



ABN 68 300 116 092

# PLANNING APPLICATION FORM

Section 57 & 58

OFFICE USE ONLY			
Application Number: DA 2023 / 125		Date: 12.12.2023	
PID: 3601581	Zone: Rural Living	Permitted or Discretionary	

DEVELOPMENT APPLICATION DETAILS			
Applicant Name:	KATE PHILLIPS ROOM 11 ARCHITECTS		
Location/Address:	253 LEAM ROAD HILLWOOD TAS		
Title Reference:	157 + 174593 / 7		
Existing Development/Use: <small>(describe the way the land is used now)</small>	VACANT		
Development Type:	New dwelling <input checked="" type="checkbox"/> Outbuilding <input checked="" type="checkbox"/> Addition/extension <input type="checkbox"/> Fencing <input type="checkbox"/> Demolition <input type="checkbox"/> Signage <input type="checkbox"/> Subdivision <input type="checkbox"/> Change of use <input type="checkbox"/> Other <input type="checkbox"/>		
Description/Use:	NEW DWELLING + WORKSHOP		
New floor area:	350.07 m <sup>2</sup>	Total floor area:	350.07 m <sup>2</sup> New building height: 5.09 m
Water Supply:	TasWater <input type="checkbox"/> Tank <input checked="" type="checkbox"/>	Wastewater:	TasWater <input type="checkbox"/> On-Site Wastewater System <input checked="" type="checkbox"/>
Driveway/Vehicle Crossover:	Existing <input checked="" type="checkbox"/> Proposed <input checked="" type="checkbox"/> Alteration Required <input checked="" type="checkbox"/> <i>Contact Council's engineering department for details on crossover construction</i>		
Does the application include Crown Land or access via a Crown Access License?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<small>If 'yes', please provide Crown consent to lodge the planning application in accordance with section 52 (1B) of the Land Use Planning and Approvals Act 1993.</small>	

SUBDIVISION		N/A <input checked="" type="checkbox"/>
Existing Lots:		Number of total lots proposed:

COMMERCIAL/INDUSTRIAL				N/A <input checked="" type="checkbox"/>
Existing business and/or proposed business description:				
Hours of Operation:	Weekdays (Mon – Fri)		To	
	Saturday		To	
	Sunday		To	
Signage:	Yes <input type="checkbox"/> No <input type="checkbox"/>	If 'yes', please provide details with application.		
Existing no. of employees:		No. of employees (proposed):		
Parking spaces (existing)		Parking spaces (proposed)		

# LONG WALL





**Room11 Architects**  
**Studio HOBART**  
358B Macquarie Street, South Hobart, TAS 7004  
Telephone 03-6224-8642  
Email [info@room11.com.au](mailto:info@room11.com.au)  
Website [www.room11.com.au](http://www.room11.com.au)

DATE  
19/04/2024

PROJECT

# 253 LEAM ROAD

# DEVELOPMENT APPLICATION

REQUEST FOR FURTHER INFORMATION

## DRAWING INDEX

ID	NAME	ISSUE ID	Issued
A0.01	LOCATION PLAN	DA	<input checked="" type="checkbox"/>
A0.02	SITE PLAN	RFI	<input checked="" type="checkbox"/>
A1.01	OVERALL PLAN	DA	<input checked="" type="checkbox"/>
A1.02	PROPOSED WORKSHOP FLOOR PLAN	DA	<input checked="" type="checkbox"/>
A1.03	PROPOSED HOUSE FLOOR PLAN	DA	<input checked="" type="checkbox"/>
A1.04	PROPOSED WORKSHOP ROOF PLAN	DA	<input checked="" type="checkbox"/>
A1.05	PROPOSED HOUSE ROOF PLAN	DA	<input checked="" type="checkbox"/>
A2.01	SITE ELEVATIONS 1:200	DA	<input checked="" type="checkbox"/>
A2.02	HOUSE ELEVATIONS EAST/WEST	DA	<input checked="" type="checkbox"/>
A2.03	HOUSE ELEVATIONS NORTH/SOUTH	DA	<input checked="" type="checkbox"/>
A2.04	SHED ELEVATIONS EAST/WEST	DA	<input checked="" type="checkbox"/>
A3.01	MATERIAL PALETTE	DA	<input checked="" type="checkbox"/>
A5.01	OVERALL FACADE	DA	<input checked="" type="checkbox"/>
A5.02	FACADE CLOSE UP	DA	<input checked="" type="checkbox"/>
A5.03	ENTRANCE VIEW	DA	<input checked="" type="checkbox"/>
A5.04	COURTYARD VIEW	DA	<input checked="" type="checkbox"/>
RFI.01	SOLAR PANEL ELEVATIONS	RFI	<input checked="" type="checkbox"/>
RFI.02	DRIVEWAY PROFILE	RFI	<input checked="" type="checkbox"/>



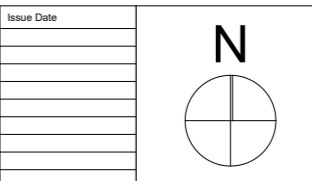

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**Project No:**  
 2222  
**Client:**  
 PETER AND RUTH THOMSON  
**Project Name:**  
 LONG WALL  
**Project Address:**  
 253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date



<b>Drawing Title:</b> LOCATION PLAN		<b>Issue:</b>
<b>Scale:</b> 1:5000	<b>Drawing No:</b>	DA
<b>Date:</b> 19/04/2024	A0.01	
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		

**LAND TITLE**

VOLUME: 17459

FOLIO: 7

**SCHEDULE OF AREAS**

SITE AREA: 9,567m<sup>2</sup>

PROPOSED WORKSHOP/STUDIO: 142.56m<sup>2</sup>

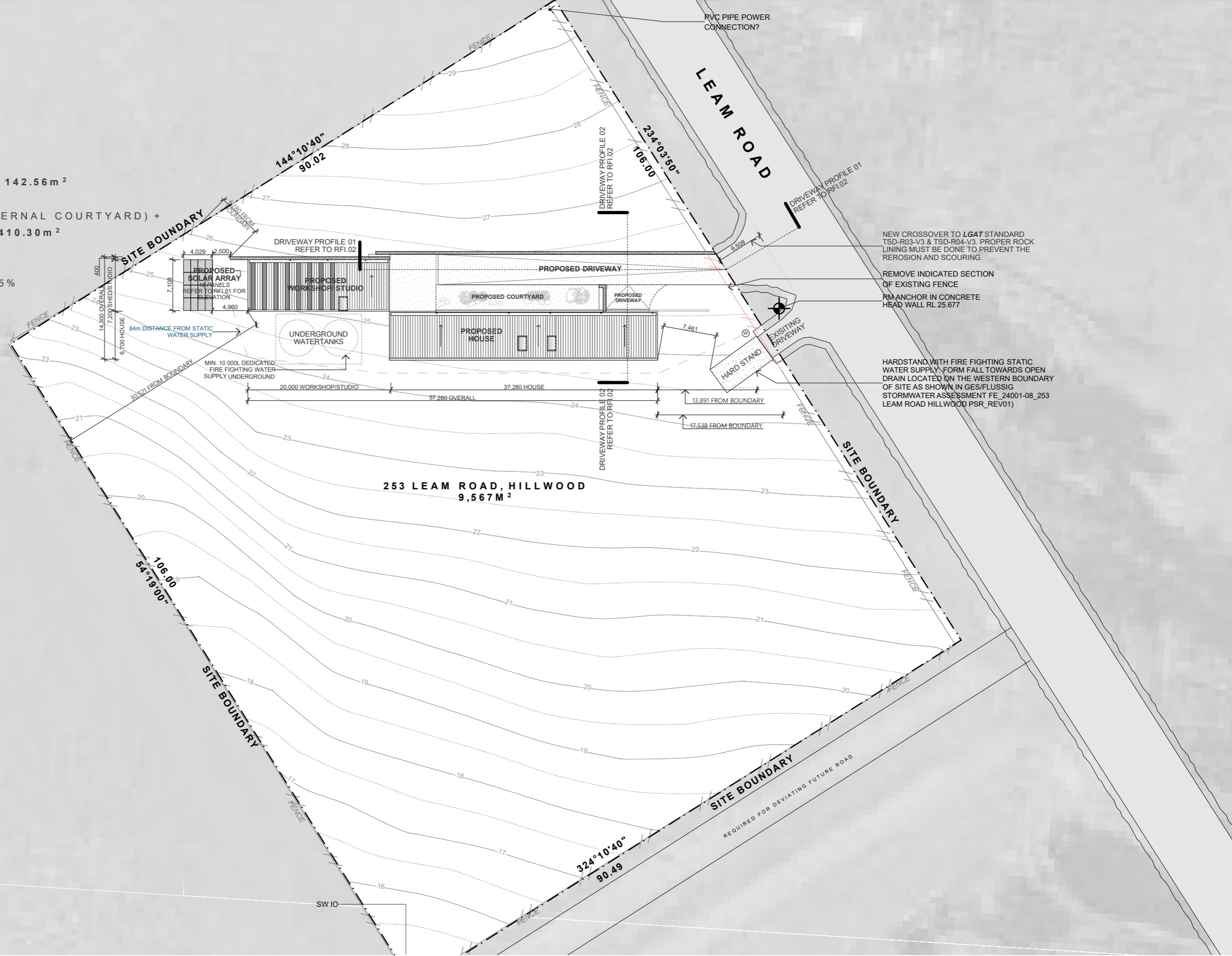
PROPOSED HOUSE: 207.57m<sup>2</sup>

SITWORK: 184.13m<sup>2</sup> (WALL + INTERNAL COURTYARD) +

191.48m<sup>2</sup> (DRIVEWAY + ENTRY) = 410.30m<sup>2</sup>

TOTAL AREA OF WORK: 760.43m<sup>2</sup>

PROPOSED SITE COVERAGE: 7.95%



1:500 PROPOSED SITE PLAN



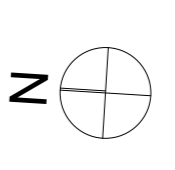
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Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
02	CLIENTS' COMMENTS AND CHANGES	30/03/2023
03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date



Drawing Title: <b>SITE PLAN</b>		Scale: 1:500	Drawing No: <b>A0.02</b>	Issue:
Date: 19/04/2024	Drawn by: JP	Checked by: TB	Status: DA	<b>RFI</b>

**LAND TITLE**

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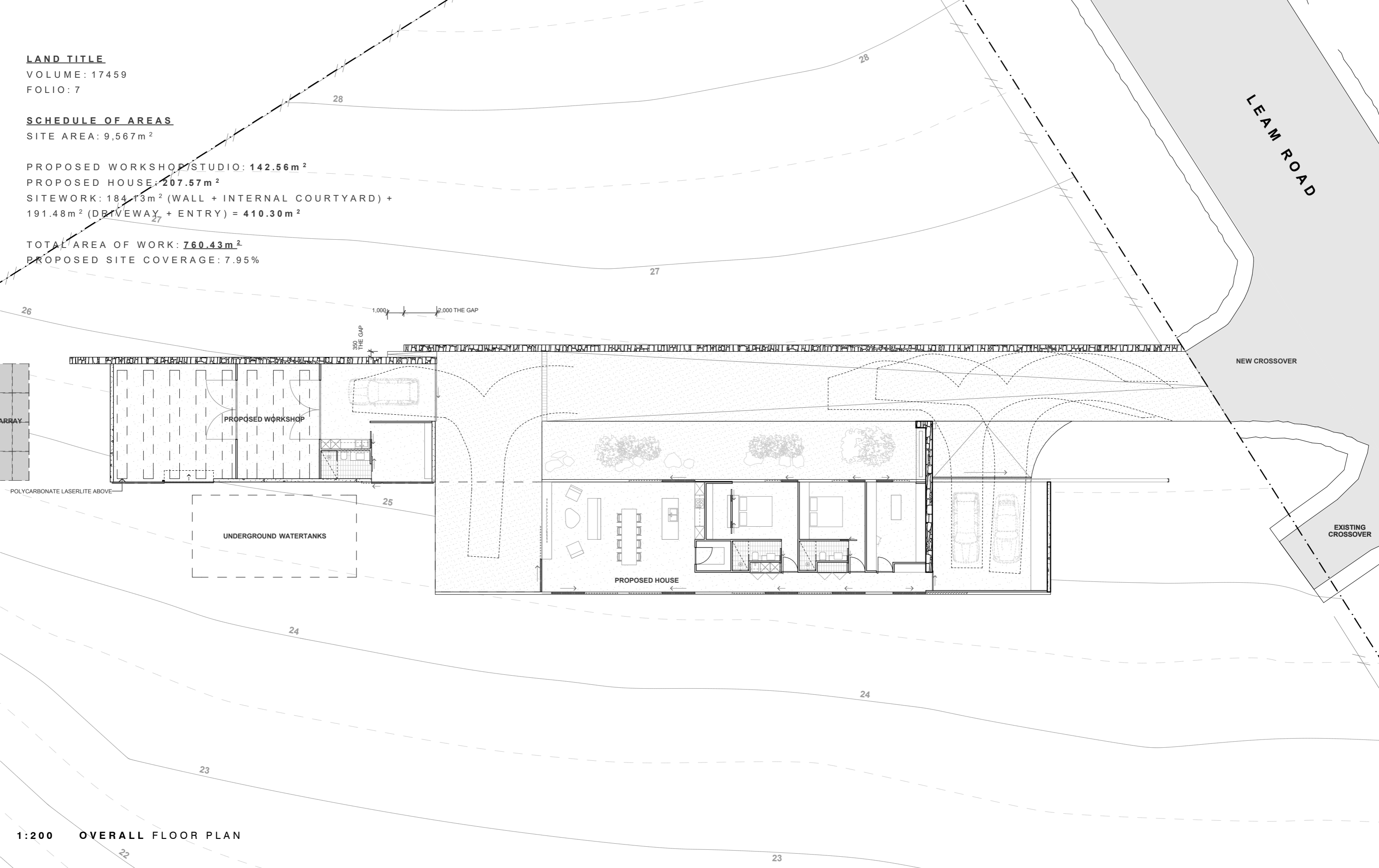
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PROPOSED SITE COVERAGE: 7.95%



**1:200 OVERALL FLOOR PLAN**

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03	REVISED CONCEPT	21/06/2023			

**Drawing Title:**  
OVERALL PLAN

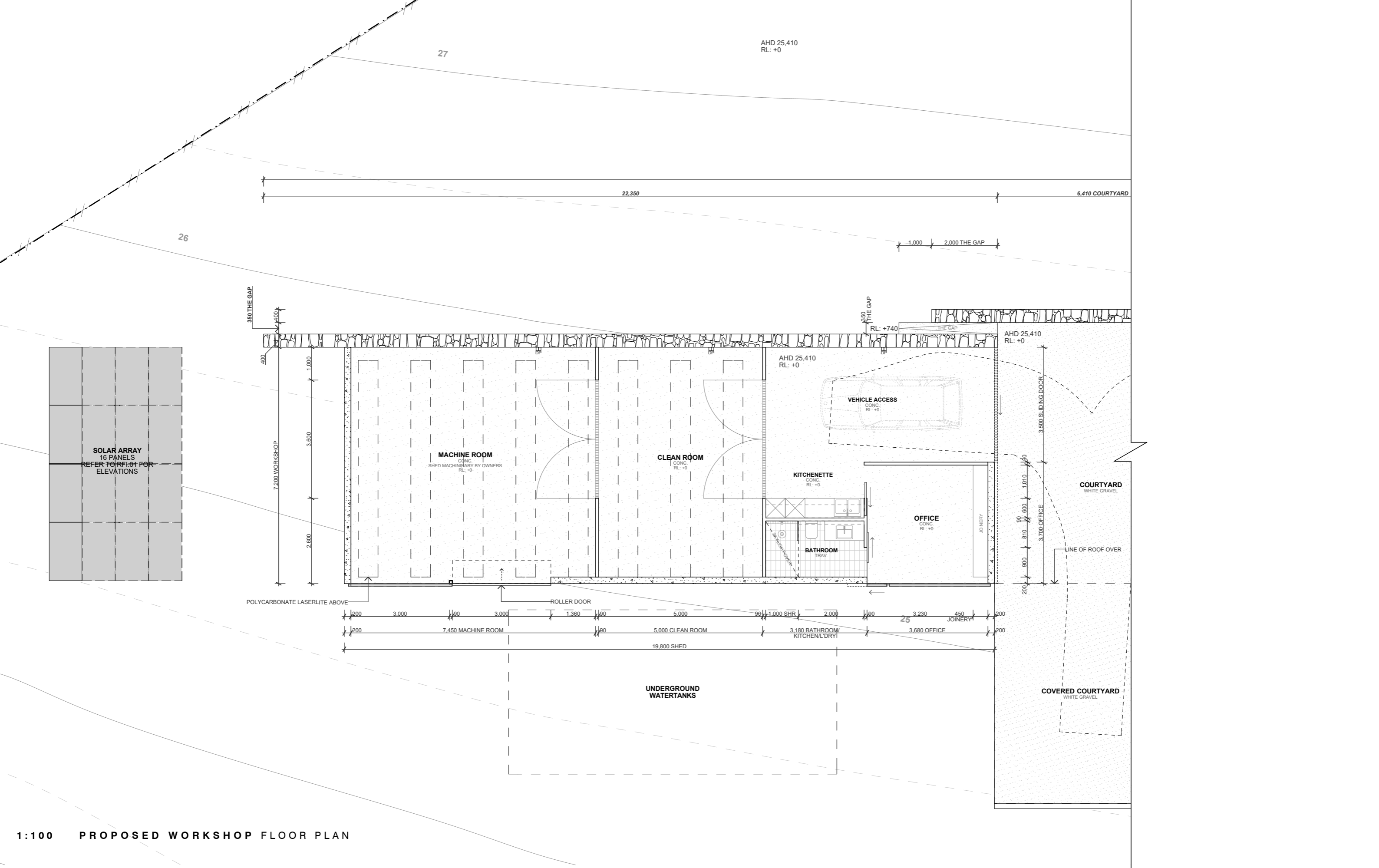
Scale: 1:200 Drawing No: A1.01 Issue: DA

Date: 19/04/2024

Drawn by: JP

Checked by: TB

Status: DA



1:100 PROPOSED WORKSHOP FLOOR PLAN



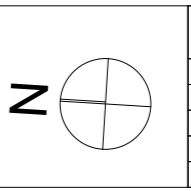
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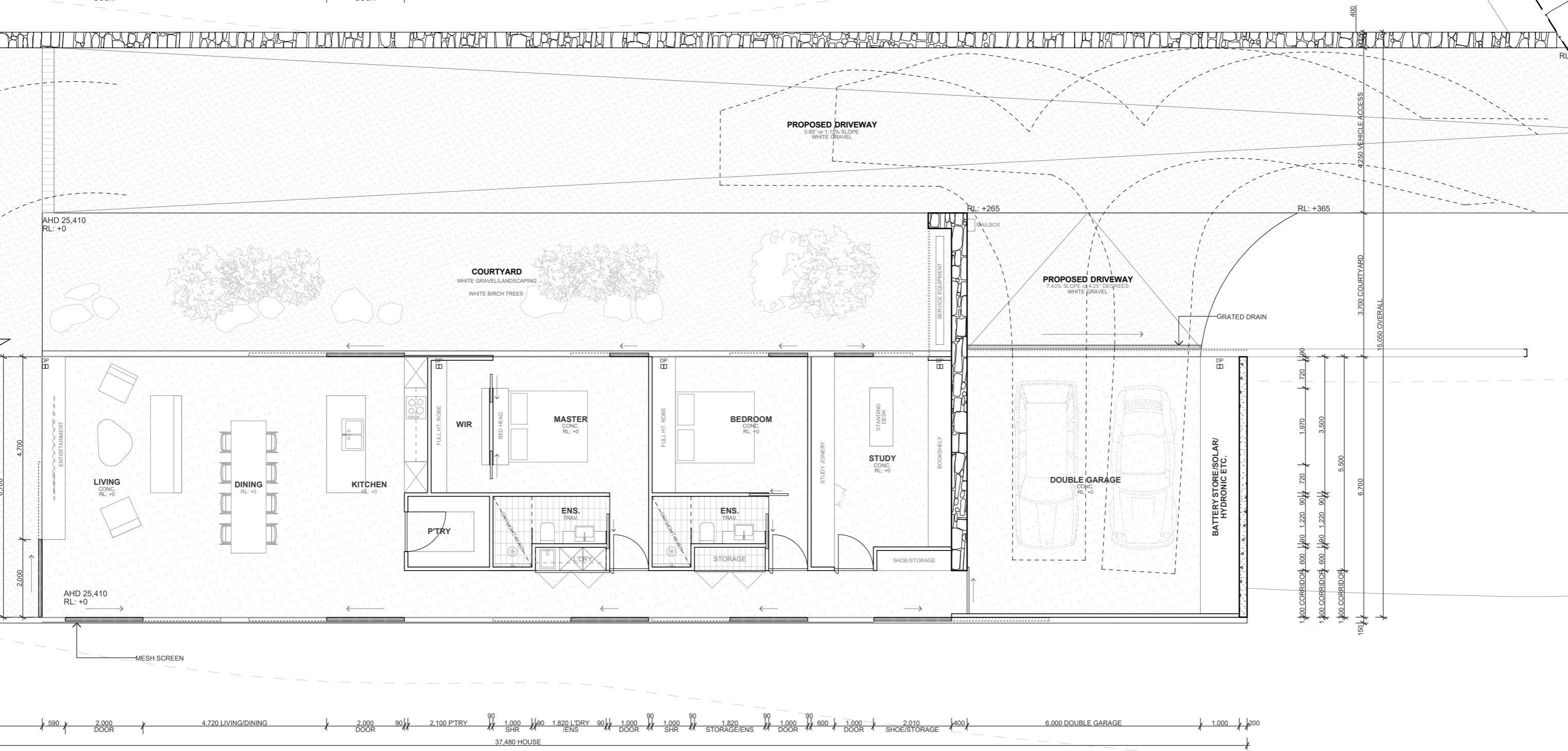
Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
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**Drawing Title:**  
PROPOSED WORKSHOP FLOOR PLAN

Scale:	1:100	Drawing No:	A1.02	Issue:	DA
Date:	19/04/2024	Drawn by:	JP	Checked by:	TB
Status:	DA				



1:100 PROPOSED HOUSE FLOOR PLAN

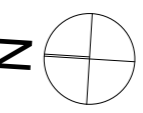
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03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date



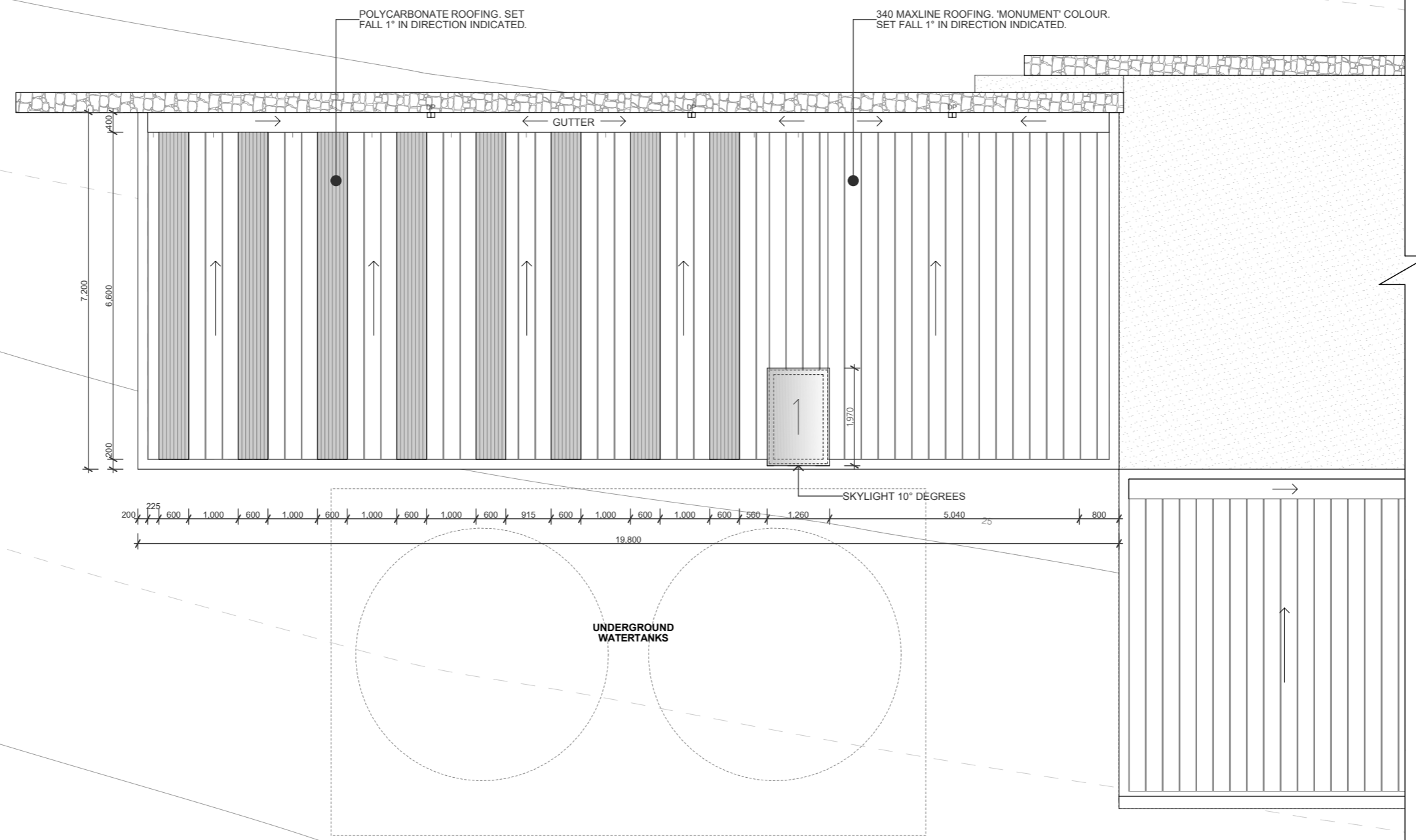
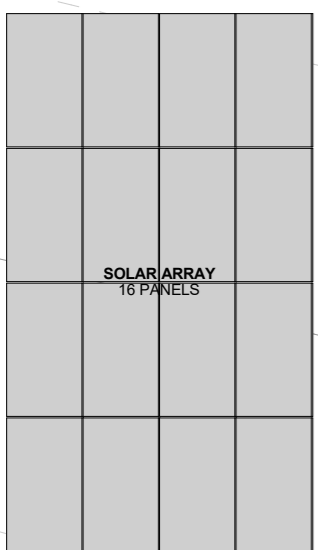
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**PROPOSED HOUSE FLOOR PLAN**

Scale: 1:100  
 Date: 19/04/2024  
 Drawn by: JP  
 Checked by: TB  
 Status: DA

Drawing No:  
**A1.03**

Issue:  
**DA**





1:100 PROPOSED WORKSHOP ROOF PLAN

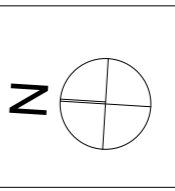
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03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date



Drawing Title:  
**PROPOSED WORKSHOP ROOF PLAN**

Scale: 1:100  
 Date: 19/04/2024  
 Drawn by: JP  
 Checked by: TB  
 Status: DA

Drawing No:  
**A1.04**

Issue:  
**DA**

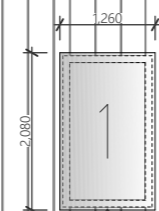
LEAM ROAD

PROPOSED DRIVEWAY BELOW  
0.65° or 1.13% SLOPE  
WHITE GRAVEL

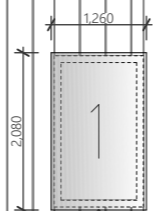
COURTYARD BELOW  
WHITE GRAVEL/LANDSCAPING  
WHITE BIRCH TREES

PROPOSED DRIVEWAY BELOW  
7.43% SLOPE or 4.27 DEGREES  
WHITE GRAVEL

GUTTER



SKYLIGHT 10° DEGREES



SKYLIGHT 10° DEGREES

340 MAXLINE ROOFING. 'MONUMENT' COLOUR.  
SET FALL 1" IN DIRECTION INDICATED.

4000  
5.900

37.280

1:100 PROPOSED HOUSE ROOF PLAN



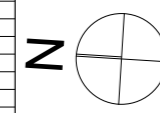
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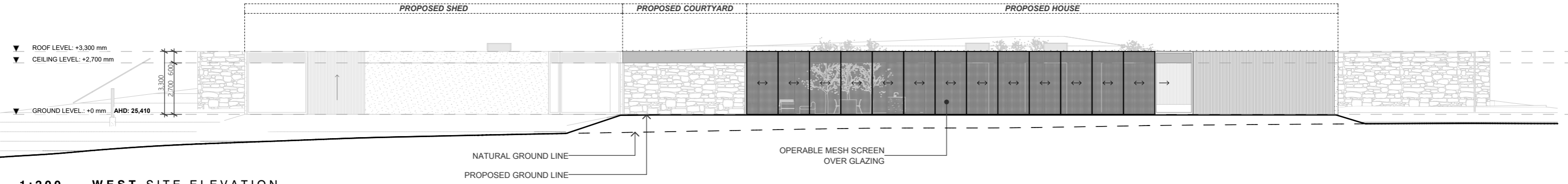
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Project Address:  
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Issue ID	Issue Name	Issue Date
02	CLIENTS' COMMENTS AND CHANGES	30/03/2023
03	REVISED CONCEPT	21/06/2023

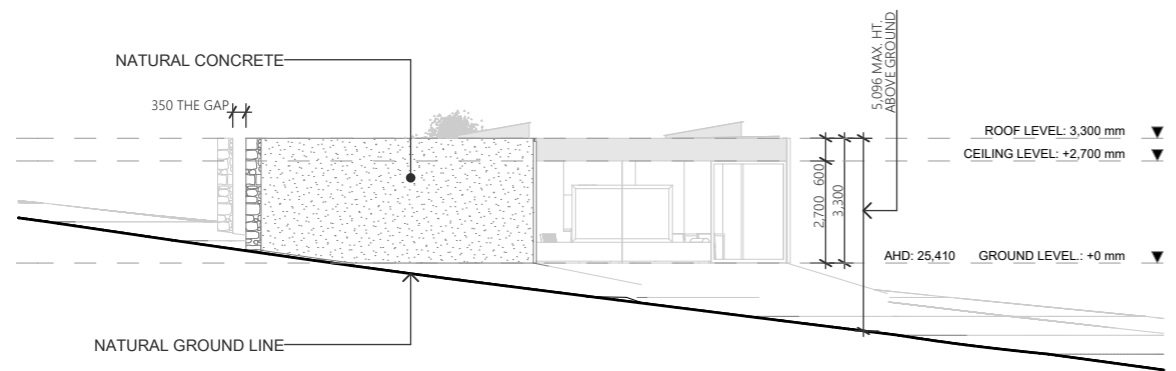
Issue ID	Issue Name	Issue Date



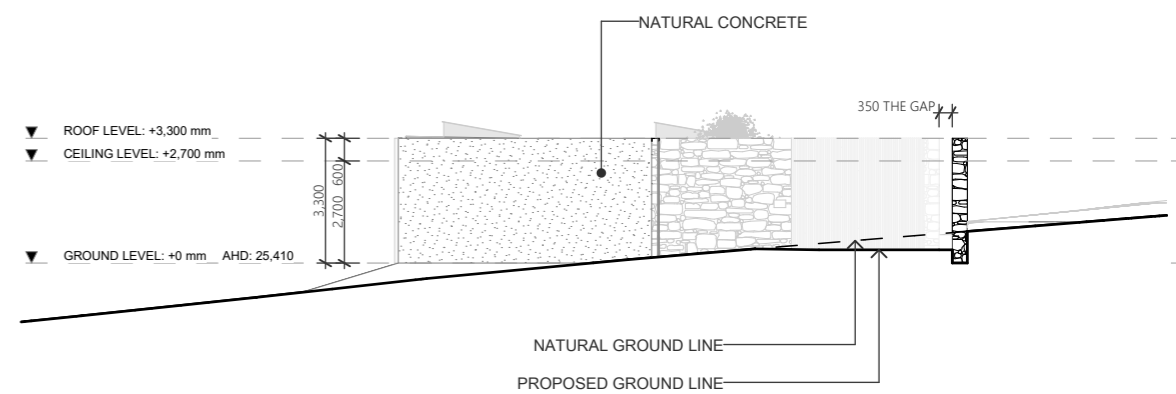
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Date: 19/04/2024	Checked by: TB	
Drawn by: JP	Status: DA	



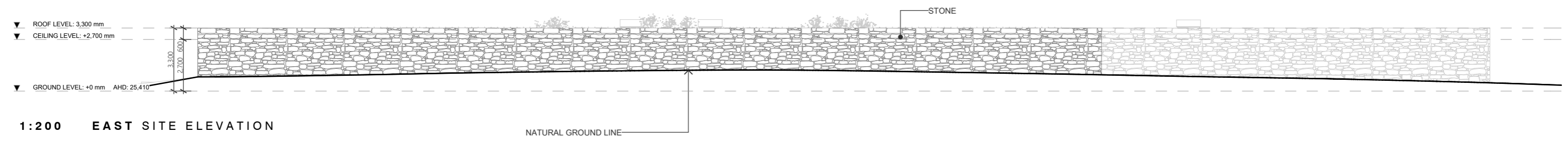
1:200 WEST SITE ELEVATION



1:200 NORTH SITE ELEVATION



1:200 SOUTH SITE ELEVATION



1:200 EAST SITE ELEVATION

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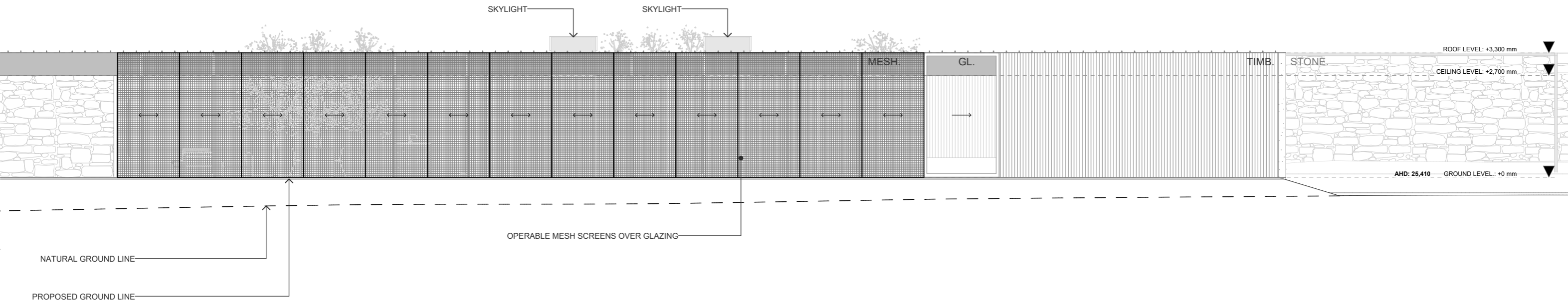
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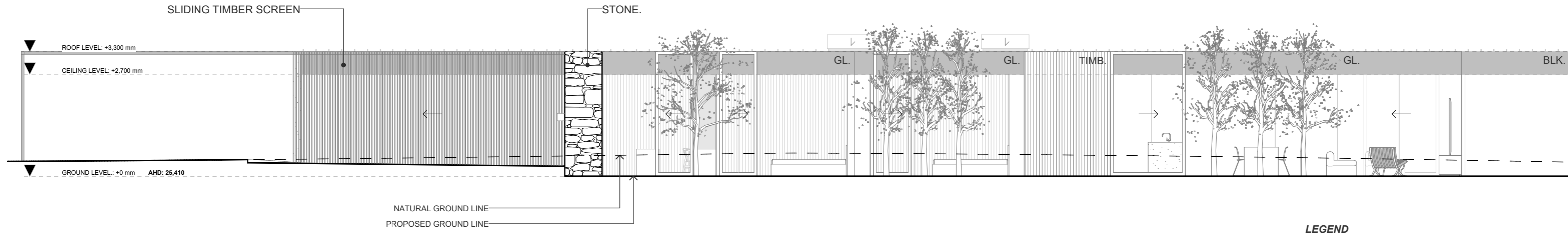
Issue ID	Issue Name	Issue Date	Issue ID	Issue Name	Issue Date
DA	DEVELOPMENT APPLICATION	6/12/2023			

Issue ID	Issue Name	Issue Date	Issue ID	Issue Name	Issue Date

<b>Drawing Title:</b> SITE ELEVATIONS 1:200		<b>Issue:</b> DA
<b>Scale:</b> 1:200	<b>Drawing No:</b> A2.01	
<b>Date:</b> 19/04/2024		
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



1:100 WEST HOUSE ELEVATION



1:100 EAST HOUSE ELEVATION

- LEGEND**
- CONC. CONCRETE
  - TIMB. TIMBER
  - STONE. STACKED STONE
  - BLK. BLACK FC SHEET
  - MESH. MESH SCREEN
  - GL. CLEAR GLAZING

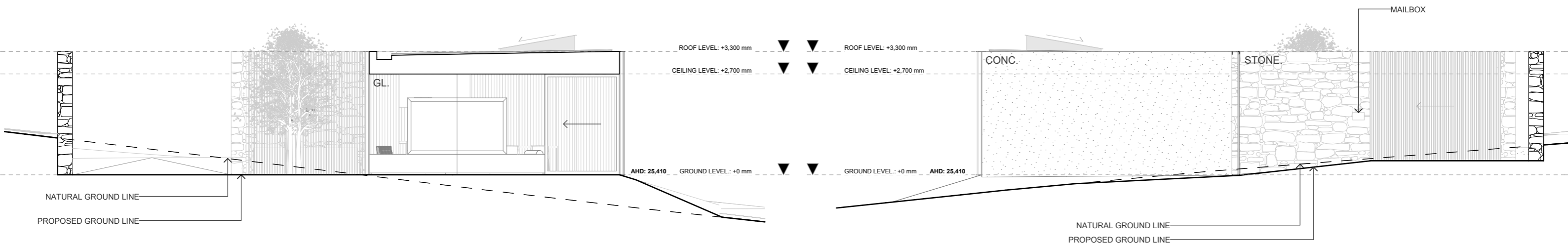
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DA	DEVELOPMENT APPLICATION	6/12/2023			

<b>Drawing Title:</b> HOUSE ELEVATIONS EAST/WEST		
Scale: 1:100	Drawing No:	Issue:
Date: 19/04/2024	<b>A2.02</b>	<b>DA</b>
Drawn by: JP		
Checked by: TB		
Status: DA		



1:100 NORTH HOUSE ELEVATION

1:100 SOUTH HOUSE ELEVATION

**LEGEND**

- CONC.** CONCRETE
- TIMB.** TIMBER
- STONE.** STACKED STONE
- BLK.** BLACK FC SHEET
- MESH.** MESH SCREEN
- GL.** CLEAR GLAZING



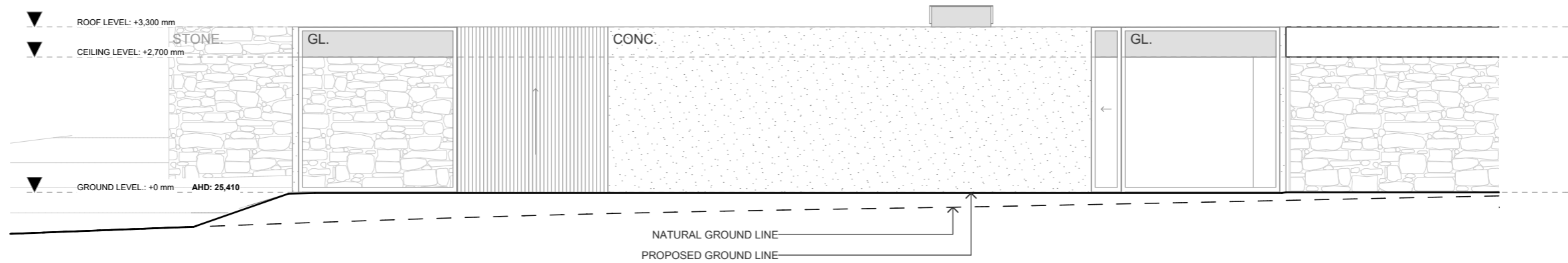
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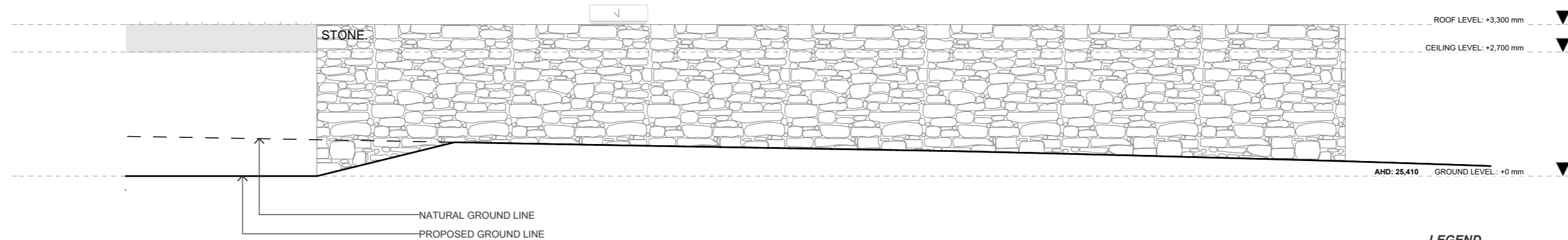
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DA	DEVELOPMENT APPLICATION	6/12/2023			

<b>Drawing Title:</b> HOUSE ELEVATIONS NORTH/SOUTH		
<b>Scale:</b> 1:100	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	<b>A2.03</b>	<b>DA</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



1:100 WEST WORKSHOP/STUDIO ELEVATION



1:100 EAST WORKSHOP/STUDIO ELEVATION

**LEGEND**

- CONC. CONCRETE
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- STONE. STACKED STONE
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- MESH. MESH SCREEN
- GL. CLEAR GLAZING



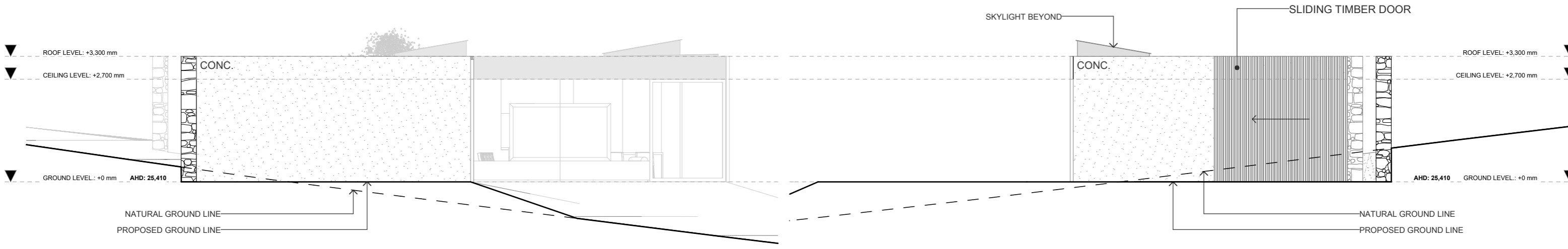
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**Project No:**  
2222  
**Client:**  
PETER AND RUTH THOMSON  
**Project Name:**  
LONG WALL  
**Project Address:**  
253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date	Issue ID	Issue Name	Issue Date
DA	DEVELOPMENT APPLICATION	6/12/2023			

Drawing Title: SHED ELEVATIONS EAST/WEST		Issue:
Scale: 1:100	Drawing No:	A2.04
Date: 19/04/2024		
Drawn by: JP		
Checked by: TB		
Status: DA		



1:100 NORTH WORKSHOP/STUDIO ELEVATION

1:100 SOUTH WORKSHOP/STUDIO ELEVATION

**LEGEND**

- CONC.** CONCRETE
- TIMB.** TIMBER
- STONE.** STACKED STONE
- BLK.** BLACK FC SHEET
- MESH.** MESH SCREEN

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Issue ID	Issue Name	Issue Date	Issue ID	Issue Name	Issue Date
DA	DEVELOPMENT APPLICATION	6/12/2023			

**Drawing Title:**  
SHED ELEVATIONS NORTH/SOUTH

<b>Scale:</b> 1:100	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	<b>A2.05</b>	<b>DA</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



STONE



CONCRETE



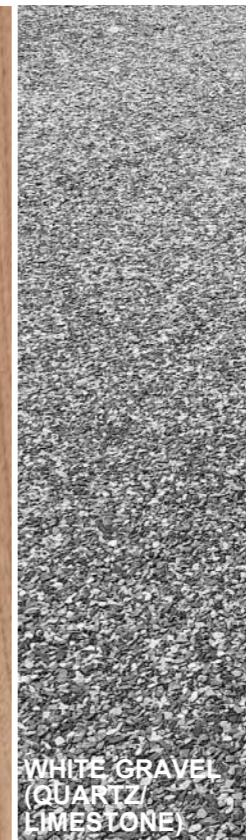
TRAVERTINE



IRON BARK



TASMANIAN OAK



WHITE GRAVEL  
(QUARTZ/  
LIMESTONE)



GLASS



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2222  
**Client:**  
PETER AND RUTH THOMSON  
**Project Name:**  
LONG WALL  
**Project Address:**  
253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date	Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023			

<b>Drawing Title:</b> MATERIAL PALETTE		
<b>Scale:</b>	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	<b>A3.01</b>	<b>DA</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		





N.T.S ARTIST'S IMPRESSION



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**Project No:**  
 2222  
**Client:**  
 PETER AND RUTH THOMSON  
**Project Name:**  
 LONG WALL  
**Project Address:**  
 253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date

<b>Drawing Title:</b> OVERALL FACADE		
<b>Scale:</b>	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	<b>A5.01</b>	<b>DA</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



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**Client:**  
 PETER AND RUTH THOMSON  
**Project Name:**  
 LONG WALL  
**Project Address:**  
 253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date

<b>Drawing Title:</b> FACADE CLOSE UP		
<b>Scale:</b>	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	<b>A5.02</b>	<b>DA</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



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PETER AND RUTH THOMSON  
**Project Name:**  
LONG WALL  
**Project Address:**  
253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date

<b>Drawing Title:</b> ENTRANCE VIEW		
<b>Scale:</b>	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	<b>A5.03</b>	<b>DA</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



N.T.S. ARTIST'S IMPRESSION



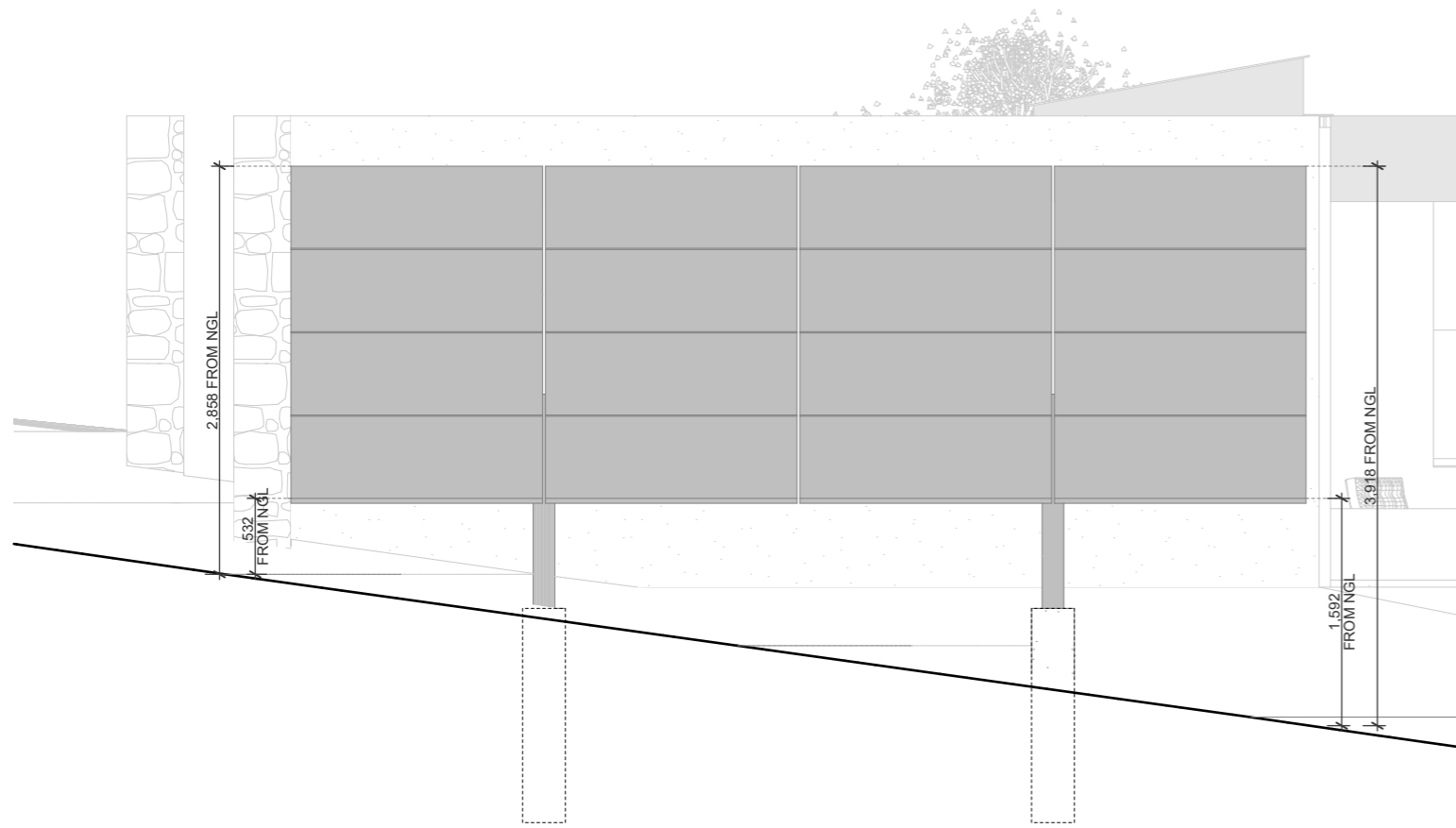
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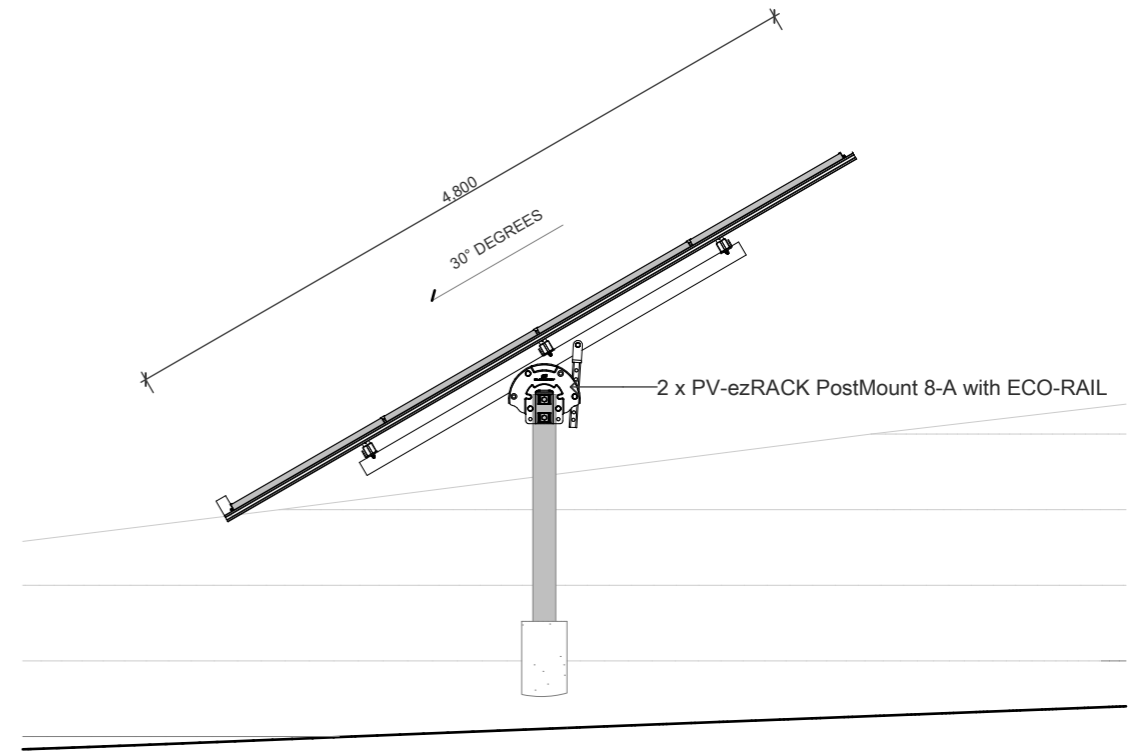
**Project No:**  
 2222  
**Client:**  
 PETER AND RUTH THOMSON  
**Project Name:**  
 LONG WALL  
**Project Address:**  
 253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date	Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023			
03	REVISED CONCEPT	21/06/2023			

<b>Drawing Title:</b> COURTYARD VIEW		
<b>Scale:</b>	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	A5.04	DA
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



1:50 NORTH SOLAR PANEL ELEVATION



1:50 WEST SOLAR PANEL ELEVATION



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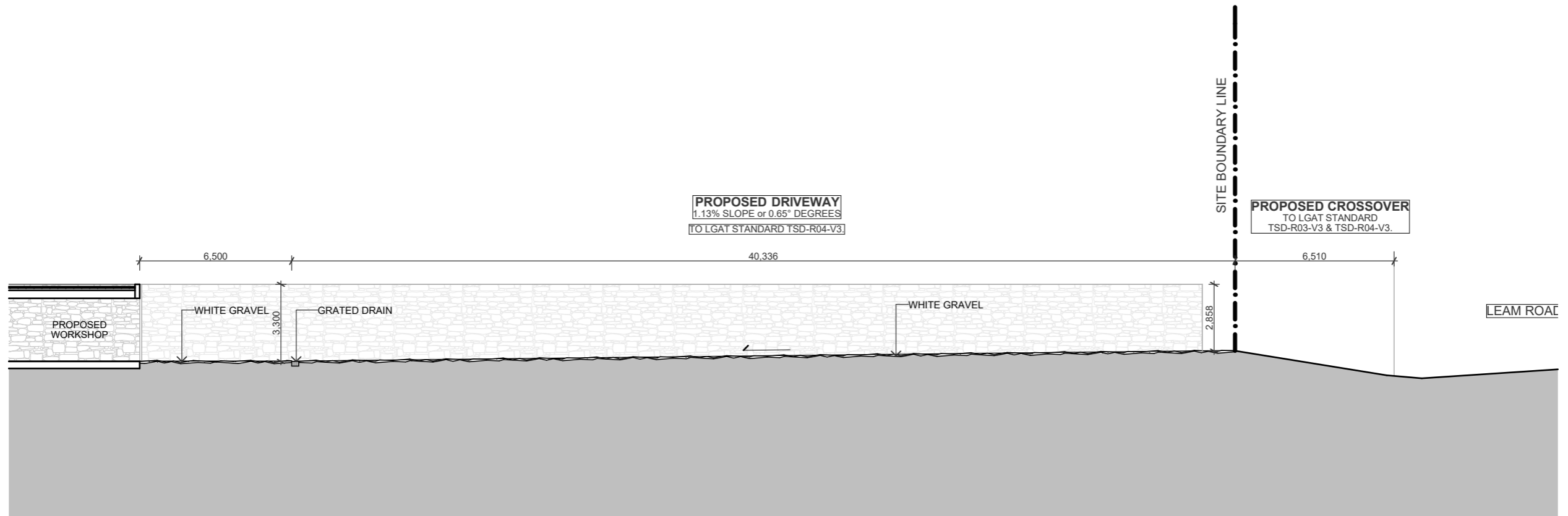
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LONG WALL  
**Project Address:**  
253 LEAM ROAD HILLWOOD TASMANIA

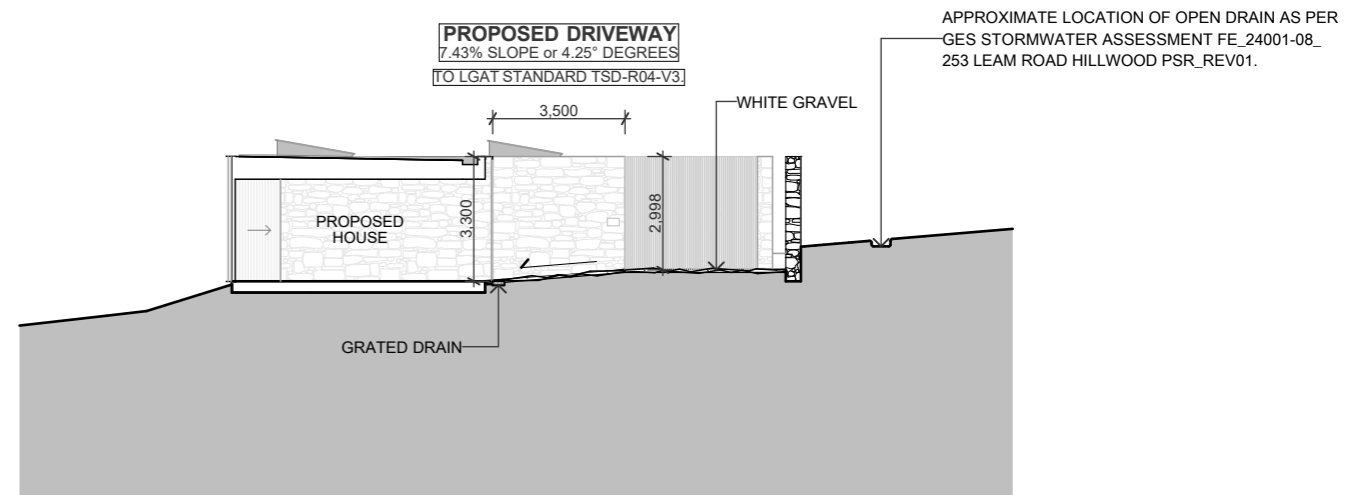
Issue ID	Issue Name	Issue Date
RFI	REQUEST FOR FURTHER INFORMATION	18/04/2024

Issue ID	Issue Name	Issue Date

<b>Drawing Title:</b> SOLAR PANEL ELEVATIONS		
<b>Scale:</b> 1:50	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 19/04/2024	<b>RFI.01</b>	<b>RFI</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		



1:200 DRIVEWAY PROFILE 01



1:200 DRIVEWAY PROFILE 02



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**Client:**  
PETER AND RUTH THOMSON  
**Project Name:**  
LONG WALL  
**Project Address:**  
253 LEAM ROAD HILLWOOD TASMANIA

Issue ID	Issue Name	Issue Date	Issue ID	Issue Name	Issue Date
RFI	REQUEST FOR FURTHER INFORMATION	18/04/2024			

<b>Drawing Title:</b> DRIVEWAY PROFILE		<b>Issue:</b>
<b>Scale:</b> 1:200	<b>Drawing No:</b>	RFI.02
<b>Date:</b> 19/04/2024		
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		

**LAND TITLE**

VOLUME: 17459

FOLIO: 7

**SCHEDULE OF AREAS**

SITE AREA: 9,567m<sup>2</sup>

PROPOSED WORKSHOP/STUDIO: 142.56m<sup>2</sup>

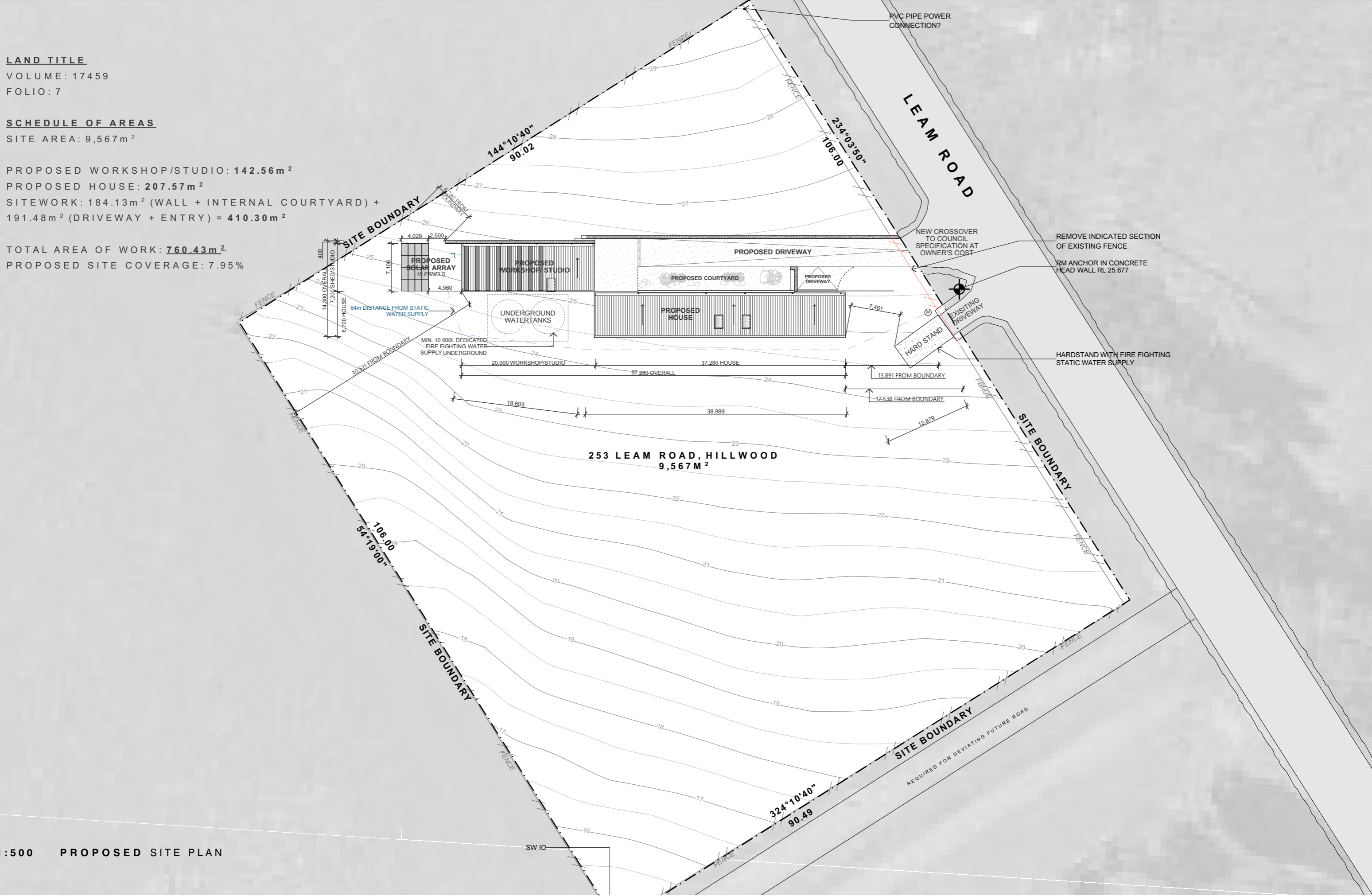
PROPOSED HOUSE: 207.57m<sup>2</sup>

SITWORK: 184.13m<sup>2</sup> (WALL + INTERNAL COURTYARD) +

191.48m<sup>2</sup> (DRIVEWAY + ENTRY) = 410.30m<sup>2</sup>

TOTAL AREA OF WORK: 760.43m<sup>2</sup>

PROPOSED SITE COVERAGE: 7.95%



1:500 PROPOSED SITE PLAN



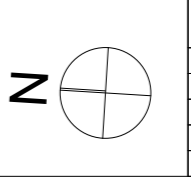
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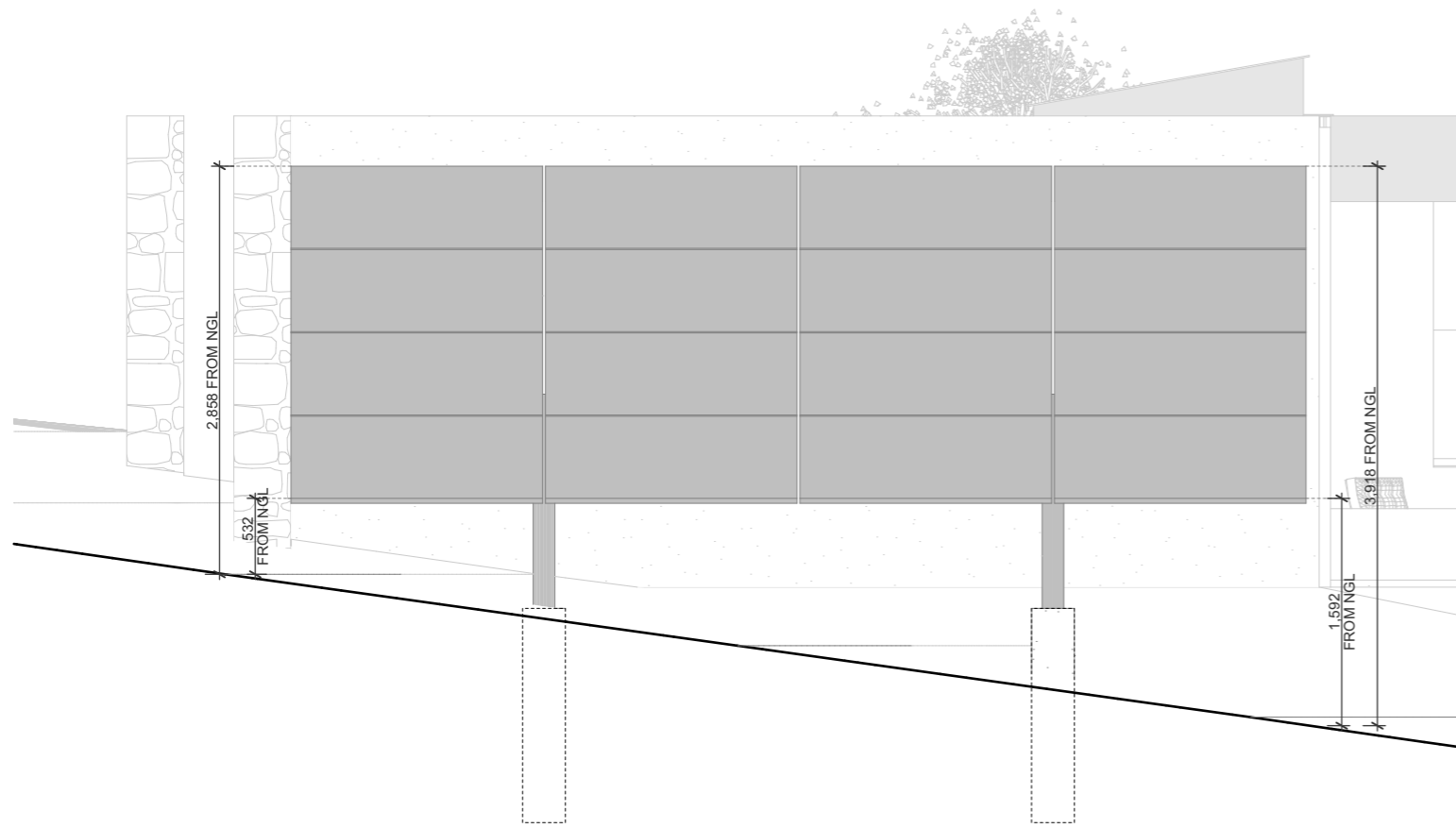
Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
02	CLIENTS' COMMENTS AND CHANGES	30/03/2023
03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date

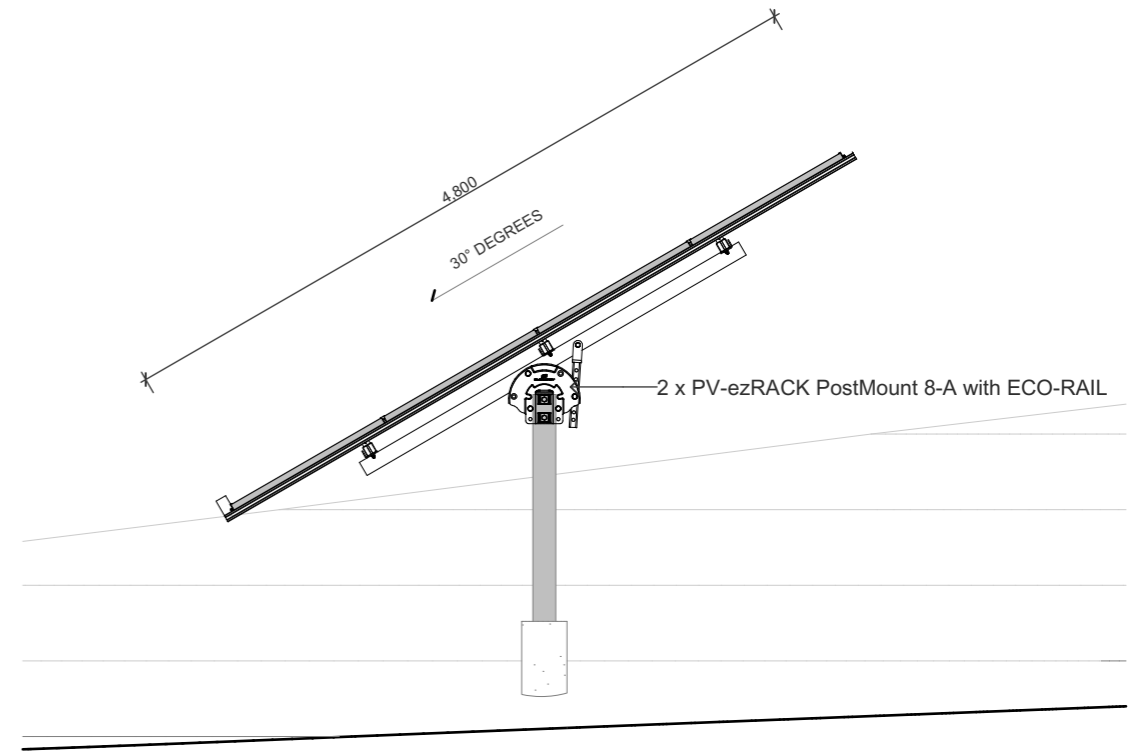


Drawing Title:  
**SITE PLAN**

Scale:	1:500	Drawing No:	<b>A0.02</b>	Issue:	<b>RFI</b>
Date:	13/03/2024	Drawn by:	JP	Checked by:	TB
Status:	DA				



1:50 NORTH SOLAR PANEL ELEVATION



1:50 WEST SOLAR PANEL ELEVATION



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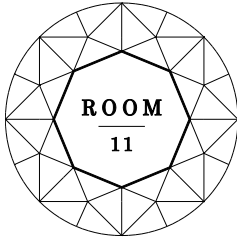
**Project No:**  
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Issue ID	Issue Name	Issue Date
RFI	REQUEST FOR FURTHER INFORMATION	13/03/2024

Issue ID	Issue Name	Issue Date

<b>Drawing Title:</b> SOLAR PANEL ELEVATIONS		
<b>Scale:</b> 1:50	<b>Drawing No:</b>	<b>Issue:</b>
<b>Date:</b> 13/03/2024	<b>RFI.01</b>	<b>RFI</b>
<b>Drawn by:</b> JP		
<b>Checked by:</b> TB		
<b>Status:</b> DA		





### **Room11**

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To whom it may concern,

The revised stormwater assessment prepared by GES/Flussig Engineers (FE\_24001-08\_253 Leam Road Hillwood PSR\_REV01) & the revised architectural set dated 19.04.2024 largely took Georgetown Council's request for further information (both 21.12.2023/21.03.2024) & the supplied markup into consideration.

Our team has taken the information shared by the council in both RFIs very seriously. See below extract from 21.12.2023 RFI.

“Note: there are significant issues in Hillwood associated with stormwater management. All concentrated stormwater will need to be directed to the reticulated stormwater network and is not to be deposited onsite. Council's preference is for the provision of cut off drains on the downslope boundaries, directed to a headwall in the west corner, and directly deposited into the piped drain adjacent to the north-west boundary.”

As can be read in the revised stormwater assessment/detention plan prepared by GES/Flussig Engineers, 0.6m wide & 0.15m deep open drains are to be added along the northern, western and along the rear side of the 'wall' to direct concentrated stormwater to the reticulated stormwater network. This statement directly addresses item #02 in the RFI 21.12.2023 & #4 of the request in the RFI 21.03.2024.

For further clarification, the proposed driveways have grated drains at the lowest point to direct concentrated stormwater toward DP/stormwater storage tank located in the revised stormwater report. These locations are marked on the drawing RFI.02, provided as a part of the revised architectural set dated 19.04.2024.

Also note that the hardstand will have a fall towards the open drain located on the western boundary of the site.

The note regarding the new crossover is now revised from generic note to a detailed note specifying the exact LGAT standard clause to follow when constructed.

The proposed driveway's profile is shown on the drawing RFI.02, provided as a part of the revised architectural set. As can be seen, both driveways satisfy the typical driveway profile as per LGAT TSD-R04-v3.

As for the driveway not being a perpendicular access from the road, our team believes that the 6.5m length of the new crossover (now marked on the revised site plan drawing #A0.02) will be sufficient for drivers to be alerted as they enter/exit. The fact 'the long wall' terminates beyond 6.5m from Leam Road is also a plus. (This item had been communicated to Georgetown Council planner, Alexander Bowles, on

19.04.2024 over the phone to which he agreed and wished to see a statement regarding the clause as written above.)

Finally, our team strongly believes that the revised stormwater assessment prepared by GES/Flussig Engineers (FE\_24001-08\_253 Leam Road Hillwood PSR\_REV01) & the revised architectural set dated 19.04.2024 submitted along with this statement now satisfactorily addresses the council planner & engineers' concerns as shared on 21.12.2023 & 21.03.2024.

Yours sincerely,  
Room 11 Architects

A handwritten signature in black ink, appearing to read 'Thomas Bailey', with a stylized flourish at the end.

Thomas Bailey

Architects AIA  
Director  
Room11

# **STORMWATER ASSESSMENT**

**253 Leam Road**

**Hillwood**

**February 2024**



GEO-ENVIRONMENTAL  

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S O L U T I O N S

Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon, or incidental to, the existence of errors in the information.

**Investigation Details**

<b>Client:</b>	Peter and Ruth Thompson
<b>Site Address:</b>	253 Leam Road, Hillwood
<b>Date of Inspection:</b>	26/10/2023
<b>Proposed Works:</b>	New house
<b>Investigation Method:</b>	Drill Tech Auger
<b>Inspected by:</b>	AM

**Site Details**

<b>Certificate of Title (CT):</b>	174593/7
<b>Title Area:</b>	Approx. 9649 m <sup>2</sup>
<b>Applicable Planning Overlays:</b>	Bushfire-prone Area, Airport obstacle limitation area.
<b>Slope &amp; Aspect:</b>	7° W facing slope
<b>Vegetation:</b>	Grass / Undisturbed

**Background Information**

<b>Geology Map:</b>	MRT 1:250 000
<b>Geological Unit:</b>	Quaternary sediments
<b>Climate:</b>	Annual rainfall approx. 700mm
<b>Water Connection:</b>	Tank
<b>Sewer Connection:</b>	Unserviced-On-site required.
<b>Testing and Classification:</b>	AS2870:2011, AS1726:2017 & AS1547:2012

## Investigation

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below.

### **Soil Profile Summary**

BH 1 Depth (m)	USCS	Description
0.00-0.40	ML	TOPSOIL: <b>Clayey SILT</b> with sand: grey, moist, loose.
0.40-2.00+	CH	<b>Silty CLAY</b> : high plasticity, grey mottled red and yellow, moist, very stiff, no refusal.

## Soil Conditions

The soils on site have developed from Quaternary sediments and consist clayey silt topsoil overlying silty clay subsoils. The soil has a low estimated permeability of approximately 0.12-0.24m/day.

GES have identified the following at the site:

- The site has a <2% grade and presents a low risk to slope stability and landslip
- There are no proposals for cuts or change of grade which will impact on any proposed onsite stormwater absorption,
- The site soils have been identified as comprising of clayey silt topsoil overlying silty clays and no soil dispersion was identified
- No evidence of a water table was observed at the time of the investigation
- There is a low risk of the natural soils being impacted by contamination
- No bedrock was encountered within any investigations.

## Soil Dispersion

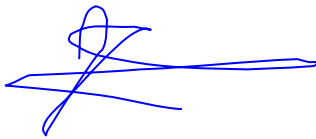
The soils are non-dispersive

**Summary**

The soils and site are suitable for in ground absorption of stormwater from the proposed structure. A hydraulic assessment and design for the absorption system has been completed by Flussig Engineers and can be found attached to this report with a form 35.

It is also recommended that regular inspection and maintenance is conducted to ensure the stormwater system is operating without obstruction. A schematic of recommended checks is also attached.

Please contact me if you have any further questions.



Dr John Paul Cumming PhD CPSS  
*Director*

### GES Stormwater Maintenance Plan Checklist

Indicative frequency	Inspection and criteria	Maintenance activities (where required)
Annual	Check whether any tree branches overhang the roof or are likely to grow to overhang the roof	If safe and where permitted, consider pruning back any overhanging branches
	Check that access covers to storage tanks are closed	Secure any open access covers to prevent risk of entry
	Check that screens on inlets, overflows and other openings do not have holes and are securely fastened	Repair any defective screens to keep out mosquitoes
	Inspect tank water for presence of rats, birds, frogs, lizards or other vermin or insects	Remove any infestations, identify point of entry and close vermin and insect-proof mesh
	Inspect tank water for presence of mosquito larvae (inspect more frequently in sub-tropical and tropical northern Australia, based on local requirements)	Identify point of entry and close with insect-proof mesh with holes no greater than 1.6 mm in diameter
	Inspect gutters for leaf accumulation and ponding	Clean leaves from gutters-remove more regularly if required. If water is ponding, repair gutter to ensure water flows to downpipe
	Check signage at external roof water taps and that any removable handle taps are being properly used	Replace or repair the missing or damaged signage and fittings
	Check plumbing and pump connections are watertight/without leakage	Repair any leaks as necessary
	Check suction strainers, in-line strainers and pump location for debris	Clean suction strainers, in-line strainers or debris from pump location
	Check pump installation is adequate for reliable ongoing operation	Modify and repair as required
	Check first flush diverter, if present	Clean first flush diverter, repair and replace if necessary
	Check health of absorption trench area and surrounding grass or plants	Investigate any adverse impacts observed that might be due to irrigation
Check condition of roof and coatings	Investigate and resolve any apparent changes to roof condition, such as loss of material coatings	

Triennial	Drain, clean out and check the condition of the tank walls and roof to ensure no holes have arisen due to tank deterioration	Repair any tank defects
	Check sediment levels in the tank	Organise a suitable contractor to remove accumulated sediment if levels are approaching those that may block tank outlets
	Undertake a systematic review of operational control of risks to the system	Identify the reason for any problems during inspections and take actions to prevent failures occurring in future
After 20 years and then every 5 years	Monitor the effectiveness of the stormwater absorption area to assess for any clogging due to algal growth, or blocking due to tree roots/grass growth/trench failure.	Clean or replace clogged equipment
Ongoing	Inspect and follow up on any complaints or concerns raised that could indicate problems with the system	Repair or replace any problems that are notified






# HYDRAULIC DESIGN REPORT

## FE-24001-08 PERFORMANCE SOLUTION REPORT

### Document Information

Title	Client	Document Number	Project Manager
<b>253 Leam Road, Hillwood</b> Performance Solution Report	<b>Geo Environmental Solutions PTY LTD</b>	FE-24001-08	<b>Manuri Alwis</b> <i>BEng (Hons)</i>  <i>Civil Engineer</i>

### Document Initial Revision

REVISION 00	Staff Name	Signature	Date
Prepared by	Ash Perera <i>Civil Hydraulic Engineer</i>		28/02/2024
Prepared by	Manuri Alwis <i>Civil Engineer</i>		28/02/2024
Reviewed and authorised by	Max W. Möller <i>Principal Hydraulic Engineer</i>		05/03/2024

### Document Revision History

Rev No.	Description	Reviewed by	Authorised by	Date
01	Change in drainage design	Max W. Möller	Max W. Möller	27/03/2024

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## INTRODUCTION

This report details the stormwater management strategies for the proposed development **253 Leam Road, Hillwood**. The objective of the report is to demonstrate how stormwater runoff would be captured and conveyed from the subject site safely to the receiving drainage network while considering stormwater quantity management and the incorporation of water tanks.

The suggestion is to add detention volume to the proposed rainwater tank and connect the outflow to the open drain along the lot boundary which then connects to the public stormwater system.

## EXISTING CONDITIONS AND ASSUMPTIONS

The site covers an area of approximately 9,567 m<sup>2</sup>. 350 m<sup>2</sup> of this will be new roofed areas (house, and workshop) and 192 m<sup>2</sup> of impervious ground areas, accounting 5.6 % of the total site. The site in its current state discharges to existing ground conditions.

Stormwater from the site would be routed through the proposed conventional underground drainage system comprising of Grated Sumps and PVC Pipes, coupled with the use of water tank elements for on-site detention.

The stormwater management report is prepared in accordance with the design criteria listed below:

- The stormwater drainage system is designed using Bureau of Meteorology (BOM) published rainfall Intensity Frequency Duration (IFD) data as a minor / major system to accommodate the 5% AEP / 20 min storm events.
- The flow rate of stormwater leaving the site shall be designed so that it does not exceed the pre-developed flow rate for both the minor and major rain events.
- The total site discharges are modelled as described in *Storm Drainage Design in Small Urban Catchments*, a handbook for Australian practice by *Australian Rainfall and Runoff (ARR2019)*, Book 9 – Runoff in Urban Areas.

Existing site conditions are to remain except the new roof impervious areas are to discharge to the proposed 20,000L stormwater tank and then outflow into the 0.6m wide, 0.15 m deep open drain along northern lot boundary. The Open drain is connected to the existing stormwater system via a headwall and a DN225 pipe. Runoff from all impervious areas is compensated in the detention calculations and are accounted for in the detention volume provided by the tanks.

PERFORMANCE SOLUTION COMPLIANCE

AS 3500.3 – CL 7.10  ARR2019 Book 9	7.10.1 – Overflow is safe and does not compromise freeboard to habitable spaces.  7.10.3 – Tank to be od approved zinc coated steel or poly tank.  On-Site Detention
General	<ul style="list-style-type: none"> <li>• AS/NZS 3500.3: Part 3 Stormwater Drainage</li> <li>• Australian Rainfall and Run-off Volume 8: Urban Stormwater Management</li> <li>• Australian Runoff Quality – A Guide to Water Sensitive Urban Design</li> <li>• Storm drainage design in small urban catchments: A handbook for Australian practice</li> <li>• Water Sensitive Urban Design (WSUD) Engineering Procedure: Stormwater</li> <li>• Water Services Association of Australia Code (WSAA).</li> </ul>

DETENTION DESIGN

Detention calculations are provided in Appendix B with the following summary for design:

Detention Volume = 6,000L

Permissible Site discharge = 2.49 L/s (All impervious surfaces)

Land Use	Pre-Development New Impervious Areas Only		Post-Development New Impervious Areas Only	
	Area m <sup>2</sup>	% Total land	Area m <sup>2</sup>	% Total land
<b>Total Pervious</b>	542	100	0	0
<b>Total Impervious</b>	0	0	542	100

It is recommended that the post-development allowable site discharge must not exceed the predevelopment site discharge. As seen from the figures above, this is exceeded in the 5% AEP 20min storm duration by a permissible site discharge of 2.49 L/s. Therefore, the site must detain the difference using an onsite stormwater detention (OSD) system with a 6,000L minimum capacity stormwater detention tank.

Task	Action	Frequency
<b>General Cleaning – gutters, downpipe, filters etc.</b>	Clear all debris from gutters and tank filters, ensure operational	Approximately every 3 months
<b>Specialised cleaning and inspection</b>	Inspect all gutters downpipes, inflow and outflow – flush if required. Inspect all filters replace if required. Inspect main tank for defects	Yearly
<b>Maintenance</b>	Perform detailed inspection and maintenance of tank and associated infrastructure by a qualified person.	Every 5 years.

## SUMMARY AND CONCLUSIONS









- Detention tank to be adopted as per design and documentation.
- The designed solution complies with the Performance solution design check carried out above.
- The 20,000L stormwater detention and storage tank has been sized to detain 6,000L over a 20min storm duration and store 14,000L.
- A 0.6 m wide, 0.15 m deep open drain are designed preceding the proposed wall to capture overland flow.
- 0.6 m wide, 0.15 m deep open drains along the northern and western boundary are also constructed to capture overland flow and direct it to the public stormwater system via a headwall and a DN225 Pipe.

*End of Report*

# APPENDIX A

## STORMWATER DESIGN DRAWINGS



**NEW SERVICES**

-  NEW STORMWATER PIPE
-  EXISTING STORMWATER PIPE
-  STORMWATER FLOW DIRECTION
-  HW- HEADWALLS TO BE AS PER TSD-SW17-v3
-  EXISTING MANHOLE
-  EXISTING MANHOLE
-  GRATED STORMWATER PIT. 450X450 CLASS A ACO GALVANISED HEELGUARD OR SIMILAR ENGINEER APPROVED
-  RAINWATER DETENTION AND STORAGE TANK. DN30 UNDERFLOW AND DN100 OVERFLOW

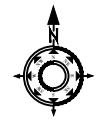
**STORMWATER SERVICES NOTES:**

1. ALL SITE SAFETY & MANAGEMENT PROCEDURES SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF STATE GROWTH SPECIFICATIONS: SECTION 168 OCCUPATIONAL HEALTH AND SAFETY & SECTION 176 ENVIRONMENTAL MANAGEMENT.
2. ALL PIPES UNDER TRAFFIC ABLE AREAS ARE TO BE BACK FILLED FULL DEPTH WITH 20 F.C.R. AND FULLY COMPACTED.
3. ALL STORM WATER PIPES TO BE PVC-U-SWJ CLASS "SN8" TO AS 1254 UNO.
4. ALL DRAIN AND TRENCH CONSTRUCTION SHALL COMPLY WITH THE LGAT STANDARD DRG TSD G01.
5. ANY EXCAVATED TRENCHES IN EXCESS OF 1.5M IN DEPTH ARE TO BE ADEQUATELY SHORED TO PREVENT COLLAPSE DURING WORKS.

SITE AREA=9,567 m<sup>2</sup>

-  PROPOSED IMPERVIOUS ROOF AREA 350 m<sup>2</sup>
-  PROPOSED IMPERVIOUS GROUND AREA 192 m<sup>2</sup>

**STORMWATER DETENTION PLAN**  
SCALE 1: 500



**NOT FOR CONSTRUCTION**  
CONCEPT ONLY - DRAWINGS MUST BE USED IN CONJUNCTION WITH FLUSSIG ENGINEERS REPORT

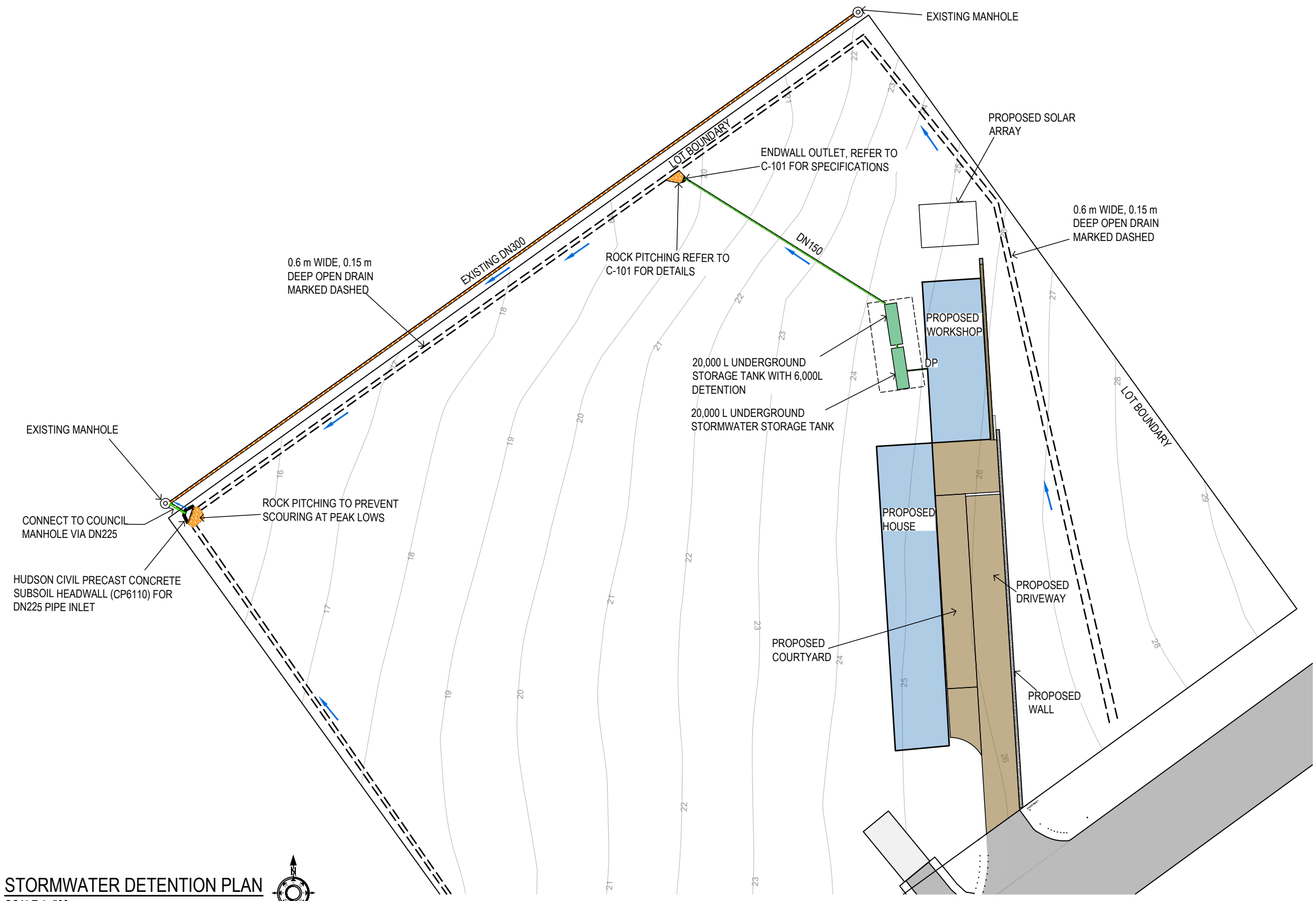
- NOTES :**
1. THE COPYRIGHT OF THIS DRAWING IS VESTED IN FLUSSIG SPATIAL AND IT MAY NOT BE REPRODUCED IN WHOLE OR PART OR USED FOR THE MANUFACTURE OF ANY ARTICLE WITHOUT THE EXPRESS PERMISSION OF THE COPYRIGHT HOLDERS.
  2. WORK TO FIGURED DIMENSIONS ONLY.
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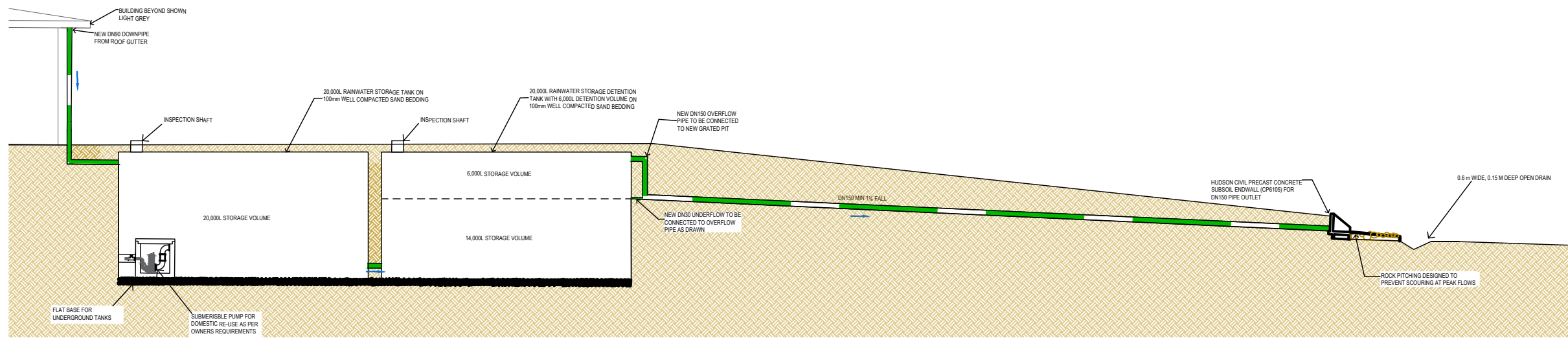
01	CHANGE IN DRAINAGE DESIGN	AP	27.03.24
REV:	DESCRIPTION:	BY:	DATE:
<b>CONCEPT</b>			

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a: 116 Bathurst St, Level 4 Hobart, 7000, TASMANIA

CLIENT: GEO ENVIRONMENTAL SOLUTIONS PTY LTD	SITE: 253 LEAM ROAD, HILLWOOD
TITLE: PERFORMANCE SOLUTION CONCEPT DESIGN	
PROJECT: PROPOSED NEW DWELLING	SCALE AT A3: AS SHOWN
DATE: 05.03.2024	DRAWN: AP
PROJECT NO: FE-24001-08	CHECKED: MM
DRAWING NO: C-100	REVISION: 01





**SCHEMATIC SECTION - TANKS TO OPEN DRAIN**  
SCALE 1:100

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01	CHANGE IN DRAINAGE DESIGN	AP	27.03.24
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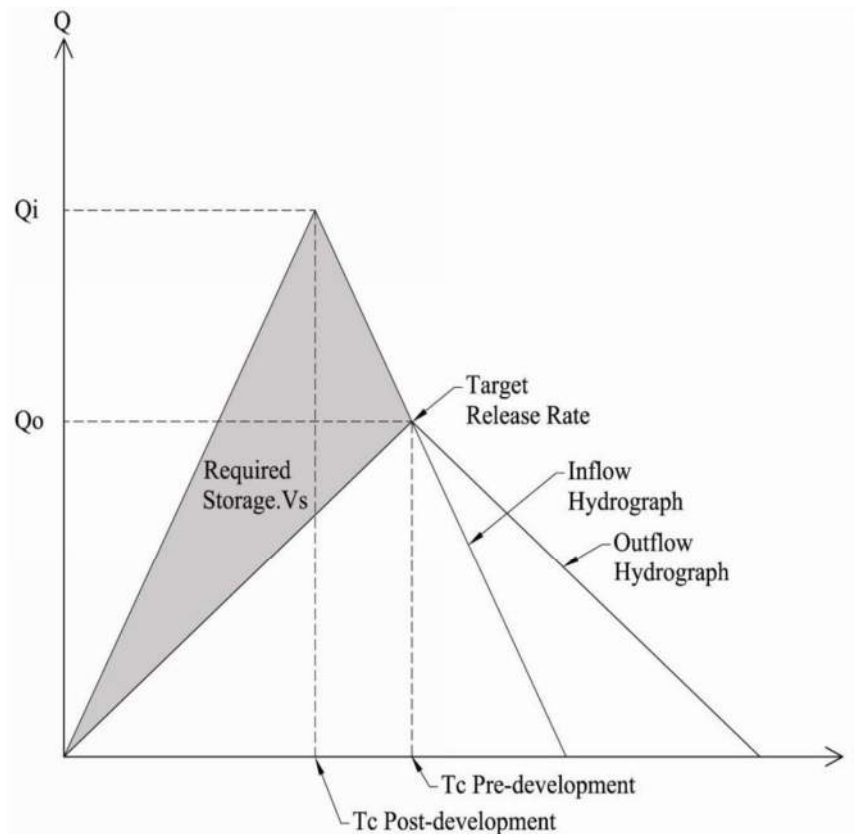
CLIENT:	GEO ENVIRONMENTAL SOLUTIONS PTY LTD		
PROJECT:	PROPOSED NEW DWELLING		

SITE:	253 LEAM ROAD, HILLWOOD		
TITLE:	STORMWATER DESIGN		
SCALE AT A3:	DATE:	DRAWN:	CHECKED:
AS SHOWN	05.03.2024	AP	MM
PROJECT NO:	DRAWING NO:	REVISION:	
FE-24001-08	C-101	01	

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# APPENDIX B

## DETENTION COMPUTATIONS



Triangular Hydrograph Method Schematic



**STORMWATER DETENTION V5.05**

Flüssig Engineers

**Location:** Hillwood, TAS  
**Site:** 542m<sup>2</sup> with tc = 20 and tcs = 15 mins.  
**PSD:** AEP of 5%, Above ground PSD = 2.49L/s  
**Storage:** AEP of 5%, Above ground volume = 5.91m<sup>3</sup>

**Design Criteria** (Custom AEP IFD data used)

Location = Hillwood, TAS  
 Method = E (A)RI 2001,A(E)P 2019

PSD annual exceedance probability (APE) = 5 %  
 Storage annual exceedance probability (APE) = 5 %

Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom

**Site Geometry**

Site area (As) = 542 m<sup>2</sup> = 0.0542 Ha  
 Pre-development coefficient (Cp) = 0.30  
 Post development coefficient (Cw) = 0.82  
 Total catchment (tc) = 20 minutes  
 Upstream catchment to site (tcs) = 15 minutes

**Coefficient Calculations**

Pre-development				Post development			
Zone	Area (m <sup>2</sup> )	C	Area * C	Zone	Area (m <sup>2</sup> )	C	Area * C
Concrete	0	0.90	0	Concrete	0	0.90	0
Roof	0	1.00	0	Roof	350	1.00	350
Gravel	0	0.50	0	Gravel	192	0.50	96
Garden	542	0.30	163	Garden	0	0.30	0
<b>Total</b>	<b>542</b>	<b>m<sup>2</sup></b>	<b>163</b>	<b>Total</b>	<b>542</b>	<b>m<sup>2</sup></b>	<b>446</b>
Cp = ΣArea*C/Total =			0.300	Cw = ΣArea*C/Total =			0.823

**Permissible Site Discharge (PSD) (AEP of 5%)**

PSD Intensity (I) = 53.1 mm/hr For catchment tc = 20 mins.  
 Pre-development (Qp = Cp\*I\*As/0.36) = 2.40 L/s  
 Peak post development (Qa = 2\*Cw\*I\*As/0.36) = 13.15 L/s = (0.248 x I) Eq. 2.24  
 Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom  
 Permissible site discharge (Qu = PSD) = 2.485 L/s

**Above ground - Eq 3.8**

$$0 = PSD^2 - 2*Qa/tc*(0.667*tc*Qp/Qa + 0.75*tc+0.25*tcs)*PSD + 2*Qa*Qp$$

Taking x as = PSD and solving

$$a = 1.0 \quad b = -27.9 \quad c = 63.1$$

$$PSD = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$PSD = 2.485 \text{ L/s}$$

**Below ground pipe - Eq 3.3**

$$Qp = PSD*[1.6*tcs/{tc*(1-2*PSD/(3*Qa))}-0.6*tcs^{2.67}/\{tc*(1-2*PSD/(3*Qa))\}^{2.67}]$$

$$= 2.40$$

$$PSD = 2.462 \text{ L/s}$$

**Below ground rectangular tank - Eq 3.4**

$$t = tcs/\{tc*(1-2*PSD/(3*Qa))\} = 0.854$$

$$Qp = PSD*[0.005-0.455*t+5.228*t^2-1.045*t^3-7.199*t^4+4.519*t^5]$$

$$= 2.40$$

$$PSD = 2.393 \text{ L/s}$$

**Design Storage Capacity (AEP of 5%)**

Above ground (Vs) =  $[0.5*Qa*td - [(0.875*PSD*td)(1-0.917*PSD/Qa) + (0.427*td*PSD^2/Qa)]] * 60/10^3 \text{ m}^3$  Eq 4.23  
 Below ground pipe (Vs) =  $[(0.5*Qa - 0.637*PSD + 0.089*PSD^2/Qa)*td] * 60/10^3 \text{ m}^3$  Eq 4.8  
 Below ground rect. tank (Vs) =  $[(0.5*Qa - 0.572*PSD + 0.048*PSD^2/Qa)*td] * 60/10^3 \text{ m}^3$  Eq 4.13

td (mins)	I (mm/hr)	Qa (L/s)	Above Vs (m <sup>3</sup> )	Pipe Vs (m <sup>3</sup> )	B/G Vs (m <sup>3</sup> )
5	102.5	25.4	3.19		
12	69.6	17.3	4.74		
16	60.0	14.9	5.20		
20	53.1	13.2	5.49		
24	47.9	11.9	5.69		
27	44.7	11.1	5.79		
31	41.2	10.2	5.88		
35	38.3	9.5	5.92		
38	36.5	9.0	5.94		
42	34.3	8.5	5.93		

Table 1 - Storage as function of time for AEP of 5%

Type	td (mins)	I (mm/hr)	Qa (L/s)	Vs (m <sup>3</sup> )
Above Pipe B/ground	33.9	39.1	9.7	5.91

Table 2 - Storage requirements for AEP of 5%

**Frequency of operation of Above Ground storage**

$Q_{op2} = 0.75$  Cl 2.4.5.1  
 $Q_{p2} = Q_{op2} * Q_{p1}$  (where  $Q_{p1} = PSD$ ) = 1.86 L/s at which time above ground storage occurs  
 $I = 360 * Q_{p2} / (2 * C_w * A_s * 10^3) = 7.5 \text{ mm/h}$  Eq 4.24

**Period of Storage**

**Time to Fill:**  
 Above ground (tf) =  $td * (1 - 0.92 * PSD / Qa)$  Eq 4.27  
 Below ground pipe (tf) =  $td * (1 - 2 * PSD / (3 * Qa))$  Eq 3.2  
 Below ground rect. tank (tf) =  $td * (1 - 2 * PSD / (3 * Qa))$  Eq 3.2

**Time to empty:**  
 Above ground (te) =  $(Vs + 0.33 * PSD^2 * td / Qa * 60 / 10^3) * (1.14 / PSD) * (10^3 / 60)$  Eq 4.28  
 Below ground pipe (te) =  $1.464 / PSD * (Vs + 0.333 * PSD^2 * td / Qa * 60 / 10^3) * (10^3 / 60)$  Eq 4.32  
 Below ground rect. tank (te) =  $2.653 / PSD * (Vs + 0.333 * PSD^2 * td / Qa * 60 / 10^3) * (10^3 / 60)$  Eq 4.36

Storage period (Ps = tf + te) Eq 4.26

Type	td (mins)	Qa (L/s)	Vs (L/s)	tf (mins)	te (mins)	Ps (mins)
Above Pipe B/ground	33.9	9.7	5.9	25.9	48.5	74.4

Table 3 - Period of Storage requirements for AEP of 5%

**Orifice**

Permissible site discharge ( $Q_u = PSD$ ) = 2.49 L/s (Above ground storage)  
 Orifice coefficient (CD) = 0.6 For sharp circular orifice  
 Gravitational acceration (g) = 9.81 m/s<sup>2</sup>  
 Maximum storage depth above orifice (H) = 930 mm  
 Orifice flow (Q) =  $CD * A_o * \sqrt{2 * g * H}$

Therefore:  
 Orifice area (Ao) = 970 mm<sup>2</sup>  
 Orifice diameter (D =  $\sqrt{4 * A_o / \pi}$ ) = 35.1 mm

# IFD Design Rainfall

## Location

**Label:** 253 Leam Rd, Hillwood TAS 7252  
**Latitude:** -41.253 [Nearest grid cell: 41.2625 (S)]  
**Longitude:** 146.998 [Nearest grid cell: 146.9875 (E)]



## IFD Design Rainfall Intensity (mm/h)

Issued: 07 February 2024

Rainfall intensity for Durations, Exceedance per Year (EV), and Annual Exceedance Probabilities (AEP).  
[FAQ for New ARR probability terminology](#)

Table Chart

Unit: **mm/h**

Duration	Annual Exceedance Probability (AEP)						
	63.2%	50%#	20%*	10%	5%	2%	1%
1 min	77.0	86.0	117	139	164	199	228
2 min	67.8	75.8	102	119	137	159	175
3 min	59.7	66.8	89.7	106	122	143	159
4 min	53.7	60.0	80.8	95.8	111	132	148
5 min	48.9	54.7	73.9	87.9	103	123	139
10 min	35.4	39.6	53.8	64.6	76.1	93.2	108
15 min	28.8	32.1	43.7	52.6	62.1	76.2	88.2
20 min	24.7	27.6	37.5	45.0	53.1	65.0	75.0
25 min	21.9	24.4	33.2	39.8	46.8	57.0	65.6
30 min	19.8	22.1	30.0	35.8	42.0	51.0	58.5
45 min	15.8	17.6	23.8	28.3	32.9	39.4	44.7
1 hour	13.4	15.0	20.1	23.8	27.6	32.7	36.8
1.5 hour	10.6	11.8	15.8	18.6	21.4	25.0	27.8
2 hour	8.95	10.0	13.3	15.6	17.8	20.7	22.9
3 hour	7.04	7.87	10.4	12.1	13.8	15.9	17.5
4.5 hour	5.51	6.15	8.11	9.40	10.6	12.2	13.5
6 hour	4.61	5.14	6.76	7.83	8.85	10.2	11.2
9 hour	3.57	3.98	5.21	6.03	6.81	7.91	8.76
12 hour	2.96	3.29	4.31	4.99	5.65	6.59	7.34
18 hour	2.26	2.51	3.27	3.79	4.30	5.07	5.70
24 hour	1.86	2.06	2.68	3.11	3.53	4.19	4.73
30 hour	1.59	1.76	2.29	2.65	3.02	3.59	4.07
36 hour	1.40	1.54	2.00	2.33	2.65	3.16	3.58
48 hour	1.14	1.25	1.62	1.88	2.14	2.56	2.90
72 hour	0.848	0.932	1.20	1.39	1.58	1.87	2.12
96 hour	0.689	0.756	0.969	1.12	1.26	1.49	1.67
120 hour	0.587	0.644	0.821	0.942	1.06	1.24	1.38
144 hour	0.516	0.566	0.719	0.821	0.919	1.06	1.18
168 hour	0.464	0.508	0.643	0.732	0.816	0.938	1.03

Note:

# The 50% AEP IFD **does not** correspond to the 2 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 1.44 ARI.

\* The 20% AEP IFD **does not** correspond to the 5 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 4.48 ARI.

# CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94  
Section 106  
Section 129  
Section 155

Form **35**

To:  *Owner name*

*Address*

*Suburb/postcode*

## Designer details:

Name:  *Category:*

Business name:  *Phone No:*

Business address:   
  *Fax No:*

Licence No:  *Email address:*

## Details of the proposed work:

**Owner/Applicant**  *Designer's project reference No.*

**Address:**  *Lot No:*

**Type of work:** Building work  Plumbing work  *(X all applicable)*

**Description of work:**

*(new building / alteration / addition / repair / removal / re-erection / water / sewerage / stormwater / on-site wastewater management system / backflow prevention / other)*

## Description of the Design Work (Scope, limitations or exclusions): *(X all applicable certificates)*

Certificate Type:	Certificate	Responsible Practitioner
<input type="checkbox"/>	Building design	Architect or Building Designer
<input type="checkbox"/>	Structural design	Engineer or Civil Designer
<input type="checkbox"/>	Fire Safety design	Fire Engineer
<input checked="" type="checkbox"/>	Civil design	Civil Engineer or Civil Designer
	Hydraulic design	Building Services Designer
<input type="checkbox"/>	Fire service design	Building Services Designer
<input type="checkbox"/>	Electrical design	Building Services Designer
<input type="checkbox"/>	Mechanical design	Building Service Designer
<input type="checkbox"/>	Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
<input type="checkbox"/>	Other (specify)	

Deemed-to-Satisfy:  Performance Solution:  *(X the appropriate box)*

Other details:  Onsite stormwater retention
---

<b>Design documents provided:</b>	
-----------------------------------	--

The following documents are provided with this Certificate –

*Document description:*

Drawing numbers: FE-HOB-24001-08_REV01-C100 FE-HOB-24001-08_REV01-C101	Prepared by: Flussig Engineers	Date: 27.03.24
Schedules:	Prepared by:	Date:
Specifications: Performance Solution Report	Prepared by: Flussig Engineers	Date: 27.03.24
Computations: Performance solution Report	Prepared by: Flussig Engineers	Date: 27.03.24
Performance solution proposals: Onsite stormwater retention	Prepared by: Flussig Engineers	Date: 27.03.24
Test reports:	Prepared by:	Date:

<b>Standards, codes or guidelines relied on in design process:</b>	
--	--

AS1547-2012 On-site domestic wastewater management.

AS3500 (Parts 0-5)-2013 Plumbing and drainage set.

<b>Any other relevant documentation:</b>	
--	--

GES stormwater assessment 'Site assessment - 253 Leam Road, Hillwood'

<b>Attribution as designer:</b>	
---------------------------------	--

I Max W. Moller, am responsible for the design of that part of the work as described in this certificate;

The documentation relating to the design includes sufficient information for the assessment of the work in accordance with the *Building Act 2016* and sufficient detail for the builder or plumber to carry out the work in accordance with the documents and the Act;

This certificate confirms compliance and is evidence of suitability of this design with the requirements of the National Construction Code.

Max W. Moller



27.03.24

Licence No: 650370893

**Assessment of Certifiable Works: (TasWater)**

**Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.**

**If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.**

**TasWater must then be contacted to determine if the proposed works are Certifiable Works.**

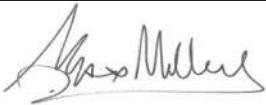
**I confirm that the proposed works are not Certifiable Works, in accordance with the Guidelines for TasWater CCW Assessments, by virtue that all of the following are satisfied:**

- The works will not increase the demand for water supplied by TasWater
- The works will not increase or decrease the amount of sewage or toxins that is to be removed by, or discharged into, TasWater's sewerage infrastructure
- The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure
- The works will not damage or interfere with TasWater's works
- The works will not adversely affect TasWater's operations
- The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement
- I have checked the LISTMap to confirm the location of TasWater infrastructure
- If the property is connected to TasWater's water system, a water meter is in place, or has been applied for to TasWater.

**Certification:**

I ..... Max W. Moller..... being responsible for the proposed work, am satisfied that the works described above are not Certifiable Works, as defined within the *Water and Sewerage Industry Act 2008*, that I have answered the above questions with all due diligence and have read and understood the Guidelines for TasWater CCW Assessments.

Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: [www.taswater.com.au](http://www.taswater.com.au)

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	Max W. Moller		27.03.24

# **GEO-ENVIRONMENTAL ASSESSMENT**

***253 Leam Road***

***Hillwood***

***November 2023***



GEO-ENVIRONMENTAL  

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S O L U T I O N S

Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon, or incidental to, the existence of errors in the information.

**Investigation Details**

<b>Client:</b>	Peter and Ruth Thompson
<b>Site Address:</b>	253 Leam Road, Hillwood
<b>Date of Inspection:</b>	26/10/2023
<b>Proposed Works:</b>	New house
<b>Investigation Method:</b>	Drill Tech Auger
<b>Inspected by:</b>	AM

**Site Details**

<b>Certificate of Title (CT):</b>	174593/7
<b>Title Area:</b>	Approx. 9649 m <sup>2</sup>
<b>Applicable Planning Overlays:</b>	Bushfire-prone Areas, Airport obstacle limitation area
<b>Slope &amp; Aspect:</b>	7° W facing slope
<b>Vegetation:</b>	Grass & Weeds
<b>Ground Surface:</b>	Undisturbed

**Background Information**

<b>Geology Map:</b>	MRT 1:250000
<b>Geological Unit:</b>	Quaternary Sediments
<b>Climate:</b>	Annual rainfall 700mm
<b>Water Connection:</b>	Tank
<b>Sewer Connection:</b>	Unserviced-On-site required
<b>Testing and Classification:</b>	AS2870:2011, AS1726:2017 & AS1547:2012



## Investigation

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below. Tests were conducted across the site to obtain bearing capacities of the material at the time of this investigation.

### ***Engineering Soil Profile Summary***

BH 1 Depth (m)	BH 2 Depth (m)	BH 3 Depth (m)	Horizon	Description
0.00-0.10	0.00-0.30	0.00-0.10	A1	<b>Silty CLAY (CH):</b> High plasticity, grey, moist, stiff (BH2 trace of fine-grained sand).
0.10-2.00	0.30-3.00	0.10-2.00	B2	<b>Silty CLAY (CH):</b> High plasticity, grey mottled red and yellow, moist, very stiff, no refusal.

### ***Wastewater Soil Profile Summary***

BH 1 Depth (m)	Horizon	Description
0.00-0.40	A1	<b>Clayey SILT (ML) with some fine-grained sand:</b> Low plasticity, grey, moist, loose.
0.40-2.00	B2	<b>Silty CLAY (CH):</b> High plasticity, grey mottled red and yellow, moist, very stiff, no refusal.

## Site Notes

The soil onsite features silts and very deep clay dominant soils. The clay fraction is likely to exhibit significant ground surface movement with moisture fluctuations the clay rich soil has a characteristically low to moderate permeability but high nutrient retention capacity.

## Site Classification

The site has been assessed and classified in accordance with AS2870:2011 “Residential Slabs and Footings”.

The site has been classified as:

### **Class P**

Y<sup>rs</sup> range: **60-75mm**

Notes: The site has been classified as Class P, due to poor bearing capacities (<100kPa) in upper soil profile which is likely to cause significant differential settlement.

## Wind Loading Classification

According to “AS4055:2021 - Wind Loads for Housing” the house site is classified below:

<b>Wind Classification:</b>	<b>N3</b>
Region:	A
Terrain Category:	2.0
Shielding Classification:	PS
Topographic Classification:	T2
Wind Classification:	N3
Design Wind Gust Speed – m/s (V <sub>h,u</sub> ):	50

## Wastewater Classification & Recommendations

According to AS1547-2012 (on-site waste-water management) the natural soil is classified as **Light Clay (category 5)**. The site is unsuited to the installation of a traditional septic tank and trenches due to shallow soil onsite. Secondary treatment of effluent will be required, and it is proposed to install a package treatment system (e.g. Econocycle, Envirocycle, Ozzikleen etc) with treated effluent disposed by subsurface irrigation. Due to the steep slope a reduced Design Irrigation Rate (DIR) of 2.4L/m<sup>2</sup>/day has been assigned for this site.

The proposed two-bedroom dwelling and workshop have a calculated maximum wastewater output of 720L/day. This is based on a tank water supply and a maximum occupancy of 6 people (120L/day/person). With secondary treatment this will require an absorption area of at least 340m<sup>2</sup>. This can be accommodated by subsurface irrigation. For all calculations please refer to the Trench summary reports. A cut-off drain will be required and the area excluded from traffic or any future building works. In light of the use of irrigation and secondary treatment the designation of a reserve area can be eliminated. This is justified by the ease at which irrigation systems can be replaced, with old lines and topsoil removed and replaced with new topsoil and irrigation systems within a 48 hour period.

The following setback distances are required to comply with the Building Act 2016:

Upslope or level buildings:	3m
Downslope buildings:	3.75m
Upslope or level boundaries:	1.5m
Downslope boundaries:	8.5m
Downslope surface water:	>100m

Compliance with Building Act 2016 Guidelines for On-site Wastewater Management Systems is outlined in the attached table.

During construction GES will need to be notified of any variation to the soil conditions or wastewater loading as outlined in this report.

## **Construction Notes & Recommendations**

The site has been classified as **Class P**.

It is recommended that all footings be founded in the natural material with bearing capacities >100kPa.

All earthworks on site must comply with AS3798:2007, and I further recommend that consideration be given to drainage and sediment control on site during and after construction. Care should also be taken to ensure there is adequate drainage in the construction area to avoid the potential for weak bearing and foundation settlement associated with excessive soil moisture.

During construction GES will need to be notified of any variation to the soil conditions or wastewater loading as outlined in this report.



Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD

*Director*

**GES P/L**

**Land suitability and system sizing for on-site wastewater management**  
Trench 3.0 (Australian Institute of Environmental Health)

**Assessment Report**

**Site assessment for on-site waste water disposal**

Assessment for Peter & Ruth Thompson	Assess. Date	10-Nov-23
	Ref. No.	
Assessed site(s) 253 Leam Road, Hillwood	Site(s) inspected	26-Oct-23
Local authority Huon Valley	Assessed by	John Paul Cumming

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and system sizing and design issues. Site Capability and Environmental sensitivity issues are reported separately, where 'Alert' columns flag factors with high (A) or very high (AA) limitations which probably require special consideration for system design(s). Blank spaces on this page indicate data have not been entered into TRENCH.

**Wastewater Characteristics**

Wastewater volume (L/day) used for this assessment = 720 (using the 'No. of bedrooms in a dwelling' method)  
 Septic tank wastewater volume (L/day) = 240  
 Sullage volume (L/day) = 480  
 Total nitrogen (kg/year) generated by wastewater = 2.6  
 Total phosphorus (kg/year) generated by wastewater = 1.3

**Climatic assumptions for site**

(Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	42	35	44	58	77	75	101	91	76	65	58	51
Adopted rainfall (R, mm)	42	35	44	58	77	75	101	91	76	65	58	51
Retained rain (Rr, mm)	36	30	37	49	65	64	86	77	65	55	49	43
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	95	80	54	14	-23	-34	-54	-35	-2	29	56	83
Annual evapotranspiration less retained rain (mm) =											260	

**Soil characteristics**

Texture = Light Clay Category = 5 Thick. (m) = 3  
 Adopted permeability (m/day) = 0.12 Adopted LTAR (L/sq m/day) = 2 Min depth (m) to water = 3

**Proposed disposal and treatment methods**

Proportion of wastewater to be retained on site: All wastewater will be disposed of on the site  
 The preferred method of on-site primary treatment: In a package treatment plant  
 The preferred method of on-site secondary treatment: In-ground  
 The preferred type of in-ground secondary treatment: None  
 The preferred type of above-ground secondary treatment: None  
 Site modifications or specific designs: Not needed

**Suggested dimensions for on-site secondary treatment system**

Total length (m) = 34  
 Width (m) = 10  
 Depth (m) = 0.4  
 Total disposal area (sq m) required = 340  
 comprising a Primary Area (sq m) of: 340  
 and a Secondary (backup) Area (sq m) of:

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

**Comments**

The calculated DIR for the Category 5 soil present is 2.4mm/day and requires a minimum irrigation area of 340m<sup>2</sup> for the proposed development. Therefore the system will have the capacity to cope with predicted climatic and loading events.

**GES P/L**

**Land suitability and system sizing for on-site wastewater management**  
Trench 3.0 (Australian Institute of Environmental Health)

**Site Capability Report**

**Site assessment for on-site waste water disposal**

Assessment for Peter & Ruth Thompson	Assess. Date	10-Nov-23
	Ref. No.	
Assessed site(s) 253 Leam Road, Hillwood	Site(s) inspected	26-Oct-23
Local authority Huon Valley	Assessed by	John Paul Cumming

This report summarises data relating to the physical capability of the assessed site(s) to accept wastewater. Environmental sensitivity and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) site limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation		Remarks
					Trench	Amended	
	Expected design area	sq m	1,500	V. high	Low		
	Density of disposal systems	/sq km	10	Mod.	Very low		
	Slope angle	degrees	7	High	Low		
	Slope form	Convex spreading		High	Very low		
	Surface drainage	Imperfect		High	Moderate		
	Flood potential	Site floods <1:100 yrs		High	Very low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces E or W		V. high	Moderate		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	720	High	Moderate	No change	
	SAR of septic tank effluent		1.2	High	Low		
	SAR of sullage		2.1	High	Moderate		
	Soil thickness	m	3.0	V. high	Very low		
	Depth to bedrock	m	3.0	Mod.	Very low		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		7.0	High	Very low		
	Soil bulk density	gm/cub. cm	1.5	High	Low		
	Soil dispersion	Emerson No.	8	V. high	Very low		
	Adopted permeability	m/day	0.12	Mod.	Very low		
	Long Term Accept. Rate	L/day/sq m	2	High	High	Moderate	Other factors lessen impact

To enter comments, click on the line below 'Comments' . (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The site has the capability to accept secondary treated wastewater.

**GES P/L**

**Land suitability and system sizing for on-site wastewater management**  
Trench 3.0 (Australian Institute of Environmental Health)

**Environmental Sensitivity Report**  
**Site assessment for on-site waste water disposal**

Assessment for Peter & Ruth Thompson	Assess. Date	10-Nov-23
	Ref. No.	
Assessed site(s) 253 Leam Road, Hillwood	Site(s) inspected	26-Oct-23
Local authority Huon Valley	Assessed by	John Paul Cumming

This report summarises data relating to the environmental sensitivity of the assessed site(s) in relation to applied wastewater. Physical capability and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation		Remarks
					Trench	Amended	
	Cation exchange capacity	mmol/100g	110	High	Very low		
	Phos. adsorp. capacity	kg/cub m	0.7	High	Moderate		
	Annual rainfall excess	mm	-260	High	Very low		
	Min. depth to water table	m	3	High	Very low		
	Annual nutrient load	kg	3.9	High	Very low		
	G'water environ. value	Agric non-sensit		V. high	Low		
	Min. separation dist. required	m	3	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value	Agric non-sensit		V. high	Low		
	Dist. to nearest surface water	m	300	V. high	Low		
	Dist. to nearest other feature	m	31	V. high	Moderate		
	Risk of slope instability	Low		V. high	Low		
AA	Distance to landslip	m	2	V. high	Very high		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

**Comments**

The proposed onsite wastewater system is located outside all low and medium landslide hazard bands on site.

## APPENDIX 1 - DCP Results Table

Dynamic Cone Penetration (DCP) Conversion to Californian Bearing Ratio  
(ref: Australian Standard AS 1289.6.3.2 - 1997)

DCP Location BH1

Depth (mm)	DCP (Blows/100mm)	DCP (mm/Blow)	DCP Resistance (mPa)	Allowable Bearing Capacity (kPa)	CBR (Rounded Up)
0-100	1	100.0	0.3	35	2
100-200	3	33.3	0.9	104	6
200-300	3	33.3	0.9	104	6
300-400	3	33.3	0.9	104	6
400-500	2	50.0	0.6	69	4
500-600	1	100.0	0.3	35	2
600-700	2	50.0	0.6	69	4
700-800	3	33.3	0.9	104	6
800-900	2	50.0	0.6	69	4
900-1000	2	50.0	0.6	69	4
1000-1100	4	25.0	1.3	139	8
1100-1200	4	25.0	1.3	139	8
1200-1300	3	33.3	0.9	104	6
1300-1400	5	20.0	1.6	174	10
1400-1500	4	25.0	1.3	139	8
1500-1600	5	20.0	1.6	174	10

Demonstration of wastewater system compliance to *Building Act 2016 Guidelines for On-site Wastewater*

Acceptable Solutions	Performance Criteria	Compliance
<p>A1</p> <p>Horizontal separation distance from a building to a land application area must comply with one of the following:</p> <ul style="list-style-type: none"> <li>a) be no less than 6m; or</li> <li>b) be no less than:                             <ul style="list-style-type: none"> <li>(i) 3m from an upslope building or level building;</li> <li>(ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building;</li> <li>(iii) If secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building.</li> </ul> </li> </ul>	<p>P1</p> <ul style="list-style-type: none"> <li>a) The land application area is located so that                             <ul style="list-style-type: none"> <li>(i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and</li> <li>(ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation</li> </ul> </li> </ul>	<p>Complies with A1 (b) (i) Land application area will be located with a minimum separation distance of 3m from an upslope or level building.</p> <p>Complies with A1 (b) (iii) Land application area will be located with a minimum separation distance of 3.75m from a downslope building.</p>
<p>A2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b)</p> <ul style="list-style-type: none"> <li>(a) be no less than 100m; or</li> <li>(b) be no less than the following:                             <ul style="list-style-type: none"> <li>(i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or</li> <li>(ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water.</li> </ul> </li> </ul>	<p>P2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with all of the following:</p> <ul style="list-style-type: none"> <li>a) Setbacks must be consistent with AS/NZS 1547 Appendix R;</li> <li>b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.</li> </ul>	<p>Complies with A2 P2 (a) &amp; (b) Land application area will be located a minimum of &gt;100m from downslope surface water</p>



<p>A3</p> <p>Horizontal separation distance from a property boundary to a land application area must comply with either of the following:</p> <p>(a) be no less than 40m from a property boundary; or</p> <p>(b) be no less than:</p> <p>(i) 1.5m from an upslope or level property boundary; and</p> <p>(ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or</p> <p>(iii) If secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.</p>	<p>P3</p> <p>Horizontal separation distance from a property boundary to a land application area must comply with all of the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.</p>	<p>Complies with A3 (b) (i) Land application area will be located with a minimum separation distance of 1.5m from an upslope or level property boundary</p> <p>Complies with A3 (b) (iii) Land application area will be located with a minimum separation distance of 8.5m from a downslope property boundary.</p>
<p>A4</p> <p>Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m and not be within the zone of influence of the bore whether up or down gradient.</p>	<p>P4</p> <p>Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable</p>	<p>Complies with A4 No bore or well identified within 50m</p>

<p>A5</p> <p>Vertical separation distance between groundwater and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.6m if secondary treated effluent</p>	<p>P5</p> <p>Vertical separation distance between groundwater and a land application area must comply with the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable</p>	<p>Complies with A5 (b)</p> <p>No groundwater encountered</p>
<p>A6</p> <p>Vertical separation distance between a limiting layer and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.5m if secondary treated effluent</p>	<p>P6</p> <p>Vertical setback must be consistent with AS/NZS1547 Appendix R.</p>	<p>Complies with A5 (b)</p>
<p>A7</p> <p>nil</p>	<p>P7</p> <p>A wastewater treatment unit must be located a sufficient distance from buildings or neighbouring properties so that emissions (odour, noise or aerosols) from the unit do not create an environmental nuisance to the residents of those properties</p>	<p>Complies</p>

## AS1547:2012 – Loading Certificate – AWTS Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

**Site Address:** 253 Leam Road, Hillwood

**System Capacity:** 6 persons @ 120L/person/day

### Summary of Design Criteria

**DIR:** 2.4mm/day.

**Irrigaion area:** 340m<sup>2</sup>

**Reserve area location /use:** Not assigned. Irrigation lines and topsoil will need to be replaced within a 48 hour period

**Water saving features fitted:** Standard fixtures

**Allowable variation from design flows:** 1 event @ 200% daily loading per quarter

**Typical loading change consequences:** Expected to be minimal due to use of AWTS and large land area

**Overloading consequences:** Continued overloading may cause hydraulic failure of the irrigation area and require upgrading/extension of the area. Risk considered acceptable due to monitoring through quarterly maintenance reports.

**Underloading consequences:** Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Long term under loading of the system may also result in vegetation die off in the irrigation area and additional watering may be required. Risk considered acceptable due to monitoring through quarterly maintenance reports.

**Lack of maintenance / monitoring consequences:** Issues of underloading/overloading and condition of the irrigation area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation by the permit authority required to ensure compliance.

**Other considerations:** Owners/occupiers must be made aware of the operational requirements and limitations of the system by the installer/maintenance contractor.

# CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94  
Section 106  
Section 129  
Section 155

Form **35**

To:  Owner name  
 Address  
  Suburb/postcode

## Designer details:

Name:  Category:   
 Business name:  Phone No:   
 Business address:   
  Fax No:   
 Licence No:  Email address:

## Details of the proposed work:

**Owner/Applicant**  Designer's project reference No.   
**Address:**  Lot No:   
   
**Type of work:** Building work  Plumbing work  (X all applicable)

### Description of work:

(new building / alteration / addition / repair / removal / re-erection water / sewerage / stormwater / on-site wastewater management system / backflow prevention / other)

### Description of the Design Work (Scope, limitations or exclusions): (X all applicable certificates)

Certificate Type:	Certificate	Responsible Practitioner
<input type="checkbox"/>	Building design	Architect or Building Designer
<input type="checkbox"/>	Structural design	Engineer or Civil Designer
<input type="checkbox"/>	Fire Safety design	Fire Engineer
<input type="checkbox"/>	Civil design	Civil Engineer or Civil Designer
<input checked="" type="checkbox"/>	Hydraulic design	Building Services Designer
<input type="checkbox"/>	Fire service design	Building Services Designer
<input type="checkbox"/>	Electrical design	Building Services Designer
<input type="checkbox"/>	Mechanical design	Building Service Designer
<input type="checkbox"/>	Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
<input type="checkbox"/>	Other (specify)	

Deemed-to-Satisfy:  Performance Solution:  (X the appropriate box)

### Other details:

AWTS with subsurface irrigation

## Design documents provided:

The following documents are provided with this Certificate –

*Document description:*

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: Nov-23
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Nov-23
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Nov-23

<b>Standards, codes or guidelines relied on in design process:</b>	
AS1547:2012 On-site domestic wastewater management.	
AS3500 (Parts 0-5)-2013 Plumbing and drainage set.	

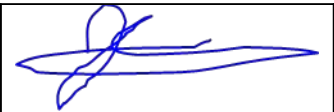
<b>Any other relevant documentation:</b>	
Geo-Environmental Assessment - 253 Leam Road, Hillwood - Nov-23	
Geo-Environmental Assessment - 253 Leam Road, Hillwood - Nov-23	

**Attribution as designer:**

I John-Paul Cumming, am responsible for the design of that part of the work as described in this certificate;

The documentation relating to the design includes sufficient information for the assessment of the work in accordance with the *Building Act 2016* and sufficient detail for the builder or plumber to carry out the work in accordance with the documents and the Act;

This certificate confirms compliance and is evidence of suitability of this design with the requirements of the National Construction Code.

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	John-Paul Cumming		10/11/2023
Licence No:	CC774A		

**Assessment of Certifiable Works: (TasWater)**

**Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.**

**If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.**

**TasWater must then be contacted to determine if the proposed works are Certifiable Works.**


**I confirm that the proposed works are not Certifiable Works, in accordance with the Guidelines for TasWater CCW Assessments, by virtue that all of the following are satisfied:**

- The works will not increase the demand for water supplied by TasWater
- The works will not increase or decrease the amount of sewage or toxins that is to be removed by, or discharged into, TasWater’s sewerage infrastructure
- The works will not require a new connection, or a modification to an existing connection, to be made to TasWater’s infrastructure
- The works will not damage or interfere with TasWater’s works
- The works will not adversely affect TasWater’s operations
- The work are not within 2m of TasWater’s infrastructure and are outside any TasWater easement
- I have checked the LISTMap to confirm the location of TasWater infrastructure
- If the property is connected to TasWater’s water system, a water meter is in place, or has been applied for to TasWater.

**Certification:**

I ..... John-Paul Cumming..... being responsible for the proposed work, am satisfied that the works described above are not Certifiable Works, as defined within the *Water and Sewerage Industry Act 2008*, that I have answered the above questions with all due diligence and have read and understood the Guidelines for TasWater CCW Assessments.

Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: [www.taswater.com.au](http://www.taswater.com.au)

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	John-Paul Cumming		10/11/2023



# CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To:  Owner /Agent  
 Address  
  Suburb/postcode

## Qualified person details:

Qualified person:   
Address:  Phone No:   
  Fax No:   
Licence No:  Email address:

Qualifications and Insurance details:  (description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Speciality area of expertise:  (description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

## Details of work:

Address:  Lot No:   
  Certificate of title No:   
The assessable item related to this certificate:  (description of the assessable item being certified)  
Assessable item includes –  
- a material;  
- a design  
- a form of construction  
- a document  
- testing of a component, building system or plumbing system  
- an inspection, or assessment, performed

## Certificate details:

Certificate type:  (description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)

This certificate is in relation to the above assessable item, at any stage, as part of - (tick one)

building work, plumbing work or plumbing installation or demolition work   
or

a building, temporary structure or plumbing installation:

In issuing this certificate the following matters are relevant –

Documents:	The attached soil report for the address detailed above in 'details of Work'
Relevant calculations:	Reference the above report.
References:	AS2870:2011 residential slabs and footings AS1726:2017 Geotechnical site investigations CSIRO Building technology file – 18.

*Substance of Certificate: (what it is that is being certified)*

Site Classification consistent with AS2870-2011.
--

*Scope and/or Limitations*

The classification applies to the site as inspected and does not account for future alteration to foundation conditions as a result of earth works, drainage condition changes or variations in site maintenance.
---

**I, John-Paul Cumming certify the matters described in this certificate.**

Qualified person:	<i>Signed:</i>	<i>Certificate No:</i>	<i>Date:</i>
		J9679	10/11/2023





**LAND TITLE**

VOLUME: 17459

FOLIO: 7

**SCHEDULE OF AREAS**

SITE AREA: 9,567m<sup>2</sup>

PROPOSED WORKSHOP/STUDIO: 142.56m<sup>2</sup>

PROPOSED HOUSE: 207.57m<sup>2</sup>

SITWORK: 184.13m<sup>2</sup> (WALL + INTERNAL COURTYARD) +

191.48m<sup>2</sup> (DRIVEWAY + ENTRY) = 410.30m<sup>2</sup>

TOTAL AREA OF WORK: 760.43m<sup>2</sup>

PROPOSED SITE COVERAGE: 7.95%

**Wastewater system:**

AWTS unit vented according to  
NCC vol 3 Tas H101.2  
min 1:60 fall from all fixtures

**Cut-off drain**

Subsurface irrigation - 340m<sup>2</sup>  
EG. 33m x 10.5m x 0.2m

- Min 3m from upslope buildings
- Min 3.75m from downslope buildings
- Min 1.5m from upslope or level boundaries
- Min 8.5m from downslope boundary
- Min 100m from downslope surface water

Refer to GES report



Dr. John Paul Cumming  
Building Services Designer-  
Hydraulic  
CCC774A

*[Signature]*  
10/11/2023

1:500 PROPOSED SITE PLAN

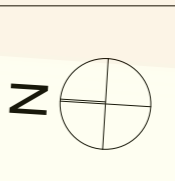
Room11 Architects  
Studio  
358B Macquarie Street, South Hobart, TAS 7004  
Telephone: 03-6224-8642  
Email: info@room11.com.au Website: www.room11.com.au

Drawings to be read in conjunction with specification by Room11 and all drawings and documents by engineers and subconsultants referred to in these plans. Contractors are to verify all dimensions on site before commencing any work or producing shop drawings. Larger scale drawings and written dimensions take preference. DO NOT SCALE FROM DRAWINGS. These drawings are protected by the laws of copyright and may not be copied or reproduced without the written permission of Room 11. ALL DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE AUTHOR.

Project No:  
**2222**  
Client:  
PETER AND RUTH THOMSON  
Project Name:  
LONG WALL  
Project Address:  
253 LEAM ROAD HILLWOOD TASMANIA

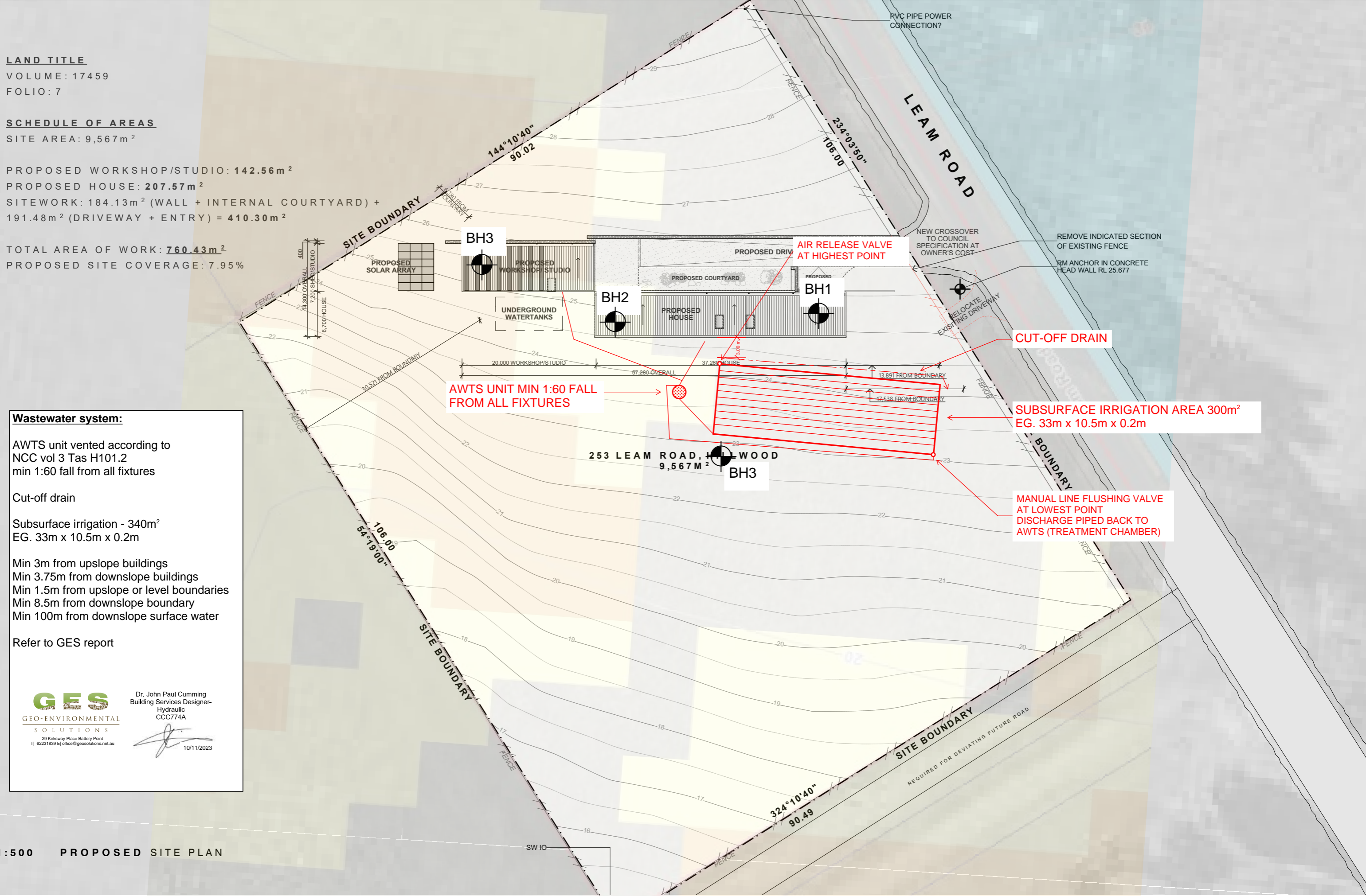
Issue ID	Issue Name	Issue Date
01	CONCEPT	7/03/2023
02	CLIENTS' COMMENTS AND CHANGES	30/03/2023
03	REVISED CONCEPT	21/06/2023

Issue ID	Issue Name	Issue Date

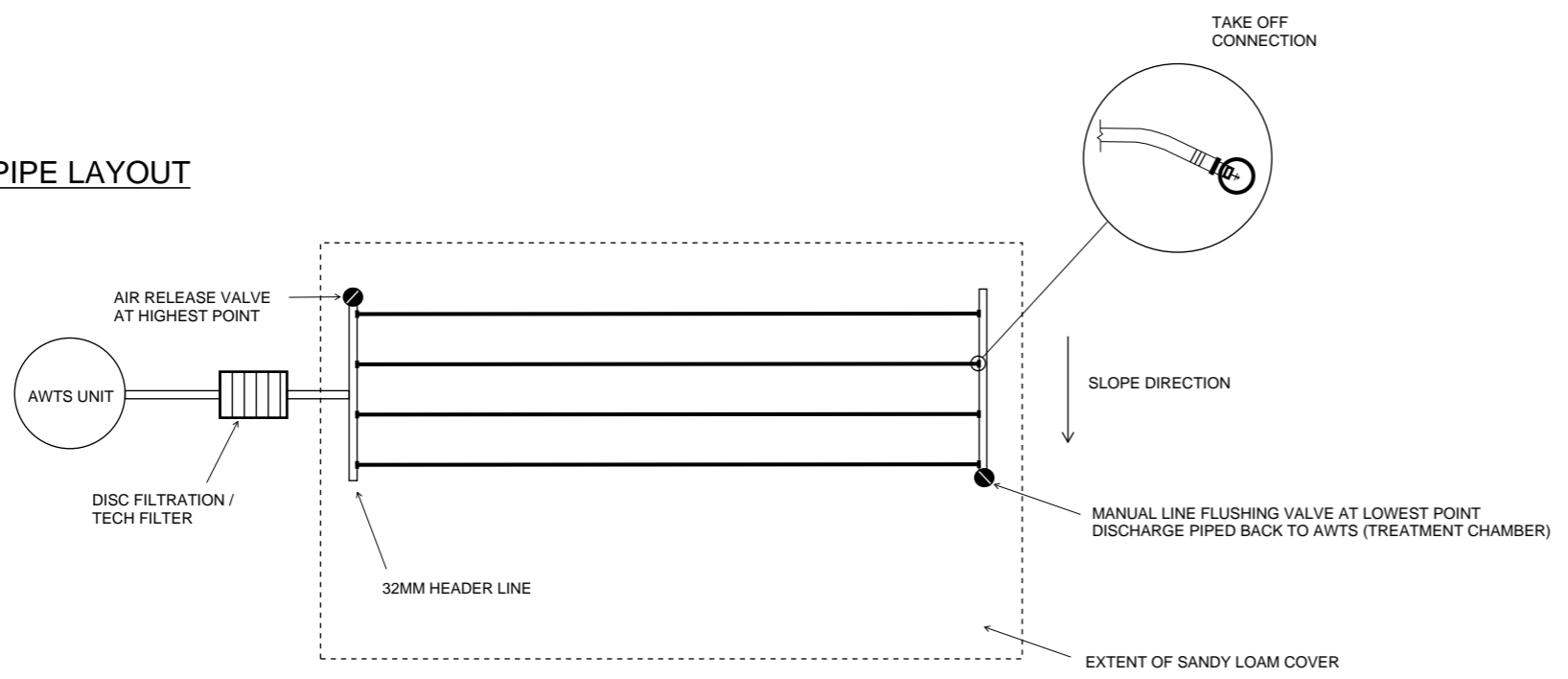


Drawing Title:  
**SITE PLAN**

Scale:	1:500	Drawing No:	<b>A0.02</b>	Issue:	<b>DA</b>
Date:	19/10/2023	Drawn by:	JP	Checked by:	TB
Status:	DA				



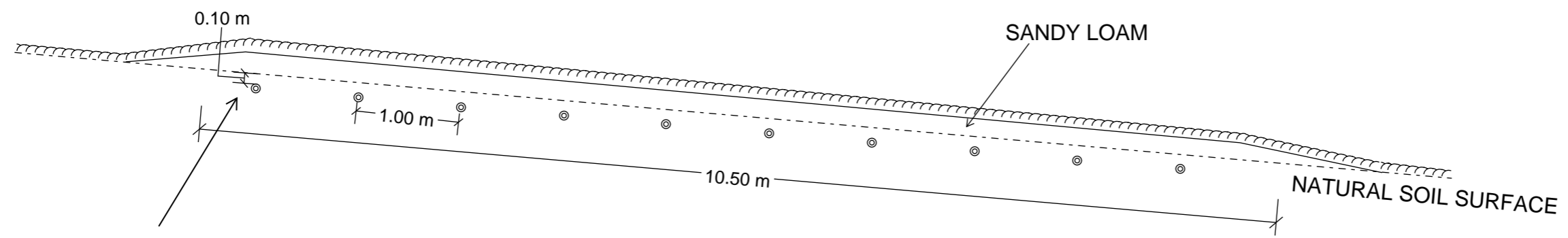
**BED PLAN PIPE LAYOUT**



**APPLICATION AREA NOTES**

1. APPLICABLE DIMENSIONS OF UP TO 40m LONG BY 10m WIDE
2. BASE OF APPLICATION AREA TO BE SCARIFIED TO BREAK SURFACE LAYER. SMEARING AND COMPACTION TO BE AVOIDED
4. IRRIGATION LINES TO BE INSTALLED INTO NATURAL SANDY TOPSOIL MIN 100mm DEPTH
5. DEPENDANT ON TREATMENT SYSTEM A 200µm FILTER MAY BE INSTALLED AT THE PUMPING CHAMBER OUTLET, BUT A 100-120µm INLINE DISC FILTER SHOULD BE INSTALLED PRIOR TO DISCHARGE INTO THE IRRIGATION AREA.
6. A VACUUM BREAKER VALVE MUST BE INSTALLED AT THE HIGHEST POINT OF EACH ABSORPTION ZONE IN A MARKED AND PROTECTED VALVE CONTROL BOX.
7. A FLUSH LINE MUST BE INSTALLED AT THE LOWEST POINT OF EACH ABSORPTION AREA WITH A RETURN VALVE FOR FLUSHING BACK INTO THE TREATMENT CHAMBER OF THE SYSTEM (NOT PRIMARY CHAMBER) OR TO A DEDICATED ABSORPTION TRENCH.
8. THE MINIMUM IRRIGATION PUMPING CAPACITY SHOULD BE EQUIVALENT TO 120 kpa (i.e. 12m OF HEAD) AT THE HIGHEST POINT OF THE IRRIGATION AREA.
9. CUT-OFF DIVERSION DRAIN REQUIRED UPSLOPE
10. ALL WORKS TO COMPLY WITH AS3500 AND TASMANIAN PLUMBING CODE

**APPLICATION AREA CROSS-SECTION**



NETAFILM UNIBIOLINE 2.3L/HR PRESSURE LINE  
 RIPPED 0.1M INTO NATURAL SOIL

Do not scale from these drawings.  
 Dimensions to take precedence  
 over scale.

Date: Nov 2023

CROSS-SECTION  
 SUBSURFACE APPLICATION SLOPES 10 - 20%

Sheet 1 of 1  
 Drawn by: LR



GEO-ENVIRONMENTAL

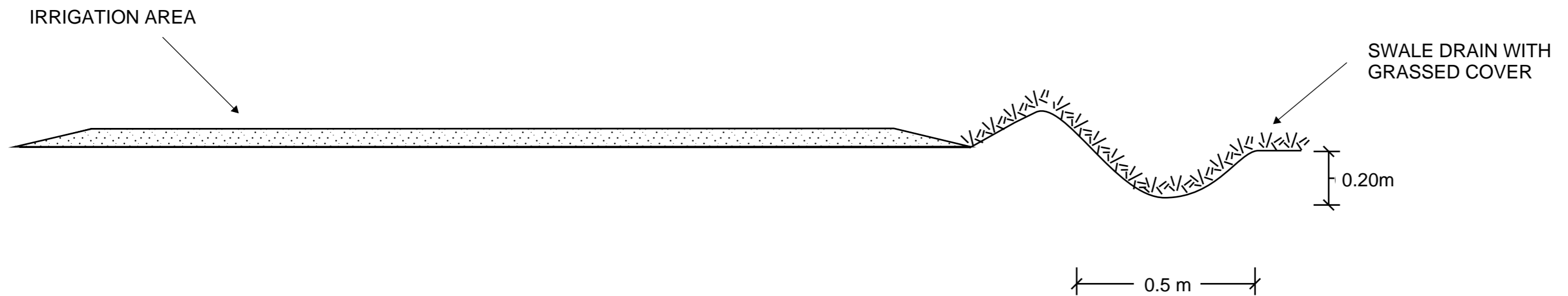
SOLUTIONS

29 Kirksway Place Battery Point  
T| 62231839 E| office@geosolutions.net.au

**TYPICAL GRASSED SWALE DRAIN CROSS-SECTION**

SWALE DRAIN TO BE MIN 0.5M WIDE BY MIN 0.20M DEEP

GRASS COVER TO BE MAINTAINED TO SLOW WATER FLOW AND MINIMISE EROSION



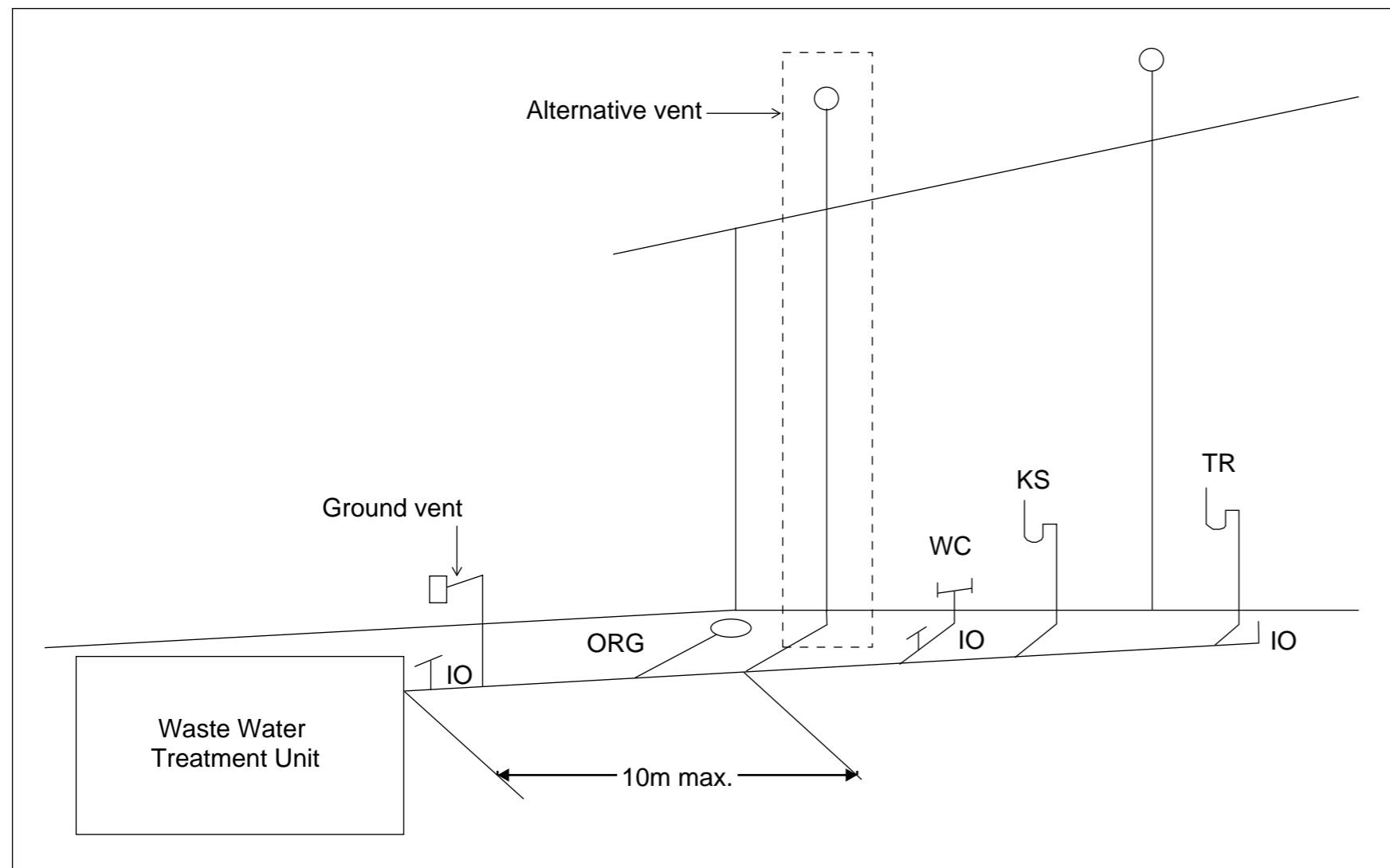
Do not scale from these drawings.  
Dimensions to take precedence  
over scale.

Geo-Environmental Solutions

Date: Nov 2021

Grassed swale drain  
typical cross-section

Sheet 1 of 1  
Drawn by SR



**Tas Figure H101.2 Alternative Venting Arrangements**

Vents must terminate in accordance with AS/NZS 3500.2

Alternative venting to be used by extending a vent to terminate as if an upstream vent, with the vent connection between the last sanitary fixture or sanitary appliance and the on-site wastewater management system. Use of a ground vent in not recommended

Inspection openings must be located at the inlet to an on-site wastewater management system treatment unit and the point of connection to the land application system and must terminate as close as practicable to the underside of an approved inspection opening cover installed at the finished surface level

Access openings providing access for desludging or maintenance of on-site wastewater management system treatment unites must terminate at or above finished surface level

Alternative vent is the preferred arrangement where possible.

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**BUSH FIRE RISK ASSESSMENT REPORT**

**NEW CLASS 1A DWELLING**

**253 LEAM ROAD - HILLWOOD**

**04<sup>TH</sup> DECEMBER 2023**

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**Disclaimer:** The information in this report is ensuring compliance with the Tasmanian Planning Scheme, George Town Local Provisions Schedule, and consistent with, the Director’s Determination 12<sup>th</sup> April 2021 – Bushfire Hazard Areas V1.1, *Building Act 2016 & Building Regulations 2016* (Part 5 Division 6). The information stated within this report is also based on the instructions of AS 3959 – 20018 – Construction of buildings in bush fire-prone areas. The purpose of this code is to ensure that use and development is appropriately designed, located, serviced, and constructed, to reduce the risk to human life and property, and the cost to the community, caused by bushfires.

“It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions.”

GPM P/L has taken all reasonable steps to ensure that the information and data collected in the preparation of this assessment is accurate and reflects the conditions on and adjoining the site and allotment on the date of assessment. GPM P/L do not warrant or represent that the information contained within this assessment report is free from errors or omissions and accepts no responsibility for any loss, damage, cost or expense (direct or indirect) incurred as result of a person taking action in respect to any representation, statement or advice referred to in this report. This report is only to be used for the purpose of which it was commissioned.

**Document Version:** 01 – 04<sup>th</sup> December 2023

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EXECUTIVE SUMMARY

The proposed development is a new Class 1A dwelling. The site is located in Hillwood, a small community on the East Tamar, nestled approximately halfway between Launceston and George Town. The site is part of a relatively new rural subdivision and is surrounded by agricultural grassland on all sides. Leam Road adjoins the south eastern boundary.

The allotment itself at the site of development is also agricultural grassland. Assessment of the allotment has concluded that there is a risk of bushfire associated with the development due to the location of the bushfire prone grassland community that exists within 100m of the development proposal.

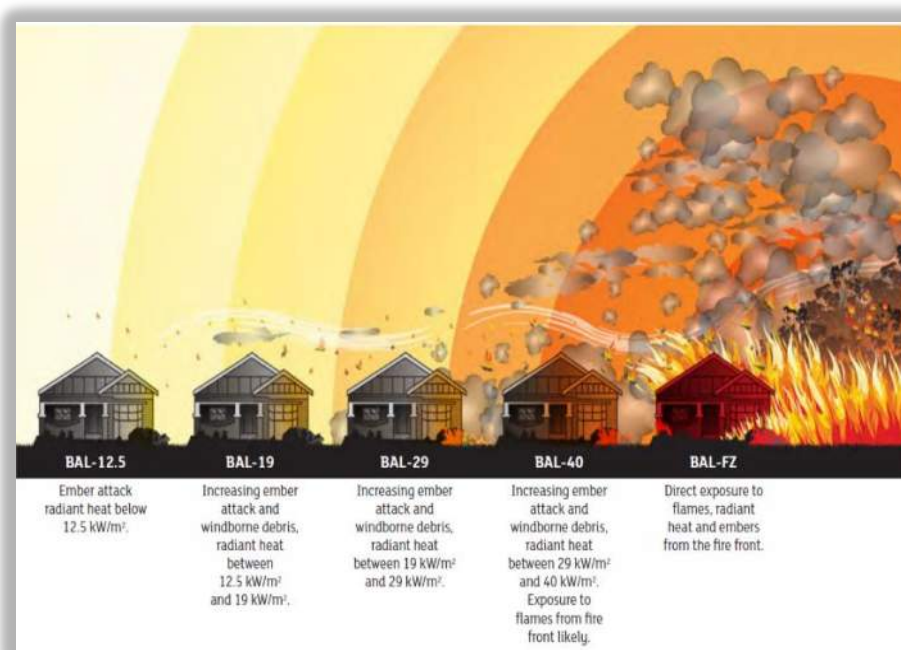
Assessment of the allotment has concluded that there is a risk of bushfire associated with the development due to the location of the bushfire prone grassland vegetation community that exists within 100m of the development proposal in all directions.

The proposed development is located within an area of Rural Living Zoning. The lot size is 9567m<sup>2</sup> and is accessed via ±45m (furthest length) of private driveway that runs off Leam Road.

Using ASA3959 – 2018 Simplified procedure (Method 1), the Bushfire Attack Level of the site and the associated construction requirements will be classified as BAL 19. BAL – 19 is described as being exposed to “Increasing ember attack, windborne debris and radiant heat between 12.5 kW/m<sup>2</sup> and 19 kW/m<sup>2</sup>.”

The BAL classification provided provides specifications for construction standards and the determination of the hazard management area defined in the Bushfire Hazard Management Plan (BHMP). A BAL 19 solution has been designated and the development does not require the clearing of vegetation from neighbouring properties as acceptable distances for the proposed hazard management area can be met within the property boundaries or by utilising adjoining managed ground.

The Bushfire Attack Level (BAL) Report and Bushfire Hazard Management Plan (BHMP) has been prepared under the *Building Act 2016 & Building Regulations 2016 (Part 5 Division 6)* and Director’s Determination 12th April 2021 – Bushfire Hazard Areas V1.1.



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## INTRODUCTION

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**Client(s):** Peter & Ruth Thompson

**Development Type / BCA Classification:** New Class 1A Dwelling.

**Dwelling Floor Plan:** As per attachment.

**Area Schedule:**

SCHEDULE OF AREAS	
SITE AREA:	9,567m <sup>2</sup>
PROPOSED WORKSHOP/STUDIO:	142.56m <sup>2</sup>
PROPOSED HOUSE:	207.57m <sup>2</sup>
SITWORK: 184.13m <sup>2</sup> (WALL + INTERNAL COURTYARD) + 191.48m <sup>2</sup> (DRIVEWAY + ENTRY) =	410.30m <sup>2</sup>
TOTAL AREA OF WORK:	760.43m <sup>2</sup>
PROPOSED SITE COVERAGE:	7.95%



**Construction Materials:**

- Will be required to achieve BAL 19 rating standard.
- As per elevation drawings.

**Date of Site Inspection:** November 2023

**Inspected by:** Justin Cashion – Ground Proof Mapping P/L

This proposal will ensure that “use and development is appropriately designed, located, serviced and constructed, to reduce the risk to human life and property, and the cost to the community, caused by bushfires.”

This Bushfire Risk assessment report will define the sites Bushfire Attack Level classification and determine its compliance with the requirements of the National Construction Code (NCC), 2022 and AS3959 Construction of Buildings in Bushfire Prone Areas 2018.

This report will satisfy associated Council Building Requirements.



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*DESCRIPTION OF PROPOSAL*

---

**Proposal:** New Class 1A Dwelling

**Applicants Name(s):** Peter & Ruth Thompson

**Location:** 253 Leam Road - Hillwood

**Property ID:** 3601581

**Title Reference:** 174593/7

**Lot Size:** 9567m<sup>2</sup>

**Zoning:** Rural Living

**Code Overlay(s):**

Bushfire Prone Areas Code

Safeguarding of Airports

Landslip Hazard

**Council:** George Town

**Defendable Space** – Maintain the vegetation in a “low fuel” state within the required distance set out in this report (as shown on the Bushfire Hazard Management Plan) to satisfy ongoing compliance. This must be continually managed in perpetuity.

**Access** – Existing access is onto Leam Road (Council maintained street/road) via ±45m (furthest point) of private access driveway. Further requirements are needed to satisfy access and egress as outlined further in this report.

**Water Supply** – There is no existing firefighting water supply. Further requirements are required to satisfy water supply as outlined further in this report.

**Construction** – Construct and maintain the proposed dwelling to a minimum specification complying with BAL – 19 in accordance with *AS3959 2018*, Sections 3 and 6.

**Surrounding Area** - The development site is surrounded by existing private property allotments of similar size consisting predominantly of similar vegetation, interspersed with managed ground associated with existing residential and farm outbuildings.

**Predominant Fire Direction** – The predominant fire direction during the summer period is from the North and North West. The vegetation that triggers the assessment provides a realistic fire threat under predominant fire weather conditions, especially if the grassland in that direction was left to grow and then cure during the summer months.

## BUSHFIRE SITE ASSESSMENT

### Vegetation

Classifiable bushfire prone vegetation within 100m of the site of development is agricultural grassland (FAG). Further vegetation clearing and or modification is required for this development to comply with hazard management area specifications and the ongoing maintenance of this hazard management area should continue in perpetuity. The maintenance management requirements are specified further in this report.

### Slope / Aspect

The slope class across the development site is 0 - 5°, whilst the surrounding areas within 100m of the development are within the 0 - 10° range. The aspect is predominantly westerly. The altitude for the proposed dwelling is at ±25m.

### Distances to Vegetation

Appropriate distances to assessable flammable vegetation from the all façades, allows for the construction standards for the dwelling to be classified within those required for a BAL rating of 19, if proposed hazard management areas are maintained in perpetuity. The required HMA for BAL 19 rating is shown on the attached BHMP map. A purple line delineated on the attached BHMP map shows the extent of the assessment area (e.g., all vegetation with 100m of each façade of the proposed dwelling).

### Assessment and HMA

The proposed development is located in a rural/residential interface and the risk of bushfire attack is considered to be a realistic threat. Using AS3959-2018 Simplified Procedure (Method 1) the Bushfire Attack Level of the site and the associated construction requirements will be classified as BAL – 19.

### Bushfire Attack Level (BAL) – Steps 1 to 5 Summary Results

For calculations based on Tasmania’s FDI of 50, please refer to Table 1 below:

	North	East	South	West
<b>Vegetation to 100m</b>	Grassland	Grassland	Grassland	Grassland
<b>Vegetation Classification</b>	G	G	G	G
<b>Slope</b>	Downslope 0 - 5°	Level/Upslope	Downslope 0 - 5°	Downslope 6 - 10°
<b>Current BAL</b>	BAL FZ	BAL FZ	BAL FZ	BAL FZ
<b>Proposed BAL</b>	BAL 19	BAL 19	BAL 19	BAL 19
<b>HMA for BAL 19</b>	11m+	10m+	11m+	13m+

**\*2.2.3.2:**

(e) Exclusions – Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.

(f) Exclusions—Low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks.

## HMA Requirements

As per Director's Determination – Bushfire Hazard Areas, Table 4, Requirements for Hazard Management Area:

Element B: Hazard management areas for new buildings on lots not provided with a BAL at the time of subdivision.

Requirement: A new building must:

(a) be located on the lot so as to be provided with a HMA no smaller than the separation distances required for BAL 29; and

(b) have a HMA established in accordance with a certified bushfire hazard management plan.

## HMA Guidelines

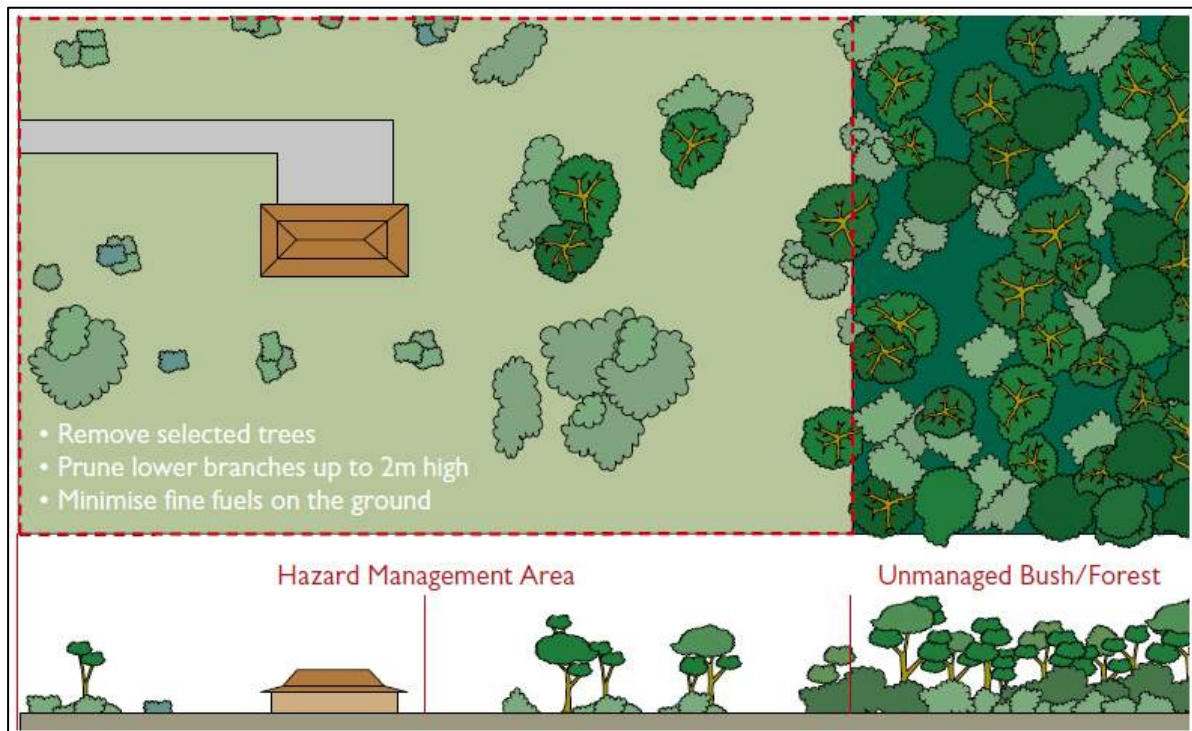
Please note that the implementation of the HMA must comply prior to occupancy certification.

The HMA requirements listed in Table 1 are the minimum distances required to achieve a compliance rating of BAL – 19. The HMA (defendable space area), should have significant fuel reduction carried out to ensure compliance with low threat vegetation classification. This single zone hazard management area must be managed and kept in a minimum fuel condition at all times “where fine fuels are minimised to the extent that the passage of fire will be restricted, e.g. short green lawns, paths, driveways etc.”. All grassed areas within this zone need to be short cropped and kept to a nominal height of 100mm.

The four design principles for this area are to:

- (1) Create space
- (2) Remove flammable objects or materials
- (3) Separate fuel
- (4) Selection, location and maintenance of trees

The diagram below explains this requirement.



Other recommendations Include:

- Trees and large shrubs should be pruned to remove branches within 2 m of the ground.
- Use only mown lawn, bare ground (driveways, paths etc.) or non-flammable native succulent ground cover plants immediately adjacent to buildings (within 2 metres).
- Total understorey canopy cover should be less than 20%.
- Total eucalypt overstorey to be <5%.
- Separate tree crowns by four metres.
- Shrubs should be isolated or in small clumps; avoid continuous canopies.
- New trees should not be planted closer to buildings than their expected full height.
- Avoid planting or retaining trees and shrubs with rough fibrous bark, or which retain shed bark in long strips (ribbon bark) (e.g., any of the stringy bark group of eucalypts).
- Avoid planting or retaining trees and shrubs that retain dead material in their canopies (e.g., most conifers, and most *Melaleuca* and *Leptospermum* species).
- Avoid planting or retaining shrubs under trees.
- Canopies of trees and shrubs should not touch walls or overhang buildings.
- Avoid planting or retaining trees and shrubs that deposit large quantities of litter in a short period, particularly in spring and summer.
- Combustible mulches should not be used, except in very limited quantities around the base of shrubs; use non-combustible mulches, such as pebble, scoria or gravel, or mown grass.
- Shrubs should not be allowed to grow to within 2 m of windows with annealed (standard) glass, or within 1 m of windows with heat toughened glass or walls with timber cladding.
- Locate any combustible materials, such as woodpiles, flammable fuel stores etc., outside the Hazard Management Area.



*Figure 1: This photo illustrates a maintained hazard management zone in the foreground with unmanged vegetation in the background.*

Some thought should be given to other landscaping alternatives using such plants as described in the “Fire Resisting Garden Plants” booklet produced by the Tasmania Fire Service (TFS) available on the website @ [www.fire.tas.gov.au](http://www.fire.tas.gov.au)

## Access/Egress

The primary principles for specifications in regards to access and egress, is to provide safe access to properties for residents, and to allow emergency service vehicles access to assist with firefighting and protection of buildings. This also enables emergency personnel to evacuate residents when required and provide access to the water supply for firefighting purposes. Proposed access to the house is via a private driveway accessed (via new crossover) off Leam Road (Council maintained street/road) and is  $\pm 45\text{m}$  (furthest point) in length. Proposed access to the static firefighting water supply remote offtake, is via a hardstand area located off the existing crossover off Leam Road (Council maintained street/road) and is  $>8\text{m}$  in length. As per Director's Determination – Bushfire Hazard Areas, Table 2 Requirements for Property Access:

Element B: Property access length is 30m or greater; or access is for a fire appliance to a firefighting water point.

Requirement: The following design and construction requirements apply to property access:

- a) All weather construction;
- b) Load capacity of at least 20 tonnes, including for bridges and culverts;
- c) Minimum carriageway width of 4 metres;
- d) Minimum vertical clearance of 4 metres;
- e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
- f) Cross falls of less than 3 degrees (1:20 or 5%);
- g) Dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;
- h) Curves with a minimum inner radius of 10 metres;
- i) Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and
- j) Terminate with a turning area for fire appliances provided by one of the following:
  - i. A turning circle with a minimum inner radius of 10 metres;
  - ii. A property access encircling the building; or
  - iii. A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long.

Please note that the implementation of the access to specification must comply prior to occupancy certification.

## Water Supply

A new building constructed in a bushfire-prone area, must be provided with a water supply dedicated for firefighting purposes.

Reticulated Water Supply for Firefighting: **Not Applicable.**

Static Water Supply for Firefighting: **Applicable as per below.**

As per Director's Determination – Requirements for Building in Bushfire-Prone Area, Table 3B, Requirements for Static Water Supply for Firefighting:

Element A: Distance between building area to be protected and water supply

Requirement: The following requirements apply:

- (a) The building area to be protected must be located within 90 metres of the water connection point of a static water supply; and
- (b) The distance must be measured as a hose lay, between the water connection point and the furthest part of the building area.

#### Element B: Static Water Supplies

Requirement: A static water supply:

- (a) May have a remotely located offtake connected to the static water supply;
- (b) May be a supply for combined use (firefighting and other uses) but the specified minimum quantity of firefighting water must be available at all times;
- (c) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including firefighting sprinkler or spray systems;
- (d) Must be metal, concrete or lagged by non-combustible materials if above ground; and
- (e) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2009, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by:
  - (i) metal;
  - (ii) non-combustible material; or
  - (iii) fibre-cement a minimum of 6 mm thickness.

#### Element C: Fittings, pipework and accessories (including stands and tank supports)

Requirement: Fittings and pipework associated with a water connection point for a static water supply must:

- (a) Have a minimum nominal internal diameter of 50mm;
- (b) Be fitted with a valve with a minimum nominal internal diameter of 50mm;
- (c) Be metal or lagged by non-combustible materials if above ground;
- (d) Where buried, have a minimum depth of 300mm (compliant with AS/NZS 3500.1-2003 Clause 5.23);
- (e) Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to firefighting equipment;
- (f) Ensure the coupling is accessible and available for connection at all times;
- (g) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220 mm length);
- (h) Ensure underground tanks have either an opening at the top of not less than 250 mm diameter or a coupling compliant with this Table; and
- (i) Where a remote offtake is installed, ensure the offtake is in a position that is:
  - (i) Visible;
  - (ii) Accessible to allow connection by firefighting equipment;
  - (iii) At a working height of 450 – 600mm above ground level; and
  - (iv) Protected from possible damage, including damage by vehicles.

#### Element D: Signage for static water connections

Requirement: The firefighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must comply with the Tasmanian Fire Service Water Supply Signage Guideline published by the Tasmania Fire Service.

This document is attached as an appendix to this report.

Element E: Hardstand

Requirement: A hardstand area for fire appliances must be provided:

- (a) No more than three metres from the water connection point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like);
- (b) No closer than six metres from the building area to be protected;
- (c) With a minimum width of three metres constructed to the same standard as the carriageway; and
- (d) Connected to the property access by a carriageway equivalent to the standard of the property access.

*Please note that the proposed location of the proposed static water supply (BAL Tank) and remote offtake is shown on the attached BHMP map.*

Please note that the implementation of the static water supply to specification must comply prior to occupancy certification.

## Construction

The buildings and elements shall be designed, constructed, and maintained in accordance with Construction Sections 3 and 6 of AS 3959-2018 *Construction of Buildings in Bushfire Prone Areas* for BAL – 19.

	BAL-LOW	BAL-12.5	BAL-19
SUBFLOOR SUPPORTS	No special construction requirements	As for BAL-19	Enclosure by external wall or by steel, bronze or aluminium mesh. [Amendment 2 will likely fix the omission of the BAL-29 construction requirements for <i>unenclosed subfloors</i> ]
FLOORS	No special construction requirements	As for BAL-19	Concrete slab on ground or enclosure by external wall, metal mesh as above or flooring less than 400 mm above ground level to be non-combustible, naturally fire resistant timber or protected on the underside with sarking or mineral wool insulation
EXTERNAL WALLS	No special construction requirements	As for BAL-19	External walls – Parts less than 400 mm above ground or decks etc to be of non-combustible material, 6 mm fibre cement clad or bushfire resistant/naturally fire resistant timber
EXTERNAL WINDOWS	No special construction requirements	4mm Grade A Safety Glass or glass blocks within 400 mm of ground, deck etc with Openable portion metal screened with frame of metal or metal reinforced PVC-U or bushfire resisting timber	5mm toughened glass or glass blocks within 400 mm of ground, deck etc with Openable portion metal screened with frame of metal or metal reinforced PVC-U or bushfire resisting timber. Above 400mm annealed glass can be used with all glass screened
EXTERNAL DOORS	No special construction requirements	As for BAL-19 except that door framing can be naturally fire resistant (high density) timber	Screened with steel, bronze or aluminium mesh or glazed with 5 mm toughened glass, non-combustible or 35 mm solid timber for 400 mm above threshold, metal or bushfire resisting timber framed for 400 mm above ground, decking, etc, tight-fitting with weather strips at base
ROOFS	No special construction requirements	As for BAL-19 (including roof to be fully sarked)	Non-combustible covering. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked
VERANDAS DECKS ETC.	No special construction requirements	As for BAL-19	Enclosed sub-floor space – no special requirement for materials except within 400 mm of ground. No special requirements for supports or framing. Decking to be non-combustible or bushfire resistant within 300 mm horizontally and 400 mm vertically from a glazed element



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## *OTHER CONSIDERATIONS*

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### **Natural and Cultural Values**

No natural or cultural values were identified on site or through desktop assessments, which would prevent the ongoing maintenance of the Hazard Management Area for achieving BAL – 19 classification. The following resources were checked as part of the desktop assessment;

- Natural Values Atlas – DPIPWE 2021
- TasVeg 4.0 – Tasmanian Government / DPIPWE 2020
- The List – DPIPWE 2021

### **Other Environmental or Planning Issues**

No environmental or planning issues were identified on site or through desktop assessments, including review of the Tasmanian Planning Scheme, George Town Local Provision Schedule.

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## CONCLUSIONS / RECOMMENDATIONS

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This assessment covers the minimum requirements for the construction of a new Class 1A Dwelling. It is important to note that the assessment covers only the requirements from a bushfire perspective and not any other building regulations.

The development site is located in a rural/residential setting, within 100m of a potentially flammable grassland vegetation community. The risk of bushfire attack needed to be considered as the site is classified as being in a Bushfire Prone Area and may be susceptible to bushfires in the future.

By building to construction standards of a BAL – 19 rating, the hazard management area distances are specified. The management and ongoing maintenance of this hazard management area in a low fuel state, in perpetuity, as prescribed in this plan is of upmost priority in regards to bushfire risk. Private access and egress requirements have also been specified, as has the static firefighting water supply requirements. When the development is built following the construction guidelines of AS3959 – 2018 and other recommendations outlined in this report, it will ensure compliance with the *Building Act 2016 & Building Regulations 2016*.

This report should be considered in conjunction with all other planning documents for this proposed development in case of conflict. It is the client's responsibility to provide this report to all relevant parties that are involved with the planning, development or construction of this proposed extension. Any changes in relation to these functions that may alter the proposed BAL rating, need to be addressed with GPM P/L as there may be a necessity for a new assessment to be undertaken.

Other valuable resources in regards to bushfires and planning and preparation are available on the Tasmania Fire Service (TFS) website @ [www.fire.tas.gov.au](http://www.fire.tas.gov.au)

---

*REPORT PREPARATION & CERTIFICATION*

---

This Bushfire Risk Assessment Report was prepared by:

Justin Cashion – Ground Proof Mapping P/L.

Signature: *Justin Cashion*

Date: 04/12/2023

This Bushfire Risk Assessment Report is certified by:

Justin Cashion – Ground Proof Mapping P/L.

Signature: *Justin Cashion*

Date: 04/12/2023

Accredited Person under part 4A of the Fire Service Act 1979: Accreditation No: **BFP-112**

Certificate: **GPM 23 - 046**

---

*DEFINITIONS*

---

<b>Term</b>	<b>Definition</b>
accredited person	Means as defined in the act
BAL	A means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per square metre, which is the basis for establishing the requirements for construction to improve protection of building elements from attack by a bushfire (AS 3959-2018).
BAL ratings	Used as the basis for establishing the requirements for construction to improve protection of a (proposed) building from bushfire attack. There are 6 BAL ratings; low, 12.5, 19, 29, 40 and FZ.
bushfire hazard management plan	Means as defined in the Act
bushfire-prone area	Means: land that is within the boundary of a bushfire-prone area shown on an overlay on a planning scheme map; and where there is no overlay on a planning scheme map, or where the land is outside the boundary of a bushfire-prone area shown on an overlay on such a map, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1 hectare.
bushfire-prone vegetation	Means contiguous vegetation including grasses and shrubs but not including maintained lawns, parks and gardens, nature strips, plant nurseries, golf courses, vineyards, orchards or vegetation on land that is used for horticultural purposes.
contiguous	Means separated by less than 20m.
defendable space	An area of land around a building where vegetation is modified and managed to reduce the effects of flame contact and radiant heat associated with a bushfire.
hazard management zone / area	Means the zone / area, between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.
Part 5 agreement	Means as defined in the Act.
TFS	Means the Tasmanian Fire Service.
slope	The slope under the classified vegetation in relation to the (proposed) building.
static water supply	Means water stored in a tank, swimming pool, dam, or lake that is available for firefighting purposes at all times.
vegetation	The vegetation that presents a bushfire hazard within 100 metres of the development and is classified in accordance with Clause 2.2.3 of AS 3959-2018.

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## REFERENCES

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- Standards Australia Limited. (2011). *AS 3959 – 2018 – Construction of buildings in bush fire-prone areas*.
- Tasmanian Planning Scheme, George Town Local Provision Schedule.
- Australian Building Codes Board. (2022). *National Construction Code - ABCB*.
- *Building Act 2016 & Building Regulations 2016* (Part 5 Division 6).
- UTS:CLG / TFS. Development and Building in Bushfire Prone Areas course resources.
- Room 11 Drawings, Project No.: 2222, 19/10/2023 & 29/11/2023.

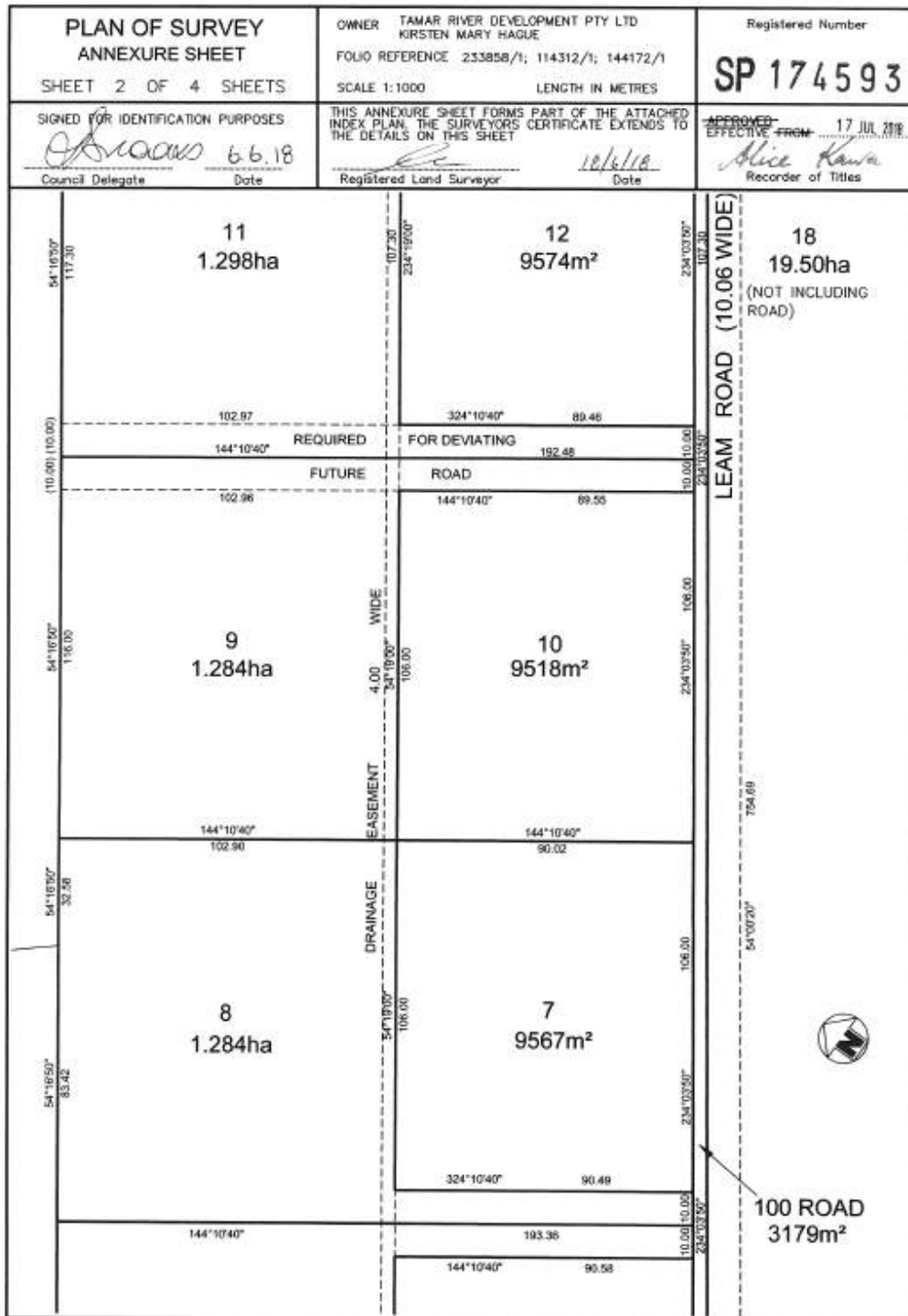
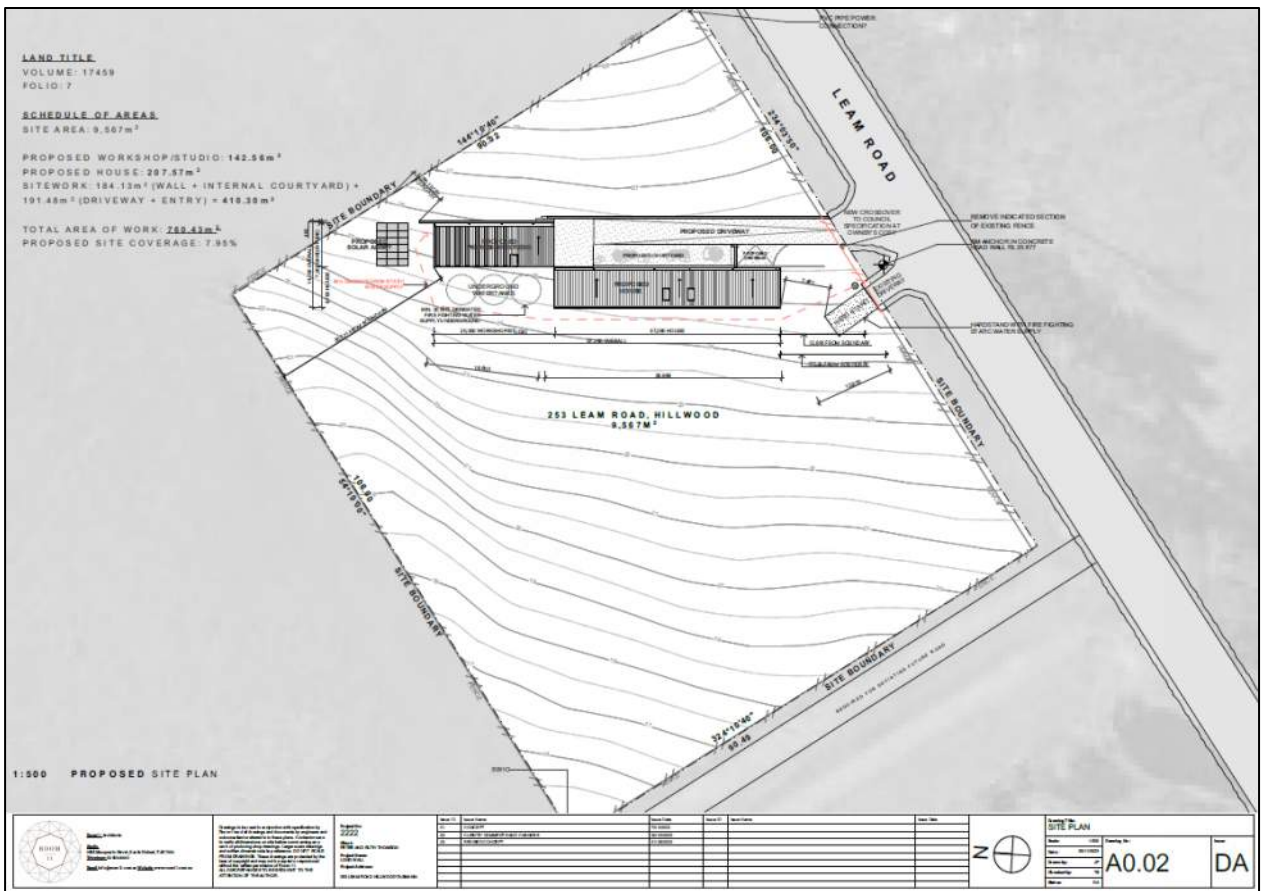


Figure 1: Title Plan (Lot 7).



Figures 2a & 2b: Locality & Site Plans.

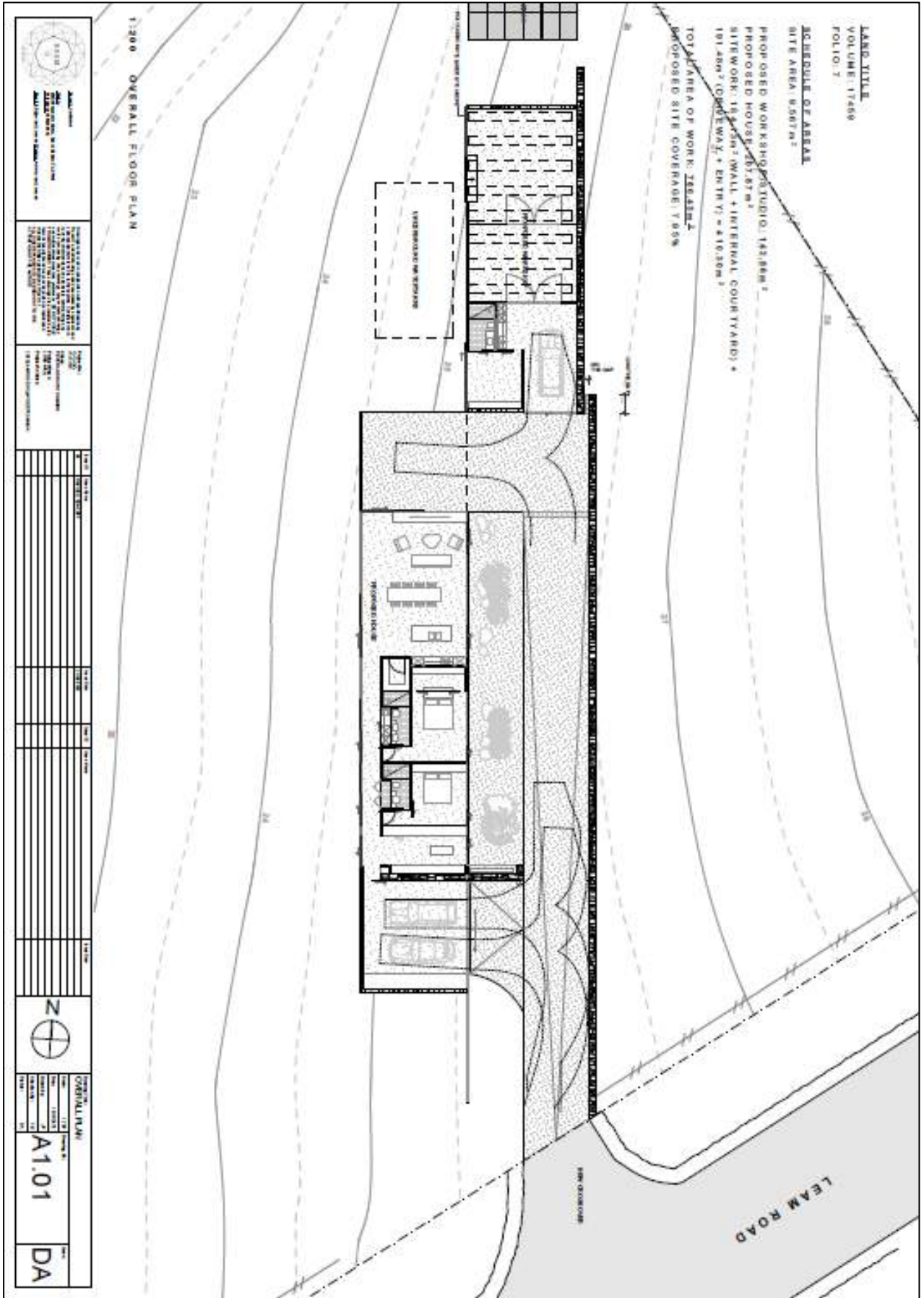


Figure 3: Floor Plan.



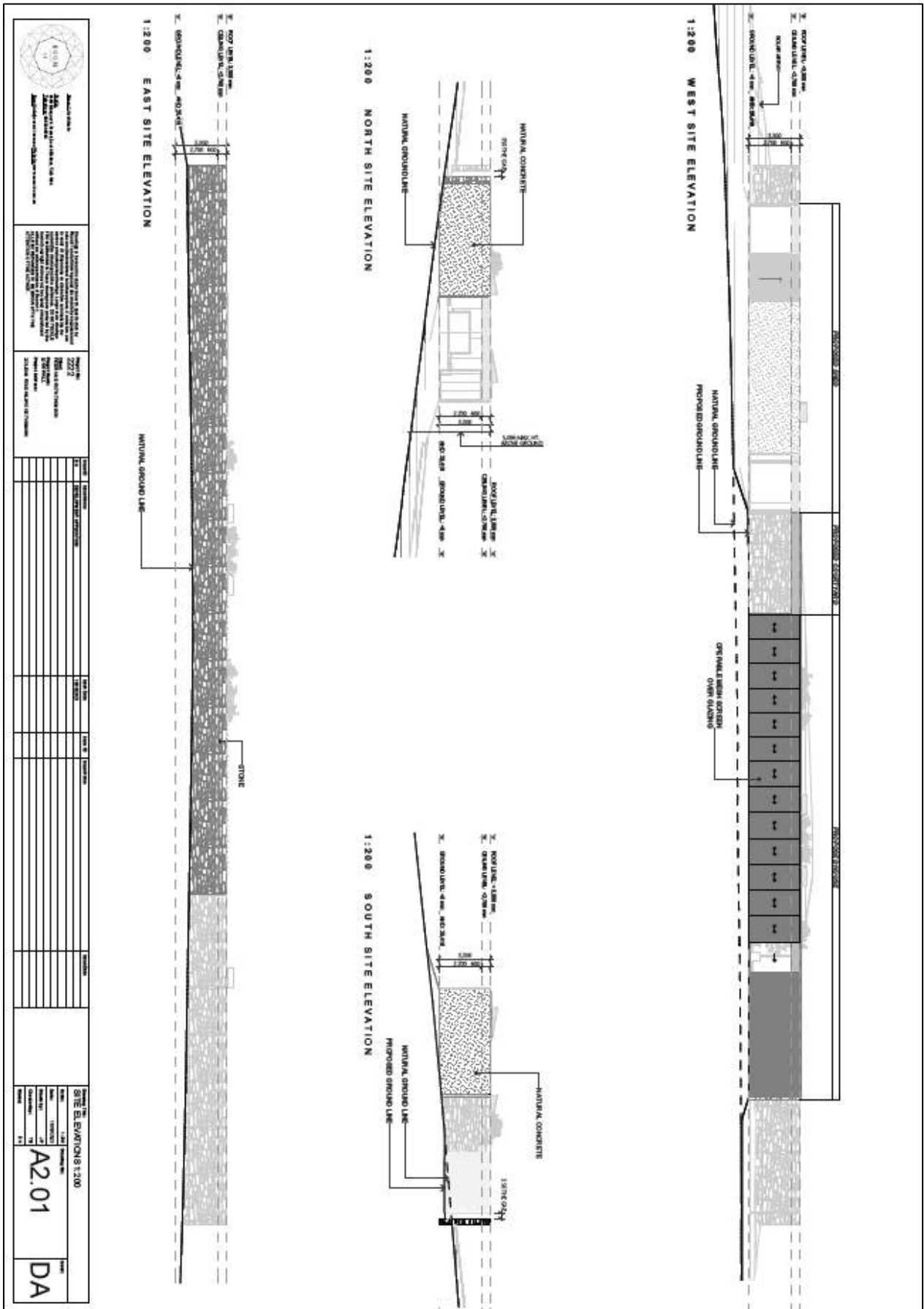


Figure 4: Elevation Plans.



Figure 5: Aerial View of allotment.

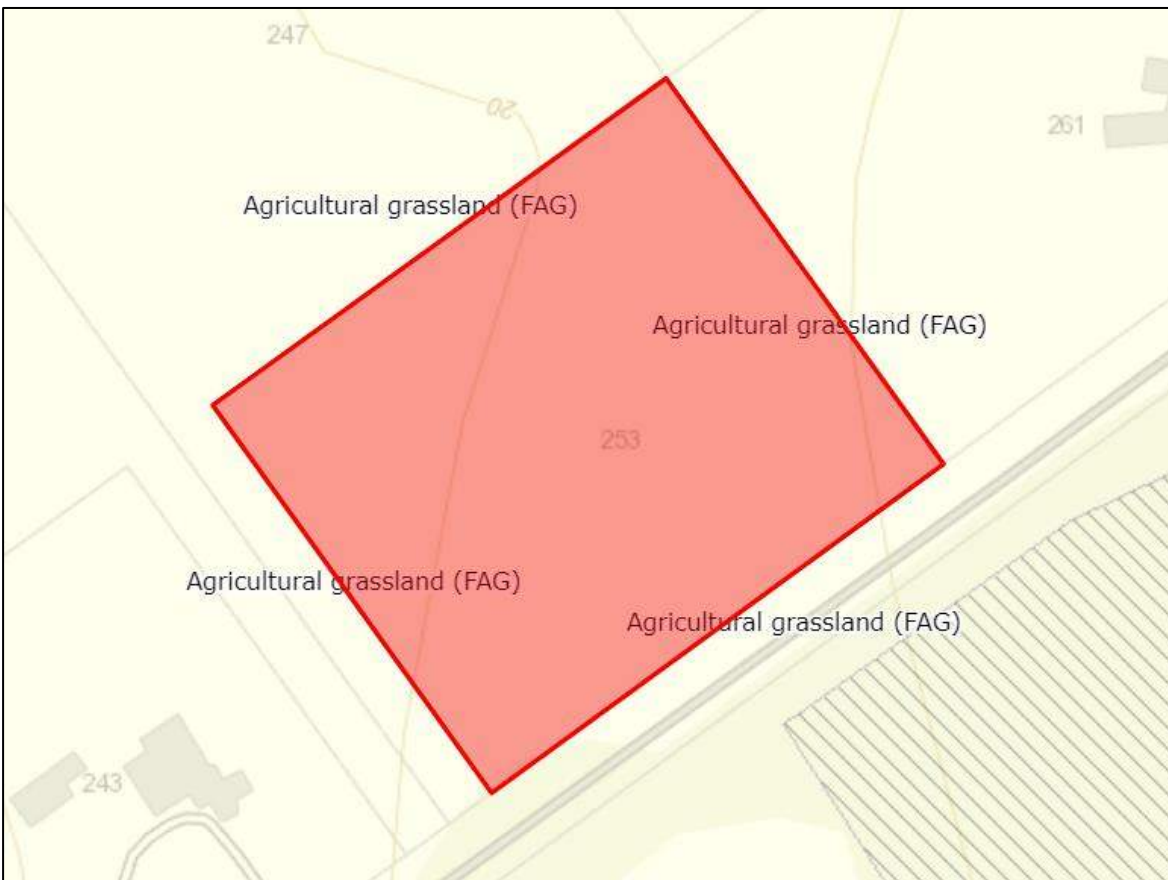


Figure 6: TasVeg 4.0 Map.

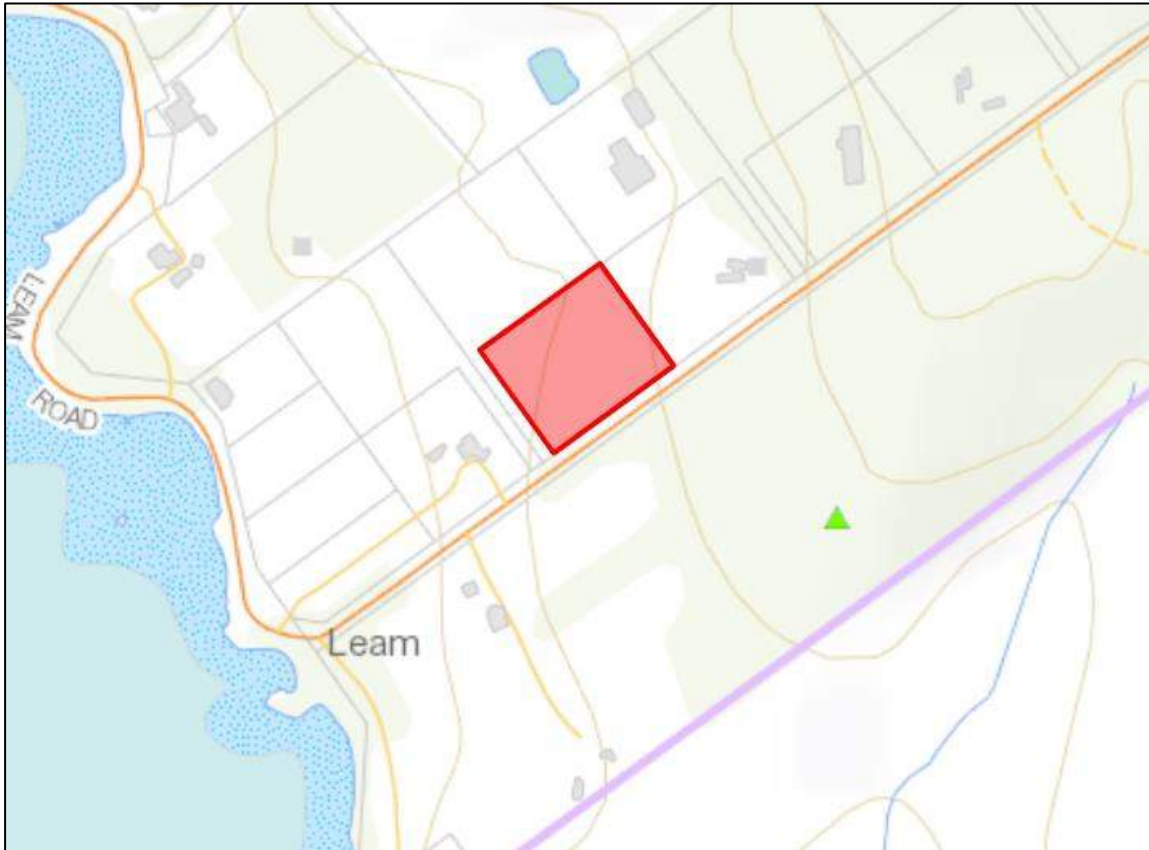


Figure 7: Natural & Cultural Values Map (nothing identified on subject allotment).



Figure 8: Photo of development site.



Figure 9: Photo to the north.



Figure 10: Photo to the east.



Figure 11: Photo to the south.



Figure 12: Photo to the west.



Tasmania Fire Service

# Bushfire Hazard Practitioner Accreditation Certificate

In accordance with Section 60D of the Fire Service Act 1979

## Justin Cashion

Accreditation No: BFP - 112

Accreditation Category: 2

Is hereby granted accreditation to perform the functions of an Accredited Person under Part 4A of the Fire Service Act 1979 with the following conditions and restrictions:

Scope of Work		Status
1	Certify a Bushfire Hazard Management Plan for the purposes of the Building Act 2016.	Accredited
2	Certify an Exemption from a Bushfire Hazard Management Plan for the purposes of the Building Act 2016 or the Land Use Planning and Approvals Act 1993.	Accredited
3A	Certify a Bushfire Hazard Management Plan meets the Acceptable Solutions for Vulnerable Uses and Hazardous Uses for the purposes of the Land Use Planning and Approvals Act 1993.	Accredited
3B	Certify a Bushfire Hazard Management Plan meets the Acceptable Solutions for small subdivisions (less than 10 lots) for the purposes of the Land Use Planning and Approvals Act 1993.	Accredited
3C	Certify a Bushfire Hazard Management Plan meets the Acceptable Solutions for large subdivisions (more than 10 lots, or multiple stages) for the purposes of the Land Use Planning and Approvals Act 1993.	Accredited
4	Certify an Emergency Management Strategy or Bushfire Emergency Plan for all uses and classes of building for the purposes of the Building Act 2016 or the Land Use Planning and Approvals Act 1993.	Not Accredited

### Conditions

Conform with requirements of the Chief Officer's Scheme for the Accreditation of Bushfire Hazard Practitioners, and Bushfire Hazard Advisory Notes issued by the Chief Officer.

This accreditation remains valid until such time that it is surrendered, varied, suspended or revoked.



Jeff Harper AFSM  
A/CHIEF OFFICER

1 May 2018

Figure 13: Accreditation Documentation.



Michael Sims  
Account Executive

Marsh Pty Ltd  
ABN 31 081 358 303  
Ground Floor,  
85 York Street,  
Launceston, TAS 7250  
Michael.Sims@marsh.com

Justin Cashion  
Ground Proof Mapping Pty Ltd  
81 Elizabeth Street  
TAS 7250

11 May 2023

Dear Justin,

## Confirmation of Cover Ground Proof Mapping Pty Ltd

We are pleased to enclose documentation following your placement instructions.

INSURANCE CLASS	INSURER	POLICY NO	COVERAGE	POLICY PERIOD
Public Liability	CFC Underwriting Ltd	3290298	\$20,000,00 any one claim	10/05/2023 - 31/08/2024
Professional Indemnity-Cyber Liability	Lloyd's of London through CFC Underwriting Ltd	3290298	\$1,000,000 Limit of Liability \$2,000,000 In the aggregate	10/05/2023 - 31/08/2024
Motor Vehicle	Allianz Australia Insurance Ltd - GC	138SV00520VSD	Section 1 – Market Value or Sum Insured whichever is the lesser Section 2 - \$35,000,000	1/04/2023 - 1/04/2024
Workers' Compensation	Allianz Australia Insurance Ltd	LWL0016802	Liability at Common Law - Unlimited	1/04/2023 - 1/04/2024

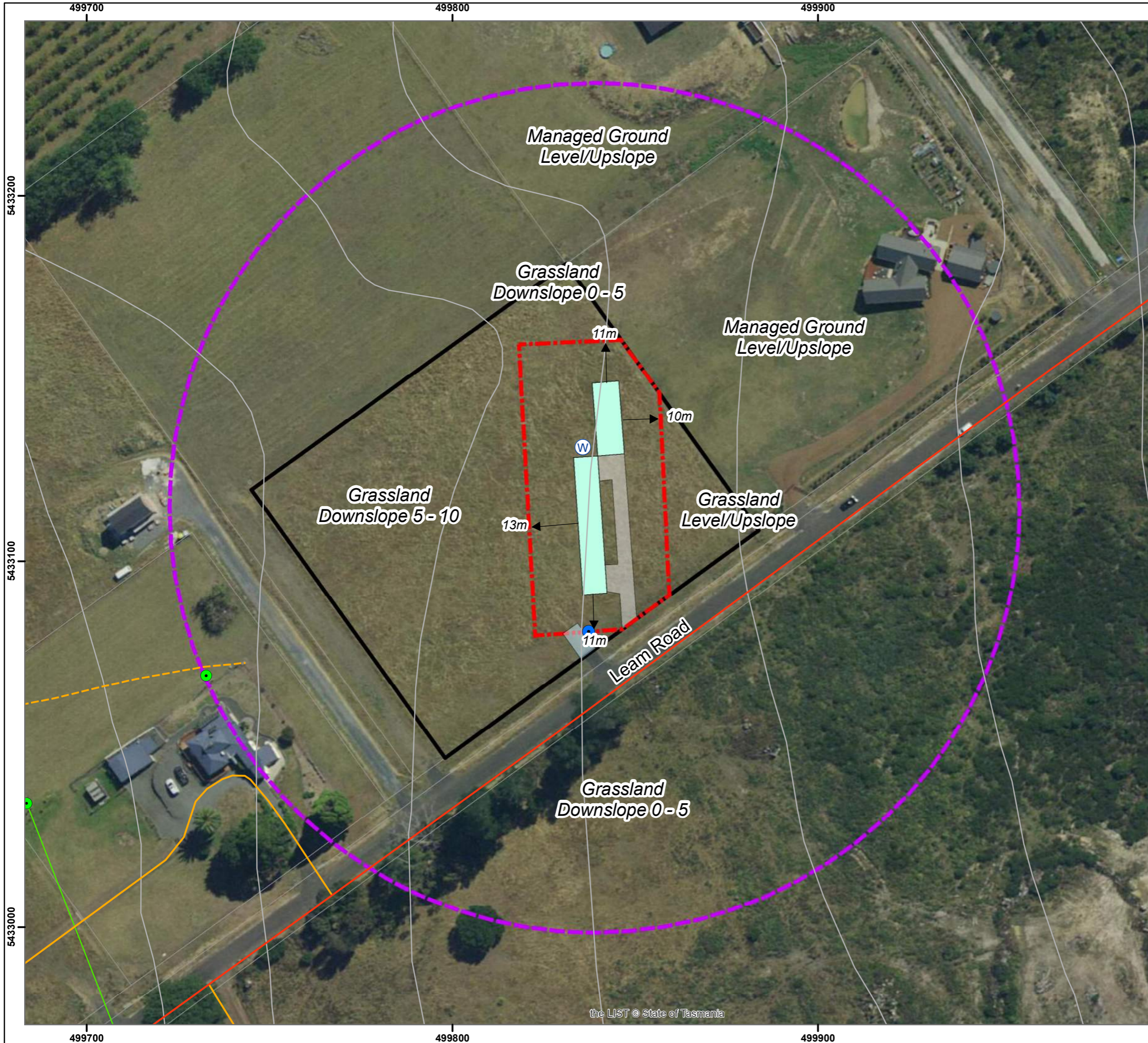
\*Inclusive of F&S, E&L, Statutory Charges and Fees.

Occupations including but not limited to:

- Bushfire Management & Mitigation Planning
- Bushfire Attack Level (BAL), Bushfire Hazard Management Plans (BHMP's), Bushfire Emergency Plans, Bushfire Evacuation & Action Plans
- Planning and Supervision of Low & High Intensity Burn Programs
- Unplanned Bushfire Suppression under direction/supervision of one of Tasmania's 3 Fire Agency bodies; Tasmanian Fire Service (TFS), Sustainable Timber Tasmania (STT) and Parks and Wildlife Service/DPIPWE (PWS).
- Providing Nationally Accredited Fire Training under qualification for specific fire management modules
- Vegetation assessments & plans
- Ecological assessments & plans
- Post Fire Regeneration and Rehabilitation Plans

**Confirmation of Cover**

Figure 14: Copy of Insurance.



**Important:**  
 PROJECTION: Universal Transverse Mercator (UTM).  
 HORIZONTAL DATUM: Geocentric Datum of Australia 1994(GDA94)  
 MAP GRID: Mapping Grid of Australia (MGA94)

**Disclaimer:**  
 Whilst GPM (and its agents) make every reasonable effort to locate and identify features on the land which is the subject of this map not all features either above or below the surface have been located. Users are advised to independently verify all data for accuracy and completeness prior to use.



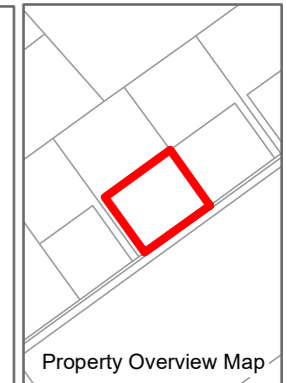
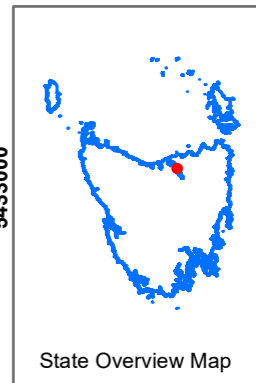
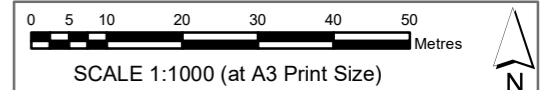
**Bushfire Hazard Management Plan Map**

**PID Number:** 3601581  
**Client:** Peter & Ruth Thompson  
**Address:** 253 Leam Road Hillwood 7252  
**Production Date:** 04/12/2023  
**Assessor:** Justin Cashion  
**Accreditation No.:** BFP - 112

**Notes:**  
 Class 1A Dwelling  
 BAL 19 Solution

\*BHMP should be read in conjunction with Bushfire Hazard Report GPM 23 - 046  
 Base data from theLIST (www.thelist.tas.gov.au), © State of Tasmania

- Legend**
- George Town Cadastre
  - 253 Leam Road
  - Proposed Dwelling Footprint
  - Proposed Access & Harstand
  - Harstand for Remote BAL Offtake
  - Hazard Management Area
  - 100m Assessment Zone
  - Proposed BAL Tank Location
  - Remote BAL Tank Offtake
  - 5m Contours Urban Regions
  - Hydrology Lines
  - Aurora High Voltage Conductor
  - Aurora Power Poles





# CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To:  *Owner /Agent*  
 *Address*  
  *Suburb/postcode*

## Qualified person details:

Qualified person:   
Address:    *Phone No:*   
*Fax No:*   
*Licence No:*  *Email address:*

*Qualifications and Insurance details:*  *(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)*

*Speciality area of expertise:*  *(description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)*

## Details of work:

*Address:*    *Lot No:*   
*Certificate of title No:*   
*The assessable item related to this certificate:*  *(description of the assessable item being certified)*  
*Assessable item includes –*  

- a material;
- a design
- a form of construction
- a document
- testing of a component, building system or plumbing system
- an inspection, or assessment, performed

## Certificate details:

*Certificate type:*  *(description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)*

This certificate is in relation to the above assessable item, at any stage, as part of - (tick one)  
building work, plumbing work or plumbing installation or demolition work:

or

a building, temporary structure or plumbing installation:

In issuing this certificate the following matters are relevant –

Documents:

Bushfire Attack Level (BAL 19 Solution) Assessment & Bushfire Hazard Management Plan (BHMP) for 253 Leam Road - Hillwood.

Relevant calculations:

As per AS 3959-2018 Construction of Buildings in Bushfire Prone areas and onsite findings.

References:

AS 3959-2018 Construction of Buildings in Bushfire Prone areas.  
Tasmanian Planning Scheme – George Town Local Provisions  
Director’s Determination – Bushfire Hazard Areas V1.1, 12<sup>th</sup> April 2022 – *Building Act 2016 & Building Regulations 2016* (part 5 Division 6).

*Substance of Certificate: (what it is that is being certified)*

Bushfire Attack Level - BAL 19 Solution.

*Scope and/or Limitations*

This report evaluates the risks to the development associated with bushfire hazard and defines the site’s Bushfire Attack Level (BAL). It also determines the compliance of the development with the requirements of the Building Code of Australia, Director’s Determination – Bushfire Hazard Areas V1.1, 12<sup>th</sup> April 2022, the Building Act 2016 & Building Regulations 2016 (Part 5 Division 6) and AS 3959-2018 Construction of Buildings in Bushfire Prone Areas. It recommends measures to help protect buildings from the effects of a bushfire and reduce the likelihood of fatalities arising from occupants of a dwelling who do not evacuate a property prior to exposure from a bushfire event.

The information contained within this report is based on the instructions of AS 3959-2018. The Standard states that “Although this Standard is designed to improve the performance of buildings when subjected to bushfire attack in designated bushfire-prone areas there can be no guarantee that a building will survive a bushfire event on every

occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire and extreme weather conditions.”  
The effectiveness of the measures and recommendations detailed in this report are dependent on their implementation and maintenance for the life of the development. Should the site characteristics that this assessment has been measured from alter from those identified, the BAL classification may differ and cause this report to become void. The inspection has been undertaken and report provided on the understanding that the report:

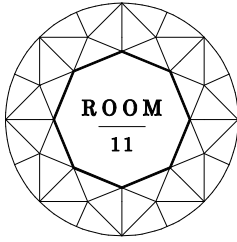
- Only deals with the potential bushfire risk. All other statutory assessments are outside the scope of this report.
- Only identifies the size, volume and status of vegetation at the time the site inspection was undertaken and cannot be relied upon for any future development.
- Doesn't deal with Impacts of future development.
- Vegetation growth has not been considered.

No liability can be accepted for actions by Lot Owners, Council or Government Agencies which compromise the effectiveness of this report.

**I certify the matters described in this certificate.**

Qualified person: 

<i>Signed:</i> <i>Justin Cashion</i>	<i>Certificate No:</i> GPM 23 - 046	<i>Date:</i> 04/12/2023
---	--	----------------------------



## **Room11**

Studio 358B Macquarie St, South Hobart 7004, Tasmania

Post PO Box 116, South Hobart 7004, Tasmania

Telephone 03-6224-8642

Email [info@room11.com.au](mailto:info@room11.com.au) Website [www.room11.com.au](http://www.room11.com.au)

## **RE: DA2023/125 253 Leam Road, Hillwood**

Date: 06/03/2024

Dear Alex,

Thank you for your RFI Letter dated 21/12/2023.

Please find below replies:

### *1. A full Description of the use of the 'workshop' building outlining:*

- *how the outbuilding will be used and it's relationship with the existing dwelling;*

The workshop is for the use of a sole trader furniture designer and maker who will be residing in the proposed dwelling. There is no existing dwelling on the property.

- *If the outbuilding is intended to be used for any form of commercial activity;*

The intended use is for one of the residents of the proposed dwelling to create bespoke furniture by commission and design. There will be no other employees. Please use this link to view the examples of the furniture to be created :

<https://ruththompsonfurniture.design>

- *Operating hours (if applicable)*

The workshop will be used between 8:30am and 5pm, Monday to Friday.

- *Expected machinery to be contained in the workshop;*

Expected machinery is: a table saw, a thicknesser, CNC milling machine and band saw. All machines are extracted, and sawdust generated and captured is recycled onto the compost heap. Smaller airborne dust particles (down to 1micron) are filtered via air filters which can recirculate up to 10 cubic metres per hour when required.

- *Description of noise and odour generated;*

The workshop is for the use of a sole trader furniture designer and craftsman. Machinery use will be intermittent, and thus the noise generated will be intermittent, and restricted to between 8:30am and 5pm.

Odour generated is to the level expected with a 'standard' home based woodworking workshop, where a sole creator would be operating. Decibel readings on the loudest machine with extraction and air filters running -taken with the meter sitting on top of the machine, cutting very hard Eucalypt- reads at 85.6dB. Decibel readings on the loudest machine with extraction and air filters running -taken with the meter 5 metres away from the machine with the roller door open, cutting very hard

Eucalypt- reads at 63.1dB. As this is a one person workshop, no more than one machine can be run at any time.

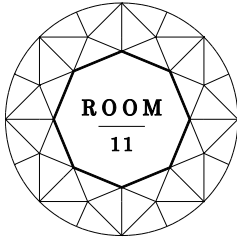
We trust this satisfies Item 1 of the RFI. Please see attached documentation addressing items 2, 3, and 4.

If you have any further queries, please let me know.

Yours sincerely,  
Room 11 Architects

A handwritten signature in black ink, appearing to read 'Thomas Bailey', with a long horizontal flourish extending to the right.

Thomas Bailey  
Architect, AIA  
Director  
Room11



### **Room11**

Studio 358B Macquarie St, South Hobart 7004, Tasmania

Post PO Box 116, South Hobart 7004, Tasmania

Telephone 03-6224-8642

Email [info@room11.com.au](mailto:info@room11.com.au) Website [www.room11.com.au](http://www.room11.com.au)

### **253 Leam Road, Hillwood**

Date: 19.04.2024

Client: Peter and Ruth Thomson

Project: 253 Leam Road House

Address: 253 Leam Road, Hillwood, TAS

Dear Alexander Bowles,

### **Re: DA2023/125 – Section 54 Request for Additional Information – 253 Leam Road, Hillwood – Residential Single Dwelling & Outbuilding**

In response to your letter dated 21.03.2024 requesting further information for the above project at 253 Leam Road, please find relevant documentation attached and our responses to council's requests below.

1. *The stormwater assessment provided by Flussig Engineers, appears to only consider 'roofed areas' within the calculations (see appendix B). Did these calculations consider the driveway and courtyard areas included in the development proposal?*
  - **Please see attached revised stormwater obtained from GES/Flussig Engineers. (FE\_24001-08\_253 Leam Road Hillwood PSR\_REV01)**  
**Roofed areas, driveway and courtyard areas are now included in the revised stormwater assessment.**
2. *The stormwater management plan shows no management of overland flows (e.g. cutoff drains and swales) that will prevent concentrated stormwater from impacting properties downslope. The plan must include any methods of managing overland flows, with particular regard to management of the concentrated stormwater stemming from the retaining wall;*
  - **Please see attached revised stormwater obtained from GES/Flussig Engineers. (FE\_24001-08\_253 Leam Road Hillwood PSR\_REV01)**
3. *Confirmation of the fall direction of the driveway and hardstand areas, noting any drainage management methods considered for these areas;*
  - **Please refer to drawing A0.02, RFI.02 & attached revised stormwater obtained from GES/Flussig Engineers. (FE\_24001-08\_253 Leam Road Hillwood PSR\_REV01)**
4. *A statement considering and responding to the note within point 2 of the Request for Information issued within 21 December 2023. This note outlines that directly discharging to Council's stormwater system is generally required on this site. Therefore, a statement is required in*

*response to this note which addresses why onsite stormwater management has been incorporated into the proposal.*

- **Please see attached statement.**

If any further information is required regarding these responses, please feel free to contact us at the earliest convenience and we can provide as needed.

Yours sincerely,  
Room 11 Architects

A handwritten signature in black ink, appearing to read 'Thomas Bailey', with a stylized, flowing script.

Thomas Bailey

Architects AIA  
Director  
Room11

SEARCH OF TORRENS TITLE

VOLUME 174593	FOLIO 7
EDITION 3	DATE OF ISSUE 20-May-2022

SEARCH DATE : 15-Dec-2023

SEARCH TIME : 08.53 AM

DESCRIPTION OF LAND

Parish of FORDINGTON Land District of DORSET  
 Lot 7 on Sealed Plan 174593  
 Derivation : Part of Lot 318, 500 Acres Gtd. to Matthew  
 Curling Friend  
 Prior CT 114312/1

SCHEDULE 1

M956721 TRANSFER to PETER THOMPSON and RUTH JANET THOMPSON  
 Registered 20-May-2022 at noon

SCHEDULE 2

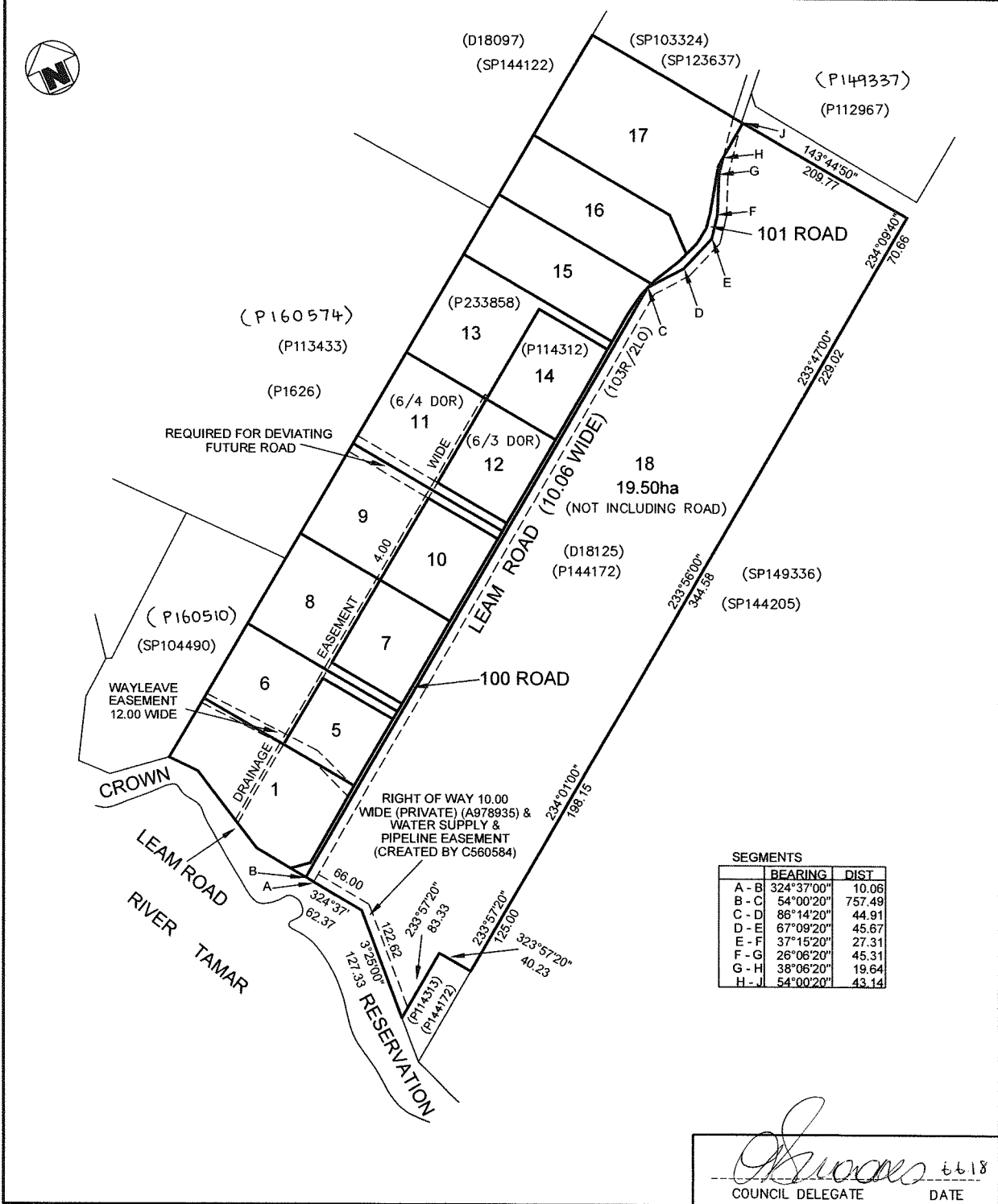
Reservations and conditions in the Crown Grant if any  
 SP174593 EASEMENTS in Schedule of Easements  
 SP174593 FENCING PROVISION in Schedule of Easements  
 SP174593 WATER SUPPLY RESTRICTION

UNREGISTERED DEALINGS AND NOTATIONS

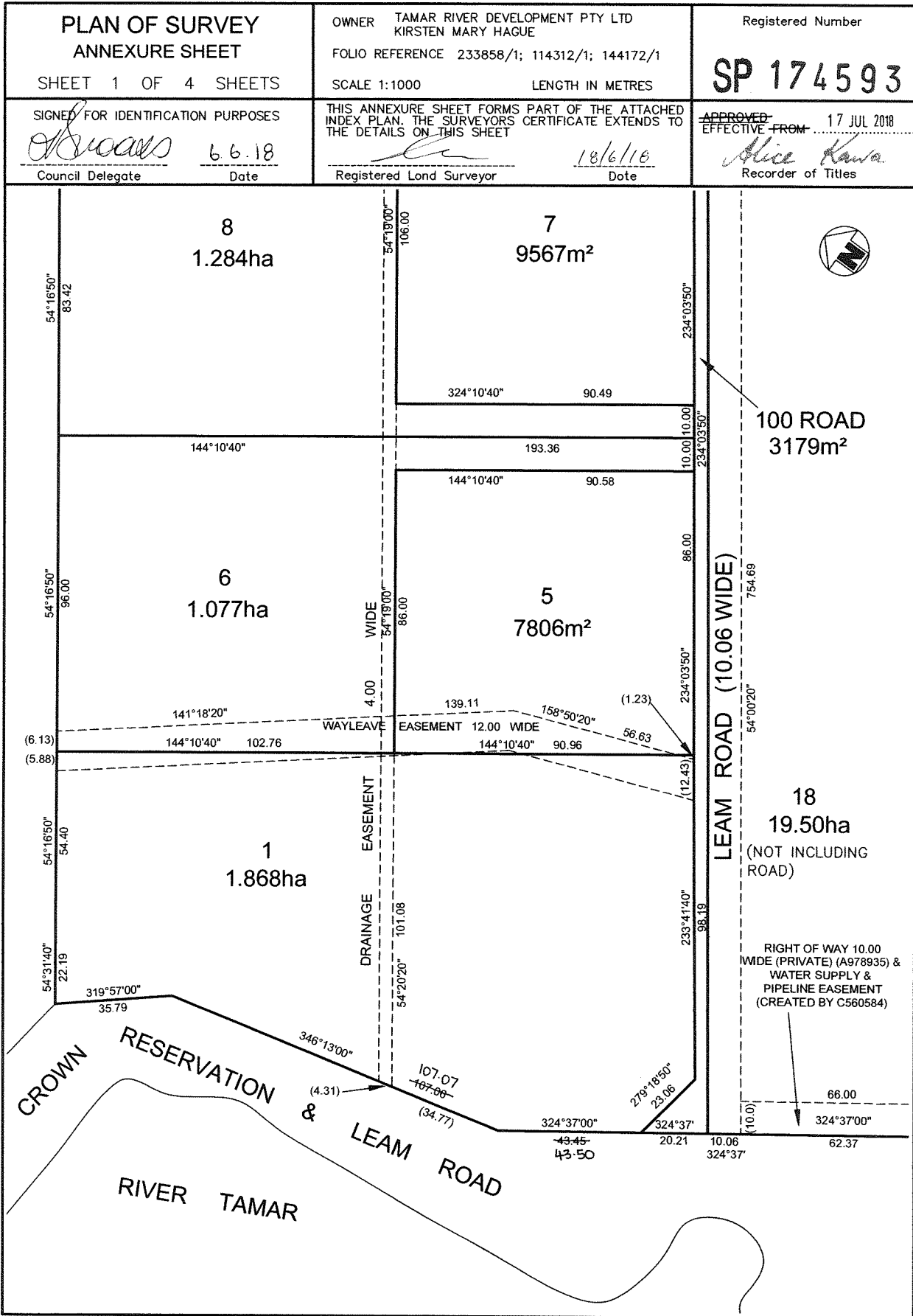
No unregistered dealings or other notations

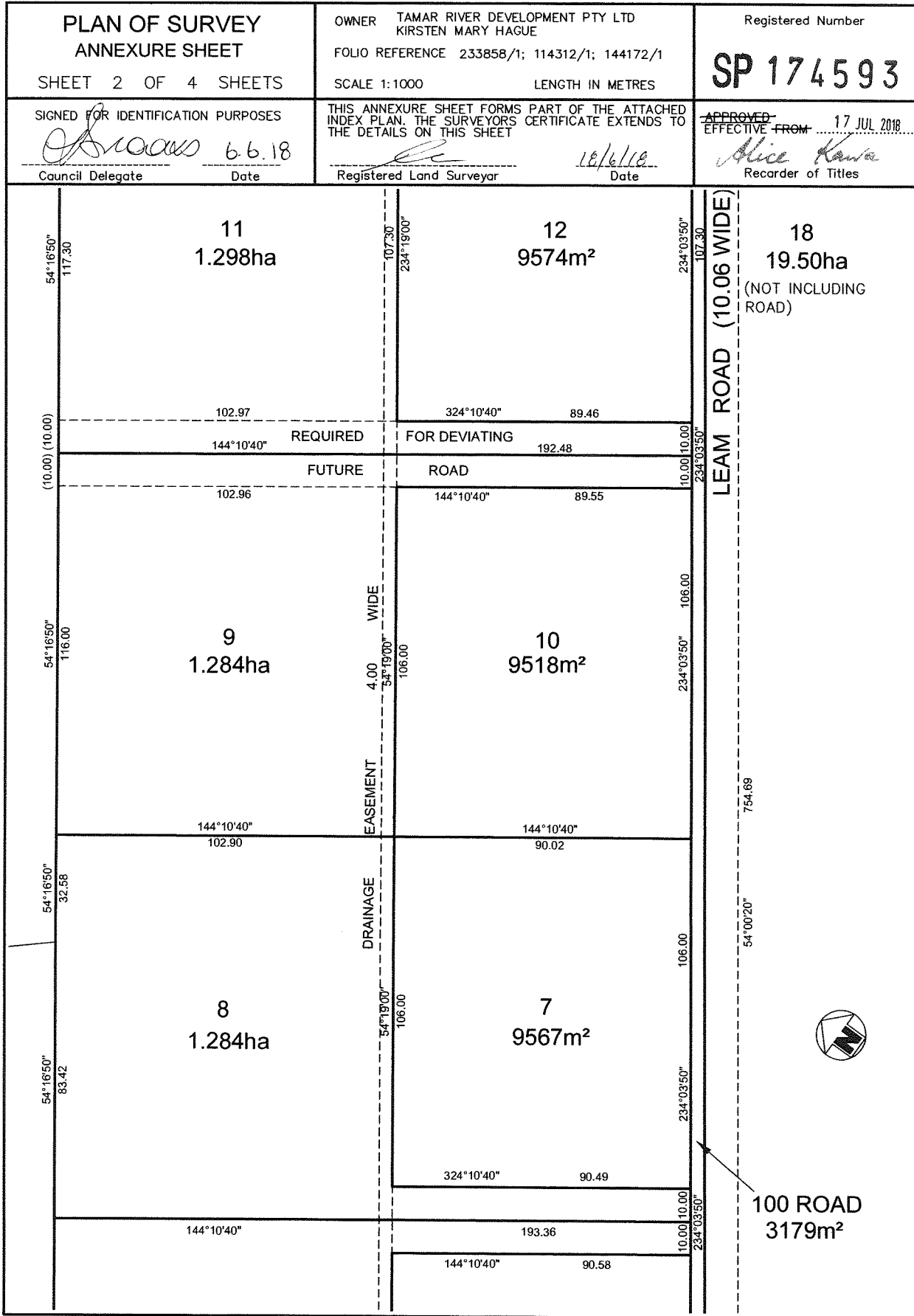


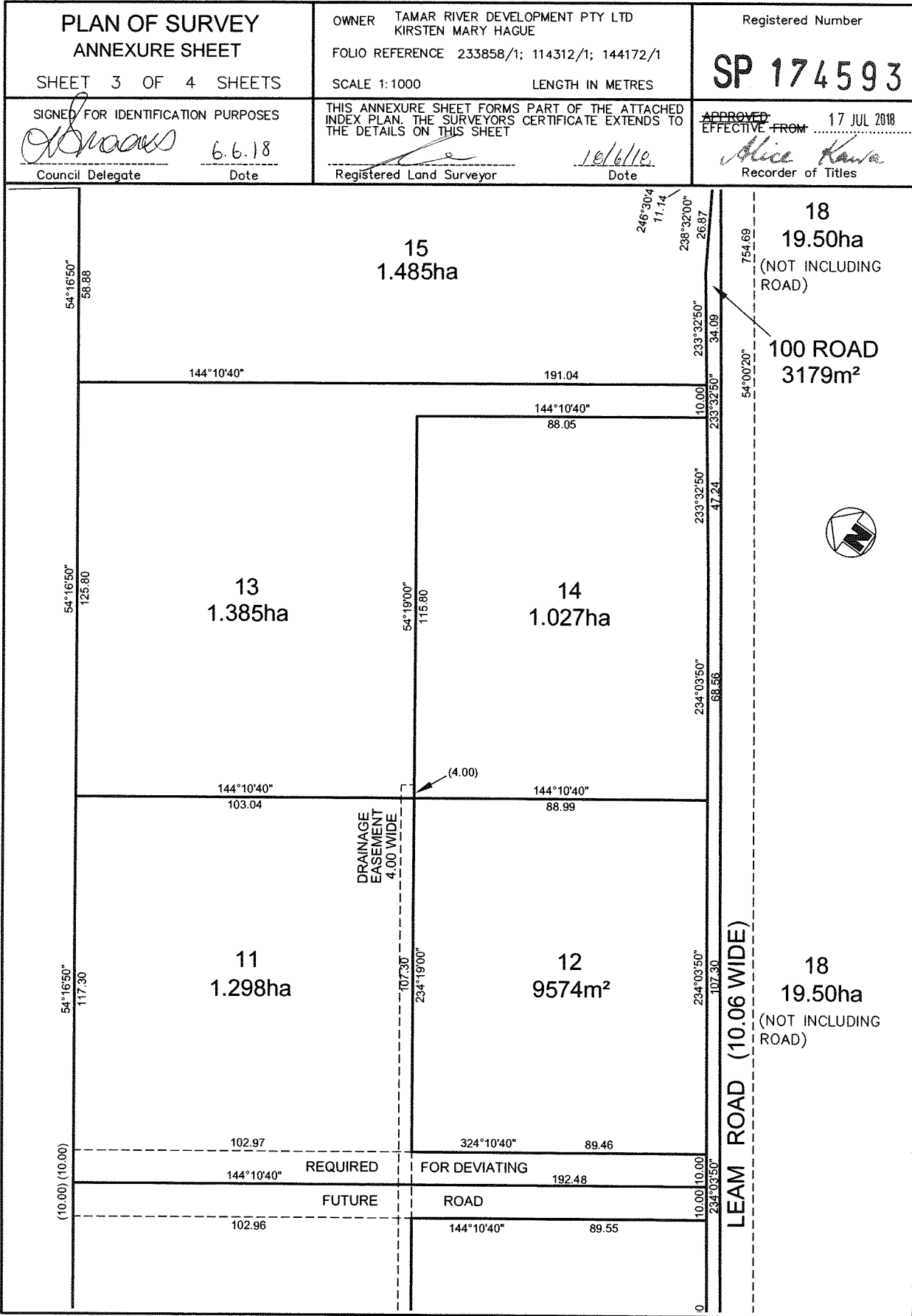
OWNERS: TAMAR RIVER DEVELOPMENT PTY LTD KIRSTEN MARY HAGUE		<b>PLAN OF SURVEY</b>		REGISTERED NUMBER <b>SP174593</b>
FOLIO REFERENCE 233858/1; 114312/1; 144172/1		BY SURVEYOR D.P. TOMPKINS	<b>SURVEY &amp; ALIGNMENT SERVICES</b>	APPROVED EFFECTIVE FROM 17 JUL 2018 <i>Alice Kawa</i> Recorder of Titles
GRANTEE Part of Lot 318, 500 Acres Gtd. to Matthew Curling Friend		LOCATION <b>LAND DISTRICT OF DORSET PARISH OF FORDINGTON</b>		
MAPSHEET MUNICIPAL CODE No 111 (4843-45)	LAST UPI No	LAST PLAN No. (P233858); (P114312); (P144172)	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	

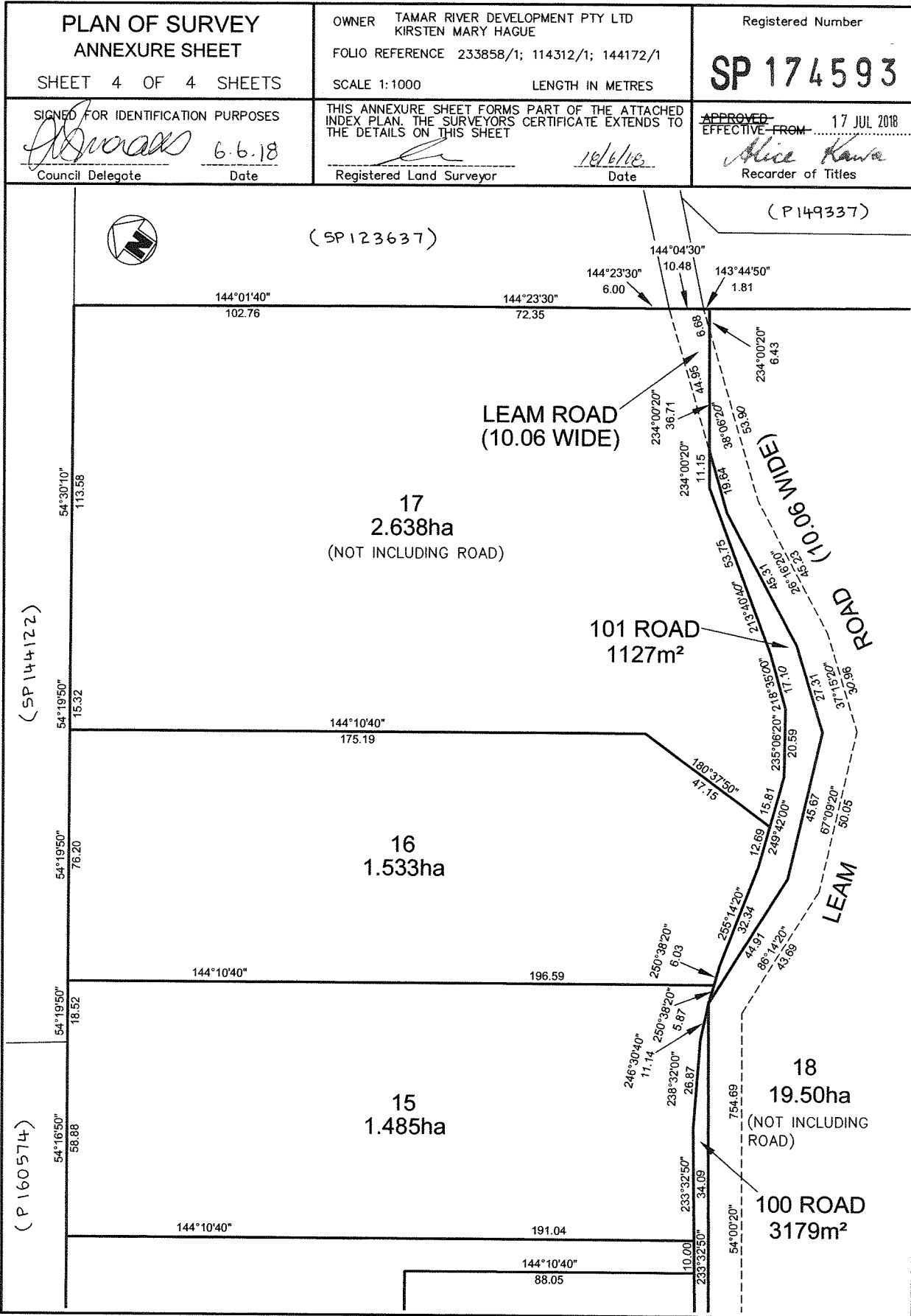


*Alice Kawa* 16/18  
COUNCIL DELEGATE DATE









<b>SCHEDULE OF EASEMENTS</b>	Registered Number
<b>NOTE:</b> THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.	<b>SP 174593</b>

PAGE 1 OF 3 PAGES

EASEMENTS AND PROFITS

Each lot on the plan is together with:-

- (1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
- (2) any easements or profits a prendre described hereunder.

Each lot on the plan is subject to:-

- (1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
- (2) any easements or profits a prendre described hereunder.

The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

Lots 1, 5 & 6 on the Plan

~~Lots 1-6~~ are each subject to a wayleave easement and restrictions as to user of land in gross as defined herein (in favour of Tasmanian Networks Pty Ltd) over the land marked "WAYLEAVE EASEMENT 12.00 WIDE" passing through such lot on the plan created by Memorandum of Transfer 978935

Lot 18 is subject to a Right of Carriageway (appurtenant to the land comprised in Conveyance No 17/7685) created by Memorandum of Transfer 978935 over the land marked on the plan "RIGHT OF WAY 10.00 WIDE (PRIVATE)" passing through that lot on the plan

Lot 18 is subject to a water supply and pipeline right created by and more fully set forth in Transfer No C560584 (appurtenant to lot 2 on Plan 144172) over the land marked "WATER SUPPLY & PIPELINE EASEMENT" passing through that lot on the plan

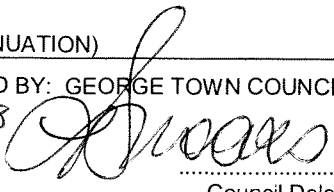
~~Lots 1, 5-17 (formerly contained in Certificate of Title Volume 11432 Folio 1) are together with the benefit of the water supply and pipeline right created by and more fully set forth in Transfer No C560584 (appurtenant to lot 2 on Plan 144172) over the land marked "WATER SUPPLY & PIPELINE EASEMENT" passing through that lot on the plan~~

Lots 5, 7, 10, 12 & 14 & those parts of Lots 1, 6, 8, 9, 11, 13, 15, 16 & 17 on the Plan

~~Lots 1, 5-17~~ (formerly contained in Certificate of Title Volume 11432 Folio 1) are together with the benefit of the right to pass and repass over the roadway shown as Leam Road on Plan No. 114312




(USE ANNEXURE PAGES FOR CONTINUATION)

SUBDIVIDER: K M HAGUE & TAMAR RIVER DEVELOPMENT P/L FOLIO REF: 114312/1, 144172/1 & 233858/1 SOLICITOR & REFERENCE: RAE & PARTNERS	PLAN SEALED BY: GEORGE TOWN COUNCIL DATE: 6.6.18 DA 2015/61 REF NO.  Council Delegate
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**NOTE:** The Council Delegate must sign the Certificate for the purposes of identification.

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<p><b>ANNEXURE TO SCHEDULE OF EASEMENTS</b></p> <p>PAGE 2 OF 3 PAGES</p>	<p>Registered Number</p> <p><b>SP 174593</b></p>
<p>SUBDIVIDER: K M HAGUE &amp; TAMAR RIVER DEVELOPMENT P/L FOLIO REFERENCE: 114312/1, 144172/1 &amp; 233858/1</p>	

FENCING PROVISION

In respect to the lots on the plan the vendor (Kirsten Mary Hague and Tamar River Development Pty Ltd) shall not be required to fence

INTERPRETATION

"Wayleave easement and restrictions as to user of land" means-

Firstly all the full and free right and liberty for Tasmanian Networks Pty Ltd its successors and its servants, agents, invitees and contractors ("TasNetworks") at all times:

(a) to clear the lands marked "Wayleave Easement 12.00 Wide": on the plan ("the servient land") and to lay, erect, construct, inspect, install, maintain, repair, modify, add to, replace, remove and operate in, upon, through, along and under the servient land the following-

(i) towers, poles, wires, cables, apparatus, appliances and other ancillary and associated equipment which includes telecommunications equipment (described collectively as "electricity infrastructure") for, or principally for, the transmission and distribution of electrical energy and for any incidental purposes

(b) to operate and maintain electricity infrastructure on the servient land

(c) to cut away, remove and keep clear of the electricity infrastructure all trees and all other obstructions, or erections of any nature whatsoever which may at any time-

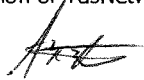
(i) overhang, encroach or be in or on the servient land; or  
(ii) which may in the opinion of TasNetworks endanger or interfere with the proper operation of the electricity infrastructure

(d) to enter the servient land for all or any of the above purposes and to cross the remainder of the land with any or all necessary plant, equipment, machinery and vehicles of access and egress to and from the servient land and where reasonably practicable in consultation with the registered proprietor (except when urgent or emergency repair work is needed)

Secondly the benefit of a covenant for TasNetworks with the registered proprietor of the servient land not to-

(i) erect any buildings; or  
(ii) place any structures, objects or vegetation;

within the servient land without the prior written consent of TasNetworks. TasNetworks may rescind its consent if in the opinion of TasNetworks there are safety, access or operational concerns




**NOTE:** Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

<b>ANNEXURE TO SCHEDULE OF EASEMENTS</b> PAGE 3 OF 3 PAGES	Registered Number <b>SP 174593</b>
SUBDIVIDER: K M HAGUE & TAMAR RIVER DEVELOPMENT P/L FOLIO REFERENCE: 114312/1, 144172/1 & 233858/1	

*Klhague*

Signed by the said KIRSTEN MARY HAGUE )  
 in the presence of- )  
 Witness: *Ryan* )  
 Print full name: *Kylie Ryan*  
 Postal address: *27 Swanton Dr*  
                   *Mudgeeraba 4213*  
                   *QLD*

Executed by TAMAR RIVER DEVELOPMENT PTY LTD under  
 section 127 of the Corporations Act 2001-  
 SOLE Director: *[Signature]*  
 \* SOLE SECRETARY, Print full name: *Aziz Uhair*  
 Director/Secretary: *[Signature]*  
 Print full name: *Aziz Uhair*

WESTPAC BANKING CORPORATION as mortgagee in  
 Mortgage No E47946 consents to the subdivision-

I certify that the Attorney for the MORTGAGEE, with  
 whom I am personally acquainted or as to whose  
 identity I am otherwise satisfied, signed this  
 instrument in my presence.

Signature of Witness: *[Signature]*  
 Name of Witness: *Jaishinta Nair*  
 Address of Witness: *150 Collins Street, Melbourne*

SIGNED by John Hanslow as attorney for  
 Westpac Banking Corporation under power  
 of attorney Registered No. 72/5446.

*[Signature]*  
 (Signature) Tier Three Attorney  
 By executing this instrument the attorney states that the  
 attorney has received no notice of the revocation of the  
 power of attorney.

**NOTE:** Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.