

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 1179704S

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 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary

Date of issue: Thursday, 25 February 2021

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



Planning,
Industry &
Environment



Project summary		
Project name	4326A Church Point - Downes	
Street address	190 McCarrs Creek Street Church Point 2105	
Local Government Area	Northern Beaches Council	
Plan type and plan number	deposited 20097	
Lot no.	7	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	3	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 50	Target 50

Certificate Prepared by

Name / Company Name: Victor Lin & Associates Pty Ltd

ABN (if applicable): 34097383821

Description of project

Project address

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Site details

Site area (m ²)	436
Roof area (m ²)	178
Conditioned floor area (m2)	257.0
Unconditioned floor area (m2)	11.0
Total area of garden and lawn (m2)	224

Assessor details and thermal loads

Assessor number	DMN/19/1894
Certificate number	0005725569
Climate zone	56
Area adjusted cooling load (MJ/m ² .year)	25
Area adjusted heating load (MJ/m ² .year)	43
Ceiling fan in at least one bedroom	No
Ceiling fan in at least one living room or other conditioned area	Yes

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 50

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 120 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 4 star (> 6 but <= 7.5 L/min plus spray force and/or coverage tests) 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 3000 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 90 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: - the cold water tap that supplies each clothes washer 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.)		✓ ✓	✓ ✓
Swimming pool			
The swimming pool must not have a volume greater than 40 kilolitres.	✓	✓	

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The swimming pool must have a pool cover.		✓	
The swimming pool must be shaded.	✓	✓	
The swimming pool must be outdoors.	✓	✓	

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 show on the plans accompanying the development application for the proposed development, the locations of ceiling fans set out in the Assessor Certificate. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.	✓	✓	✓
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	66.0 square metres
floor - suspended floor/open subfloor	32.0 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: 1-phase airconditioning; Energy rating: EER 3.0 - 3.5		✓	✓
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: EER 3.0 - 3.5		✓	✓
The heating system must provide for day/night zoning between living areas and bedrooms.		✓	✓
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: interlocked to light		✓	✓
Artificial lighting			
The applicant must ensure that the "primary type of artificial lighting" is fluorescent or light emitting diode (LED) lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent or light emitting diode (LED) lamps:			
• at least 4 of the bedrooms / study;		✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
• at least 3 of the living / dining rooms; • the kitchen; • all bathrooms/toilets; • the laundry; • all hallways;		    	    
Natural lighting			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.			
The applicant must install a window and/or skylight in 3 bathroom(s)/toilet(s) in the development for natural lighting.			
Swimming pool			
The development must not incorporate any heating system for the swimming pool.			
The applicant must install a timer for the swimming pool pump in the development.			
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.			
Other			
The applicant must install a gas cooktop & gas 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.

Assessor Construction Summary

Project: **Address:** 190 McCarrs Creek Road Church Point NSW
Applicant: Adam and Katrina Bacon

Contact: **Name:** Peter Downes
Contact: peter@peterdownes.com.au

Assessor: **Name:** Ailin Zhang
Address: PO Box 5080. Sth Turramurra. 2074
Contact: 0412-988088

Company: Victor Lin & Associates
Number: DMN/19/1894
Email: Ailin@linassociates.com.au

Ext. Walls:	Construction	Insulation	Colour	Details
	Weatherboard	R3.0	Med	As per plans
Int. Walls:	Construction			Details
	Plasterboard	None		As per plans
		R2.0		Internal walls adjacent to laundry and garage
Floors:	Construction	Insulation		Details
	Concrete slab	R2.5		Under all concrete slab on ground and suspended concrete slab to external air (level 1 and level 2)
	Timber	None		As per plans
		R2.5		Under all suspended timber floor to external air (level 3 & level 4)
Floor Cover:	Material			Details
	Timber/Tile/Carpet			As per plans
Ceilings:	Construction	Insulation		Details
	Plasterboard	R4.5		Under all roofs and in ceilings with deck above
Ceiling Fans:	Diameter			Location
	1400 mm			1 x Family, 1x Lounge
Roof:	Construction	Insulation	Colour	Details
	Metal	R1.3 60mm Anticon	Med	As per plans
Windows:	Product ID	Uw/SHGCw	Frame	Window No.
	Generic	6.70 / 0.70	Aluminium	All in garage and laundry
		4.30 / 0.53	Aluminium	All other windows and doors
Skylights:	Product ID	Glass	Frame	Uw/SHGCw
	Generic	Double Clear	Timber & Aluminium	Details
Other:	Orientation	Terrain	Weatherseals	Climate Zone
	340	Suburban	Yes	56
				Recessed Downlights
				YES - SEALED TYPE ONLY
				100mm LED at 1 per 5 sqm of ceiling space

Overshadowing Details: Other Project Building
Assessment: **Drawings:** 190 McCarrs Creek Road Church Point. Dwgs as stamped
File Ref: 4326A
Software: BERS Pro 4.4



Certification Number: 0005725569 **Date:** 24-February-2021

House No.	Insulation Summary (refer also to table above)							SEALED Recessed Downlights ONLY	Sealed exhaust vents
	Conditioned Area	Unconditioned Area	Heating	Cooling	Star				
House	257	28	42.5	24.9	4.9			X	X

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 Univesal 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

NatHERS Certificate No. 0005725569

Generated on 25 Feb 2021 using BERS Pro v4.4.0.2 (3.21)

Property

Address Unit House, 190 McCarrs Creeek Road ,
Church Point , NSW , 2105

Lot/DP 7/20097

NCC Class* 1A

Type New Dwelling

Plans

Main Plan A3 2012 00-12

Prepared by Downes

Construction and environment

Assessed floor area (m ²)*		Exposure Type
Conditioned*	257.0	Suburban
Unconditioned*	27.0	NatHERS climate zone
Total	285.0	56
Garage	16.0	



Accredited assessor

Name Ailin Zhang

Business name Victor Lin Associates Pty Ltd

Email ailin@linassociates.com.au

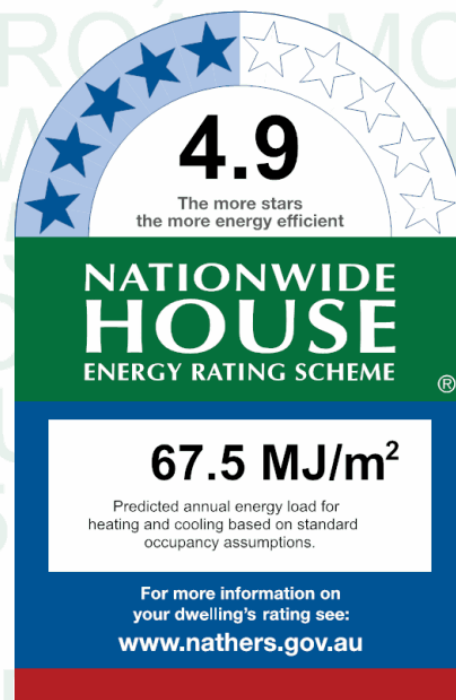
Phone 1800884199

Accreditation No. DMN/19/1894

Assessor Accrediting Organisation

Design Matters National

Declaration of interest -



Thermal performance

Heating	Cooling
42.5 MJ/m ²	24.9 MJ/m ²

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=kcVygxiYM. When using either link, ensure you are visiting hstar.com.au



National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate?

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-004-03 A	ALM-004-03 A Aluminium B DG Air Fill High Solar Gain low-E -Clear	4.3	0.53	0.53	0.53
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.70	0.70

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Family	ALM-004-03 A	n/a	2400	600	n/a	90	N	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Family	ALM-004-03 A	n/a	2400	600	n/a	90	W	No
Family	ALM-004-03 A	n/a	2400	3300	n/a	90	W	No
guest	ALM-004-03 A	n/a	800	800	n/a	90	S	No
guest	ALM-004-03 A	n/a	2400	600	n/a	90	W	No
guest	ALM-004-03 A	n/a	2400	600	n/a	90	S	No
guest	ALM-004-03 A	n/a	2400	3300	n/a	90	W	No
ldry	ALM-002-01 A	n/a	800	800	n/a	90	E	No
ens	ALM-004-03 A	n/a	800	800	n/a	90	E	No
ens	ALM-004-03 A	n/a	800	800	n/a	90	S	No
Bedroom 1	ALM-004-03 A	n/a	2400	600	n/a	90	N	No
Bedroom 1	ALM-004-03 A	n/a	2400	600	n/a	90	SW	No
Bedroom 1	ALM-004-03 A	n/a	2400	3900	n/a	90	W	No
Bedroom	ALM-004-03 A	n/a	800	800	n/a	90	S	No
Bedroom	ALM-004-03 A	n/a	800	800	n/a	90	S	No
Bedroom	ALM-004-03 A	n/a	800	1700	n/a	00	S	No
ens	ALM-004-03 A	n/a	800	800	n/a	90	N	No
ens	ALM-004-03 A	n/a	800	800	n/a	90	N	No
ens	ALM-004-03 A	n/a	2400	600	n/a	90	W	No
bath	ALM-004-03 A	n/a	800	800	n/a	90	S	No
bath	ALM-004-03 A	n/a	2400	600	n/a	90	W	No
study	ALM-004-03 A	n/a	2400	600	n/a	90	S	No
study	ALM-004-03 A	n/a	2400	2400	n/a	90	SW	No
Kitchen/Living	ALM-004-03 A	n/a	800	800	n/a	90	N	No
Kitchen/Living	ALM-004-03 A	n/a	800	800	n/a	90	N	No
Kitchen/Living	ALM-004-03 A	n/a	800	2800	n/a	00	N	No
Kitchen/Living	ALM-004-03 A	n/a	800	800	n/a	90	N	No
Kitchen/Living	ALM-004-03 A	n/a	800	800	n/a	90	N	No
Kitchen/Living	ALM-004-03 A	n/a	800	2000	n/a	00	N	No
Kitchen/Living	ALM-004-03 A	n/a	500	2100	n/a	00	S	No
Kitchen/Living	ALM-004-03 A	n/a	800	800	n/a	90	S	No
Kitchen/Living	ALM-004-03 A	n/a	800	800	n/a	90	S	No
Kitchen/Living	ALM-004-03 A	n/a	800	2800	n/a	00	S	No
Kitchen/Living	ALM-004-03 A	n/a	2400	860	n/a	90	W	No
Kitchen/Living	ALM-004-03 A	n/a	2400	600	n/a	90	S	No
Kitchen/Living	ALM-004-03 A	n/a	2400	3460	n/a	90	W	No
Kitchen/Living	ALM-004-03 A	n/a	2400	3460	n/a	90	W	No
Kitchen/Living	ALM-004-03 A	n/a	1000	3400	n/a	00	W	No
Kitchen/Living	ALM-004-03 A	n/a	1000	3400	n/a	00	W	No
Kitchen/Living	ALM-004-03 A	n/a	2400	600	n/a	90	N	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-03 A	n/a	2400	600	n/a	90	W	No
corridor	ALM-004-03 A	n/a	800	800	n/a	90	N	No
Garage 1	ALM-002-01 A	n/a	800	800	n/a	90	S	No
Garage 1	ALM-002-01 A	n/a	800	800	n/a	90	S	No
Garage 1	ALM-002-01 A	n/a	1000	1800	n/a	00	W	No
foyer	ALM-004-03 A	n/a	800	800	n/a	90	N	No
foyer	ALM-004-03 A	n/a	800	2400	n/a	00	N	No
foyer	ALM-004-03 A	n/a	2400	1600	n/a	90	E	No
foyer	ALM-004-03 A	n/a	1000	1800	n/a	00	W	No

Roof window type and performance

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight type and performance

Skylight ID	Skylight description
GEN-04-008a	Double-glazed clear, Timber and Aluminium Frame

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
foyer	GEN-04-008a	n/a	200	1.20	N	None	No	0.50

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
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Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2400	800	90	S
Garage 1	2260	2500	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Weatherboard Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R3	No
EW-2	Weatherboard Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R3	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Family	EW-1	2730	900	N	1100	YES
Family	EW-1	2730	900	W	1100	YES
Family	EW-1	2730	5800	N	200	NO
Family	EW-1	2730	2100	E	3600	YES
Family	EW-1	2730	3495	W	4250	NO
guest	EW-1	2730	2995	S	100	NO
guest	EW-1	2730	1000	W	1200	YES
guest	EW-1	2730	1000	S	1100	YES
guest	EW-1	2730	3595	W	4300	NO
ldry	EW-1	2730	2090	E	3500	YES
ens	EW-1	2730	2495	E	3500	NO
ens	EW-1	2730	2695	S	100	NO
staircase	EW-1	2730	3495	N	2300	YES
staircase	EW-1	2730	2300	E	900	NO
staircase	EW-1	2730	3495	S	4700	YES
Bedroom 1	EW-1	2730	2795	N	200	YES
Bedroom 1	EW-1	2730	716	SW	1082	YES
Bedroom 1	EW-1	2730	4168	W	1098	NO
Bedroom	EW-1	2730	4190	S	1000	NO
ens	EW-2	2730	5900	N	200	NO
ens	EW-1	2730	3500	N	200	NO
ens	EW-1	2730	2095	E	1600	NO
ens	EW-1	2730	900	W	1000	YES
wc	EW-1	2730	1290	S	1000	NO
bath	EW-1	2730	2195	S	1000	NO
bath	EW-1	2730	900	W	1000	YES
study	EW-1	2730	2795	S	100	YES

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
study	EW-1	2730	3494	SW	1132	YES
store	EW-1	2730	4595	E	1600	NO
store	EW-1	2730	1595	S	1000	NO
corridor	EW-1	2730	2290	E	1600	NO
Kitchen/Living	EW-1	3950	5100	N	600	NO
Kitchen/Living	EW-1	2790	4300	N	600	NO
Kitchen/Living	EW-1	2790	600	E	4400	YES
Kitchen/Living	EW-1	2790	3795	S	200	NO
Kitchen/Living	EW-1	3950	5100	S	100	NO
Kitchen/Living	EW-1	3950	900	W	3825	YES
Kitchen/Living	EW-1	3950	1000	S	1000	YES
Kitchen/Living	EW-2	3950	7200	W	5200	NO
Kitchen/Living	EW-1	3950	900	N	1000	YES
Kitchen/Living	EW-1	3950	900	W	3725	YES
pantry	EW-1	2790	1500	E	300	NO
pantry	EW-1	2790	1995	S	200	NO
corridor	EW-1	2790	1595	N	800	YES
Garage 1	EW-1	3250	2895	E	6100	NO
Garage 1	EW-1	3250	5700	S	100	NO
Garage 1	EW-1	2000	2895	W	600	NO
foyer	EW-1	3250	5700	N	600	NO
foyer	EW-1	3250	2095	E	6100	NO
foyer	EW-1	2000	2095	W	600	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		182.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		39.00	Bulk Insulation, No Air Gap R2
IW-3 - Concrete Panel/Blocks fully core filled		27.00	No Insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Family	Concrete Slab on Ground 200mm	28.30	None	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
guest	Concrete Slab on Ground 200mm	17.00	None	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
ldry	Concrete Slab on Ground 200mm	5.30	None	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
ens	Concrete Slab on Ground 200mm	6.50	None	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
staircase	Concrete Slab on Ground 200mm	7.90	None	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 1/Family	Rendered Concrete 150mm	5.90		No Insulation	Carpet 10mm
Bedroom 1/guest	Rendered Concrete 150mm	1.60		No Insulation	Carpet 10mm
Bedroom 1	Suspended Concrete Slab 150mm	13.00	Totally Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom /ldry	Rendered Concrete 200mm	2.00		No Insulation	Carpet 10mm
Bedroom /ens	Rendered Concrete 200mm	5.60		No Insulation	Carpet 10mm
Bedroom	Concrete Slab on Ground 200mm	6.40	None	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
ens/Family	Rendered Concrete 200mm	18.70		No Insulation	Ceramic Tiles 8mm
ens	Concrete Slab on Ground 200mm	7.20	None	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
wc/guest	Rendered Concrete 150mm	1.60		No Insulation	Ceramic Tiles 8mm
wc/ens	Rendered Concrete 150mm	0.70		No Insulation	Ceramic Tiles 8mm
bath/guest	Rendered Concrete 150mm	5.80		No Insulation	Ceramic Tiles 8mm
study/guest	Rendered Concrete 150mm	2.50		No Insulation	Cork Tiles or Parquetry 8mm
study	Suspended Concrete Slab 150mm	8.20	Totally Open	Bulk Insulation in Contact with Floor R2.5	Cork Tiles or Parquetry 8mm
store	Concrete Slab on Ground 200mm	7.10	None	Bulk Insulation in Contact with Floor R2.5	Cork Tiles or Parquetry 8mm
corridor/Family	Rendered Concrete 200mm	2.50		No Insulation	Ceramic Tiles 8mm
corridor/guest	Rendered Concrete 200mm	4.00		No Insulation	Ceramic Tiles 8mm
corridor/ldry	Rendered Concrete 200mm	3.40		No Insulation	Ceramic Tiles 8mm
corridor/staircase	Rendered Concrete 200mm	7.60		No Insulation	Ceramic Tiles 8mm
corridor	Concrete Slab on Ground 200mm	2.10	None	Bulk Insulation in Contact with Floor R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living /Bedroom 1	Timber Above Plasterboard 19mm	8.10		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Bedroom	Timber Above Plasterboard 19mm	14.40		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /ens	Timber Above Plasterboard 19mm	26.50		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /wc	Timber Above Plasterboard 19mm	2.60		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /bath	Timber Above Plasterboard 19mm	6.10		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /study	Timber Above Plasterboard 19mm	3.00		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /store	Timber Above Plasterboard 19mm	5.50		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /corridor	Timber Above Plasterboard 19mm	20.60		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /linen	Timber Above Plasterboard 19mm	2.00		No Insulation	Cork Tiles or Parquetry 8mm
pantry/store	Timber Above Plasterboard 19mm	1.80		No Insulation	Cork Tiles or Parquetry 8mm
pantry	Suspended Timber Floor 19mm	7.10	Totally Open	Bulk Insulation in Contact with Floor R2.5	Cork Tiles or Parquetry 8mm
wc	Suspended Timber Floor 19mm	3.70	Totally Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
corridor	Suspended Timber Floor 19mm	1.90	Totally Open	Bulk Insulation in Contact with Floor R2.5	Cork Tiles or Parquetry 8mm

Location	Construction	Area (m ²)	Sub-floor ventilation (R-value)	Added insulation (R-value)	Covering
Garage 1/Kitchen/Living	Timber Above Plasterboard 19mm	10.60		No Insulation	Bare
Garage 1/pantry	Timber Above Plasterboard 19mm	5.70		No Insulation	Bare
foyer/Kitchen/Living	Timber Above Plasterboard 19mm	8.40		No Insulation	Ceramic Tiles 8mm
foyer/wc	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
linen/Family	Rendered Concrete 150mm	0.80		No Insulation	Ceramic Tiles 8mm
linen/guest	Rendered Concrete 150mm	0.90		No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Family	Plasterboard	Bulk Insulation R4	No
Family	Rendered Concrete	No Insulation	No
guest	Plasterboard	Bulk Insulation R4	No
guest	Rendered Concrete	No Insulation	No
ldry	Plasterboard	Bulk Insulation R4	No
ldry	Rendered Concrete	No Insulation	No
ens	Plasterboard	Bulk Insulation R4	No
ens	Rendered Concrete	No Insulation	No
staircase	Plasterboard	Bulk Insulation R4	No
staircase	Rendered Concrete	No Insulation	No
Bedroom 1	Plasterboard	Bulk Insulation R4.5	No
Bedroom 1	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom	Timber Above Plasterboard	No Insulation	No
ens	Plasterboard	Bulk Insulation R4	No
ens	Timber Above Plasterboard	No Insulation	No
wc	Plasterboard	Bulk Insulation R4	No
wc	Timber Above Plasterboard	No Insulation	No
bath	Plasterboard	Bulk Insulation R4	No
bath	Timber Above Plasterboard	No Insulation	No
study	Plasterboard	Bulk Insulation R4.5	No
study	Timber Above Plasterboard	No Insulation	No
store	Plasterboard	Bulk Insulation R4	No
store	Timber Above Plasterboard	No Insulation	No
corridor	Plasterboard	Bulk Insulation R4	No
corridor	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Plasterboard	Bulk Insulation R4.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
pantry	Plasterboard	Bulk Insulation R4.5	No
pantry	Timber Above Plasterboard	No Insulation	No
wc	Plasterboard	Bulk Insulation R4.5	No
wc	Timber Above Plasterboard	No Insulation	No
corridor	Plasterboard	Bulk Insulation R4.5	No
Garage 1	Plasterboard	Bulk Insulation R4.5	No
foyer	Plasterboard	Bulk Insulation R4.5	No
linen	Plasterboard	Bulk Insulation R4	No
linen	Timber Above Plasterboard	No Insulation	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm ²)	Sealed/unsealed
Family	6	Downlights - LED	150	Sealed
guest	4	Downlights - LED	150	Sealed
ldry	1	Downlights - LED	150	Sealed
ldry	1	Exhaust Fans	300	Sealed
ens	2	Downlights - LED	150	Sealed
ens	1	Exhaust Fans	300	Sealed
Bedroom 1	4	Downlights - LED	150	Sealed
Bedroom	4	Downlights - LED	150	Sealed
ens	6	Downlights - LED	150	Sealed
ens	1	Exhaust Fans	300	Sealed
wc	1	Exhaust Fans	300	Sealed
bath	2	Downlights - LED	150	Sealed
bath	1	Exhaust Fans	300	Sealed
study	2	Downlights - LED	150	Sealed
store	2	Downlights - LED	150	Sealed
corridor	4	Downlights - LED	150	Sealed
Kitchen/Living	18	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
pantry	2	Downlights - LED	150	Sealed
wc	1	Downlights - LED	150	Sealed
wc	1	Exhaust Fans	300	Sealed
foyer	2	Downlights - LED	150	Sealed

* Refer to glossary.

Ceiling fans

Location	Quantity	Diameter (mm)
Family	1	1400
Kitchen/Living	1	1400

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Roof Tiles	No Insulation, Only an Air Gap	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.50	Medium

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

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 ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

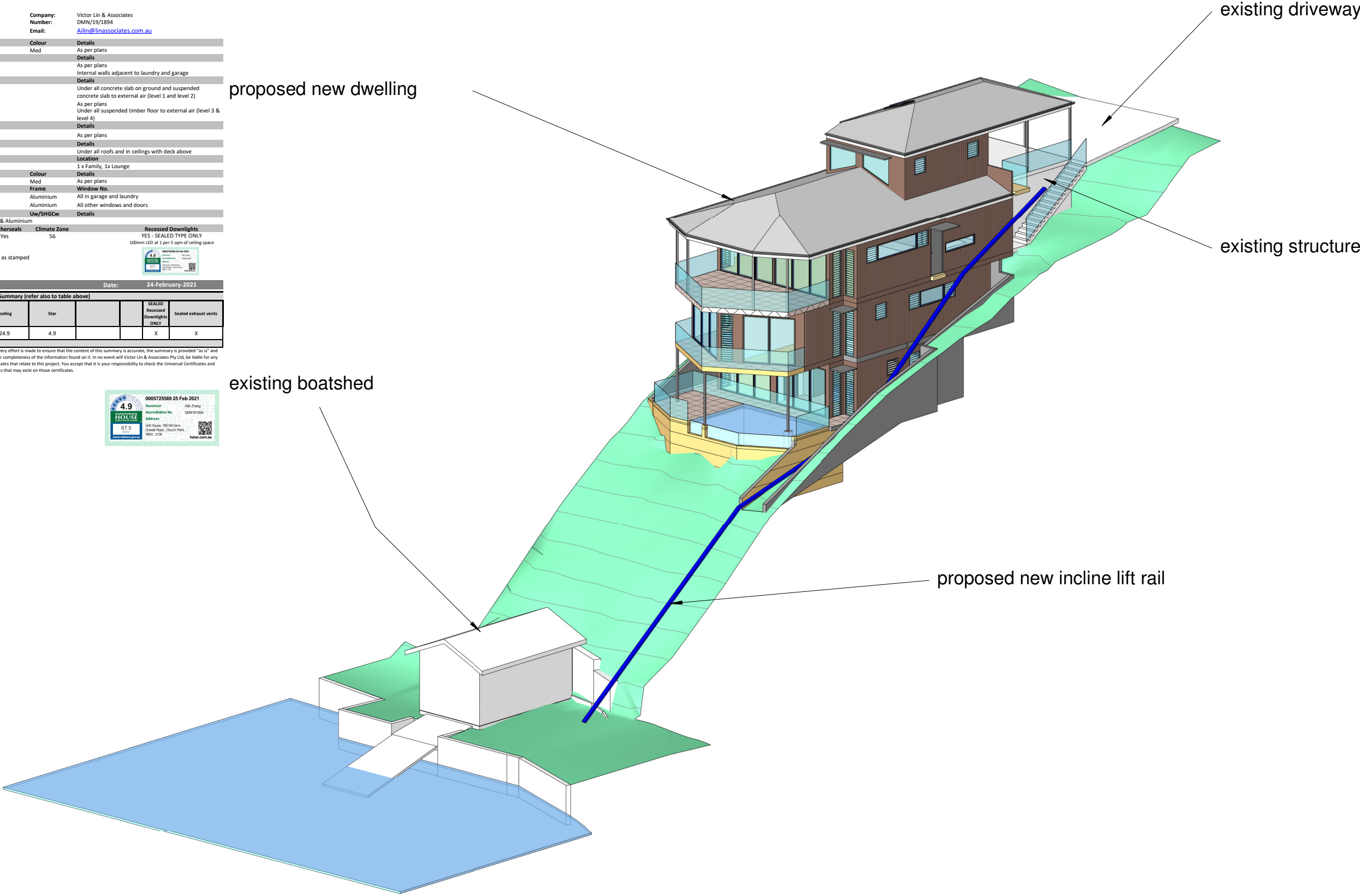
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m; farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

Assessor Construction Summary

Project:	Address:	190 McCarrs Creek Road Church Point NSW						
	Applicant:	Adam and Katrina Bacon						
Contact:	Name:	Peter Downes						
Contact:		peter@peterdownes.com.au						
Assessor:	Name:	Allin Zhang	Company:	Victor Lin & Associates				
	Address:	PO Box 5080, Sth Turramurra, 2074	Number:	DMN/19/1894				
	Contact:	0412-988088	Email:	Allin@linassociates.com.au				
Ext. Walls:	Construction	Insulation	Colour	Details				
	Weatherboard	R3.0	Med	As per plans				
Int. Walls:	Construction	Insulation	Colour	Details				
	Plasterboard	None		As per plans				
		R2.0		Internal walls adjacent to laundry and garage				
Floors:	Construction	Insulation	Colour	Details				
	Concrete slab	R2.5		Under all concrete slab on ground and suspended concrete slab to external air (level 1 and level 2)				
	Timber	None		As per plans				
		R2.5		Under all suspended timber floor to external air (level 3 & level 4)				
Floor Cover:	Material	Insulation	Colour	Details				
	Timber/Tile/Carpet			As per plans				
Ceilings:	Construction	Insulation	Colour	Details				
	Plasterboard	R4.5		Under all roofs and in ceilings with deck above				
Ceiling Fans:	Diameter	Insulation	Colour	Details				
	1400 mm			1 x Family, 1x Lounge				
Roof:	Construction	Insulation	Colour	Details				
	Metal	R1.3 60mm Anticon	Med	As per plans				
Windows:	Product ID	Uw/SHGCw	Frame	Window No.				
	Generic	6.70 / 0.70	Aluminium	All in garage and laundry				
		4.30 / 0.53	Aluminium	All other windows and doors				
Skylights:	Product ID	Glass	Frame	Uw/SHGCw	Details			
	Generic	Double Clear	Timber & Aluminium					
Other:	Orientation	Terrain	Weatherseals	Climate Zone	Recessed Downlights			
	340	Suburban	Yes	56	YES - SEALED TYPE ONLY			
					100mm LED at 1 per 5 sqm of ceiling space			
Overshadowing Details:	Other Project Building							
Assessment:	Drawings:	190 McCarrs Creek Road Church Point. Dwg as stamped						
	File Ref:	4326A						
	Software:	BERS Pro 4.4						
Certification Number:	0005725569				Date: 24-February-2021			
	Insulation Summary (refer also to table above)							
House No.	Conditioned Area	Unconditioned Area	Heating	Cooling	Star		SEALED Recessed Downlights ONLY	Sealed exhaust vents
House	257	28	42.5	24.9	4.9		X	X

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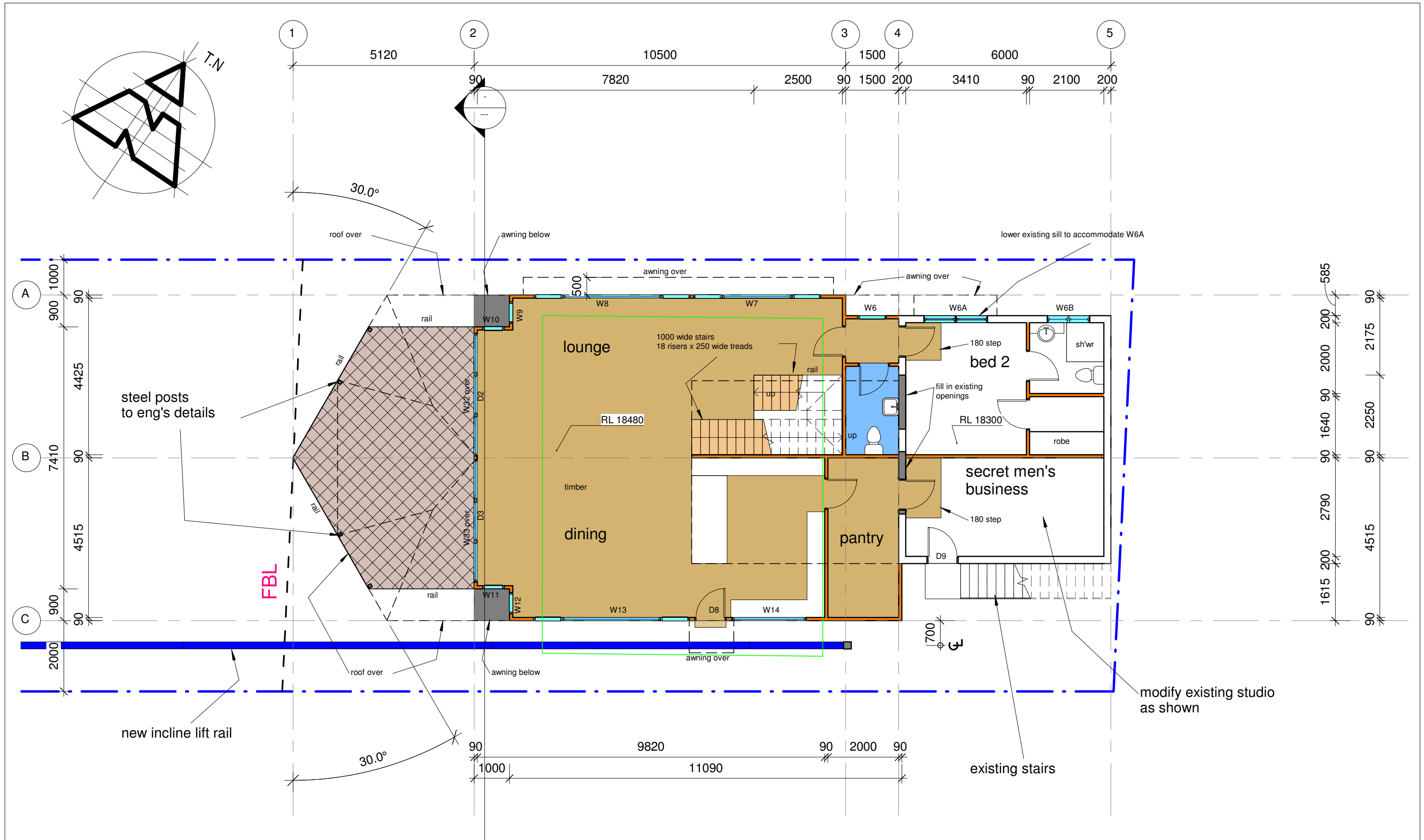


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PROJECT
190 McCarrs Creek rd Church Point

DRAWING
cover sheet

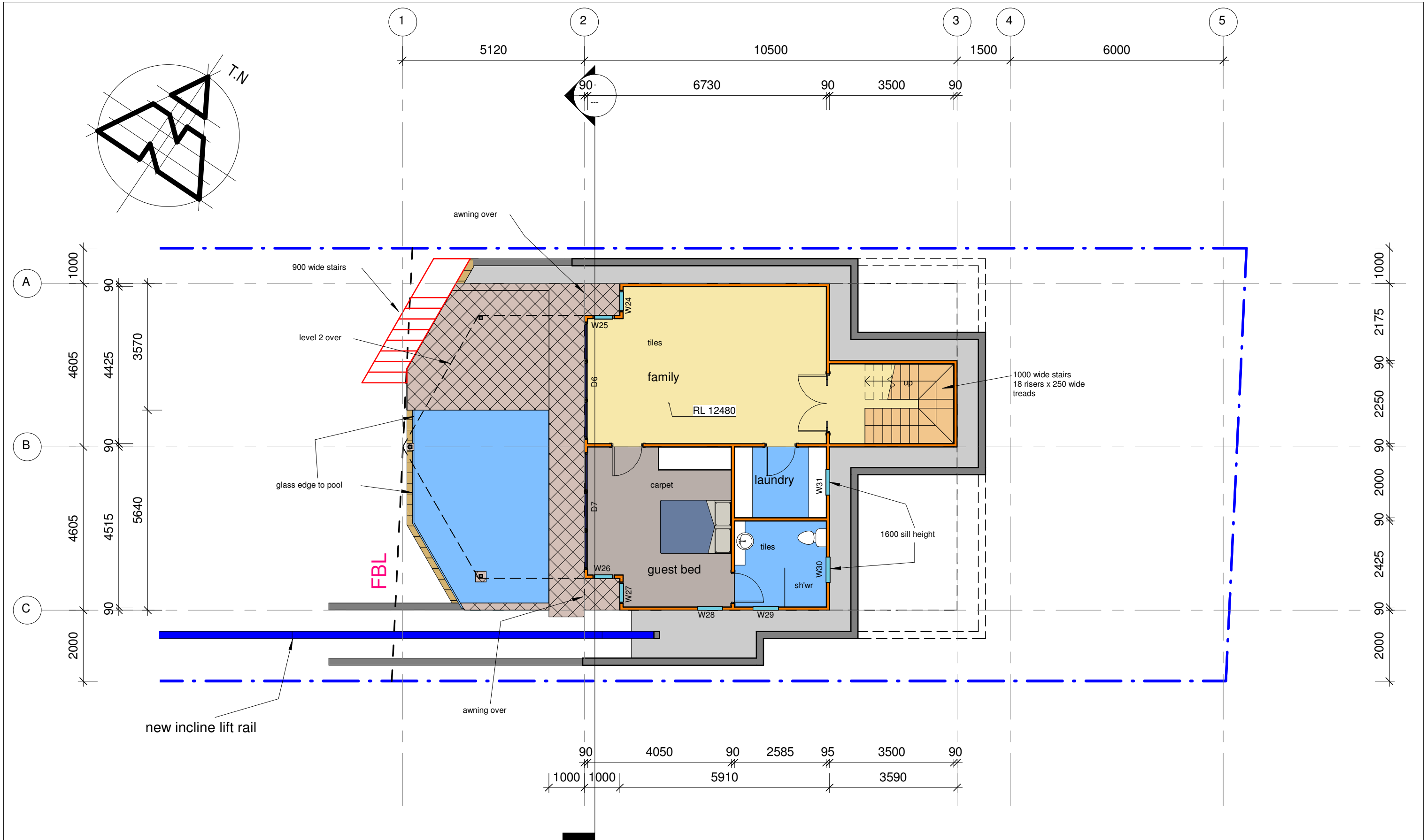
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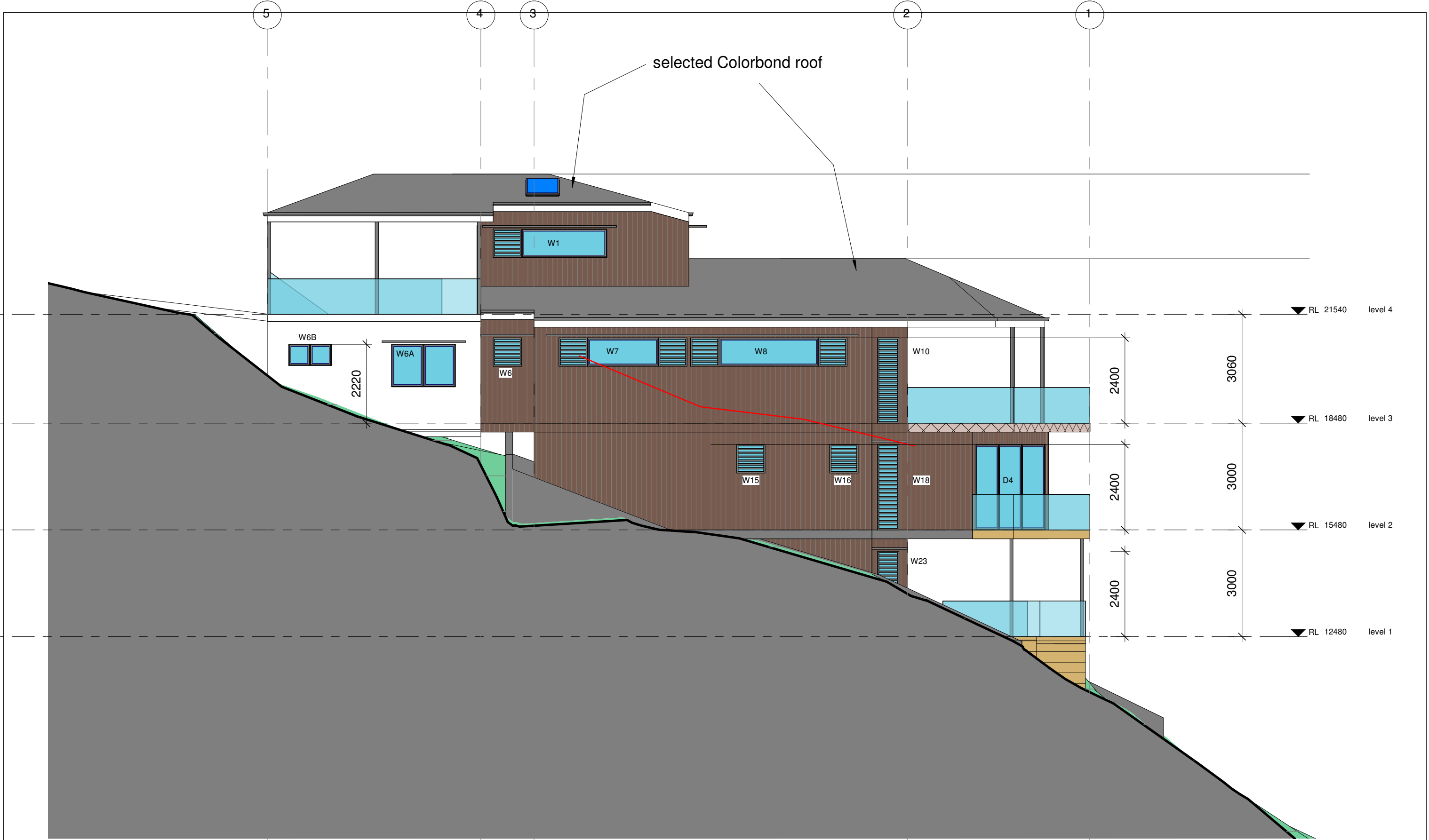
REVISION	 0005725569 25 Feb 2021 Assessor: Ailin Zhang Accreditation No: DMN191894 Address: Unit House, 190 McCarrs Creek Road, Church Point, NSW, 2105 www.nathans.gov.au	 peterdownes multi-award winner 77 Riviera Ave, Avalon Beach 2107 0488 662 445 www.peterdownes.com.au	PROJECT 190 McCarrs Creek rd Church Point		DRAWN Author	CHECKED Checker
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					A3	2012 03



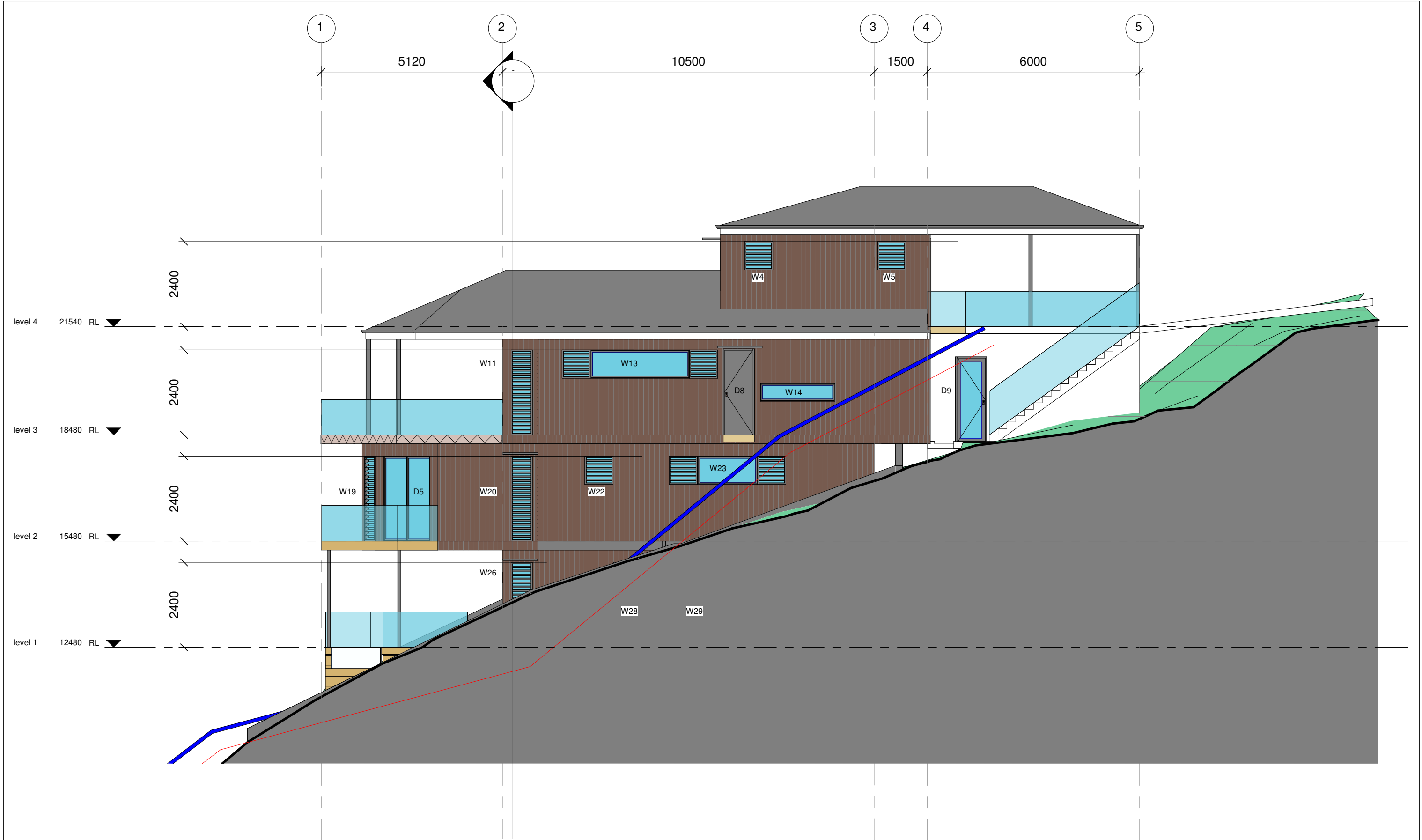
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						A3	2012 04



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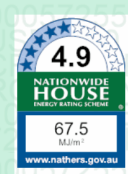


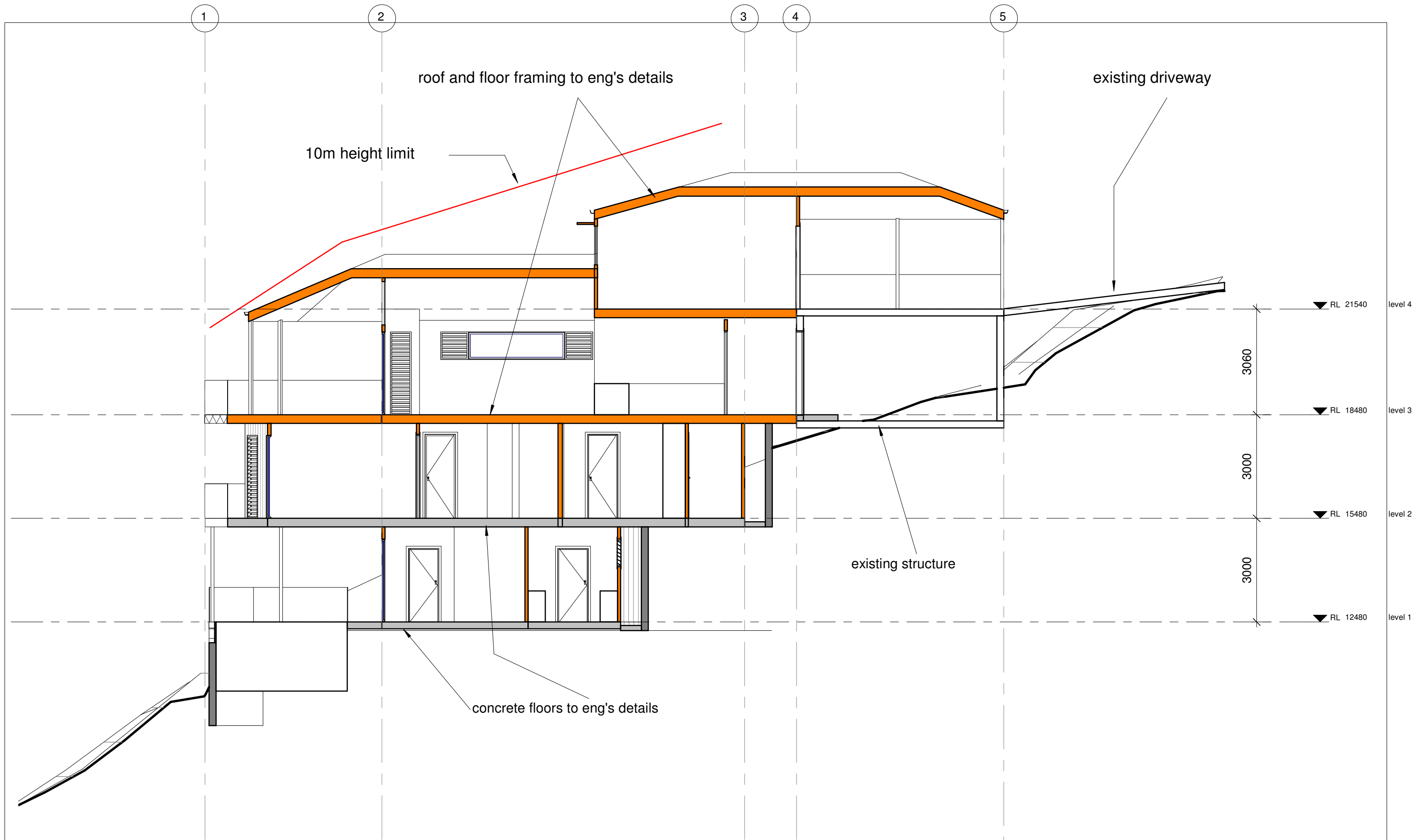
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				DRAWING north elevation		SCALE 1 : 100	DATE 02/09/21
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						A3	2012 06



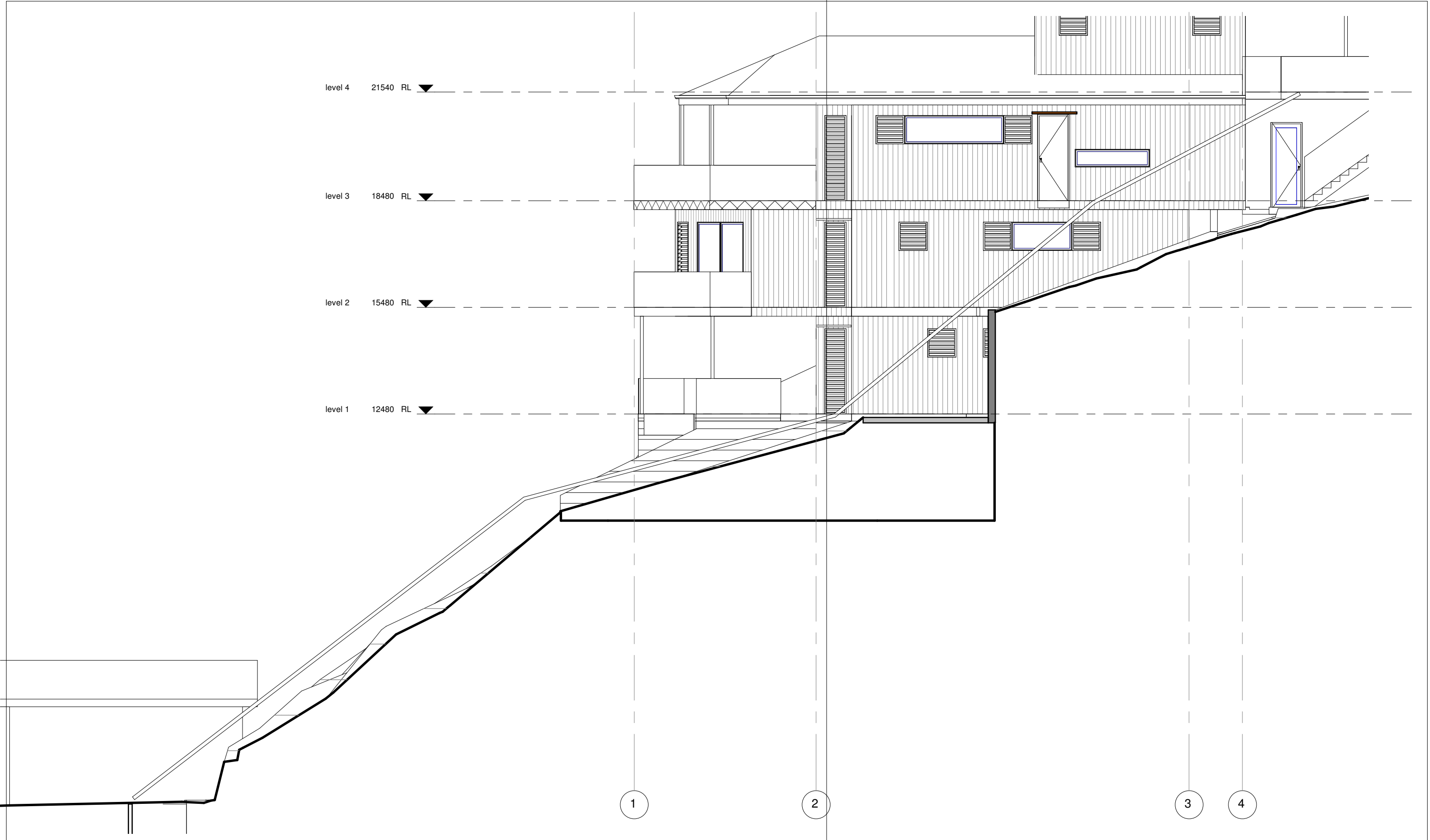
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			DRAWING south elevation		SCALE 1 : 100	DATE 02/09/21
					DRG. No.	
					A3 2012 07	



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			DRAWING east and west elevations		SCALE 1 : 100	DATE 02/09/21
					DRG. No.	
					A3	2012 08



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					A3 2012 09			



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			DRAWING incline lift elevation.		SCALE 1 : 100	DATE 02/09/21
					DRG. No.	
					A3	2012 10

WINDOW AND DOOR SCHEDULE					
Mark	Orientation	Width	Height	Glazed m2	Description
W1	N	3200	800	2.6	1 fixed, 1 louvre
W2	W	1700	1400	2.4	1 fixed
W3	W	1700	1400	2.4	1 fixed
W4	S	800	800	0.6	1 louvre
W5	S	800	800	0.6	1 louvre
W6	N	800	800	0.6	1 louvre - obs
W6A	N	1800	1200	2.2	2 awning
W6B	N	1200	600	0.7	2 panel slider
W7	N	3600	800	2.9	1 fixed, 2 louvre
W8	N	4400	800	3.5	1 fixed, 1 louvre
W9	W	600	2400	1.4	1 louvre
W10	N	600	2400	1.4	1 louvre
W11	S	600	2400	1.4	1 louvre
W12	W	860	2400	2.1	1 louvre
W13	S	4400	800	3.5	1 fixed, 2 louvre
W14	S	2100	500	1.1	1 fixed
W15	N	800	800	0.6	1 louvre - obs
W16	N	600	800	0.5	1 louvre - obs
W17	W	600	2400	1.4	1 louvre
W18	N	600	2400	1.4	1 louvre
W19	SW	600	2400	1.4	1 louvre
W20	S	600	2400	1.4	1 louvre
W21	W	600	2400	1.4	1 louvre
W22	S	800	800	0.6	1 louvre
W23	S	3300	800	2.6	1 fixed, 2 louvre
W24	W	600	2400	1.4	1 louvre
W25	N	600	2400	1.4	1 louvre
W26	S	600	2400	1.4	1 louvre
W27	W	600	2400	1.4	1 louvre
W28	S	800	800	0.6	1 louvre
W29	S	800	800	0.6	1 louvre
W30	E	800	800	0.6	1 louvre
W31	E	800	800	0.6	1 louvre
W32	W	3460	1650	5.7	1 fixed
W33	W	3460	1650	5.7	1 fixed
D1	E	1600	2400	3.8	2 panel glazed swing
D2	W	3460	2400	8.3	3 panel stacker
D3	W	3460	2400	8.3	3 panel stacker
D4	NW	3900	2400	9.4	3 panel stacker
D5	SW	2400	2400	5.8	3 panel stacker
D6	W	3300	2400	7.9	3 panel stacker
D7	W	3300	2400	7.9	3 panel stacker
D8	S	800	2400	1.9	solid swing
D9	S	800	2100	1.7	glazed single swing

115.8

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			Author	Checker
			SCALE	DATE
DRAWING	window and door schedule etc		DRG. No.	
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