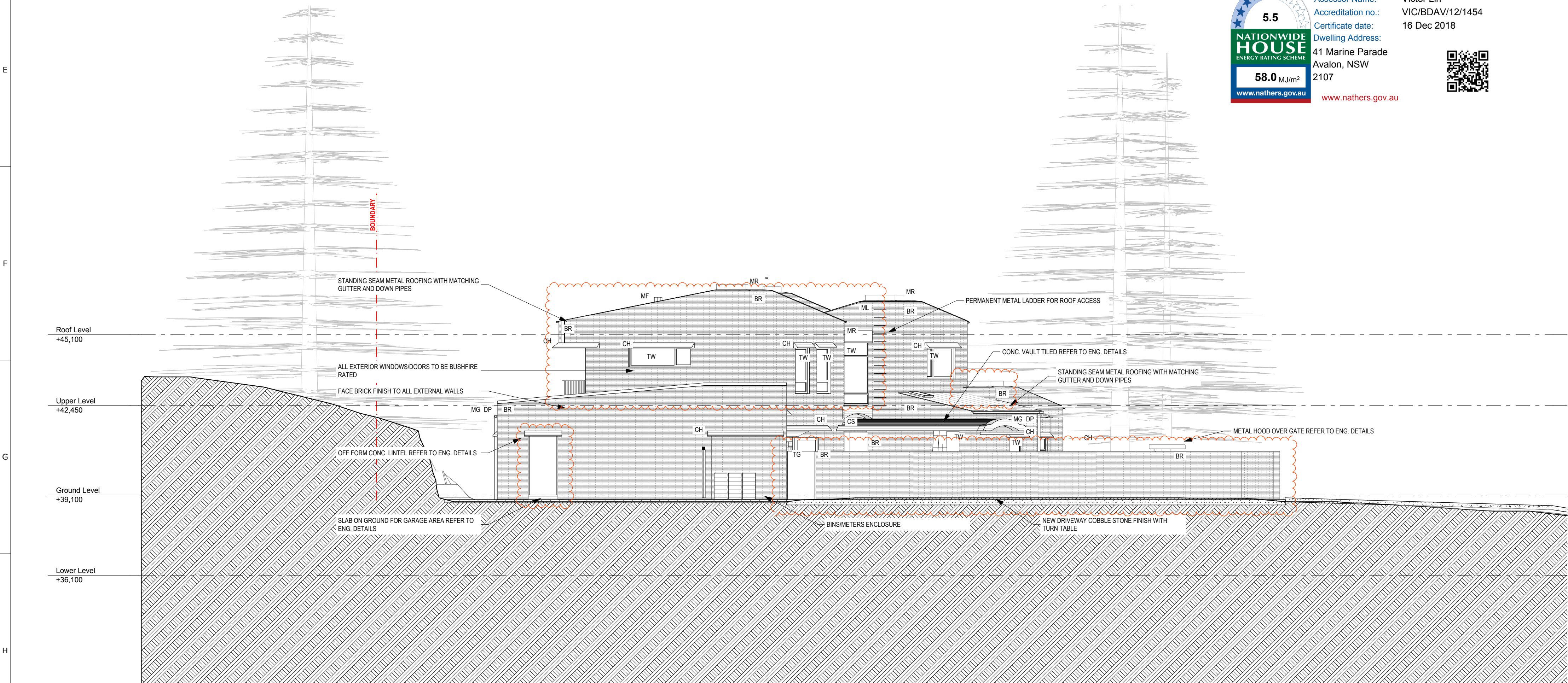
Drawing No.
S4.55 **1:100 (A1)**

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Nominated Architect Robert Brown 5425

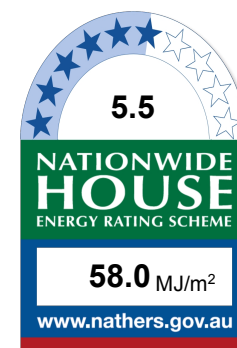
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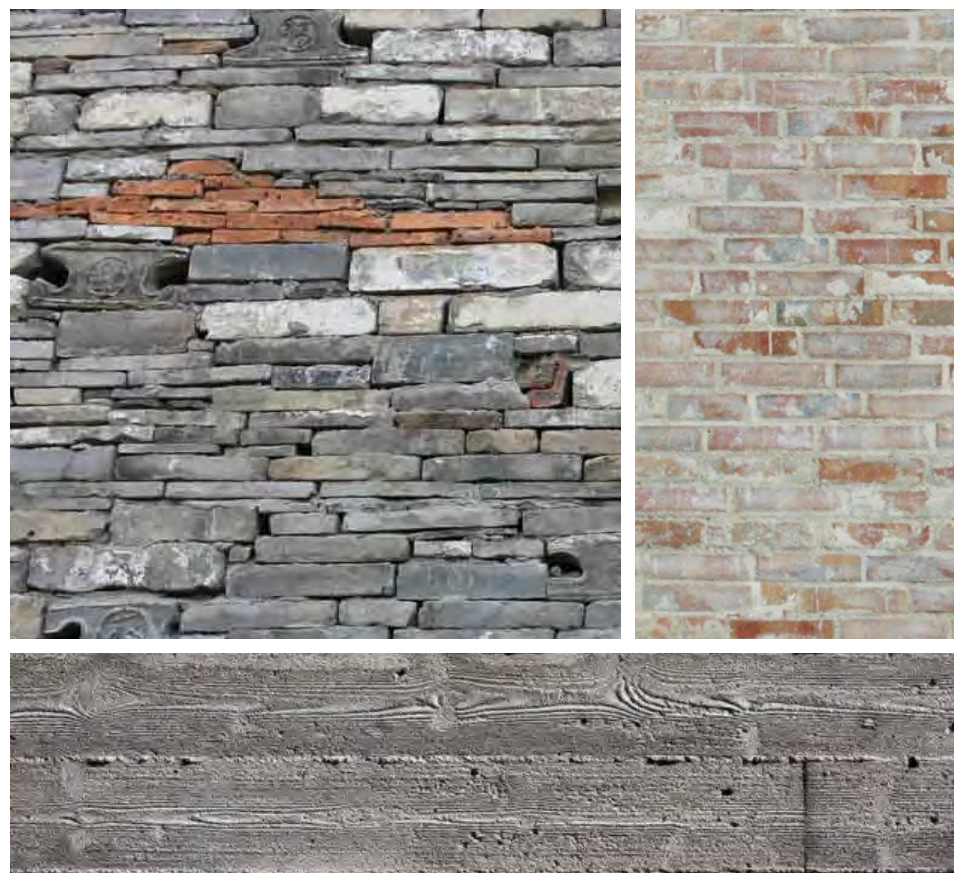
1 S4.55 South Elevation
1:100



2 S4.55 East Elevation
1:100



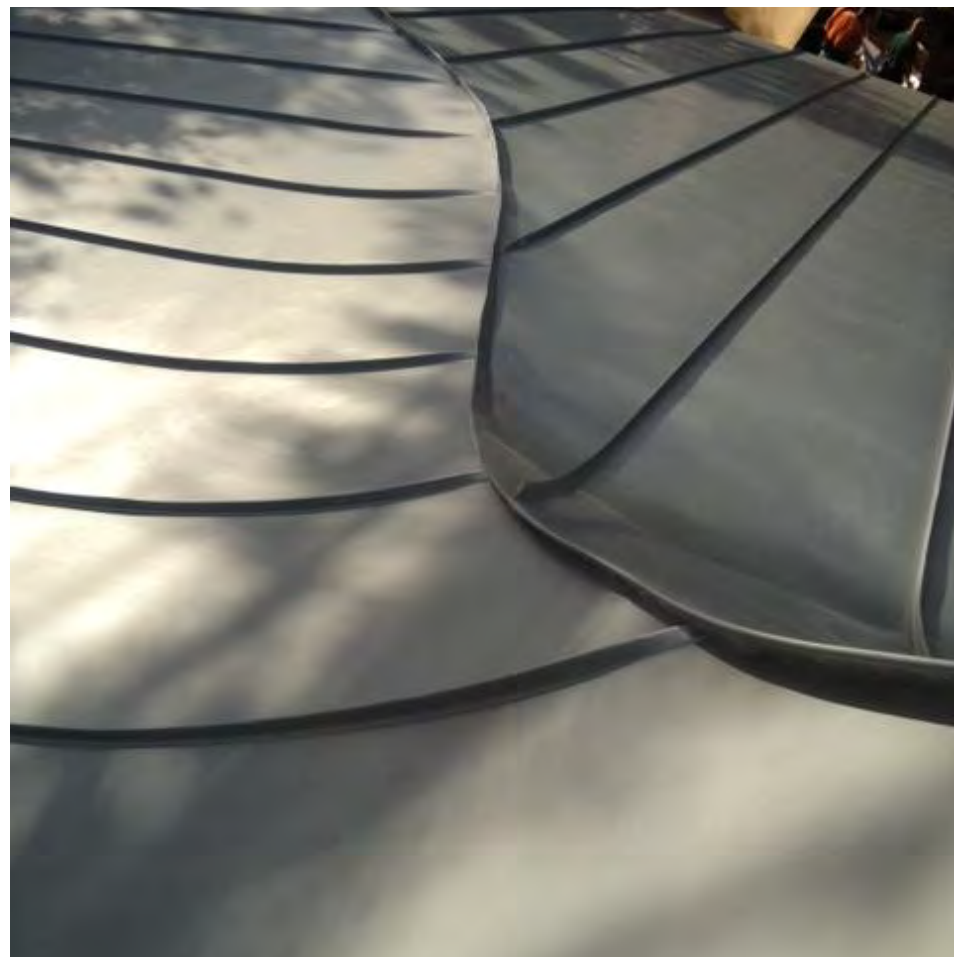
Certificate no.: 0003485158
Assessor Name: Victor Lin
Accreditation no.: VIC/BD/AV/12/1454
Certificate date: 16 Dec 2018
Dwelling Address: 41 Marine Parade
Avalon, NSW 2107



3 Material Reference-Masonry/Off Form Concrete Walls



4 Material Reference-Manilkara Door/Window Frames



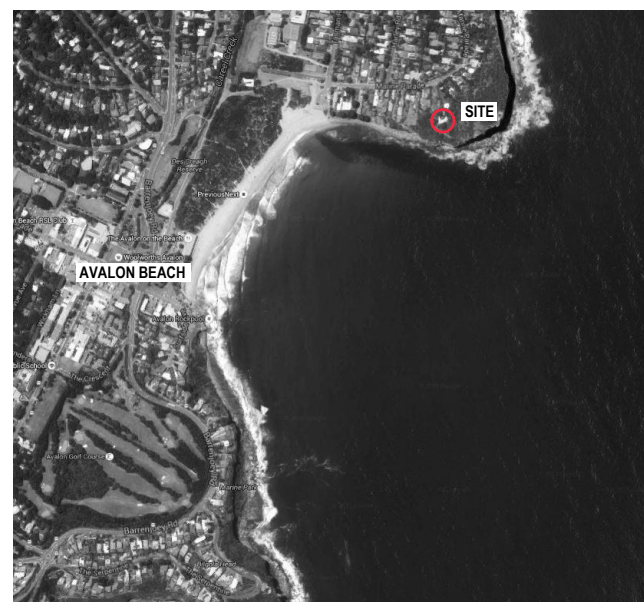
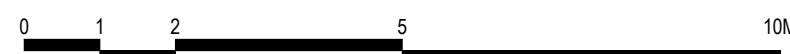
5 Material Reference Dark Metal Roof

S4.55 LEGEND

WORK SUBJECT TO S4.55 APPLICATION

ABBREVIATIONS

BR CAVITY BRICK WALL
CH CONCRETE HOOD
CR CONCRETE ROOF
CS CONCRETE SLAB
CV CONCRETE VAULT
DP DOWN PIPE
LS LAUNDRY SHUTE
MB METAL BALUSTRADE
MF METAL FLUE
MG METAL GUTTER
ML METAL LADDER
MR METAL ROOF
PT PAVED TERRACE
SK SKY LIGHT
TW TIMBER FRAME WINDOW
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Project
41 MARINE PARADE, AVALON BEACH

Drawing Title
SOUTH / EAST ELEVATION

Drawing No.
S4.55 1:100 (A1)

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