

Assessment Number: **Assessment Date:** 19/08/2022 Drawing Details:

ENV220081 Client Name: Gladys Avenue, French Forest Pty Ltd Client Ref: 12-14 Gladys Avenue Frenchs Forest NKP Architecture, Lot 2 12-14 Gladys Avenue, Sheets 1 to 25

## **BASIX** Assessment

Project Details Result	Address: 12-14 Gladys Avenue, Frenchs Forest, NSW, 2086 Lot and Plan: Lot 2 Council: Northern Beaches Council NCC Climate Zone: 5 Project Description: New Dwelling Building Classification: 1a Complies with Building Sustainability Index subject to the minimum construction requirements					
Result		ASIX certificate attached:				
Construction Details and Minimum Requirements	External Walls: Insulation:	Hebel and blockwork R2.0 batts to cavity of hebel				
	Internal Walls: Insulation:	Plasterboard N/A				
	Floor: Insulation:	Suspended concrete slab, suspended timber and slab on ground N/A				
	Ceiling: Insulation:	Plasterboard R3.0 batts				
	Roof: Insulation:	Colorbond (Dune colour) Reflective foil				
	Glazing:	Specified glazing to achieve a maximum U-value of 5.4 and SHGC of 0.58 (+/-10%)				
		Note: NSW BASIX Thermal Comfort Protocol allows a +/- 10% tolerance of SHGC value which overrides the values shown on the NatHERS Certificate.				
	Ceiling Penetrations:	Sealed LED downlights and exhaust fans				
	Other:	Ceiling fans to all living rooms and bedrooms				
Assessor Details	Name: Conor Horwood Accreditation Number: DMN/16/1757					
	Signature:					

DISCLAIMER: The report and results above have been calculated using information made available to Enviiro as supplied on the referenced drawings. The report and subsequent results are specific to this data and shall become null and void if any variations are made. Unless information has been noted on the drawings, or advised in writing, the results and report reflect a worst case scenario whereby default values and assumptions have been applied.

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0007582984-03

Generated on 19 Aug 2022 using BERS Pro v4.4.1.5 (3.21)

### Property

Address

12-14 Gladys Avenue , Frenchs Forest , NSW , 2086

Lot/DP

Type

NCC Class\*

1A

New Dwelling

2/-

#### Plans

Main Plan Prepared by

Garage

12-14 Gladys Ave NKP Architecture

#### **Construction and environment**

Assessed floor area (m<sup>2</sup>)\* Conditioned\* 204.0 Unconditioned\* 19.0 Total 222.0

Open NatHERS climate zone

56

Exposure Type

## Accredited assessor

0.0

Name Business name Email Phone Accreditation No. Conor Horwood

Enviiro conor.horwood@enviiro.com.au 1300100368

#### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

DMN/16/1757

Declaration completed: no conflicts



## 61.3 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance

Heating	Со
41.4	19.
MJ/m <sup>2</sup>	MJ

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?



oling

 $/m^2$ 

p=VDFutgQej. 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? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### 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**

Dune roof colour	
Assessor Advice:	
> R2.0 wall batts to hebel	
> R3.0 ceiling batts	
> Sarking to colorbond roof	
> Specified glazing to achieve a maximum U-value of 5.4 and SHGC of 0.58 (+/10%)	
I have modeled the shading in accordance with NatHERS principles	

#### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-002-03 A	ALM-002-03 A Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	



Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	SHGC	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*
Living	ALM-002-03 A	n/a	2100	1700	n/a	90	Ν	No
Living	ALM-002-03 A	n/a	2100	700	n/a	00	Ν	No
Living	ALM-002-03 A	n/a	2100	700	n/a	00	Ν	No
Living	ALM-002-03 A	n/a	450	700	n/a	90	Ν	No
Living	ALM-002-03 A	n/a	450	1700	n/a	00	Ν	No
Living	ALM-002-03 A	n/a	600	700	n/a	90	Ν	No
Guest Bedroom	ALM-002-03 A	n/a	2100	1700	n/a	90	Ν	No
Guest Bedroom	ALM-002-03 A	n/a	600	1700	n/a	90	Ν	No
Bath	ALM-002-01 A	n/a	750	750	n/a	90	Ν	No
Bedroom 1	ALM-002-03 A	n/a	1600	1600	n/a	45	Ν	No
Bedroom 2	ALM-002-03 A	n/a	2550	1700	n/a	90	Ν	No
Stair Landing	ALM-002-03 A	n/a	2100	900	n/a	90	S	No
Stair Landing	ALM-002-03 A	n/a	450	900	n/a	90	S	No
Stair Landing	ALM-002-03 A	n/a	500	750	n/a	00	S	No
Bedroom 3	ALM-002-03 A	n/a	2550	1700	n/a	90	Ν	No
Master Bedroom	ALM-002-03 A	n/a	2550	1700	n/a	90	Ν	No
Bath	ALM-001-01 A	n/a	1200	750	n/a	60	S	No
Ldry	ALM-001-01 A	n/a	1200	750	n/a	90	S	No
Ens.	ALM-001-01 A	n/a	750	750	n/a	90	W	No
Ens	ALM-001-01 A	n/a	1200	750	n/a	60	E	No
Kitchen/Living	ALM-002-03 A	n/a	1600	750	n/a	20	S	No
Kitchen/Living	ALM-002-03 A	n/a	600	1200	n/a	90	S	No
Kitchen/Living	ALM-002-03 A	n/a	600	1200	n/a	90	S	No
Kitchen/Living	ALM-002-03 A	n/a	1600	750	n/a	00	S	No
Kitchen/Living	ALM-002-03 A	n/a	1600	1600	n/a	40	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	2100	4100	n/a	60	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	2100	4100	n/a	60	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	450	1000	n/a	90	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	450	1000	n/a	90	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	450	2000	n/a	00	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	450	1000	n/a	90	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	450	1000	n/a	90	Ν	No
Kitchen/Living	ALM-002-03 A	n/a	450	2000	n/a	00	Ν	No

#### 0007582984-03 NatHERS Certificate

#### 5.3 Star Rating as of 19 Aug 2022



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-03 A	n/a	1600	750	n/a	20	E	No
Kitchen/Living	ALM-002-01 A	n/a	450	900	n/a	90	E	No
Kitchen/Living	ALM-002-01 A	n/a	2600	450	n/a	00	E	No
Study	ALM-002-03 A	n/a	1600	750	n/a	30	Ν	No
Bath	ALM-001-01 A	n/a	750	750	n/a	90	W	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SUCC*	Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availat	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*		SHGC lower limit	SHGC upper limit	
No Data Availat	ble					

#### Roof window schedule

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

#### Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Ava	ailable							

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2100	900	90	E



## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Concrete block, lined	0.50	Medium	No insulation	No
EW-2	Concrete block, lined	0.50	Medium	No insulation	No
EW-3	AAC Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living	EW-1	2700	5090	S	25	NO
Living	EW-1	2700	5090	Ν	900	NO
Guest Bedroom	EW-1	2700	4195	S	50	NO
Guest Bedroom	EW-1	2700	3100	W	50	NO
Guest Bedroom	EW-1	2700	4195	Ν	900	NO
Bath	EW-1	2700	1545	S	0	NO
Bath	EW-2	2700	1545	Ν	900	NO
Bath	EW-1	2900	3100	E	50	NO
Bedroom 1	EW-3	2700	4095	W	0	NO
Bedroom 1	EW-3	2700	4295	Ν	0	NO
Bedroom 2	EW-3	2700	3640	Ν	1500	NO
Stair Landing	EW-3	2700	5990	S	50	NO
Bedroom 3	EW-3	2700	3840	Ν	1500	NO
Master Bedroom	EW-3	2700	4495	Ν	1500	NO
Master Bedroom	EW-3	2700	4095	E	50	NO
Bath	EW-3	2700	3540	S	50	NO
Ldry	EW-3	2700	1740	S	50	NO
Ens.	EW-3	2700	1395	S	50	NO
Ens.	EW-3	2700	2495	W	0	NO
WIR	EW-3	2700	1740	S	50	NO
Ens	EW-3	2700	1845	S	50	NO
Ens	EW-3	2700	2495	E	50	NO
Kitchen/Living	EW-3	2900	14595	S	0	NO
Kitchen/Living	EW-3	2900	990	W	0	NO
Kitchen/Living	EW-3	2900	2795	Ν	800	NO
Kitchen/Living	EW-3	2900	1550	E	11100	YES
Kitchen/Living	EW-3	2900	11100	Ν	1050	YES
Kitchen/Living	EW-3	2900	5050	E	50	NO
Study	EW-3	2900	3095	W	0	NO
Study	EW-3	2900	2395	Ν	800	NO

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5.3 Star Rating as of 19 Aug 2022



Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bath	EW-3	2900	1695	S	0	NO
Bath	EW-3	2900	2495	W	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap	vity wall, direct fix plasterboard, single gap 163.00 No insula		No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Living	Suspended Concrete Slab 150mm	15.50 Enclosed	No Insulation	Carpet+Rubber Underlay 18mm
Guest Bedroom	Suspended Concrete Slab 150mm	12.90 Enclosed	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Suspended Concrete Slab 150mm	4.70 Enclosed	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Suspended Concrete Slab 150mm	17.30 Enclosed	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Suspended Concrete Slab 150mm	14.40 Enclosed	No Insulation	Carpet+Rubber Underlay 18mm
Stair Landing	Concrete Slab on Ground 100mm	17.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 3	Suspended Concrete Slab 150mm	15.20 Enclosed	No Insulation	Carpet+Rubber Underlay 18mm
Master Bedroom	Suspended Concrete Slab 150mm	18.10 Enclosed	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 100mm	5.70 None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab on Ground 100mm	4.10 None	No Insulation	Ceramic Tiles 8mm
Ens.	Concrete Slab on Ground 100mm	3.30 None	No Insulation	Ceramic Tiles 8mm
WIR	Concrete Slab on Ground 100mm	4.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab on Ground 100mm	4.40 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Bedroom 1	Timber Above Plasterboard 150mm	10.10	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Bedroom 2	Timber Above Plasterboard 150mm	10.60	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Stair Landing	Timber Above Plasterboard 150mm	17.70	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Bedroom 3	Timber Above Plasterboard 150mm	9.80	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Master Bedroom	Timber Above Plasterboard 150mm	11.40	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Bath	Timber Above Plasterboard 150mm	6.00	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Ldry	Timber Above Plasterboard 150mm	3.60	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /WIR	Timber Above Plasterboard 150mm	4.40	No Insulation	Ceramic Tiles 8mm
Kitchen/Living /Ens	Timber Above Plasterboard 150mm	4.60	No Insulation	Ceramic Tiles 8mm
Study/Bedroom 1	Timber Above Plasterboard 150mm	7.20	No Insulation	Ceramic Tiles 8mm



Location	Construction	Area Sub-floor (m) ventilatio	r Added insulation on (R-value)	<sup>1</sup> Covering
Bath/Ldry	Timber Above Plasterboard 150mm	0.70	No Insulation	Ceramic Tiles 8mm
Bath/Ens.	Timber Above Plasterboard 150mm	3.30	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Living	Plasterboard	Bulk Insulation R3	No
Guest Bedroom	Plasterboard	Bulk Insulation R3	No
Bath	Plasterboard	Bulk Insulation R3	No
Bedroom 1	Timber Above Plasterboard	No Insulation	No
Bedroom 2	Plasterboard	Bulk Insulation R3	No
Bedroom 2	Timber Above Plasterboard	No Insulation	No
Stair Landing	Timber Above Plasterboard	No Insulation	No
Bedroom 3	Plasterboard	Bulk Insulation R3	No
Bedroom 3	Timber Above Plasterboard	No Insulation	No
Master Bedroom	Plasterboard	Bulk Insulation R3	No
Master Bedroom	Timber Above Plasterboard	No Insulation	No
Bath	Timber Above Plasterboard	No Insulation	No
Ldry	Timber Above Plasterboard	No Insulation	No
Ens.	Timber Above Plasterboard	No Insulation	No
WIR	Timber Above Plasterboard	No Insulation	No
Ens	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Plasterboard	Bulk Insulation R3	No
Study	Plasterboard	Bulk Insulation R3	No
Bath	Plasterboard	Bulk Insulation R3	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Living	4	Downlights - LED	100	Sealed
Guest Bedroom	4	Downlights - LED	100	Sealed
Bath	2	Downlights - LED	100	Sealed
Bath	1	Exhaust Fans	300	Sealed
Bedroom 1	4	Downlights - LED	100	Sealed
Bedroom 2	4	Downlights - LED	100	Sealed
Stair Landing	4	Downlights - LED	150	Sealed
Bedroom 3	4	Downlights - LED	100	Sealed
Master Bedroom	4	Downlights - LED	100	Sealed



Location	Quantity	Туре	Diameter (mm)	Sealed/unsealed
Ldry	1	Downlights - LED	100	Sealed
Ens.	1	Downlights - LED	100	Sealed
Ens.	1	Exhaust Fans	300	Sealed
WIR	2	Downlights - LED	100	Sealed
Ens	1	Downlights - LED	100	Sealed
Kitchen/Living	10	Downlights - LED	100	Sealed

## **Ceiling** fans

Location	Quantity	Diameter (mm)
Living	1	1200
Guest Bedroom	1	1200
Bedroom 1	1	1200
Bedroom 2	1	1200
Bedroom 3	1	1200
Master Bedroom	1	1200
Kitchen/Living	1	1200
Study	1	1200

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Concrete	No Insulation, Only an Air Gap	0.50	Medium
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium
Corrugated Iron	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.47	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 softw are 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.
Account 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
Assessed floor area	design documents.
Colling popotrotions	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Ceiling penetrations	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
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmand with scattered
Exposure category – open	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 10 m.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also know n 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
Rooi Willdow	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 hast goin coofficiant (SUCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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.
Vortical chading fosturas	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# **BASIX**<sup>°</sup>Certificate

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

## Single Dwelling

Certificate number: 1298296S\_04

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: Friday, 19 August 2022 To be valid, this certificate must be lodged within 3 months of the date of issue.



Planning, Industry & Environment

Project summary					
Project name	ame ENV220081- Lot 2_04				
Street address	12-14 Gladys Avenue Frenchs Forest 2086				
Local Government Area	Northern Beaches Council				
Plan type and plan number	deposited -				
Lot no.	2				
Section no.	-				
Project type	separate dwelling house				
No. of bedrooms	5				
Project score					
Water	V 47 Target 40				
Thermal Comfort	V Pass Target Pass				
Energy	V 51 Target 50				

Name / Company Name: Enviiro Pty Ltd

ABN (if applicable): 641734830

## **Description of project**

#### Project address

ENV220081- Lot 2_04
12-14 Gladys Avenue Frenchs Forest 2086
Northern Beaches Council
Deposited Plan -
2
-
separate dwelling house
5
1498
214
208.0
19.5
100

Assessor details and thermal loads						
Assessor number	DMN/16/1757					
Certificate number	0007582984-03					
Climate zone	56					
Area adjusted cooling load (MJ/m <sup>2</sup> .year)	20					
Area adjusted heating load (MJ/m <sup>2</sup> .year)	41					
Ceiling fan in at least one bedroom	Yes					
Ceiling fan in at least one living room or other conditioned area	Yes					
Project score						
Water	V 47 Target 40					
Thermal Comfort	V Pass Target Pass					
Energy	V 51 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 CC/CDC plans & specs	Certifier check	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 7.5 but <= 9 L/min) in all showers in the development.		~	~
The applicant must install a toilet flushing system with a minimum rating of 3 star in each toilet in the development.		~	~
The applicant must install taps with a minimum rating of 3 star in the kitchen in the development.		~	
The applicant must install basin taps with a minimum rating of 3 star in each bathroom in the development.		~	
Alternative water			-
Rainwater tank			
The applicant must install a rainwater tank of at least 10000 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 80 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		<ul> <li>Image: A second s</li></ul>	~
<ul> <li>the cold water tap that supplies each clothes washer in the development</li> </ul>		<b>~</b>	~
• at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human			

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.	~	<b>_</b>	~

Floor and wall construction	Area
floor - concrete slab on ground	41.0 square metres
floor - suspended floor/open subfloor	100.0 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: electric heat pump with a performance of 26 to 30 STCs or better.	~	~	~
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 3.0 - 3.5		<b>~</b>	~
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 3.0 - 3.5		<b>v</b>	~
The cooling system must provide for day/night zoning between living areas and bedrooms.		<b>v</b>	~
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		<b>~</b>	~
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		<b>~</b>	~
The heating system must provide for day/night zoning between living areas and bedrooms.		<b>~</b>	~
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: natural ventilation only, or no laundry; Operation control: n/a		<b>v</b>	~
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:			
<ul> <li>at least 6 of the bedrooms / study; dedicated</li> </ul>		<b>~</b>	~

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
at least 3 of the living / dining rooms; dedicated		<b>~</b>	~
the kitchen; dedicated		<b>v</b>	~
all bathrooms/toilets; dedicated		<b>v</b>	~
the laundry; dedicated		<b>v</b>	~
all hallways; dedicated		<b>v</b>	~
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 5 bathroom(s)/toilet(s) in the development for natural lighting.	~	~	~
Other			
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.		~	
The applicant must install a fixed outdoor clothes drying line as part of the development.		<b>_</b>	

#### Legend

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

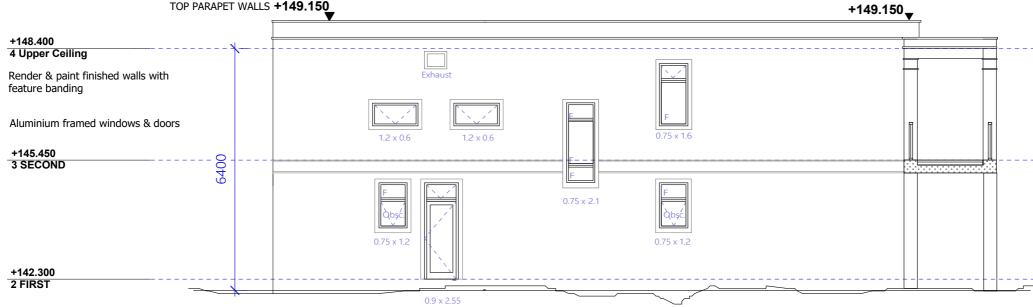
Commitments identified with a vi in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).

Commitments identified with a vi 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 vi 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.



**FRENCHS FOREST NSW 2030** 



#### LOT 2 - SOUTH ELEVATION

ARCHITECTURE

W: nkparchitecture.com.au



without prior consultation with the designer or enginee

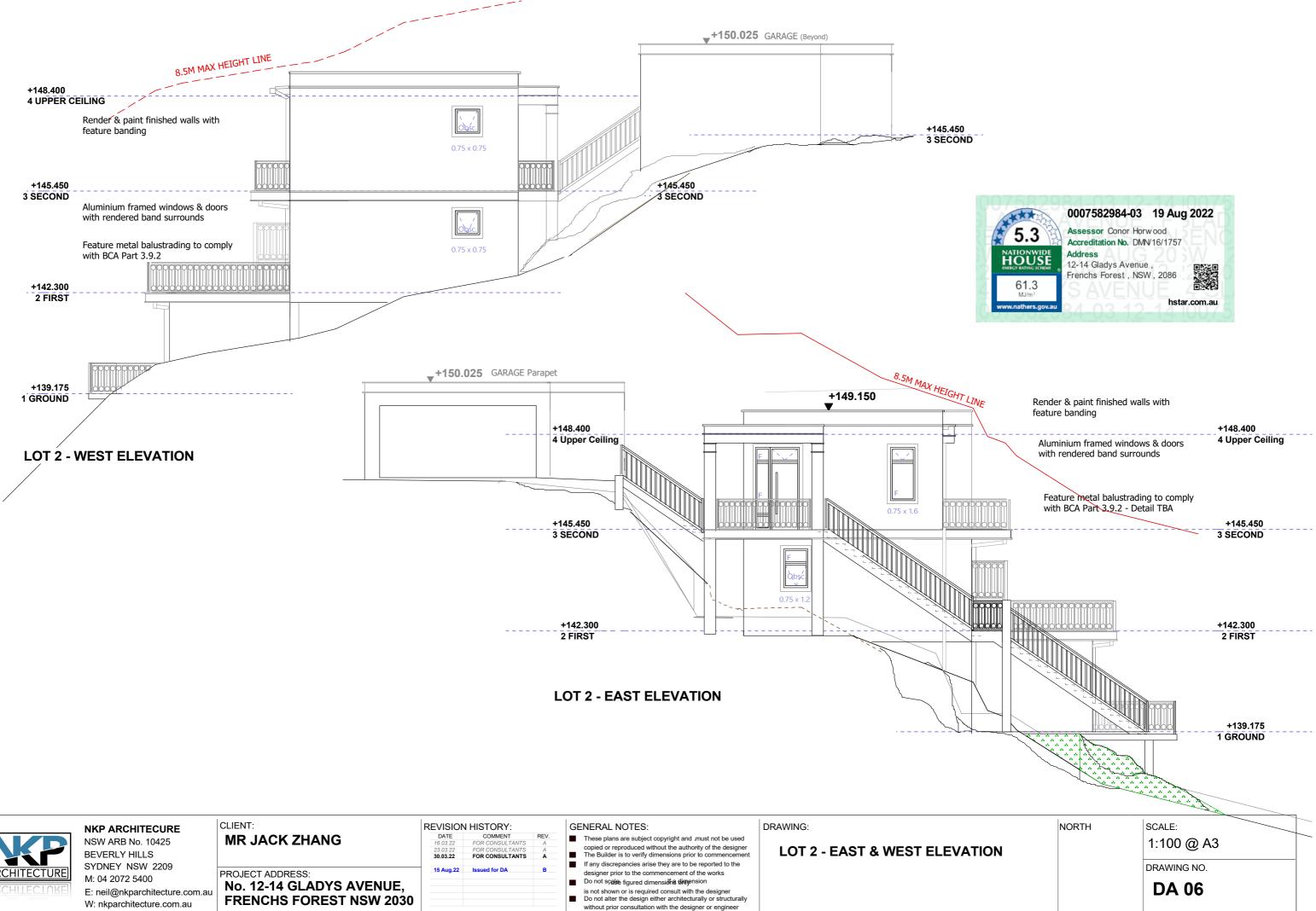


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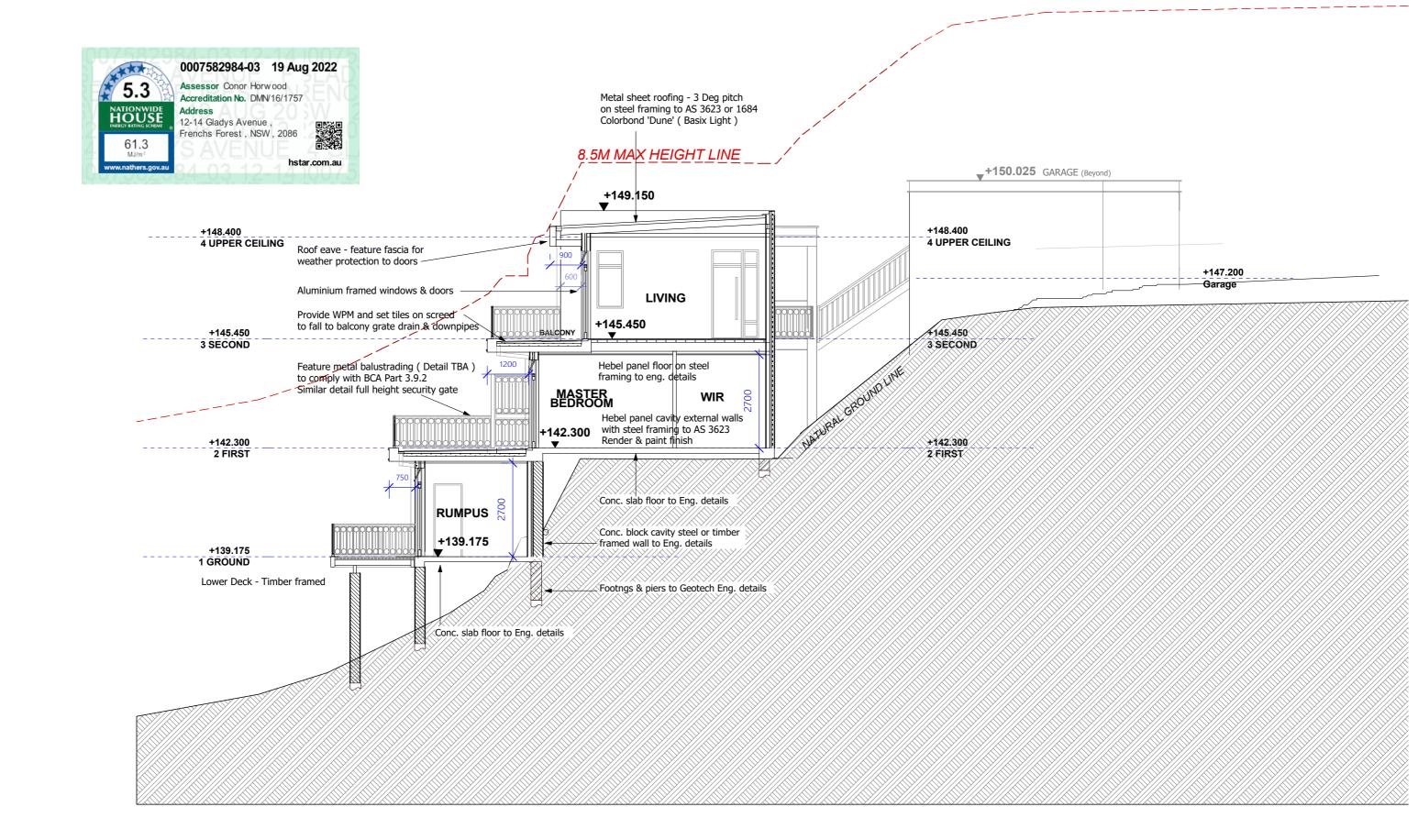
+145.450 3 SECOND

+142.300 \_ \_ \_ \_ \_ \_ 2 FIRST

PARAPET WALLS	Metal sheet roofing - 3 Deg pitch on timber framing to AS 1684						
	+148.400 4 Upper Ceiling						
	Render & paint fin feature banding	ished walls with					
	+145.450 3 SECOND Aluminium framed Feature metal bala with BCA Part 3.9. +142.300 2 FIRST	ustrading to comply					
	+139.125 1 GROUND						
EVATION	NORTH	SCALE: 1:100 @ A3 DRAWING NO.					
		DA 07					

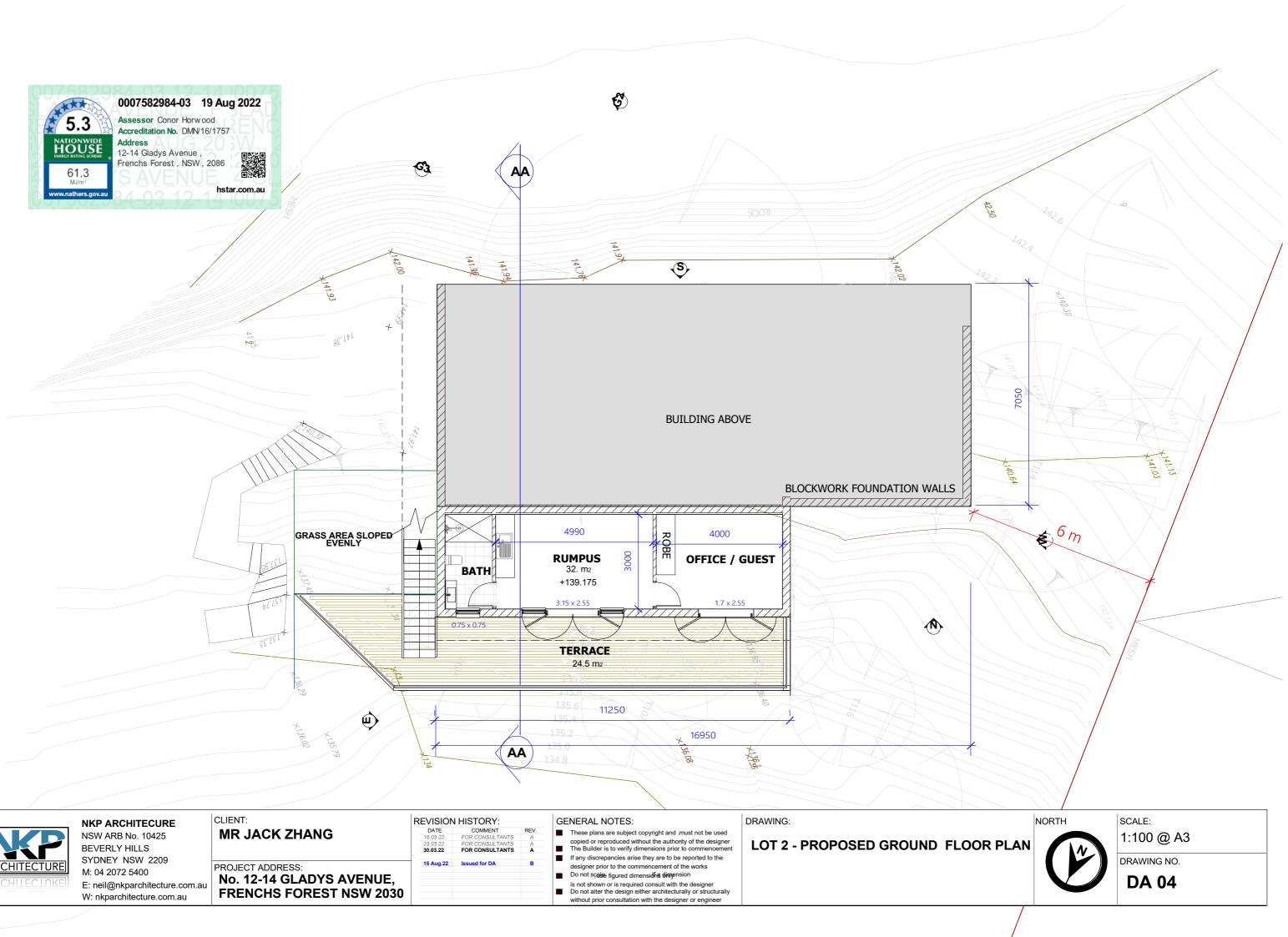


	NKP ARCHITECURE NSW ARB No. 10425 BEVERLY HILLS SYDNEY NSW 2209	CLIENT: MR JACK ZHANG	DATE 16.03.22 23.03.22 <b>30.03.22</b>	N HISTORY: COMMENT FOR CONSULTANTS FOR CONSULTANTS FOR CONSULTANTS Issued for DA	GENERAL NOTES: These plans are subject copyright and ,must not be used copied or reproduced without the authority of the designer The Builder is to verify dimensions prior to commencement If any discrepancies arise they are to be reported to the designer prior to the commencement of the works
ARCHITECTORE	M: 04 2072 5400 E: neil@nkparchitecture.com.au W: nkparchitecture.com.au	PROJECT ADDRESS: No. 12-14 GLADYS AVENUE, FRENCHS FOREST NSW 2030		ISSUED FOR DA	designer prior to the commencement of the works         Do not sç@le figured dimensidhe @impension         is not shown or is required consult with the designer         Do not alter the design either architecturally or structurally         without prior consultation with the designer or engineer

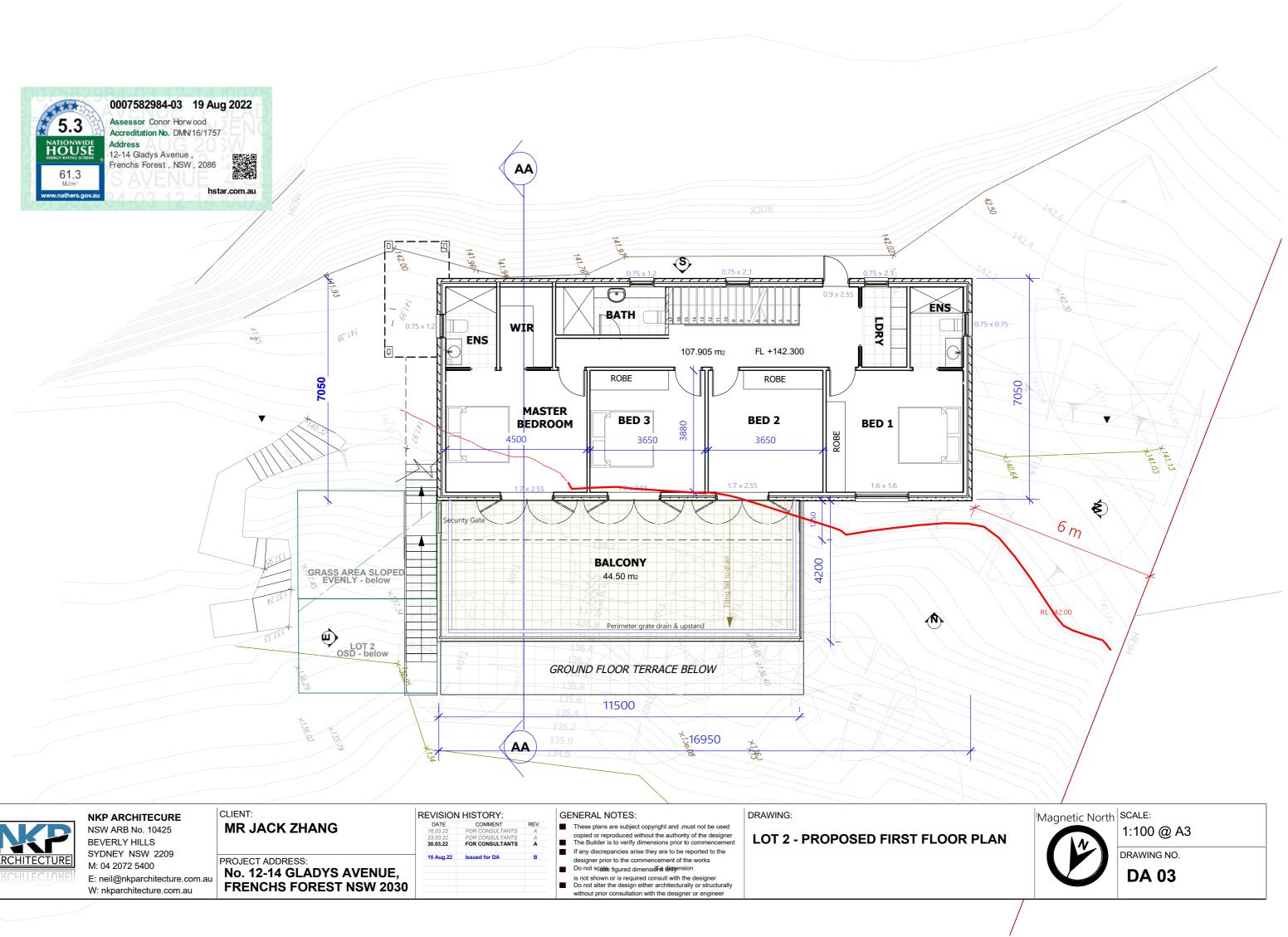


NKP ARCHITECURE NSW ARB No. 10425 BEVERLY HILLS SYDNEY NSW 2209 M: 04 2072 5400 E: neil@nkparchitecture.com.au	CLIENT: MR JACK ZHANG PROJECT ADDRESS: No. 12-14 GLADYS AVENUE,	DATE 16.03.22 23.03.22 30.03.22 15 Aug.22 15 Aug.22	N HISTORY: COMMENT FOR CONSULTANTS FOR CONSULTANTS Consultant check - DA Issued for DA	A	GENERAL NOTES: These plans are subject copyright and must not be used copied or reproduced without the authority of the designer The Builder is to verify dimensions prior to commencement If any discrepancies arise they are to be reported to the designer prior to the commencement of the works Do not sçabe figured dimension is not shown or is required consult with the designer	DRAWING:
W: nkparchitecture.com.au	FRENCHS FOREST NSW 2030				Do not alter the design either architecturally or structurally without prior consultation with the designer or engineer	

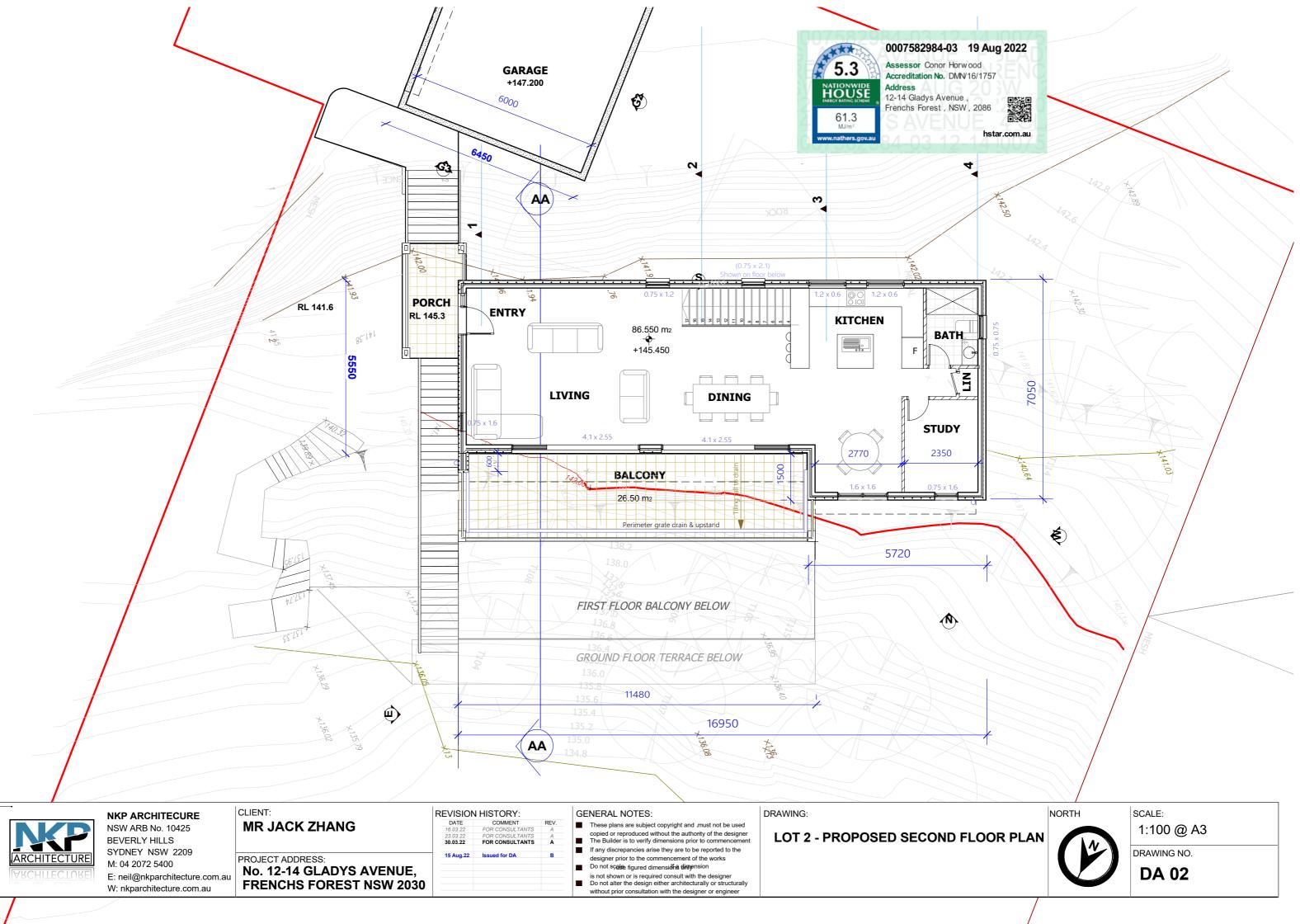
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N A-A	DRAWING NO.
	1:100 @ A3
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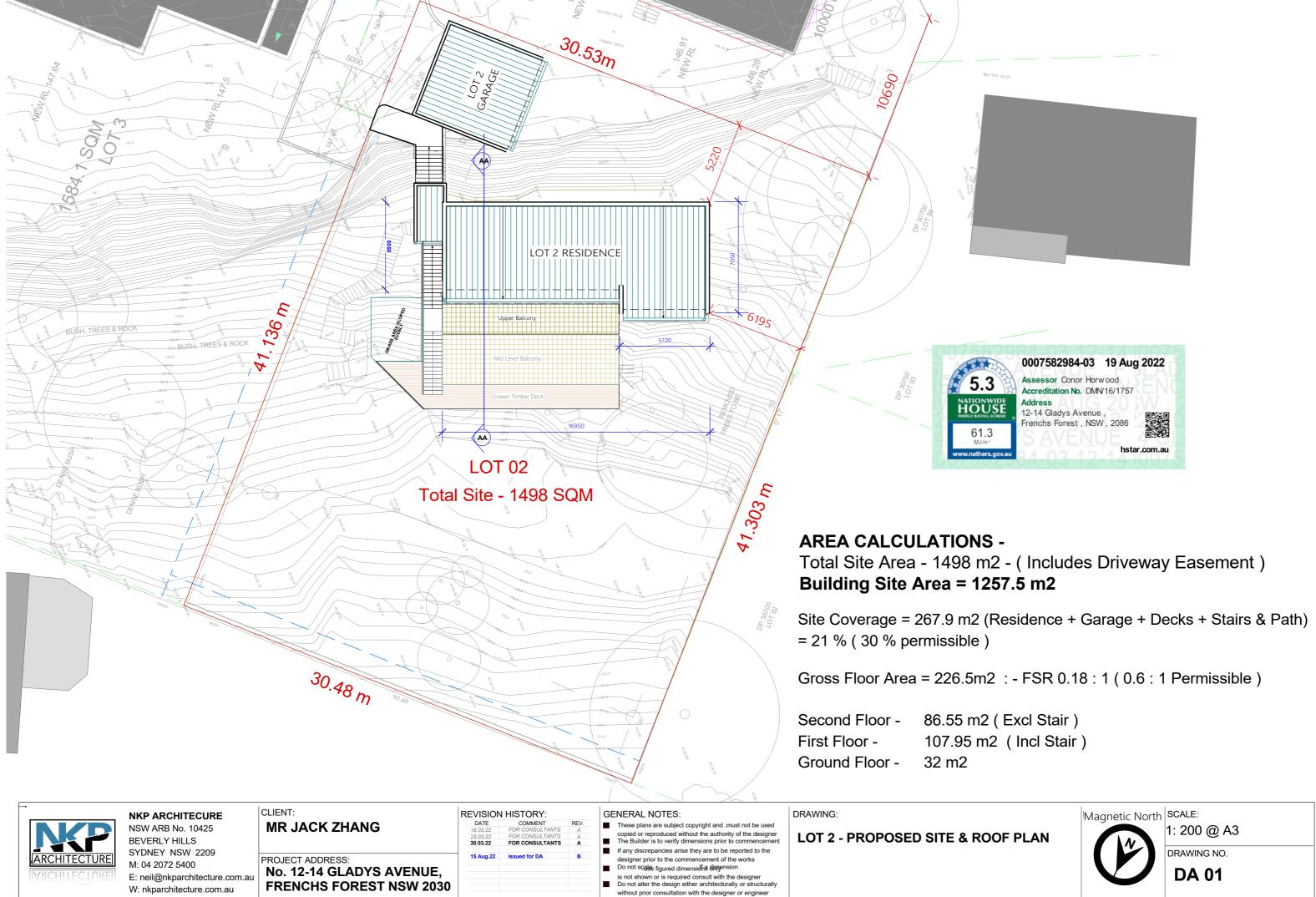
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	SYDNEY NSW 2209 M: 04 2072 5400 E: neil@nkparchitecture.com.au W: nkparchitecture.com.au	PROJECT ADDRESS: No. 12-14 GLADYS AVENUE, FRENCHS FOREST NSW 2030	15 Aug.22		В	If any discrepancies arise they are to be reported to the designer prior to the commencement of the works Do not scales figured dimension is not shown or is required consult with the designer Do not alter the design either architecturally or structurally without prior consultation with the designer or engineer			



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		BEVERLY HILLS		23.03.22	FOR CONSULTANTS		copied or reproduced without the authority of the designer	LOT 2 - PROPOSED FIRST FL	OOF
				30.03.22	FOR CONSULTANTS	Α	<ul> <li>The Builder is to verify dimensions prior to commencement</li> <li>If any discrepancies arise they are to be reported to the</li> </ul>		
	ARCHITECTURE	SYDNEY NSW 2209	PROJECT ADDRESS:	15 Aug.22	Issued for DA	в	designer prior to the commencement of the works		
-	ARCHITECTORE	M: 04 2072 5400					<ul> <li>Do not scale figured dimension</li> </ul>		
	ARCHITECTURE	E: neil@nkparchitecture.com.au	No. 12-14 GLADYS AVENUE,				is not shown or is required consult with the designer		
-		W: nkparchitecture.com.au	FRENCHS FOREST NSW 2030				Do not alter the design either architecturally or structurally		
L		w. nkparchitecture.com.au					without prior consultation with the designer or engineer		



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		NKP ARCHITECURE	CLIENT:	REVISION	N HISTORY:		GENERAL NOTES:	DRAWING:
		NSW ARB No. 10425	MR JACK ZHANG	DATE 16.03.22	COMMENT FOR CONSULTANTS	REV.	These plans are subject copyright and ,must not be used	
		BEVERLY HILLS		23.03.22 30.03.22	FOR CONSULTANTS		copied or reproduced without the authority of the designer The Builder is to verify dimensions prior to commencement	LOT 2 - PROPOSED SECOND FL
	ARCHITECTURE	SYDNEY NSW 2209	PROJECT ADDRESS:	15 Aug.22		в	If any discrepancies arise they are to be reported to the designer prior to the commencement of the works	
	AKCHITECTORE	M: 04 2072 5400	No. 12-14 GLADYS AVENUE,				Do not scale figured dimension is not shown or is required consult with the designer	
	VBCHILLCTHDL	E: neil@nkparchitecture.com.au W: nkparchitecture.com.au	FRENCHS FOREST NSW 2030				Do not alter the design either architecturally or structurally without prior consultation with the designer or engineer	
-	1							



RM



LOT 2 - PROPOSED FINISHES - DARK EARTH COLOURS

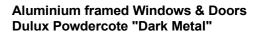


NKP	NKP ARCHITECURE NSW ARB No. 10425 BEVERLY HILLS	CLIENT: MR JACK ZHANG	REVISIO DATE 16.03.22 23.03.22 30.03.22	N HISTORY: COMMENT FOR CONSULTANTS FOR CONSULTANTS FOR CONSULTANTS	Α	GENERAL NOTES:       DRAWING:         These plans are subject copyright and must not be used copied or reproduced without the authority of the designer       DRAWING:         The Builder is to verify dimensions prior to commencement       LOT 2 - PROPOSED COLOURS
ARCHITECTURE	SYDNEY NSW 2209 M: 04 2072 5400 E: neil@nkparchitecture.com.au W: nkparchitecture.com.au	PROJECT ADDRESS: No. 12-14 GLADYS AVENUE, FRENCHS FOREST NSW 2030				<ul> <li>If any discrepancies arise they are to be reported to the designer prior to the commencement of the works</li> <li>Do not scyle figured dimension is not shown or is required consult with the designer</li> <li>Do not alter the design either architecturally or structurally without prior consultation with the designer or engineer</li> </ul>

Roof Sheet Metal ( 3 Deg Pitch ) Dulux Colorbond "Dune"

External Walls Rendered Hebel panel with paint finish Paint downpipes to match wall Dulux "Water Rock"

Garage & Front Door Dulux Colorbond "Wallaby"



Feature wrought iron balustrades Dulux Powdercote "Dark Metal"

	Schedule
	DRAWING NO. Colours & Finishes
& FINISHES	SCALE: 1:100 @ A3