

PLANNING EXHIBITED DOCUMENTS

Ref. No: DA 0592/2018
 Date advertised: 06/02/2019

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Proposed Shed 27 Shamrock Street & New Office fitout 27 Glen Dhu Street SOUTH LAUNCESTON

DRAWING SCHEDULE:

Sheet No:	Drawing:	Rev:	Revision Date:
A000	Cover	A	19/06/18
A101	Site	A B	19/06/18 22/1/19
A201	Floor plan	A	19/06/18
A301	Elevation 01	A	19/06/18
A302	Elevation 02	A	19/06/18
A303	Shadow Diagrams	A	19/06/18
A401	Office Fitout Floor plan / Elevations	A	19/06/18

GENERAL INFORMATION:

Accredited Architect:	Sam Haberle
Accreditation Number:	CC5618 U
Land Title Reference Number:	C.T. 247920-1 (Certificate volume and folio)
Site Area Shamrock St:	895m²
Total Floor Area shed:	720m²
Site Area Glen Dhu St:	345m²
Total Floor Area office fitout:	102m²
Total Deck Area:	N/A
Land Title Reference Number:	C.T. 127034-1 (Certificate volume and folio)

LOCALITY PLAN

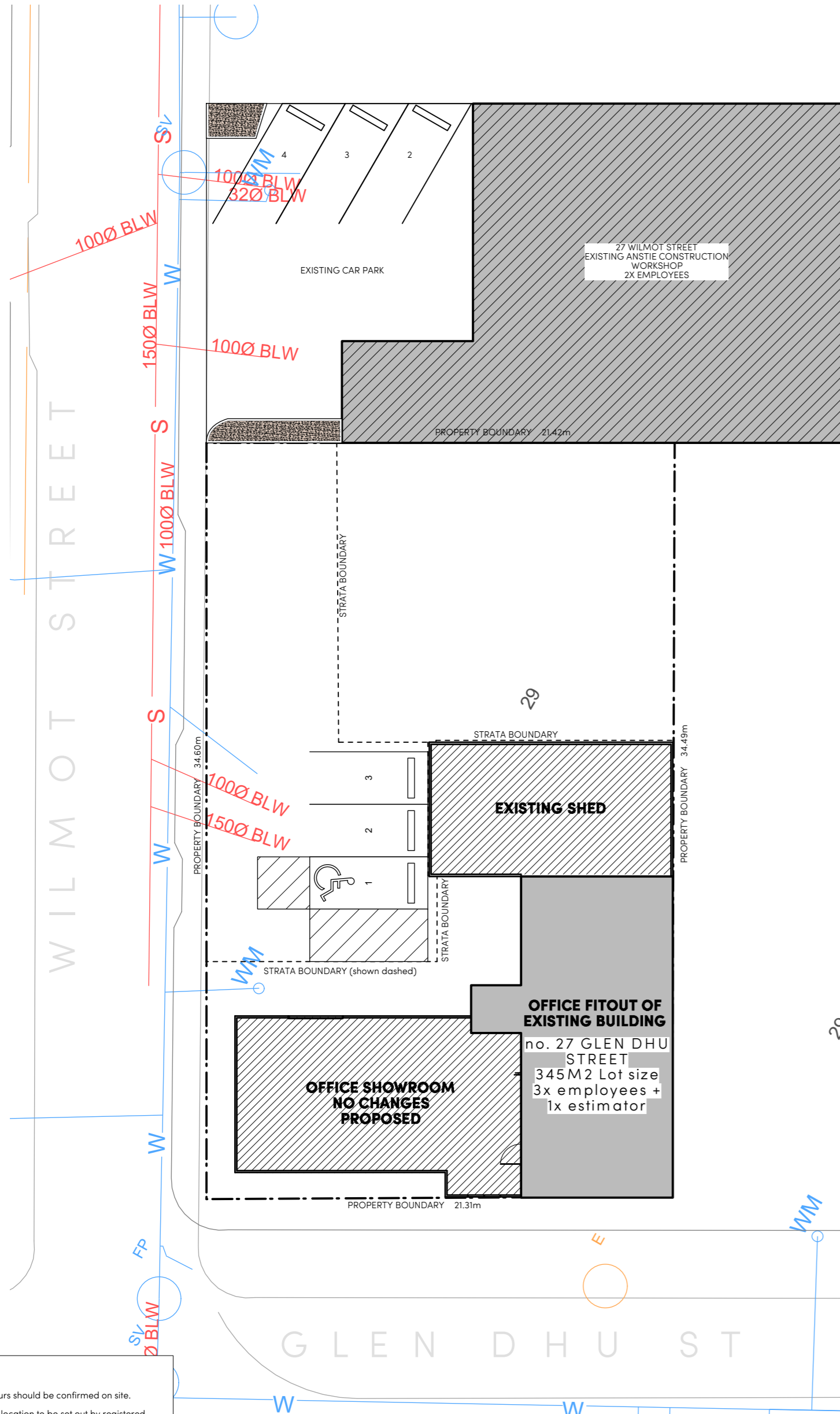


FOR DEVELOPMENT APPLICATION ONLY

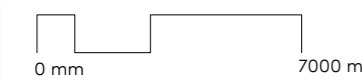


REVISION A	DATE	DESCRIPTION	FOR DEVELOPMENT APPROVAL
	19/06/18		

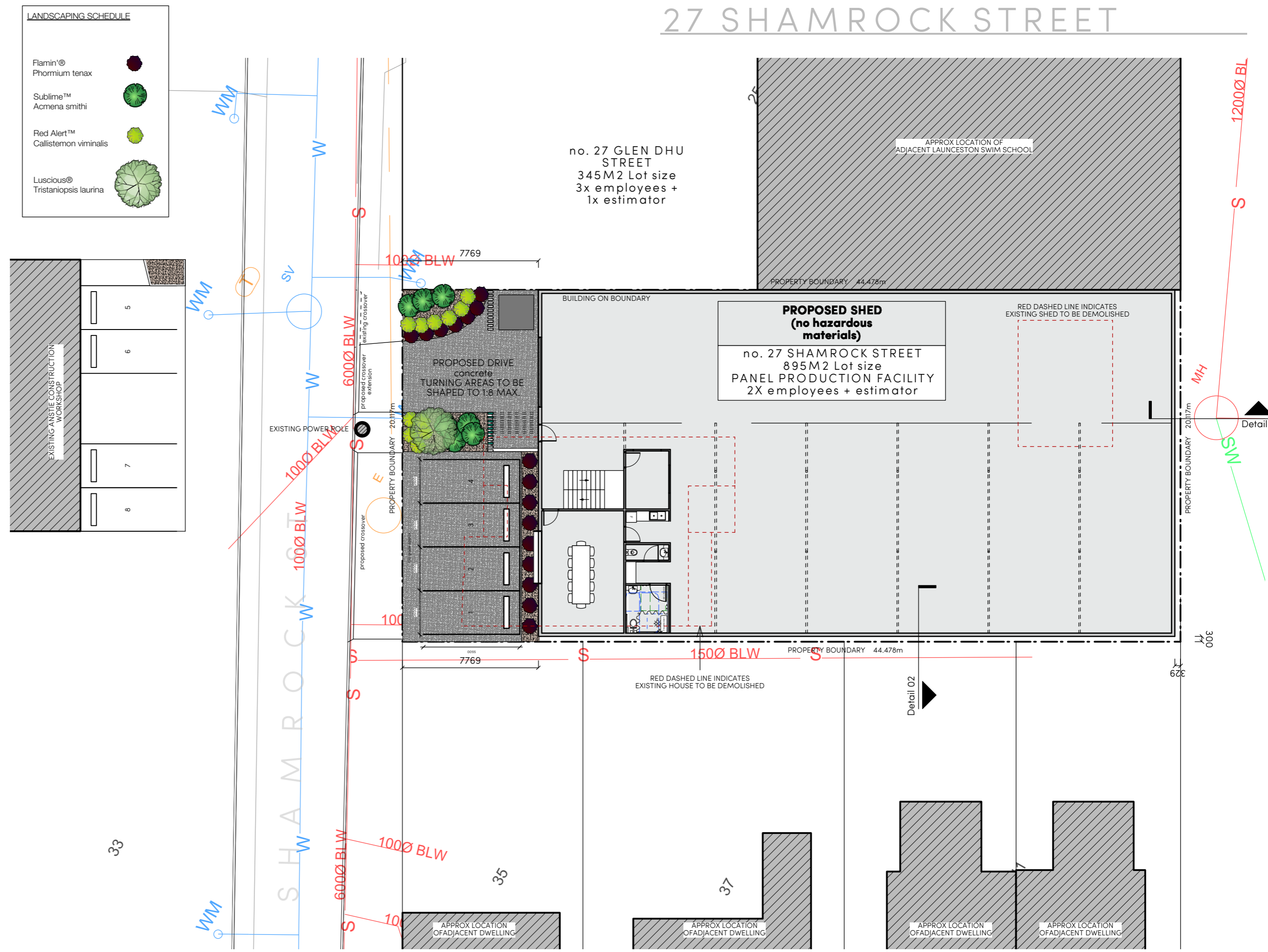
ADDRESS	27 Shamrock St / 27 Glen Dhu St	ISSUE	DA
CLIENT	A2 Construction	DWG #	A000
DWG	Cover	SCALE @ A3	1:100
		DRAWN	SH
		CHKD	SH
		PROJECT #	J005369



NOTE:
 All contours should be confirmed on site.
 Dwelling location to be set out by registered surveyor discrepancies reported prior to commencement.
 Drive to be suitably drained away from dwelling to SW pits + connected to mains.
 Conveniently located taps to be installed for watering purposes.
 Typically dress around house with top soil where not otherwise specified sow with grass seed set down 150mm from FFL max. Batter grade 1:20.
 Garden edging typically treated pine when not against concrete.
 Downpipes to be connected into council stormwater as soon as roof is installed.
 Any change's to the construction and materials indicated in these drawings is to be approved by S. Group, the Engineer, the Building Surveyor, and the owner before proceeding with the work.
 Use written dimensions only.
 Do not scale drawings.



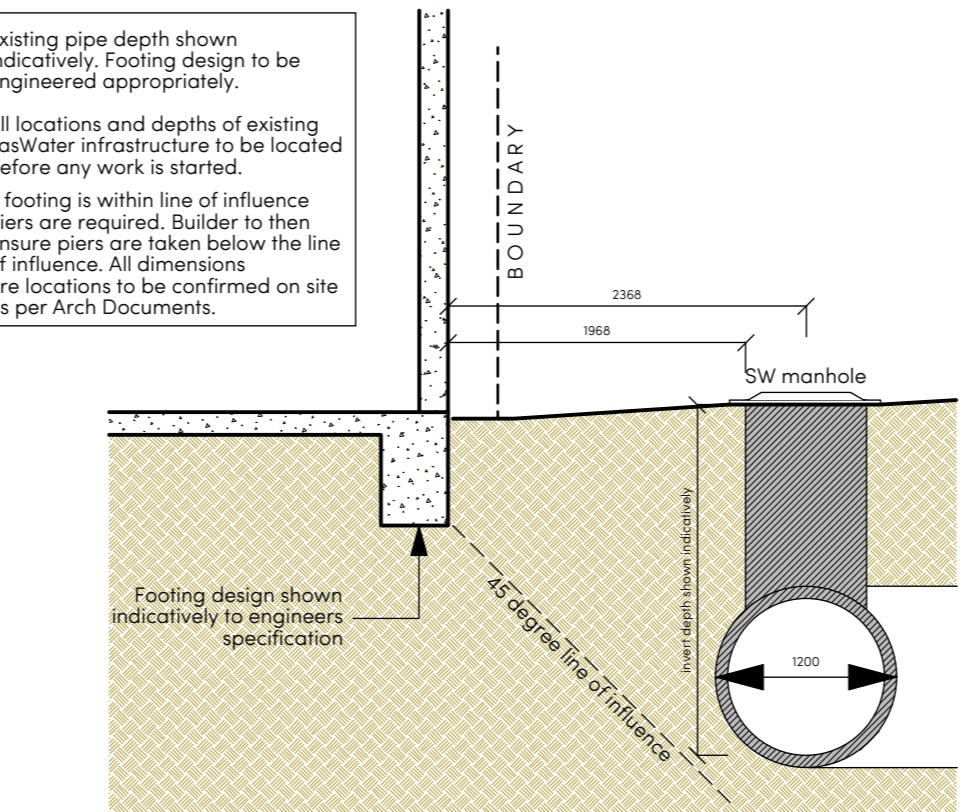
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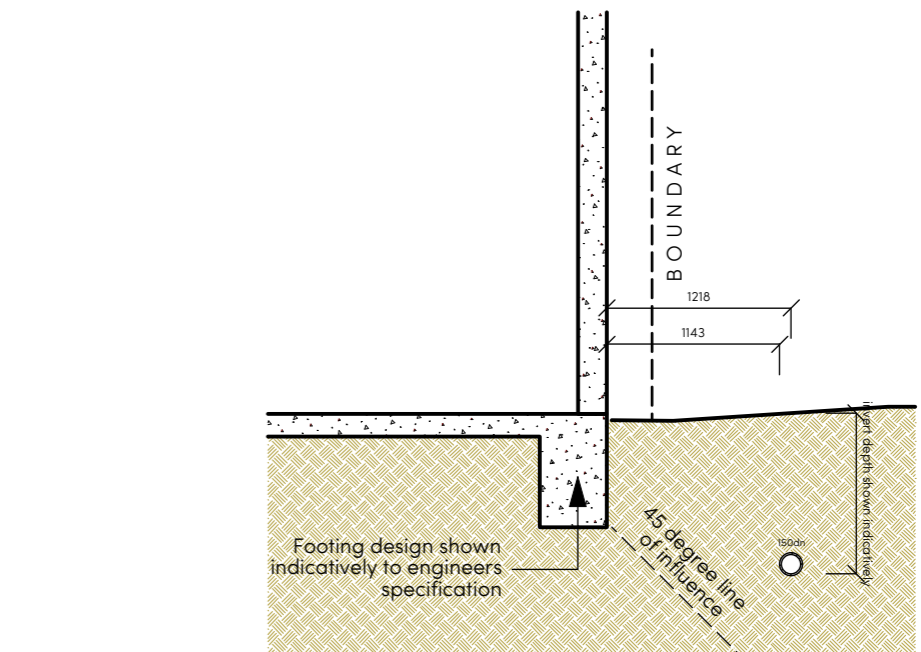
LANDSCAPING SCHEDULE

- Flamin[®] Phormium tenax
- Sublime[™] Acmena smithii
- Red Alert[™] Callistemon viminalis
- Luscious[®] Tristanopsis laurina

Existing pipe depth shown indicatively. Footing design to be engineered appropriately.
 All locations and depths of existing TasWater infrastructure to be located before any work is started.
 if footing is within line of influence piers are required. Builder to then ensure piers are taken below the line of influence. All dimensions are locations to be confirmed on site as per Arch Documents.



1 Footing detail adjacent TW infrastructure Scale: 1:100



2 Footing detail adjacent TW infrastructure Scale: 1:100 APPLICATION ONLY

S. architecture development strategic design

REVISION D	DATE	DESCRIPTION	Further adjusted Parking
	31/1/19		

ADDRESS: 27 Shamrock St / 27 Glen Dhu St
 CLIENT: A2 Construction
 DWG: Site

do not scale off plans all dimensions in millimetres confirm all dimensions on site all work to relevant NCC and AS

ISSUE: DA
 DWG #: A101
 SCALE @ A3: 1:100
 DRAWN: SH
 CHKD: SH PROJECT#: J005369

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 1/10-14 Paterson Street Launceston, Tasmania
 T: 03 63 111 403 E: info@sgroup.com.au W: www.sgroup.com.au

27 SHAMROCK STREET

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NOTE: LIST OF MACHINERY

- CNC Flat bed router
- Edgebander
- Panel Saw
- Dust Extraction Unit
- Forklift
- Drill Press
- Hinging Borer
- DropSaw
- Doweling Machine

NOTE:

All existing conditions shown indicatively only, all dimensions should be confirmed on site and any discrepancies communicated to architect for review

Generally cap existing services to make way for new works, including but not limited to plumbing and electrical. Contractors to confirm all conditions on site

DEMOLITION NOTES:

Confirm all dimensions and detail on site prior to commencement

All affected plumbing/bathroom fittings to be capped before demolition - patch & make good all effected

Ensure walls are non load bearing prior to demolition and seek engineer's direction as required

Allow for 2 site inspections by a suitably qualified structural engineer at time of demolition for inspection

Make good all works affected by demolition

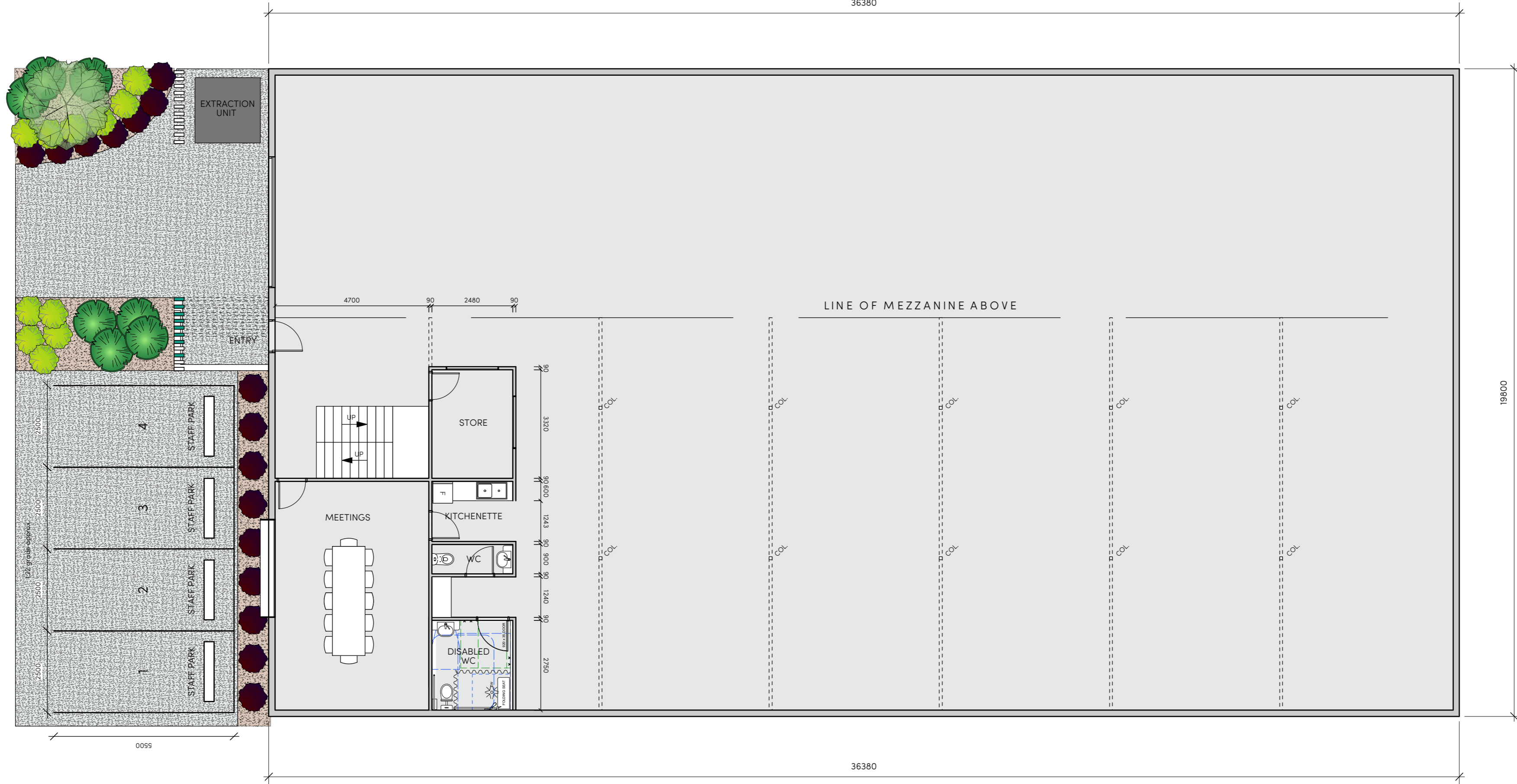
Suitably (where possible) relocate or otherwise decommission existing plumbing and electrical services associated with renovation

General demolition: to as 2601

TEMPORARY SUPPORT
 General: if temporary support is required, certification for its design and installation is required from a professional engineer engaged by the contractor.

EXISTING BUILDINGS
 Until permanent support is provided, provide temporary support for sections of existing buildings which are to be altered and which normally rely for support on work to be demolished.

ASBESTOS REMOVAL
 Method: use wet removal methods recommended in the code of practice for the removal of asbestos (notec:2002) strictly by licensed contractor

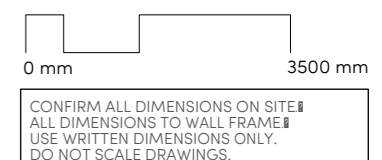


WALL LEGEND:

- Proposed tilt up concrete panels
- 90mm timber studwork

FLOOR AREA:

Proposed shed area total: 720m²
 Mezzanine area total: 408m²



CONFIRM ALL DIMENSIONS ON SITE
 ALL DIMENSIONS TO WALL FRAME
 USE WRITTEN DIMENSIONS ONLY.
 DO NOT SCALE DRAWINGS.

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REVISION A	DATE	DESCRIPTION	FOR DEVELOPMENT APPROVAL
	19/06/18		
ADDRESS: 27 Shamrock St / 27 Glen Dhu St			
CLIENT: A2 Construction			
DWG: Floor plan			
SCALE @ A3: 1:100			ISSUE: DA
DRAWN: SH			DWG #: A201
CHKD: SH			PROJECT #: J005369

EXTERNAL FINISHES & COLOURS SCHEDULE:

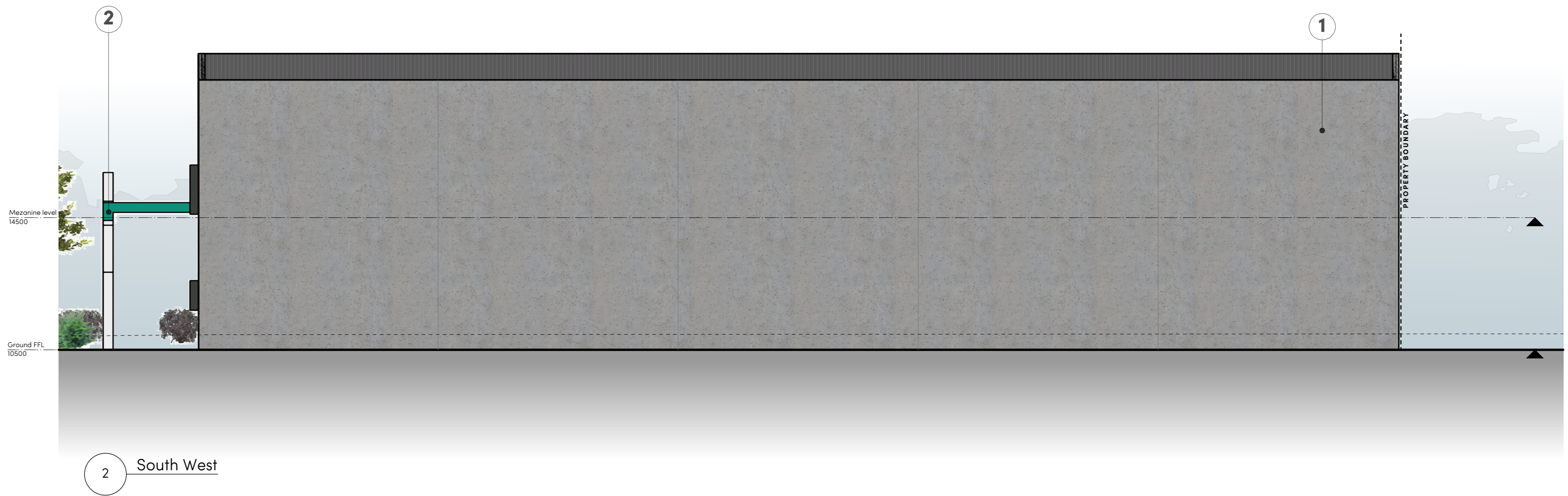
- 1 Precast Concrete Tilt Up Panels
Sealed Finish
- 2 selected aluminium (or similar) channels
powdercoated finish
- 3 selected overhead roller door
colorbond finish and color to future selection

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0 mm 3500 mm

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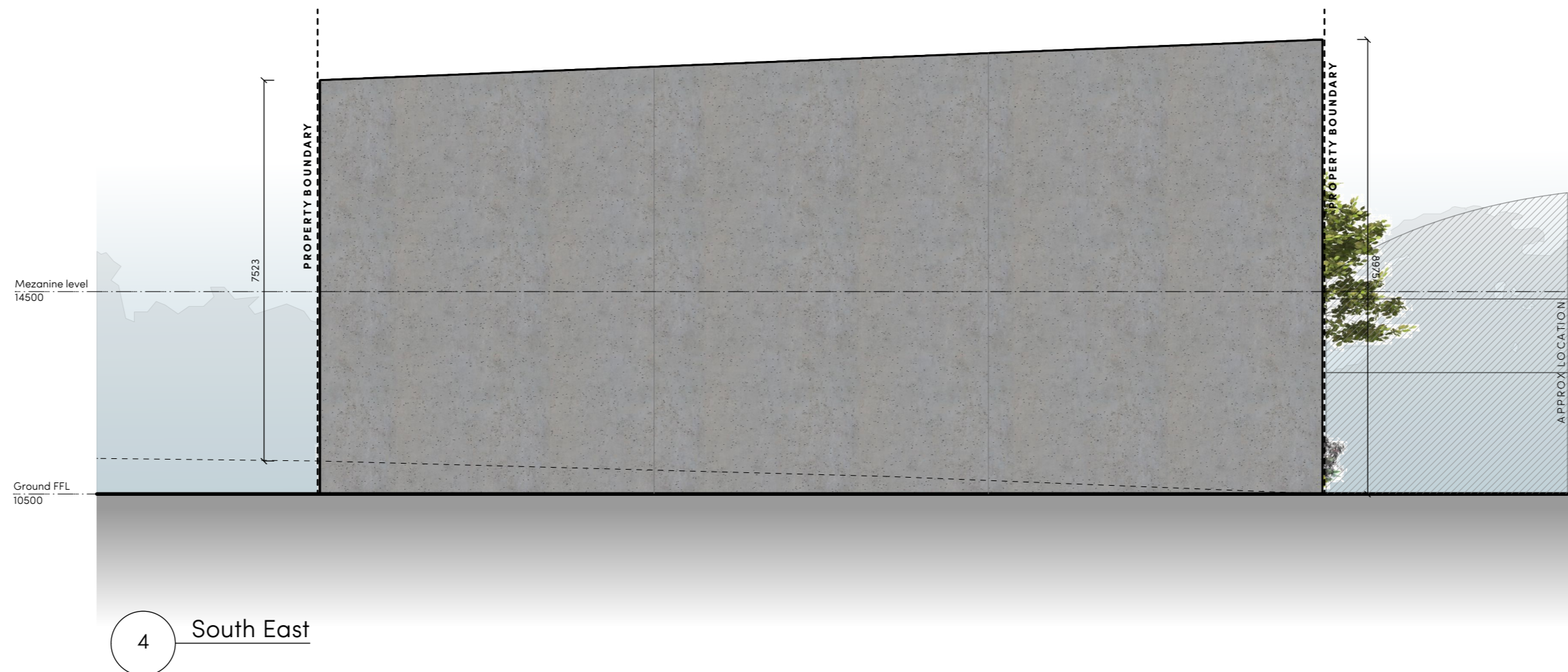
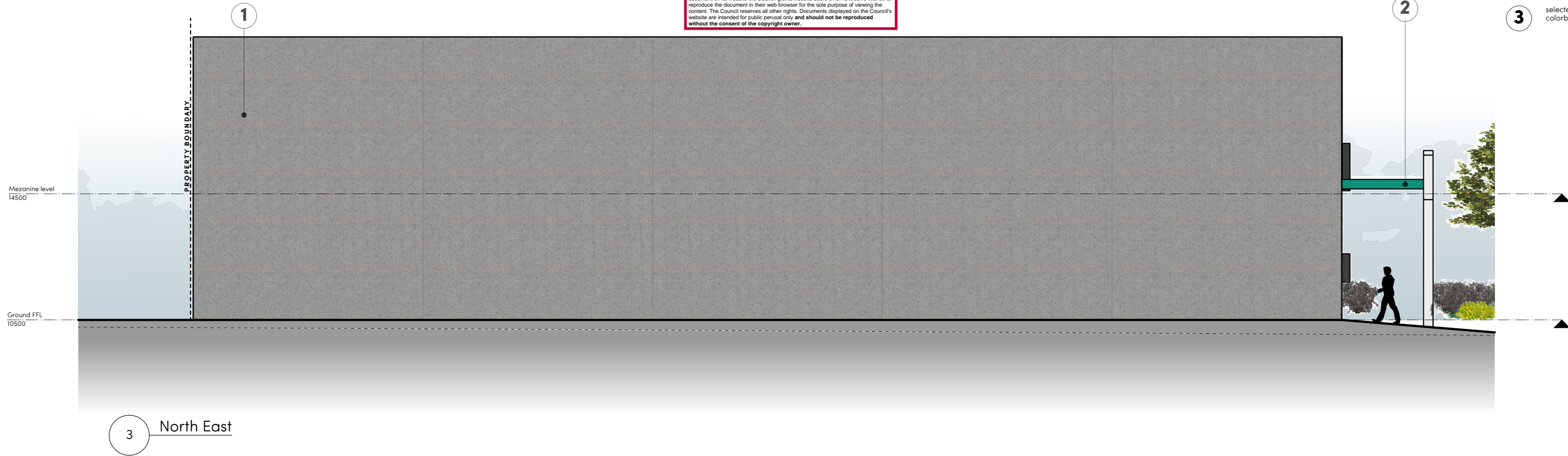
REVISION A	DATE	DESCRIPTION	FOR DEVELOPMENT APPROVAL
	19/06/18		
ADDRESS			27 Shamrock St / 27 Glen Dhu St
CLIENT			A2 Construction
DWG			Elevation 01
SCALE @ A3			1:100
DRAWN			SH
CHKD			SH
ISSUE			DA
DWG #			A301
PROJECT #			J005369

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EXTERNAL FINISHES & COLOURS SCHEDULE:

- 1 Precast Concrete Tilt Up Panels Sealed Finish
- 2 selected aluminium (or similar) channels powdercoated finish
- 3 selected overhead roller door colorbond finish and color to future selection



0 mm 3500 mm
 CONFIRM ALL DIMENSIONS ON SITE
 ALL DIMENSIONS TO WALL FRAME
 USE WRITTEN DIMENSIONS ONLY.
 DO NOT SCALE DRAWINGS.

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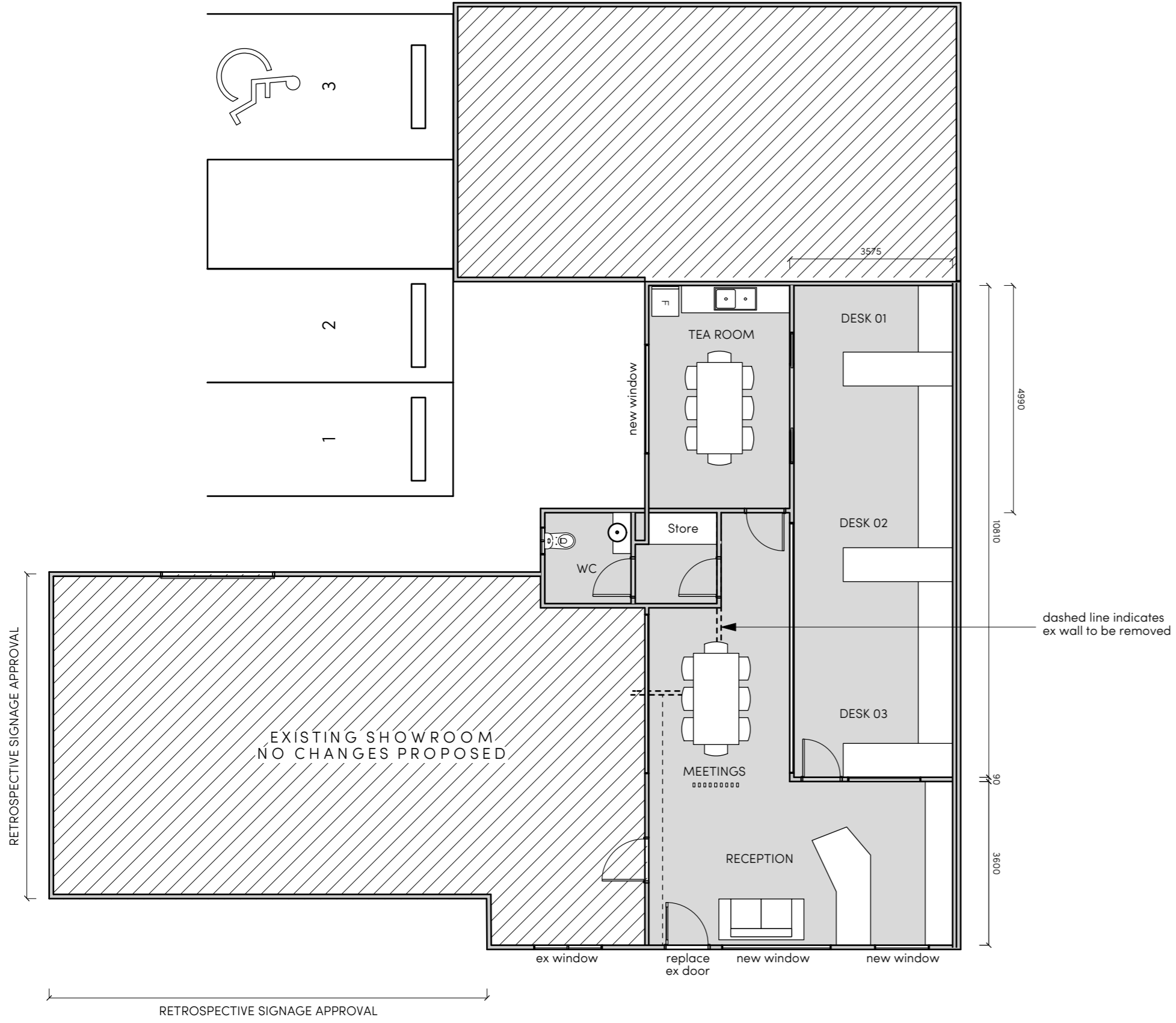
REVISION A	DATE	DESCRIPTION	FOR DEVELOPMENT APPROVAL
	19/06/18		
ADDRESS			27 Shamrock St / 27 Glen Dhu St
CLIENT			A2 Construction
DWG			Elevation 02
SCALE @ A3			1:100
DRAWN			SH
CHKD			SH
ISSUE			DA
DWG #			A302
PROJECT #			J005369

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Ref. No: DA 0592/2018
 Date advertised: 06/02/2019

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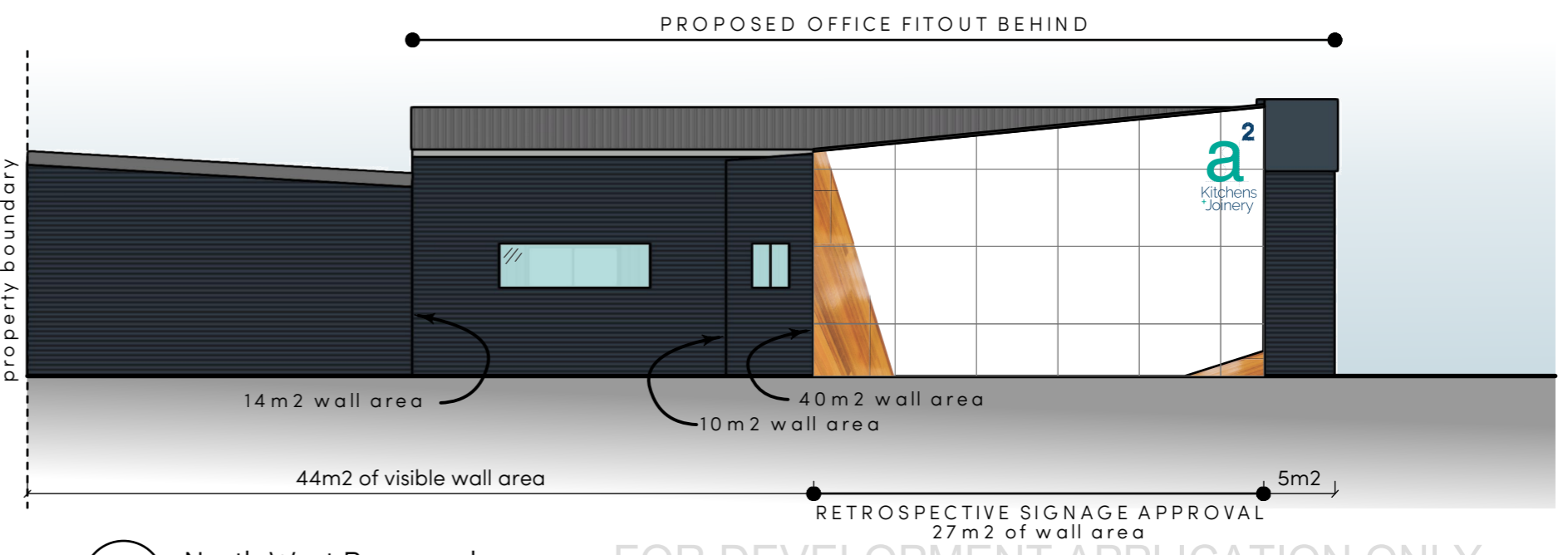
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4 South West EXISTING CONDITIONS

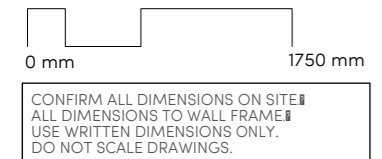


1 South West Proposed



2 North West Proposed

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REVISION A	DATE	19/06/18	DESCRIPTION	FOR DEVELOPMENT APPROVAL
ADDRESS 27 Shamrock St / 27 Glen Dhu St				
CLIENT A2 Construction				
DWG Office Fitout Floor plan / Elevations				
SCALE @ A3 1:100				
DRAWN SH				
CHKD SH				
ISSUE DA				
DWG # A401				
PROJECT # J005369				

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S. Group
a² Kitchens and Joinery
new workshop
environmental noise assessment



Report No. 5203_AC_R

TARKARRI ENGINEERING PTY LTD
PO Box 506
Kings Meadows TAS 7249

December 2018

**Tarkarri
Engineering**

Air Quality • Acoustics • Environment • Vibration





DOCUMENT CONTROL

S. GROUP A2 KITCHENS AND JOINERY, NEW WORKSHOP ENVIRONMENTAL NOISE ASSESSMENT	
Report No. 5203_AC_R Prepared for S. Group PO Box 1271 Launceston Tasmania 7250	Library Code AC Prepared by Tarkarri Engineering Pty Ltd PO Box 506 Kings Meadows Tasmania 7249
Contact Mr Damon Marshall ☎ +61 3 6311 1403 Mobile +61(0)439 639 521 Email damon@sgroup.com.au	Contact Dr Alex McLeod ☎ +61 3 6343 2077 Mobile +61(0)439 357 297 Email alex.mcleod@tarkarri.com

Author	Alex McLeod Director / Principal Consultant	Date: 14 December 2018
Revision History		
Revision No.	Date Issued	Reason/Comments
Distribution		
Copy No. _____	Revision No.	Location
1	0	Project/Client File
2	0	Client
3	0	Tarkarri Engineering Library
Keywords	environmental noise, dBA, L _{Aeq} , building radiated.	





Table of Contents

Executive Summary	4
1 Introduction.....	5
2 Site description	6
3 Ambient noise monitoring	8
3.1 Monitoring results and discussion	9
4 Assessment criteria	10
5 Environmental noise modelling	11
5.1 Model input data	11
5.2 Modelling results.....	15
6 Conclusions	15

List of figures

Figure 2-1: Aerial view of the proposed site and surrounds.	7
Figure 3-1: SLM location.	9
Figure 3-2: Noise monitoring results.....	10
Figure 5-1: Model plan view of the a ² Kitchen and Joinery development.	13
Figure 5-2: Wire frame model view of the a ² Kitchen and Joinery development, view from the south.....	14

List of tables

Table 5-1: Sound power levels.	11
Table 5-2: 1/1-octave band sound power level spectra.....	12
Table 5-3: Predicted sound pressure levels.....	15

References

- [1] SoundPLAN Acoustic modelling software - Braunstein & Berndt GmbH.





Executive Summary

Tarkarri Engineering were commissioned by S. Group to conduct an environmental noise assessment of a proposed workshop a² Kitchen and Joinery's South Launceston operations.

Ambient noise data was measured, and project specific noise emission criteria nominated. An environmental noise model of the site was developed from measurement of existing a² Kitchen and Joinery equipment and Tarkarri Engineering library data.

Environmental noise modelling results show that the noise emission criteria for the project have the potential to be exceeded at residential locations on the corner of Shamrock St West and Glen Dhu St. To mitigate this potential Tarkarri Engineering recommends that roll doors are closed during periods when multiple pieces of joinery equipment are likely to be operated in either of the workshops.





1 Introduction

Tarkarri Engineering was commissioned by S. Group to undertake an environmental noise assessment of a proposed new workshop at a² Kitchen and Joinery’s South Launceston operations. Following an initial Development Application (DA), DA0592/2018, the Launceston City Council (LCC) have requested additional information with the relevant sections of the request and the LCC Interim Planning Scheme 2015 provided below:-

2. Clause D 24.0 - Light Industrial Zone, Clause 23.3 Use Standards 24.3.1 and 24.3.2. Particularly as the site is within 100m of a sensitive use, the use standards must be addressed. If the acceptable solution is not meet the matters under the performance criteria must be addressed.

24.3.2 Emissions impacting sensitive uses

Objective:	
To ensure that emissions to air, land and water are not detrimental to the amenity of sensitive uses.	
Acceptable Solutions	Performance Criteria
<p>A1 Uses must be set back from the site of a sensitive use a distance of no less than 100m.</p>	<p>P1 The use must not adversely impact on the amenity of nearby sensitive uses, having regard to:</p> <ul style="list-style-type: none"> (a) the nature of the proposed use; (b) the nature of the emissions; (c) the proximity and number of sensitive uses in the area; (d) the topography of the site; (e) any mitigation measures proposed; and (f) the proximity and number of nearby emitting uses.



Council's Environmental Services Department has more specifically asked for comment regarding:

- noise from forklifts going between 27 Wilmot St West and 27 Shamrock Street West;
- Noise emitted from 27 Shamrock Street (machinery, dust extraction, compressors etc)

To address the above Tarkarri Engineering proposed the following approach:-

- Logging of ambient environmental noise data at a location representative of surrounding sensitive receiver locations
- Analyse the monitored data and develop site specific noise emission criteria.
- Development of an environmental noise model of the proposed development using SoundPLAN modelling software.
- Predict noise levels at sensitive residential locations and assess against site specific noise emission criteria and if required provide potential noise control options.



2 Site description

The site proposed for the new workshop is at 27 Shamrock St West, South Launceston. The site is bounded to the west by residential properties and a swimming pool complex to the east. The Midland Highway is located approx. 35 m to the east. a² Kitchen and Joinery also have an existing workshop across the street from the proposed new workshop at 27 Wilmot St West, South Launceston.

The proposal is to relocate joinery equipment, including the following, from the existing workshop into the new workshop:-

- Edge bander
- Router
- Vacuum lift
- Table saw

Equipment remaining in the existing workshop includes:-

- Router
- Thicknesser
- Belt sander
- Band saw
- Handheld impact drill drivers

New equipment for the extraction of dust from the new workshop would be located on the northern side of the building. A roll door on the northern side would allow access for delivery and pick up of goods.

Operational hours proposed are Mon-Fri 7 am – 4.30 pm.

Figure 2-1 provides an aerial view of the site and surrounds with the land for the proposed development marked in yellow. The location at which ambient noise levels were measured is also marked.

Figure 2-2 provides a site plan of the proposed development while figure 2-3 shows a floor plan of the new workshop.



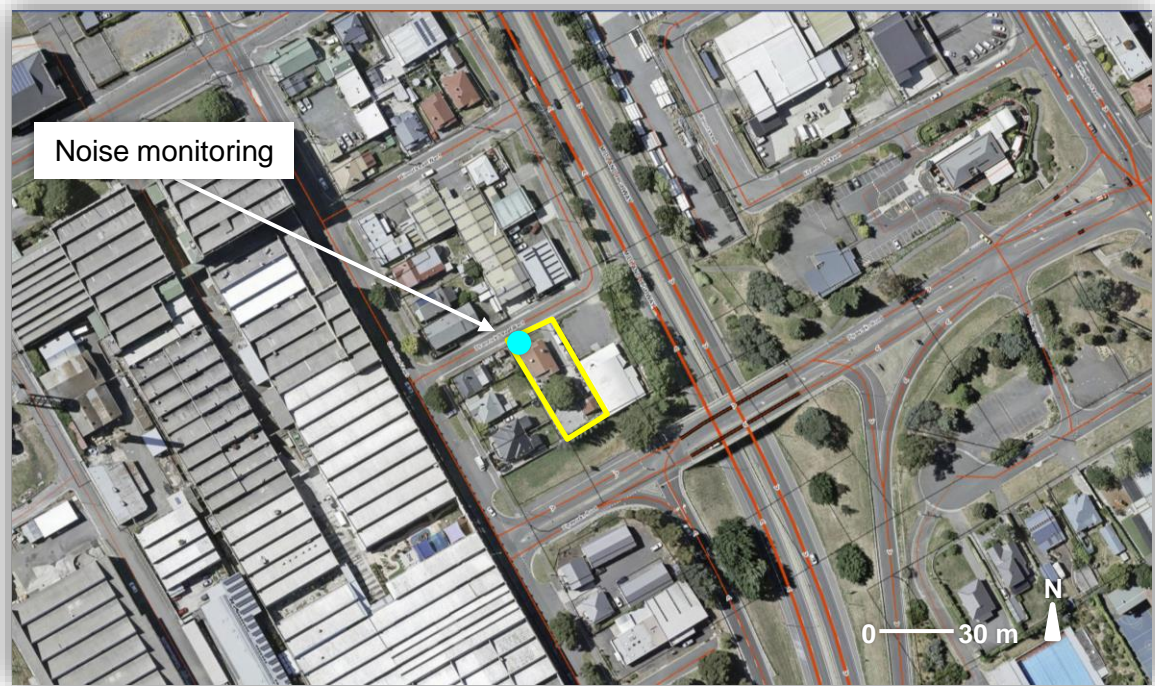


Figure 2-1: Aerial view of the proposed site and surrounds.

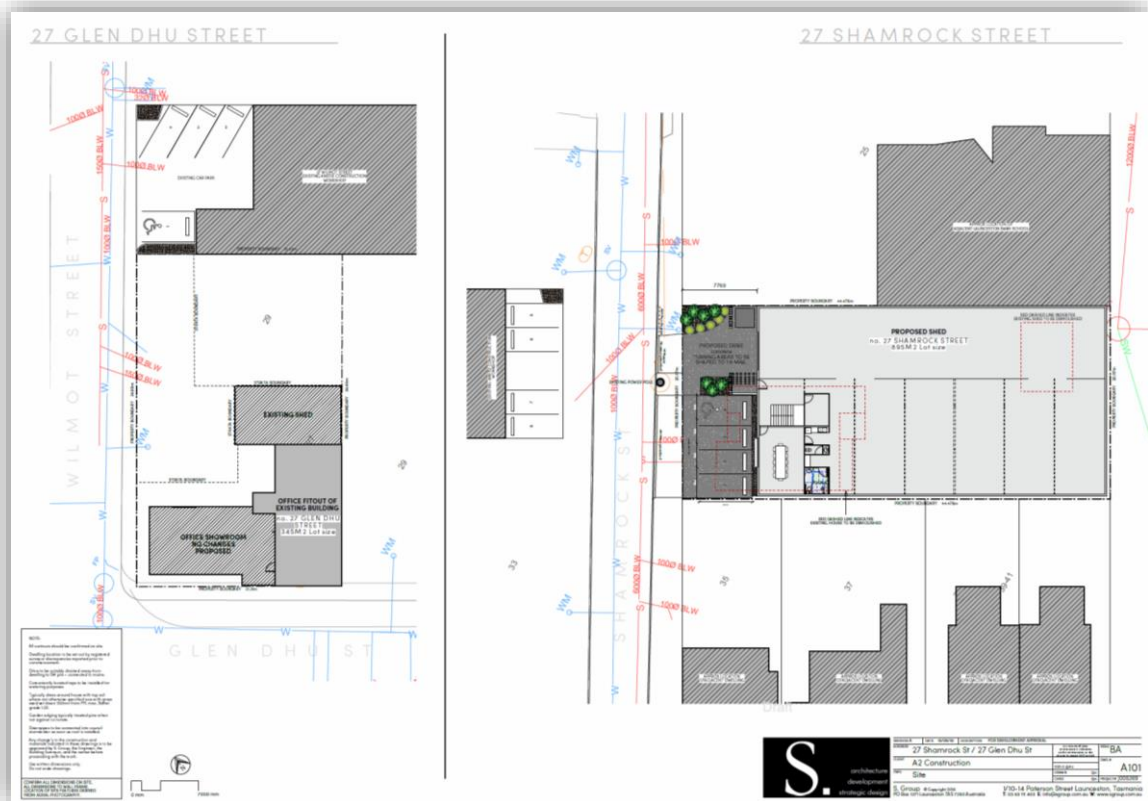


Figure 2-2: Site plan (provided by S. Group).



Figure 2-3: Floor plan (provided by S. Group).

3 Ambient noise monitoring

All measurements were carried out in general accordance with the *Tasmanian Noise Measurements Procedures Manual*.

A logging sound level meter (SLM) was placed at the north-west boundary of the proposed site on 8 November 2018 between 0730 and 0930 hrs with relevant 10-minute Ln-statistics recorded.

Figure 3-1 shows the location of the SLM during the monitoring period.





Figure 3-1: SLM location.

3.1 Monitoring results and discussion

The monitoring data is presented graphically in figure 3-2 with selected 10-minute statistical data provided as follows:-

- L_{Aeq}
- L_{A10}
- L_{A90}
- L_{Amax}

For sake of clarity the other data sets are not shown in these graphs.



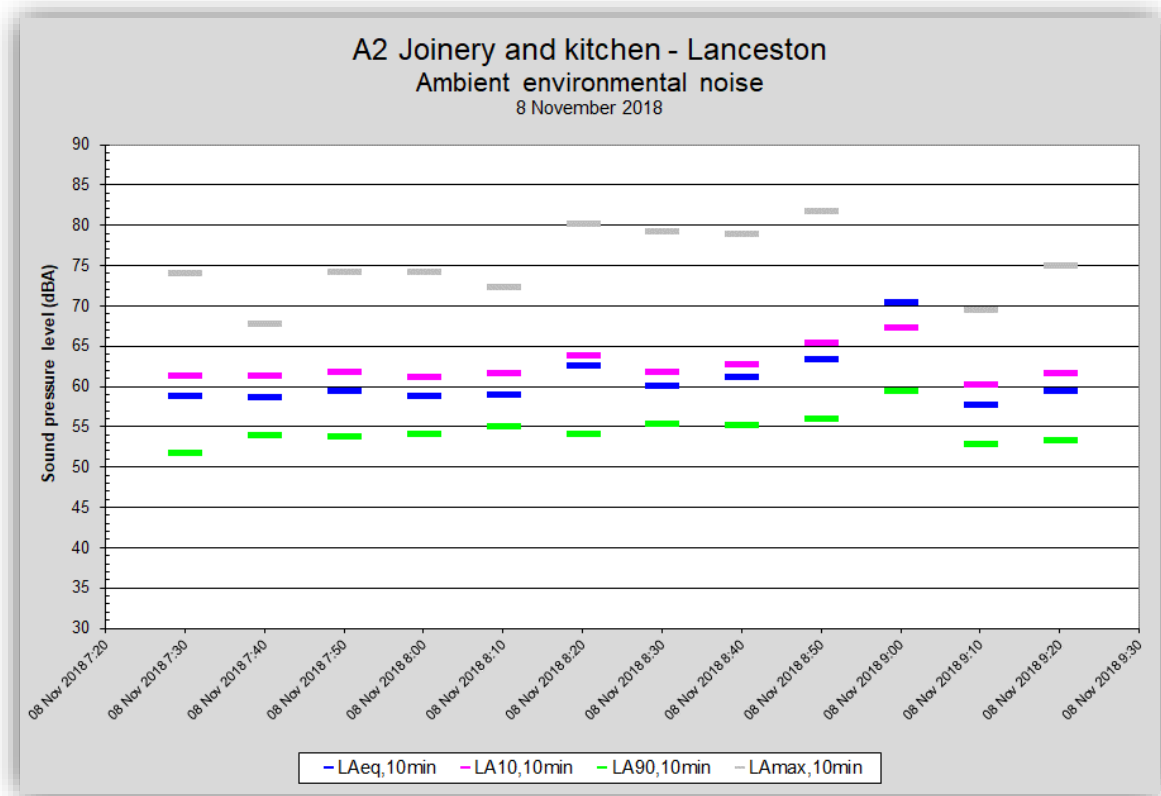


Figure 3-2: Noise monitoring results.

From the above:-

- LAeq were at or above 58 dBA during the measurement period, with LA90 levels typically above 53 dBA. Midland Highway traffic was generally the dominant noise source.
- Elevated levels between 0820 and 0900 hrs were the result of local traffic activity associated with the swimming pool.
- LAmax levels were typically at approx. 75 dBA in the absence of local traffic (generated by Midland Highway traffic).
- Noise emission from joinery equipment operating in the existing workshop was audible intermittently.

4 Assessment criteria

Based on the ambient noise data above Tarkarri Engineering have nominated criteria of **58 dBA LAeq,10min** and **75 dBA LAmax** at 1 m from facade of any residential building in other ownership. This is in accordance with typical ambient noise conditions in the area and the principal of background + 5 dB.





5 Environmental noise modelling

SoundPLAN^[1] software was used for carrying out detailed noise emission spectra and contour modelling. This program allows the use of the General Prediction Method calculation method for modelling of attenuation/amplification of noise. Parameters influencing sound propagation and attenuation include:

- Source type (point, line, plane).
- Relative source and receiver height.
- Topography and barriers.
- Industrial buildings as sources and/or barriers.
- Ground absorption.
- Distance attenuation.
- Atmospheric conditions (atmospheric pressure, temperature and humidity).
- Reflecting surfaces.
- Source directivity.



As all propagation and attenuation parameters are frequency dependent, all input source data has been based on 1/1-octave band sound power spectra.

Geo-referenced topographic, transport, building and hydrologic data was obtained from the LIST (<https://www.thelist.tas.gov.au>). This provided contours at 10 m intervals; residential locations; road layouts; and river and stream courses for the areas modelled.

All source and geodata is referenced to the Map Grid of Australia (MGA).

5.1 Model input data

Input sound power (SWL) spectra were determined from measurement of equipment at a² Kitchen and Joinery’s existing workshop and Tarkarri Engineering library data.

Table 5.1 provides overall sound power levels (SWL) and details relating to the determination of the SWL level. Table 5.2 provides the 1/1-octave band SWL spectra.

Overall sound power levels (dBA)			
Area	SWL	Comment	
Existing workshop building radiated noise	96	Building radiated noise from the metal roof with a building blanket lining to underside. Internal reverberant sound pressure level spectrum developed from Tarkarri Engineering measurements of equipment operations at a ² Kitchen and Joinery’s existing premises. Radiation of noise from masonry walls not considered. Roll doors assumed to be open.	
New workshop building radiated noise	92		
Dust extraction system	Fan discharge	93	Developed from Tarkarri Engineering measurements of equipment operations at a ² Kitchen and Joinery’s existing premises and Tarkarri Engineering library data
	Baghouse radiated	86	
Gas forklift	84	Tarkarri engineering library data.	

Table 5-1: Sound power levels.

NB: The building radiated sound power spectrum developed for the model was based on an internal reverberant sound pressure level spectrum that assumes all joinery equipment is



operating in each workshop concurrently for a 10-minute period. It should be noted that this is a very conservative assumption.

1/1-octave band sound power levels spectra (dBA)											
Source	Frequency (Hz)									Total	
	31.5	63	125	250	500	1k	2k	4k	8k		
Existing workshop	46	87	82	89	89	90	86	83	85	96	
New workshop	69	74	76	80	84	85	88	82	78	92	
Dust extraction system	Fan discharge	-	75	82	85	87	85	86	83	80	93
	Baghouse	60	67	76	79	78	83	78	74	67	86
Gas forklift	50	65	71	76	78	77	77	73	66	84	

Table 5-2: 1/1-octave band sound power level spectra.

Figure 5-1 shows a model plan view of the development overlaid onto aerial photographic coverage. Sources detailed in section 5.1 above are marked on the figure. 5 receiver locations were selected for the prediction sound pressure levels (SPLs) and these are marked turquoise. Figure 5-2 shows a wire frame model view.





S. Group – a² Kitchens and Joinery, new workshop environmental noise assessment.

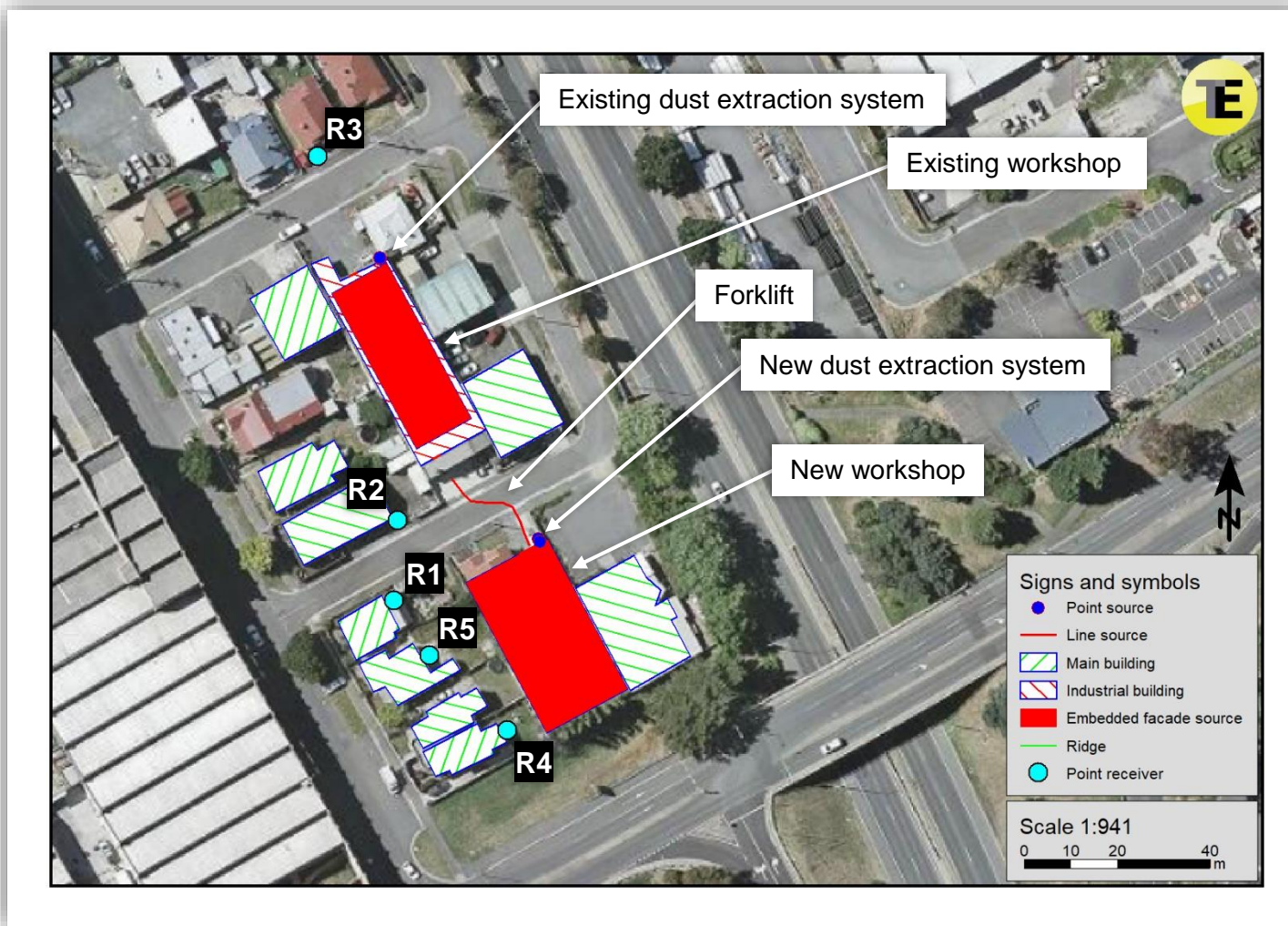


Figure 5-1: Model plan view of the a² Kitchen and Joinery development.



S. Group – a² Kitchens and Joinery, new workshop environmental noise assessment.

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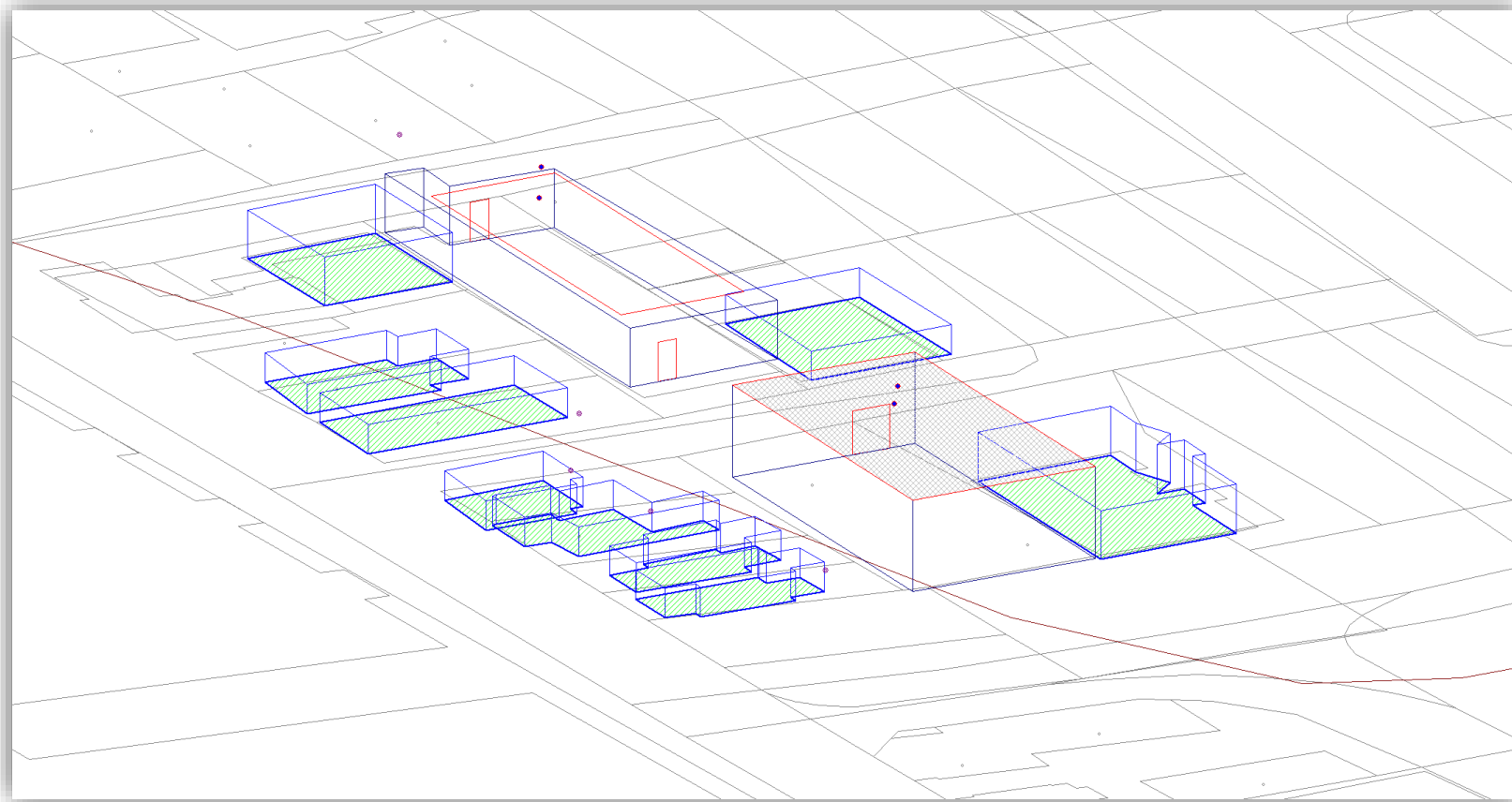


Figure 5-2: Wire frame model view of the a² Kitchen and Joinery development, view from the south.



5.2 Modelling results

Table 5-3 below provides predicted L_{Aeq,10min} levels at the five receiver locations shown in figure 5-1

Predicted sound pressure levels (dBA)	
Receiver	Predicted SPL
R1	59
R2	61
R3	56
R4	48
R5	56

Table 5-3: Predicted sound pressure levels.

From the above:-

- Predicted levels at receivers 1 and 2 exceed the criteria nominated for this project while at receiver 3 – 5 the predicted levels are below the criteria level.
- The dominant noise source at all locations is breakout of noise from the workshops via the open roll doors, with the exception of receiver 4.
- Predicted noise emission levels from the forklift are L_{Aeq,10min} 47 and 50 dBA at receivers 1 and 2 (the most impacted by its operation). This is well below criteria levels for the project and current ambient noise levels.
- Predicted levels from the 2 dust extraction systems combined don't exceed 52 dBA

NB: L_{Amax} levels are expected to be approx. 6 - 10 dBA higher than the predicted L_{Aeq,10min} levels presented above based on analysis of measurements conducted in the existing workshop and Tarkarri Engineering library data. This would be below the criteria level nominated for this project.

6 Conclusions

- Tarkarri Engineering have conducted an environmental noise assessment of a proposed new workshop at a² Kitchen and Joinery's South Launceston operations
- Ambient noise data was measured at the north-west corner of the site and project specific noise emission criteria nominated.
- An environmental noise model of the site was developed from measurement of existing a² Kitchen and Joinery equipment and Tarkarri Engineering library data.
- Environmental noise modelling results show that the noise emission criteria for the project have the potential to be exceeded at residential locations on the corner of Shamrock St West and Glen Dhu St (receivers 1 and 2). The exceedances would likely be generated by breakout of noise from joinery equipment operations via open roll doors in both the existing and new workshops. To mitigate this potential Tarkarri Engineering recommends that roll doors are closed (an automatic opening/closing system would likely assist this) during periods when multiple pieces of joinery equipment are likely to be operated in either of the workshops.