

IGS INTEGRATED GROUP SERVICES



38 Undercliff Rd, Freshwater NSW

BASIX Assessment Report

18th December 2024



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1. EXECUTIVE SUMMARY

IGS has been commissioned to assess the interaction of the residential area of the proposed development at 38 Undercliff Rd, Freshwater NSW, with the local environment in terms of BASIX compliance.

A BASIX Certificate is a regulatory requirement and demonstrates compliance with the NSW Government's sustainability targets. BASIX assessment and certification has been completed for this project (Certificate No 1768406M_02).

Dwellings within the development have been assessed in terms of their passive energy design using the BASIX Thermal Comfort protocol. They have also been assessed in terms of their ability to conserve water and also to minimise energy consumption via appliances and hot water etc.

With the recommendations provided in the BASIX certificate, the development meets and exceeds the minimum requirements for all the following areas.

- Water Efficiency
- Energy Efficiency
- Thermal Comfort

This development achieves the following targets:

- Water Efficiency: 44% reduction (minimum requirements under BASIX: 40%)
- Energy Efficiency: 78% reduction (minimum requirements under BASIX: 72%)
- Thermal Comfort: Will pass the minimum thermal performance requirements under BASIX.



2. INTRODUCTION

BASIX is an NSW State Planning Policy Tool which assesses the environmental performance of new residential premises against a range water, energy and greenhouse gas emissions targets. The assessment has three core components, BASIX Thermal Comfort, BASIX Water and BASIX Energy.

The thermal comfort assessment requires that the thermal performance of dwellings is evaluated and measures put in place to ensure annual heating and cooling loads do not exceed pre-defined limits without compromising the occupant's thermal comfort. This assessment uses computer simulation to evaluate the estimated building fabric thermal performance and passive solar design features such as orientation and solar shading.

The energy section evaluates gas and electrical energy used for heating, cooling lighting, ventilation and appliances. The BASIX Energy target requires the development to use 72% less energy than the NSW average.

The water assessment takes account of landscaping, stormwater management as well as water efficiency performance of fixtures and fitting such as taps and showers. The BASIX target for water requires that potable water consumption is at least 40% lower than the NSW average.

Note: this report is only a guide to the BASIX certificate, for full details of BASIX requirements please refer to the BASIX certificate.



3. BUILDING DESCRIPTION

The proposed development will be located at 38 Undercliff Rd, Freshwater NSW.

3.1 Information Used in Review

Our review is based on the following architectural drawings by MHNDUNION Architects (Table 1).

Table 1. Architectural drawings list.

Drawing title	Drawing number
Site Analysis Plan	DA1001
Site, Waste Management & Roof Plan	DA1002
Demolition Plan	DA1003
Draft Strata Subdivision Plan	DA1004
Garage Plan	DA2000
Ground Floor Plan	DA2001
Level 1 Floor Plan	DA2002
Level 2 Floor Plan	DA2003
Roof Plan	DA2004
North Elevation	DA3000
South Elevation	DA3001
West Elevation	DA3002
East Elevation	DA3003
Cross Section 1	DA4000
Cross Section 2	DA4001
Cross Section 3	DA4002
Long Section A	DA4010
Long Section B	DA4011



4. BASIX WATER SECTION

The water efficiency performance of the development has been assessed using the online BASIX Tool. The assessment has considered the common area and central system features including the landscape design, plant species, water catchment areas, rain water tank size and efficiency of preferred fixtures and fittings in the dwellings.

The proposed development will meet the mandatory BASIX water target of 40% as long as the water commitments detailed in Table 2 are installed. For details of the requirements necessary to achieve this target, please refer to the BASIX Certificate No. 1768406M_02.

Table 2. Water Commitments.

Common Areas a	Common Areas and Central Systems			
Common areas	 No common showerhead facility. No common toilet facility. No common taps facility. No common clothes washer facility. 			
Private Dwellings	Private Dwellings			
Fixtures	 3-star (Water Rating) showerheads with a flow rate > 7.5 but <= 9 L/min. 4-star (Water Rating) toilets. 5-star (Water Rating) kitchen taps. 5-star (Water Rating) bathroom taps. 			
Pool	 Lot 1: Outdoor swimming pool with the volume of 9.3kL, with no cover and no shading. Lot 2: Outdoor swimming pool with the volume of 8.2kL, with no cover and no shading. 			
Alternative water supply	 Rainwater tank for each house, with capacity of minimum 2,500L (minimum), collecting run-off from minimum 115m² of roof area, with 10m² planter box area, connected to private landscape, Laundry and swimming pools. 			



5. BASIX THERMAL COMFORT SECTION

The preliminary thermal performance of the development has been evaluated using FirstRate5 software; this computer simulation of residential developments is used to assess the potential of a residential development to have low heating and cooling energy requirements once operational.

5.1 Modelling Assumptions

FirstRate5 software calculates the transient hourly heat gains and losses for each space inside a building taking into account the building's thermal storage, typical residential occupancy and operational profiles plus hourly weather data for the site.

Building geometry and orientation were modelled according to supplied drawings.

The "base-case" building fabric and estimated glazing and thermal performance requirements are described in Table 3 below. Please note the estimated requirements below are based on the nominated construction materials by the architect.

Table 3. Building Fabric Requirements.

Element	Insulation/glazing				
External walls	Minimum added R2.2 insulation.				
Internal walls	 Party walls between units: Minimum added R1.0 insulation. Any other Walls: Stud, plasterboard with no added insulation. 				
Floor	 Where unconditioned area below: Suspended Concrete Slab Floor with minimum added R2.0 thermal insulation. All other Units: Concrete Slab with no added insulation. 				
Ceiling	Where unconditioned area above: • Concrete slab with added R4.0 thermal insulation.				
Roof	Concrete with no added insulation (ceiling insulation).				
Ceiling Penetration	 Sealed LED downlights and exhaust fans. 1200mm diameter ceiling fan for living area and bedrooms. 				
Glazing	Maximum total system U-Value of 3.1 and SHGC of 0.27 ±5%.				
Skylight	Maximum total system U-Value of 4.22 and SHGC of 0.72 ±5%.				



Note:

The preliminary thermal insulation and glazing performance requirements outlined in this report nominate the estimated minimum BASIX requirements only. The specified performance values therefore do not consider requirements for any other disciplines such as Acoustics, Fire or Safety compliance. Where required, the development shall comply with any additional requirements related to the local council or other design disciplines in addition to the compliance requirements detailed in this report.

Compliance with the minimum BASIX requirements does not warrant thermal comfort. All services consultants and contractors shall design and construct the development to comply with the minimum requirements of the NCC Vol 1 & 2 and NSW Section J requirements.



6. BASIX ENERGY SECTION

The Energy performance of the development has been assessed using the online BASIX Tool. The assessment has considered Common Area and Central System features including the lifts, ventilation and lighting for common areas (corridors, lobbies, car park etc.), centralised domestic hot water and the efficiency of preferred lighting and appliances in the dwellings. The proposed development will meet the mandatory BASIX Energy target of 72% as long as the energy commitments detailed in Table 4 are installed.

Table 4. Energy Commitments.

Comp	ponent	Commitment
	Ventilation	Carpark: no mechanical ventilation.Plant or service rooms: ventilation supply only.
	Lighting	 Carpark: LED lighting with motion sensors. Plant or service rooms: LED lighting with manual on / manual off.
	Ventilation	 Bathroom Exhaust: Individual fan, ducted to façade or roof, interlocked to light with timer off. Kitchen Exhaust: Individual fan, ducted to façade or roof, manual on/off switch. Laundry Exhaust: Individual fan, ducted to façade or roof, interlocked to light.
lings	Alternative Energy Supply	 2.3kW for each house. Panels tilt between >0° to <=10° degree to the horizontal. North-east aspect.
Dwe	Hot water	5.5-star gas instantaneous.
Private Dwellings	Pool heating	 Electric heat pump to be controlled by timer. Not specified pool pump type.
	Heating & Cooling to living and bedroom areas	 Heating: 3-phase air-conditioning / EER 3.0 – 3.5. Cooling: 3-phase air-conditioning / EER 3.0 – 3.5.
	Appliances	 Induction cooktops and electric ovens. Indoor clothes drying line. Outdoor clothes drying line.

7. DISCLAIMER

This report is prepared using the information described above and inputs from other consultants. Whilst IGS has endeavoured to ensure the information used is accurate, no responsibility or liability to any third party is accepted for any loss or damage arising out of the use of this report by any third party. Any third party wishing to act upon any material contained in this report should first contact IGS for detailed advice which will take into account that party's particular requirements.

Computer performance assessment provides an estimate of building performance. This estimate is based on a necessarily simplified and idealised version of the building that does not and cannot fully represent all the intricacies of the building once built. As a result, simulation results only represent an interpretation of the potential performance of the building. Although great care has been taken to prepare this report, IGS does not make any representations or give any warranties or assurances as to the accuracy or completeness of the information contained in the report or that the report is free from errors or omissions. IGS and its employees and agents shall not be liable for any loss arising because of, any person using or relying on the



report and whether caused by reason or error, negligent act or omission in the report. This draft BASIX assessment and certification has been prepared based on the preliminary architectural and building services design with the view to conducting a detailed assessment once the design is further developed.

Performance of the completed building may be significantly affected by the quality of construction; commissioning, ongoing management of the building, and the way the building is operated, monitored and maintained. Building fabric inputs require verifiable manufacturer data to confirm thermal properties.

This report is intended as a guide to assist with the application of BASIX. It should be read in conjunction with the BASIX and the NCC applicable to the development; specific applications may vary during the design development of the project.

8. SUMMARY & CONCLUSION

The proposed development has been assessed in terms of its ability to conserve water and minimise energy consumption. Furthermore, the thermal performance (passive and fabric design) of the development will comply with the BASIX thermal comfort requirements.

Subject to the provisions of this report the proposed development will be able to achieve the BASIX requirements. For further details, please refer to the BASIX Certificate 1768406M_02 provided.



APPENDIX A - BASIX CERTIFICATE



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

Multi Dwelling

Certificate number: 1768406M_02

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: Wednesday, 18 December 2024

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



Project summary				
Project name	38 Undercliff Rd, Freshwater NSW_02			
Street address	38 UNDERCLIFF ROAD FRESHW	ATER 2096		
Local Government Area	NORTHERN BEACHES			
Plan type and plan number	Deposited Plan DP5118			
Lot no.	22			
Section no.	-			
No. of residential flat buildings	0			
Residential flat buildings: no. of dwellings	0			
Multi-dwelling housing: no. of dwellings	2			
No. of single dwelling houses	0			
Project score				
Water	✓ 44	Target 40		
Thermal Performance	✓ Pass	Target Pass		
Energy	✓ 78	Target 72		
Materials	✓ -100	Target n/a		

If any changes to this BASIX certificate are required, please contact IGS with following details:

- Project reference: 38 Undercliff Rd, Freshwater NSW

- Contact number: 0430 108 801

Version: 4.03 / EUCALYPTUS 03 01 0

Certificate Prepared by		
Name / Company Name: IGS		
ABN (if applicable): 68163019029		

Description of project

Project address	
Project name	38 Undercliff Rd, Freshwater NSW_02
Street address	38 UNDERCLIFF ROAD FRESHWATER 2096
Local Government Area	NORTHERN BEACHES
Plan type and plan number	Deposited Plan DP5118
Lot no.	22
Section no.	-
Project type	
No. of residential flat buildings	0
Residential flat buildings: no. of dwellings	0
Multi-dwelling housing: no. of dwellings	2
No. of single dwelling houses	0
Site details	
Site area (m²)	576.7
Roof area (m²)	255.9
Non-residential floor area (m²)	-
Residential car spaces	4
Non-residential car spaces	-

Common area landscape			
Common area lawn (m²)	0		
Common area garden (m²)	0		
Area of indigenous or low water use species (m²)	0		
Assessor details and therma	al loads		
Assessor number	DMN/12/140	7	
Certificate number	ficate number 0009018433		
Climate zone	56		
Project score			
Water	4 4	Target 40	
Thermal Performance	✓ Pass	Target Pass	
Energy	7 8	Target 72	
Materials	✓ -100	Target n/a	

Description of project

The tables below describe the dwellings and common areas within the project

Multi-dwelling houses

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
G01	4+	255	0	118.4	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
G02	4+	255	0	114.9	0

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of the development (non-building specific)

Common area	Floor area (m²)	Common area
Undercover car park area	105	Plant or service room

BASIX

Floor area (m²)

60

Schedule of BASIX commitments

- 1. Commitments for multi-dwelling housing
 - (a) Dwellings
 - (i) Water
 - (ii) Energy
 - (iii) Thermal Performance and Materials
- 2. Commitments for common areas and central systems/facilities for the development (non-building specific)
 - (a) Buildings 'Other'
 - (i) Materials
 - (b) Common areas and central systems/facilities
 - (i) Water
 - (ii) Energy

Schedule of BASIX commitments

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

1. Commitments for multi-dwelling housing

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	>	>	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		~	~
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		~	V
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		_	•
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		-	•
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	V	~	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		>	
(g) The pool or spa must be located as specified in the table.	V	~	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	~	~	~

	Fixtures			Appli	ances	Individual pool			Individual spa					
Dwelling no.	All shower- heads	All toilet flushing systems		All bathroom taps	HW recirculation or diversion	All clothes washers	All dish- washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
G01	3 star (> 7.5 but <= 9 L/min)	4 star	5 star	5 star	-	-	-	9.3	no	outdoors	no	-	-	-
All other dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	5 star	5 star	-	-	-	8.2	no	outdoors	no	-	-	-

			Alternative water sou	Alternative water source						
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top- up	Spa top-up		
All dwellings	Individual water tank (No. 1)	Tank size (min) 2500 liters	To collect run-off from at least: 115 square metres of roof area; 0 square metres of garden and lawn area; and 10 square metres of planter box area.	yes	-	yes	yes	-		

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	>	~	\
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		>	<
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		~	•

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		~	~
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	~	~	~
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must:			
(aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and		~	
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		~	
(h) The applicant must install in the dwelling:			
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		✓	
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		→	V
(cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		•	
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		~	
(j) The applicant must install the photovoltaic system specified for the dwelling under the "Photovoltaic system" heading of the "Alternative energy" column of the table below, and connect the system to that dwelling's electrical system.	V	y	V

	Hot water Bathroom ventilation system		tilation system	Kitchen venti	lation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	gas instantaneous - 5.5 star	l '		individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	interlocked to light	

	Coc	oling	Hea	ting	Natural lighting		
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen	
All dwellings	3-phase airconditioning / EER 3.0 - 3.5	0	-				

				Individual sp	Individual spa Appliances other efficiency				y measures		
Dwelling no.		Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line	
All dwellings	electric heat pump	not specified	yes	-	-	induction cooktop & electric oven	-	-	yes	yes	

		Alternative energy	
Dwelling no.	Photovoltaic system (min rated electrical output in peak kW)	Photovoltaic collector installation	Orientation inputs
All dwellings	between >0° to <=10° degree to the horizontal	2.3	NE

(iii) Thermal Performance and Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol 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.	~		
(e) 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.		~	

(iii) Thermal Performance and Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) 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.		~	~
(g) Where there is an in-slab heating or cooling system, the applicant must:	~	~	~
(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or			
(bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.			
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	>	~	>
(i) 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.	V		
(j) 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.		~	

	Thermal loads						
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)				
All dwellings	17	12	29.000				

	Construction of floors and walls							
Dwelling no.	Concrete slab on ground (m²)	Suspended floor with open subfloor (m²)	Suspended floor with enclosed subfloor (m²)	Suspended floor above garage (m²)	Primarily rammed earth or mudbrick walls			
All dwellings	107	-	24	50	-			

	Floor types										
	Concrete slab on ground				Suspended flo	Suspended floor above enclosed subfloor			Suspended floor above open subfloor		
Dwelling no.	Area (m²)	Insulation	Low emissions option	Dematerialisation	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	
All dwellings	107	-	-		concrete - suspended, frame: light steel frame	24	-	-	-	-	

	Floor types										
	First floor above habitable rooms or mezzanine		Suspended floor above garage		Garage floor						
Dwelling no.	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	Low emissions option	Dematerialisation
All dwellings	concrete - suspended, frame: light steel frame	200	-	concrete - suspended, frame: light steel frame	50	-	concrete slab on ground, frame: light steel frame	45	-	-	conventional slab

	External walls							
		External v	wall type 1	External wall type 2				
Dwelling no.	Wall type	Area (m²)	Insulation	Low emissions option	Wall type	Area (m²)	Insulation	Low emissions option
All dwellings	brick veneer, frame : light steel frame	500	-	none	framed (metal clad), frame : light steel frame	250	-	none

	External walls	External walls								
	External wall type 3 External wall type 4									
Dwelling no.	Wall type	Area (m²)	Insulation	Low emissions option	Wall type	Area (m²)	Insulation	Low emissions option		
All dwellings	-	-	-	-	-	-	-	-		

	Internal walls	Internal walls									
	Internal walls shared with garage Internal wall type 1 Internal wall type 2							2			
Dwelling no.	Wall type	Area (m²)	Insulation	Wall type	Area (m²)	Insulation	Wall type	Area (m²)	Insulation		
All dwellings	plasterboard, frame: light steel frame	60	-	plasterboard, frame: light steel frame	800	-	cavity brick wall, frame: light steel frame	400	-		

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	Ceiling and roof									
	Flat ceiling / pitched roof Raked ceiling / pitched or skillion roof Flat ceiling / flat roof								of	
Dwelling no.	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	
All dwellings	-	-	Ceiling:,Roof:	-	-	Ceiling:,Roof:	framed - metal roof, frame: light steel frame	85.3	Ceiling:,Roof:	

	Glazing type			Frame types				
Dwelling no.	Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
All dwellings	-	150	-	150	-	-	-	-

2. Commitments for common areas and central systems/facilities for the development (non-building specific)

(a) Buildings 'Other'

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			>
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		>	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	>	>	>
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			>

Floor types							
Floor type Area (m2) Insulation Low emissions option							
concrete slab on ground, frame:	200	-	none				

External wall types								
External wall type	Construction type	Area (m2)	Low emissions option	Insulation				
External wall type 1	brick veneer,frame:light steel frame	200	-	-				

Internal wall types					
Internal wall type Construction type		Area (m2)	Insulation		
Internal wall type 1	plasterboard, frame:light steel frame	100	-		

Reinforcement concrete frames/columns				
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option		
-	-	-		

Ceiling and roof types				
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation	
framed - metal roof, frame: light steel frame	85.3	-	-	

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	40	-	40	-	-	-	-

Version: 4.03 / EUCALYPTUS_03_01_0

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		~	~
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	>	~	>
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	>	>	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		~	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		~	V
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		~	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
	no common facility	no common facility	no common facility	no common laundry facility
areas				

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		~	V
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		~	>
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	V	~	V

	Common area ve	entilation system	Common area lighting			
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS	
Undercover car park area	no mechanical ventilation	-	light-emitting diode	motion sensors	-	
Plant or service room	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	-	

Central energy systems	Туре	Specification
Other	-	-

Notes

- 1. In these commitments, "applicant" means the person carrying out the development.
- 2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
- 3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
- 4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
- 5. If a star or other rating is specified in a commitment, this is a minimum rating.
- 6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

BASIX

- 1. Commitments identified with a "V" 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).
- 2. Commitments identified with a "V" 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.
- 3. Commitments identified with a "V" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

Version: 4.03 / EUCALYPTUS 03 01 0

Department of Planning, Housing and Infrastructure

Certificate No.: 1768406M 02



APPENDIX B - REFERENCED ARCHITECTURAL DRAWINGS

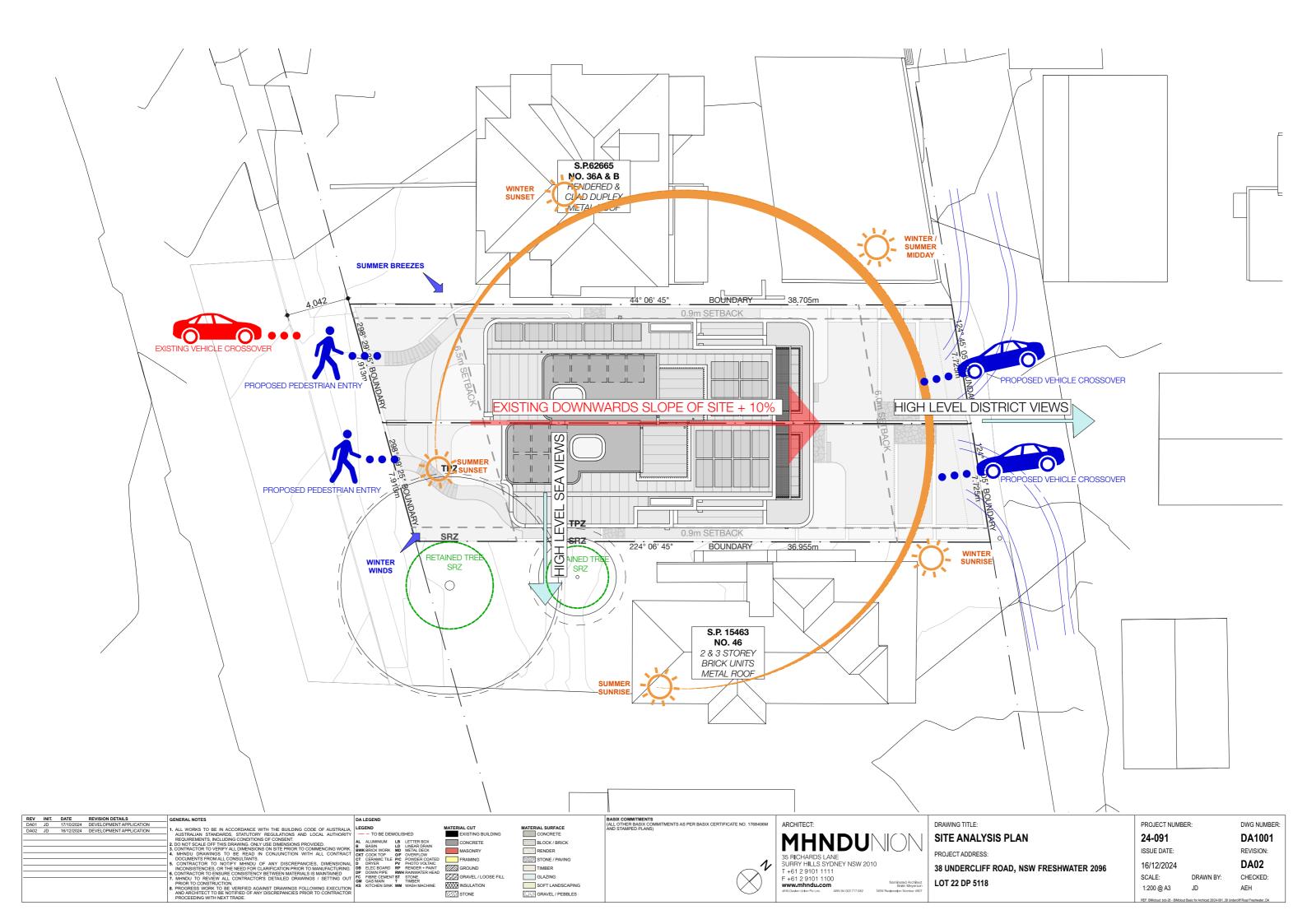
38 UNDERCLIFF ROAD FRESHWATER NSW 2030

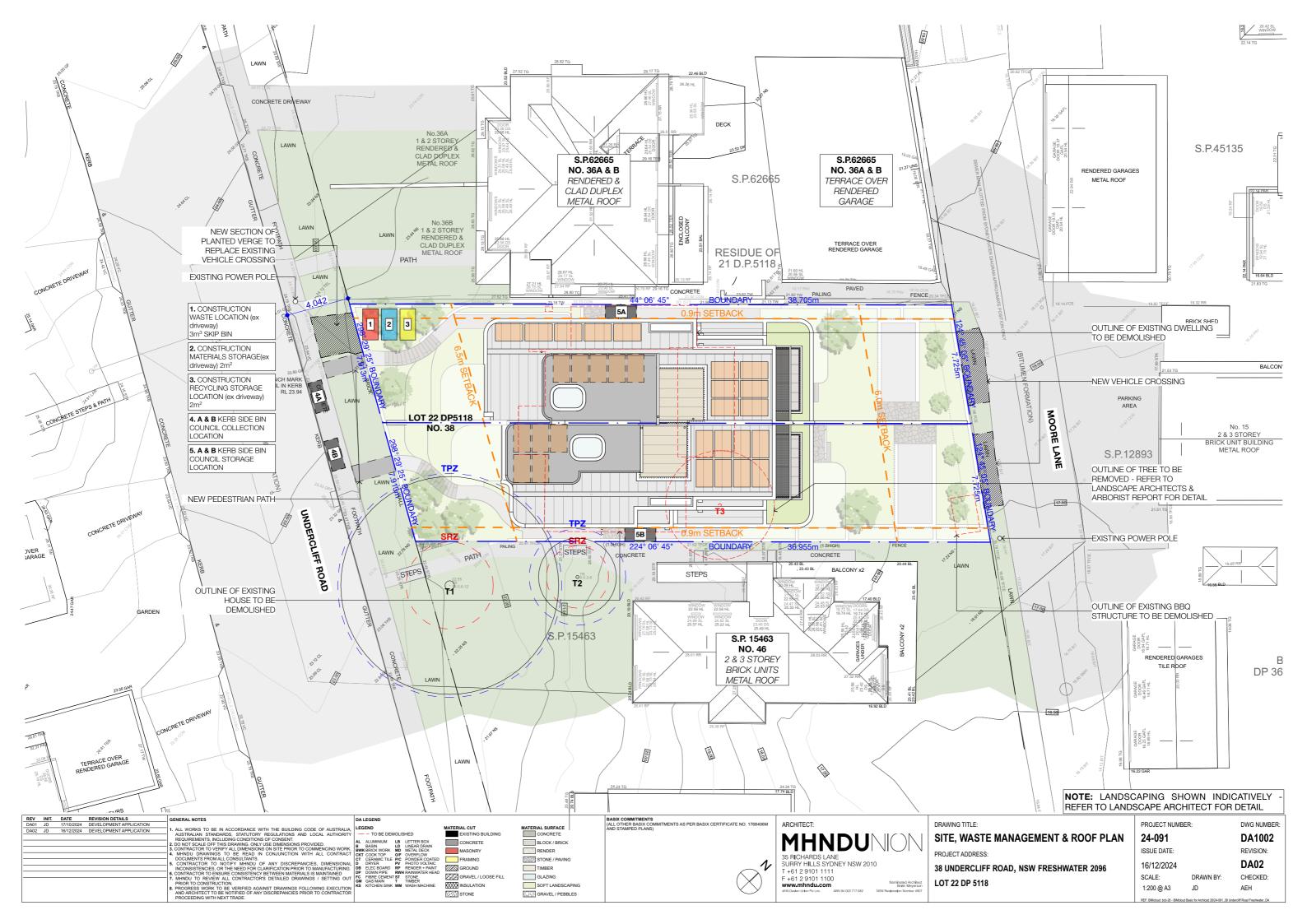
PROJECT
Proposed demolition of existing single dwelling and construction of new Class 1 dual-occupancy [attached] dwelling with garaging, pool and associated landscape works.

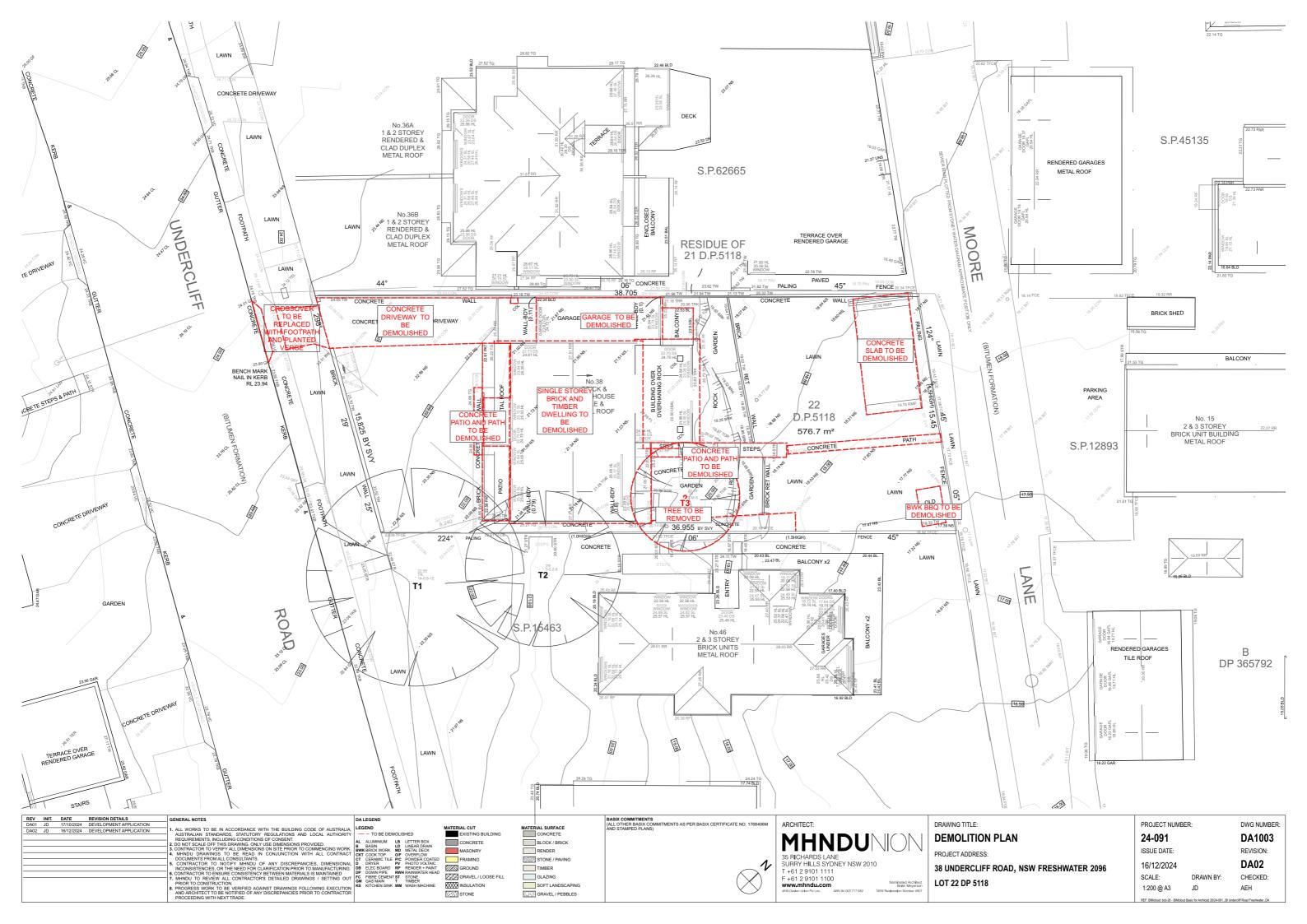
NUMBER	TITLE	REV.	PAPER	SCALE
DEVELOPMENT AP	PLICATION			
DA0000	COVERPAGE	DA02	A3	NTS
DA0001	BASIX COMMITMENTS	DA02	A3	NTS
ANALYSIS & SITE P	LANS			
DA1001	SITE ANALYSIS PLAN	DA02	A3	1:200
DA1002	SITE, WASTE MANAGEMENT & ROOF PLAN	DA02	АЗ	1:200
DA1003	DEMOLITION PLAN	DA02	А3	1:200
DA1004	DRAFT STRATA SUBDIVISION PLAN	DA02	А3	NTS
GENERAL ARRANG	EMENT			
DA2000	GARAGE PLAN	DA02	A3	1:100
DA2001	GROUND FLOOR PLAN	DA02	A3	1:100
DA2002	LEVEL 1 FLOOR PLAN	DA02	A3	1:100
DA2003	LEVEL 2 FLOOR PLAN	DA02	A3	1:100
DA2004	ROOF PLAN	DA02	A3	1:100
ELEVATIONS				
DA3000	NORTH ELEVATION	DA02	A3	1:100
DA3001	SOUTH ELEVATION	DA02	A3	1:100
DA3002	WEST ELEVATION	DA02	A3	1:100
DA3003	EAST ELEVATION	DA02	A3	1:100
SECTIONS - SHOR	Г			
DA4000	CROSS SECTION 1	DA02	A3	1:100
DA4001	CROSS SECTION 2	DA02	A3	1:100
DA4002	CROSS SECTION 3	DA02	A3	1:100
SECTIONS - LONG				
DA4010	LONG SECTION A	DA02	А3	1:100
DA4011	LONG SECTION B	DA02	A3	1:100
EXTERNAL FINISH	ES			
DA6000	EXTERNAL FINISHES	DA02	АЗ	NTS
COUNCIL CONTRO	LS			
DA9100	LANDSCAPED AREA CALCULATIONS	DA02	А3	1:200
DA9101	EXCAVATION / OR FILL CALCULATIONS	DA02	A3	1:200
OTHER SUPPORTI	NG DOCUMENTS			
DA9300	ENVELOPE DIAGRAMS	DA02	A3	NTS
DA9301	MAXIMUM BUILDING HEIGHT DIAGRAMS	DA02	А3	NTS
DA9302	ARTISTIC IMPRESSION	DA02	А3	NTS

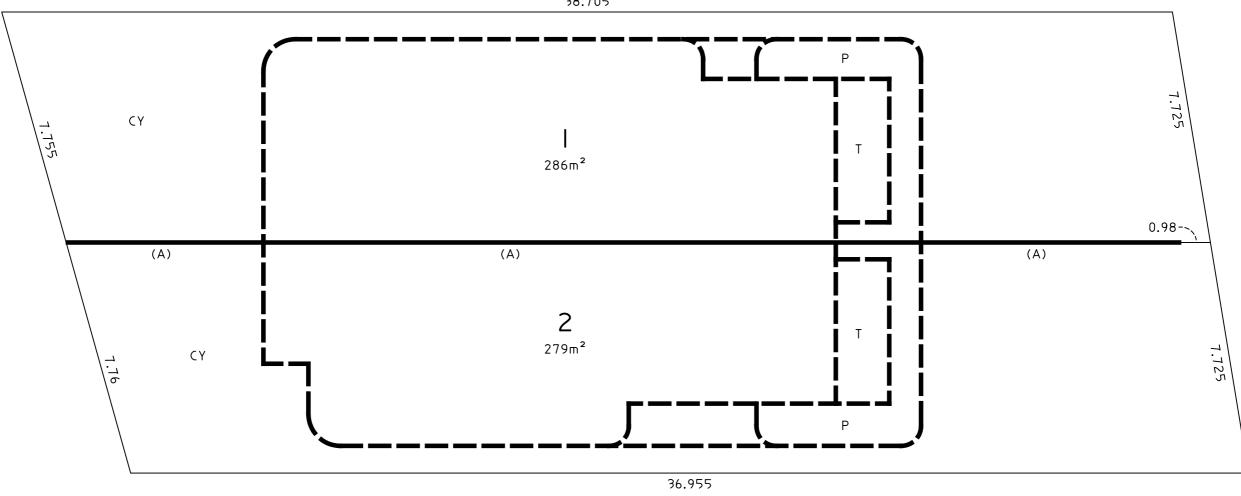


REV INIT. DATE REVISION DETAILS DA01 JD 17/10/2024 DEVELOPMENT APPLICATION DA02 JD 16/12/2024 DEVELOPMENT APPLICATION 1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRA AUSTRALIAN STANDARDS, STATUTIORY, REQUILATIONS AND LOCAL AUTHOR REQUIREMENTS, INCLUDING CONDITIONS OF CONSISTI 2. DO NOT SCALE OFF THIS DRAWING, ONLY USE DIMENSIONS PROVIDED 3. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENSING WITHOUT OF CONCENTED WITHOUT DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CONTE DOCUMENTS FROM ALL CONSULTANCE ANY DISCREPANCIES, DIMENSIG 1. MINIOU DRAWINGS TO BE NEAD OF CLARRIPCIAL TO MAINTAIN STAND BY THE MATERIAL SIS MAINTAINED 6. CONTRACTOR TO FINSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED 7. MHNDU TO REVIEW ALL CONTRECTORS DETAILED DRAWINGS / SETTING 7. MHNDU TO REVIEW ALL CONTRECTORS DETAILED DRAWINGS / SETTING 7. MHNDU TO REVIEW ALL CONTRECTORS DETAILED DRAWINGS / SETTING 7. MHNDU TO REVIEW ALL CONTRECTORS DETAILED DRAWINGS / SETTING	CT CERAMICTILE PIC POWDER COATED DRYER BY PHOTO VOLTAIC BE ELEC BOARD RP RENDER + PAINT DE DOWN PIPE RWH RAINWATER HEAD UT PC FIRSE CEMENT ST STONE GRAVEL/LOOSE FILE GRAVEL/LOOSE FILE GRAVEL/LOOSE FILE GRAVEL/LOOSE FILE		BASIX COMMITMENTS (ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE NO. 1768406M AND STAMPED PLANS)	ARCHITECT: MHNDU 35 RICHARDS LANE SURRY HILLS SYDNEY NSW 2010 T +61 2 9101 11111 F +61 2 9101 1100 Nominated Architect	DRAWING TITLE: COVERPAGE PROJECT ADDRESS: 38 UNDERCLIFF ROAD, NSW FRESHWATER 2096	PROJECT NUMBER: 24-091 ISSUE DATE: 16/12/2024 SCALE: DRAWN BY:	DWG NUMBER: DA0000 REVISION: DA02 CHECKED:
PRIOR TO CONSTRUCTION. 8. PROGRESS WORK TO BE VERIFIED AGAINST DRAWINGS FOLLOWING EXECU AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONTRAC PROCEEDING WITH HEAT TRADE.	ON KS KITCHEN SINK WM WASH MACHINE (CONTROL INSULATION	SOFT LANDSCAPING GRAVEL / PEBBLES		www.mhndu.com Nominated Architect Brisis Meyerson vHN Destan Unton Ptv Ltd. ABN 94 003 717 682 NSW Recipitation Number 4907	LOT 22 DP 5118	NTS @ A3 JD REF: BlMdoud: bcb-26 - BlMdoud Basic for Archicad 26/24-09	AEH 38 Underdiff Road Freshwater DA









CY - COURTYARD P - PLANTER T - TERRACE

THE WHOLE OF THE STRUCTURE OF THE BUILDING STANDING ON EACH LOT, INCLUDING WALLS, FLOORS, CEILINGS, AND ROOFS, FORMS PART OF THE LOT AND IS NOT COMMON PROPERTY.

(A) - THE COMMON WALL DENOTED (A) IS COMMON PROPERTY.

AREAS SHOWN ON THE FLOOR PLAN HAVE BEEN CALCULATED FOR THE PURPOSE OF THE STRATA SCHEMES DEVELOPMENT ACT 2015 ONLY. THEY MAY DIFFER FROM FLOOR AREAS FOR OTHER PURPOSES.

THOSE PARTS OF SERVICE LINES WHICH SERVICE ONE LOT ONLY AND ARE LOCATED OUTSIDE OF THAT LOT ARE COMMON PROPERTY.

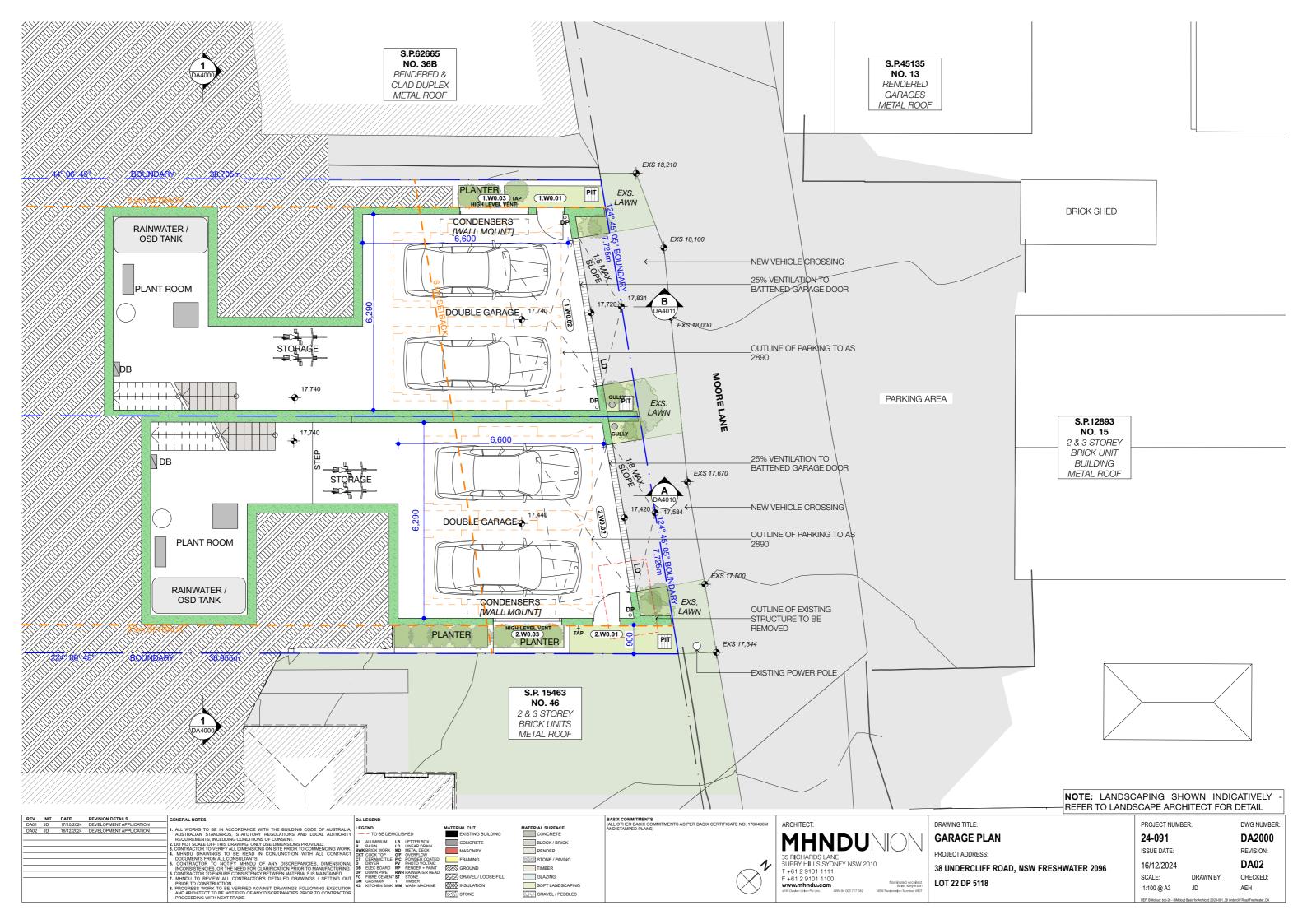
FOR CLARITY NOT ALL COMMON PROPERTY STRUCTURES ARE SHOWN.

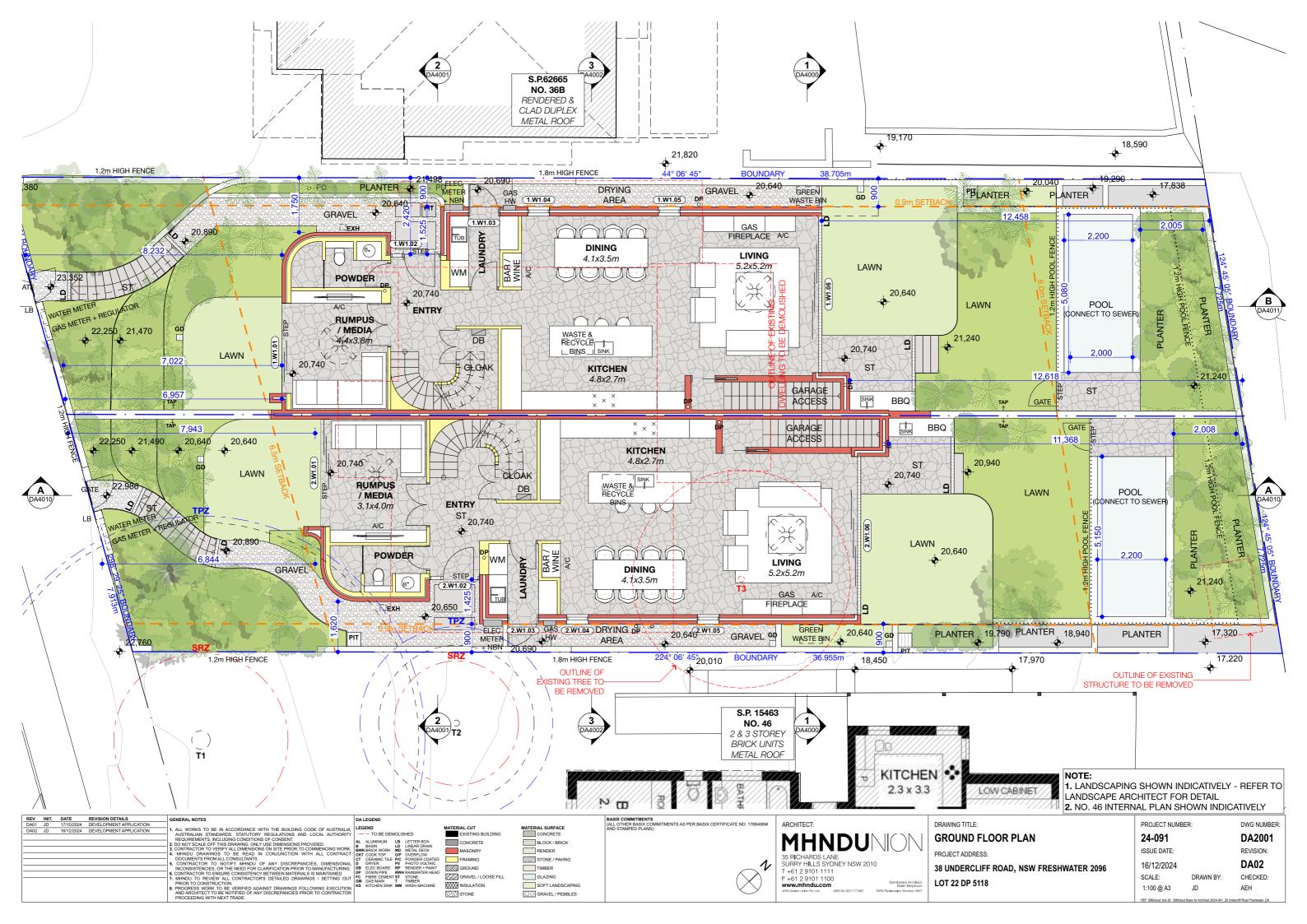
LOTS I AND 2 ARE LIMITED IN STRATUM FROM 10 METRES BELOW TO 15 METRES ABOVE THE UPPER SURFACE OF THEIR RESPECTIVE CONCRETE GARAGE FLOOR SLAB.

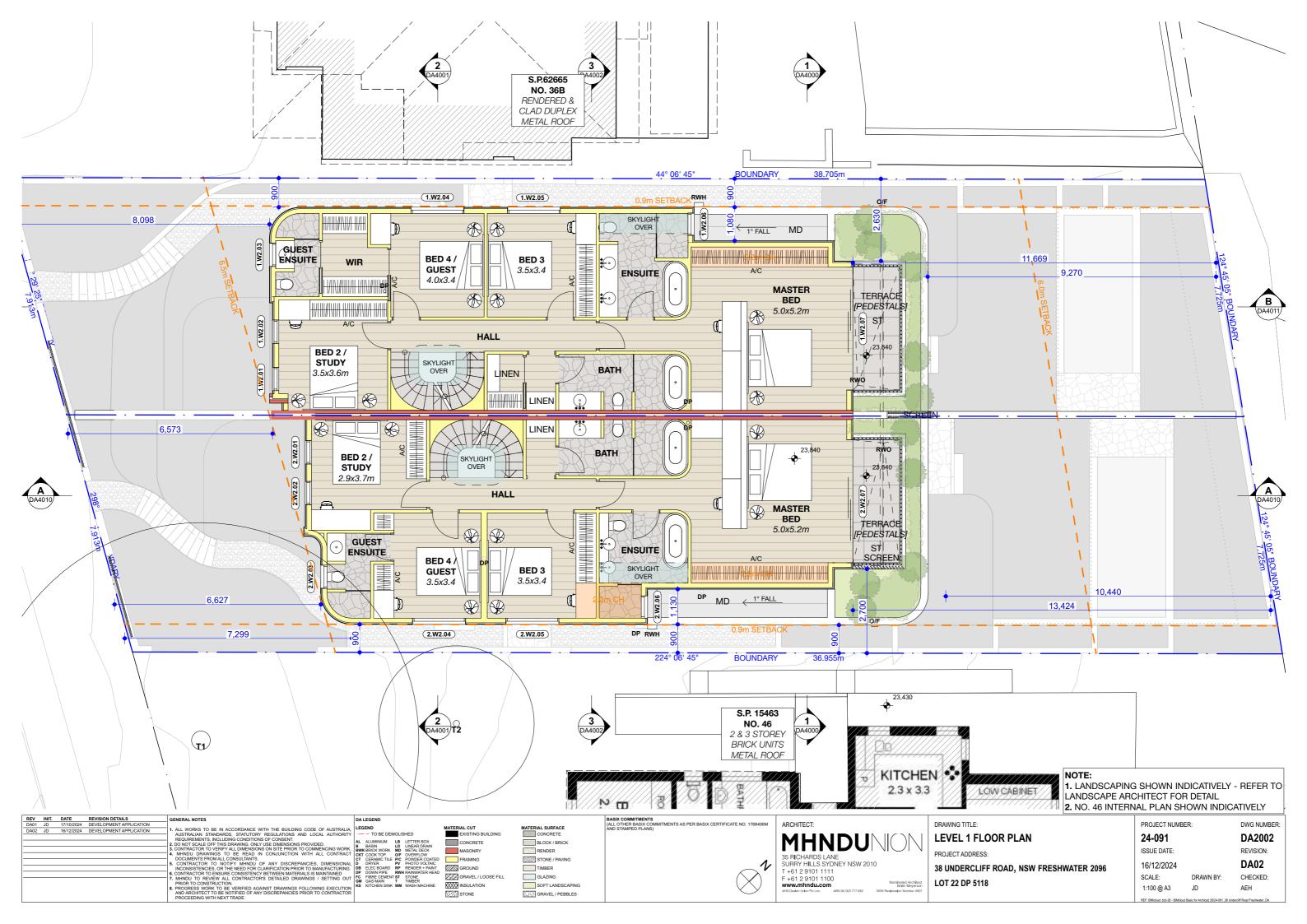
NOTE: DRAFT STRATA PLAN SHOWN TAKEN FROM DRAFT STRATA PLAN PREPARED BY CMS SURVEYORS
- REFER TO SEPARATE DOCUMENT SUBMITTED AS

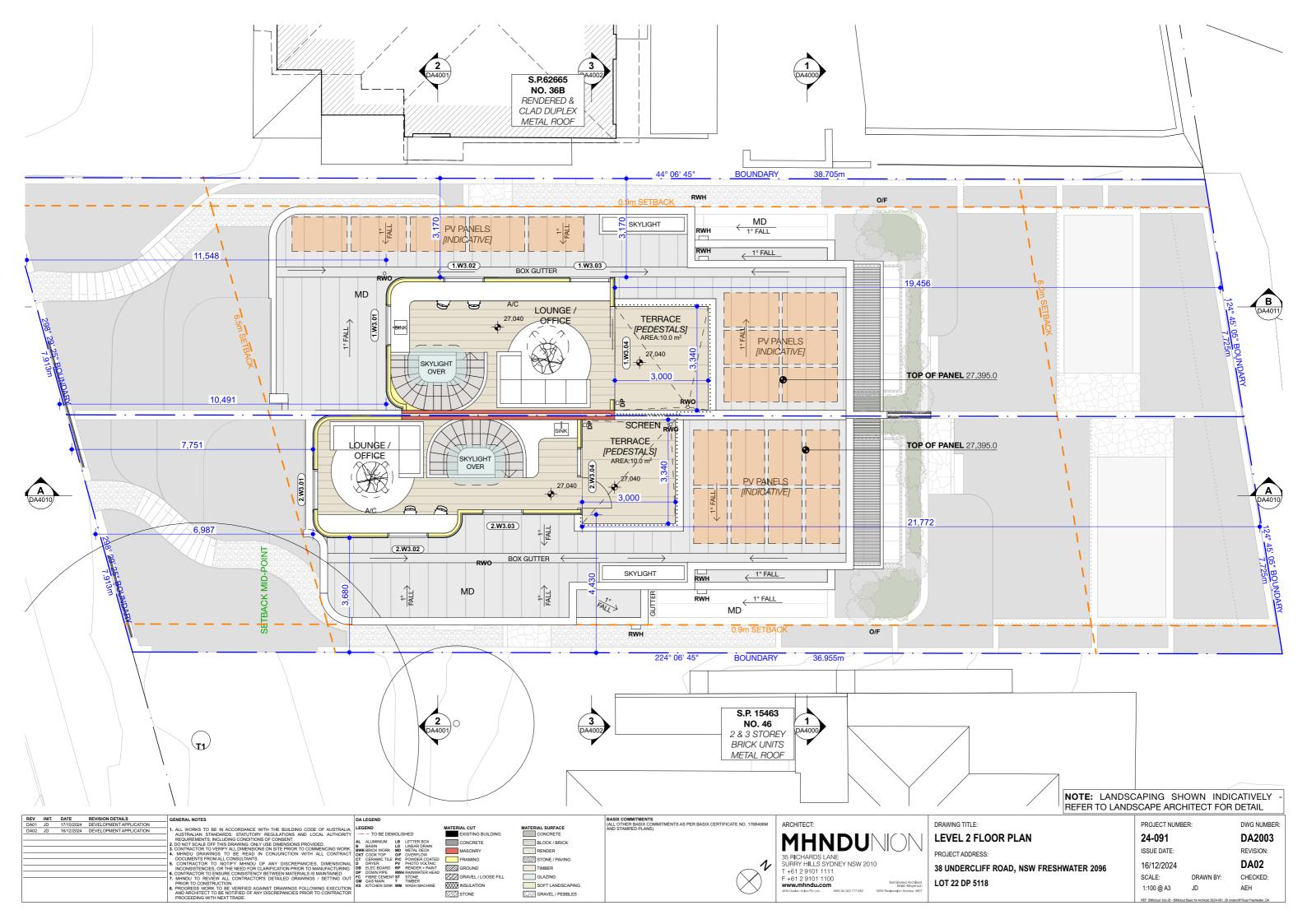
- REFER TO SEPARATE DOCUMENT SUBMITTED AS PART OF DA APPLICATION FOR FURTHER INFORMATION

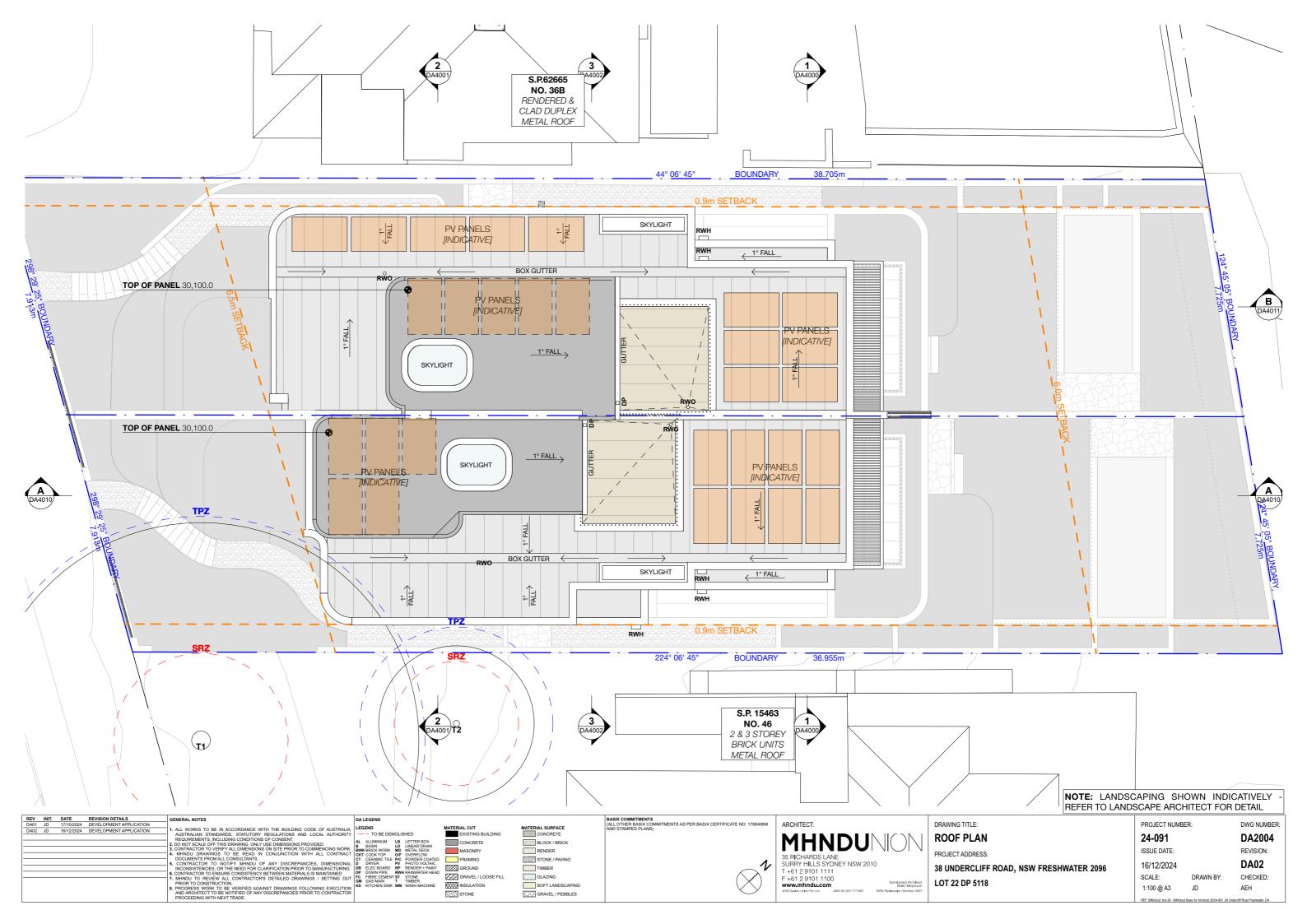
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DA02 JD 16/12/2024 DEVELOPMENT APPLICATION 1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUIL AUSTRALIAN STANDARDS, STATUTORY REGULATION REQUIREMENTS, INCLUDING CONDITIONS OF CONSENT		NG BUILDING CONCRETE	AND GIAMI ED I DANG)	MHNDUNION	DRAFT STRATA SUBDIVISION PLAN	24-091	DA1004
2. DO NOT SCALE OFF THIS DRAWING. ONLY USE DIMENSI 3. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRI 4. MINDU DRAWINGS TO BE READ IN CONJUNCTI	R TO COMMENCING WORK. B BASIN LD LINEAR DRAIN BWK BRICK WORK MD METAL DECK MASONR				PROJECT ADDRESS:	ISSUE DATE:	REVISION:
DOCUMENTS FROM ALL CONSULTANTS. 5. CONTRACTOR TO NOTIFY MINDOU OF ANY DISC. MICROSTRACTOR OF THE NEED COR OF ANY DISC.	CT CERAMIC TILE PIC POWDER COATED PHOTO VOLTAGE FRAMING RICH TO MANUFACTURING DB LECE BOARD P RENDER + PAINT GROUND	NG STONE / PAVING	1	35 RICHARDS LANE SURRY HILLS SYDNEY NSW 2010	38 UNDERCLIFF ROAD, NSW FRESHWATER 2096	16/12/2024	DA02
6. CONTRACTOR TO ENQUE CONSISTENCY BETWEEN M 7. MHNDU TO REVIEW ALL CONTRACTOR'S DETAILED	FRIALS IS MAINTAINED DP DOWN PIPE RWH RAINWATER HEAD			T +61 2 9101 1111 F +61 2 9101 1100	,	SCALE: DRAWN BY:	CHECKED:
PRIOR TO CONSTRUCTION. 8. PROGRESS WORK TO BE VERIFIED AGAINST DRAWIN AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCE.	S FOLLOWING EXECUTION KS KITCHEN SINK WM WASH MACHINE WWW INSULATION	SOFT LANDSCAPING GRAVEL / PEBBLES		www.mhndu.com Nominated Architect Brian Meyerson WHN Destan Union Psv Ltd. ABN 94 003 717 682 NSW Recistration Number 4907	LOT 22 DP 5118	NTS @ A3 JD	AEH
PROCEEDING WITH NEXT TRADE.	Statistical stoke	DACED GROVEL / PEBBLES				REF: BIMcloud: bcb-26 - BIMcloud Basic for Archicad 26/24-091	_38 Underdiff Road Freshwater_DA

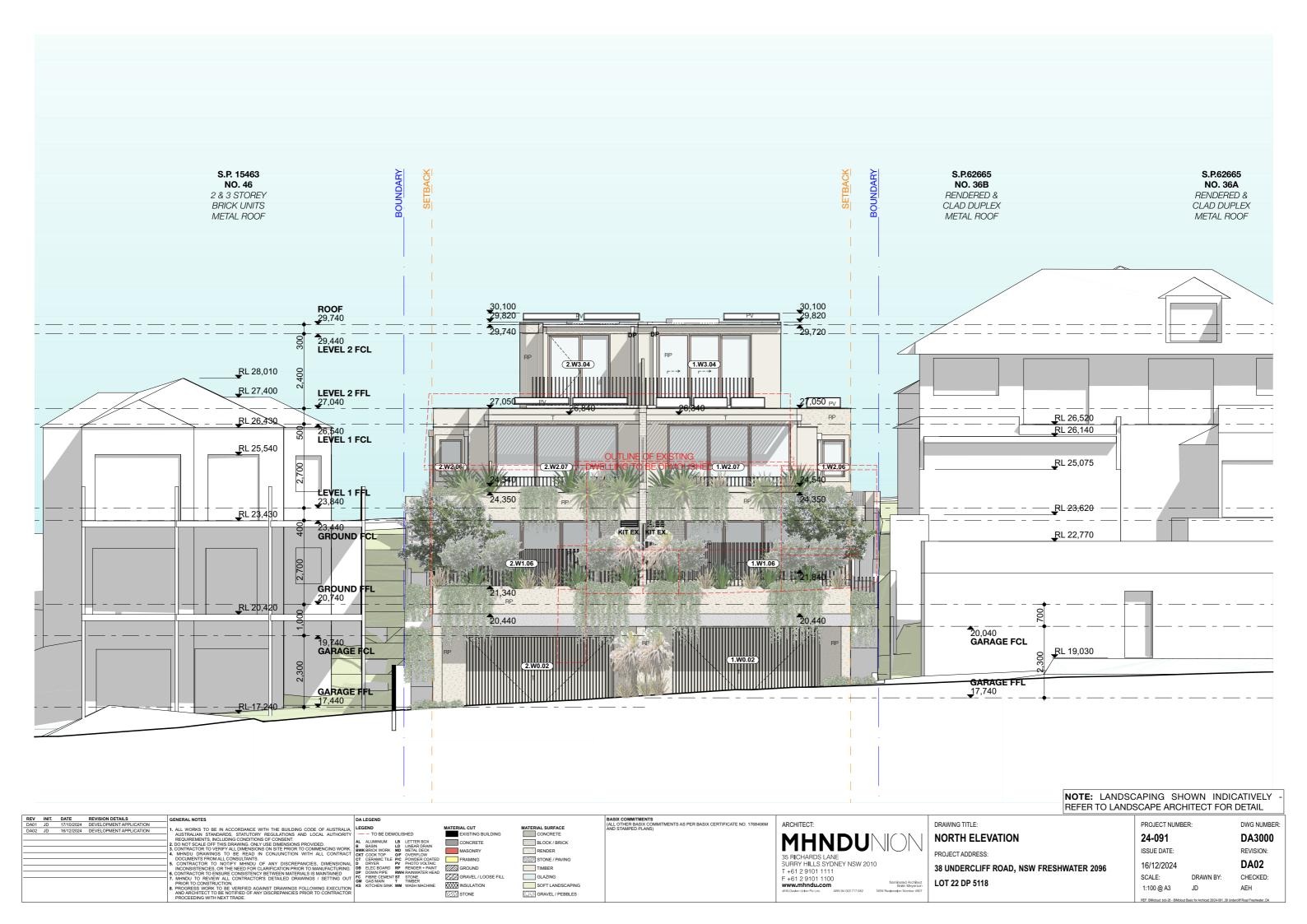




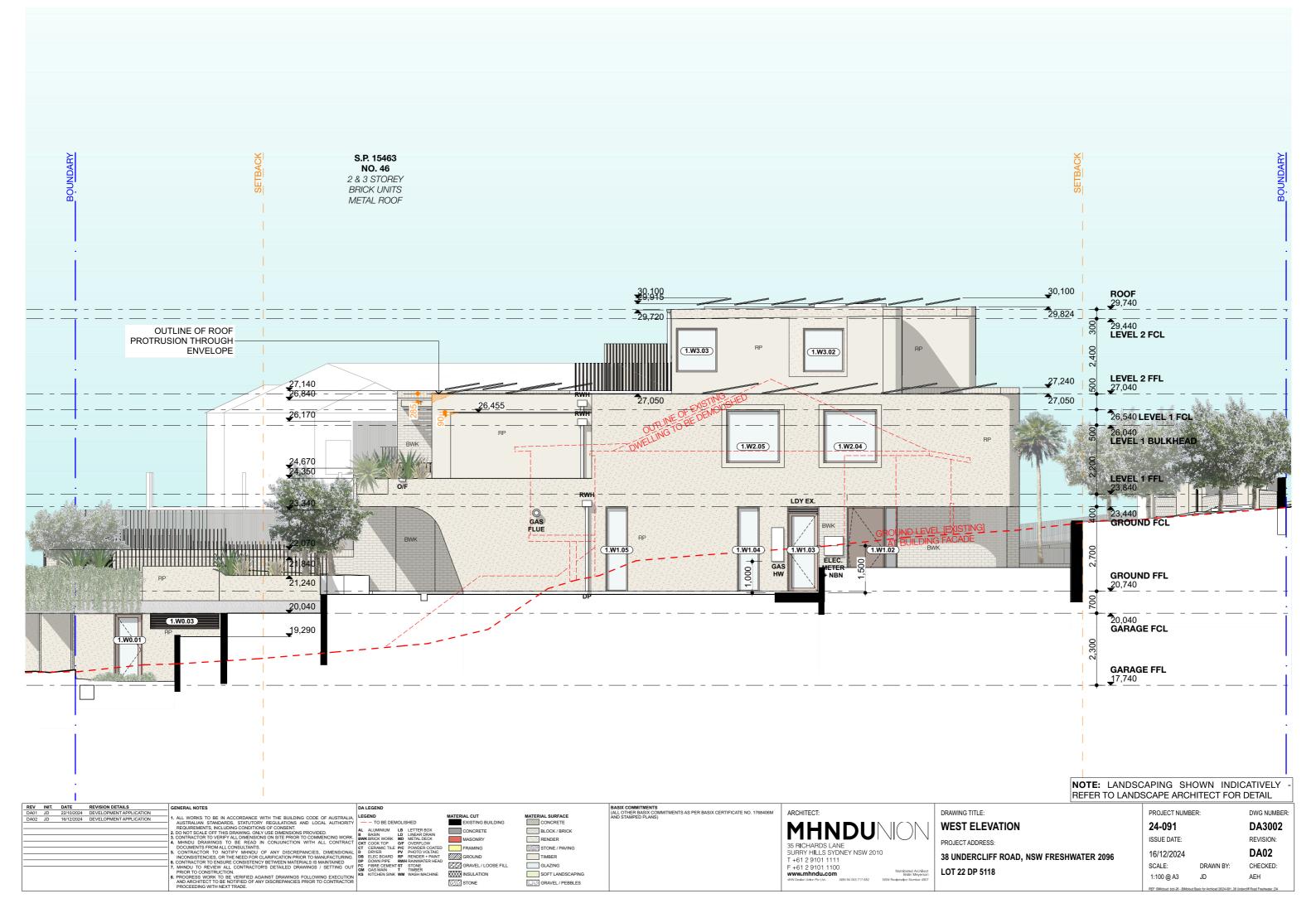


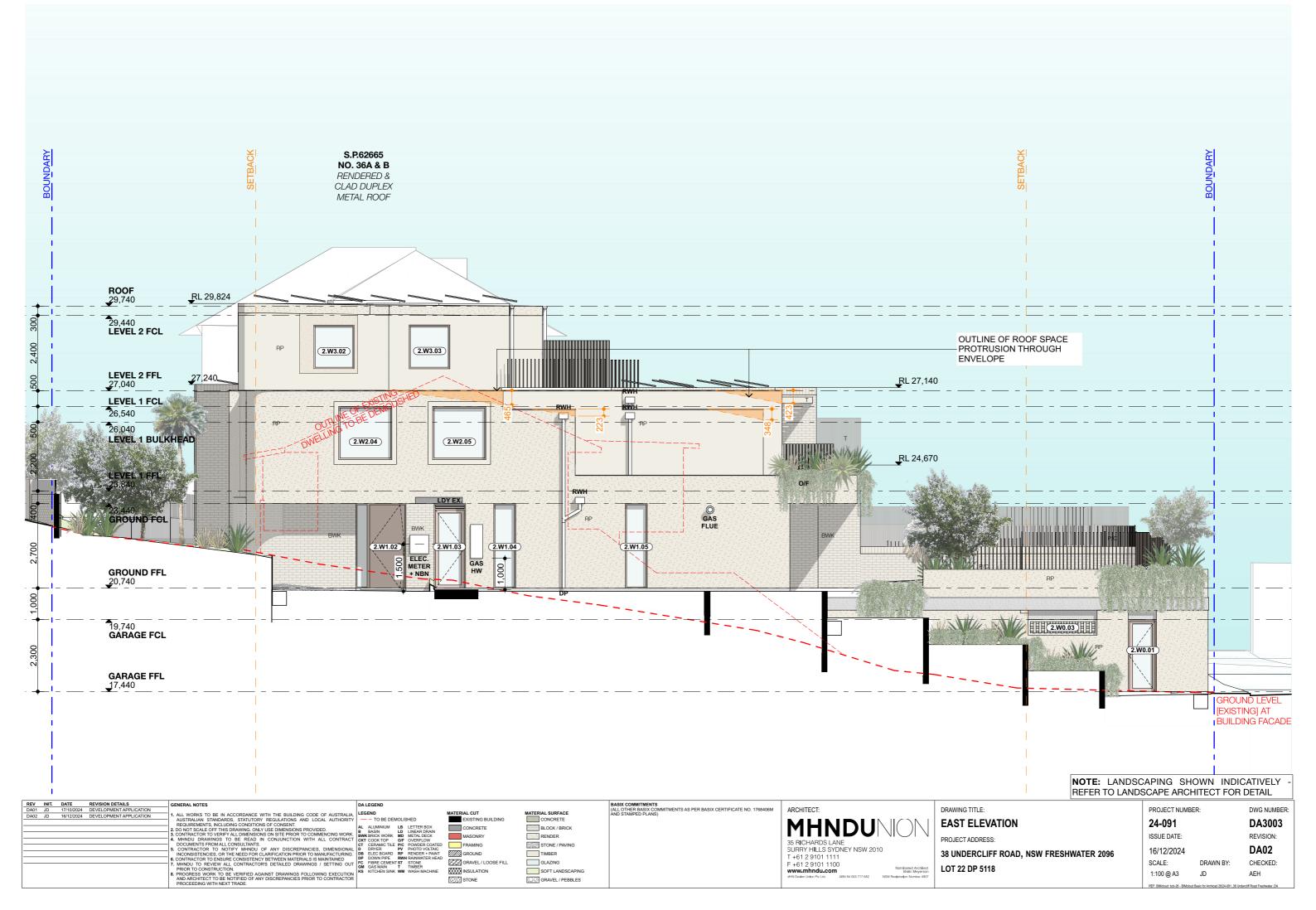


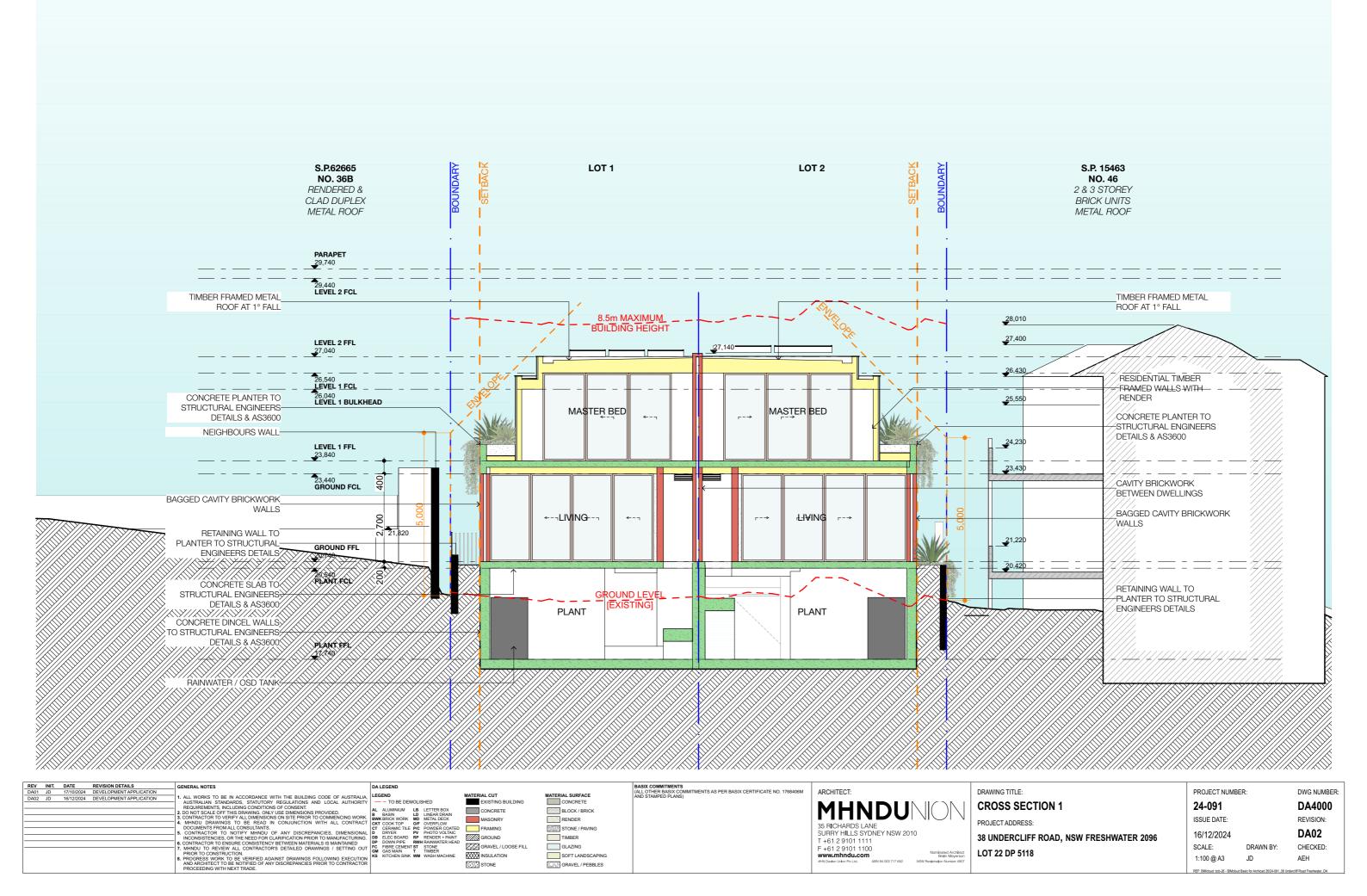


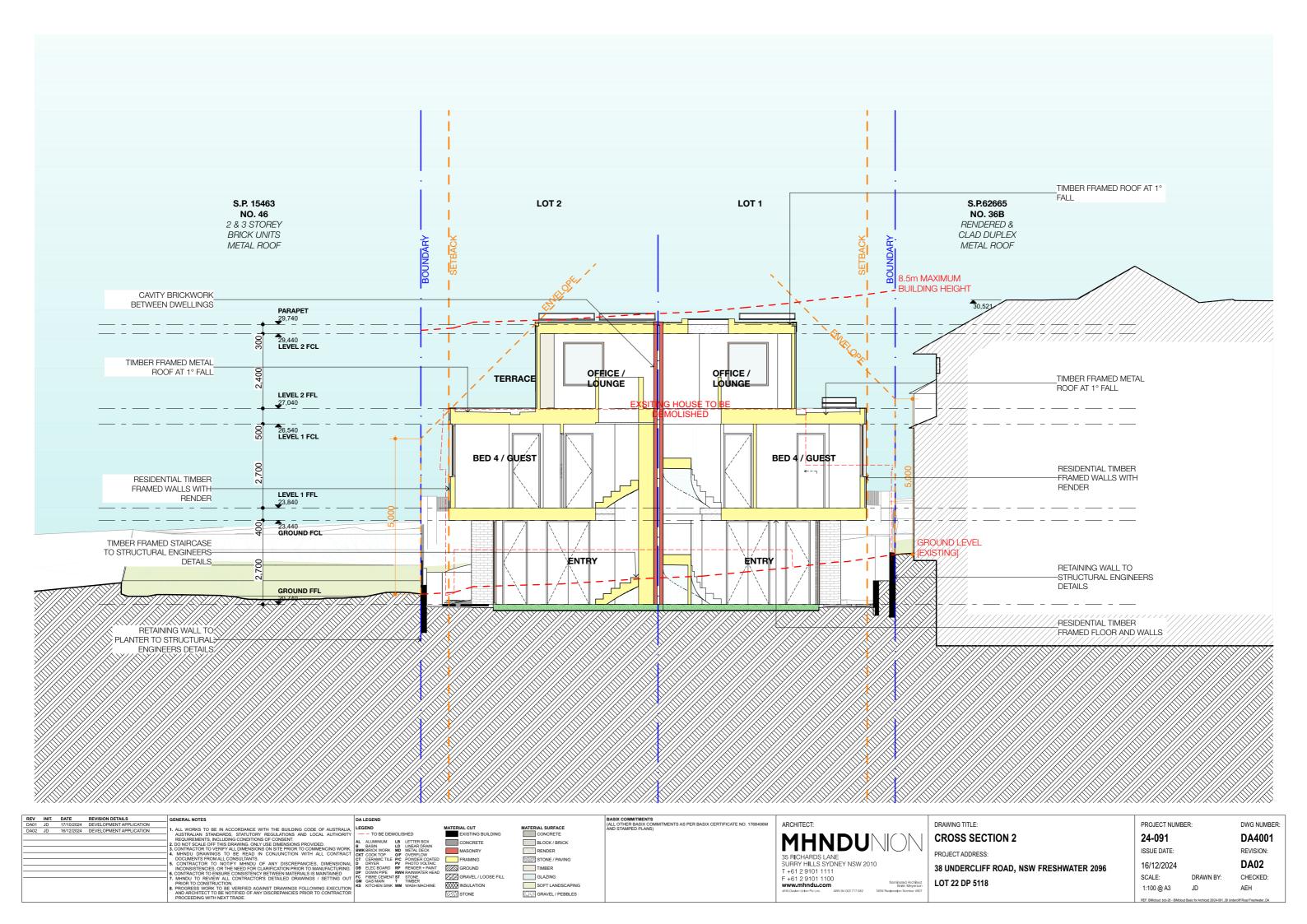


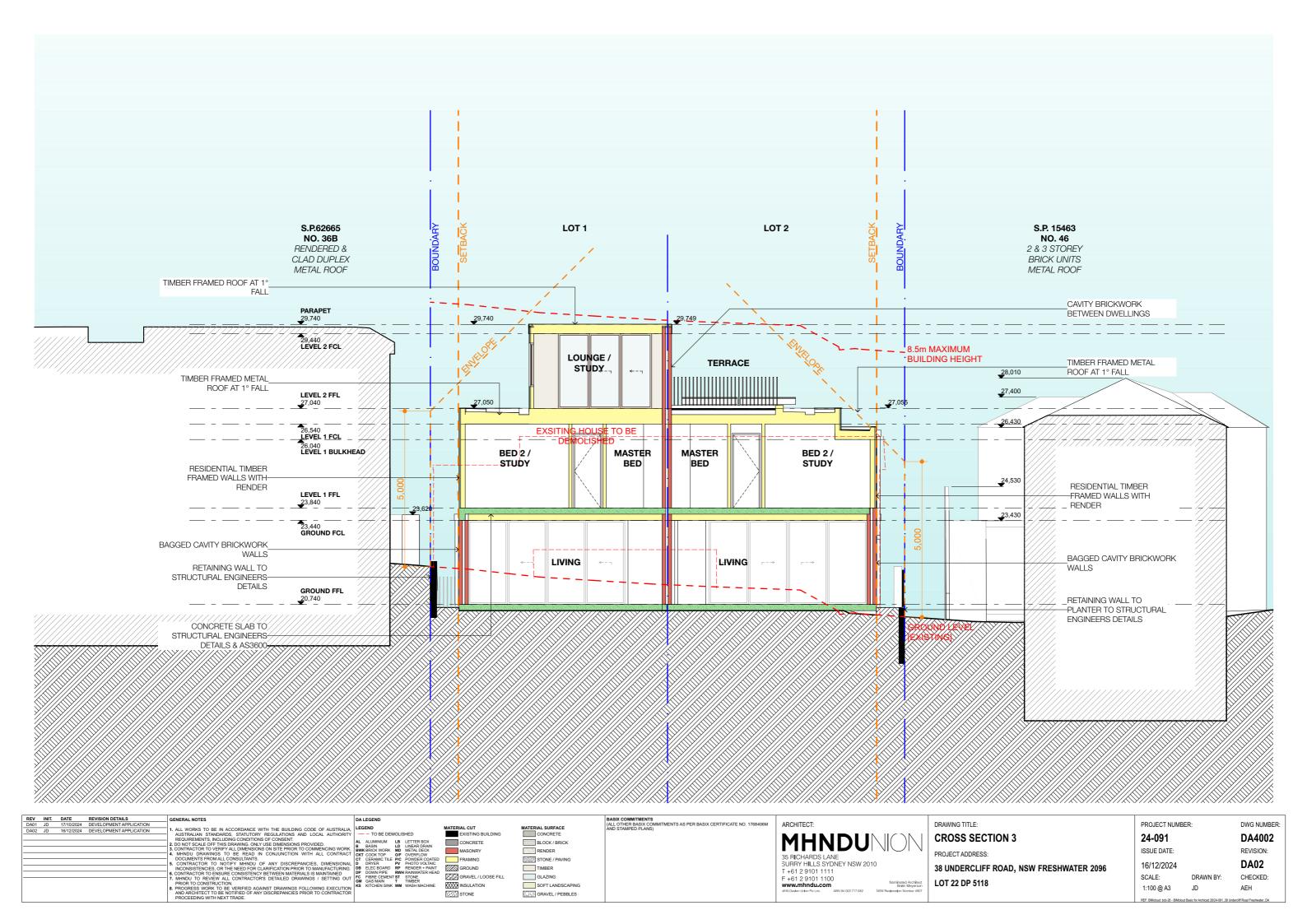


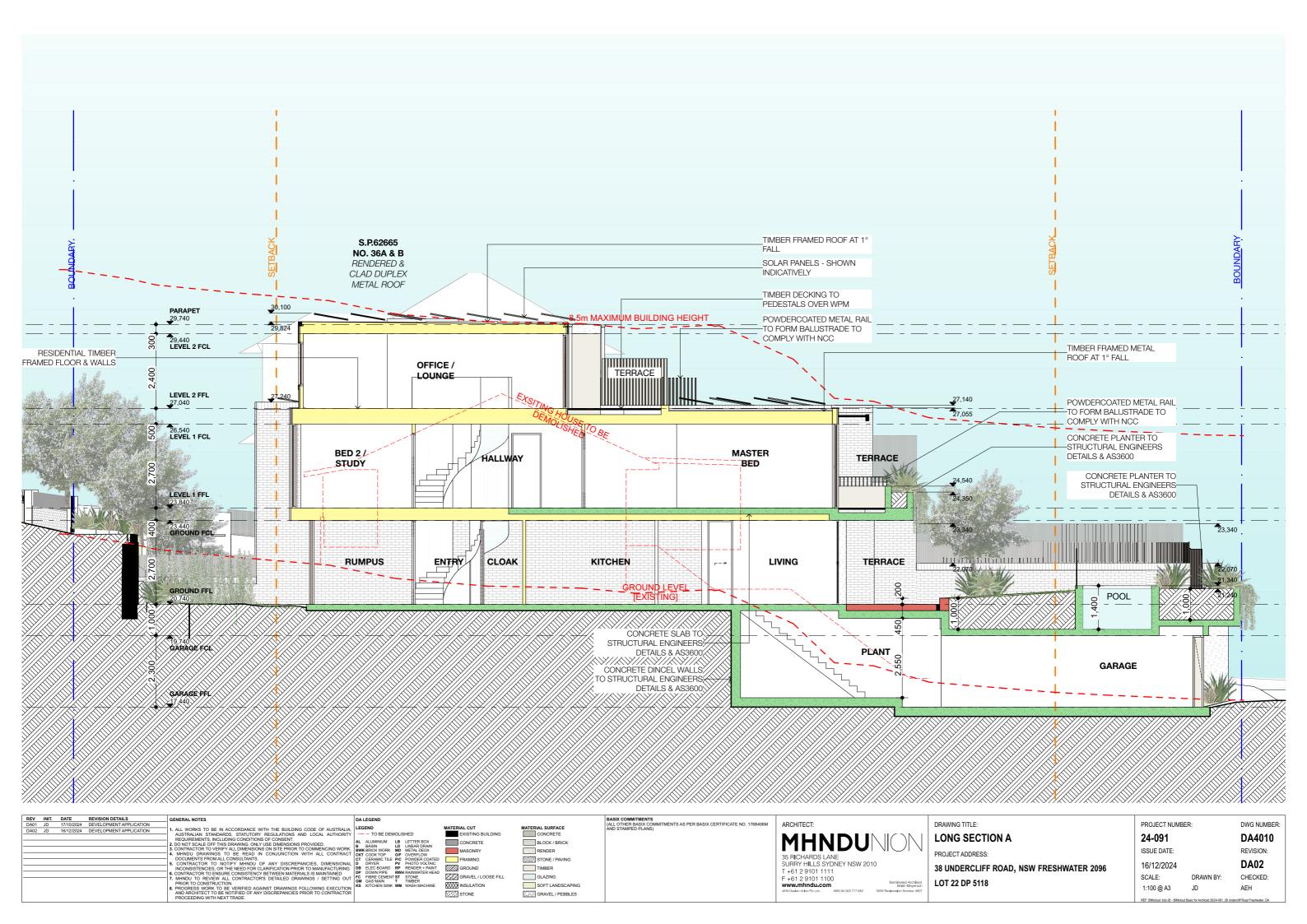


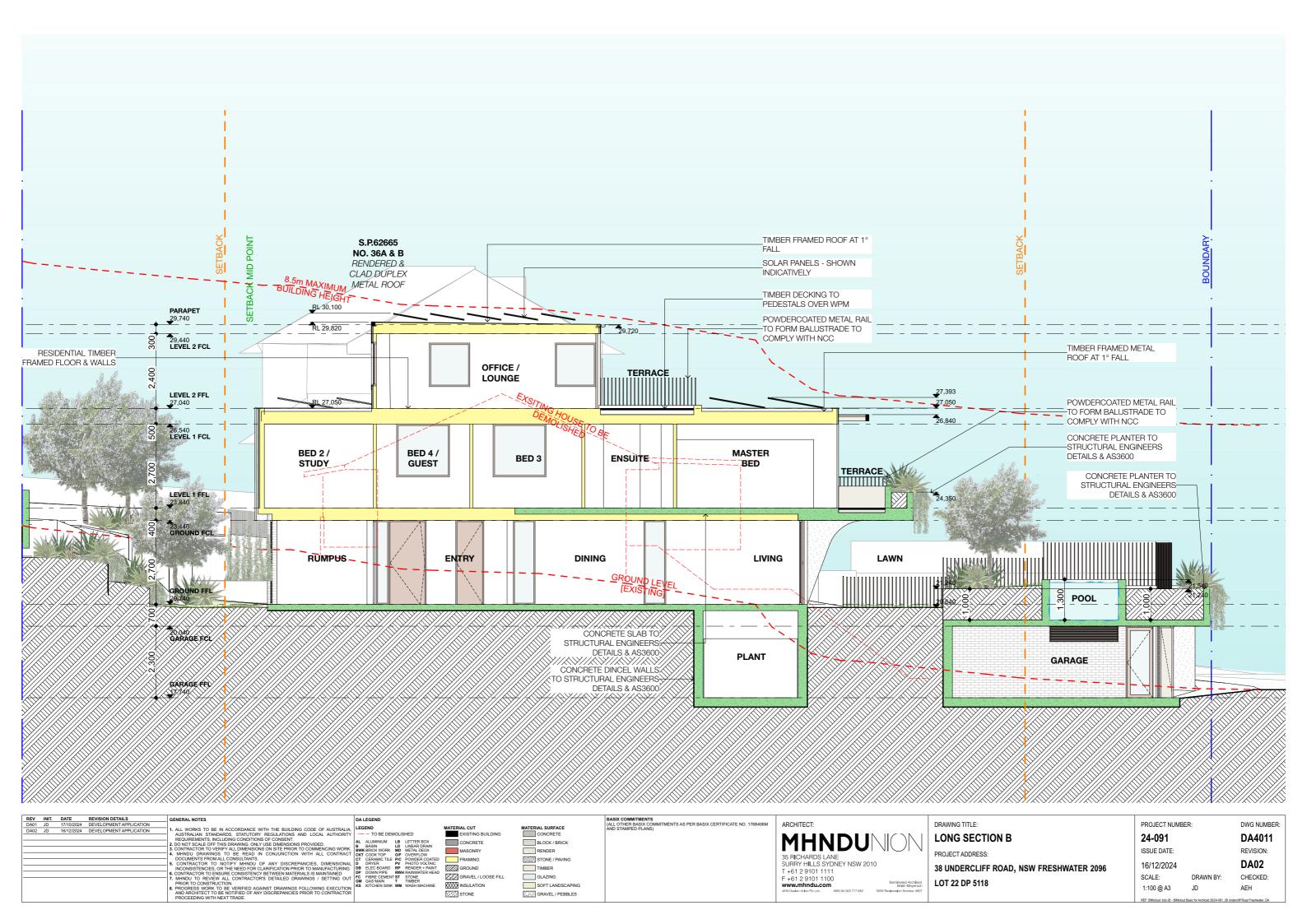








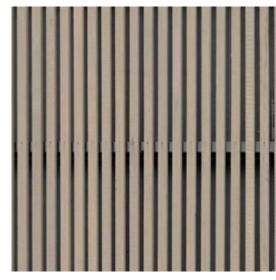








1. BWK - BAGGED BRICKWORK



2. T - PAINTED BATTENS



3. RP - PIGMENTED RENDER - DULUX STONE MASTER



4. P/C - POWDER-COATED STEEL ROD FENCING







5. T - PAINTED DOOR



6. P/C AL - POWDER-COATED ALUMINIUM WINDOWS AND DOORS

SIDE ELEVATION

INIT.	DATE	REVISION DETAILS	GENERAL NOTES
JD	17/10/2024	DEVELOPMENT APPLICATION	
JD	16/12/2024	DEVELOPMENT APPLICATION	1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA,
			AUSTRALIAN STANDARDS, STATUTORY REGULATIONS AND LOCAL AUTHORITY
			REQUIREMENTS, INCLUDING CONDITIONS OF CONSENT. 2. DO NOT SCALE OFF THIS DRAWING, ONLY USE DIMENSIONS PROVIDED.
			3. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK.
			4. MHNDU DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CONTRACT
			DOCUMENTS FROM ALL CONSULTANTS.
			5. CONTRACTOR TO NOTIFY MHNDU OF ANY DISCREPANCIES, DIMENSIONAL
	JD	JD 17/10/2024	JD 17/10/2024 DEVELOPMENT APPLICATION

GRAVEL / LOOSE FILL

GROUND

MATERIAL SURFACE
CONCRETE
BLOCK / BRICK RENDER TIMBER

GLAZING SOFT LANDSCAPING GRAVEL / PEBBLES

REAR LANE ELEVATION BASIX COMMITMENTS
(ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE NO. 1768406M
AND STAMPED PI ANS)

35 RICHARDS LANE SURRY HILLS SYDNEY NSW 2010 T +61 2 9101 1110 Www.mhndu.com

DRAWING TITLE:

EXTERNAL FINISHES

PROJECT ADDRESS: 38 UNDERCLIFF ROAD, NSW FRESHWATER 2096 LOT 22 DP 5118

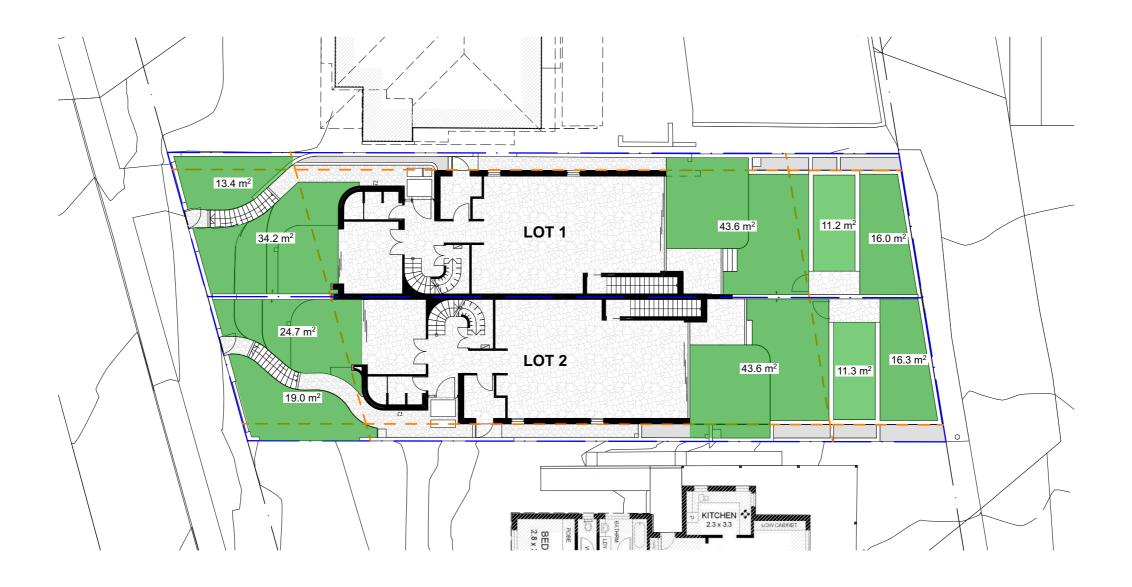
PROJECT NUMBER: DWG NUMBER: 24-091 DA6000

ISSUE DATE: REVISION: DA02 16/12/2024 SCALE: DRAWN BY: CHECKED: NTS @A3 JD AEH

REF: BIMcloud: bcb-26 - BiMcloud Basic for Archicad 26/24-091_38 Undercliff Road Freshwater_DA

LANDSCAPED AREA CALCULATIONS

LANDSCAPED AREA					
	AREA	SITE	%	REQUIRED	COMPLIES
CONTROL - LOT 1	m²	291.7	40.6% [118.4m ²]	40% [116.7m ²]	YES
CONTROL - LOT 2	m²	284.9	40.3% [114.9m ²]	40% [114.0m ²]	YES



REV II	INIT. D		REVISION DETAILS DEVELOPMENT APPLICATION	_ GENERAL NOTES	DA LEGEND			BASIX COMMITMENTS (ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE NO. 1768406M	ARCHITECT:	DRAWING TITLE:	PROJECT NUMBI	ED.	DWG NUMBER
DA01 J	ID 1		DEVELOPMENT APPLICATION	1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA.	LEGEND	MATERIAL CUT	MATERIAL SURFACE	AND STAMPED PLANS)	ANGIIILGI.	DIAWING ITIEL.	FINOSECT NOWIDE	LIV.	DWG NOWIDEN
DAUZ 3	10 1	10/12/2024	DEVELOT MENT AT LEIGATION	AUSTRALIAN STANDARDS, STATUTORY REGULATIONS AND LOCAL AUTHORITY	- TO BE DEMOLISHED	EXISTING BUILDING	CONCRETE			LANDSCAPED AREA CALCULATIONS	24-091		D A 0 4 0 0
				REQUIREMENTS, INCLUDING CONDITIONS OF CONSENT.	AL ALUMINIUM LB LETTER BOX	CONCRETE	BLOCK / BRICK		MHNDIINIONI	LANDSCAPED AREA CALCULATIONS	24-091		DA9100
				3. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK.	B BASIN LD LINEAR DRAIN BWK BRICK WORK MD METAL DECK	MASONRY	RENDER			PROJECT ADDRESS:	ISSUE DATE:		REVISION:
				MINDU DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CONTRACT DOCUMENTS FROM ALL CONSULTANTS. CONTRACTOR TO NOTIFY MINDU OF ANY DISCREPANCIES. DIMENSIONAL	COOR TO NOTIFY MINDU OF ANY DISCREPANCIES, DIMENSIONAL DISPRESS OF PARTICIPATION OF THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING, DISCREPANCIES ON STENCES BETWEEN MATERIALS IS MAINTAINED DOWN PIPE RWW RAINWATER HEAD TO ENGINE ALL CONTIDATIONS DETAIL BIT DAMMINGS IS SETTING OUT FOR FIRE CEMENTS ITS STONE	TOP O/F OVERFLOW	STONE / PAVING		35 RICHARDS LANE		IOOOL DATE.		
						D DRYER PV PHOTO VOLTAIC		SURRY HILLS SYDNEY NSW 2010		16/12/2024		DA02	
				INCONSISTENCIES, OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING.			TIMBER		T+61 2 9101 1111 F+61 2 9101 1100	38 UNDERCLIFF ROAD, NSW FRESHWATER 2096	10/12/2024		DAUL
				6. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED 7. MHNDLL TO REVIEW ALL CONTRACTOR'S DETAILED DRAWINGS / SETTING OLD		GRAVEL / LOOSE FILL	GLAZING			, ·	SCALE:	DRAWN BY:	CHECKED:
				PRIOR TO CONSTRUCTION.	GM GAS MAIN T TIMBER KS KITCHEN SINK WM WASH MACHINE	XXXX INSULATION	SOFT LANDSCAPING		www.mhndu.com Nominated Architect Brish Meyerson	LOT 22 DP 5118			
				8. PROGRESS WORK TO BE VERIFIED AGAINST DRAWINGS FOLLOWING EXECUTION	NO KITCHEN SINK WIM WASH WASH WASH				vHN Destan Union Ptv Ltd. ABN 94 003 717 682 NSW Registration Number 4907		1:200 @ A3	JD	AEH
				AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONTRACTOR PROCEEDING WITH NEXT TRADE.		STONE	GRAVEL / PEBBLES				REF: BIMcloud: bcb-26 - BIMcloud	d Basic for Archicad 26/24-091 38 Ur	Underdiff Road Freshwater DA

EXCAVATION / OR FILL CALCULATIONS

PURPOSE	VOLUME
EXCAVATION - BUILDING	337.39m ³
EXCAVATION - PARKING	81.09m³
EXCAVATION - LANDSCAPE	169.75m³
FILL - ALL	46.58m³





ENVELOPE DIAGRAMS

ENVELOPE

B3 Side Boundary Envelope

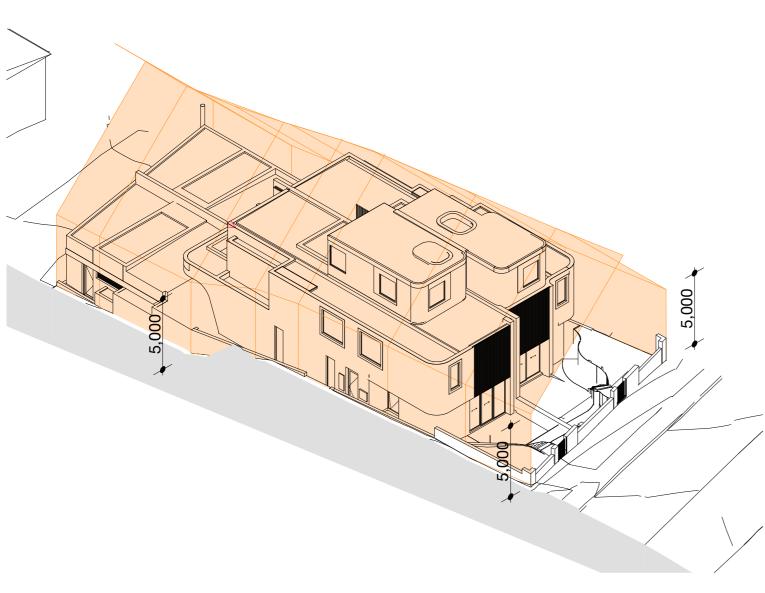
1. Buildings on land shown coloured on the DCP Map Side Boundary Envelopes must be sited within a building envelope determined by projecting planes at 45 degrees from a height above ground level (existing) at the side boundaries of 5 metres



BOUNDARY ENVELOPE PLANE



BOUNDARY ENVELOPE PLANE PROTRUSION

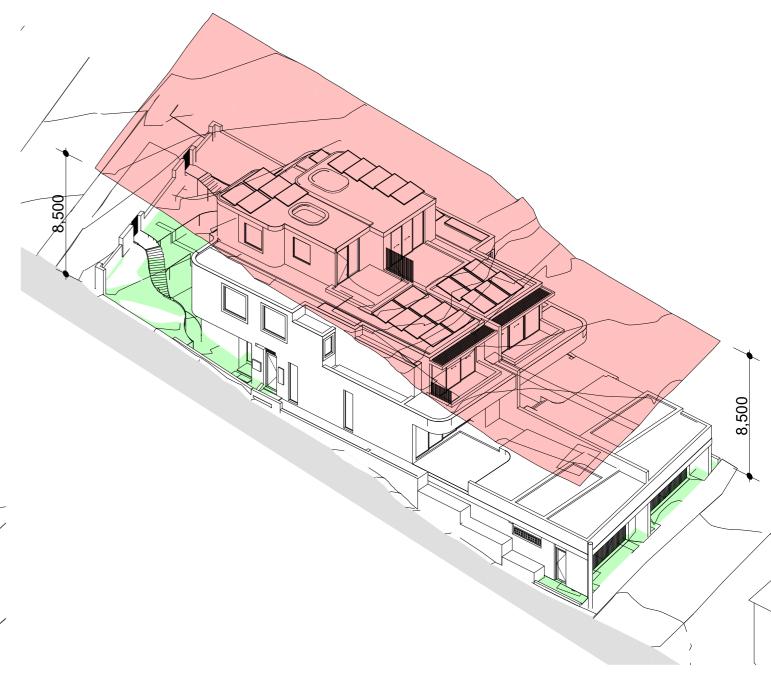


PLANNING DIAGRAM - BUILDING ENVELOPE - WEST

PLANNING DIAGRAM - BUILDING ENVELOPE- EAST

REV INIT. DATE REVISION DETAILS GENERAL NOTES	DA LEGEND			BASIX COMMITMENTS						
DA01 JD 17/10/2024 DEVELOPMENT APPLICATION DA02 ID 46/3/2024 DEVELOPMENT APPLICATION 1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUST	LEGEND	MATERIAL CUT	MATERIAL SURFACE	(ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE NO. 1768406M AND STAMPED PLANS)	ARCHITECT:		DRAWING TITLE:	PROJECT NUME	BER:	DWG NUMBER:
DA02 JD 16/12/2024 DEVELOPMENT APPLICATION 1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIAN STANDARDS. STATUTORY REGULATIONS AND LOCAL AUTHORS.	RITY — TO BE DEMOLISHED	EXISTING BUILDING	CONCRETE	AND STAIN ED LEANS)	MILLERIA	11.65 1	ENVELORE BLACKANA	04 004		D 4 0 0 0 0
REQUIREMENTS, INCLUDING CONDITIONS OF CONSENT. 2 DO NOT SCALE OFF THIS DRAWING, ONLY USE DIMENSIONS PROVIDED.	AL ALUMINIUM LB LETTER BOX	CONCRETE	BLOCK / BRICK		MHNDII	\	ENVELOPE DIAGRAMS	24-091		DA9300
3. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING 4. MINDIU DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CON		MASONRY	RENDER				PRO IFOT APPRECO.	ISSUE DATE:		REVISION:
4. MINDU DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CON-	CKT COOK TOP O/F OVERFLOW	D EBAMING	STONE / PAVING		35 RICHARDS LANE		PROJECT ADDRESS:			
5. CONTRACTOR TO NOTIFY MHNDU OF ANY DISCREPANCIES, DIMENS	NAL D DRYER PV PHOTO VOLTAIC	D DRYER PV PHOTO VOLIAIC		NO .	SURRY HILLS SYDNEY NSW 2010	***************************************	16/12/2024		DA02	
INCONSISTENCIES, OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTU	NG. DB ELEC BOARD RP RENDER + PAINT			T +61 2 9101 1111		38 UNDERCLIFF ROAD, NSW FRESHWATER 2096	10/12/2024		DAUL	
6. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINE 7. MINDU TO REVIEW ALL CONTRACTOR'S DETAILED DRAWINGS / SETTING 9. SETTING 1. SETING 1. SETING	OUT FC FIBRE CEMENT ST STONE	GRAVEL / LOOSE FILL	GLAZING		F +61 2 9101 1100			SCALE:	DRAWN BY:	CHECKED:
PRIOR TO CONSTRUCTION.	KS KITCHEN SINK WM WASH MACHINE	INSULATION	SOFT LANDSCAPING		www.mhndu.com	Nominated Architect Brian Meyerson	LOT 22 DP 5118	NTC @ A2	ID.	٨٢١١
8. PROGRESS WORK TO BE VERIFIED AGAINST DRAWINGS FOLLOWING EXEC AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONTR.	TOR	SSS STONE	GRAVEL / PEBBLES		vIHN Design Union Ptv Ltd. ABN 94 003 717 682	NSW Registration Number 4907		NTS @ A3	JD	AEH
PROCEEDING WITH NEXT TRADE.		STONE	GRAVEL / PEBBLES					DEC DELimit his on District		Industry David Frankricker DA

MAXIMUM BUILDING HEIGHT DIAGRAMS MAXIMUM BUILDING HEIGHT R2 CONTROL - 8.5m MAXIMUM BUILDING HEIGHT PLANE EXISTING GROUND PLANE



PLANNING DIAGRAM - MAXIMUM BUILDING HEIGHT - WEST

PLANNING DIAGRAM - MAXIMUM BUILDING HEIGHT - EAST

IITMENTS AS PER BASIX CERTIFICATE NO. 1768406N DRAWING TITLE: PROJECT NUMBER: DWG NUMBER: MATERIAL SURFACE
CONCRETE
BLOCK / BRICK MAXIMUM BUILDING HEIGHT DIAGRAMS 24-091 DA9301 RENDER ISSUE DATE: REVISION: PROJECT ADDRESS: 35 RICHARDS LANE SURRY HILLS SYDNEY NSW 2010 T +61 2 9101 1111 F +61 2 9101 1100 www.mhndu.com DA02 16/12/2024 38 UNDERCLIFF ROAD, NSW FRESHWATER 2096 GROUND TIMBER GLAZING GRAVEL / LOOSE FILL
INSULATION SCALE: DRAWN BY: CHECKED: LOT 22 DP 5118 SOFT LANDSCAPING NTS @A3 JD AEH GRAVEL / PEBBLES



