barnson.
DESIGN . PLAN . MANAGE

Peppertree Hill Estate Development Geotechnical Investigation Report

Client: Parkview Capital
c/- Wild Modular

Site Address: Peppertree Hill Estate
85 Rocky Waterhole Road
Mudgee, NSW 2850

13 May 2025

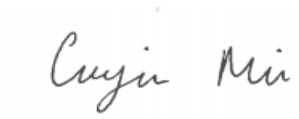
Our Reference: 46561-GR01_B

DISCLAIMER

This report has been prepared solely for Parkview Capital c/- Wild Modular in accordance with the scope provided by the client and for the purpose(s) as outlined throughout this report. Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

The accuracy of the advice provided in this report may be limited by unobserved variations in ground conditions across the site in areas between and beyond test locations and by any restrictions in the sampling and testing which was able to be carried out, as well as by the amount of data that could be collected given the project and site constraints. These factors may lead to the possibility that actual ground conditions and materials behaviour observed at the test locations may differ from those which may be encountered elsewhere on the site. If the sub-surface conditions are found to differ from those described in this report, we should be informed immediately to evaluate whether recommendations should be reviewed and amended if necessary.

Project Name:	Peppertree Hill Estate Development (Formerly Moothi Estate)
Client:	Parkview Capital c/- Wild Modular
Project Number:	46561
Report Reference:	46561-GR01_B
Date:	13.05.2025
Revision	Revision B

Prepared by:	Reviewed by:
	
Georgina Moir *BEnvSc* Environmental Scientist	**Andrew Ruming** *BSc* Senior Environmental Geologist

CONTENTS

1. Introduction 5
1.1 Background 5
1.2 Terminology 6
1.3 Limitations 6
1.4 Geotechnical Laboratory Soil Analysis 7

2. General Description of Site 8

3. Site History 12

4. Method Of Investigation 13

5. General Sub-Surface Conditions 15
5.1 Cellar Door/Restaurant 15
5.2 Existing Residence/Proposed Bath House 15
5.3 Luxury Villas 16
5.4 Regional Geology 16
5.5 Rock 16

6. Geotechnical Laboratory Testing 17
6.1 Sub-Surface Bearing Capacity 17
6.2 Soil Exposure Classification 17
6.3 Liquid Limit and Linear Shrinkage Testing 18
6.4 California Bearing Ratio (CBR) Testing 19
6.5 Bulk Unit Weight 19

7. Seasonal Surface Movement 20

8. Site Earthworks Recommendations 21
8.1 Excavations 21
8.2 General Construction Filling 21
8.3 General Bulk Fill Material 21
8.4 Temporary Batter Slopes and Excavations 21
8.5 Permanent Batter Slopes 22
8.6 Retaining Wall Parameters 22
8.7 Pavement Areas 23

9. Conclusion 24

10. References 25

TABLES

Table 1 : Borehole Locations and Descriptions 14
Table 2: ECe and pH Testing Results 17
Table 3: Liquid Limit and Linear Shrinkage Results 18
Table 4: CBR Laboratory Results 19
Table 5: Bulk Unit Weight Results 19
Table 6: Site Classification as per AS2870-2011 20
Table 7: Retaining Wall Parameters 23

FIGURES

Figures 1: Site Locality 5
Figures 2: Proposed Site and Surrounding Areas 6
Figures 3: Proposed Onsite Development Plan 9
Figures 4: Photograph Looking Northeast Over the Existing Cellar Door 10
Figures 5: Photograph Looking East Over the Existing Residence and Cellar Door 10
Figures 6: Photograph Looking Southeast Over Proposed Luxury Villa Locations. 11
Figures 7: Historical Aerial Image of the Site Locality 12
Figures 8: Historical Aerial Image of Proposed Development Area 12
Figures 9 to Figures 26: Photographs of the Proposed Development Areas 32

APPENDICIES

APPENDIX A: General Notes 26
APPENDIX B: Site Plan and Borehole Locations 30
APPENDIX C: Photographs of the Proposed Development Area 32
APPENDIX D: Borehole Logs 36
APPENDIX E: Laboratory Reports 55
APPENDIX F: Proposed Development Plans 68

1. INTRODUCTION

1.1 Background

A development is proposed for Lot 2 DP1283989, 85 Rocky Waterhole Road, Mudgee NSW (**Figure 1 and Figure 2**). The proposed development will include the extension and remodelling of the existing onsite Cellar Door, including the development of car parking areas on the site. The existing residence will be demolished, replaced by a new Bath House. Sixteen luxury villas will also be constructed on the site as part of the proposed development (**Appendix F**).

Parkview Capital c/- Wild Modular have commissioned Barnson Pty Ltd to provide a geotechnical investigation of the proposed development. The geotechnical investigation included two site inspections, 21 February 2025 and 13 March 2025, where sixteen boreholes were drilled to 3m or refusal, and soil samples were collected at varying depths for laboratory analysis. The laboratory analysis included California Bearing Ratio (CBR), Bulk Unit Weight, Electrical Conductivity (EC), pH, Liquid Limit and Linear Shrinkage Assessments.

The three sections of this geotechnical investigation and associated boreholes are as follows:

Cellar Door/Restaurant and Carpark: Borehole locations BH12, BH13.

Existing Residence/Bath House: Borehole locations BH14, BH15, and BH16.

Luxury Villas: Borehole locations BH1 to BH11.

Details of the field work and laboratory testing are given in the report together with comments relevant to design and construction practice.

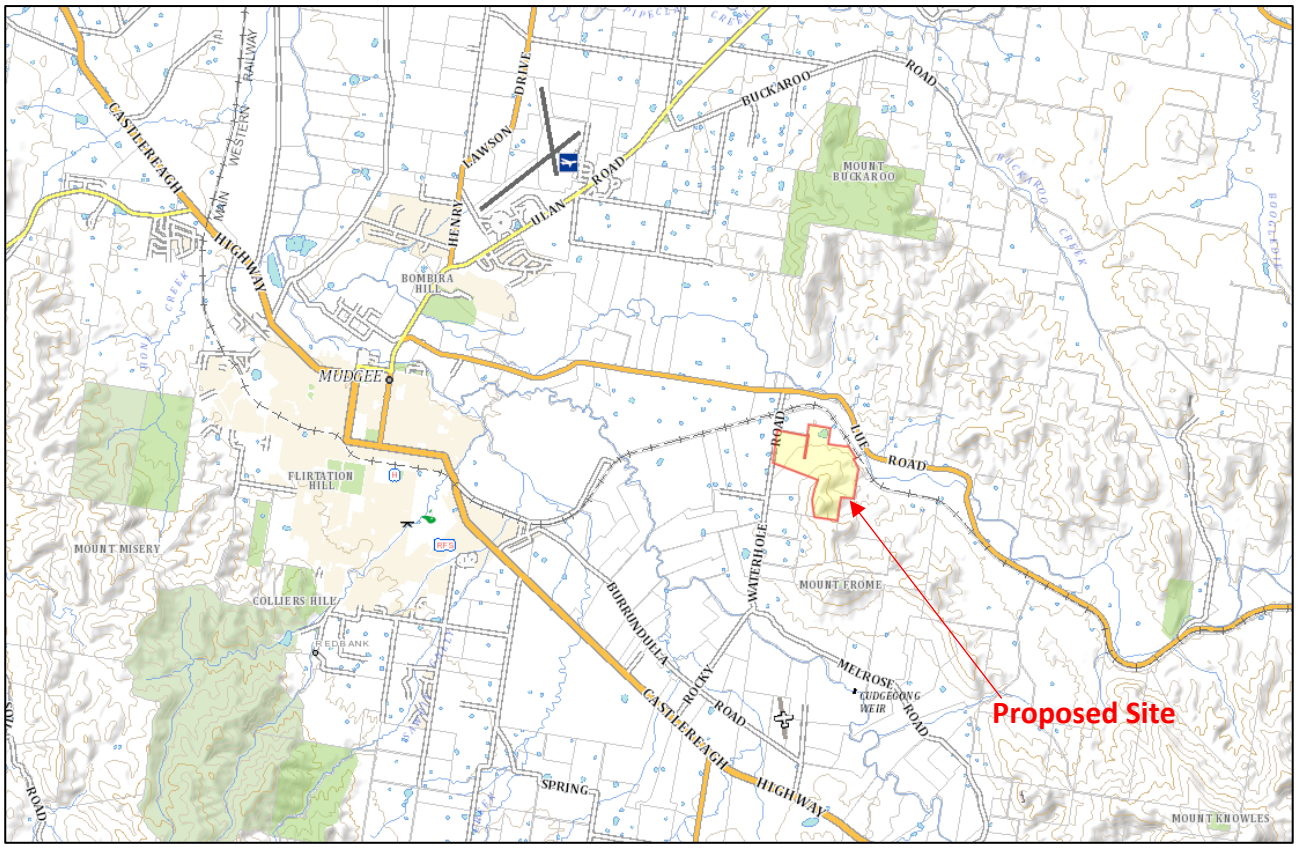


Figure 1: Site Locality

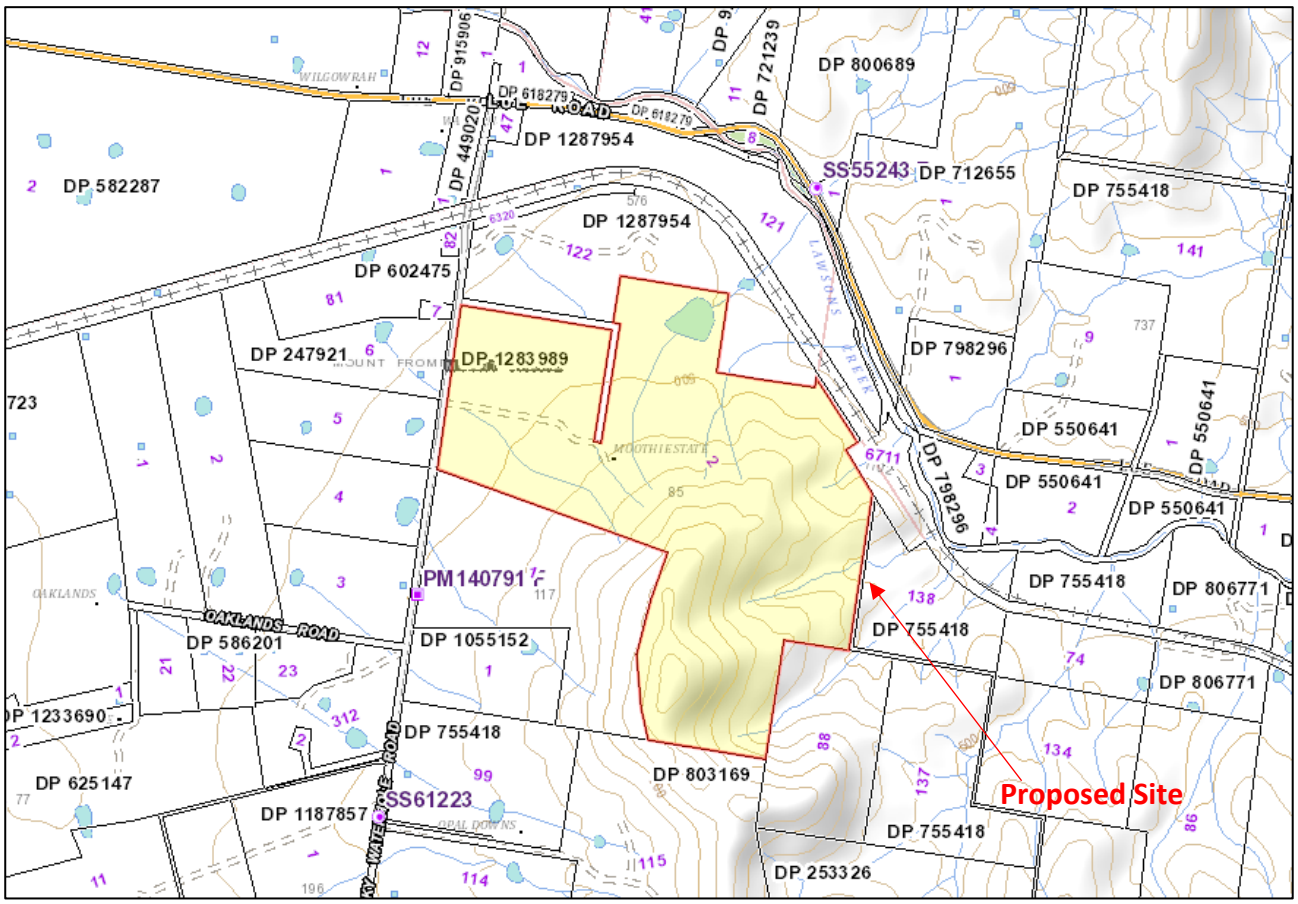


Figure 2: Proposed Site and Surrounding Properties

1.2 Terminology

The methods used in this report to describe the soil profiles, including visual classification of material types encountered, are in accordance with Australian standard AS1726-2017 “Geotechnical Site Investigations”. General notes and abbreviations are outlined in ***Appendix A***.

1.3 Limitations

Barnson Pty Ltd has conducted this investigation and prepared this report in response to specific instructions from the client to whom this report is addressed. This report is intended for the sole use of the client, and only for the purpose which it is prepared. Any third party who relies on the report or any representation contained in it does so at their own risk.

1.4 Geotechnical Laboratory Soil Analysis

Representative samples from the borehole locations were subjected to the following range of tests in a NATA accredited laboratory, in accordance with relevant method of Australian Standard AS1289:

- Linear Shrinkage
- Liquid Limit
- Bulk Unit Weight
- California Bearing Ratio (CBR)
- Electrical Conductivity (EC)
- pH

NATA endorsed reports are attached in ***Appendix E.***

2. GENERAL DESCRIPTION OF SITE

The site is situated within a rural residential area, north of Mount Frome and approximately 5km east of Mudgee, NSW (**Figure 1**). The site is an established and operational vineyard with approximately 24 hectares of vines. The investigation area generally slopes to the west on a moderately inclined slope of approximately 10-15% towards Rocky Waterhole Road. The site has good exposure with grasses and sedges dominating the groundcover. The groundcover is good with approximately 95 percent coverage.

Annual Average Rainfall for Mudgee is 666.6mm. Warm summers with large evaporative deficit, cool winters with small evaporative deficit. The mean summer monthly rainfall (January) is 67.3mm. The mean winter rainfall (July) is 46.7mm.

The investigation area was divided into three development sections including the Cellar Door extension and remodelling, the existing residence demolition and development of the proposed Bath House, and the development of the luxury villas (**Figure 3**).

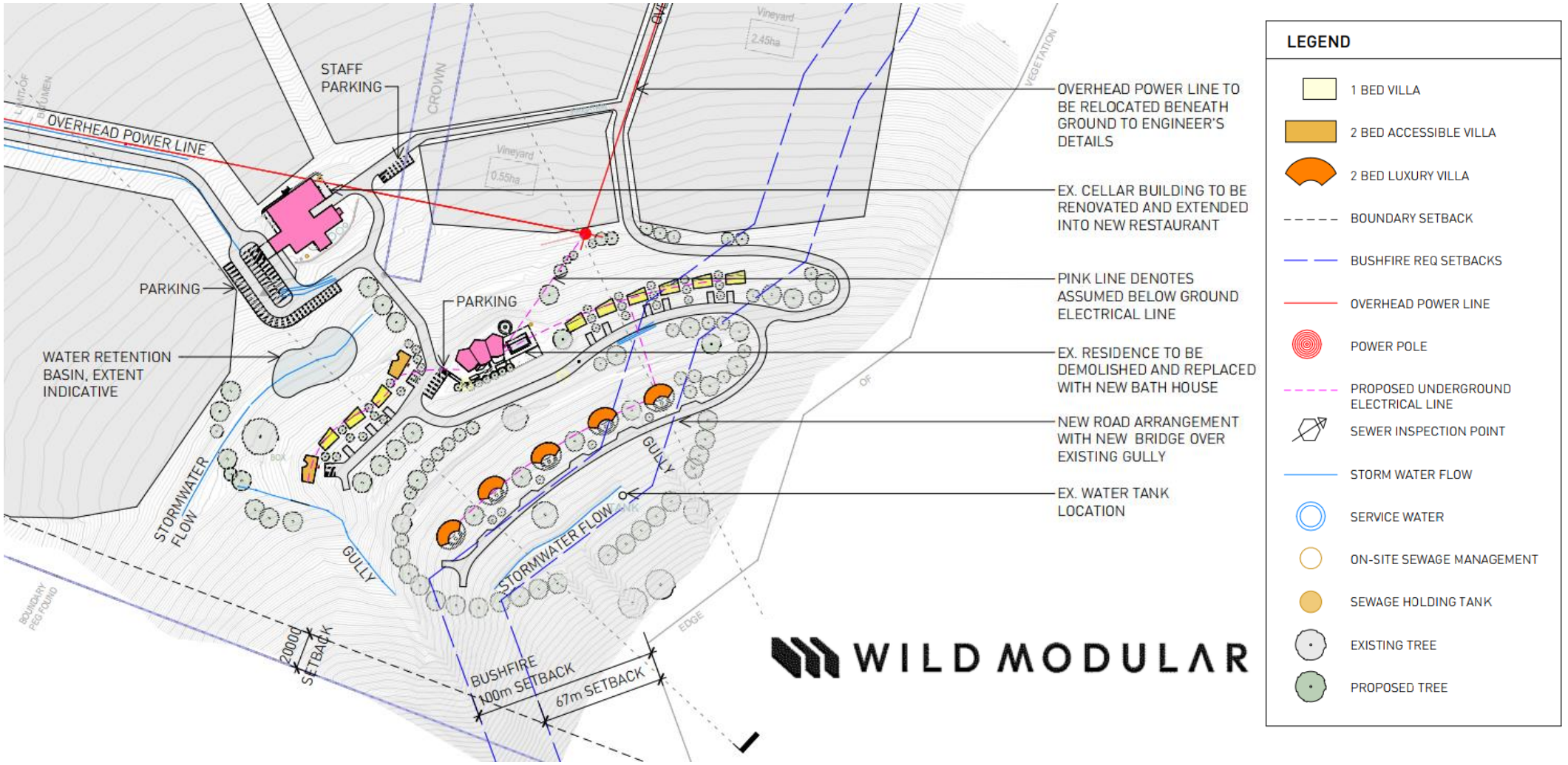
An extension and remodel of the existing onsite Cellar Door is proposed (**Figure 4**). The extension will include a new enclosed area (approximately 405m^2) as well as a new outdoor covered deck area (220m^2), extending northeast of the existing building (**Appendix F**). A car parking area for visitors is also proposed as part of the development, south of the existing Cellar Door (**Figure 3**).

Demolition of the existing residence is proposed, located 100m southeast and upslope of the existing Cellar Door (**Figure 5**). A proposed Bath House development, including construction of a retaining wall, is proposed to replace the existing residence (**Figure 3**). The proposed Bath House will be available for onsite guests as well as day visitors.

The construction of the sixteen single and double bedroom luxury villas is proposed for the site. The villas will be located alongside the existing residence as well as approximately 50m further southeast upslope of the existing residence (**Figure 3**). The proposed development area for each luxury villa is currently vacant with grass and weed species covering the areas (**Figure 6**).

Three villa categories are proposed for the site, 1 Bed Luxury Villa, 2 Bed Luxury Villa and 2 Bed Super Luxury Villa. Nine 1-Bed Luxury Villas and two 2-Bed Luxury Villas are proposed to be constructed alongside the existing onsite residence. Five 2-Bed Super Luxury Villas are proposed for the site, further upslope of the existing onsite residence (**Appendix F**).

Figure 3: Proposed Onsite Development Plans



BARNSON PTY LTD
t 1300 BARNSON (1300 227 676)
e generalenquiry@barnson.com.au
w www.barnson.com.au
Bathurst I Coffs Harbour I Dubbo I Mudgee I Orange I Sydney I Tamworth

Full Plans in Appendix C

Figure 4: Photograph Looking Northeast Over the Existing Cellar Door

Figure 5: Photograph Looking East Over the Existing Residence and Cellar Door

Figure 6: Photograph Looking Southeast Over Proposed Luxury Villa Locations

3. SITE HISTORY

A review of Google Earth imagery indicates the site is in similar condition as to when the image was taken in 2003. See 2003 aerial image below:

Figure 7: Historical Aerial Image of the Site Locality, 2003 Courtesy Google Earth

Figure 8: Historical Aerial Image of Proposed Development Area, 2003 Courtesy Google Earth

4. METHOD OF INVESTIGATION

On 21 February 2025 and 13 March 2025, a geotechnical investigation was carried out by Barnson Personnel, at the site of the above-mentioned development. The field work, including drilling of boreholes, borehole logging and geological mapping, was carried out by a team of Barnson Geotechnical Engineers, Environmental Scientists, Geologists and Geotechnicians. General report comments are attached in ***Appendix A***.

Borehole locations surrounding the existing structures were cleared of underground services by an accredited locator.

The three sections of this geotechnical investigation and associated boreholes are as follows:

Cellar Door/Restaurant and Carpark: Borehole locations BH12, BH13.

Existing Residence/Bath House: Borehole locations BH14, BH15, and BH16.

Luxury Villas: Borehole locations BH1 to BH11.

An Isuzu truck mounted EVH drill rig with a 75mm auger was used to excavate the sixteen (16) boreholes. Boreholes were excavated to a target depth of 3.5m or drill refusal within the investigation area. The approximate borehole locations are presented in ***Appendix B***.

Each borehole location and relevant information associated with each are outlined in **Table 1.**

The borehole logs of sub-surface profiles are attached in ***Appendix D.***

Table 1: Borehole Locations and Descriptions

Borehole Number	Location	Date Drilled	Final Borehole Depth (m)	Depth Drilled Rational
BH1	Super Luxury Villa – 2 Bed	21.02.25	3.0	Terminated at Target Depth
BH2	Super Luxury Villa – 2 Bed	21.02.25	2.0	Drill Refusal on Weathered Rock
BH3	Super Luxury Villa – 2 Bed	21.02.25	2.5	Drill Refusal on Weathered Rock
BH4	Super Luxury Villa – 2 Bed	21.02.25	3.0	Terminated at Target Depth
BH5	Super Luxury Villa – 2 Bed	21.02.25	1.7	Drill Refusal on Weathered Rock
BH6	Luxury Villa – 1 Bed	21.02.25	1.2	Drill Refusal on Weathered Rock
BH7	Luxury Villa – 1 Bed	21.02.25	2.0	Drill Refusal on Weathered Rock
BH8	Luxury Villa – 1 Bed	21.02.25	1.4	Drill Refusal on Weathered Rock
BH9	Luxury Villa – 2 Bed	21.02.25	1.8	Drill Refusal on Weathered Rock
BH10	Luxury Villa – 1 Bed	21.02.25	2.0	Drill Refusal on Weathered Rock
BH11	Luxury Villa – 2 Bed	21.02.25	3.0	Terminated at Target Depth
BH12	Cellar Door/Restaurant Extension	13.03.25	3.0	Terminated at Target Depth
BH13	Proposed Onsite Carpark Area	13.03.25	2.0	Terminated at Target Depth
BH14	Proposed Bath House Retaining Wall	13.03.25	1.0	Drill Refusal on Weathered Rock
BH15	Proposed Bath House	13.03.25	1.3	Drill Refusal on Weathered Rock
BH16	Proposed Bath House	13.03.25	3.5	Drill Refusal on Weathered Rock

5. GENERAL SUB-SURFACE CONDITIONS

5.1 Cellar Door/Restaurant

The soil profile at the Cellar Door/Restaurant extension, BH12, comprised dark brown sandy silt fill to approximately 0.1m followed by brown gravelly clay fill to approximately 0.4m. The natural subsoil comprised soft to firm gravelly clayey sand, sandy clay and sandy silt to 1.5m, then stiff silty clay and gravelly to silty clay to the target drilling depth of 3.0m. Medium to coarse sized gravel was identified in the stiff natural subsoil from 1.5m. Soil moisture in the borehole profile included less than, equal to and greater than plastic limit. High historical seasonal episodic shallow groundwater was evidenced by brown, red, orange and grey mottled clay at 1.5m depth.

The soil profile at the proposed carpark location, BH13, comprised sandy silt topsoil to 0.3m, then natural sandy to silty clay to 0.5m and silty clay with gravel to the target drilling depth of 2.0m. Soil moisture throughout the borehole profile less than plastic limit.

Borehole logs attached ***Appendix D***.

5.2 Existing Residence/Proposed Bath House

The soil profiles at the existing Residence/proposed Bath House, BH14, BH15 and BH16, despite close proximity, varied significantly due to the visible cut and fill earthworks over the area during a previous development. The cut and fill earthworks were historically used to form a level building platform with the deepest edge of the fill estimated to be 3m.

BH14 comprised sandy silt topsoil to 0.1m followed by natural gravelly clay to 0.4m then natural sandy silt with weathered rock to drill refusal at 1.0m.

BH15 comprised gravelly to sandy silt fill to 0.2m followed by natural sandy to silty clay with grey, brown and yellow clay mottling to 1.2m then stiff natural sandy silt with weathered rock to drill refusal at 1.3m.

The BH16 soil profile comprised fill material to 2.4m, including gravelly to sandy silt, gravelly to silty clay with grey and brown clay mottling and silty gravel. The natural subsoil profile from 2.4m comprised firm gravelly to silty clay to 3.2m then firm sandy to silty clay with fine sized gravel and white, yellow, brown and grey clay mottling to 3.3m, then stiff sandy silt with weathered rock to drill refusal at 3.5m.

Very stiff drilling on natural sandy silt with weathered rock was encountered from 0.4m in BH14, 1.2m in BH15 and 3.3m in BH16, before drill refusal due to weathered rock in each borehole locations. Evidence of historical seasonal shallow groundwater was identified by mottled clay from 0.2m depth in BH15 and1.6m depth in BH16. Gravels and weathered rock fragments occurred throughout the profiles. Soil moisture was less than plastic limit throughout BH14 and BH15. Soil moisture in BH16 ranged from less than plastic limit to greater than plastic limit throughout the profile.

Borehole logs attached ***Appendix D.***

5.3 Luxury Villas

The soil profiles within the Luxury Villa development area, BH1 to BH11, contained a 0.2m to 0.6m thick topsoil layer. The topsoil material comprised sandy clay, sandy to silty clay, clayey to sandy silt and sandy silt.

The natural subsoil generally comprised firm sandy clay over silty clay and clayey silt. Very stiff drilling on natural sandy clay with weathered rock was encountered from 0.6m in BH1, 0.8m in BH2, 1.5m in BH3, 0.2m in BH6, 0.6m in BH7 and 1.3m in BH10.

Evidence of historical seasonal shallow groundwater was identified by mottled clay from 0.8m in BH2, 0.4m in BH3, 0.8m in BH4, 1.5m in BH5, 0.6m in BH6, 1.4m in BH7, 0.8m in BH8, 0.8m in BH9 and 0.5m in BH11. The target depth of 3m was reached in BH1, BH4 and BH11.

Refusal on weathered rock was encountered in BH2, BH3 and BH5 to BH10.

Mottled clay and ironstone nodules were detected in the soil profiles which is evidence of historical seasonal shallow groundwater. Gravels and weathered rock inclusions occurred throughout the profiles. Soil moisture ranged from less than plastic limit to greater than plastic limit throughout the profile.

Borehole logs attached ***Appendix D***.

5.4 Regional Geology

Reference to the Dubbo 1:250,000 Geological Map indicates the surrounding area consists of “Crystal-rich feldspathic-lithic sandstone, shale, pebbly sandstone and conglomerate”.

5.5 Rock

The target depth of 3m was reached in three of the proposed luxury villa borehole locations (BH1, BH4 and BH11) and both the proposed cellar door extension borehole location (BH12) and the proposed carpark borehole (BH13).

Drill refusal on weathered rock was encountered in the remaining eleven borehole locations (BH2, BH3, BH5-BH10, BH14-BH16) at varying depths (**Table 1**).

Borelogs of the sub-surface profiles are attached in ***Appendix D*** providing all details of the profiles encountered.

Borehole termination depths are outlined in **Table 1.**

6. GEOTECHNICAL LABORATORY TESTING

Disturbed soil samples were taken during the geotechnical field investigation. Laboratory testing was carried out on selected samples of all different material types, with details of the sampling and testing shown below:

Soil Index Properties testing was carried out on samples to aid in classification of the soils encountered and to assist in determining design parameters. This testing results are presented in ***Appendix G*** and indicated below:

6.1 Sub-Surface Bearing Capacity

Topsoil is unsuitable for foundation. Any fill material on the site is unsuitable for foundation.

The estimated allowable bearing capacity of the natural subsoil based on soil profile, and drill rig resistance is:

- Soft clay or silt estimated allowable bearing capacity - 35-50kPa
- Firm clay or silt estimated allowable bearing capacity - 100kPa
- Stiff clay or silt estimated allowable bearing capacity - 150kPa
- Dense sand estimated allowable bearing capacity - 150kPa
- Very stiff gravelly clay estimated allowable bearing capacity - 200kPa
- Hard clay or silt with weathered rock estimated allowable bearing capacity - 250kPa
- Weathered rock or rock allowable bearing capacity of 400kPa

The soil profiles and bearing capacity are recommended to be verified at the time of foundation construction.

All the above soil strengths are applicable to the sites at the time of the investigation. These bearing capacities should not be used for design purposes, they are provided to give an indication of soil strength only.

Elevation of moisture content will cause a marked decrease in bearing capacity with soil types listed.

6.2 Soil Exposure Classification

Acidic ground conditions can be caused by dissolved “aggressive” carbon dioxide, pure and very soft waters, organic and mineral acids and bacterial activity.

pH and ECe testing was conducted on the site samples to determine if any acidic conditions were present in the soils encountered.

Table 2: ECe and pH Testing Results

Borehole Number	Sample Depth (m)	ECe (dS/m)	pH (w)	Exposure Classification
BH1	0.6	0.075	6.53	A1
BH6	0.6	0.375	6.50	A1

These results show the exposure classification as per Table 5.2 AS2870-2011.

6.3 Liquid Limit and Linear Shrinkage Testing

The below test results (**Table 3**) confirm the material as variable ranging from moderate to high plasticity. The NATA laboratory reports are presented in ***Appendix E.***

Table 3: Liquid Limit and Linear Shrinkage Results

Borehole Number	Location	Final Borehole Depth (m)	Sample Depth (m)	Liquid Limit (%)	Linear Shrinkage (%)
BH1	Super Luxury Villa – 2 Bed	3.0	1.0	35	9.5
BH1	Super Luxury Villa – 2 Bed	3.0	2.0	40	10.5
BH2	Super Luxury Villa – 2 Bed	2.0	0.8	22	5.0
BH2	Super Luxury Villa – 2 Bed	2.0	1.3	43	9.5
BH3	Super Luxury Villa – 2 Bed	2.5	1.0	31	7.0
BH4	Super Luxury Villa – 2 Bed	3.0	1.0	18	3.0
BH4	Super Luxury Villa – 2 Bed	3.0	2.1	34	8.5
BH5	Super Luxury Villa – 2 Bed	1.7	1.0	24	5.5
BH6	Luxury Villa – 1 Bed	1.2	1.0	54	13.0
BH7	Luxury Villa – 1 Bed	2.0	1.5	50	12.5
BH9	Luxury Villa – 2 Bed	1.8	1.0	40	10.0
BH10	Luxury Villa – 1 Bed	2.0	0.8	51	11.5
BH11	Luxury Villa – 2 Bed	3.0	1.2	54	11.0
BH11	Luxury Villa – 2 Bed	3.0	2.5	49	12.0
BH12	Cellar Door/Restaurant Extension	3.0	1.2	27	7.0
BH12	Cellar Door/Restaurant Extension	3.0	2.5	73	16.5
BH15	Proposed Bath House	1.3	1.1	33	8.5
BH16	Proposed Bath House	3.5	1.6	26	7.0
BH16	Proposed Bath House	3.5	2.5	30	7.5

6.4 California Bearing Ratio (CBR) Testing

California Bearing Ratio testing was conducted at BH13 to determine the soaked CBR values. The results are shown in **Table 4** below. Complete NATA accredited CBR testing results are attached in **Appendix E**.

Table 4: CBR Laboratory Results

Borehole Number	Location	Maximum Dry Density (t/m^3)	Optimum Moisture Content (%)	Compaction Effort	Placement Density Ratio (%)	CBR Value (%)
BH13	Proposed Carpark Area	1.96	12.5	Standard	100	9.0

6.5 Bulk Unit Weight

Bulk unit weight at field moisture content was obtained from laboratory testing and the results are outlined in **Table 5.** The bulk unit weight was in the moderate range. Laboratory results are attached in ***Appendix E***.

Table 5: Bulk Unit Weight Results

Borehole Number	Depth (m)	Moisture Content (%)	γ (kN/m^3)	Material
BH14	0.6-1.0	4.1	19.77	Brown sandy Silt - Hard

γ - Bulk Unit Weight

7. SEASONAL SURFACE MOVEMENT

From the laboratory test results, as shown attached in **Appendix E**, an estimated ground surface movement (Ys) was calculated in accordance with AS2870-2011 (using a change in suction at the soil surface $\Delta\mu$ = 1.5pF and a depth of design suction change, Hs = 2.3m) being:

Table 6: Site Classification as per AS2870-2011

Proposed Structure	Site Classification as per AS2870-2011	Estimated Ys
Cellar Door/Restaurant Extension	Class P (Abnormal Site Conditions) due to fill material	40-45mm
Proposed Bath House	Class P (Abnormal Site Conditions) due to fill material	40-45mm
2-Bed Super Luxury Villas	Class M (Moderately Reactive)	35-40mm
2-Bed Luxury Villas	Class H1 (Highly Reactive)	40-45mm
1-Bed Luxury Villas	Class H1 (Highly Reactive)	40-45mm

Topsoil is unsuitable for foundation. Any fill material on the site is unsuitable for foundation. Footings are recommended to be founded into natural soil with adequate bearing capacity.

8. SITE EARTHWORKS RECOMMENDATIONS

8.1 Excavations

The target depth of 3m was reached in BH1, BH4, BH11, BH12 and BH13. Drill refusal on weathered rock was encountered in the remaining borehole locations. Weathered rock and very stiff drilling occurred throughout some borehole profiles.

Excavations within the natural clay subsoils will be achievable using conventional earthmoving equipment. Where shallow rock is identified, excavations may require larger equipment and ripping or hammering.

The civil contractor should be responsible for selecting excavation equipment based on the proposed excavation depths and equipment capabilities.

8.2 General Construction Filling

All earthworks performed on site must be undertaken in a controlled manner, in accordance with a suitable earthwork's specification. Filling should be placed, compacted, inspected and tested in accordance with the Level 2 requirements of AS3798-2007.

8.3 General Bulk Fill Material

All general fill materials used shall be approved clean, hard material, deposited and compacted in the locations specified. Unless notified otherwise, general fill shall be sourced from excavations within the project area. The following conditions should also be satisfied:

- General filling must be compacted to a minimum dry density ratio of 98-100% relative to standard compaction at a moisture content of -2% to +2% of standard optimum moisture content.
- Filling should proceed in layers of 300mm maximum loose thicknesses.
- Layers of filling should be horizontal or benched to suit the surrounding topography.
- The existing natural subgrade may be suitable for use as general fill. General fill should not contain large particles, high moisture content, high plasticity or high silt content.

8.4 Temporary Batter Slopes and Excavations

Excavations shall be undertaken in accordance with the Contactor's safety policy and applicable safety regulations. The information obtained from the borehole gives a preliminary indication of site conditions. The stability and safety of the slopes and excavations should be reviewed and periodically monitored during earthworks and installation.

The boreholes drilled on the site encountered clay profiles (with variable gravel and weathered rock) with variable consistency, structure, plasticity and moisture. The profiles at the borehole locations indicate excavations deeper than 1.5m must be benched, battered or have a lateral soil retaining, shoring or stabilisation device such as a trench box. The excavation requires assessment prior to entering.

Batters should be no steeper than 2 Horizontal (H) in 1 Vertical (V) and protected from erosion by re-directing any surface water flows from the batter face, and the excavations inspected prior to continuing.

Surcharges such as mechanical plant, vehicles, storage of materials, stockpiles or any other heavy loads should not be situated in the zone of influence of an excavation unless the ground support system installed has been designed to carry such loads.

The site is situated in an area of potential shallow seasonal groundwater and soil properties showed evidence of historical seasonal groundwater (grey soil, black soil and clay mottling). The shear strength of the soil will reduce with increased moisture and collapse is possible. Soft clay was detected to 1.8m in the borehole locations, the soft clay may extend deeper in other areas.

Variability in the soil profile may occur throughout the proposed excavation, a suitable geotechnical engineer should review any changes in soil profile. The condition of soil surrounding excavations can change quickly due to the reduction in soil moisture, changes in the water table or water saturation of the soil. The soil condition and the state of shoring, battering and trench walls should be frequently checked by a competent person for signs of collapse, earth fretting, slipping, slumping or ground swelling.

8.5 Permanent Batter Slopes

Permanent Batter slopes in clay should be no steeper than 3 Horizontal (H) in 1 Vertical (V) and protected from erosion. Alternatively, fill embankments or excavations may be retained with properly designed and constructed retaining walls.

8.6 Retaining Wall Parameters

The proposed retaining wall, adjacent the existing Residence/proposed Bath House, is located near BH14. Borehole BH14 comprised sandy silt topsoil to 0.1m followed by natural gravelly clay to 0.4m then natural sandy silt with weathered rock to drill refusal at 1.0m.

Retaining wall parameters were estimated from the soil laboratory analysis results and the soil profile.

The retaining wall estimated soil parameters are outlined in Table 7. Bulk unit weight at field moisture content was obtained from laboratory testing. Soil friction angle, earth pressure coefficients (active, at-rest, passive), cohesion and bearing capacity estimates were derived.

Table 7: Retaining Wall Parameters

Borehole	Depth (m)	Soil	Field Moisture (%)	Cu (kPa)	γ (kN/m3)	Ø (Deg)	Active (Ka)	At Rest (Ko)	Passive (Kp)	Allowable Bearing Capacity (kPa)
14	0.6-1	Hard Sandy silt with weathered rock	4.1	150	19.77	23	0.438	0.609	2.283	250
14	>1	Rock	-	200	22.0	30	0.333	0.500	3.000	400

Cu - Undrained Shear Strength, γ - Bulk Unit Weight, Ø – Soil Friction Angle

Retaining walls should be designed in accordance with AS 4678. No allowance has been made for wall friction, compaction pressures or surcharge effects. Drainage should be installed behind the wall to prevent hydrostatic pressures developing from seeping water. The design of the retaining walls should also include an assessment of potential wall deformation.

The use of heavy compaction equipment on backfill material against the retaining wall will result in earth pressures at levels greater than Table 7. Temporary wall propping should be undertaken if heavy compaction equipment is required.

Site inspections by a suitably qualified person are recommended during and after earthworks to confirm strata and subsurface conditions.

8.7 Pavement Areas

The appropriate design traffic for the road and carpark upgrades is $8x10^4$ equivalent standard axles (ESA). The CBR results are moderate 9%. Assuming a design CBR of 9%, Austroads Pavement Design Guide - Pavement Design for Light Traffic indicates 250mm thickness of granular material for unsealed areas and areas with thin bituminous surfacing.

Any soft areas or unsuitable subgrade requires removal and replaced with suitable material. Gravel layers should be placed and tested to the requirements set out in AS3798-2007. It is essential that all pavement areas are well drained so that moisture is not stored in this layer that would affect the strength of the sub-grade soil. Soft or unsuitable sub-grade will require replacement, reinforcement or improvement.

All pavement areas are required to be sealed and well drained to prevent moisture affecting the sub-grade. All pavement areas should be removed of any other deleterious material then compacted to a minimum of 100% standard compaction. The pavement should be placed, compacted and tested in accordance with AS3798-2007. Soft or unsuitable sub-grade will require replacement, reinforcement or improvement.

9. CONCLUSION

The testing methods adopted are indicative of the site's sub-surface conditions to the depths excavated and to specific sampling and/or testing locations in this investigation, and only at the time the work was carried out.

The accuracy of geotechnical engineering and environmental advice provided in this report may be limited by unobserved variations in ground conditions across the site in areas between and beyond test locations and by any restrictions in the sampling and testing which was able to be carried out, as well as by the amount of data that could be collected given the project and site constraints.

These factors may lead to the possibility that actual ground conditions and materials behaviour observed at the test locations may differ from those which may be encountered elsewhere on the site.

If the sub-surface conditions are found to differ from those described in this report, we should be informed immediately to evaluate whether recommendations should be reviewed and amended if necessary.

10. REFERENCES

AS 1289.6.3.2 *Determination of the penetration resistance of a soil* – 9kg Dynamic Cone Penetrometer Test

AS 1726 (2017) *Geotechnical Investigations* (Standards Australia: Homebush)

AS 2870 (2011) *Residential Slabs and Footings - Construction* (Standards Australia: Homebush)

AS 3798 (2007) *Guidance on earthworks for commercial and residential buildings* (Standards Australia: Homebush)

Meyerhof GG, (1976) *Bearing Capacity and Settlement of Pile Foundations* (American Society of Civil Engineers)

barnson.

APPENDIX A

GENERAL NOTES

GEOTECHNICAL INVESTIGATION GENERAL NOTES

This report contains the results of a geotechnical investigation conducted for a specific purpose and client. The results should not be used by other parties, or for other purposes, as they may contain neither adequate nor appropriate information. In particular, the investigation does not cover contamination issues unless specifically required to do so by the client.

TEST HOLE LOGGING

The information on the test hole logs (boreholes, test pits, exposures etc.) is based on a visual and tactile assessment, except at the discrete locations where the test information is available (field and/or laboratory results). The borehole logs include both factual data and inferred information. Reference should be made to the relevant sheets for the explanation of logging procedures (Soil and Rock Descriptions, Core Log Sheet Notes etc).

GROUNDWATER

Unless otherwise indicated, the water levels presented on the borehole logs are the levels of free water or seepage in the bore hole recorded at the given time of measuring. The actual groundwater level may differ from this recorded level depending on material permeability's (i.e. depending on response time of the measuring instrument). Further, variations of this level could occur with time due to such effects as seasonal, environmental and tidal fluctuations or construction activities. Confirmation of groundwater levels, phreatic surfaces or piezometric pressures can only be made by appropriate instrumentation techniques and monitoring programmes.

INTERPRETATION OF RESULTS

The discussion or recommendations contained within this report normally are based on a site evaluation from discrete borehole area. Generalised, idealised or inferred subsurface conditions (including any geotechnical cross-sections) have been assumed or prepared by interpolation and/or extrapolation of these data. As such these conditions are an interpretation and must be considered as a guide only.

CHANGE IN CONDITIONS

Local variations or anomalies in the generalised ground conditions do occur in the natural environment, particularly between discrete borehole locations. Additionally, certain design or construction procedures may have been assumed in assessing the soil-structure interaction behaviour of the site. Furthermore, conditions may change at the site from those encountered at the time of the geotechnical investigation through construction activities and constantly changing natural forces.

Any change in design, in construction methods, or in ground conditions as noted during construction, from those assumed or reported should be referred to this firm for appropriate assessment and comment.

GEOTECHNICAL VERIFICATION

Verification of the geotechnical assumptions and/or model is an integral part of the design process – investigation, construction verification and performance monitoring. Variability is a feature of the natural environment and, in many instances, verification of soil or rock quality, or foundation levels are required. There may be a requirement to extend foundation depths to modify a foundation system or to conduct monitoring as a result of this natural variability. Allowance for verification by geotechnical personnel accordingly should be recognised and programmed during construction.

FOUNDATIONS

Where referred to in the report, the soil or rock quality, or the recommendation depth of any foundation (piles, caissons footings etc.) is an engineering estimate. The estimate is influenced and perhaps limited, by the fieldwork method and testing carried out in connection with the site investigation, and other pertinent information as has been made available. The material quality and/or foundation depth remains, however, an estimate and therefore liable to variation. Foundation drawings, designs and specifications should provide for variations in the final depth, depending upon the ground conditions at each point of support, and allow for geotechnical verification.

REPRODUCTION OF REPORTS

Where it is desired to reproduce the information contained in our geotechnical report, or other technical information, for the inclusion in contract documents or engineering specification of the subject development, such reproductions should include at least all of the relevant test hole and test data, together with the appropriate standard description sheets and remarks made in the written report of a factual or descriptive nature.

ROCK

Rock Strength

Rock strength is a scale of strength, based on point load index testing, or field testing.

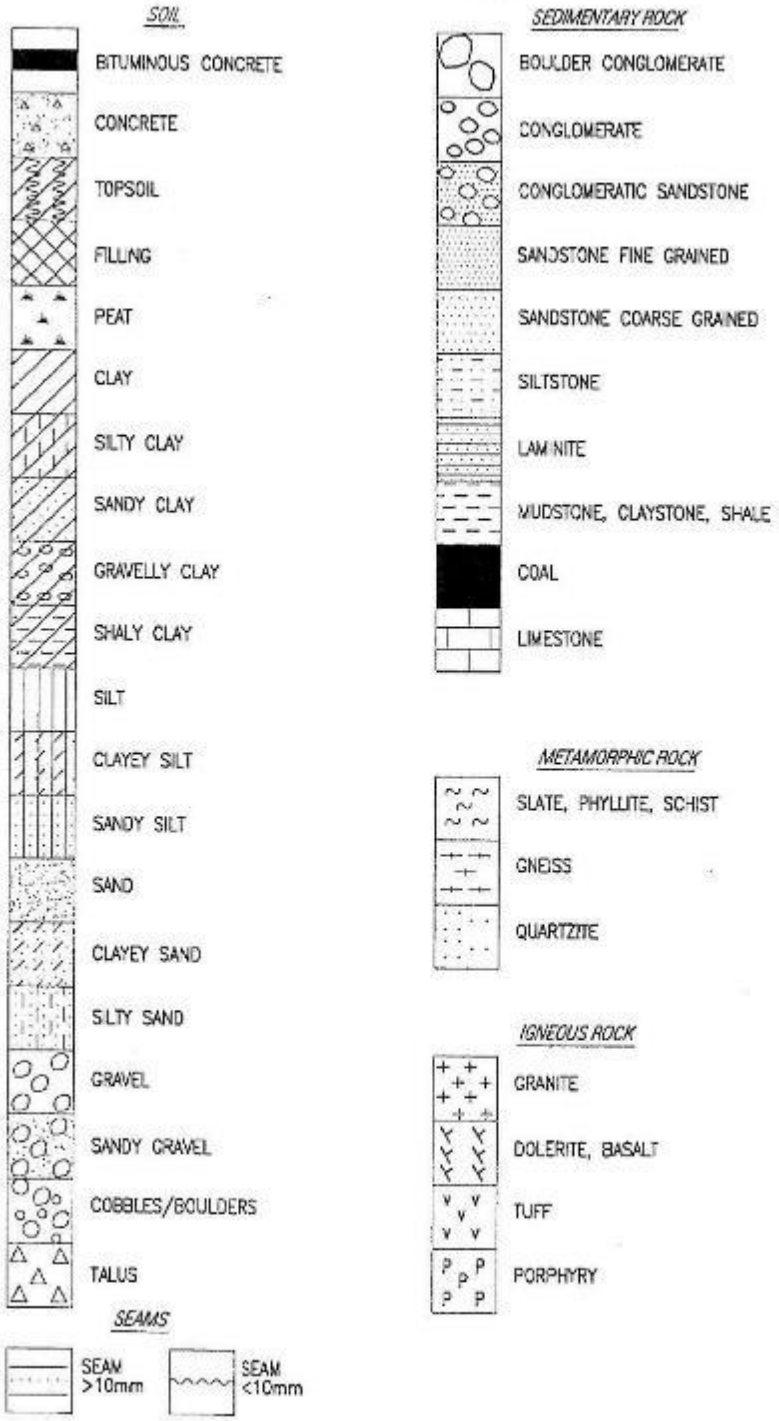
Term	Letter Symbol	Point load index (MPa) Is (50)	Field guide to strength
Extremely low	EL	< 0.03	Easily remoulded by hand to a material with soil properties.
Very low	VL	0.03 – 0.1	Material crumbles under firm blows with sharp end of pick.
Low	L	0.1 – 0.3	Easily scored by knife, has dull sound under hammer.
Medium	M	0.3 – 1.0	Readily scored with knife, core pieces broken by hand with difficulty
High	H	1 – 3	Rock rings under hammer, core piece broken by pick only.
Very high	VH	3 – 10	Hand specimen breaks with pick after more than one blow.
Extremely high	EH	> 10	Hand specimen breaks with pick after several than one blow.

Rock Weathering

Rock weathering is the degree of rock weathering, determined in the field.

Term	Letter Symbol	Definition
Residual soil	RS	Soil developed on extremely weathered rock.
Extremely weathered rock	XW	Soil is weathered to such an extent that it has soil properties, i.e. it disintegrates or can be remoulded in water.
Distinctly weathered rock	DW	Rock strength usually changed by weathering. The rock may be discoloured, usually by iron staining, porosity is increased.
Slightly weathered rock	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh rock	FR	Rock shows no sign of decomposition or staining.

GRAPHIC SYMBOLS FOR SOIL & ROCK



barnson.

APPENDIX B

SITE PLAN & BOREHOLE LOCATIONS

barnson.
DESIGN . PLAN . MANAGE

1800 227 676
9 Cameron Place, NSW, 2800
www.barnson.com.au

www.barnson.com.au	P: 1300 227 676 F:
46561-GR01 Site Plan	
Client No:	Job No: 46561
Client: Wild Modular	
Project: Peppertree Hill Estate Development	
Address: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia	
Legend: Borehole Locations	
Image Source: Google Maps	Viewed: 2025-04-14

Drawn By: GM	Checked By:	Date: 2025-04-14	Figure: 1

barnson.

APPENDIX C

PHOTOGRAPHS OF THE PROPOSED DEVELOPMENT AREAS

Figure 9: Photograph Looking Northwest Over Existing Cellar Door

Figure 10: Photograph Looking North Over Proposed Cellar Door Extension Area

Figure 11: Photograph Looking Southeast at the Covered Alfresco of the Existing Cellar Door

Figure 12: Photograph Looking West Over the Proposed Extension Area of the Existing Cellar Door

Figure 13: Photograph Looking Southwest Over the Proposed Extension Area of the Existing Cellar Door and BH12 Location

Figure 14: Photograph Looking North Over the Proposed Carpark Area and BH13 Location

Figure 15: Photograph Looking West Over the Existing Residence

Figure 16: Photograph Looking Southwest at the Existing Residence Front Yard Area and BH16 Location

Figure 17: Photograph Looking West at an Existing Tank by the Existing Residence

Figure 18: Photograph Looking Southwest Over the Rear of the Existing Residence and BH14 Location

Figure 19: Photograph Looking Northeast at Part of the Onsite Swimming Pool, Small Storage Shed and BH15 Location

Figure 20: Photograph Looking North Over Existing Swimming Pool by the Existing Residence

Figure 21: Photograph Looking Southeast Over Proposed Luxury Villa Development Area

Figure 22: Photograph Looking Southwest Over Proposed Super Luxury Villa Locations

Figure 23: Photograph Looking Northeast Over Proposed Luxury Villa Locations and Existing Residence

Figure 24: Photograph Looking West Over Proposed Luxury Villa Locations

Figure 25: Photograph Looking Northeast Over Proposed Luxury Villa Locations

Figure 26: Photograph Looking East Over Proposed Super Luxury Villa Locations

barnson.

APPENDIX D

BOREHOLE LOGS

barnson
DESIGN . PLAN . MANAGE

Barnson
www.barnson.com.au
Phone: 1300 227 676

Geotechnical Log - Borehole

BH1

Latitude	: -32.60204	Location	: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia	Job Number	: 46561
Longitude	: 149.65046	Logged By	: GM	Client	: Wild Modular
Total Depth	: 3 m	Date	: 17/03/2025	Project	: Peppertree Hill Estate Development

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph	Samples	Remarks
					0 2 4 6 8 10 12 14 16 18 20 22 24 26	Disturbed sample	
Auger drill with TC bit			CL	Topsoil Sandy CLAY firm, low plasticity, dark brown, fine grained sand.			
	0.3		CL	Natural Sandy CLAY firm, low plasticity, light brown, fine grained sand.			
	0.6		CL	Natural Sandy CLAY stiff, low plasticity, pale yellow, weathered rock.		EC/pH	
	1		SC	Natural Clayey SAND dense, light brown, weathered rock.		BH1(1000)	
	1.3		SC	Natural Clayey SAND very dense, yellowish brown, weathered rock.		BH1(2000)	
	2.4		CL	Natural Sandy CLAY very stiff, low plasticity, yellowish brown, weathered rock.			
				BH1 Terminated at 3m (Target Depth)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH2

Latitude	**: -32.60180**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65072**	**Logged By**	**: GM**	**Client**	**: Wild Modular**
Total Depth	**: 2 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
						Disturbed sample	
Auger drill with TC bit			CL	Topsoil Sandy CLAY firm, low plasticity, dark brown, fine grained sand.			
	0.4		CL	Natural Sandy to silty CLAY firm, low plasticity, light brown.			
	0.8		CI	Natural Sandy CLAY very stiff, medium plasticity, orangey brown, weathered rock and yellow, red and white mottled clay..		BH2(800)	
						BH2(1300)	
	1.9		CI	Natural Sandy CLAY hard, medium plasticity, light brown, weathered rock.			
				BH2 refusal at 2m (Refusal on rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH3

Latitude	**: -32.60160**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65107**	**Logged By**	**: GM**	**Client**	**: Wild Modular**
Total Depth	**: 2.5 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit			CL	Topsoil Sandy CLAY firm, low plasticity, dark brown, fine grained sand.		Disturbed sample	
	0.4		CL-CI	Natural Sandy to silty CLAY firm, low to medium plasticity, orangey brown, yellow, red and white mottled clay.		BH3(1000)	
	1.3		CI-CH	Natural Sandy CLAY stiff, medium to high plasticity, orangey brown, with medium sized gravel.			
	1.5		CI-CH	As above, but very stiff, weathered rock.			
				BH3 refusal at 2.5m (Refusal on rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson
www.barnson.com.au
Phone: 1300 227 676

Geotechnical Log - Borehole

BH4

Latitude	: -32.60139	Location	: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia	Job Number	: 46561
Longitude	: 149.65156	Logged By	: GM	Client	: Wild Modular
Total Depth	: 3 m	Date	: 17/03/2025	Project	: Peppertree Hill Estate Development

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph	Samples	Remarks
Auger drill with TC bit	0.5		ML	Topsoil Clayey to sandy SILT firm, low plasticity, dark brown, fine grained sand.	0 2 4 6 8 10 12 14 16 18 20 22 24 26	Disturbed sample	
	0.8		SM	Natural Sandy SILT firm, low plasticity, light brown.			
	1.3		CI	Natural Sandy to silty CLAY stiff, medium plasticity, light brown, fine grained sand, mottled clay.		BH4(1000)	
			CL	Natural Sandy CLAY very stiff, low plasticity, light brown.		BH4(2100)	
				BH4 Terminated at 3m (Target Depth)			

barnson
DESIGN . PLAN . MANAGE

Barnson
www.barnson.com.au
Phone: 1300 227 676

Geotechnical Log - Borehole

BH5

Latitude	**: -32.60122**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65187**	**Logged By**	**: GM**	**Client**	**: Wild Modular**
Total Depth	**: 1.7 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit	0		ML	Topsoil Clayey to sandy SILT firm, low plasticity, dark brown, fine grained sand.			
	0.6		CL	Natural Sandy CLAY stiff, low plasticity, orangey brown, with medium sized gravel.			
	1		CL-CI	Natural Sandy to silty CLAY very stiff, low to medium plasticity, orangey brown.			
	1.5		CL-CI	Natural Sandy CLAY hard, low to medium plasticity, orangey brown, with medium sized gravel, white, yellow, red and brown mottled clay.			
				BH5 refusal at 1.7m (Refusal on weathered rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH6

Latitude	**: -32.60067**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65204**	**Logged By**	**: GM**	**Client**	**: Wild Modular**
Total Depth	**: 1.2 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
						Disturbed sample	
Auger drill with TC bit			ML	Topsoil Clayey to sandy SILT firm, low plasticity, dark brown, fine grained sand.			
	0.2		ML	Natural Clayey to sandy SILT stiff, low plasticity, light brown, coarse grained sand, with coarse sized gravel, weathered rock.			
	0.6		CI	Natural Silty CLAY very stiff, medium plasticity, reddish brown, mottled clay.		EC/pH	
	1.1		CL	Natural Sandy CLAY hard, low plasticity, light brown, weathered rock.		BH6(1000)	
				BH6 refusal at 1.2m (Refusal on rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson
www.barnson.com.au
Phone: 1300 227 676

Geotechnical Log - Borehole

BH7

Latitude	**: -32.60078**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65170**	**Logged By**	**: GM**	**Client**	**: Wild Modular**
Total Depth	**: 2 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit			ML	Topsoil Clayey to sandy SILT firm, low plasticity, dark brown, fine grained sand.			
	0.6		ML	Natural Clayey to sandy SILT stiff, low plasticity, light brown, with coarse sized gravel, weathered rock.			
	1		ML	Natural Clayey to sandy SILT very stiff, low plasticity, light brown, weathered rock.			
	1.4		CI	Natural Silty CLAY very stiff, medium plasticity, orangey brown, mottled clay.			
	1.8		CL	Natural Silty CLAY hard, low plasticity, yellowish brown, weathered rock.			
				BH7 refusal at 2m (Refusal on weathered rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson
www.barnson.com.au
Phone: 1300 227 676

Geotechnical Log - Borehole

BH8

Latitude	: -32.60089	Location	: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia	Job Number	: 46561
Longitude	: 149.65130	Logged By	: GM	Client	: Wild Modular
Total Depth	: 1.4 m	Date	: 17/03/2025	Project	: Peppertree Hill Estate Development

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit	0.4		ML	Topsoil Clayey to sandy SILT firm, low plasticity, dark brown, fine grained sand.			
	0.8		CL-CI	Natural Sandy CLAY stiff, low to medium plasticity, orangey brown.			
	1.3		CL-CI	Natural Silty CLAY very stiff, low to medium plasticity, reddish brown, with medium sized gravel, mottled clay.			
			CL	Natural Sandy CLAY hard, low plasticity, pale brown, weathered rock.			
				BH8 refusal at 1.4m (Refusal on rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH9

Latitude	**: -32.60132**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65018**	**Logged By**	**: GM**	**Client**	**: Wild Modular**
Total Depth	**: 1.8 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit	0.6		SM	Topsoil Sandy SILT firm, low plasticity, dark brown, fine grained sand.			
	0.8		CL	Natural Sandy to silty CLAY stiff, low plasticity, light brown.			
	1.5		CI-CH	Natural Silty CLAY very stiff, medium to high plasticity, dark brown, red, yellow, orange and white mottled clay.			
			CL	Natural Sandy CLAY hard, low plasticity, light brown, with medium sized gravel.			
				BH9 refusal at 1.8m (Refusal on rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson
www.barnson.com.au
Phone: 1300 227 676

Geotechnical Log - Borehole

BH10

Latitude	: -32.60151	Location	: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia	Job Number	: 46561
Longitude	: 149.64996	Logged By	: GM	Client	: Wild Modular
Total Depth	: 2 m	Date	: 17/03/2025	Project	: Peppertree Hill Estate Development

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit			CL	Topsoil Sandy to silty CLAY firm, low plasticity, dark brown, fine grained sand.		Disturbed sample	
	0.5		CL	Natural Sandy CLAY firm, low plasticity, light brown.			
	0.8		CI	Natural Silty CLAY stiff, medium plasticity, brown.		BH10(800)	
	1.2		CL	Natural Sandy CLAY stiff, low plasticity, light brown.			
	1.3		CL	Natural Silty CLAY very stiff, low plasticity, light brown, with coarse sized gravel, weathered rock.			
	1.7		CL	Natural Clayey SAND very dense, light brown, medium to coarse grained, weathered rock.			
				BH10 refusal at 2m (Refusal on weathered rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH11

Latitude	**: -32.60177**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.64980**	**Logged By**	**: GM**	**Client**	**: Wild Modular**
Total Depth	**: 3 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
						Disturbed sample	
Auger drill with TC bit			CL	Topsoil Sandy to silty CLAY firm, low plasticity, dark brown, fine grained sand.			
	0.5		CL-Cl	Natural Sandy CLAY stiff, low to medium plasticity, brown, with coarse sized gravel, white, red, yellow and orange mottled clay.			
	1		CL	Natural Sandy CLAY stiff, low plasticity, light brown, white, red, yellow and orange mottled clay.		BH11(1200)	
	1.5		CL-Cl	Natural Sandy CLAY very stiff, low to medium plasticity, orangey brown.		BH11(2500)	
				BH11 Terminated at 3m (Target Depth)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH12

Latitude	: -32.60032	Location	: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia	Job Number	: 46561
Longitude	: 149.64964	Logged By	: Georgina Moir	Client	: Wild Modular
Total Depth	: 3 m	Date	: 17/03/2025	Project	: Peppertree Hill Estate Development

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit	0.1		SM	Fill Sandy SILT low plasticity, dark brown, dry.		Disturbed sample	
			CL	Fill Gravelly CLAY low plasticity, brown, inorganic, dry.			
	0.4		SC	Natural Gravelly to clayey SAND dense, brown.			
	0.8		CL	Natural Sandy CLAY firm, low plasticity, dark brown.			
	1.1		SM	Natural Sandy SILT firm, low plasticity, dark brown.		BH12(1200)	
	1.5		CL-Cl	Natural Silty CLAY stiff, low to medium plasticity, yellowish brown, with medium to coarse sized gravel, moist, brown, red, orange and grey mottled clay.		BH12(2500)	
	2.8		CL	Natural Gravelly to silty CLAY very stiff, low plasticity, reddish orangey brown, medium to coarse sized gravel.			
				BH12 Terminated at 3m (Target Depth)			

barnson
DESIGN . PLAN . MANAGE

Barnson
www.barnson.com.au
Phone: 1300 227 676

Geotechnical Log - Borehole

BH13

Latitude	**: -32.60085**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.64951**	**Logged By**	**: Georgina Moir**	**Client**	**: Wild Modular**
Total Depth	**: 2 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph	Samples	Remarks
Auger drill with TC bit	0.3		SM	Topsoil Sandy SILT low plasticity, greyish brown, dry.	0 2 4 6 8 10 12 14 16 18 20 22 24 26		
	0.5		Cl	Natural Sandy to silty CLAY firm, medium plasticity, brown.			
			CL-Cl	Natural Silty CLAY stiff, low to medium plasticity, dark brown, with medium sized gravel.			
				BH13 Terminated at 2m (Target Depth)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH14

Latitude	**: -32.60119**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65071**	**Logged By**	**: Georgina Moir**	**Client**	**: Wild Modular**
Total Depth	**: 1 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples: Disturbed sample	Remarks
Auger drill with TC bit	0.1		SM	Topsoil Sandy SILT low plasticity, dark brown, fine to medium grained sand, dry.			
			CL	Natural Gravelly CLAY stiff, low plasticity, light brown.			
	0.4		SM	Natural Sandy SILT hard, low plasticity, pale brown, medium to coarse grained sand, dry, weathered rock.		BH3(600-1000) Bulk Unit Weight	
				BH14 refusal at 1m (Drill Refusal on Weathered Rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH15

Latitude	**: -32.60113**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65087**	**Logged By**	**: Georgina Moir**	**Client**	**: Wild Modular**
Total Depth	**: 1.3 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples	Remarks
Auger drill with TC bit			ML	Fill Gravelly to sandy SILT low plasticity, strong brown, dry.		Disturbed sample	
	0.2		CI	Natural Sandy to silty CLAY stiff, medium plasticity, pale brown, grey, brown and yellow clay mottling.		BH15(1000)	
	1.2		SM	Natural Sandy SILT hard, low plasticity, pale brown, coarse grained sand, weathered rock.			
				BH15 refusal at 1.3m (Refusal on weathered rock)			

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH16

Latitude	**: -32.60100**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65068**	**Logged By**	**: Georgina Moir**	**Client**	**: Wild Modular**
Total Depth	**: 3.5 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples: Disturbed sample	Remarks
Auger drill with TC bit			ML	Fill Gravelly to sandy SILT low plasticity, dark brown, dry.			
	1.6		CI	Fill Gravelly to silty CLAY medium plasticity, stiff, yellow brown, inorganic, dry, grey and brown clay mottling.		BH16(1600)	
	1.8		GM	Fill Silty GRAVEL dark brown, coarse alluvial gravels.			
	2.4		CL-CI	Natural Gravelly to silty CLAY firm, low to medium plasticity, strong brown, moist.		BH16(2500)	

barnson
DESIGN . PLAN . MANAGE

Barnson

www.barnson.com.au

Phone: 1300 227 676

Geotechnical Log - Borehole

BH16

Latitude	**: -32.60100**	**Location**	**: 85 Rocky Waterhole Rd, Mudgee NSW 2850, Australia**	**Job Number**	**: 46561**
Longitude	**: 149.65068**	**Logged By**	**: Georgina Moir**	**Client**	**: Wild Modular**
Total Depth	**: 3.5 m**	**Date**	**: 17/03/2025**	**Project**	**: Peppertree Hill Estate Development**

Drilling Method	Depth (m)	Graphic Log	Classification Code	Material Description	DCP graph (0 2 4 6 8 10 12 14 16 18 20 22 24 26)	Samples: Disturbed sample	Remarks
Auger drill with TC bit			CL-CI	Natural Gravelly to silty CLAY firm, low to medium plasticity, strong brown, moist.			
	3.2		CI	Natural Sandy to silty CLAY firm, medium plasticity, orange brown, with fine sized gravel, moist, white, yellow, brown and grey clay mottling.			
	3.3		SM	Natural Sandy SILT stiff, low plasticity, pale brown, coarse grained sand, dry, weathered rock.			
				BH16 refusal at 3.5m (Refusal on weathered rock)			

barnson.

APPENDIX E

NATA LABORATORY REPORTS

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893A
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH1 , Depth: 1000mm**
Material: Clayey sand, Light brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	35		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**9.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893B
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH1 , Depth: 2000mm**
Material: Clayey sand, yellow brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	40		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**10.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893C
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH2 , Depth: 800mm**
Material: Sandy silty clay, Light brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	22		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**5.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893D
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH2 , Depth: 1300mm**
Material: Sandy clay with gravels, Light brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	43		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**9.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893E
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH3 , Depth: 1000mm**
Material: Sandy silty clay, Orange brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	31		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**7.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893F
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH4 , Depth: 1000mm**
Material: Silty sandy clay, Light brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	18		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**3.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893G
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH4 , Depth: 2100mm**
Material: Sandy clay, Light brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	34		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**8.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893H
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 27/02/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH5 , Depth: 1000mm**
Material: Sandy silty clay, Orange brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	24		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**5.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893I
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 03/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH6 , Depth: 1000mm**
Material: Silty clay, Red brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	54		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**13.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893J
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 03/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH7 , Depth: 1500mm**
Material: Sandy clay, Orange brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	50		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893K
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 03/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH9 , Depth: 1000mm**
Material: Sandy clay with gravel, Dark brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	40		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**10.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893L
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 03/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH10 , Depth: 800mm**
Material: Silty clay, Brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	51		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**11.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893M
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 03/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH11 , Depth: 1200mm**
Material: Sandy clay, Light brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	54		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**11.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-1**
Issue Number: 1
Date Issued: 05/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1893
Sample Number: O25-1893N
Date Sampled: 21/02/2025
Dates Tested: 24/02/2025 - 03/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH11 , Depth: 2500mm**
Material: Sandy clay, Orange brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	49		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**12.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Ethan Lewin (Laboratory Manager)

Report Number: **46561-2**
Issue Number: 1
Date Issued: 25/03/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1934
Dates Tested: 17/03/2025 - 17/03/2025
Remarks: Bulk unit weight = 19.77 kN/m3
Location: 85 Rocky Waterhole Road, Mudgee, NSW

Moisture Content AS 1289 2.1.1

Sample Number	Sample Location	Moisture Content (%)	Min	Max	Material
O25-1934A	BH3 , Depth: 600mm-1000mm	4.1 %	**	**	Silty Clay, Brown

Material Test Report

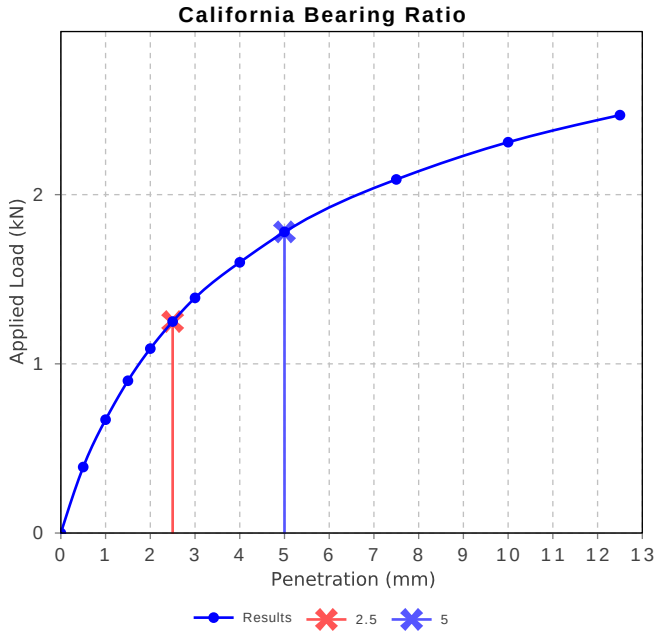
Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-3**
Issue Number: 1
Date Issued: 01/04/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1933
Sample Number: O25-1933A
Date Sampled: 17/03/2025
Dates Tested: 17/03/2025 - 28/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH2 , Depth: 300mm-2000mm**
Material: Silty Clay, Brown

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	**9**		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual		
Maximum Dry Density (t/m^3)	1.96		
Optimum Moisture Content (%)	12.5		
Laboratory Density Ratio (%)	97.5		
Laboratory Moisture Ratio (%)	99.0		
Moisture Content at Placement (%)	12.4		
Moisture Content Top 30mm (%)	14.9		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours (h)	95.7		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)			



Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-3**
Issue Number: 1
Date Issued: 01/04/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1933
Sample Number: O25-1933B
Date Sampled: 13/03/2025
Dates Tested: 17/03/2025 - 28/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH1 , Depth: 1200mm**
Material: Sandy silt, Dark brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	27		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**7.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-3**
Issue Number: 1
Date Issued: 01/04/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1933
Sample Number: O25-1933C
Date Sampled: 13/03/2025
Dates Tested: 17/03/2025 - 28/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH1 , Depth: 2500mm**
Material: Silty clay, Yellow brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	73		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**16.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-3**
Issue Number: 1
Date Issued: 01/04/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1933
Sample Number: O25-1933D
Date Sampled: 13/03/2025
Dates Tested: 17/03/2025 - 28/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH4 , Depth: 1100mm**
Material: Sandy silty clay, Pale brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	33		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**8.5**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-3**
Issue Number: 1
Date Issued: 01/04/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1933
Sample Number: O25-1933E
Date Sampled: 13/03/2025
Dates Tested: 17/03/2025 - 28/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH5 , Depth: 1600mm**
Material: Gravelly silty clay, Brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	26		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**7.0**		
Cracking Crumbling Curling	Curling		

Material Test Report

Barnson Pty Ltd
Orange CMT Laboratory
9 Cameron Place Orange NSW 2800
Phone: (02) 6361 4954
Email: admin@envirowest.net.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ethan Lewin
Laboratory Manager
NATA Accredited Laboratory Number: 9605

Report Number: **46561-3**
Issue Number: 1
Date Issued: 01/04/2025
Client: Parkview Capital
26/32 Pirrama Road, Pyrmont NSW 2009
Contact: C/- Wild Modular (Tahi Merrilees)
Project Number: 46561
Project Name: Site Classification & Septic Design
Project Location: 85 Rocky Waterhole Road, Mudgee NSW
Work Request: 1933
Sample Number: O25-1933F
Date Sampled: 13/03/2025
Dates Tested: 17/03/2025 - 28/03/2025
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **BH5 , Depth: 2500mm**
Material: Silty clay, Strong brown

Atterberg Limit (AS 1289.3.1.2)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	30		
Plastic Limit (%)			
Plasticity Index (%)			

Linear Shrinkage (AS 1289.3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	**7.5**		
Cracking Crumbling Curling	Curling		

barnson.

APPENDIX F

PROPOSED DEVELOPMENT PLANS

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE	REASON	DATE
A	For Coordination	07/05/25
B	DA	16/05/25

LEGEND

- 1 BED VILLA
- 2 BED ACCESSIBLE VILLA
- 2 BED LUXURY VILLA
- BOUNDARY SETBACK
- BUSHFIRE REQ SETBACKS
- OVERHEAD POWER LINE
- POWER POLE
- PROPOSED UNDERGROUND ELECTRICAL LINE
- SEWER INSPECTION POINT
- STORM WATER FLOW
- SERVICE WATER
- ON-SITE SEWAGE MANAGEMENT
- SEWAGE HOLDING TANK
- EXISTING TREE
- PROPOSED TREE

WILD MODULAR

ADDRESS: SUITE 50, JONES BAY WHARF, 26/32 PIRRAMA RD, PYRMONT, SYDNEY, NSW, 2009

TEL: (+61) 499 486 663

DO NOT SCALE DRAWINGS

0 | 30000 | 60000 | 120000

SCALE 1:3000 @ A3 UNO

PROJECT			DWG TITLE	
2408 PEPPERTREE HILL ESTATE			EX. SITE PLAN	
DRAWN	SENIOR QA	APP'D	DWG NO	REV
		DRAFT	EX001	B

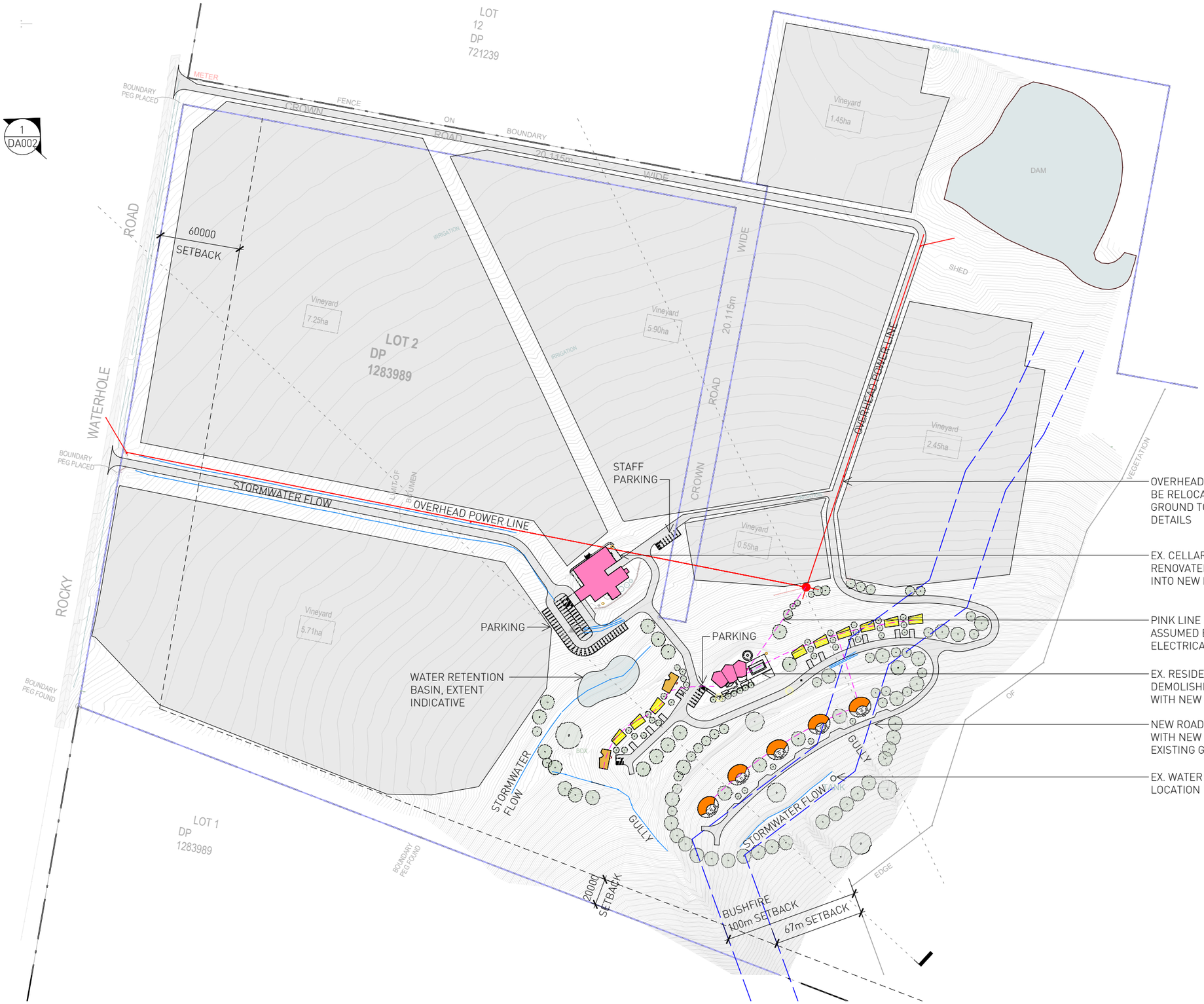
PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE	REASON	DATE
A	For Coordination	07/05/25
B	DA	16/05/25

1
DA002

LEGEND

- 1 BED VILLA
- 2 BED ACCESSIBLE VILLA
- 2 BED LUXURY VILLA
- BOUNDARY SETBACK
- BUSHFIRE REQ SETBACKS
- OVERHEAD POWER LINE
- POWER POLE
- PROPOSED UNDERGROUND ELECTRICAL LINE
- SEWER INSPECTION POINT
- STORM WATER FLOW
- SERVICE WATER
- ON-SITE SEWAGE MANAGEMENT
- SEWAGE HOLDING TANK
- EXISTING TREE
- PROPOSED TREE



WILD MODULAR

ADDRESS: SUITE 50, JONES BAY WHARF, 26/32 PIRRAMA RD, PYRMONT, SYDNEY, NSW, 2009

TEL: (+61) 499 486 663

DO NOT SCALE DRAWINGS

0 | 30000 | 60000 | 120000

SCALE 1:3000 @ A3 UNO

PROJECT 2408 PEPPERTREE HILL ESTATE

DWG TITLE SITE PLAN

DRAWN | SENIOR QA | APP'D DRAFT

DWG NO DA001

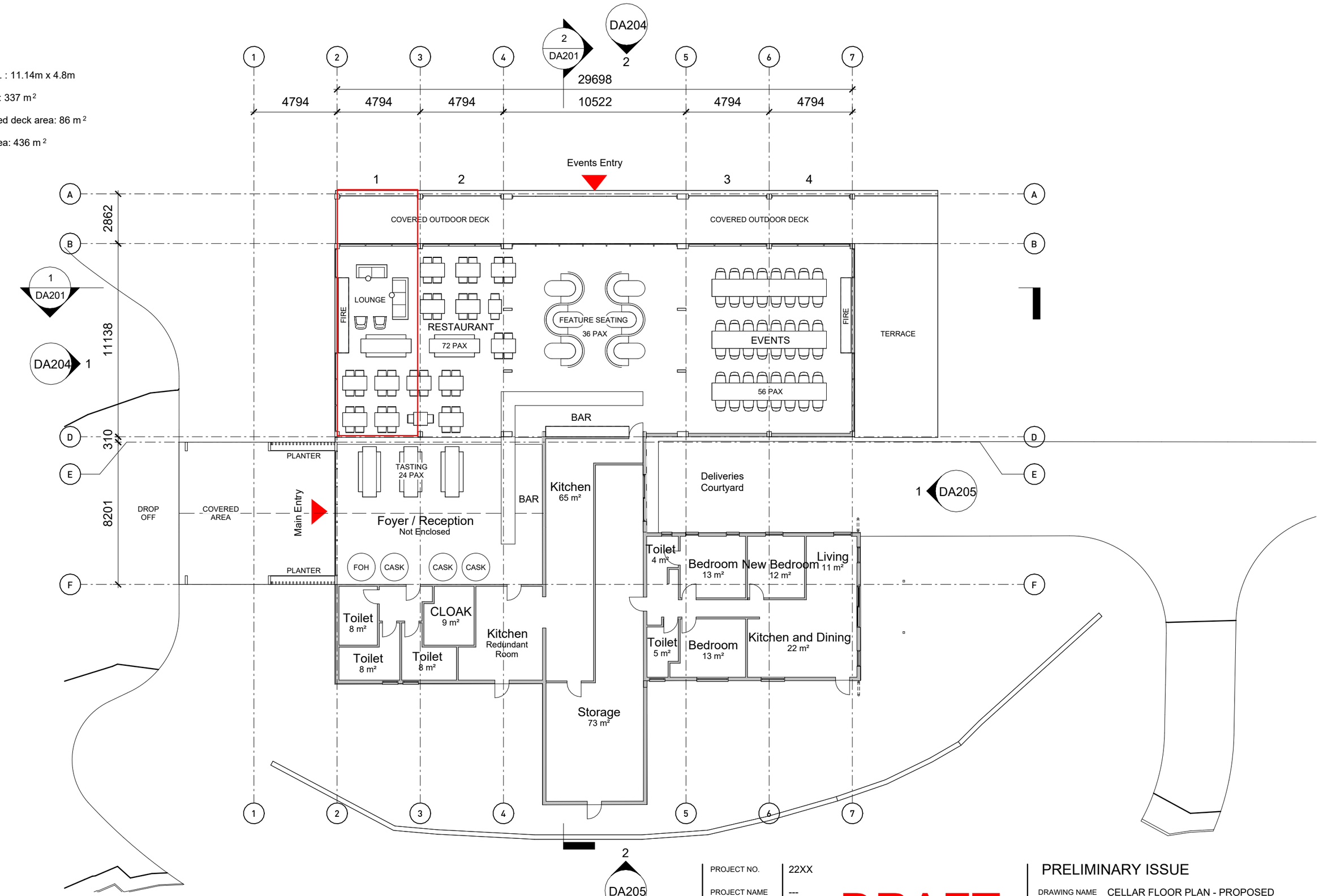
REV B

Typical module dim. : 11.14m x 4.8m

New enclosed area: 337 m²

New outdoor covered deck area: 86 m²

Existing building area: 436 m²



WILD MODULAR

no.	date	ISSUE / revision	by

PROJECT NO.	22XX
PROJECT NAME	---
PROJECT ADRESS	---
CLIENT	---

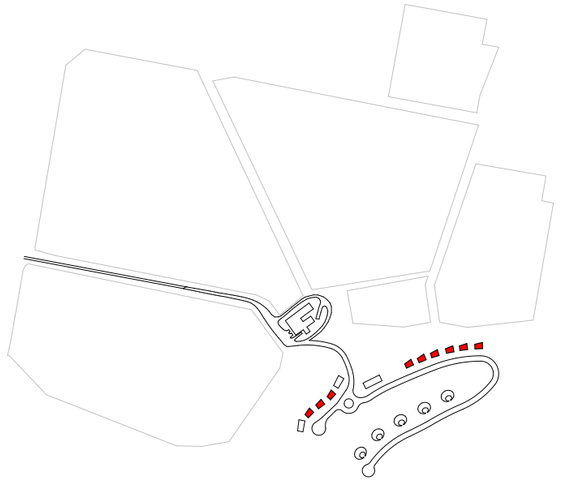
DRAFT

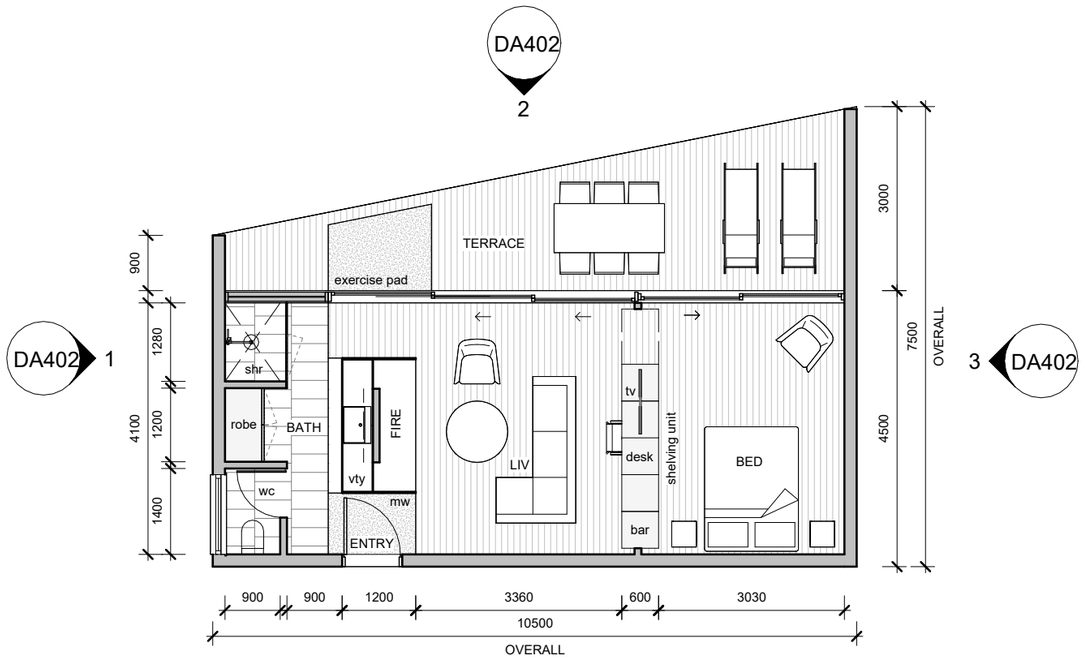
PRELIMINARY ISSUE

DRAWING NAME CELLAR FLOOR PLAN - PROPOSED

DRAWING NO.	SCALE at A3	ISSUE
DA203	1 : 200	

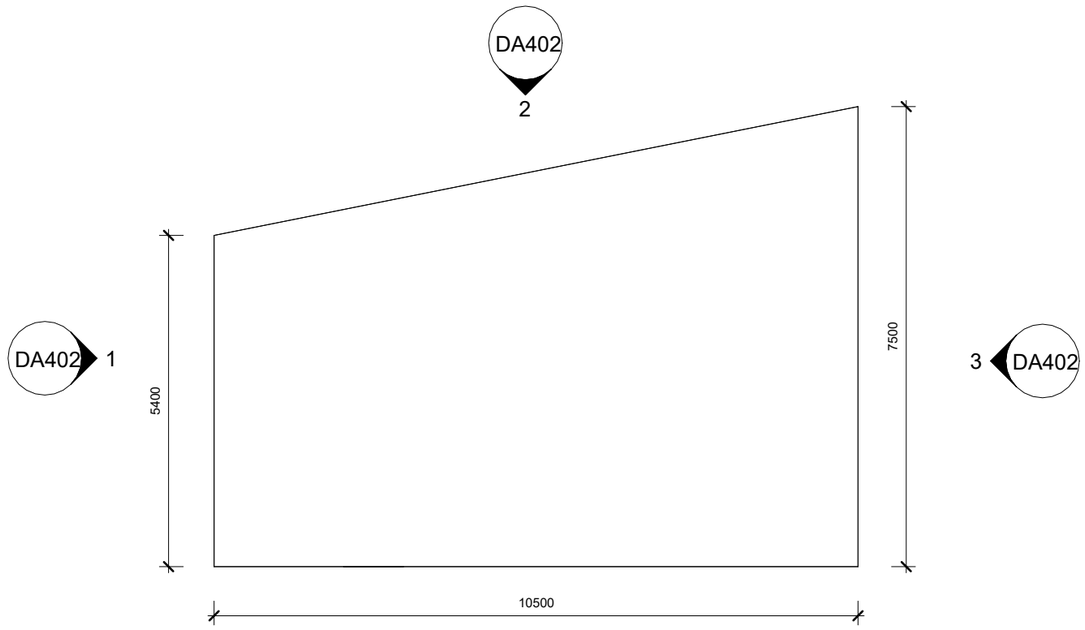
31/03/2025 1:07:19 PM





1 1 BED VILLA FLOOR PLAN

4
DA402



2 1 BED VILLA ROOF PLAN

4
DA402

WILD MODULAR

no.	date	ISSUE / revision	by
B	04/02/25	Issue for Coordination	VG
A	13/12/24	Preliminary Consultant Issue	MD

PROJECT NO.	22XX
PROJECT NAME	---
PROJECT ADRESS	---
CLIENT	---

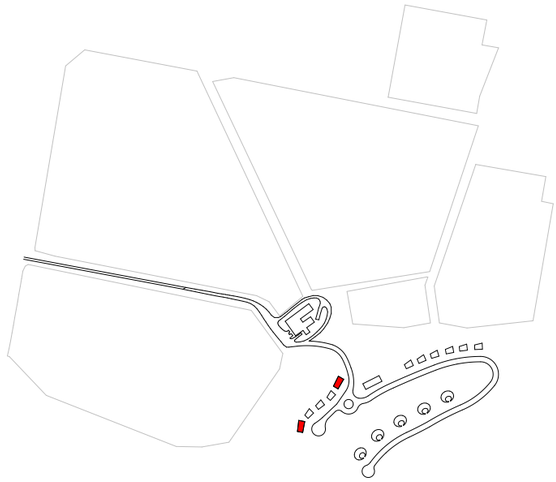
DRAFT

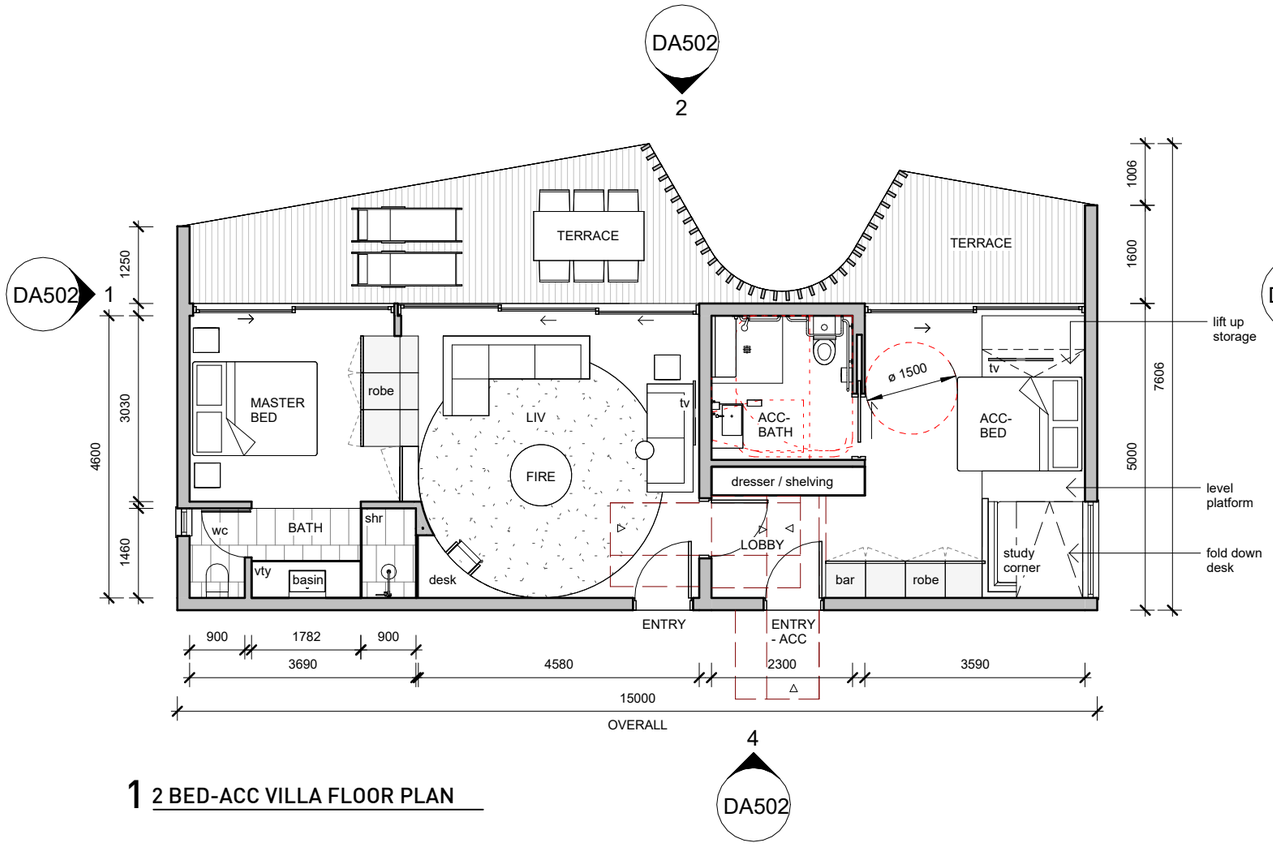
PRELIMINARY ISSUE

DRAWING NAME 1 BED VILLA TYP. PLANS

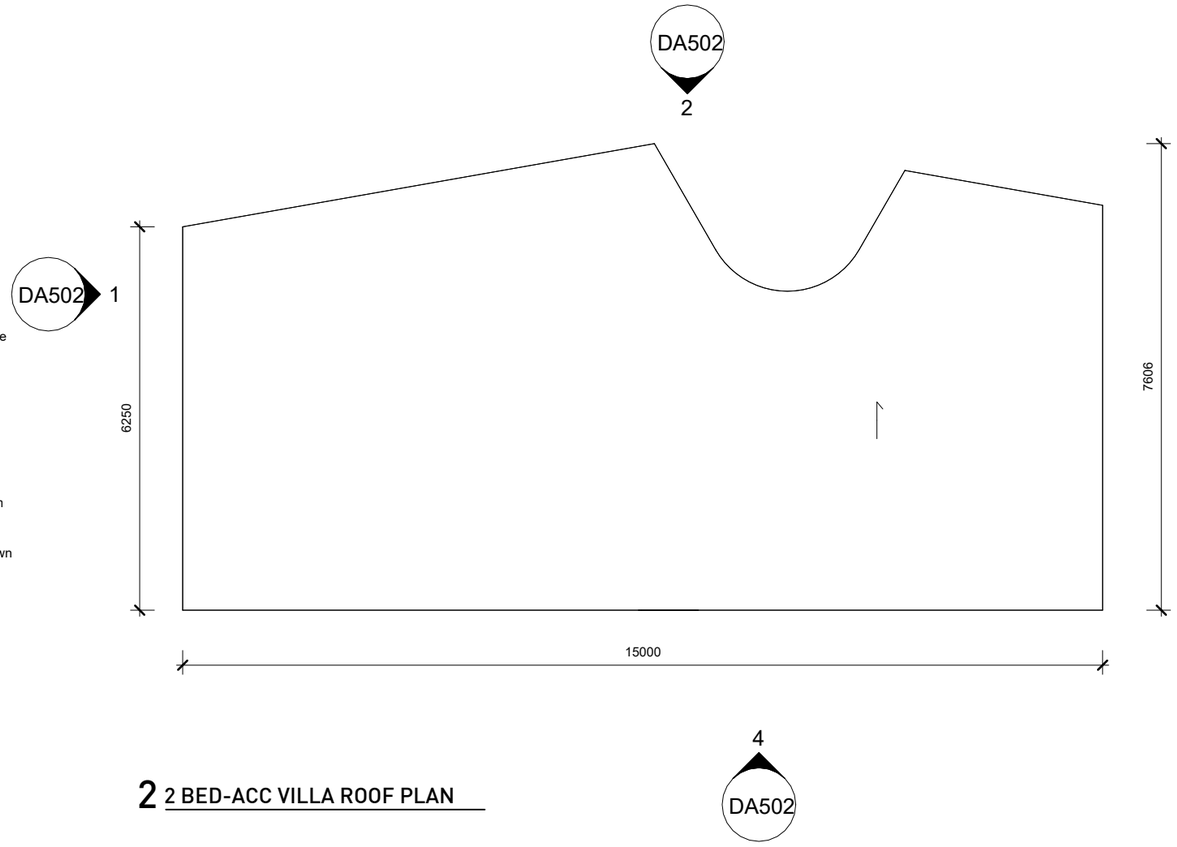
DRAWING NO.	SCALE at A3	ISSUE
DA400	As indicated	B

31/03/2025 1:07:21 PM





1 2 BED-ACC VILLA FLOOR PLAN



2 2 BED-ACC VILLA ROOF PLAN

WILD MODULAR

no.	date	ISSUE / revision	by
B	04/02/25	Issue for Coordination	VG
A	13/12/24	Preliminary Consultant Issue	MD

PROJECT NO.	22XX
PROJECT NAME	---
PROJECT ADRESS	---
CLIENT	---

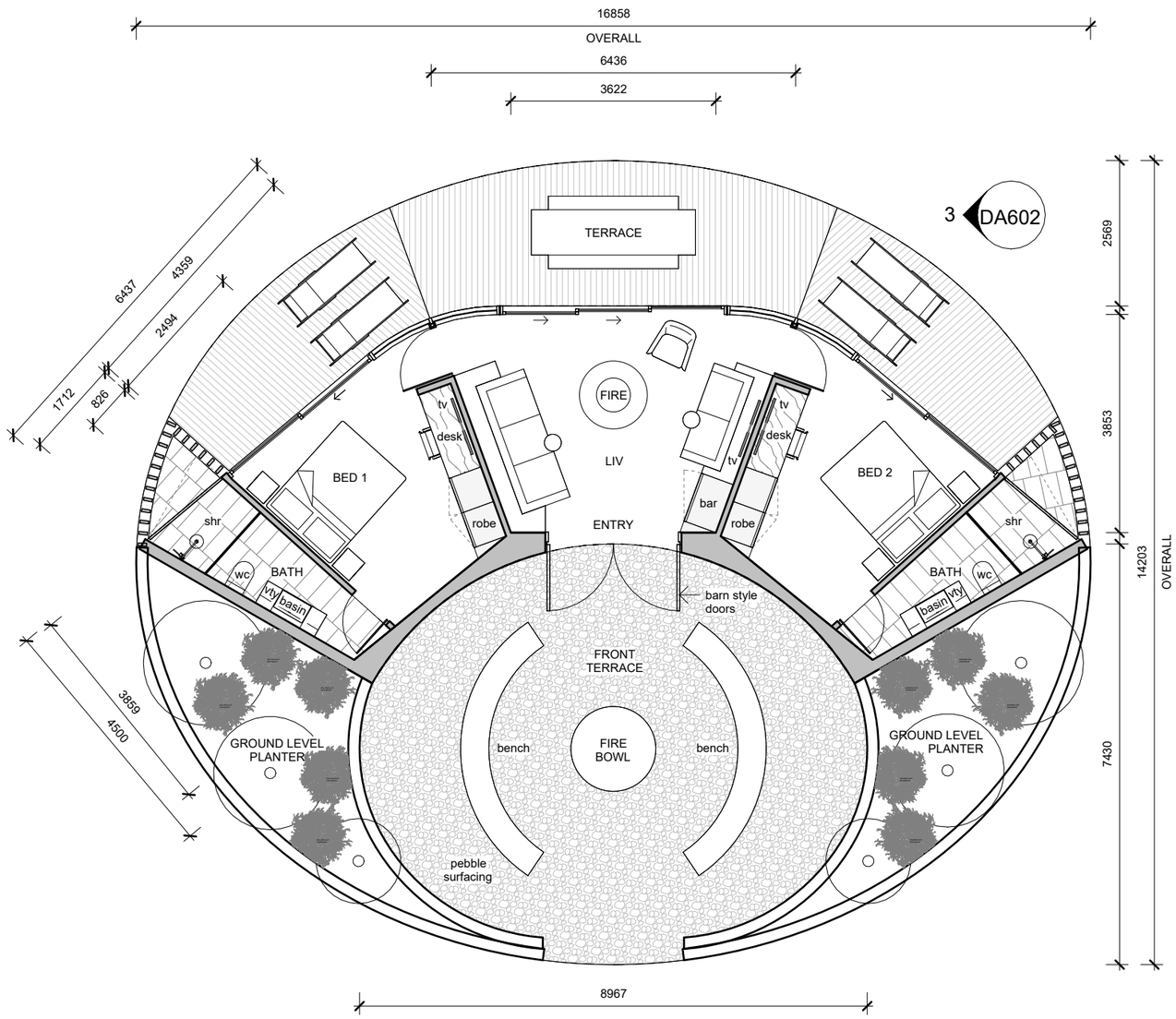
DRAFT

PRELIMINARY ISSUE

DRAWING NAME 2 BED-ACC VILLA TYP. PLANS

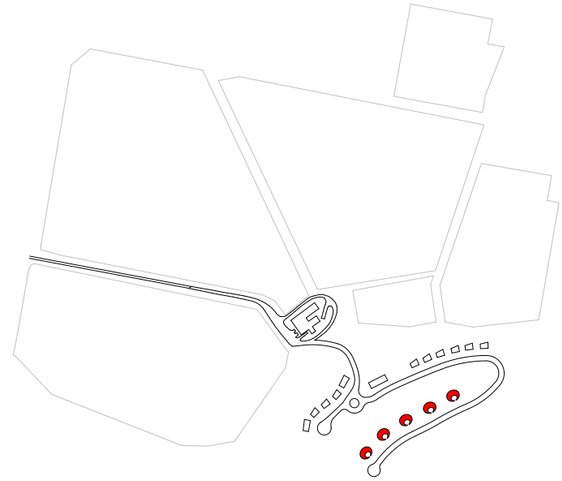
DRAWING NO.	SCALE at A3	ISSUE
DA500	As indicated	B

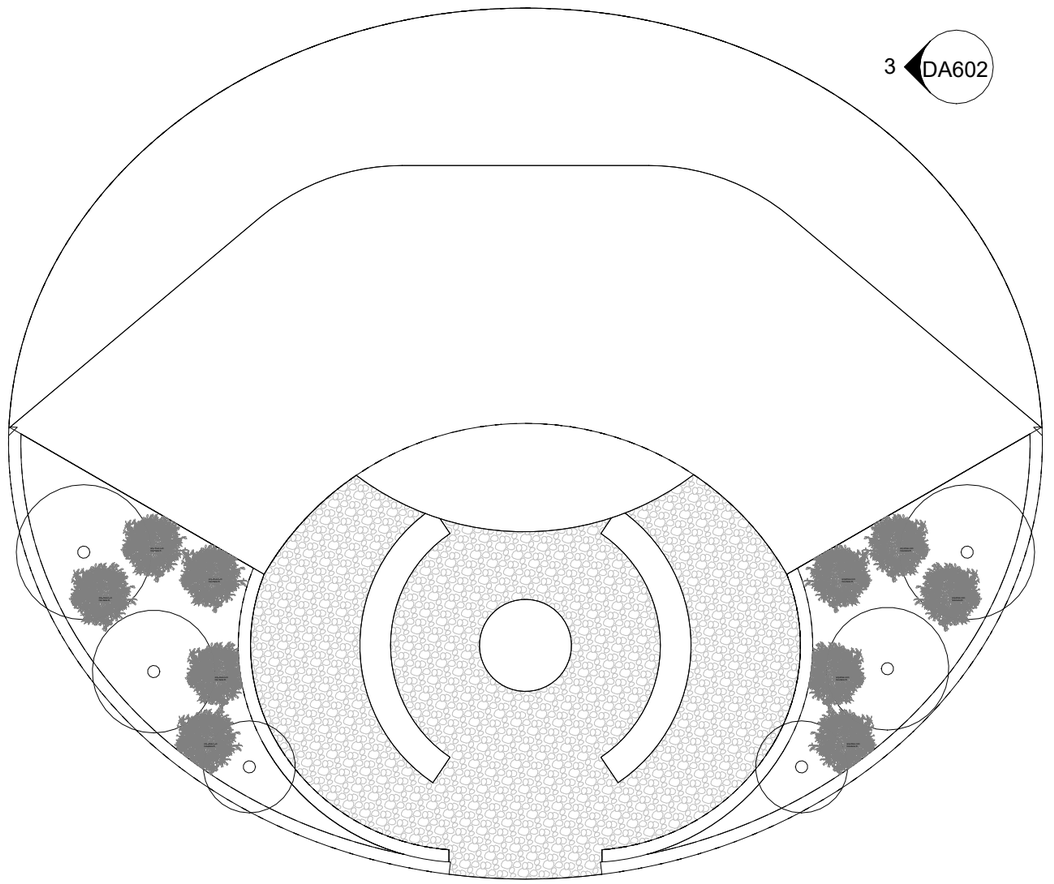
31/03/2025 1:07:27 PM



3 DA602

1 2 BED LUX VILLA PLAN





3 DA602

2 2 BED LUX VILLA ROOF PLAN

WILD MODULAR

no.	date	ISSUE / revision	by
B	04/02/25	Issue for Coordination	VG
A	13/12/24	Preliminary Consultant Issue	MD

PROJECT NO.	22XX
PROJECT NAME	---
PROJECT ADRESS	---
CLIENT	---

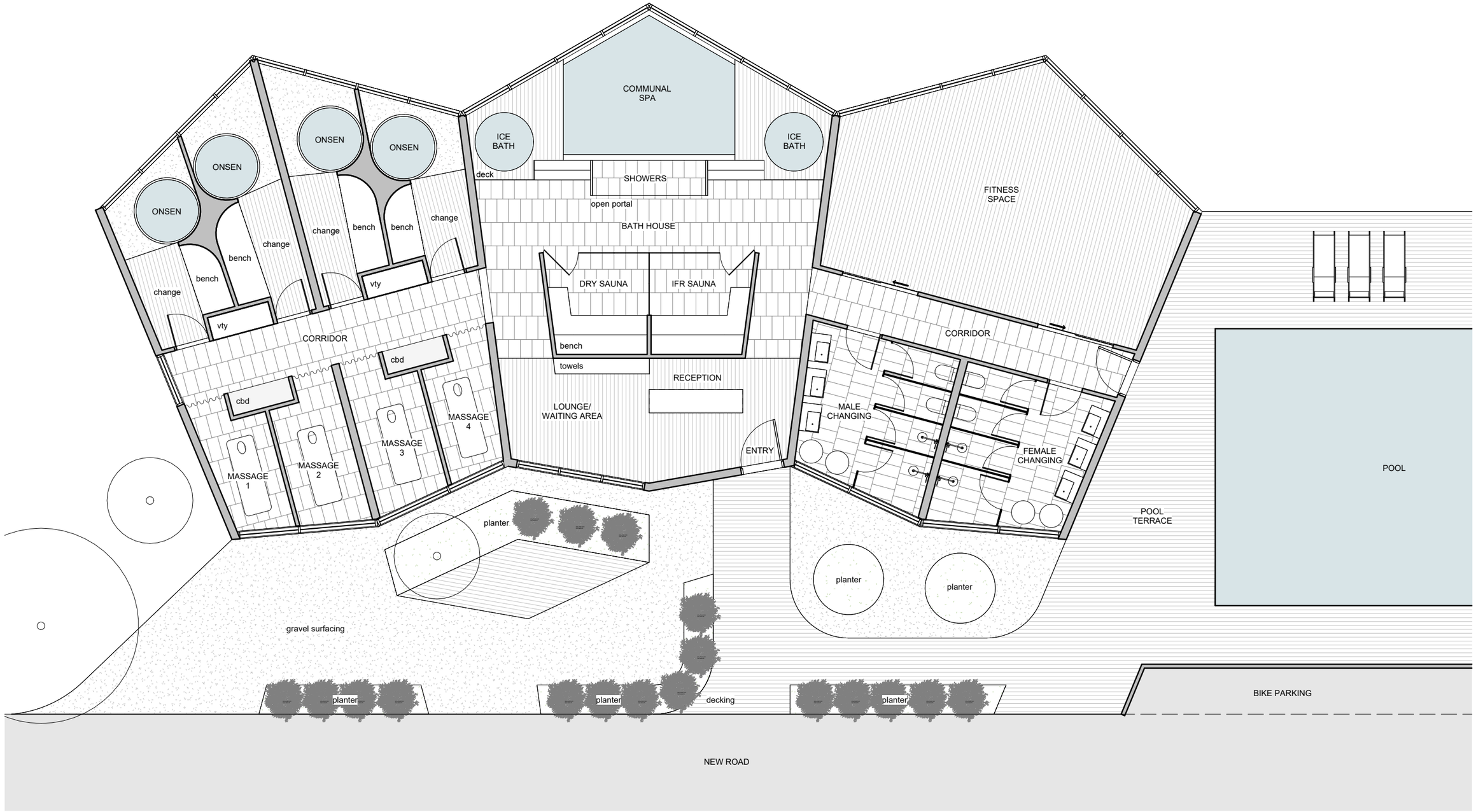
DRAFT

PRELIMINARY ISSUE

DRAWING NAME 2 BED LUX VILLA TYP. PLANS

DRAWING NO.	SCALE at A3	ISSUE
DA600	As indicated	B

31/03/2025 1:12:17 PM



WILD MODULAR

no.	date	ISSUE / revision	by
A	13/12/24	Preliminary Consultant Issue	MD

PROJECT NO.	22XX
PROJECT NAME	---
PROJECT ADRESS	---
CLIENT	---

DRAFT

PRELIMINARY ISSUE

DRAWING NAME BATH HOUSE FLOOR PLAN

DRAWING NO.	SCALE at A3	ISSUE
DA700	1 : 100	A

2/04/2025 5:06:51 PM