



*yours locally*

**Sydney South West**  
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## **BUSHFIRE HAZARD ASSESSMENT**



Site Details:  
Lot 16  
Parent Lot/DP 32/5464  
House No. (Unknown)  
Bubalo Street  
Warriewood NSW 2102

Report Prepared for:  
Mr Baxter  
C/- Rawson Homes Pty Ltd  
Building F, Level 2, Suite 1  
1 Homebush Bay Drive  
Rhodes NSW 2138

Construction of a two storey dwelling

## Executive Summary

As required by Northern Beaches Council a bushfire risk assessment has been carried out in accordance with the procedures and requirements outlined in *Planning for Bushfire Protection (2006) Addendum – Appendix 3 (2010)* as issued by the NSW Rural Fire Service (RFS). A summary of the findings of this assessment are provided below. Subject to the recommendations provided in this report, the proposed development has the potential to comply with the aims and objectives of *Planning for Bushfire Protection (2006)*.

<b>Site Address</b>							
						Lot 16 DP 1216899 Parent Lot/DP 32/5464 Bubalo Street Warriewood NSW 2102	
<b>GPS Coordinates</b>							
						Latitude: -33.686971 Longitude: 151.299532	
<b>Aspect</b>							
						South West	
<b>Fire Danger Index Applied</b>							
						FDI 100	
<b>Vegetation Classifications</b>							
<b>North East</b>	Managed Land	<b>South East</b>	Managed Land	<b>South West</b>	Forest	<b>North West</b>	Managed Land
<b>Distance to Vegetation</b>							
<b>North East</b>	>140m	<b>South East</b>	>140m	<b>South West</b>	136m	<b>North West</b>	>140m
<b>Effective Slope</b>							
<b>North East</b>	N/A	<b>South East</b>	N/A	<b>South West</b>	Flat / Upslope	<b>North West</b>	N/A
<b>Bushfire Attack Level</b>							
<b>North East</b>	BAL-LOW	<b>South East</b>	BAL-LOW	<b>South West</b>	BAL-LOW	<b>North West</b>	BAL-LOW

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## 1. Project Brief

We have been engaged by Rawson Homes Pty Ltd to assess the threat posed to this development in the event of a bushfire. Current fire maps prepared by Northern Beaches Council in accordance with the requirements of Section 146 of the *Environmental Planning and Assessment Act 1979* (as amended) (EPAA) indicate that the site is situated within a bushfire prone area (BPA). The aim of this report is to identify the Bushfire Attack Level (BAL) to which the proposed development should be constructed under *AS 3959-2009: Construction of buildings in bushfire-prone areas* and the NSW variations as contained within *Addendum: Appendix 3 of Planning for Bushfire Protection* (2010) by the NSW Rural Fire Service to outline the provisions required to facilitate the fighting of bushfires.

The site is located at Lot 16, Parent Lot/DP 32/5464, Bubalo Street, Warriewood NSW 2102.

This report will supplement the development application to Northern Beaches Council for the proposed development of a new dwelling and has been prepared in accordance with the procedures and requirements contained within *Planning for Bushfire Protection* (2006) – *A Guide for Councils, Planners, Fire Authorities and Developers* with *Addendum: Appendix 3* (2010) as issued by the NSW Rural Fire Service.

The report relies upon the following information:

- Inspection of the site
- Details of the proposed dwelling produced by Rawson Homes Pty Ltd (See Appendix 2)

## 2. Introduction

As required by Northern Beaches Council and in accordance with the requirements of Section 79BA of EPAA, a bushfire assessment of the site has been carried out. This was done in accordance with the procedures and requirements contained within *AS 3959-2009* and *Addendum: Appendix 3* (2010) of *Planning for Bushfire Protection* (2006) as issued by the NSW Rural Fire Service. The findings have been outlined in this report to determine compliance with the Building Code of Australia.

The assessment of the site found that any development on the site is not at significant risk of bushfire attack. Construction to the Bushfire Attack Level of **BAL-LOW** to all elevations of the proposed building is recommended.

## 3. The Proposed Development

The proposed development is a two storey dwelling. The dwelling will feature a living room, dining, kitchen, home theatre, four bedrooms with three bathrooms and double garage. The development will have a building footprint area totalling 143.05m<sup>2</sup>. Landscaped areas are proposed to cover approximately 200.07m<sup>2</sup> (53.35%) of the site.

The building will be on a waffle concrete slab with steel frames and timber roof trusses. A brick and boarding veneer with a concrete tile roof covering will form the façade of the dwelling.



All aspects of the subject site face towards vacant lots ready for the construction of similar dwellings or public infrastructure assets such as roadways and footpaths. These properties and assets are reduced vegetation forms (i.e. maintained lawns and gardens) as well as areas of non-vegetation (i.e. dwellings, roads, paths, ancillary structures) and as such, are not considered to harbour any predominant vegetation formations which are described in *Planning for Bushfire Protection* (2006). Any future developments within this area should come under the R3 – Medium Density Residential planning codes as per Pittwater Local Environmental Plan 2014.



*Figure 2 – Photograph showing the northern aspect of the site*



*Figure 3 – Photograph showing the eastern aspect of the site*



*Figure 4 – Photograph showing the southern aspect of the site*



*Figure 5 – Photograph showing the western aspect of the site*

As seen within Figures 2-5, all aspects of the site look towards a landscape that is classified as 'Managed Land' as defined within AS 3959-2009. This landscape surrounds the entire site from a 100m distance, with no prominent vegetation in this area.

The vegetation toward the south western aspect was classified as 'Forest', as defined in AS 3959-2009. This is due to the vegetation being dominated by eucalypts with crowns that either touch or overlap. A prominent understorey is present. This vegetation was measured to be within 140m from the proposed developments location. As such this vegetation was noted in accordance with the Site Methodology procedure given in Section A3.5 of *Addendum: Appendix 3 of Planning for Bushfire Protection* (2010) however it was not considered to warrant any BAL construction requirements as specified in Table 2.4.2 of AS 3959-2009.

#### 4.1 Slope

The intensity and rate spread of fires burning uphill increases markedly with increasing slope. This is reflected in an increase in the fire hazard index for a particular fuel type with an increasing slope. Similarly the rate of spread and intensity of fires decreases when they burn downhill. Table 1 below outlines the general slope underneath the vegetation measured to be within 140m of the proposed dwelling to all elevations:

Table 1: Effective Slope

Elevation	Slope	Degrees (°)
North Eastern	-	-
South Eastern	-	-
South Western	Flat / Upslope	0-5°
North Western	-	-

These slope measurements are based on measurements acquired during a site inspection on the 7<sup>th</sup> November 2019, a site plan prepared by Rawson Homes Pty Ltd (Job no. A008108 – Issue D, Dated 30/09/2019).

#### 4.2 Surrounding Vegetation Types

The fuel categories in *Planning for Bushfires Protection* are described using botanical terminology, such as “forest” and “grassy woodland”. It should be noted that when used for bushfire hazard assessment these terms refer to the fuel production capacity and flammability of different vegetation types. Therefore their meaning and application for bushfire hazard assessment may differ from their use in a strictly botanical context.

**There are not any prominent forms of vegetation within a 100m distance of the proposed dwelling location.** This is based on measurements taken during the site inspection and supplemented by satellite image data from Nearmap. Figure 6 displays a 140m radius surrounding the site. While the vegetation to the south west of the site was measured to be within 140m, the vegetation did not contribute to any BAL requirements.



Figure 6 – 140m radius of the proposed dwelling (Nearmap 2019)

Using the information provided on the site plan produced by Rawson Homes Pty Ltd and by measuring distances as part of the site inspection, the distance between the proposed developments façade to predominant vegetation was determined and is given in Table 2.

Table 2: Setbacks from vegetation

Facade	Distance to Predominant Vegetation
Northern	>140m
Eastern	>140m
Southern	136m
Western	>140m

### 4.3 Category of Bushfire Attack

In accordance with the Table 2.4.2 of *AS 3959-2009*, all elevations of the proposed development have been determined as being located within an area of a Bushfire Attack Level considered LOW (BAL-LOW). This is due to there being insufficient risk to warrant specific Bushfire construction requirements. This is predicated on low threat vegetation and non-vegetated areas surrounding the site. Table 3 outlines the construction requirements for the proposed development elevations.

Table 3: BAL construction requirements for the development

Elevation	Level of Construction as per AS 3959-2009
Northern	BAL – LOW
Eastern	BAL – LOW
Southern	BAL – LOW
Western	BAL – LOW

## 5. Construction and Landscaping Recommendations

This site has been assessed to be within an area that will require a bushfire attack level of **BAL-LOW for all elevations of the dwelling**. Attached as an Appendix 1 are the construction requirements for BAL-LOW from Section 4 of Australian Standard *AS3959-2009: Construction of buildings in bushfire prone areas*.

However, even though the dwelling is located within 140m of bushfire threatening vegetation, the following construction and landscaping techniques are recommended to mitigate the risk of potential ember attack from this vegetation:

- Using non-combustible gutter and valley guards in the dwelling to limit the accumulation of debris in gutters.
- Storage of combustible materials as far from the dwelling as possible

## 6. Conclusion

In conclusion, construction standards for building within bushfire-prone areas are set out in Australian Standard *AS 3959-2009: Construction of Buildings in Bushfire Prone Areas. Addendum: Appendix 3 (2010) of Planning for Bushfire Protection (2006)* provides a procedure for determining the category of bushfire attack and the appropriate level of construction. It is considered that the proposed dwelling is not at particular risk warranting a specific construction standard as given in *AS 3959-2009*, hence a **BAL-LOW rating** is recommended for the proposed development.

However, as the development is located within 140m of bushfire threatening vegetation, the following recommendations are made for the dwelling to mitigate the risk of ember attack:

- Using non-combustible gutter and valley guards in the dwelling to limit the accumulation of debris in gutters.
- Storage of combustible materials as far from the dwelling as possible



Craig Hardy  
*MBA; M.App.Sc.(Env.Toxicology); B.App.Sc.(Env.Health)*  
*Accredited Certifier – Building Surveying A2 – 0167*  
*BPAD-D Certified Practitioner – 24168*

November 2019

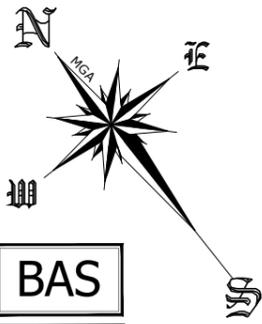
## 7. References

- Nearmap Pty Ltd (2019) *PhotoMaps by Nearmap*. Available: <http://maps.au.nearmap.com/>. Last accessed 13/11/19
- NSW Rural Fire Service (2006) *Planning for Bushfire Protection, A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*. NSW Rural Fire Service, Lidcombe NSW.
- NSW Rural Fire Service (2010) *Planning for Bushfire Protection: Addendum Appendix 3*. NSW Rural Fire Service, Lidcombe NSW.
- NSW State Government. (2019). *SixMaps*. Available: <https://maps.six.nsw.gov.au/>. Last accessed 13/11/19
- Ramsay C & Dawkins D (1993) *Building in Bushfire Prone areas – Information and Advice*. CSIRO and Standards Australia.
- Standards Australia (2009) *Australian Standard AS 3959–2009: Construction of Buildings in Bushfire-Prone Areas*. SAI Global Ltd, Sydney.

## 8. Appendices

1. Proposed Development Plans provided by Rawson Homes Pty Ltd – Job no. A008108, Issue D, Dated 30/09/2019





**SITE NOTE:**  
BEFORE STARTING WORK ON SITE CHECKING FOLLOWING:  
1. SERVICE LOCATIONS.  
2. SEWER CONNECTION POSITION.  
3. DRIVEWAY ALIGNMENT & LEVELS.  
DP INDICATES DOWNPIPE LOCATION

**BAS**

**- WARNING -**  
UNREGISTERED PLAN

**LEGEND**

DT - DENOTES DEAD TREE	PP - POWER POLE
EB - ELECTRICAL BOX	SMH - SEWER MAN HOLE
EM - ELECTRICAL METER	SIO - SEWER INSPECTION OPENING
G - GAS METER	SV - SEWER VENT PIPE STOP VALVE
H - HYDRANT	S - DENOTES TREE STUMP
R - HYDRANT RECYCLED	SWP - DENOTES STORM WATER PIT
KO - DENOTES KERB OUTLET	T - DENOTES TREE
LP - LIGHT POLE	TP - TELESTRA PIT
LH - LAMP POLE	WT - WATER TAG
MH - MAN HOLE	WM - WATER METER
▲ - BENCH MARK	▭ - GULLY PIT
① - PHOTO POINT	▬ - VEHICULAR CROSSING

DRIVEWAY AND FRONT PATH TO COMPLY WITH AS2890

0.65M FALL ACROSS BUILDING ENVELOPE

N2 WIND CATEGORY

**GENERAL SITING NOTES**

- ALL PROPOSED FINISH FLOOR LEVELS AND CUT/FILL REQUIREMENTS SUBJECT TO CONFIRMATION UPON COMPLETION OF ARCHITECTURAL PLANS.
- ALL PROPOSED FINISH FLOOR LEVELS ARE SUBJECT TO CONFIRMATION WITH STEP-DOWNS NOMINATED PRIOR TO EXCAVATION BY BUILDER, EXCAVATOR AND/OR CONCRETOR.
- ALL FLOOR AREA CALCULATIONS ARE TO BE CONFIRMED UPON THE COMPLETION OF FINAL ARCHITECTURAL PLANS.
- ALL ALLOWANCES FOR STEPS/STAIRS THAT MAY BE REQUIRED ARE SUBJECT TO FINAL ARCHITECTURAL PLANS.
- ALL ALLOWANCES FOR RETAINING WALLS ARE SUBJECT TO FINAL ARCHITECTURAL PLANS.

EXISTING TREES GREATER THAN 8m IN HEIGHT WITHIN 3m OF THE PROPOSED BUILDING OR ANY TREES WITHIN PROPOSED DRIVEWAY TO BE REMOVED BY OWNER PRIOR TO CONSTRUCTION

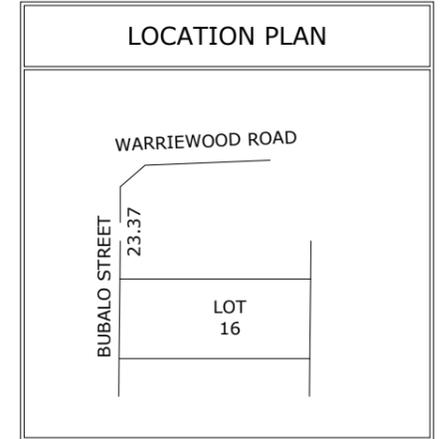
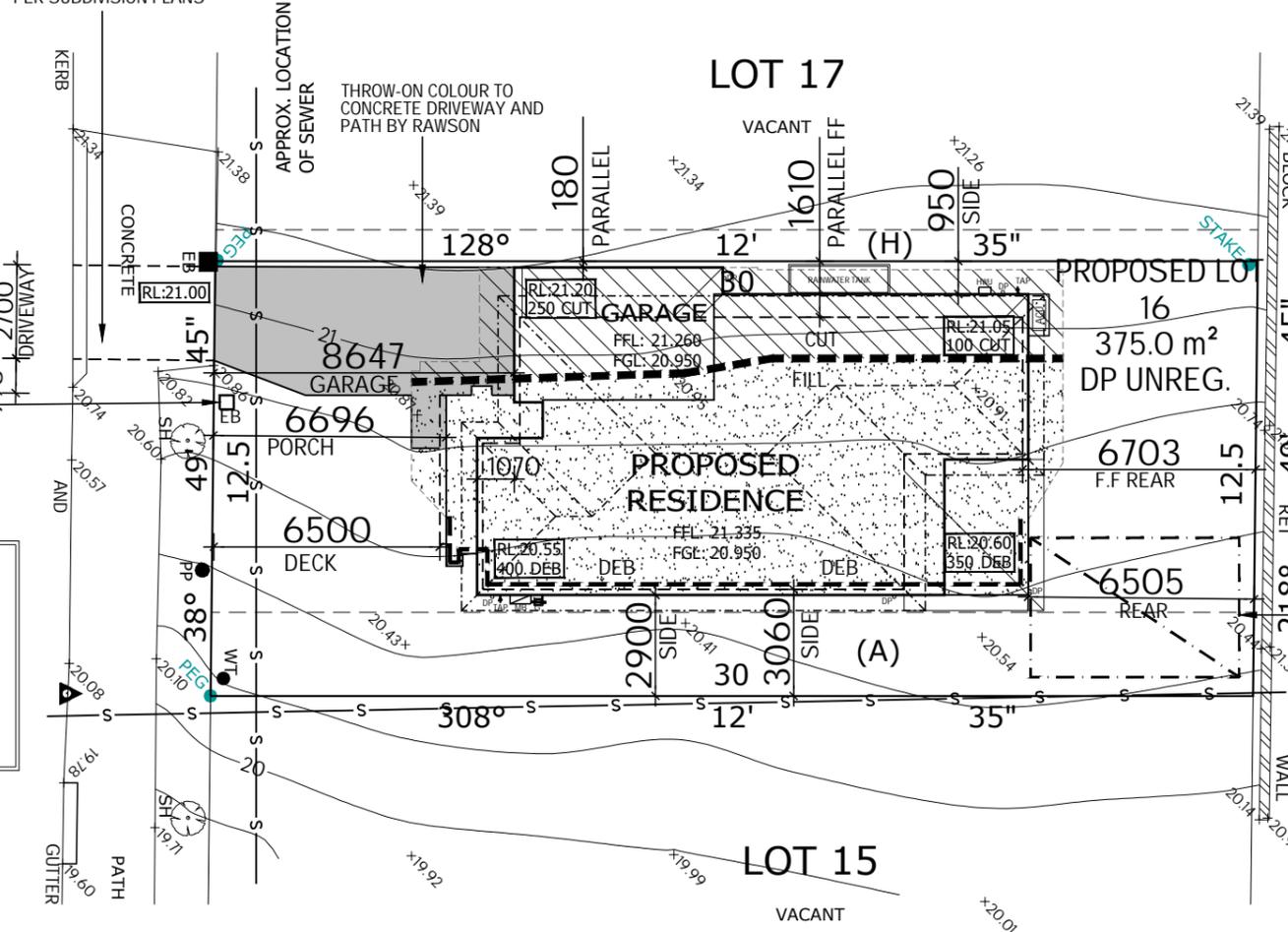


APPROX. LOCATION OF ELECTRICAL BOARD RELOCATED BY DEVELOPER

**PROPOSED ROAD**

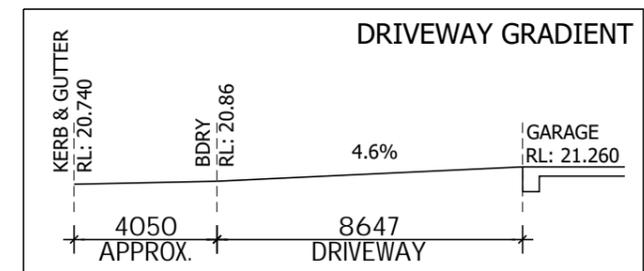
BENCH MARK  
BM 15 NAIL IN KERB  
RL 20.00 (ASSUMED)

PROPOSED VEHICULAR CROSSOVER BY DEVELOPER AS PER SUBDIVISION PLANS



**SITE CALCULATIONS DA**

GROUND FLOOR	104.98 m <sup>2</sup>
FIRST FLOOR	104.51 m <sup>2</sup>
TOTAL LIVING AREA	209.49 m <sup>2</sup>
SITE AREA	375.00 m <sup>2</sup>
BUILDING FOOTPRINT	143.05 m <sup>2</sup>
DRIVEWAY & PATH	31.88 m <sup>2</sup>
TOTAL LANDSCAPE AREA	200.07 m <sup>2</sup>
LANDSCAPE AREA (%)	53.35 %
FLOOR SPACE RATIO	0.56 :1
SITE COVERAGE	38.15 %



**NOTES:**  
PLEASE NOTE: DETAILS SHOWN ON THESE PLANS ARE INTENDED TO BE ACCURATE - HOWEVER INFORMATION WRITTEN INTO INDIVIDUAL CONTRACTS WILL TAKE PRECEDENCE OVER PLANS  
 \* ALL DIMENSIONS ARE IN MILLIMETRES  
 \* DO NOT SCALE - USE WRITTEN DIMENSIONS  
 \* ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY EXCLUDING FINISHED SURFACES

**RAWSON HOMES**

1 HOMEBUSH BAY DRIVE  
 BUILDING F, LEVEL 2, SUITE 1  
 RHODES NSW 2138  
 TELEPHONE: 02 8765 5500  
 FAX : 02 8765 8099  
 BUILDER'S LICENCE No. 33493C



CLIENT:  
**Mr ROBERT ALEXANDER MCDONALD BAXTER**

SITE ADDRESS:  
 PROPOSED LOT 16, UNREGISTERED,  
 PROPOSED ROAD  
 WARRIEWOOD NSW 2102

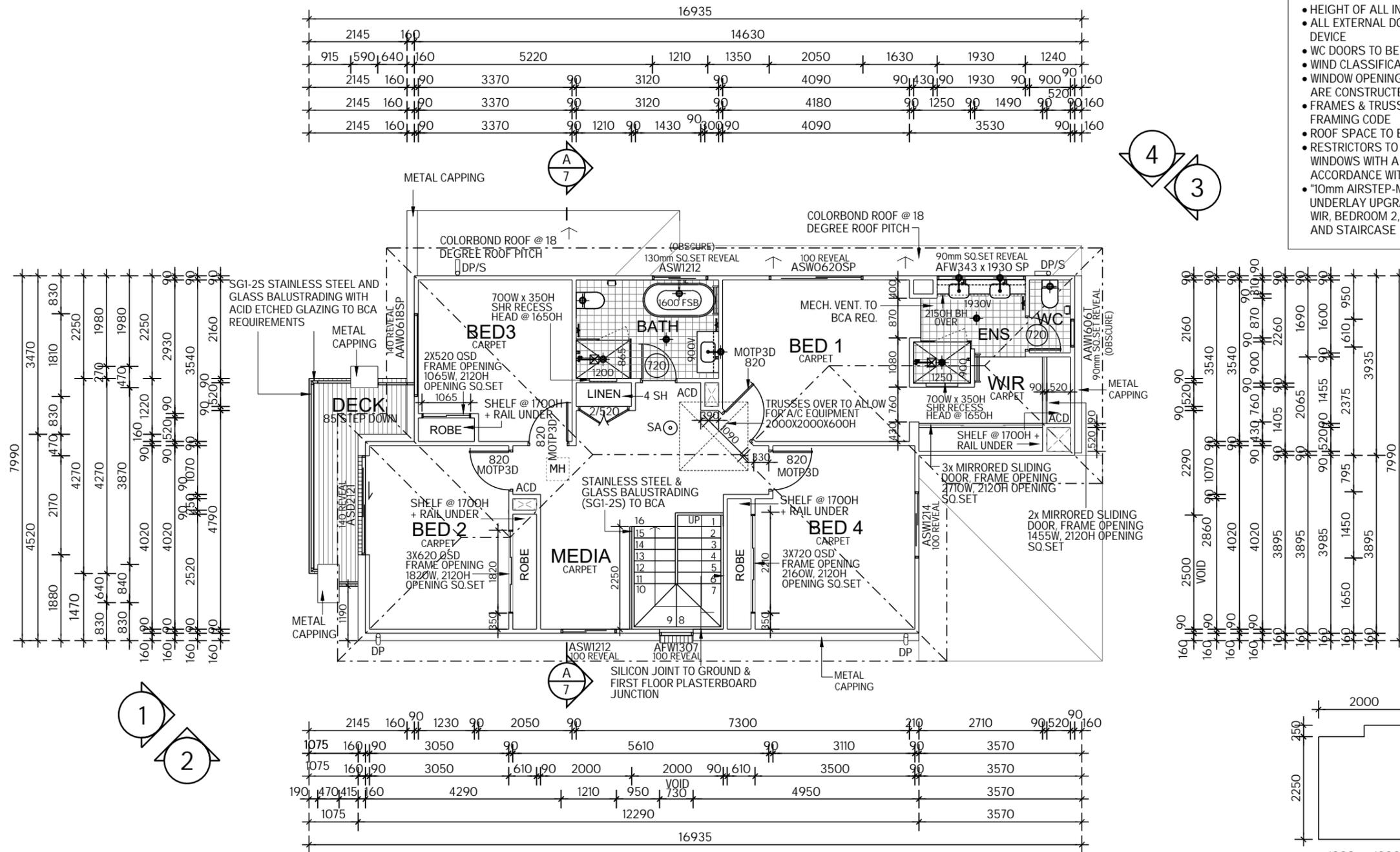
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 MODEL: BENHAM 24 MKII  
 FACADE: TREND  
 TYPE: GARAGE  
 SPECIFICATION: LUX

DRAWING TITLE:  
**SITE PLAN**

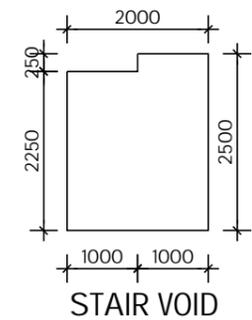
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COUNCIL AREA: PITTWATER		SCALE: 1:200	
JOB No: A008108	DRWG No.:	ISSUE:	
	02	D	



- HEIGHT OF ALL SQ.SETS 2150mm FROM FFL UNLESS OTHERWISE SHOWN.
- HEIGHT OF ALL INTERNAL DOORS 2040H TO FIRST FLOOR
- ALL EXTERNAL DOORS TO BE FITTED WITH DRAFT EXCLUSION DEVICE
- WC DOORS TO BE FITTED WITH LIFT-OFF HINGES
- WIND CLASSIFICATION N2 RATING
- WINDOW OPENING SIZES TO BE CHECKED BEFORE FRAMES ARE CONSTRUCTED
- FRAMES & TRUSSES TO SATISFY AS 1684 SAA TIMBER FRAMING CODE
- ROOF SPACE TO BE VENTILATED BY EAVE VENTS
- RESTRICTORS TO BE FITTED TO ALL 1ST FLOOR OPENABLE WINDOWS WITH A SILL HEIGHT LESS THAN 1.7 M ABOVE FFL. IN ACCORDANCE WITH BCA CLAUSES 3.9.2.5
- "10mm AIRSTEP-MAX PREMIUM GOLD FOAM" CARPET UNDERLAY UPGRADE TO LOUNGE, BEDROOM 1, BEDROOM 1 WIR, BEDROOM 2, BEDROOM 3, BEDROOM 4, MEDIA, HALLWAY AND STAIRCASE



AIR-CONDITIONING ZONE:  
-ZONE 1: GROUND FLOOR  
-ZONE 2: FIRST FLOOR



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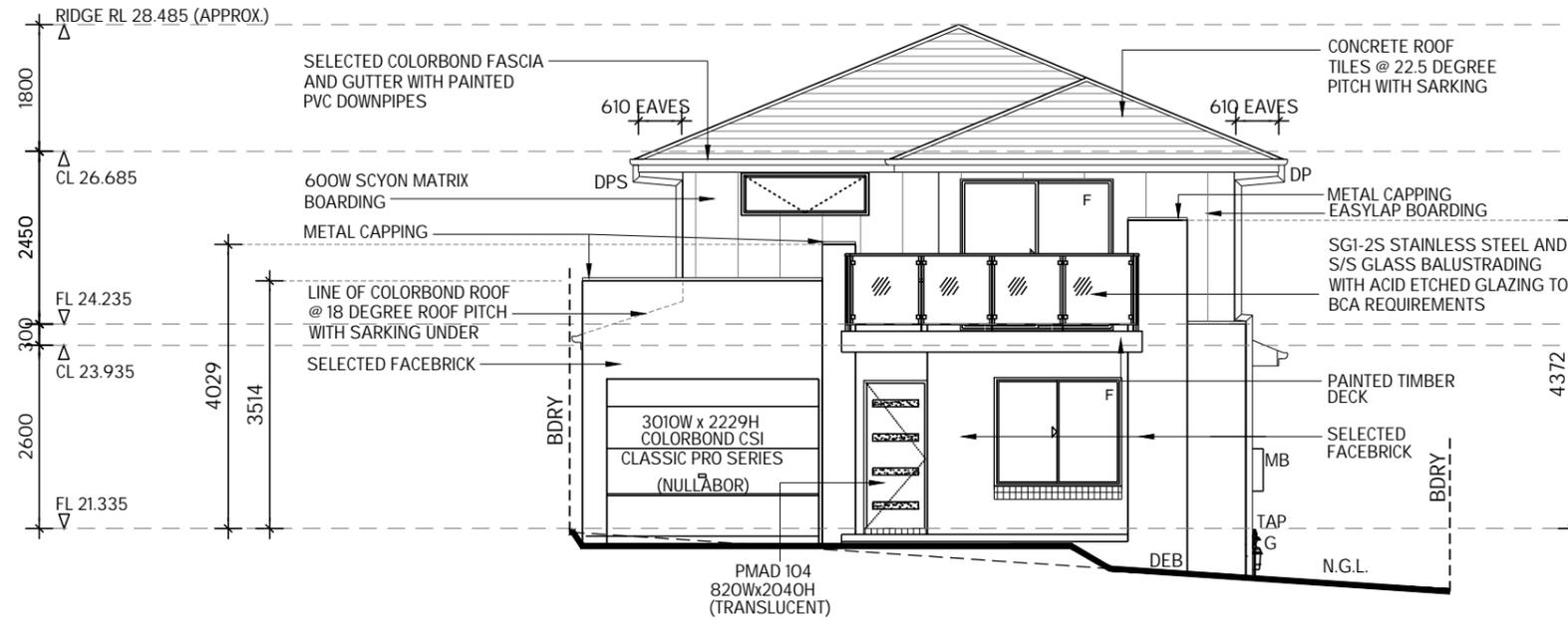
**RAWSON HOMES**  
1 HOMEBUSH BAY DRIVE  
BUILDING F, LEVEL 2, SUITE 1  
RHODES NSW 2138  
TELEPHONE: 02 8765 5500  
FAX : 02 8765 8099  
BUILDER'S LICENCE No. 33493C

CLIENT:  
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SITE ADDRESS:  
PROPOSED LOT 16, UNREGISTERED,  
PROPOSED ROAD  
WARRIEWOOD NSW 2102

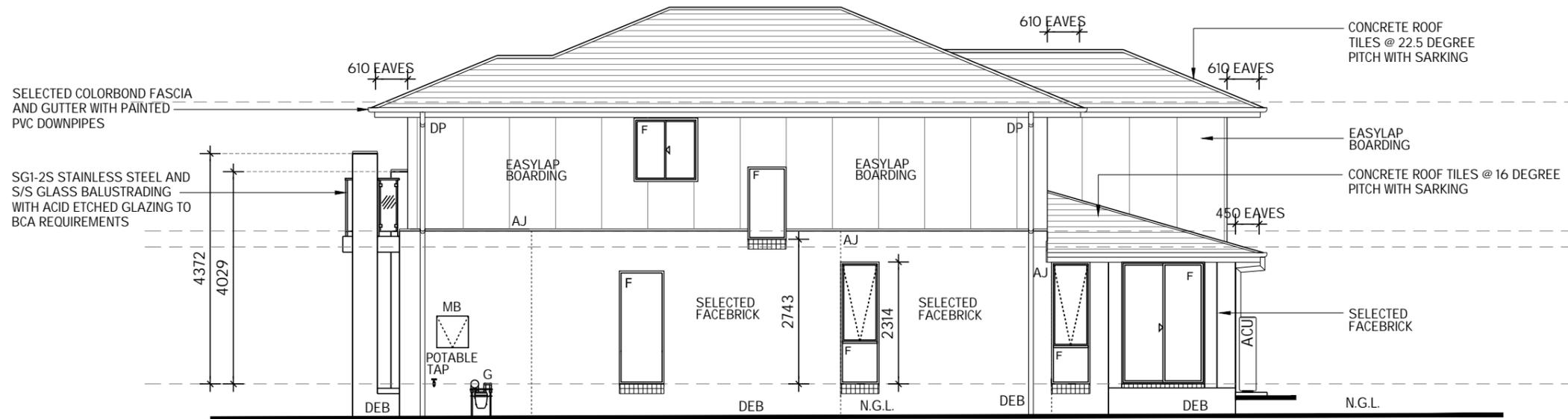
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JOB No: A008108	DRWG No.:	ISSUE:	
	04	D	

NOTE:  
NYLON MESH FLYSCREENS TO ALL OPENING  
WINDOWS, SLIDING & STACKER DOORS  
(EXCLUDING HINGED DOORS)



FRONT ELEVATION - 1



SIDE ELEVATION - 2

NOTES:

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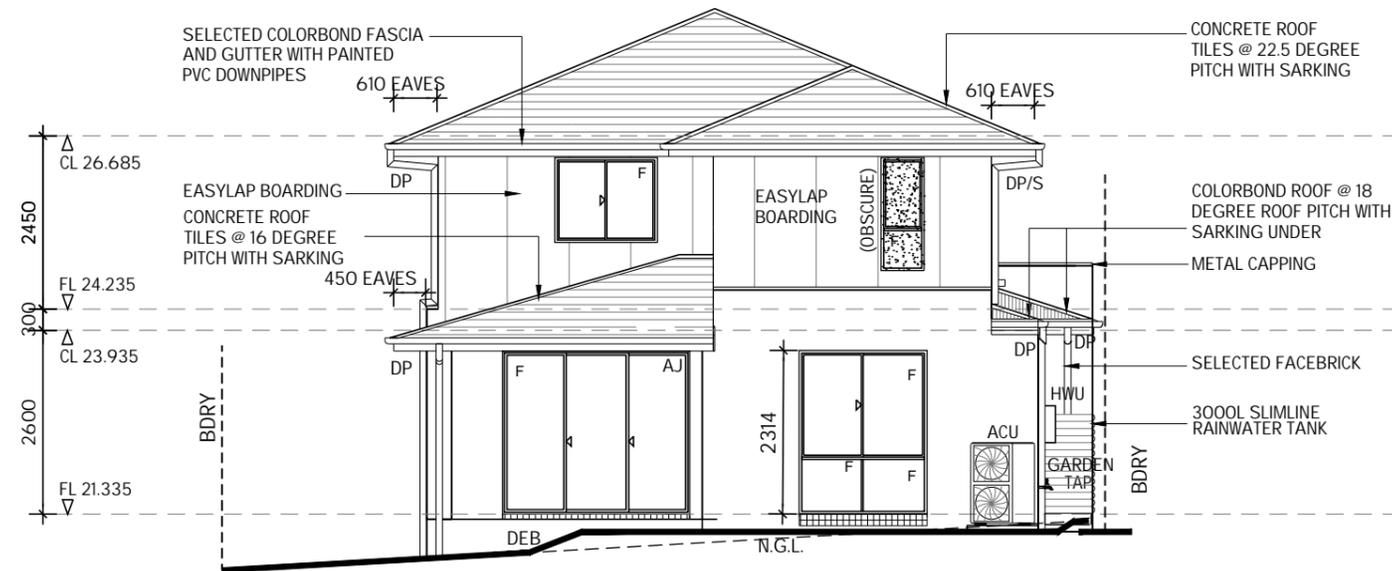
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WARRIEWOOD NSW 2102

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FACADE: TREND  
TYPE: GARAGE  
SPECIFICATION: LUX

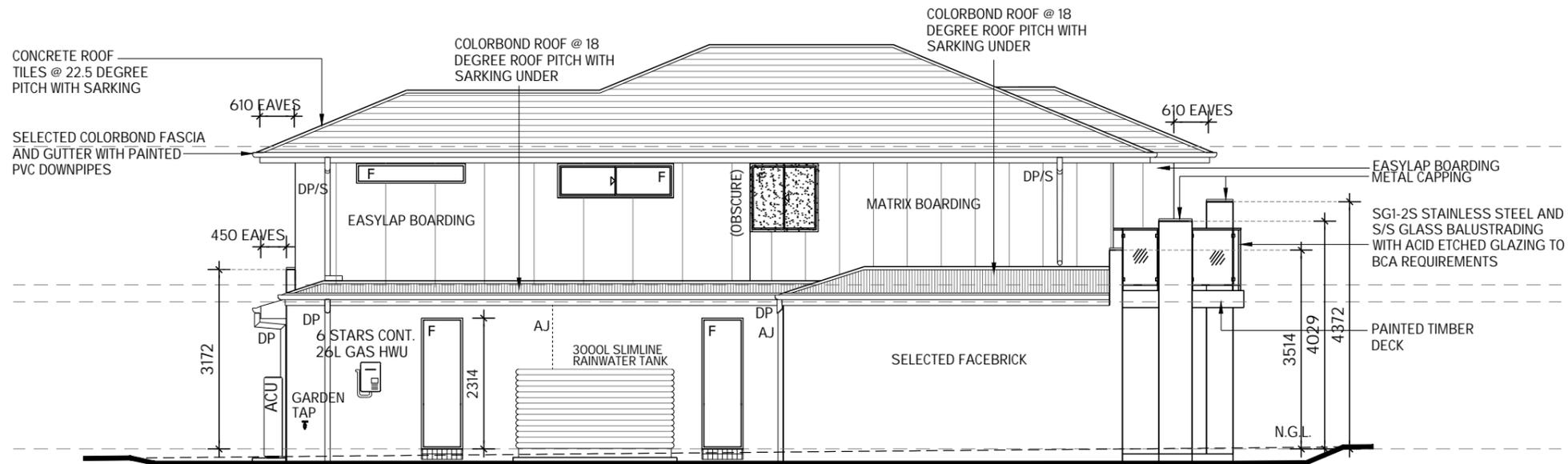
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JOB No: A008108	DRWG No.: 05	ISSUE: D	

NOTE:  
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WINDOWS, SLIDING & STACKER DOORS  
(EXCLUDING HINGED DOORS)



REAR ELEVATION - 3



SIDE ELEVATION - 4

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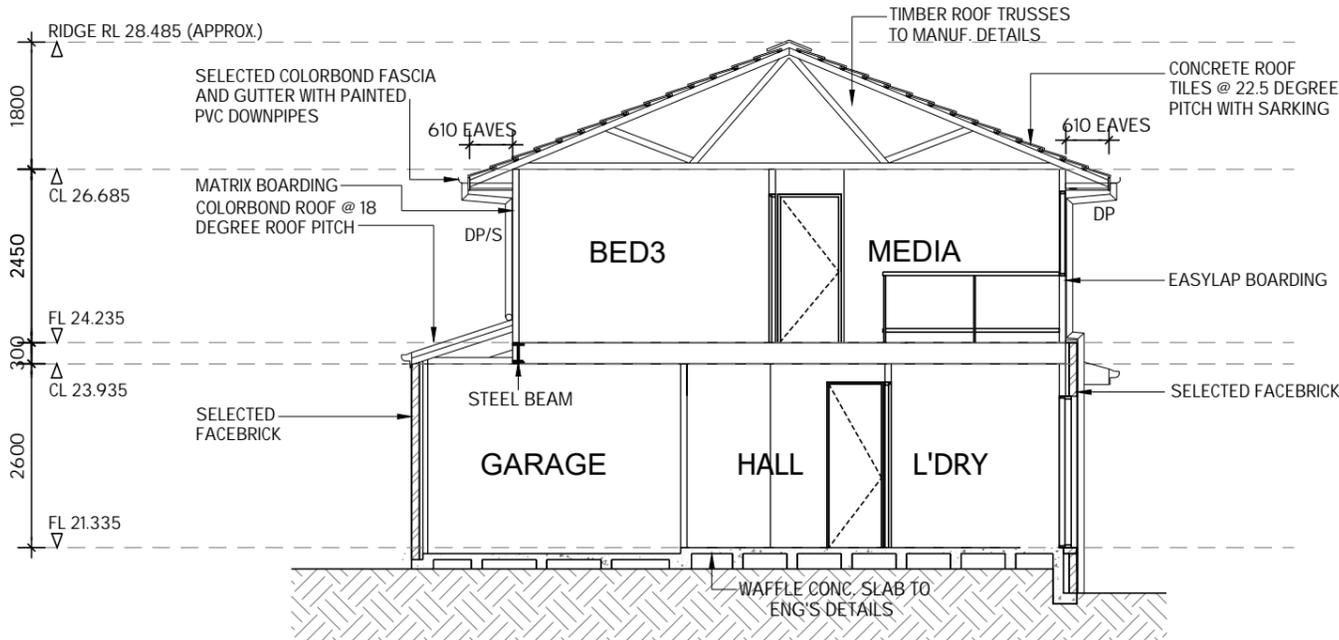
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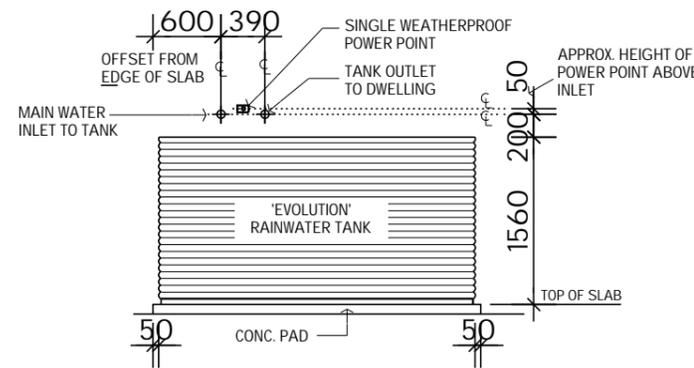
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JOB No: A008108	DRWG No.: 06	ISSUE: D	

**INSULATION**

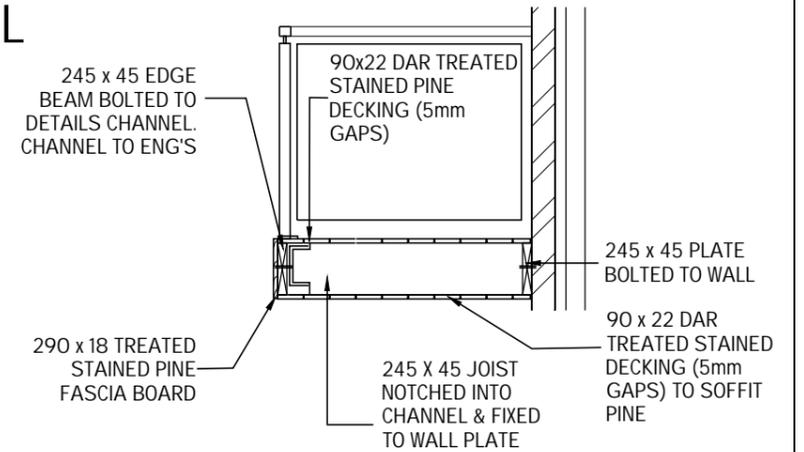
- R3.5 INSULATION TO CEILING WITH ROOF OVER (EXCLUDING CEILINGS OVER GARAGE, PORCH, ALFRESCO & BALCONY)
- R2.0 INSULATION TO EXTERNAL WALL (INCLUDING WALLS BETWEEN GARAGE AND HOUSE)
- R2.0 SOUNDSCREEN INSULATION TO INTERNAL WALL AS PER INDICATED ON PLAN
- R3.0 SOUNDSCREEN INSULATION TO CEILING TO LOUNGE



SECTION A - A



RAINWATER TANK DETAIL  
NOT TO SCALE



DETAIL DECKING  
NOT TO SCALE

**BASIX COMMITMENTS**

PROJECT DETAILS			RAINWATER	ENERGY	ARTIFICIAL LIGHTING
Site area	375	m2	Rainwater tank capacity of 3000L to collect rain runoff of at least 153sqm of the roof area & connected to all toilets, cold water taps connected to clothes washers & at least one outdoor tap on development.	<b>ACTIVE COOLING/HEATING</b> Provide fully ducted reverse cycle 3 phase air conditioner with EER rating of 2.5 - 3.0 for cooling Provide fully ducted reverse cycle 3 phase air conditioner with EER rating of 3.0-3.5 for heating Provide day/night zoning between living areas and bedrooms	The applicant must provide LED lighting to at least 4 of the bedrooms/study; the kitchen at least 4 of the living / dining rooms; all bathrooms/toilets, laundry & hallways
Roof area	153	m2	<b>WATER</b> All showers with in the development are to have a minimum rating of 3 star showerheads Each toilet is to have a flushing system of no less than a 4 star rating	<b>VENTILATION</b> Exhaust systems kitchen, 1xbathroom with manual switch on/off ducted to roof & facade.	<b>COOKING (KITCHEN APPLIANCES)</b> Install a gas cooktop and electric oven
number of bedrooms	4				
Total area of vegetation (garden & lawn)	206	m2	<b>HOT WATER</b> Gas Instantaneous hot water system with a performance of 6 stars	<b>LIGHTING</b> Provide window(s) and/or skylight to 4 bathroom(s) & toilet(s) Provide window(s) and/or skylight to the kitchen	<b>DESIGN ENHANCEMENTS</b> Install an outdoor clothes drying line
ABSA Certificate Number (if applicable)	0004266383				
Net conditioned floor area	173	m2			<b>INSULATION</b> External wall R2.0 [including garage] Ceiling R3.5 [excluding garage]
Net unconditioned floor area	11	m2			
Cooling load (if applicable)	25	MJ/m2/pa			
Heating load (if applicable)	33	MJ/m2/pa			

**NOTES:**

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\* DO NOT SCALE - USE WRITTEN DIMENSIONS  
\* ALL DIMENSIONS ARE TO STRUCTURAL FRAMES ONLY EXCLUDING FINISHED SURFACES

**RAWSON HOMES**

1 HOMEBUSH BAY DRIVE  
BUILDING F, LEVEL 2, SUITE 1  
RHODES NSW 2138  
TELEPHONE: 02 8765 5500  
FAX : 02 8765 8099  
BUILDER'S LICENCE No. 33493C



CLIENT:  
Mr ROBERT ALEXANDER MCDONALD BAXTER

SITE ADDRESS:  
PROPOSED LOT 16, UNREGISTERED,  
PROPOSED ROAD  
WARRIEWOOD NSW 2102

HOUSETYPE:  
MODEL: BENHAM 24 MKII  
FACADE: TREND  
TYPE: GARAGE  
SPECIFICATION: LUX

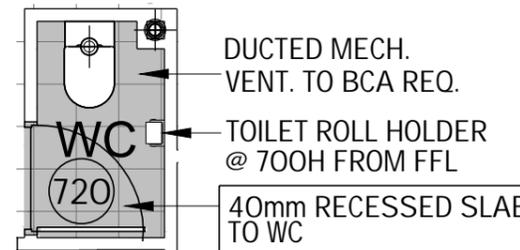
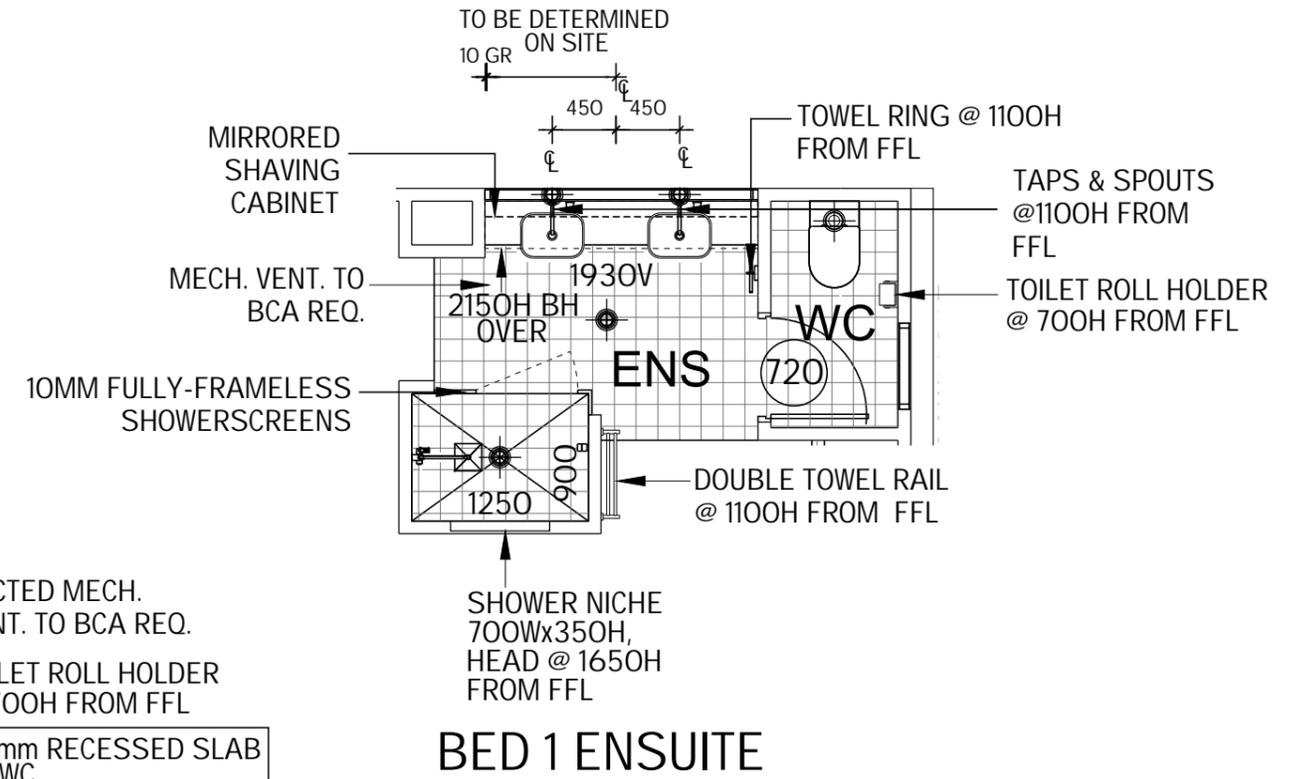
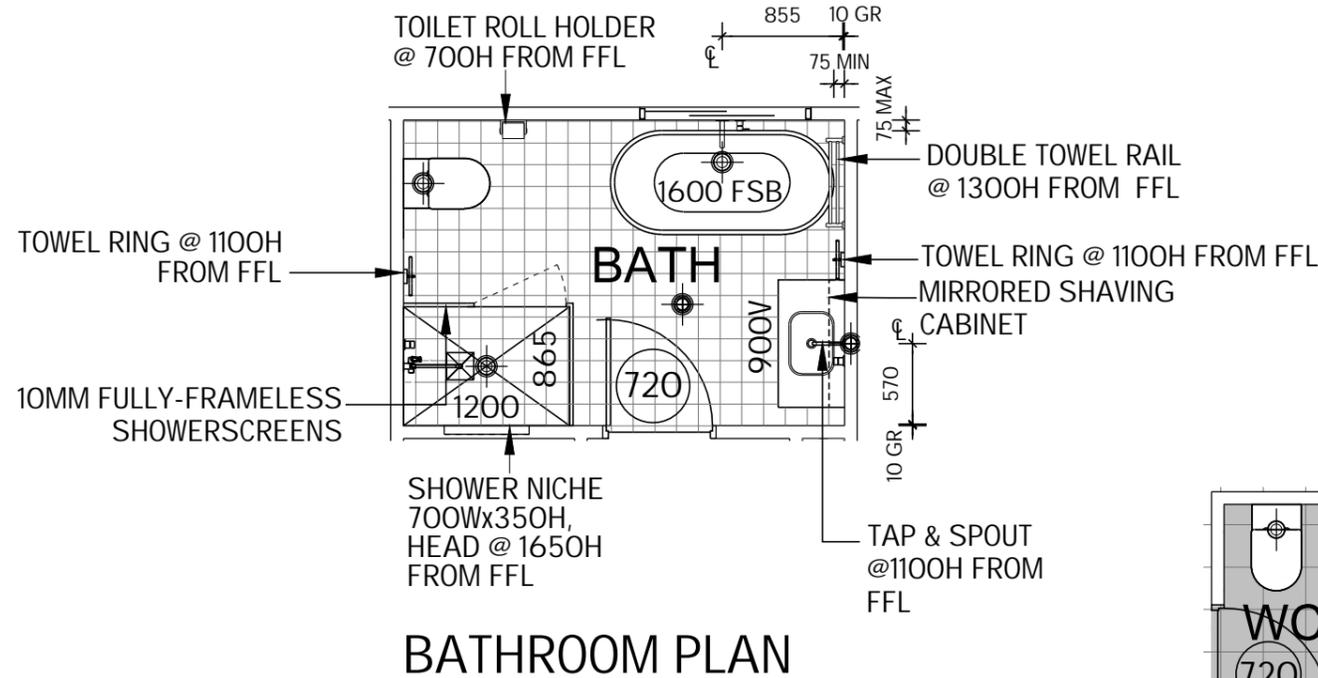
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**SECTION & BASIX**

DRAWN BY: DTT  
DATE DRAWN: 10.07.19  
CHECKED BY: DTT  
APPROVED FOR CONSTRUCTION:

COUNCIL AREA: PITTWATER  
SCALE: 1:100

JOB No: A008108  
DRWG No.: 07  
ISSUE: D

**REFER TO ELBA DESIGN FOR DETAILS**

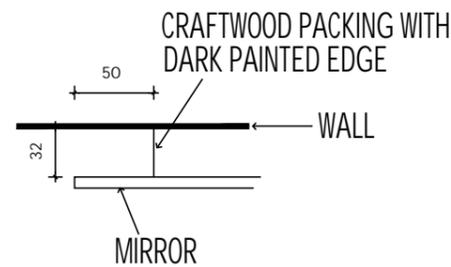


**REFER TO TILE DIRECT QUOTE  
SIGNED & DATED 10.04.18 FOR  
DETAILS.**

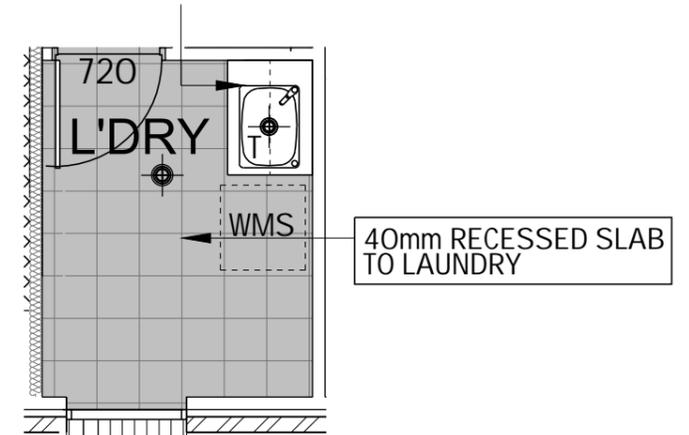
**NOTES:**

- PROVIDE 900mm HEAD HEIGHT TO BATHROOM & ENSUITE VANITY BENCHTOPS
- PROVIDE FULL HEIGHT CERAMIC WALL TILING TO MAIN BATHROOM & BEDROOM 1 ENSUITE (EX. SEPARATE WC)
- HEIGHT OF SHOWER SCREENS 2100mm
- 1/2 SKIRTING TILE TO REMAINDER OF POWDER, LAUNDRY & WC
- WALL MOUNTED SPOUT TO BATH & VANITY
- SQ. EDGE POLISHED FLOATING MIRRORS MOUNTED ON 32mm BOARD, 130mm OFFSET FROM EDGE OF VANITY & HEAD HEIGHT @ 2020mm FROM FFL. SPLASHBACK BETWEEN VANITY & MIRROR
- SMART FLOOR WASTES TO ALL WET AREAS
- 1900 SHOWER HEAD FROM FFL TO UNDER SIDE OF SHOWER HEAD

**WC PLAN**



810W LAUNDRY BENCH WITH  
O'HEAD & U'BENCH  
C'BOARDS



NOTE: WASHING MACHINE  
TAPS UNDER TUB  
650H TILED SPLASHBACK  
AROUND TUB

**NOTES:**

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SITE ADDRESS:  
PROPOSED LOT 16, UNREGISTERED,  
PROPOSED ROAD  
WARRIEWOOD NSW 2102

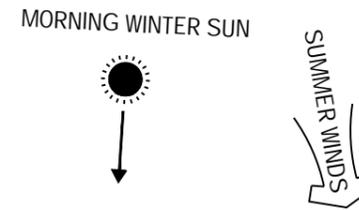
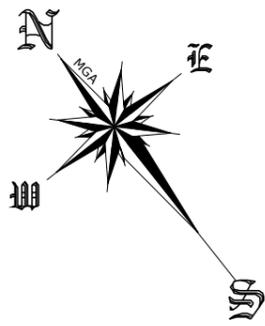
HOUSETYPE:  
MODEL: BENHAM 24 MKII  
FACADE: TREND  
TYPE: GARAGE  
SPECIFICATION: LUX

DRAWING TITLE:  
**WET AREA DETAILS**

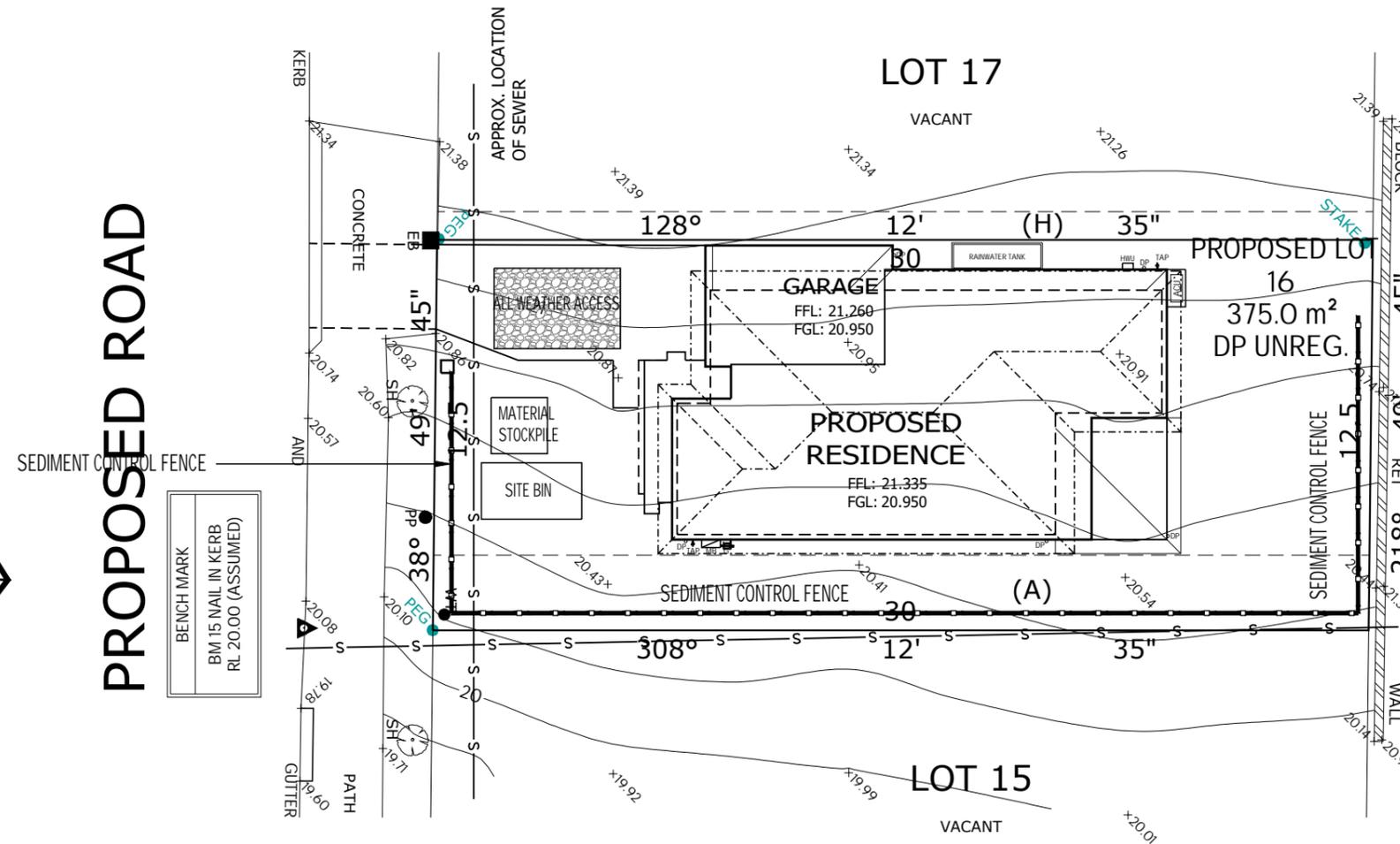
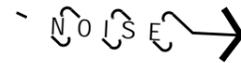
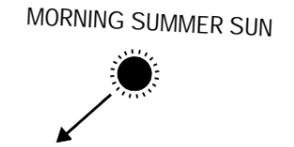
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COUNCIL AREA: PITTWATER	SCALE: 1:50
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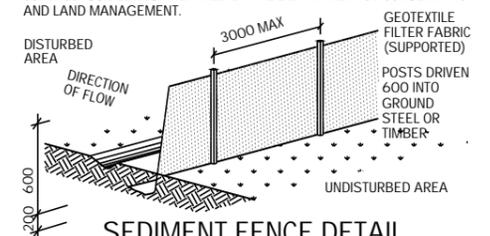
JOB No: A008108	DRWG No.: 08	ISSUE: D
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(A): EASEMENT FOR SEWER PURPOSES 5 WIDE (VIDE 6390813)  
 (H): EASEMENT FOR ACCESS & MAINTENANCE 0.9 WIDE



**SEDIMENT CONTROL**  
 INSTALL SEDIMENT CONTROL STRUCTURES IN LOCATIONS INDICATED ON THIS DRAWING AND AS OTHERWISE REQUIRED TO CONTROL SEDIMENT DURING ALL EXCAVATIONS AND WHILST AREAS OF THE SITE ARE EXPOSED TO EROSION. REVIEW CONTROL MEASURES AND MAINTAIN STRUCTURES DURING CONSTRUCTION.  
 IF ADDITIONAL MEASURES ARE REQUIRED FOR EROSION AND CONTROL OR BY COUNCIL REQUIREMENTS, REFER TO "URBAN EROSION AND SEDIMENT CONTROL" GUIDELINES PREPARED BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT.



**SEDIMENT FENCE DETAIL**  
 SUITABLE FOR DRAINAGE AREA OF 0.6HA MAX AND SLOPE GRADIENT OF 1:2 MAX WITH LENGTH OF 60M MAX



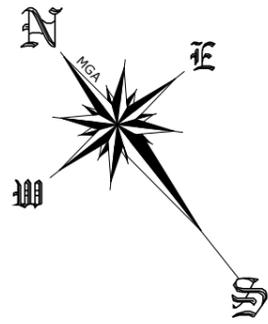
**NOTES:**  
 PLEASE NOTE: DETAILS SHOWN ON THESE PLANS ARE INTENDED TO BE ACCURATE - HOWEVER INFORMATION WRITTEN INTO INDIVIDUAL CONTRACTS WILL TAKE PRECEDENCE OVER PLANS  
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 BUILDING F, LEVEL 2, SUITE 1  
 RHODES NSW 2138  
 TELEPHONE: 02 8765 5500  
 FAX : 02 8765 8099  
 BUILDER'S LICENCE No. 33493C

**CLIENT:**  
 Mr ROBERT ALEXANDER MCDONALD BAXTER  
**SITE ADDRESS:**  
 PROPOSED LOT 16, UNREGISTERED,  
 PROPOSED ROAD  
 WARRIEWOOD NSW 2102

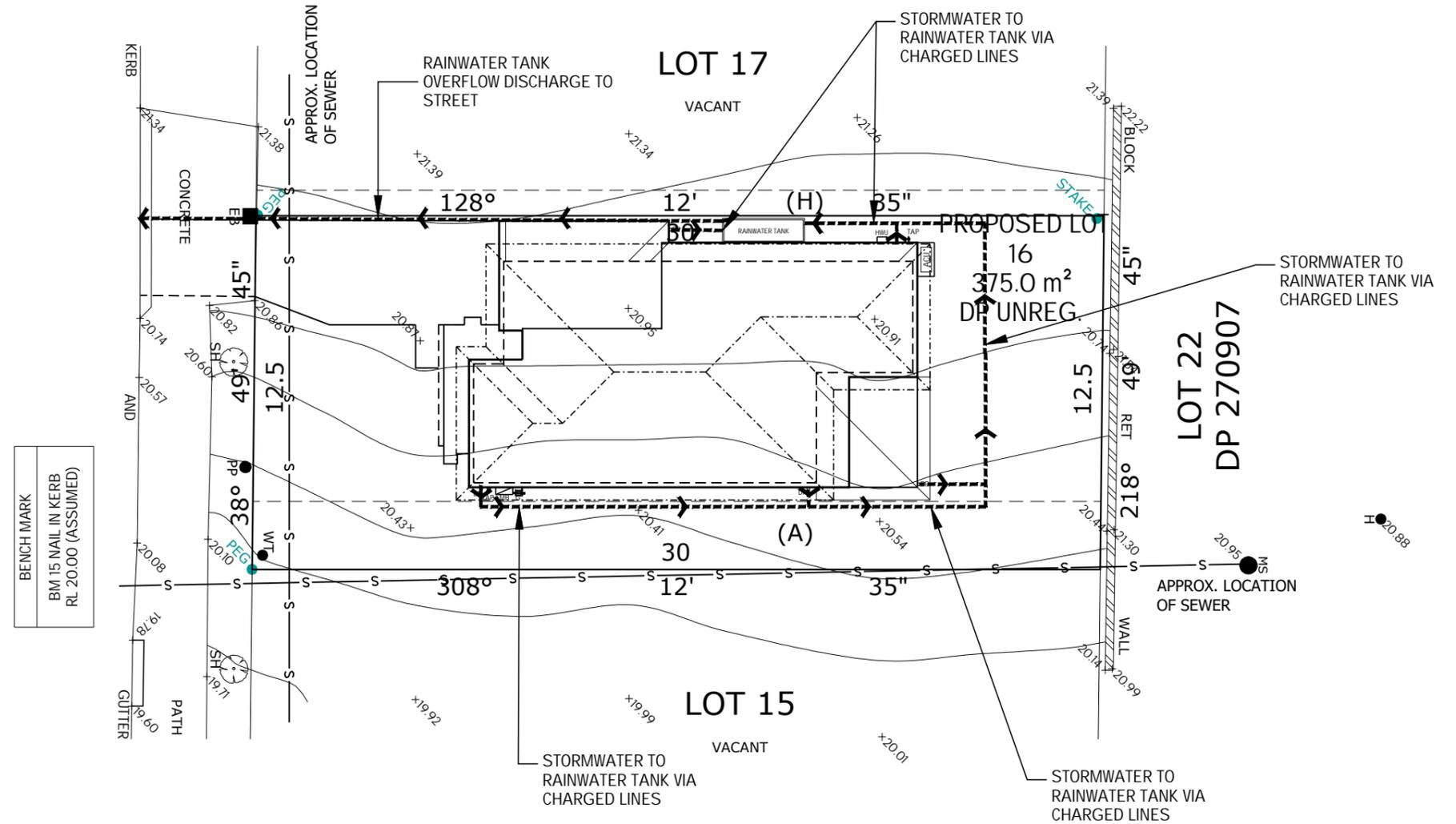
**HOUSETYPE:**  
 MODEL: BENHAM 24 MKII  
 FACADE: TREND  
 TYPE: GARAGE  
 SPECIFICATION: LUX  
**DRAWING TITLE:**  
 SEDIMENT & SITE ANALYSIS

<b>DRAWN BY:</b> DTT	<b>DATE DRAWN:</b> 10.07.19	<b>CHECKED BY:</b> DTT	<b>APPROVED FOR CONSTRUCTION:</b>
<b>COUNCIL AREA:</b> PITTWATER		<b>SCALE:</b> 1:200	
<b>JOB No:</b> A008108	<b>DRWG No.:</b> 10	<b>ISSUE:</b> D	



(A): EASEMENT FOR SEWER PURPOSES 5 WIDE (VIDE 6390813)  
(H): EASEMENT FOR ACCESS & MAINTENANCE 0.9 WIDE

PROPOSED ROAD



BENCH MARK  
BM 15 NAIL IN KERB  
RL 20.00 (ASSUMED)



**NOTES:**

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BUILDER'S LICENCE No. 33493C



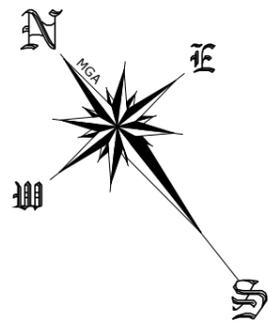
CLIENT:  
Mr ROBERT ALEXANDER MCDONALD BAXTER

SITE ADDRESS:  
PROPOSED LOT 16, UNREGISTERED,  
PROPOSED ROAD  
WARRIEWOOD NSW 2102

HOUSETYPE:  
MODEL: BENHAM 24 MKII  
FACADE: TREND  
TYPE: GARAGE  
SPECIFICATION: LUX

DRAWING TITLE:  
**STORMWATER PLAN**

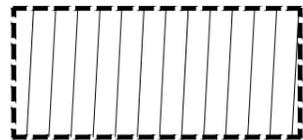
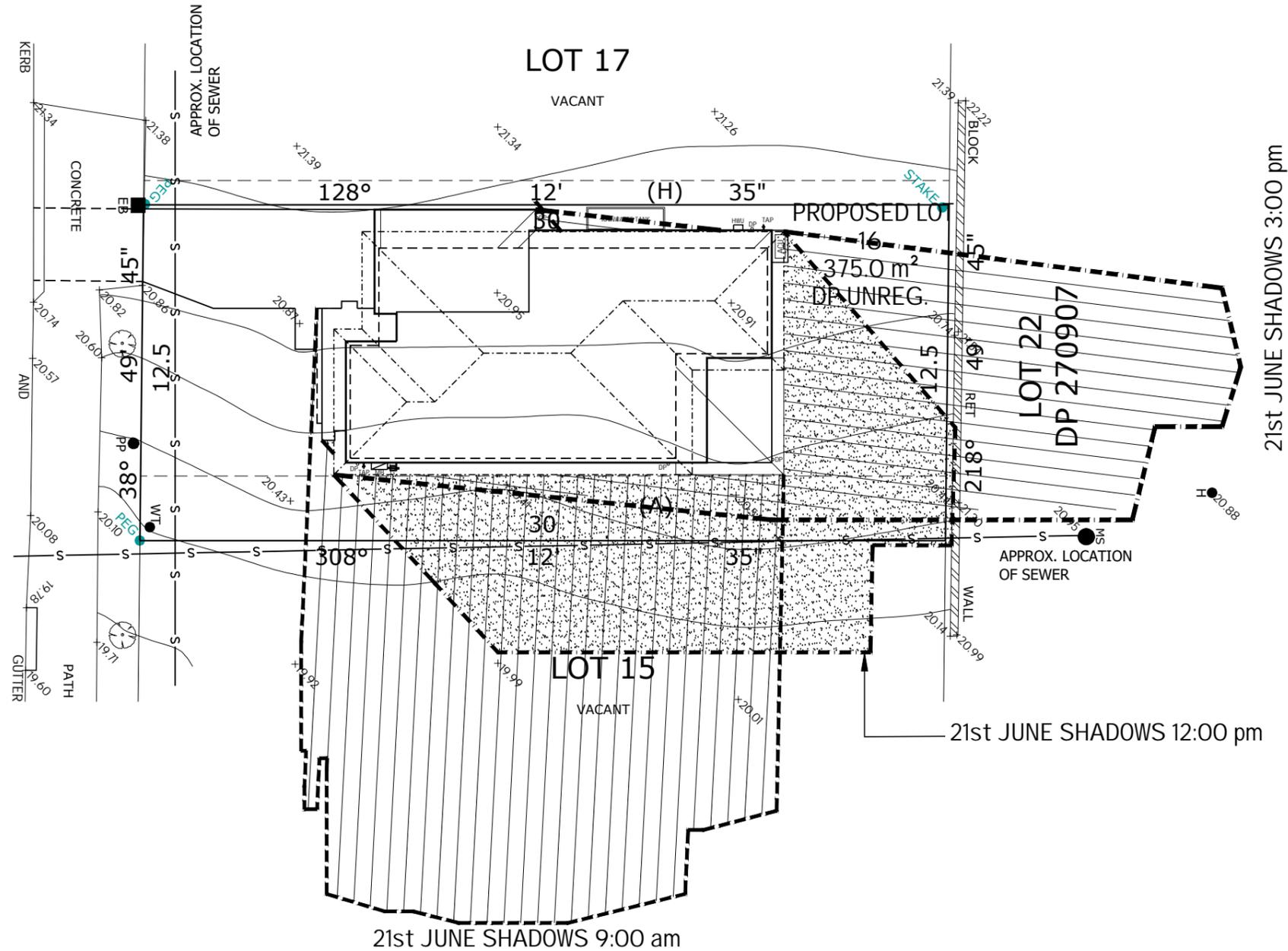
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COUNCIL AREA: PITTWATER		SCALE: 1:200	
JOB No: A008108	DRWG No.: 11	ISSUE: D	



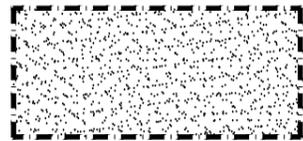
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(H): EASEMENT FOR ACCESS & MAINTENANCE 0.9 WIDE

**PROPOSED ROAD**

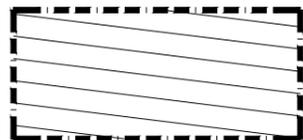
BENCH MARK  
BM 15 NAIL IN KERB  
RL 20.00 (ASSUMED)



21st JUNE SHADOWS 9:00 am



21st JUNE SHADOWS 12:00 pm



21st JUNE SHADOWS 3:00 pm

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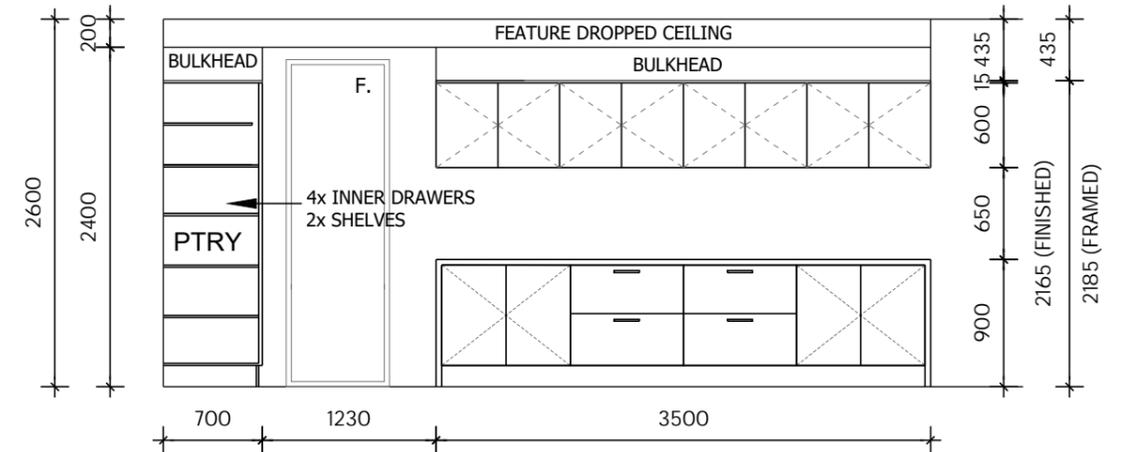
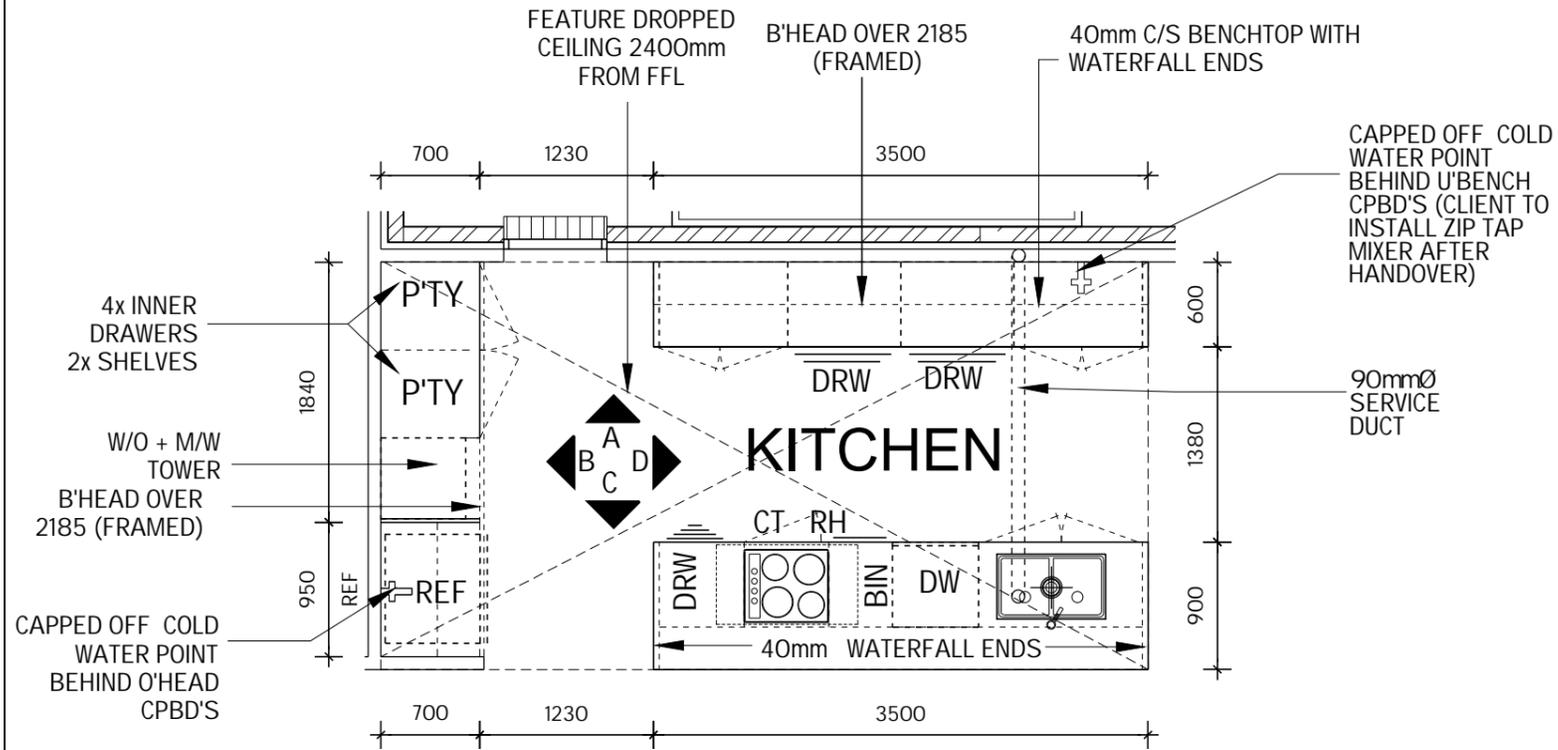
CLIENT:  
Mr ROBERT ALEXANDER MCDONALD BAXTER

SITE ADDRESS:  
PROPOSED LOT 16, UNREGISTERED,  
PROPOSED ROAD  
WARRIEWOOD NSW 2102

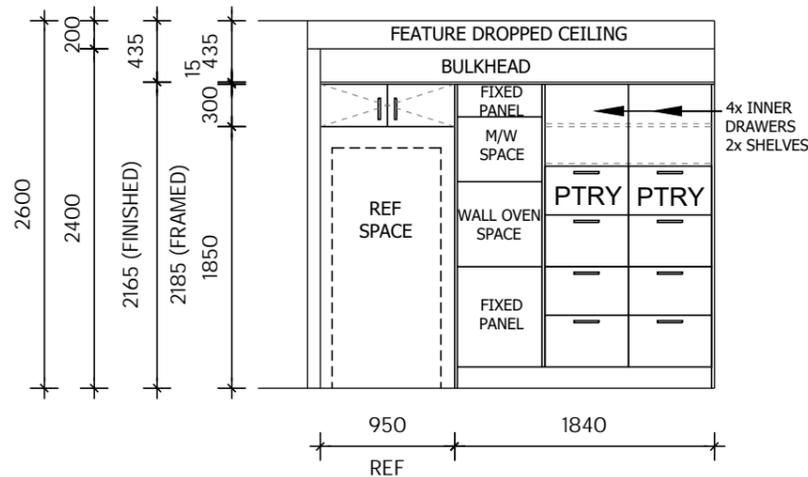
HOUSETYPE:  
MODEL: BENHAM 24 MKII  
FACADE: TREND  
TYPE: GARAGE  
SPECIFICATION: LUX

DRAWING TITLE:  
**SHADOW DIAGRAM**

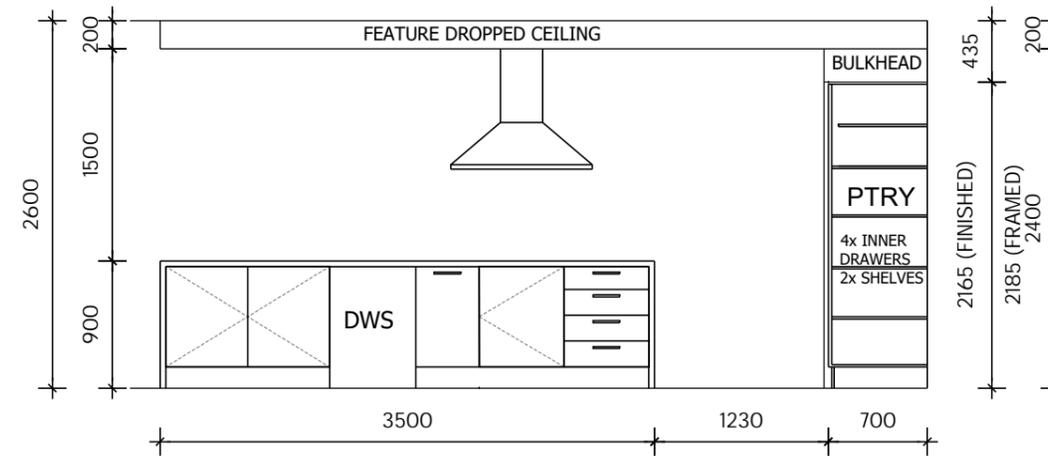
DRAWN BY: DTT	DATE DRAWN: 10.07.19	CHECKED BY: DTT	APPROVED FOR CONSTRUCTION:
COUNCIL AREA: PITTWATER		SCALE: 1:200	
JOB No: A008108	DRWG No.: 12	ISSUE: D	



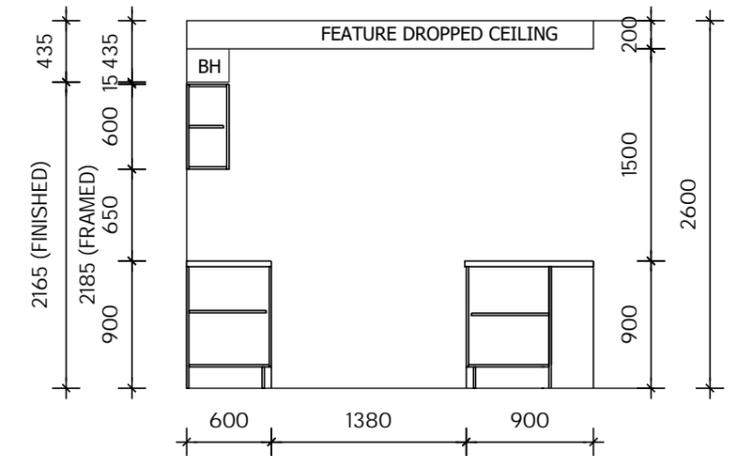
ELEVATION A



ELEVATION B



ELEVATION C



ELEVATION D

NOTES:

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BUILDER'S LICENCE No. 33493C



CLIENT:  
Mr ROBERT ALEXANDER MCDONALD BAXTER

SITE ADDRESS:  
PROPOSED LOT 16, UNREGISTERED,  
PROPOSED ROAD  
WARRIEWOOD NSW 2102

HOUSETYPE:  
MODEL: BENHAM 24 MKII  
FACADE: TREND  
TYPE: GARAGE  
SPECIFICATION: LUX

DRAWING TITLE:  
**KITCHEN PLANS**

DRAWN BY: DTT	DATE DRAWN: 10.07.19	CHECKED BY: DTT	APPROVED FOR CONSTRUCTION:
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COUNCIL AREA: PITTWATER	SCALE: 1:50
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JOB No: A008108	DRWG No.: KD	ISSUE: D
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