



Metro Inner Development Assessment Panel Agenda

Meeting Date and Time: Thursday, 11 December 2025; 9:30am
Meeting Number: MIDAP/108
Meeting Venue: 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:
[MIDAP/108 - 11 December 2025 - Town of Cambridge](#)

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Noting of Minutes

PART B – TOWN OF CAMBRIDGE

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations
 - 5.1 Lot 800 (29-33) Northwood Street, West Leederville - Three storey care premises and associated office – DAP/20/01911

PART C – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. Meeting Closure

Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation



DAP Members
Karen Hyde (Presiding Member)
Francesca Lefante (Deputy Presiding Member)
John Syme
Cr Kate Barlow (Part B – Town of Cambridge)
Deputy Mayor Ben Mayes (Part B – Town of Cambridge)

DAP Secretariat
Kristen Gray
Ashlee Kelly



PART A – INTRODUCTION

- 1. Opening of Meeting, Welcome and Acknowledgement**
- 2. Apologies**
- 3. Noting of Minutes**



PART B – TOWN OF CAMBRIDGE

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

Nil.

4. Form 2 DAP Applications

Nil.

5. Section 31 SAT Reconsiderations

- 5.1 Lot 800 (29-33) Northwood Street, West Leederville - Three storey care premises and associated office – DAP/20/01911



THE RESPONSIBLE AUTHORITY REPORT (RAR) WAS UPDATED ON 5 DECEMBER 2025 TO INCLUDE;

- i) A CHANGE TO FIGURE FOUR IN THE RAR; AND**
- ii) INCLUDE THE MOST RECENT DEVELOPMENT PLANS (ATTACHMENT 1) AND LANDSCAPING PLANS (ATTACHMENT 2) THAT WERE SUBMITTED ON 28 AUGUST 2025.**

**Part B – Item 5.1 - LOT 800 (NO. 29-33) NORTHWOOD
STREET, WEST LEEDERVILLE – THREE-STOREY CHILD
CARE PREMISES AND OFFICES - AMENDMENTS TO
DAP/20/1911 (DA20/0380 AND DA24-210)**

**Form 2 – Responsible Authority Report
(Regulation 17)**

DAP Name:	Metro Inner DAP
Local Government Area:	Town of Cambridge
Proposed Amendments:	Amendments to DAP/20/1911 (DA20/0380 and DA24-210)
Applicant:	PTS Town Planning
Owner:	Georgiou Property 2 Pty Ltd
Value of Development:	N/A
Responsible Authority:	Town of Cambridge
Authorising Officer:	Luke Gibson, Director Planning & Community Services
LG Reference:	DA20/0380 DA24-210
DAP File No:	DAP/20/01911
Date of Original DAP Decision:	2 March 2021
Application Received Date:	11 August 2025
Report Due Date:	28 November 2025
Application Statutory Process Timeframe:	90 Days
Attachments:	1. Amended Development Plans 2. Amended Landscaping Plans 3. Applicant's Covering Letter 4. Acoustic Report – Car Park Noise Assessment 5. Independent Peer Review of Acoustic Report and On-Site Noise Monitoring 6. Previous 2 March 2021 Development Approval and Approved Plans 7. Previous 28 November 2024 Development Approval and Approved Plans 8. 2020 Acoustic Report

Responsible Authority Recommendation

That the Metro Inner DAP:

1. **Accepts** that the DAP Application reference DAP/20/01911 as detailed on the DAP Form 2 dated 11 August 2025 is appropriate for consideration in accordance with regulations 17 of the *Planning and Development (Development Assessment Panels) Regulations 2011*.
2. Pursuant to Section 31 of the State Administrative Tribunal Act 2004, **varies** its previous 28 November 2024 decision to approve DAP Application reference DAP/20/01911 for a Three-Storey Child Care Premises and Associated Offices) by inclusion of the following elements.

1. Changes to approved plans, as follows.

	Floor Plan / Elevation	Works Description
1	Second Floor / East	Omission of cascading planter boxes to second-floor balcony
2	Ground, First, and Second Floors / East	Omission of seven concrete fluted panels (Northwood Street elevation)
3	Ground Floor / West	Perforated garage door in lieu of approved solid sectional door
4	First Floor / West	Omission of aluminium louvred screen (first floor)
5	First and Second Floors / West, North and South	Stairwell walls finish (metal cladding omitted)
6	Ground, First, and Second Floors / East and West	Landscaping shortfall to eastern and western elevations

2. Condition 9 being replaced with the following:

9. *Within 28 days of the date of this approval, the landowner must submit a Noise Management Plan to the Town for approval. The Noise Management Plan must:*
 - a. *address all operational and behavioural aspects of the child care premises that generate noise, including but not limited to: vehicle movements, car-stacker operation, car doors closing, outdoor play areas, mechanical plant, waste collection, and staff/parent activities;*
 - b. *specify noise mitigation and management measures, including operating protocols, access/door controls, staff procedures, scheduling of noisy activities, and restrictions on early-morning operations, including a prohibition on car-stacker use before 7:00am; and*
 - c. *demonstrate how compliance with the Environmental Protection (Noise) Regulations 1997 will be achieved at all relevant noise-sensitive receivers.*

Once the Plan is approved by the Town, it is to be implemented for the life of the development, with all measures, procedures and controls to be always adhered to.

3. A new Condition 18 being added as follows.

18. *Within 60 days of the date of this approval, the applicant must submit to the Town of Cambridge a revised shade structure design, supported by a shade analysis, demonstrating that the design:*
- a. reduces visual bulk when viewed from Pether Lane and adjoining residential properties; and*
 - b. provides adequate sun protection for children in accordance with relevant health and safety requirements.*

The revised shade structure must be approved by the Town of Cambridge and must thereafter be installed and maintained for the life of the development.

4. A new Condition 19 being added as follows.

19. *Within 28 days of the date of this approval, the applicant must submit to the Town of Cambridge a ground-floor articulation plan for the Northwood Street elevation demonstrating adequate depth, layering and visual interest at the pedestrian level, to the satisfaction of the Town of Cambridge.*

The approved ground-floor articulation treatment must then be installed within 60 days of the Town's approval and thereafter maintained for the life of the development.

5. A new Condition 20 being added as follows.

20. *Within 28 days of the date of this approval, the applicant must submit to the Town of Cambridge a green-wall/trellis system plan for the first-floor western elevation (drying court), including:*
- a. continuous trellis or wire-based infrastructure;*
 - b. species capable of rapid vertical establishment;*
 - c. irrigation and maintenance details; and*
 - d. a minimum two-year establishment program.*

The approved screening system must then be installed within 60 days of the Town's approval and thereafter maintained for the life of the development.

6. A new Condition 21 being added as follows.

21. *All visible stairwell wall finishes, including painted surfaces and metal cladding, must be maintained in good condition and free from peeling, corrosion or staining for the life of the development.*

7. A new Advice Note 13 as follows.

13. *With reference to Condition 9, the landowner is advised that, irrespective of any measures detailed in the Noise Management Plan, the development must always comply with the Environmental Protection (Noise) Regulations 1997.*

Details: Outline of Development Application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	Local Planning Scheme No. 1
Local Planning Scheme - Zone/Reserve	Mixed Use Special Control Area No. 3 (SCA3) – West Leederville Activity Centre
Structure Plan/Precinct Plan	Draft West Leederville Activity Centre Plan
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	Child Care Premises – “D” Office – “D” at street level and “P” at all other levels
Lot Size:	1,298m ²
Existing Land Use:	Child Care Premises with associated Office
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☐ N/A ☒ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	No
Swan River Trust Area	No

Background:

Site Context

The site is zoned Mixed Use under Local Planning Scheme No. 1 (LPS 1) and accommodates an existing childcare centre and associated office. The site adjoins low-density Residential-zoned land across the rear laneway.

Development History

On 2 March 2021, the Metro Inner-North DAP approved a three-storey childcare centre with associated offices (Notice of Determination and approved plans provided in

Attachment 6). Construction was completed in late 2023, and the facility commenced operations in October 2023.

Following occupation, several as-constructed departures from the 2021 approval were identified—initially treated as minor variations during the building permit stage. However, the principles in the Supreme Court decision in *Baker Investments v City of Vincent* [2017] WASC 162 confirmed that no exemption exists for amendments to DAP-determined approvals. This means that any modification, regardless of scale, must be formally approved under Regulation 17 of the *Planning and Development (Development Assessment Panels) Regulations 2011*.

As a result, the landowner lodged a Form 2 application in 2024 seeking approval for all as-constructed departures.

On 28 November 2024, the DAP approved several elements but did not support seven components, effectively requiring the landowner to modify these items. The seven elements were:

1. Install second-floor cascading planters
2. Removal of extra shade cloth from second-floor children play area
3. Installation of fluted concrete panels to eastern elevation
4. Reinstatement of the solid garage door
5. Installation of aluminium louvre
6. Reinstatement of metal stairwell cladding
7. Landscaping to match approved plans

The 2024 Notice of Determination and approved plans are included in **Attachment 7**.

The applicant subsequently lodged an application for review with the State Administrative Tribunal (SAT) and submitted amended plans as part of the mediation process. The SAT has now invited the DAP to reconsider its 2024 decision pursuant to Section 31 of the *State Administrative Tribunal Act 2004*.

Compliance Action

The Town notes that it has received ongoing noise complaints from a landowner of a residential property located to the west of the development, on the opposite side of Pether Lane. These complaints relate to noise emissions associated with the operation of the child care premises.

While some noise matters directly overlap with this Section 31 reconsideration—particularly the acoustic implications of the perforated garage door, which forms part of the amended proposal and has a direct bearing on the development's ability to comply with the *Environmental Protection (Noise) Regulations 1997*—other issues raised by the landowner relate to operational noise that is not linked to the development amendments.

These broader noise issues include concerns associated with day-to-day activities of the child care centre, and the Town is actively investigating these matters under its statutory compliance functions. These investigations are ongoing and are being managed separately from the planning process, pursuant to the *Environmental Protection (Noise) Regulations 1997*.

The Town continues to liaise with the affected landowner to resolve these operational compliance matters. For clarity, these issues:

- are outside the scope of the DAP's determination on this development application, and
- do not form part of the planning assessment except where they intersect with the amended proposal—most notably the performance of the perforated garage door and the resulting need for a modified acoustic management framework.

Proposal:

The application seeks approval for elements of the as-constructed development that remain departures from the 2021 development approval. These are summarised as follows:

	Element	Description
1	Omission of cascading planter boxes (second-floor balcony on Northwood Street elevation)	The planter boxes were omitted during construction. While the original approval relied on cascading planters to soften the visual bulk of the eastern elevation, the amended plans now propose additional trees and small garden beds on each floor of the eastern elevation. These measures are intended to offset the removal of the cascading planters and to maintain an appropriate level of landscaping and visual relief to the façade.
2	Additional shade sail cloth to upper-floor play area	Additional fabric has been installed, increasing visual bulk. The applicant has not proposed alternative solutions or provided a detailed outcome-based shade assessment.
3	Omission of seven concrete fluted panels (Northwood Street elevation)	The original approval included seven concrete fluted panels distributed across all levels of the eastern elevation. The first- and second-floor panels have been replaced with reduced slat screens, while no replacement treatment has been provided at ground floor level.
4	Perforated garage door in lieu of approved solid sectional door	The constructed garage door is perforated rather than the approved solid sectional design.
5	Omission of aluminium louvred screen (first floor)	The approved aluminium louvre has been omitted. The applicant has provided a five-year scenario elevation indicating vine coverage as an alternative screening measure.
6	Stairwell finish (metal cladding omitted)	The stairwell wall has been finished in a "Timeless Grey" low-sheen painted treatment, in lieu of the approved metal cladding. The applicant states this change addresses potential issues with heat and reflectivity.
7	Landscaping shortfall (eastern and western elevations)	The amended landscaping plan indicates a reduced extent of planting compared with the approved plans. The applicant relies on the maturing of the proposed species within five

		years to provide adequate softening and articulation to both façades.
--	--	---

The amended development plans are included as **Attachment 1**, the amended landscaping plans as **Attachment 2**, and the applicant's covering letter as **Attachment 3**.

Legislation and Policy:

Legislation

- Planning and Development Act 2005
- Metropolitan Region Scheme
- Planning and Development (Development Assessment Panel) Regulations 2011
- Planning and Development (Local Planning Scheme) Regulations 2015
- State Administrative Tribunal Act 2004
- Town of Cambridge Local Planning Scheme No. 1

State Government Policies

- State Planning Policy 4.2 – Activity Centres
- State Planning Policy 7.0 – Design for the Built Environment

Local Policies

- Local Planning Policy 1.2 – Public Notification of Planning Proposals
- Local Planning Policy 2.5 – Precinct P5: West Leederville
- Local Planning Policy 3.6 – Child Day Care Centres
- Local Planning Policy 3.10 - Design for Non-Residential Development
- Local Planning Policy 3.13 - Parking
- Local Planning Policy 3.21 – Landscaping and Water Sensitive Urban Design

Consultation:

In accordance with subclause 7(b) of Local Planning Policy 1.2: Public Notification of Planning Proposals (LPP 1.2), the amended plans received through the SAT mediation process and forming the basis of this Section 31 reconsideration were not required to be advertised for public consultation. This is due to the following:

- the amended plans do not introduce any new variations to the planning framework beyond those already assessed and determined by the DAP in its 28 November 2024 decision; and
- the changes relate solely to the design treatment of elements previously approved as part of the development, rather than proposing any additional departures from LPS 1, the Deemed Provisions, or relevant Local Planning Policies.

Referrals/consultation with Government/Service Agencies

N/A

Design Review Panel Advice

The amended proposal was presented to the Town's Design Review Panel on 14 August 2025. In summary, the Panel supported each of the seven design solutions presented for the DAP's consideration.

	Element	Design Review Panel Comments
1	Omission of cascading planter boxes (second-floor balcony on Northwood Street elevation)	• The proposed landscaping is supported. • Provision of planter boxes is sufficient to enable a reasonable extent of on-structure planting, especially to the laneway where a softer presentation to residents to the west is a strategic design outcome. • Additional landscaping is positive and assists in softening bulk and scale to the rear interface. • The value of vines is in the vertical plane rather than horizontal
2	Additional shade sail cloth to second-floor play area (West Elevation)	• Supported. • Shade sails sit behind the framed element, so their impact is visually reduced. • Landscaping along the western façade will further soften and minimise impact. • Achieves balance between sun protection for children and building appearance. • Seasonality of use is noted. • Duty of care for children outweighs minor aesthetic concerns.
3	Omission of seven concrete fluted panels (Northwood Street elevation)	• Supported. • Aluminium battens in "Whisper White" animate the street elevation subtly. • Better to omit battens at ground level, as glazing supports good urban design and avoids maintenance issues. • Large amount of glazing already provides active frontage and street interaction
4	Perforated garage door in lieu of approved solid sectional door	• Supported. • Form and colour (Monument) provide visual permeability and are visually recessive. • Acoustic issues may still need to be resolved; technical solutions must ensure compliance with noise requirements
5	Omission of aluminium louvred screen (first floor)	• Supported. • Frosted glazed screens and planting achieve the role of the aluminium screens
6	Stairwell finish (metal cladding omitted)	• Supported. • Painted finish matching the roof assists with articulation and softens bulk to the laneway. • Grey painted panel differentiates the base of the elevation from the superstructure. • Aesthetic outcome reduces reflection and glare to neighbours

7	Landscaping shortfall (eastern and western elevations)	• Supported. • Increased planting to the rear (in-ground trees and vines) positively softens the building's presentation and enhances amenity. • Cascading plants would be desirable but are not essential given other planting. • Slender trees suit available space and add rhythm to the elevation. • Proposed landscaping exceeds what is typically provided at laneway interfaces
---	--	--

Assessment:

The application seeks approval for several as-constructed elements which depart from the 2021 approval—some to remain as constructed and others to be modified.

Each item is assessed below against the planning framework, including LPS1, the Deemed Provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and relevant Local Planning Policies.

1. Omission of cascading planter boxes (second-floor balcony on Northwood Street elevation)

The 2021 approved eastern elevation to Northwood Street included the following:

- First floor: 3 trees and 3 small garden beds.
- Second floor: 2 trees, 4 small garden beds, and 2 cascading planter beds to the void opening.

The below 2021 approved landscaping plan (Figure 1) and sectional drawing (Figure 2) indicate the location and appearance the cascading landscaping planter beds.



Figure 1 — 2021 Approved Landscaping Plan (Northwood Street Elevation)

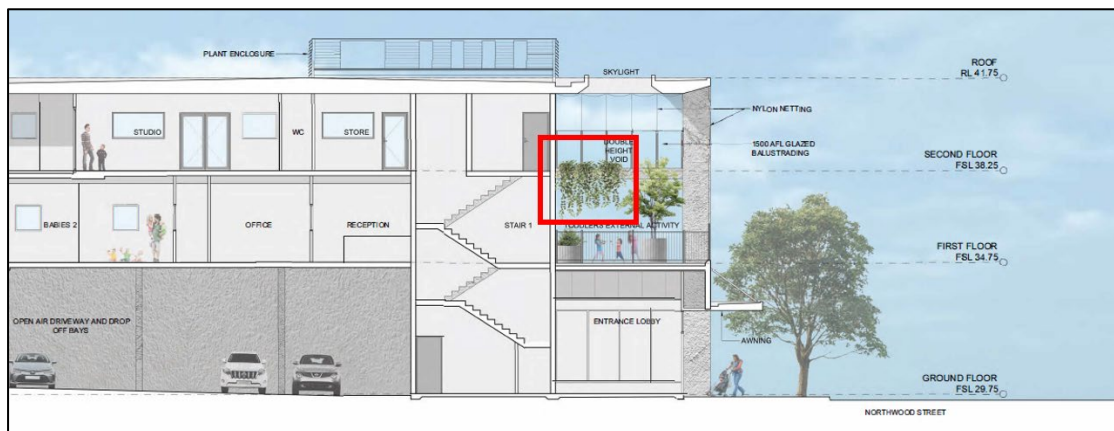


Figure 2 — 2021 Approved Section Showing Cascading Planter Beds

The amended proposal includes the following:

- First floor: 5 trees (+2) and 7 small garden beds (+4).
- Second floor: 4 trees (+2) and 6 small garden beds (+2).

The applicant has justified the omission of the two cascading planter beds on the basis that they cannot be accessed to allow ongoing care and maintenance.

On balance, it is considered that the omission of the cascading landscaping is offset by the four additional trees and six additional garden beds across the first and second floors, as the increase in trees and garden beds provides a comparable level of greening consistent with SPP 7.0 design principles.

2. Additional shade sail cloth to second-floor play area (Western Elevation)

The 2021 approval incorporated a steel-framed arbor structure above the second-floor outdoor play space of the western elevation, designed with an intentional “*hit-and-miss*” pattern of alternating shade cloth and open voids. This design allowed for filtered daylight penetration while reducing the perception of building mass when viewed from Pether Lane and adjoining rear gardens. The approved “filtered shade” approach was a deliberate design response balancing (i) the need to protect children and (ii) streetscape and laneway-interface considerations. The approved roof plan (Figure 3) illustrates this alternating pattern.

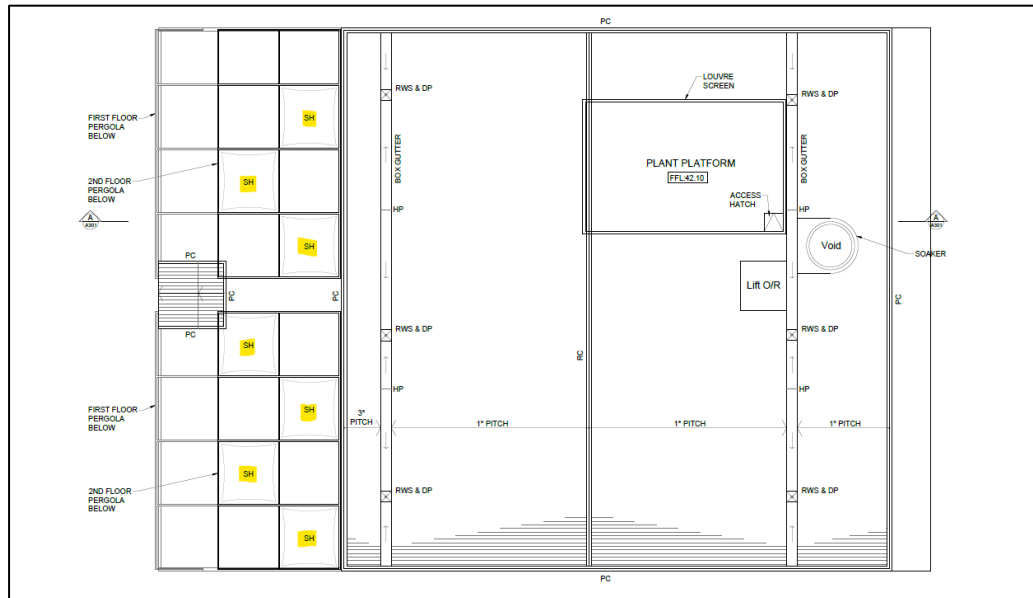


Figure 3 — 2021 Approved Roof Plan (Hit-and-Miss Shade Cloth Pattern)

In contrast, the amended roof plan (Figure 4) reflects the as-constructed development; being shade cloth coverage across the entire steel-frame structure, eliminating all openings and creating a fully shaded canopy.

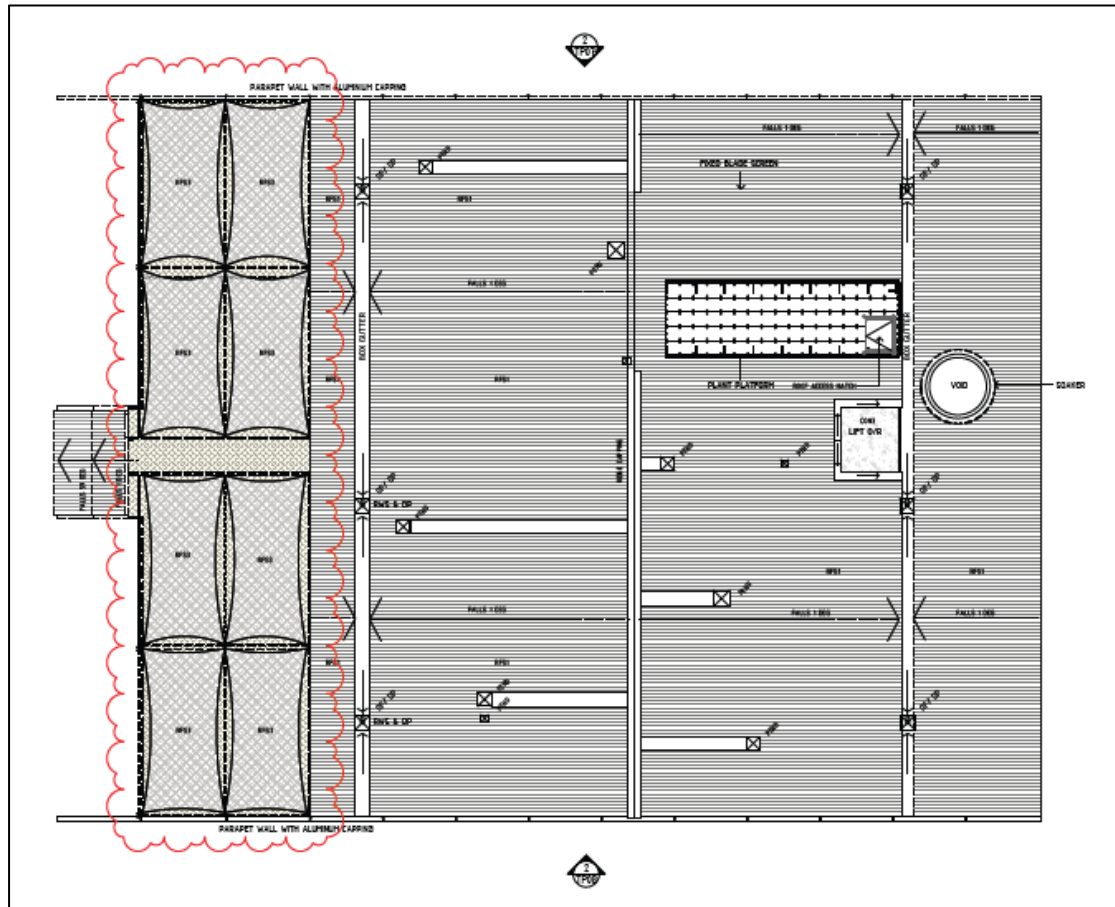


Figure 4 — As-Constructed Roof Plan (Continuous Shade Cloth)

This modification results in a significantly greater perceived bulk and mass, particularly given the play area's elevated position, the relatively limited setback to Pether Lane, and the combined presence of the shade structure, fencing and overhead framing at upper-floor level (Figures 5 and 6).

These elements together create a visually imposing built form when viewed from the backyards of residential properties abutting Pether Lane and Pether Lane itself, which presents a predominantly residential interface with lower-scale domestic outbuildings and garages.



Figure 5 — As-Constructed Shade Structure (View from Pether Lane – Image 1)



Figure 6 — As-Constructed Shade Structure (View from Pether Lane – Image 2)

The applicant maintains that the additional shade cloth is required to meet child-safety shade requirements. In considering this justification, the following is noted.

- the requirements were known at the time of the 2021 design; and
- the applicant has not provided any evidence to confirm that the hit-and-miss configuration is incapable of meeting those requirements.

The applicant also notes that shade cloth is removed seasonally (around Easter to early October), but this does not mitigate the visual impact during the peak operational months when visual bulk is already at its greatest.

The Town acknowledges that a six-storey multiple dwelling development exists on Northwood Street, which also presents to Pether Lane. However, this building does not negate the expectation that the child care premises should minimise the perception

of bulk where practicable. Accordingly, it is recommended that the DAP, if it is minded to approve this element, only do so subject to a requirement for the applicant to submit a revised shade design (supported by a detailed outcome-based assessment of the shade requirements) demonstrating a built-form outcome that achieves adequate sun protection while reducing visual bulk to an acceptable level.

3. Omission of seven concrete fluted panels (Northwood Street elevation)

The 2021 DAP-approved eastern elevation facing Northwood Street (Figure 7) incorporated seven fluted concrete panels distributed across the ground, first, and second floors. These panels were an integral architectural feature, contributing to:

- Providing vertical articulation across all levels,
- breaking up bulk and perceived massing,
- delivering a cohesive and consistent façade treatment, and
- enhancing the development's contribution to the Northwood Street streetscape.

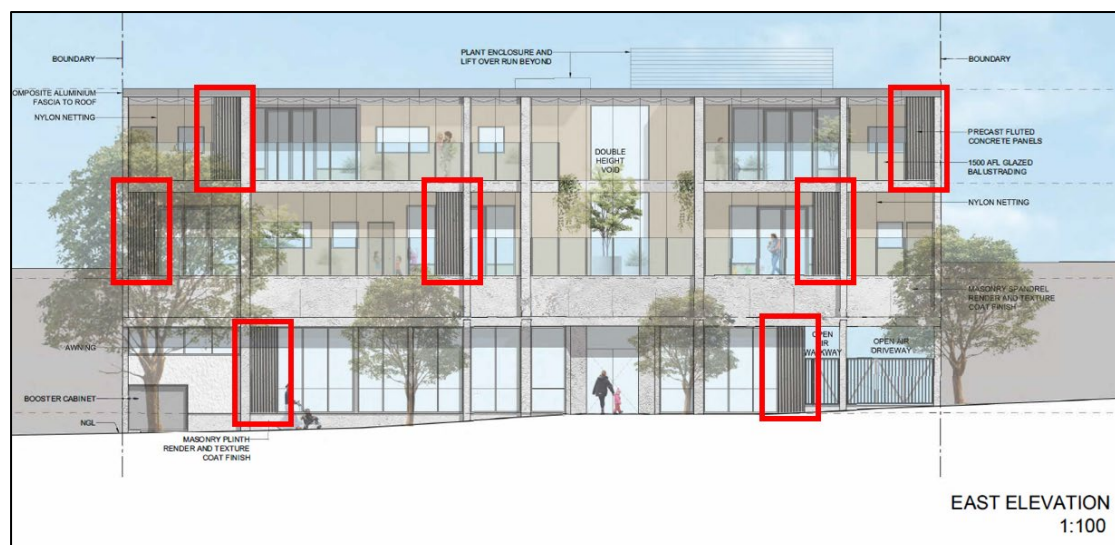


Figure 7 — 2021 Approved Northwood Street Elevation (with Fluted Concrete Panels)

However, the development as constructed does not include the concrete fluted panels originally shown on the approved plans (Figure 8). The resultant Northwood Street elevation presents as a largely flat and visually uniform façade, with minimal depth or variation at ground level and limited articulation at the upper levels.



Figure 8 — As-Constructed Northwood Street Elevation (Google Street View)

The amended proposal introduces five aluminium slat screens on the first and second floors (Figure 9). These screens provide some degree of texture and modulation at the upper levels; however, no articulation or equivalent treatment is proposed at ground level. This produces a dominant and unvaried street interface where the base of the building lacks definition, depth, or human-scale elements.

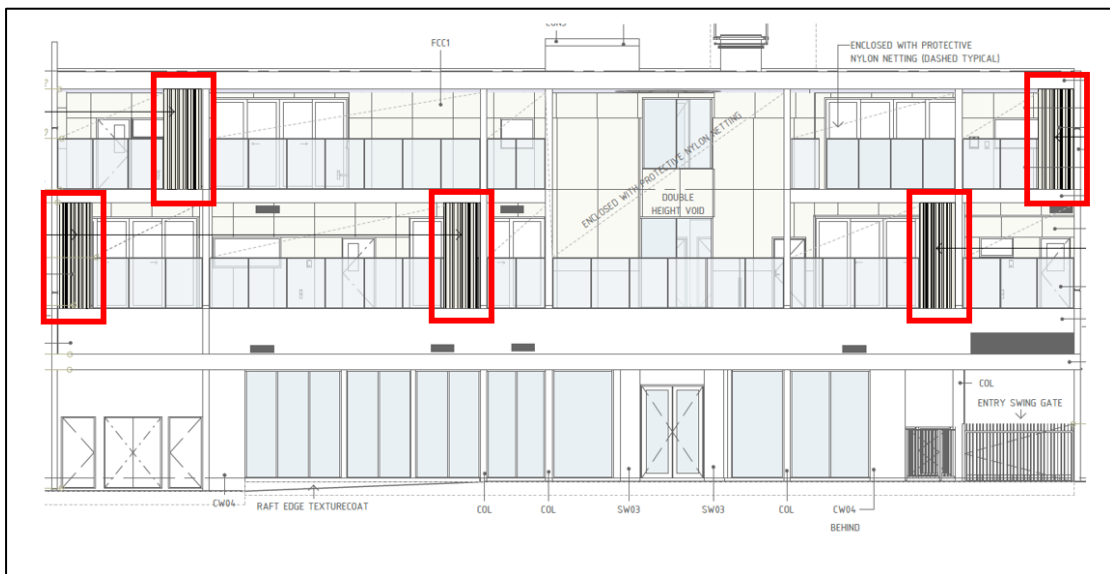


Figure 9 — Amended Slat Screen Elevation (Upper Levels Only)

When assessed on its merits, the proposed façade treatment does not fully satisfy the design principles of SPP 7.0 – Design for the Built Environment, particularly:

- Design Principle 3 – Built Form and Scale, which requires façades to demonstrate depth, layering and human-scaled articulation;
- Design Principle 4 – Functionality and Build Quality, which encourages active and visually engaging street edges; and

- Design Principle 1 – Context and Character, which seeks to ensure buildings contribute positively to the public realm and improve streetscape amenity.

The absence of any ground-floor façade treatment results in a street interface that is visually monotonous and lacks the level of articulation expected for development addressing a public street within an activity centre context. This is further reinforced by the DRP's advice, which supported upper-level articulation but acknowledged the practical constraints at ground level and the need for an alternative treatment that does not encroach into the pedestrian zone.

On this basis, the Town considers that additional ground-floor articulation is necessary to create a pedestrian-scaled, visually engaging street frontage and to meet the design principles of SPP 7.0.

Accordingly, the Town partially supports the amended façade proposal, subject to the imposition of a condition requiring the applicant to provide an amended ground-floor façade treatment that incorporates depth, layering and visual interest appropriate to a street-facing elevation.

A new condition requiring submission of an amended ground-floor articulation plan—within a defined timeframe—is therefore recommended.

4. Perforated garage door in lieu of approved solid sectional door

The original 2021 DAP approval included a solid sectional garage door along the western elevation, separating the internal car parking area from Pether Lane (Figure 10). The solid door formed a key component of the acoustic attenuation measures contemplated by the 2020 Acoustic Report (**Attachment 8**), which supported the original development application.

The 2020 Acoustic Report assumed the following operational controls in order to achieve compliance with the *Environmental Protection (Noise) Regulations 1997*:

- Before 7:00am - the solid garage door must remain fully closed during all vehicle movements and car stacker operation.
- Between 7:00am and 7:00pm - the door is recommended to remain closed during car stacker operation to limit noise breakout into Pether Lane.



Figure 10 — 2021 Approved Solid Sectional Garage Door (Western Elevation)

That 2020 Acoustic Report was subsequently embedded into the development approval, by way of Condition 9, as follows.

“9. Prior to commencement of the uses, the Acoustic Report (prepared by Hewshott Acoustics and dated 17 December 2020) shall be implemented and thereafter complied with by the landowner(s) for the life of the development to the satisfaction of the Town. This includes, but is not limited to, the external activity areas not being used prior to 7.00am.”

Despite the above, the development was constructed with a perforated metal garage door (Figure 11), which provides substantially less acoustic attenuation than the solid door contemplated by the 2020 Acoustic Report.



Figure 11 — As-Constructed Perforated Garage Door (Western Elevation)

The applicant now seeks approval for the existing perforated garage door to remain as constructed.

As part of the Section 31 reconsideration package, the applicant submitted an updated Acoustic Report - Car Park Noise Assessment (**Attachment 4**) which predicts compliance with the Noise Regulations. However, the Town identified two significant limitations, being:

- No on-site noise monitoring was undertaken, despite the child care facility being operational.
- The assessment relied primarily on desktop modelling rather than empirical measurement that would capture real, site-specific noise behaviour.

The applicant's acoustic consultant attributed the lack of monitoring to:

- Background traffic noise from Cambridge Street that could mask the child care noise sources,
- Intermittent nature of car park noise events, and
- Frequent laneway vehicle movements from unrelated nearby land uses.

Given the limitations of the applicant's acoustic assessment, the Town commissioned an independent noise consultant to undertake a peer review of the applicant's Acoustic Report as well as on-site noise monitoring. The monitoring was undertaken at 24 Blencowe Street on Wednesday 19 November 2025 between 6:30am and 8:00am (the most noise-sensitive operating period for the child care premises).

The independent consultant's report, including the measured noise emission data (**Attachment 5**) confirmed the following:

Peer Review – Key Findings
• Several noise levels used in the applicant's modelling (car stacker, roller door, car door operations) varied materially from the Town's consultant's measured/calculated levels. • Despite these differences, measured noise levels during the monitoring period complied with assigned levels at the nearest noise-sensitive receiver. • Compliance is dependent on operating conditions, not on the acoustic performance of the perforated door.
On-Site Noise Monitoring – Key Findings
• Car stacker noise measured 45–48 dBA at the receiver (15m distance). While compliant with daytime assigned levels, the Town's consultant confirmed that stacker operation before 7:00am would not comply due to tonal characteristics and the lack of attenuation from the perforated door. • Roller door noise was measured at approximately 46 dBA (LAMax), which is compliant. • Car door closure noise was measured at approximately 49 dBA, also compliant. • Early-morning car movements were minimal, consistent with statements by the operator that only two staff access the car park prior to 7:00am. • Background noise in the laneway fluctuated due to unrelated traffic movements and Cambridge Street influence.
Overall Conclusion from Peer Review and Monitoring
• The perforated garage door provides no meaningful acoustic attenuation, resulting in a noise environment that differs from the assumptions in the 2020

Acoustic Report, which relied on a solid garage door to control noise breakout.

- Measured noise levels during the early-morning monitoring period were compliant with the assigned levels, but only because operational behaviour was limited (e.g., no car stacker use before 7:00am and minimal vehicle movements).
- Car stacker use before 7:00am would not comply due to tonal characteristics and the lack of acoustic attenuation from the perforated door.
- Ongoing compliance with the *Environmental Protection (Noise) Regulations 1997* therefore depends on operational controls, including:
 - prohibiting car stacker use before 7:00am
 - managing early-morning vehicle movements
 - implementing door-opening procedures
 - staff protocols and behavioural measures

Based on the above, it appears that the development (with the existing perforated door) is capable of complying with the *Environmental Protection (Noise) Regulations 1997*; noting that compliance will depend on operational behaviour rather than built-form attenuation. It must be noted that the conclusion drawn does not consider the noise impact of the testing of the fire pump on site, which is a matter outside the scope of this application and is being addressed by the Town as a development compliance matter.

In any event, if the DAP approves the retention of the existing perforated door, the development will be unable to comply with existing Condition 9 (compliance with the 2020 Acoustic Report) as there will be no solid door to keep closed.

It is therefore recommended that Condition 9 be replaced with a new condition that requires the submission of, and compliance with, a Noise Management Plan. This Noise Management Plan would clearly set out operational controls, including a prohibition on car-stacker use before 7:00am, management of early-morning vehicle movements, and staff procedures.

The above notwithstanding, the development (including the testing of the fire pump) will be required to always comply with the *Environmental Protection (Noise) Regulations 1997*, including the relevant Assigned Levels as below (Figure 12 - extracted from the 2020 Acoustic Report).

Type of premises receiving noise	Time of the day	Assigned Noise Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises at locations within 15 metres of a building directly associated with a noise sensitive use	07.00 to 19.00 hrs Monday To Saturday	53	63	73
	09.00 to 19.00 hrs Sunday and Public holidays	48	58	73
	19.00 to 22.00 hrs All days	48	58	63
	22.00 to 07.00 hours all days	43	53	63
Commercial premises	All times	60	75	80
Industrial and utility premises	All times	65	80	90

Figure 12 — Assigned Noise Levels from 2020 Acoustic Report

5. Omission of aluminium louvred screen (first floor)

The 2021 approval included an aluminium louvred screen on the first-floor western elevation (Figure 13), designed to serve two key purposes:

1. Screening the drying court area from Pether Lane and adjoining properties; and
2. Façade articulation, introducing depth, texture, shadowing and material contrast consistent with the building's wider architectural language.



Figure 13 — 2021 Approved Aluminium Louvred Screen (First-Floor West Elevation)

However, the development was constructed without the louvre. The applicant has justified this on the basis that the installed frosted obscure glazing achieves the same visual screening outcome as the approved clear glazing balustrade.

While obscure glazing does provide a privacy function, it does not contribute to façade articulation in the way the aluminium louvre was designed to. The louvre formed a deliberate architectural device that softened the appearance of elevated outdoor areas, introduced layered visual interest, and maintained continuity with the material treatment strategy considered during the 2021 DRP process.

The amended plans propose an alternative approach through landscaping rather than built form. This includes the addition of a potted climber adjacent to the balustrade, supported by broader vine-based planting across the western elevation. The indicative “Day 1” and “Year 5” western elevation drawings (pp. 8–9 of **Attachment 2**) demonstrate that early landscaping will provide only limited screening and softening, with meaningful benefit expected only once the climbers reach maturity, which the applicant estimates at approximately five years.

This long establishment period means that landscaping alone does not provide an immediate, durable or integrated replacement for the louvred screen. While the Town acknowledges that the expanded planting strategy is positive and, at maturity, may contribute to façade softening, it does not replicate the architectural presence of the originally approved screen.

On balance, support may be provided, but only subject to strengthened conditions requiring:

- installation of continuous trellis or green-wall infrastructure around the drying court area to guarantee climbing coverage; and

- submission of a detailed irrigation and landscape maintenance plan to ensure early establishment and predictable long-term growth.

These measures would help ensure that an acceptable articulation outcome is delivered in practice, even in the absence of the originally approved aluminium louvre.

6. Stairwell walls finish (metal cladding omitted)

The 2021 approval required metal cladding to be applied to the stairwell walls on both the first and second floors, including the side walls of the internal balcony circulation areas (Figures 14, 15 and 16). These surfaces are visible from Pether Lane and adjoining properties. The approved cladding was intended to be finished in an earthy green or grey tone to complement the architectural palette and provide a consistent, high-quality material expression.



Figure 14 — 2021 Approved Stairwell Cladding (Image 1 – West Elevation)



Figure 15 — 2021 Approved Stairwell Cladding (Image 2 – South Elevation)

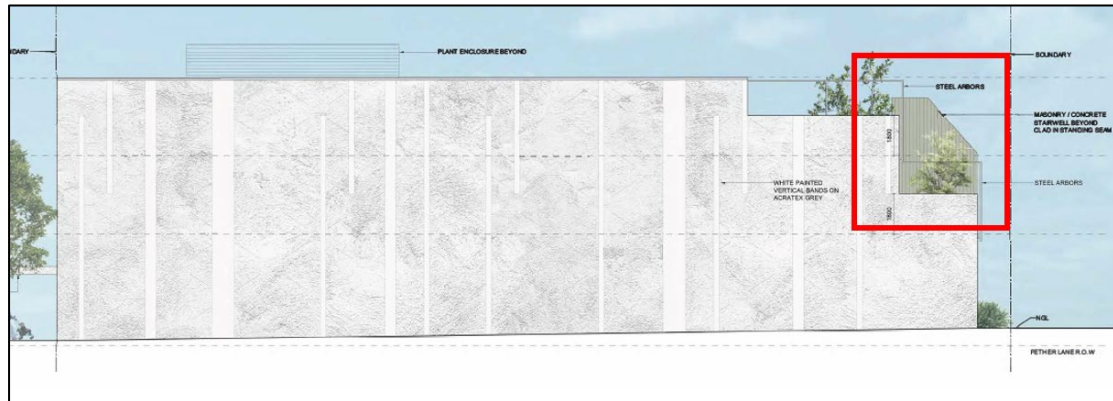


Figure 16 — 2021 Approved Stairwell Cladding (Image 3 – North Elevation)

The as-constructed development deviates from this requirement, by way of the following.

- metal cladding is provided only to the angled stairwell wall on the second floor, in unpainted zincalume;
- the first-floor western stairwell wall is finished in grey render; and
- the side walls of the stairwell have been left as exposed concrete.

In response to the DRP's feedback, the amended plans propose that the first-floor western stairwell wall be repainted in "Timeless Grey" (a low-sheen finish), while retaining the exposed concrete side walls and the existing zincalume cladding to the second-floor angled wall.

Although the omission of metal cladding changes the material presentation compared with the 2021 approval, the amended finish maintains an acceptable built-form outcome. The Timeless Grey paint treatment provides a recessive, non-reflective surface that integrates suitably with the building's broader colour scheme and ensures the stairwell presents as an articulated but visually subordinate element rather than a dominant feature along the laneway interface.

The Town also considers it reasonable for the side walls of the stairwell to remain as exposed concrete for the following reasons:

- these walls primarily face inward toward balcony and circulation spaces rather than the public realm;
- they are secondary elements with limited visibility from Pether Lane, where they are partly screened by fencing, planting and balcony structures;
- exposed concrete is an inherently durable, low-maintenance material; and
- finishing these internal side walls in metal cladding would not materially improve the public-facing streetscape outcome.

On balance, the amended treatment (comprising zincalume cladding to the second floor, a painted finish to the first-floor western wall, and exposed concrete to the side walls) is considered to achieve an acceptable level of design quality consistent with SPP 7.0, provided that all visible surfaces are maintained in good order and the zincalume cladding does not generate glare impacts.

Should the DAP support the amended materials, a condition is recommended requiring ongoing maintenance of the painted and metal surfaces for the life of the development.

7. Landscaping shortfall (eastern and western elevations)

The 2021 approval included a combination of in-ground planting, understorey planting, climbing species and potted vegetation, intended to provide façade softening, vertical greening, and a landscaped interface to both Northwood Street (east) and Pether Lane (west).

The development was constructed with a reduced extent of landscaping compared to the original approval. However, the amended landscaping package (**Attachment 2**) submitted with the Section 31 reconsideration package substantially increases the planting provision across all levels and is considered to achieve at least an equivalent landscaping outcome.

The following table summarises the approved 2021 landscaping, the as-constructed landscaping, and the amended 2025 landscaping proposal across both the eastern (Northwood Street) and western (Pether Lane) elevations.

Elevation	2021 Approved Landscaping	As-Constructed (compared to 2021 approval)	2025 Amended Landscaping (S31 submission)
Western Elevation (Pether Lane)	• In-ground planting at laneway edge • Understorey planting • Potted climbers on upper levels • Vertical greening intent using climbers	• Reduced in-ground planting • Fewer climbers than approved • Less façade softening	• New in-ground garden beds replacing concrete • New Pyrus 'Javelin' slender deciduous trees (approx. 4m at installation) • Evergreen climbers (Pandorea jasminoides) on wires at pillars • Additional pots and climbers on Levels 1 and 2 • Expanded vertical greening (Day 1 & Year 5 shown in plans)
Eastern Elevation (Northwood Street)	• Reliance on mature existing street trees • In-ground beds and upper-level planters • Limited but strategic vertical greening	• Reduced planter output • Limited climbers installed • Hardstand areas not converted to planting • Cascading planters omitted	• Additional Pyrus 'Javelin' trees along boundary • New in-ground garden beds and understorey planting • Evergreen climbers on column wires • Additional upper-level potted climbers

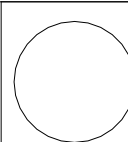
In considering the proposed landscaping across both the eastern and western elevations, the following is relevant:

- The landscaping adds significant new in-ground planting where previously hard surfaces existed
- It introduces additional slender trees that provide height and rhythm to both facades
- It increases vertical greening through evergreen climbers across all levels
- It strengthens the landscaped character of the building when viewed from both public interfaces

- It delivers a superior long-term greening outcome compared to the original approval, as demonstrated in the Year 5 elevation plans

Accordingly, the amended landscaping proposal is fully supported as it achieves at least equivalence to the 2021 approved landscaping intent and, in several respects, delivers a substantially improved outcome in terms of façade softening, visual amenity, environmental performance, and contribution to both the streetscape and laneway interfaces.

SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.



BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

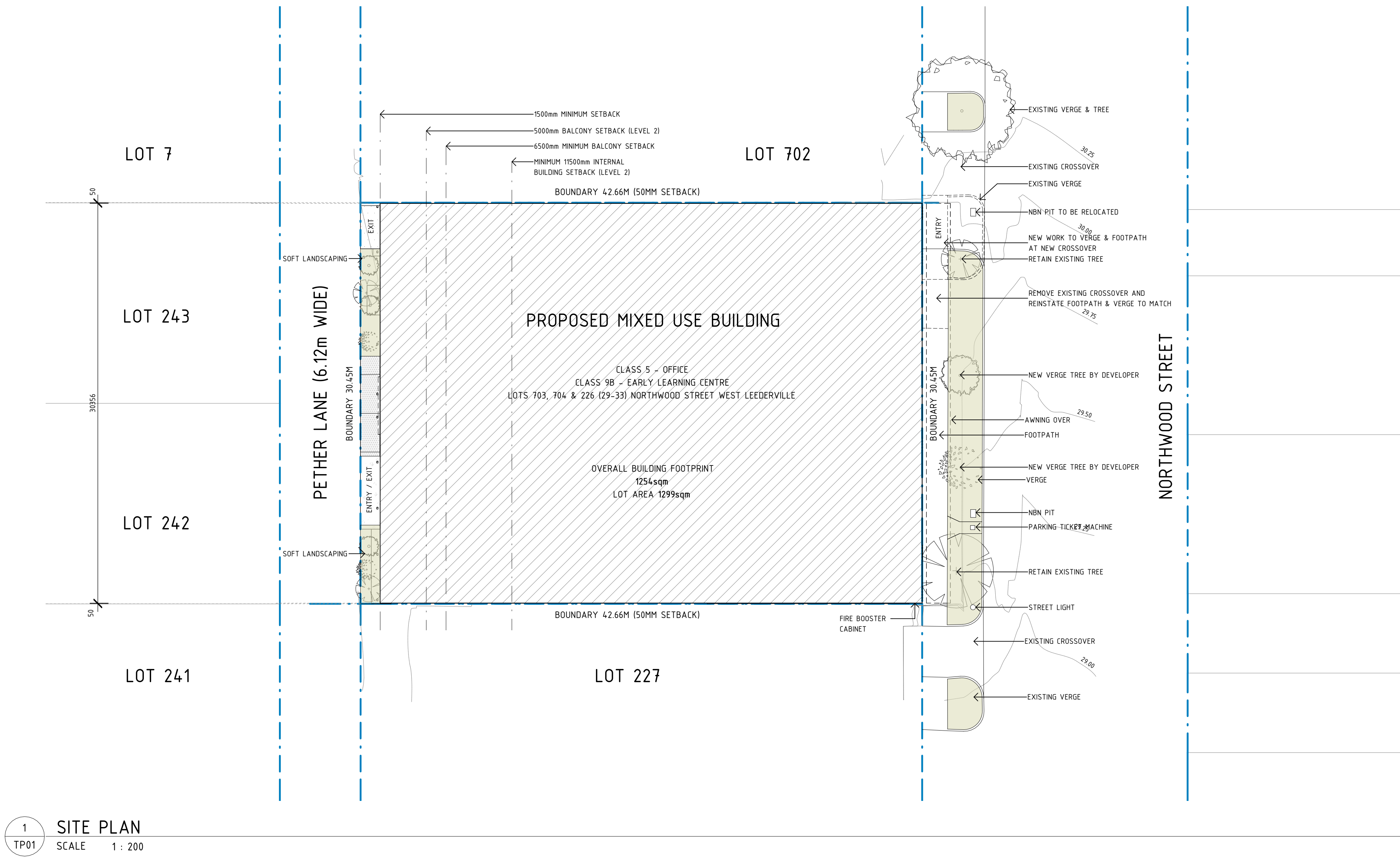
WALL SETOUT DIMENSIONS ARE TAKEN BETWEEN STRUCTURAL ELEMENTS EXCLUSIVE OF ALL FINISHES UNLESS NOTED OTHERWISE

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS & SCHEDULES AS PROVIDED.

THE ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.



1 SITE PLAN
TP01 SCALE 1 : 200

REV	DATE	NOTES	BY	TO
0	25-05-05	PRELIMINARY	BM	JB
1	25-05-09	FACADE UPDATES	BM	JB
2	25-05-12	FACADE UPDATES	BM	JB

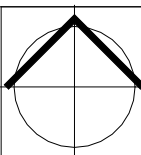
EARLY LEARNING
CENTRE

29-33 NORTHWOOD STREET,
WEST LEEDERVILLE WA 6007

TITLE
SITE PLAN

COPYRIGHT ARCHIVE OFFICE. No part of this drawing shall be reproduced or otherwise dealt with without the prior written consent	
JOB NO.	2509
DATE:	25-05-05
DRAWN BY:	Author
SCALE:	@ A1

PRELIM - NOT FOR CONSTRUCTION	
THIS DESIGN AND ANY ACCOMPANYING DOCUMENTS ARE SUBJECT TO APPROVAL OF ALL AUTHORITIES	
DRAWING NO.	REV
TP01	2



BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

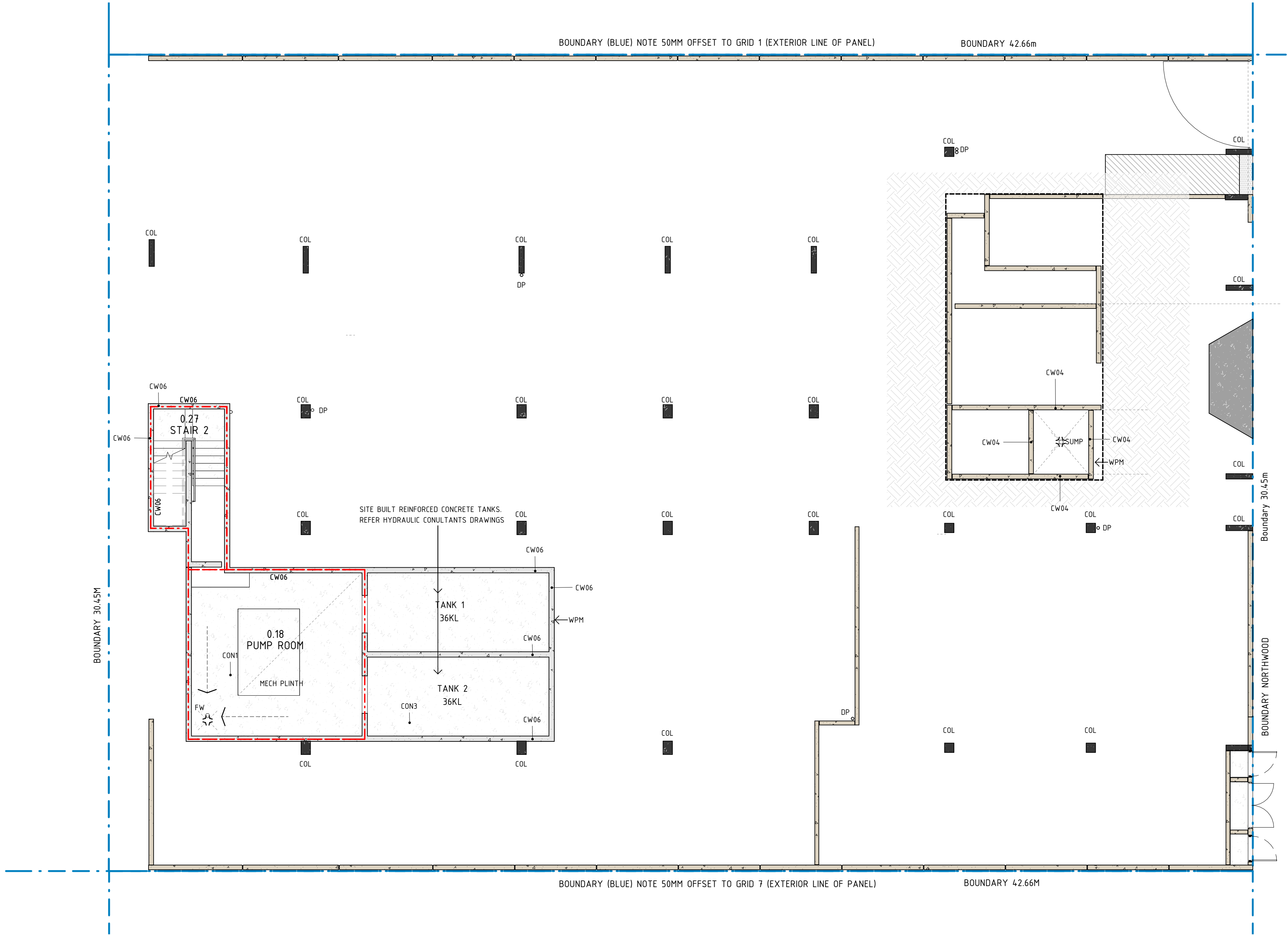
WALL SETOUT DIMENSIONS ARE TAKEN BETWEEN STRUCTURAL ELEMENTS EXCLUSIVE OF ALL FINISHES UNLESS NOTED OTHERWISE

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS & SCHEDULES AS PROVIDED.

THE ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.



1 FLOOR PLAN - BASEMENT
TP02 SCALE 1 : 100

REV	DATE	NOTES	BY	TO
0	25-05-05	PRELIMINARY	BM	JR
1	25-05-09	FACADE UPDATES	BM	JR
2	25-05-12	FACADE UPDATES	BM	JR

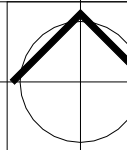
EARLY LEARNING
CENTRE

29-33 NORTHWOOD STREET,
WEST LEEDERVILLE WA 6007

TITLE
FLOOR PLAN - BASEMENT

COPYRIGHT ARCHIVE OFFICE. No part of this drawing shall be reproduced or otherwise dealt with without the prior written consent	
JOB NO.	2509
DATE:	25-05-05
DRAWN BY:	Author
SCALE:	@ A1

PRELIM - NOT FOR CONSTRUCTION	
THIS DESIGN AND ANY ACCOMPANYING DOCUMENTS ARE SUBJECT TO APPROVAL OF ALL AUTHORITIES	
DRAWING NO.	REV
TP02	2



SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.



BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

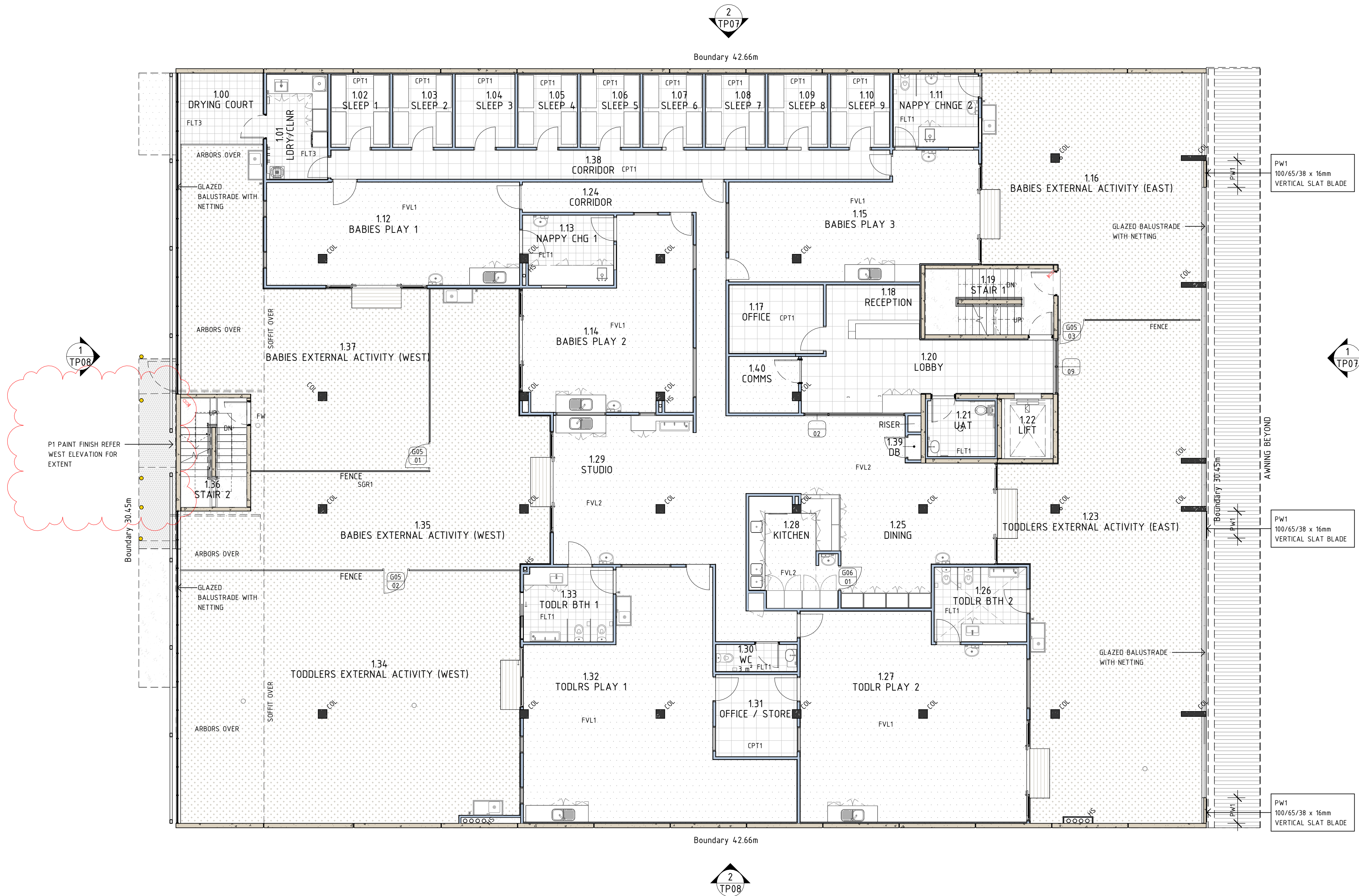
WALL SETOUT DIMENSIONS ARE TAKEN BETWEEN STRUCTURAL ELEMENTS EXCLUSIVE OF ALL FINISHES UNLESS NOTED OTHERWISE

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS & SCHEDULES AS PROVIDED.

THE ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.



1 FLOOR PLAN - LEVEL 1
TP04 SCALE 1 : 100

REV	DATE	NOTES	BY	TO
0	25-05-05	PRELIMINARY	BM	JB
1	25-05-09	FACADE UPDATES	BM	JB
2	25-05-12	FACADE UPDATES	BM	JB
3	25-07-29	WEST ELEVATION	BM	JB

EARLY LEARNING
CENTRE

29-33 NORTHWOOD STREET,
WEST LEEDERVILLE WA 6007

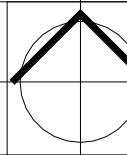
TITLE
FLOOR PLAN - LEVEL 1

COPYRIGHT ARCHIVE OFFICE.
No part of this drawing shall be reproduced or
otherwise dealt with without the prior written
consent
JOB NO. 2509
DATE: 25-05-05
DRAWN BY: Author
SCALE: @ A1

PRELIM - NOT FOR CONSTRUCTION

DRAWING NO. REV

TP04 3



BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

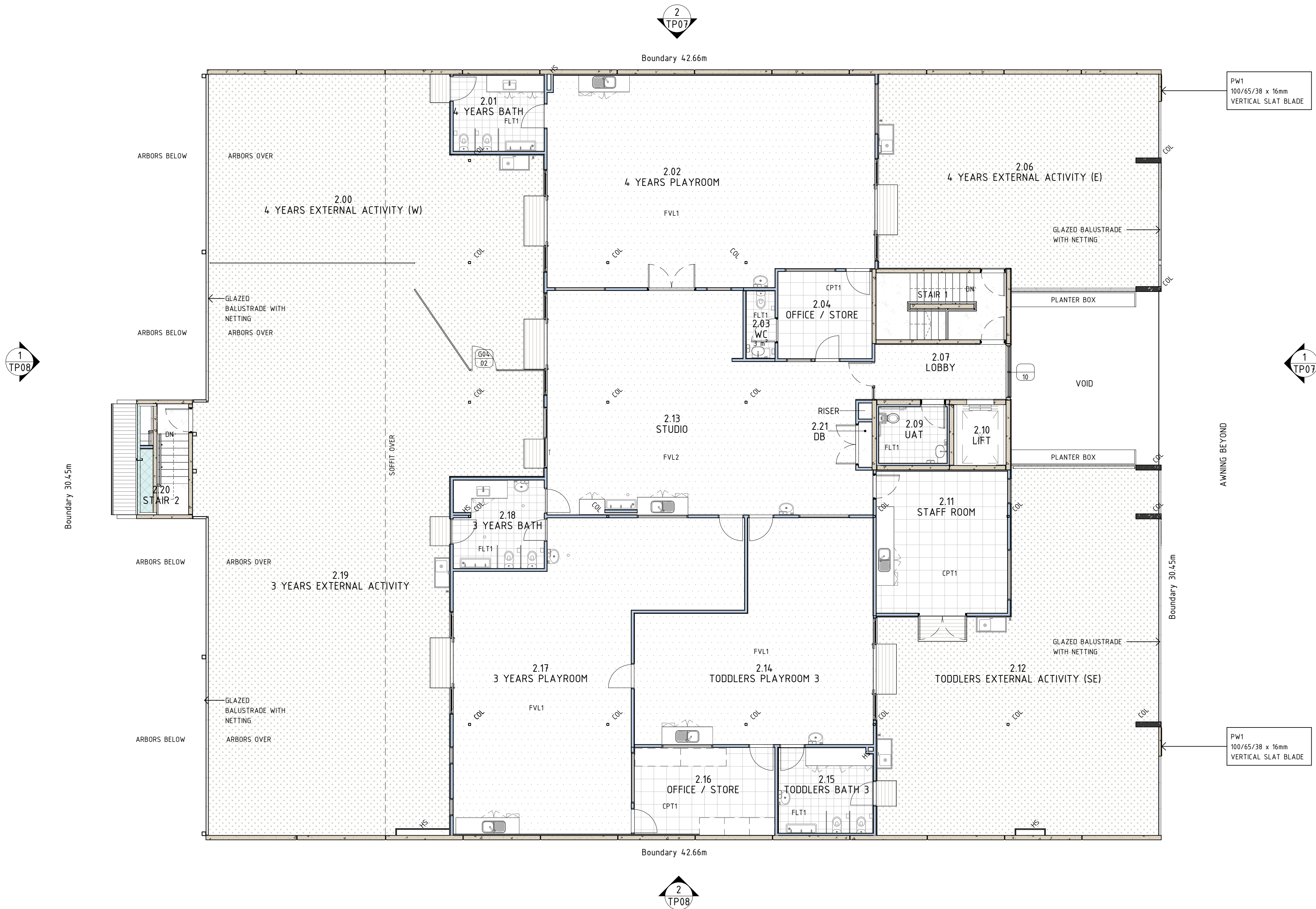
WALL SETOUT DIMENSIONS ARE TAKEN BETWEEN STRUCTURAL ELEMENTS EXCLUSIVE OF ALL FINISHES UNLESS NOTED OTHERWISE

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS & SCHEDULES AS PROVIDED.

THE ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.



1 FLOOR PLAN - LEVEL 2
TP05 SCALE 1 : 100

ARCHIVE

Architecture, Interiors,
Culture & Objects



Perth & Melbourne, Australia
www.archive-office.com



THE BUILDER/CONTRACTOR SHALL VERIFY JOB DIMENSIONS PRIOR TO ANY WORK COMMENCING. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED WORK.

THIS DESIGN IS DEPENDENT ON APPROVAL BY RELEVANT AUTHORITIES AND CLIENT BUDGET REQUIREMENTS. AT TIME OF DESIGN CONFIRMATION OF THESE APPROVALS HAVE NOT BEEN CONFIRMED.

REV	DATE	NOTES	BY	TO
0	25-05-05	PRELIMINARY	BM	JB
1	25-05-09	FACADE UPDATES	BM	JB
2	25-05-12	FACADE UPDATES	BM	JB

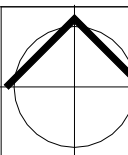
EARLY LEARNING
CENTRE

29-33 NORTHWOOD STREET,
WEST LEEDERVILLE WA 6007

TITLE
FLOOR PLAN - LEVEL 2

COPYRIGHT ARCHIVE OFFICE. No part of this drawing shall be reproduced or otherwise dealt with without the prior written consent	NOT TO BE USED FOR CONSTRUCTION PURPOSES THIS DESIGN AND ANY ACCOMPANYING DOCUMENTS ARE SUBJECT TO APPROVAL OF ALL AUTHORITIES
JOB NO.	2509
DATE:	25-05-05
DRAWN BY:	Author
SCALE:	@ A1

PRELIM - NOT FOR CONSTRUCTION	
DRAWING NO.	REV
TP05	2



BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

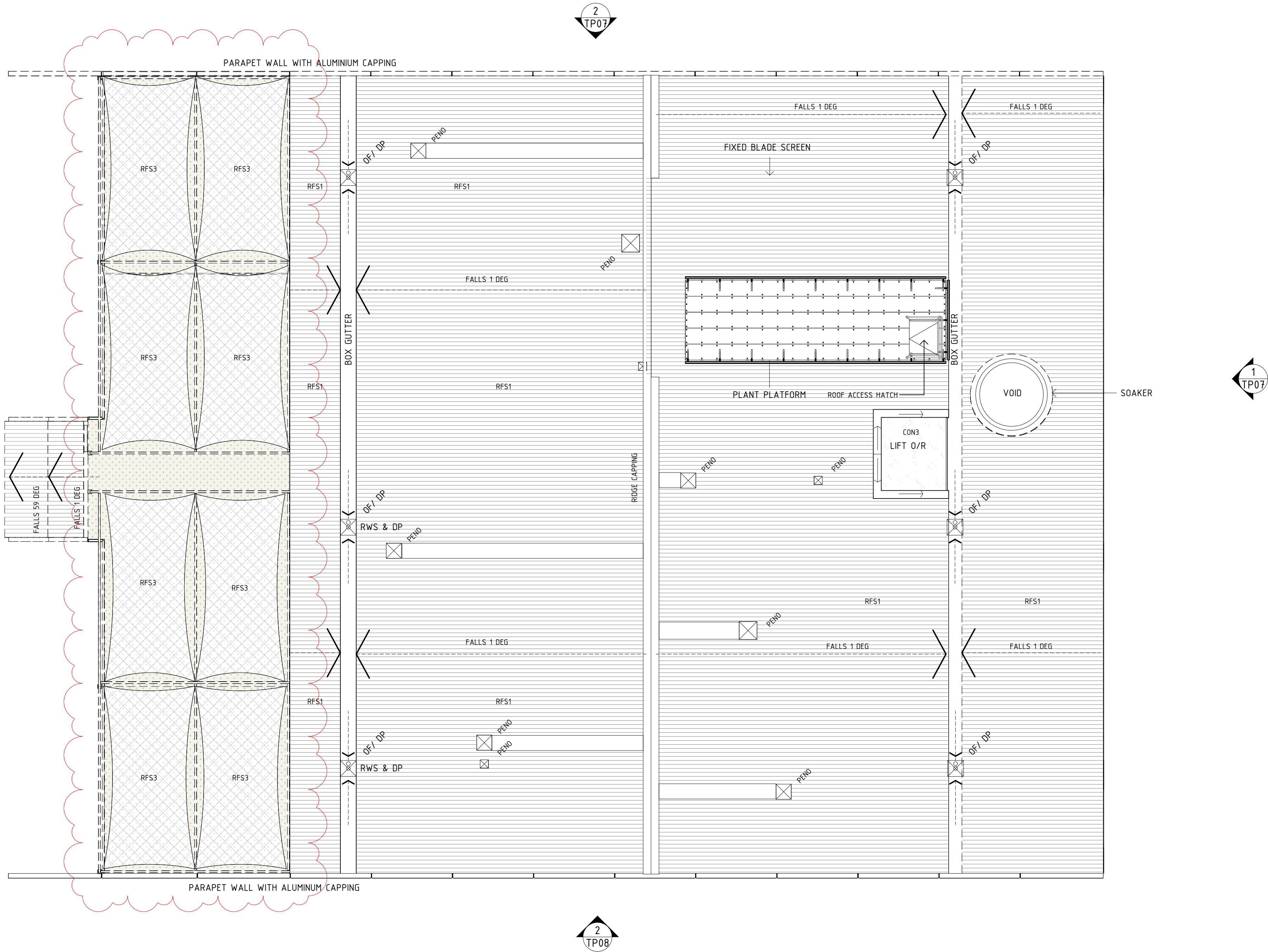
WALL SETOUT DIMENSIONS ARE TAKEN BETWEEN STRUCTURAL ELEMENTS EXCLUSIVE OF ALL FINISHES UNLESS NOTED OTHERWISE

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS & SCHEDULES AS PROVIDED.

THE ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.



1
TP06

ROOF PLAN

SCALE 1 : 100

ARCHIVE

Architecture, Interiors,
Culture & Objects



Perth & Melbourne, Australia
www.archive-office.com



THE BUILDER/CONTRACTOR SHALL VERIFY JOB DIMENSIONS PRIOR TO ANY WORK COMMENCING. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED WORK.

THIS DESIGN IS DEPENDENT ON APPROVAL BY RELEVANT AUTHORITIES AND CLIENT BUDGET REQUIREMENTS. AT TIME OF DESIGN CONFIRMATION OF THESE APPROVALS HAVE NOT BEEN CONFIRMED.

REV	DATE	NOTES	BY	TO
0	25-05-05	PRELIMINARY	BM	JB
1	25-05-09	FACADE UPDATES	BM	JB
2	25-05-12	FACADE UPDATES	BM	JB
3	25-06-18	ROOF COORDINATION	BM	

EARLY LEARNING
CENTRE

29-33 NORTHWOOD STREET,
WEST LEEDERVILLE WA 6007

TITLE
ROOF PLAN

COPYRIGHT ARCHIVE OFFICE.
No part of this drawing shall be reproduced or
otherwise dealt with without the prior written
consent

JOB NO. 2509

DATE: 25-05-05

DRAWN BY: Author

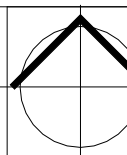
SCALE: @ A1

PRELIM - NOT FOR CONSTRUCTION

THIS DESIGN AND ANY ACCOMPANYING DOCUMENTS ARE SUBJECT TO APPROVAL OF ALL AUTHORITIES

DRAWING NO. REV

TP06 3



BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

WALL SETOUT DIMENSIONS ARE TAKEN BETWEEN STRUCTURAL ELEMENTS EXCLUSIVE OF ALL FINISHES UNLESS NOTED OTHERWISE

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

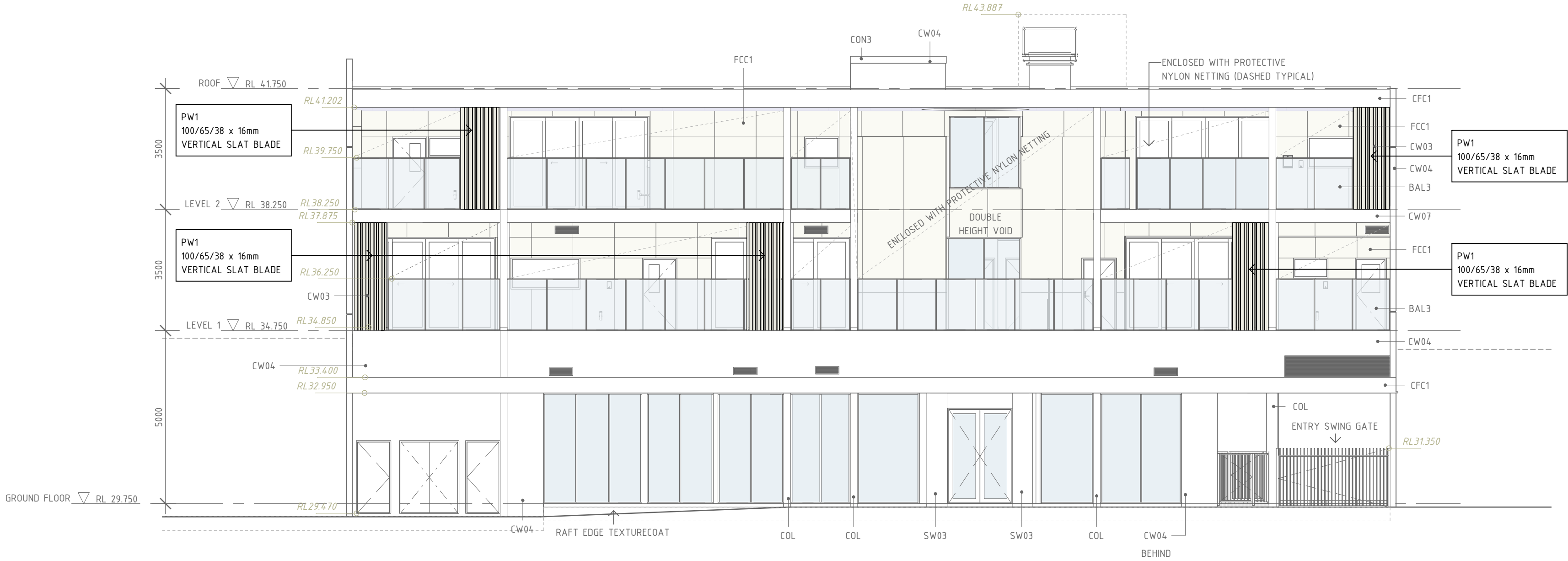
ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS & SCHEDULES AS PROVIDED.

THE ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

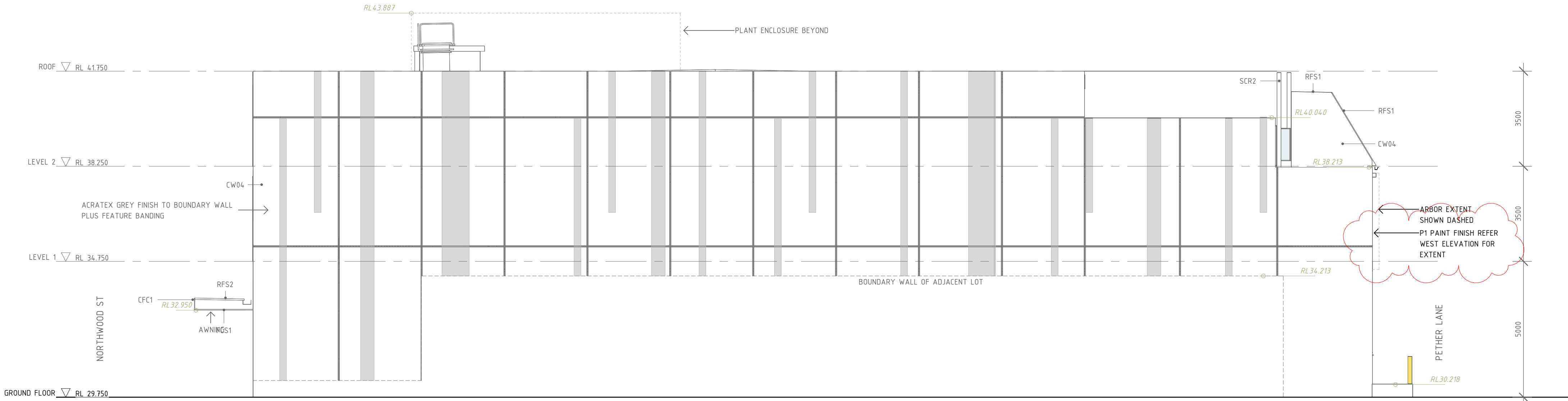
SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.

MATERIAL LEGEND

PW1 DULUX DURATEC ZEUS	COLOUR WHISPER WHITE MATT
PW2 GARAGE DOOR	COLOUR MONUMENT
RFS1 COLORBOND ROOF SHEET	COLOUR MONUMENT
P1 CONCRETE PAINT (TO BE APPLIED OVER DULUX ACRATEx ACRASAND SAND TEXTURED COAT FINISH)	COLOUR TIMELESS GREY



1 EAST ELEVATION
TP07 SCALE 1 : 100



2 NORTH ELEVATION
TP07 SCALE 1 : 100

ARCHIVE

Architecture, Interiors,
Culture & Objects

Perth & Melbourne, Australia
www.archive-office.com

Georgiou
Developments

THE BUILDER/CONTRACTOR SHALL VERIFY JOB DIMENSIONS PRIOR TO ANY WORK COMMENCING. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED WORK.

THIS DESIGN IS DEPENDENT ON APPROVAL BY RELEVANT AUTHORITIES AND CLIENT BUDGET REQUIREMENTS. AT TIME OF DESIGN CONFIRMATION OF THESE APPROVALS HAVE NOT BEEN CONFIRMED.

REV	DATE	NOTES	BY	TO
0	25-05-05	PRELIMINARY	BM	JB
1	25-05-09	FACADE UPDATES	BM	JB
2	25-05-12	FACADE UPDATES	BM	JB
3	25-07-29	WEST ELEVATION	BM	JB

EARLY LEARNING
CENTRE

29-33 NORTHWOOD STREET,
WEST LEEDERVILLE WA 6007

TITLE
ELEVATIONS

COPYRIGHT ARCHIVE OFFICE.
No part of this drawing shall be reproduced or
otherwise dealt with without the prior written
consent.
JOB NO. 2509
DATE: 25-05-05
DRAWN BY: Author
SCALE: @ A1

PRELIM - NOT FOR CONSTRUCTION

DRAWING NO. REV

TP07 3

BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

WALL SETOUT DIMENSIONS ARE TAKEN BETWEEN STRUCTURAL ELEMENTS EXCLUSIVE OF ALL FINISHES UNLESS NOTED OTHERWISE

FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS & SCHEDULES AS PROVIDED.

THE ARCHITECT IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.

SHOP DRAWINGS TO BE SUBMITTED TO THE ARCHITECT AS PER THE CLIENT / ARCHITECTURAL AGREEMENT FOR REVIEW PRIOR TO COMMENCEMENT ON ANY FABRICATED WORKS.

MATERIAL LEGEND

PW1
DULUX DURATEC ZEUS

COLOUR
WHISPER WHITE MATT

PW2
GARAGE DOOR

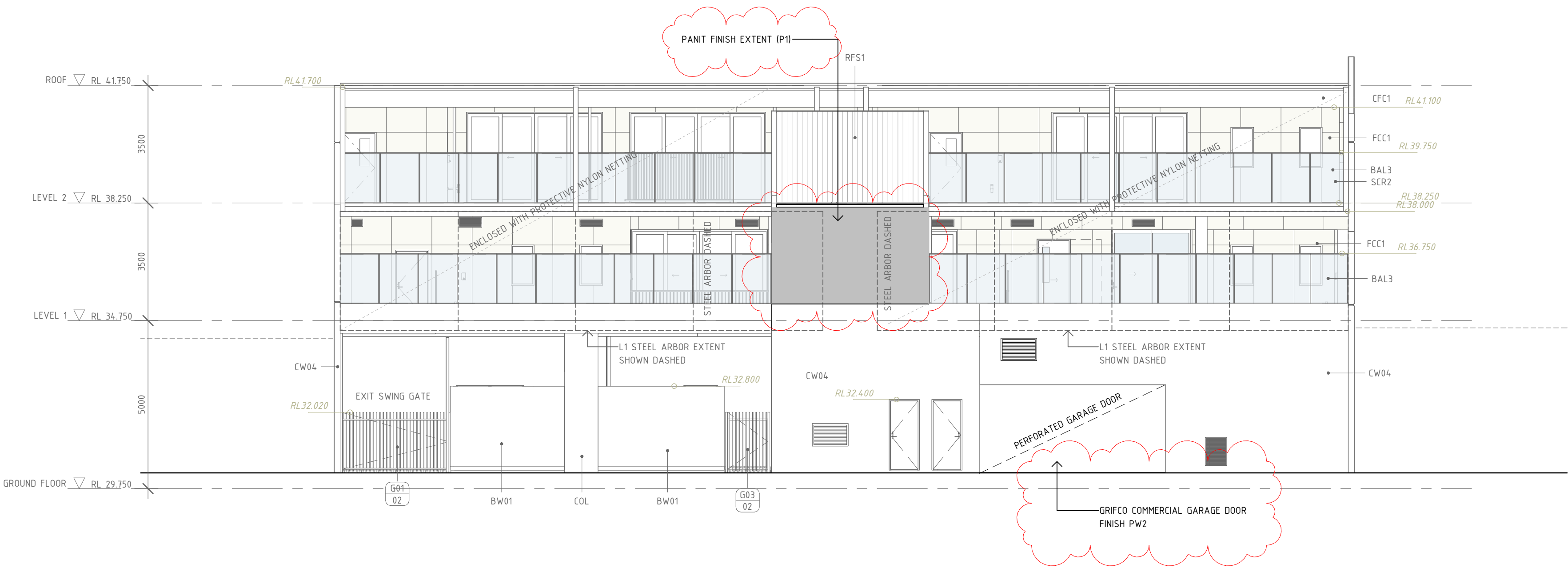
COLOUR
MONUMENT

RFS1
COLORBOND ROOF SHEET

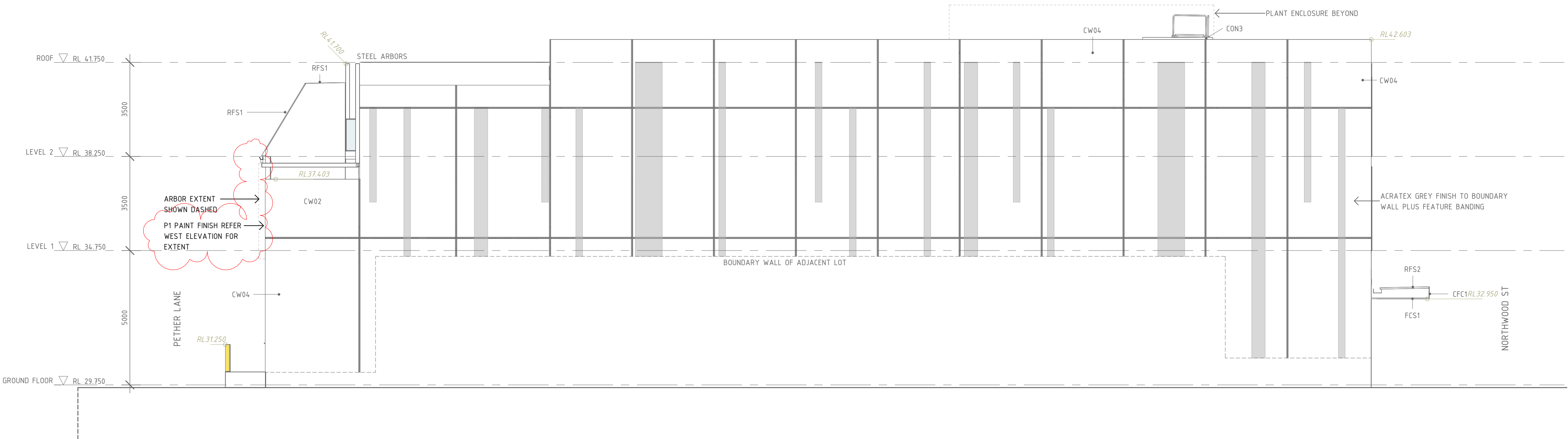
COLOUR
MONUMENT

P1
CONCRETE PAINT
(TO BE APPLIED OVER DULUX
ACRATX ACRASAND SAND
TEXTURED COAT FINISH)

COLOUR
TIMELESS GREY



1 WEST ELEVATION
TP08 SCALE 1 : 100



2 SOUTH ELEVATION
TP08 SCALE 1 : 100

ARCHIVE

Architecture, Interiors,
Culture & Objects

Perth & Melbourne, Australia
www.archive-office.com

Georgiou
Developments

THE BUILDER/CONTRACTOR SHALL VERIFY JOB DIMENSIONS PRIOR TO ANY WORK COMMENCING. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED WORK.

THIS DESIGN IS DEPENDENT ON APPROVAL BY RELEVANT AUTHORITIES AND CLIENT BUDGET REQUIREMENTS. AT TIME OF DESIGN CONFIRMATION OF THESE APPROVALS HAVE NOT BEEN CONFIRMED.

REV	DATE	NOTES	BY	TO
0	25-05-05	PRELIMINARY	BM	JB
1	25-05-09	FACADE UPDATES	BM	JB
2	25-05-12	FACADE UPDATES	BM	JB
3	25-07-29	WEST ELEVATION	BM	JB

EARLY LEARNING
CENTRE

29-33 NORTHWOOD STREET,
WEST LEEDERVILLE WA 6007

TITLE
ELEVATIONS

COPYRIGHT ARCHIVE OFFICE.
No part of this drawing shall be reproduced or
otherwise dealt with without the prior written
consent
JOB NO. 2509
DATE: 25-05-05
DRAWN BY: Author
SCALE: @ A1

PRELIM - NOT FOR CONSTRUCTION

DRAWING NO. REV

TP08

3

00

West Leederville Childcare

additional planting | AUGUST 2025

GROUND FLOOR - ORIGINAL DA DRAWING

PETHER LANE

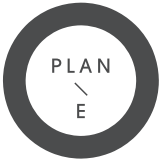
NORTHWOOD STREET



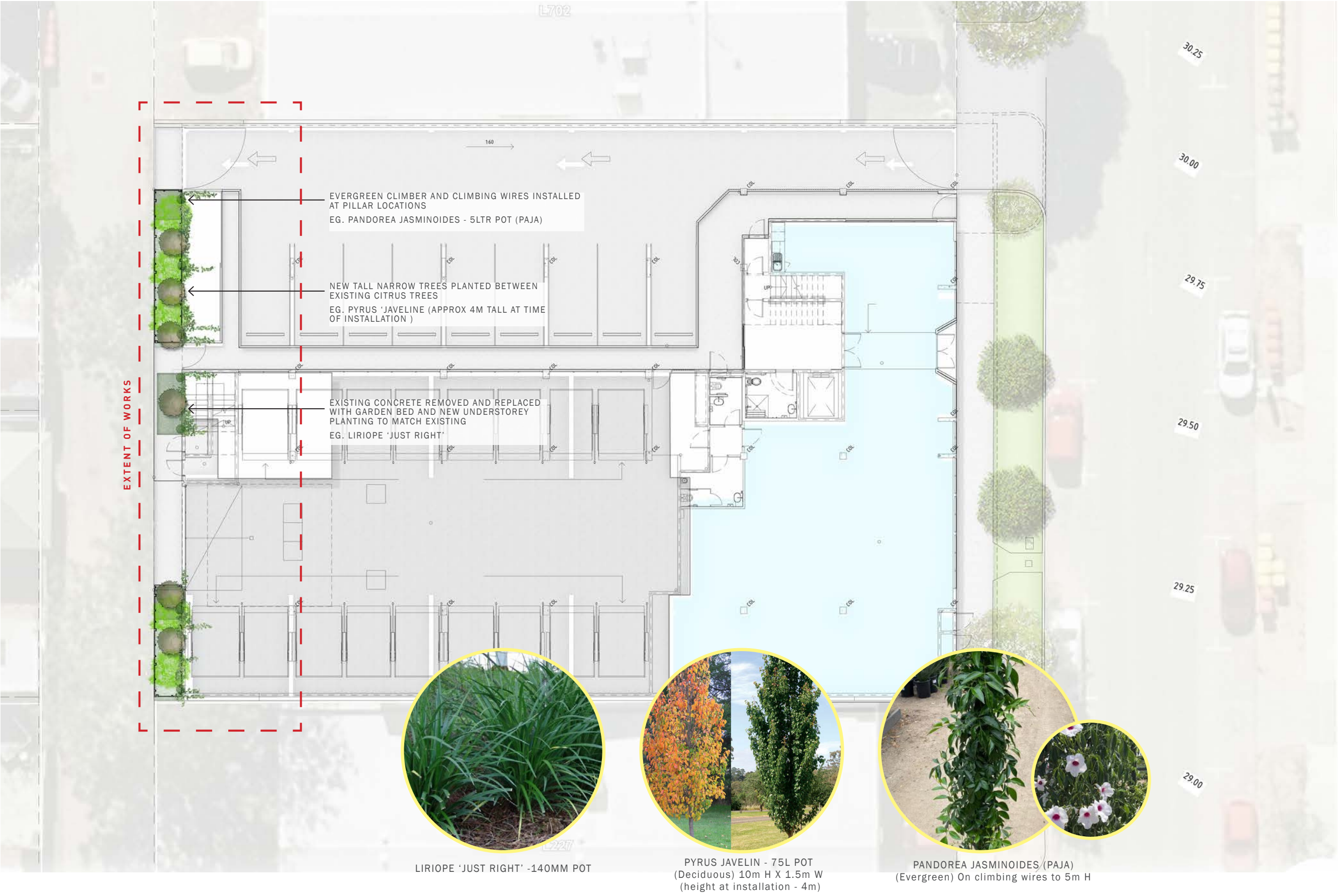
PLATANUS ACERIFOLIA

LEGEND

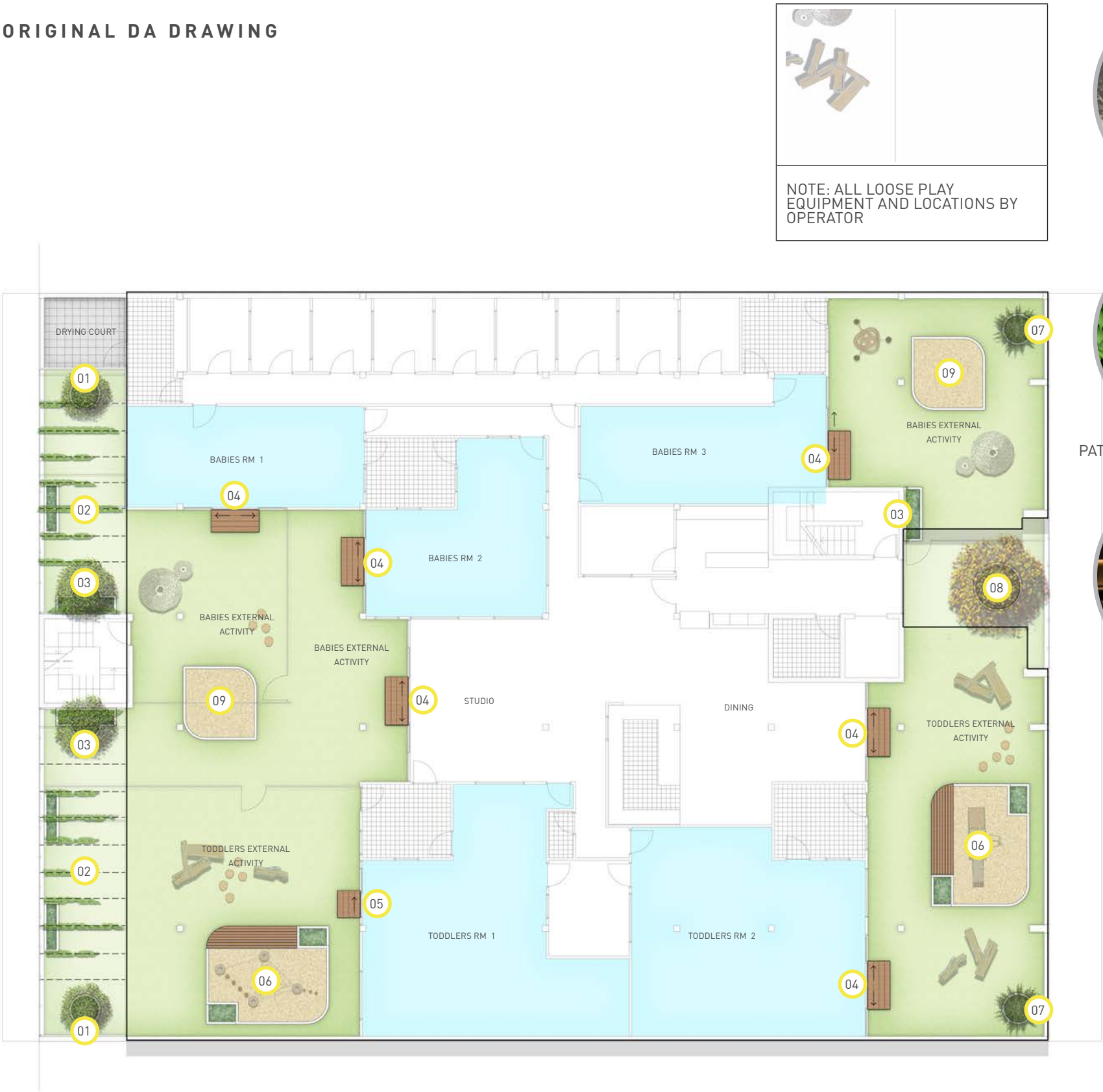
- 01 EXISTING CROSSOVER DEMOLISHED AND VERGE RE-ESTABLISHED WITH TURF AND/OR GROUNDCOVER
- 02 EXISTING TREES TO BE REMOVED
- 03 EMERGENCY ACCESS TO STAIR
- 04 NEW PATHWAY WITH UNIT PAVING
- 05 EXISTING TREES TO RETAIN
- 06 NEW STREET TREES - PLATANUS ACERIFOLIA
- 07 VERGE AND FOOTPATH REWORKS FOR NEW CROSSOVER
- 08 GROUNDCOVER PLANTING TO LANEWAY



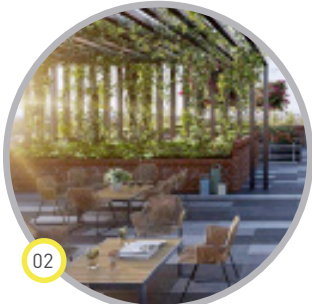
GROUND FLOOR - PROPOSED AMENDMENTS PLAN



LEVEL ONE - ORIGINAL DA DRAWING



CITRUS 'EUREKA LEMON'



02



PATHENOCISSUS QUINQUEFOLIA



03

PYRUS 'CAPITAL'



07

FICUS LYRATA



08

CAESALPINIA FERREA

LEGEND

- 01 FRUIT TREES IN POTS IE. CITRUS 'EUREKA LEMON'
- 02 ARBOR STRUCTURE WITH CREEPER GROWING OVER IE. HIBBERTIA SCANDENS
- 03 SELF-ADHERING CREEPERS TO WALL (IE. PARTHENOCISSUS QUINQUEFOLIA/FICUS PIMULA) WITH TALL NARROW TREE IN RAISED PLANTER IE. PYRUS 'CAPITAL'
- 04 DECKING AT DOOR THRESHOLDS- DOUBLE
- 05 DECKING AT DOOR THRESHOLDS- SINGLE
- 06 INDICATIVE SAND PIT LOCATION, WITH INTEGRATED LOW PLANTERS AND DECK
- 07 SHADE TOLERANT PALM/ SHADE TOLERANT SMALL TREE SPECIES IE. FICUS LYRATA/DYPSIS LUTESCENS
- 08 TALL TREE SPECIES IN LARGE POT GROWING THROUGH VOID - IE. CAESALPINIA FERREA
- 09 INDICATIVE SAND PIT LOCATION FOR BABY AREAS

WEST LEEDERVILLE EARLY LEARNING CENTRE

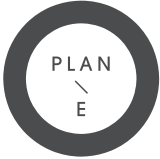
PREPARED FOR GEORGIU DEVELOPMENTS

ADDITIONAL PLANTING WORKS - LEVEL 1
AUGUST 2025

JOB NO. 2502901
1:200 @ A3

C1.104
0 2 4 6 10m
REV E

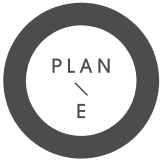
COPYRIGHT THIS DOCUMENT IS AND
SHALL REMAIN THE PROPERTY OF
PLAN E



LANDSCAPE ARCHITECTS

LEVEL 1 278 RAILWAY PARADE WEST LEEDERVILLE 6007
T: (08) 9388 9566 E: mail@plane.com.au

LEVEL ONE - PROPOSED AMENDMENTS PLAN



LEVEL TWO - ORIGINAL DA DRAWING



ASPIDISTRA ELIATOR



ASPLENUM NIDUS



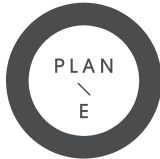
PHILODENDRON XANADU



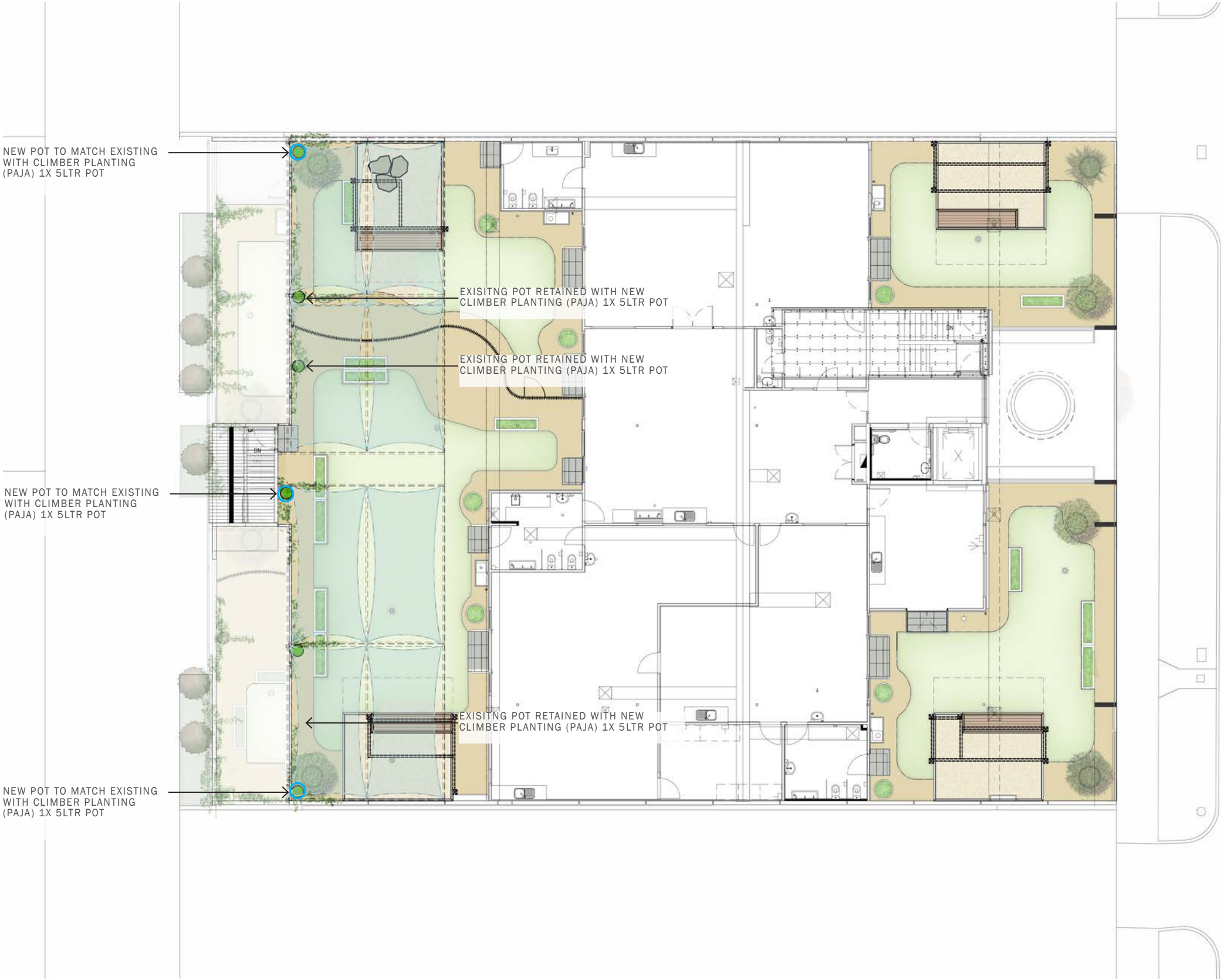
EPIPRENUM AUREUM

LEGEND

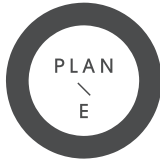
- 01 FRUIT TREES IN POTS IE. CITRUS 'EUREKA LEMON'
- 02 ARBOR STRUCTURE WITH CREEPER GROWING OVER IE. HIBBERTIA SCANDENS
- 03 SELF-ADHERING CREEPERS TO WALL IE. PARTHENOCISSUS QUINQUEFOLIA/FICUS PIMULA WITH LUSH SHADE TOLERANT SHRUB PLANTING IN RAISED PLANTER IE. ASPIDISTRA ELIATOR, ASPLENUM & PHILODENDRON SP
- 04 DECKING AT DOOR THRESHOLDS- DOUBLE
- 05 DECKING AT DOOR THRESHOLDS- SINGLE
- 06 INDICATIVE SAND PIT LOCATION, WITH INTEGRATED LOW PLANTERS AND DECK
- 07 SHADE TOLERANT PALM/ SHADE TOLERANT SMALL TREE SPECIES IE. FICUS LYRATA/DYPSIS LUTESCENS
- 08 SHADE SAILS INTERSPERSED OVER PLAY AREA
- 09 TALL PLANTER TO BALUSTRADE EDGE WITH CASCADING PLANTING IE. EPIPREMNUM AUREUM



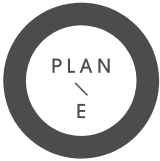
LEVEL TWO - PROPOSED AMENDMENTS PLAN



○ ADDITIONAL POT TO MATCH EXISTING 3No.



ELEVATION - DAY 1



ELEVATION - YEAR 5





PO Box 538, Inglewood
Western Australia 6932

0411 445 031
peter@ptsplanning.com.au

www.ptsplanning.com.au

ABN - 32 603 168 850

8 August 2025

DAP Executive Director
C/- State Solicitor's Office
David Malcolm Justice Centre,
28 Barrack Street,
Perth WA 6000 Australia

Attention: Caroline Foster

Dear Ms Foster

GEORGIOU PROPERTY 2 AND DAP EXECUTIVE DIRECTOR

We refer to the State Administrative Tribunal orders dated 18 July 2025 and Order 3 which requires the Applicant to provide to the respondent and the Town of Cambridge any additional information it wishes to be considered in connection with the reconsideration, by no later than 8 August 2025.

We have enclosed:

- Amended Architectural plans
- Amended Landscape Plans
- Acoustic Car Park Door Test Report

Amended Plans

The enclosed plans have been amended to:

- Include 5 Vertical Slat Screens on the eastern façade of the building at the first floor and second floor levels. The detail of the slat screens has also been provided. These amendments were previously provided and considered by the Town of Cambridge Design Review Panel (DRP).
- Paint the rear stairs at level 1 (Timeless Grey). This was a suggestion of the DRP.
- Provide the roller door details as Grifco Commercial Garage Door in Monument. This was a request of the Town. It is noted that the door exists on site.

The plans are clouded to indicate the latest amendments, noting the slat screens were included as a previous amendment considered by the DRP and therefore not clouded.

The slat screens have been located in accordance with approved plans at the first floor and second floor levels. The slat screens cannot be located at ground level given that the screens would encroach over the lot boundary and would adversely impact the pedestrian environment.

We refer to the attachment which provides a response to the DRP's and Town's comments.

FILED

8 AUG 2025

Via eLodgment

STATE ADMINISTRATIVE
TRIBUNAL

Amended Landscape Plan

The landscape plan has been amended to include the following. It is noted that the following amendments identify changes from the plans considered under the original DAP Form 1 and have also been formatted so as to be consistent with the original DAP Form1 Approval for comparison purposes:

Ground Level

The original approval only included ground cover at the rear at ground level and has been amended to include:

- 6 new citrus trees planted at ground level at the rear (planted).
- 6 new additional narrow trees planted at ground level between the citrus trees. This included removing the existing concrete centrally at the rear to facilitate the planting.
- The provision of 7 new climbers at ground level to the rear with climbing wires.

The new ground level planting provides both additional tall trees and also additional new climber species to soften the rear facade. The plans include elevations of the planting at day 1 and the expected growth after 5 years. As can be seen from the Year 5 elevation, the ground level trees are expected to grow to a height at the floor level of level 2, effectively screening the ground and first floor levels.

Level 1

To the front, the original approval included 3 trees with 3 small garden beds. This has been amended to 5 trees and 7 small garden beds.

To the rear the original approval included 4 trees, 5 small garden beds and 3 vine planter beds. The amended plan includes the 4 trees, 9 garden beds and 4 potted vines.

The 4 potted vines will grow up and along the structure using wires. The plans include elevations of the vines at day 1 and the expected growth after 5 years. As can be seen from the Year 5 elevation, the vines are expected to grow in the areas not covered by the ground level trees.

Level 2

To the front, the original approval included 2 trees with 4 small garden beds and the 2 cascading upper planter beds. This has been amended to 4 trees and 6 small garden beds. The 2 cascading planter beds are not proposed as they cannot be accessed in order to allow ongoing care and maintenance.

To the rear the original approval included 2 trees, 8 small garden beds and 4 vine planter beds. The amended plan includes the 2 trees, 9 garden beds and 6 potted vines.

The vines include 6 potted vines which will grow up and along the structure using wires. The plans include elevations of the vines at day 1 and the expected growth after 5 years. As can be seen from the Year 5 elevation, the vines are expected to grow in the areas not covered by the ground level trees or first floor level vines.

Summary

To the front at Levels 1 and 2, 4 additional trees have been planted (2 at first floor level and 2 at second floor level) and 6 additional garden beds have been planted (4 at first floor level and 2 at second floor level). The

only planting not included is the cascading planters, however, this is offset by the 4 additional trees and 6 additional planter beds. The cascading planters presented significant ongoing maintenance issues and therefore are not proposed as they would not achieve the desired outcome.

To the rear, the significant additional planting at ground level (6 citrus trees, 6 additional trees and evergreen climbers) will have the most significant positive amenity outcome when considering the year 5 growth elevation. Additionally, the garden beds and proposed vines are consistent with the original landscape plan.

In total 16 additional trees are proposed (or already planted) than was originally approved, additional garden beds included and the vines consistent with the original approval.

The landscaping maximises the building's soft landscaping opportunities and increases the number of plants in deep soil and on structure which will best meet the intent of the original approval.

We refer to the attachment which provides a response to the DRP's and Town's comments.

Acoustic Test Report

We note that the Acoustic Test Report was submitted 30 May 2025 and to date we have not received any commentary from the Town on the report. We submit the report again.

In relation to the acoustic assessment resulting from the change from the solid door to the perforated roller door, the modelling identified that with the perforated roller down shut, the noise emissions modelled fell within the assigned limit level of dB.

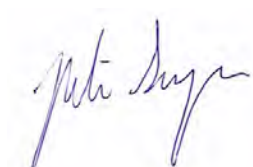
The report identifies the following management measures:

- The gate should remain open only during vehicle entry and exit. It should not be left open unnecessarily for extended periods.
- The car stacking system should be regularly maintained to ensure it operates smoothly and with minimal mechanical noise.

These management measures have been adopted by the Tenant. The gate is automatically closed when cars enter and leave and the car stacker systems are maintained six monthly in line with the manufacturers recommendation.

Should you have any questions or require any additional information, please do not hesitate to contact the undersigned on 0411 445 031 or peter@ptsplanning.com.au.

Yours sincerely
PTS Town Planning Pty Ltd



Peter Simpson
Director

Response to DRP Comments

Element	DRP Comments	Applicant's Response
Planter Boxes	The DRP proposed adding potted vines at the front of the void area to enhance softening and articulation of the eastern façade as an effective alternative to the omitted planter boxes with cascading landscaping.	As identified, to the front at Levels 1 and 2, 4 additional trees have been planted and 6 additional garden beds have been planted. Any additional potted vines would not be able to be connected to the reticulation system and as identified significantly more planting is proposed than was originally approved.
Shade Cloth	- Enlarged shade cloth is reasonable for UV protection - All members said added massing from the shade cloth is minor once vines fill in. - It was suggested the applicant focus is on demonstrating how the vines attach to the framework which is beneath the shade cloth. It was acknowledged that the addition of this information onto the plans will support the removal of the cascading plants and help demonstrate how the vines will soften the building bulk at the rear and the neighbours' concerns of privacy. - What months will the shade sail be used in?	- Noted - Noted and we refer to the rear Year 5 elevation to show how the landscaping will significantly soften the rear façade. - Where the planter is located will have a guide wire to encourage and allow the landscapers to train the climbers to go up the wire and onto the framework. - The timing of the removal of the shade sails is subject to the weather, however, they generally come down around Easter prior to the first storm of the season and put back up in early October.
Concrete Fluted Panels	- Panel agreed that frame batten screens are acceptable as a substitute due to the structural limits prevent retrofitting precast flutes. - It was acknowledged that the aluminium batten screens provide equivalent articulation and soften a "blank" façade. - Most of the panel were ambivalent on the colour but panel encouraged subtle colour variation—mix of white and very light grey, or a muted bronze accent—to echo original earthy palette and create depth. - Alternating sizes of the batons as well the use of a light grey and a white was suggested by the panel.	- Noted - Noted - The colour is Whisper White Matt which is a subtle colour variation to the façade. - The vertical screen slats are a standard detail and as indicated above will be a Whisper White Matt.
Garage Door	- Panel content if acoustic report still satisfies early-morning (6:30am–7:00am) criterion. - Advise auto-close and maintenance to minimise roller-door squeak. - Light spill was not regarded as an issue. - Panel suggests perforated door is a better outcome as it provides visual permeability.	- Noted, the Acoustic report identifies compliance and management - Auto-close is confirmed and the maintenance is annual. - Noted - Noted and agreed

GEORGIU PROPERTY 2 AND DAP EXECUTIVE DIRECTOR

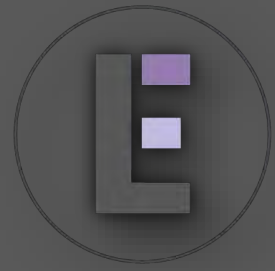
Aluminum Louvre	• With balustrade glass now frosted and extensive vine coverage proposed, extra louvre screen is no longer essential. • Panel requests that elevations must highlight how vines will climb and spread over this wall; if full coverage proves unachievable, applicant may need to reinstate a slim louvre. • Panel satisfied the frosted glazing provides adequate screening for the drying court.	• Noted • The plans include elevations of the expected growth after 5 years. The planting and vines are expected to soften the façade. • Noted
Metal Cladding	• All three panel members leaned toward a low-sheen paint (Monument or similar dark grey) rather than new metal sheeting, to avoid heat build-up and glare that could inhibit vine growth. • Paint should run down to the natural horizontal joint, clearly separating ground and upper floors and giving the stair core a defined vertical emphasis. • Applicant to specify colour of wall so that reflectivity can be checked. • Wrapping the stairwell in new metal could appear heavy and still shine; paint solution considered cleaner and more neighbour-friendly.	• Timeless Grey is proposed • Aligns with the bottom of the balustrade at a natural horizontal precast concrete joint. • Timeless Grey is proposed • Noted, paint finish proposed
Landscaping	• Landscaping strategy is accepted in principle. • Provide amended landscaping plans that: • Detail trellis/wire positions on every level. • Confirms irrigation to all large pots. • Shows vine routes from ground and first-floor planters across shade-frame soffits. • Confirm adequate reticulation to assist in healthy and rapid growth for the screening planting.	• Noted • Refer to the landscaping drawings. • The additional planters will be self-watering pots as the pots cannot be connected to the reticulation post completion. • Refer to the landscaping drawings. • All in-ground planting will be reticulated whilst the new on structure planting will be planted into self-watering pots which will be regularly maintained by a landscape contractor.

Response to Town of Cambridge Comments

Element	DRP Comments	Applicant's Response
Planter Boxes	Town requests updated plans and high-quality renders detailing this solution, which will be assessed before the Town confirms its position.	The plans include the elevations and the expected plant and vine growth after 5 years.
Shade Cloth	To address the visual impact of the additional shade sail fabric, the Town recommends any or a combination of the following solutions: 1. Reduction of Upper Floor Play Area: Decrease the size of the upper floor play area accessible by children to minimise the need for	We note that the DRP considered that the enlarged shade cloth is reasonable for UV protection and that all members said added massing from the shade cloth is minor once vines fill in.

GEORGIOU PROPERTY 2 AND DAP EXECUTIVE DIRECTOR

	extensive shade coverage, thereby reducing the amount of shade sail fabric required. 2. Limit Number of Children: Reduce the number of children using the upper floor play area at any given time to align with the shade provided by the originally approved shade sails. 3. Shade Optimisation: Conduct a shade audit, as recommended by the Cancer Council Western Australia, to ensure that shade provision is sufficient and proportionate to the number of children and activities without relying on additional fabric that increases visual bulk. These measures will balance compliance with child care regulations, the need for adequate sun protection, and reduce the visual impact of the building on the neighbouring rear properties. The Town requests that the applicant provide a detailed outcome-based assessment of the shade requirements, considering the number of children, the layout of the outdoor space, and the types of activities conducted.	The childcare centre is being occupied and therefore we cannot make changes to the upper floor area of the building or limit the number of children. We consider that a shade optimisation study to be unreasonably onerous given the proposed shade and the response from the DRP. The state and federal regulatory bodies have reviewed the shading to be adequate for the use of an early learning centre. The approvable shade solutions per the guidelines were roof cover, mature tree or shade cloth. The temporary nature of shade cloth is far less bulky than a permanent roof structure given there are no mature trees at the upper levels. The Cancer Council of WA is not part of the regulatory approval process.
Concrete Fluted Panels	The Town recommends incorporating an alternative design solution for the ground floor façade to align with the original approved design intent, mitigate the monotony of the ground level, and enhance the streetscape.	The DRP did not support the need for further material variation on the ground floor.
Garage Door	The Town requests revised plans specifying these details to inform its assessment.	Grifco Commercial Garage Door in Monument.
Aluminum Louvre	The Town requests detailed landscaping plans and high-quality renders to demonstrate that the proposed vine coverage will effectively soften and articulate the western façade, serving as a suitable alternative to the omitted aluminium louvre on the first floor. The Town will review the amended landscape plan before finalising its position on this element.	The plans include the elevations and the expected plant and vine growth after 5 years. This clearly shows the softening of the façade when viewed from the rear.
Metal Cladding	The Town requests updated plans and high-quality renders detailing this solution, which will be assessed before the Town confirms its position.	The elevations have been amended to include the detail
Landscaping	The Town requests detailed landscaping plans and renders to confirm that the proposed landscaping will adequately soften and articulate both the western and eastern façades, achieving the original design intent. The Town will evaluate the amended landscape plans before determining its stance on this matter.	The landscape plans have been based on the original DAP Form 1 and have also been formatted so consistent with the original DAP Form1 Approval for comparison purposes. The plans include the elevations and the expected plant and vine growth after 5 years.



29 Northwood Street ELC

Acoustic Report – Car park noise assessment

Project No.	P02782
Revision	1
Issued	7 November 2025
Client	Georgiou Developments

E-LAB Consulting

Where science and engineering inspire design.

Document QA and Revisions

ISSUE	DATE	COMMENTS	ENGINEER	REVIEWER
0	10/10/2025	Issued for Submission	Imran Khan	Teresa D Ngyuen
1	07/11/2025	Updated Report – Response to Peer Review Comments	Imran Khan	Teresa D Ngyuen
2				
3				

Confidentiality:

This document contains commercial information which has been prepared exclusively for the use by The Principal. The document in its entirety is confidential. No information contained in this document may be released in part or whole to any third party without the approval of the Author or The Principal.

Authorised by:

Engineering Lab NSW Pty Ltd



Imran Khan | National Technical Director
Acoustics & Vibration



Table of Content

<u>1</u>	<u>INTRODUCTION</u>	<u>4</u>
1.1	DOCUMENT PURPOSE	4
1.2	RELEVANT DOCUMENTS	4
1.3	AUTHOR DETAILS	4
1.4	PROJECT DESCRIPTION	5
<u>2</u>	<u>ACOUSTIC CRITERIA</u>	<u>6</u>
2.1	WA ENVIRONMENTAL PROTECTION(NOISE) REGULATIONS 1997	6
<u>3</u>	<u>NOISE EMISSIONS</u>	<u>10</u>
3.1	ASSESSMENT CRITERIA	10
3.2	OPERATING TIMES	11
3.3	SOUND LEVEL DATA	11
3.4	PREDICTED NOISE EMISSIONS	12
3.5	RECOMMENDATIONS	13
<u>4</u>	<u>CONCLUSION</u>	<u>14</u>
	<u>APPENDIX A RESPONSE TO PEER REVIEW COMMENTS</u>	<u>15</u>

1 INTRODUCTION

1.1 DOCUMENT PURPOSE

E-LAB Consulting was engaged by Georgiou Developments to carry out an acoustic assessment of the car park associated with 29 Northwood Street ELC, West Leederville WA 6007. The car park includes car stackers and features a perforated roller door, which allows noise from the stackers to propagate across the site and potentially affect nearby noise-sensitive receivers.

This acoustic report has been prepared in response to a Joint Development Assessment Panel (JDAP) amendment regarding the replacement of the previously approved solid roller door with a perforated roller door. Furthermore, the client has sought an independent acoustic report from E-Lab to address the Town's comment in relation to noise impacts to the nearest noise sensitive receivers.

The following acoustic assessment has been undertaken, and recommendations are made to achieve compliance with:

- Noise emissions from the car park impacting noise sensitive receivers in accordance with WA Environmental Protection (Noise) Regulations 1997

The following noise emitting sources were considered in the assessment:

- Car stacker operation
- Car stacker impact noise
- Car door closing
- Car Idling in parking bays
- Roller door

1.2 RELEVANT DOCUMENTS

The following standards, regulations and guidelines have been used to establish the project specific acoustic design requirements for the development.

- Western Australian Environmental Protection (Noise) Regulations 1997 (WA EPNR)

1.3 AUTHOR DETAILS

This report has been prepared by Imran Khan who is a full member of the following relevant organisations:

- Member of Australian Acoustic Society (M.A.A.S)
- Member of Engineers Australia (M.IE Aust)
- Member of Institute of Acoustics UK(MIOA)

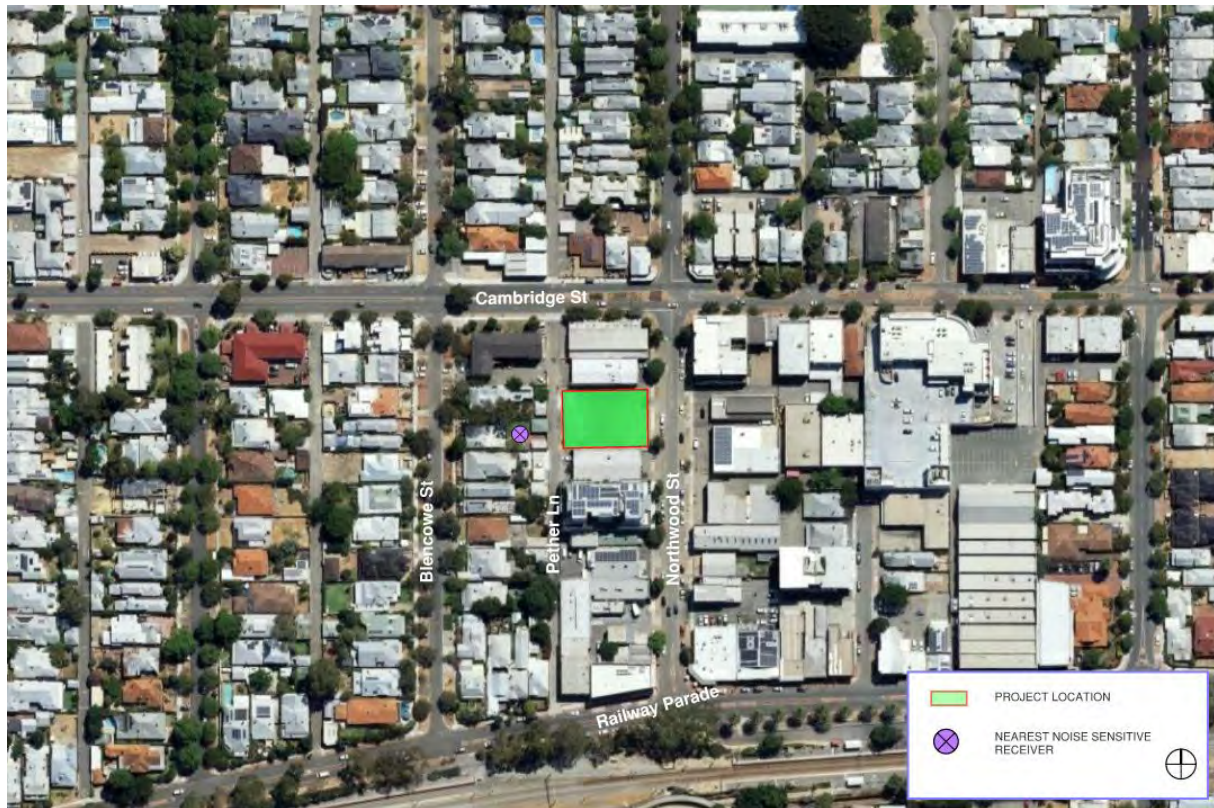


1.4 PROJECT DESCRIPTION

1.4.1 Site Location

The project site at 29 Northwood Street, West Leederville WA 6007, is currently operating as an early learning and childcare centre. Northwood Street runs along the eastern boundary, while the western side of the property adjoins Pether Lane. The entrance and exit of the car park are located at the rear, on the Pether Lane. The nearest noise-sensitive receiver is the backyard of 24 Blencowe Street, which sits directly across Pether Lane. Figure 1 presents the project location and the nearest noise-sensitive receiver.

Figure 1: Project Location and the nearest noise-sensitive receivers



Source: Google maps

2 ACOUSTIC CRITERIA

2.1 WA ENVIRONMENTAL PROTECTION(NOISE) REGULATIONS 1997

Environmental noise emissions resulting from the development are addressed through the *Environmental Protection Act 1986* with the prescribed standards detailed in the *Environmental Protection (Noise) Regulations 1997* (WA EPNR). The regulations are based on maximum allowable noise levels termed the 'assigned noise level'.

According to the EPNR, noise emissions from any premises are deemed not to significantly impact the receiver if the emissions are 5 dB or less below the assigned levels. In summary, assigned noise levels are set by evaluating the presence of commercial and industrial zones, major transport routes, and sporting venues around noise-sensitive premises.

The assigned levels apply at premises receiving the noise (noise sensitive receiver) and not to areas within the project site or lot. In addition, the Environmental Protection (Noise) Regulations 1997 identify the following in Schedule 3, clause 2A.

- *"If the land within either of the circles is categorised on the land use map as land in respect of which mixed uses are permitted, the use of that land that results in the highest influencing factor is to be used in the determination of the influencing factor."*

Town of Cambridge's online mapping system (Metropolitan Regional Scheme) and City of Subiaco's online mapping system (Local Planning Scheme 5) have been used to ascertain land use. Based on these maps the influencing factor at the nearest noise sensitive receivers has been calculated,

The nearest noise sensitive receivers have been identified as detailed below and shown in Figure 1.

- 24 Blencowe St, West Leederville WA 6007

2.1.1 INFLUENCING FACTOR:

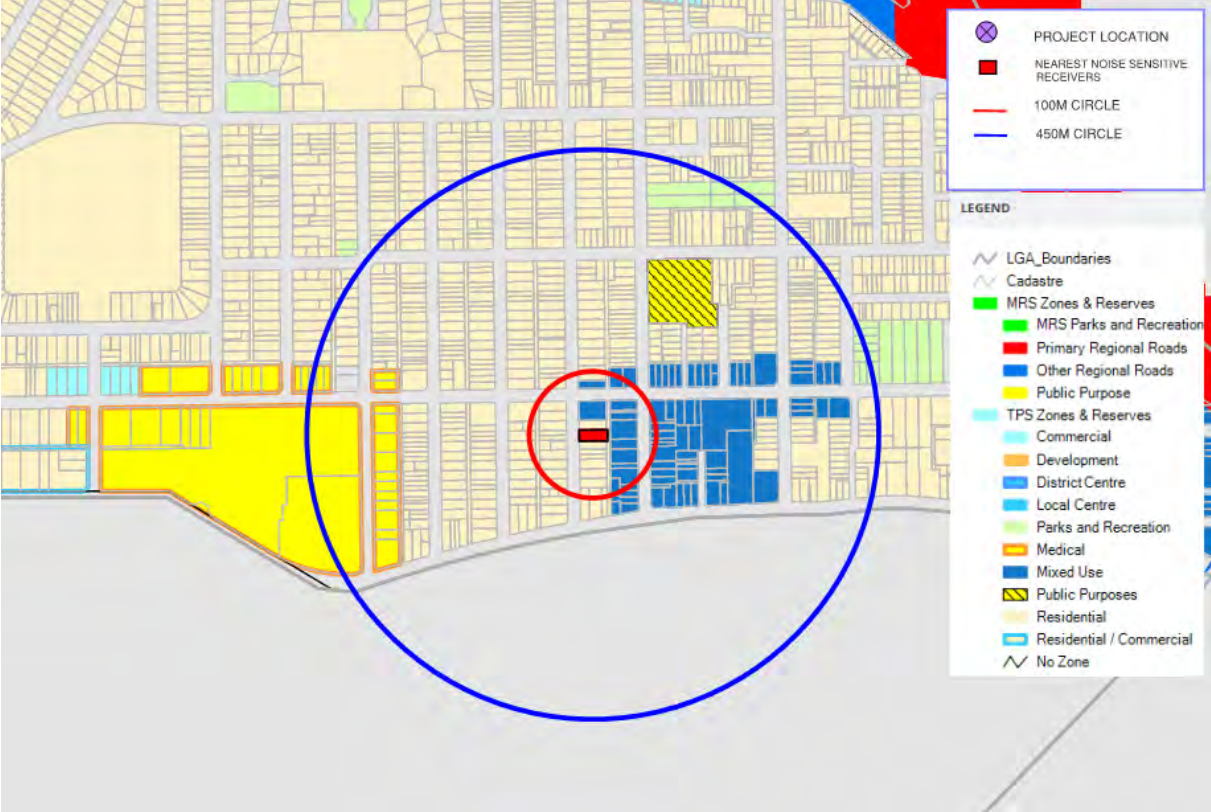
The influencing factor for results from identifying major roads, commercial and industrial areas for the nearest noise sensitive receivers is detailed in The zoning maps used for the calculation of influencing factor showing the land use types has been presented in Figure 2 and Figure 3.

Traffic data for roads surrounding the nearest noise sensitive receiver were obtained from Main Roads Western Australia (MRWA). Table 1 presents the traffic data of the nearby roads.

Table 1: Traffic Data (Main Roads WA)

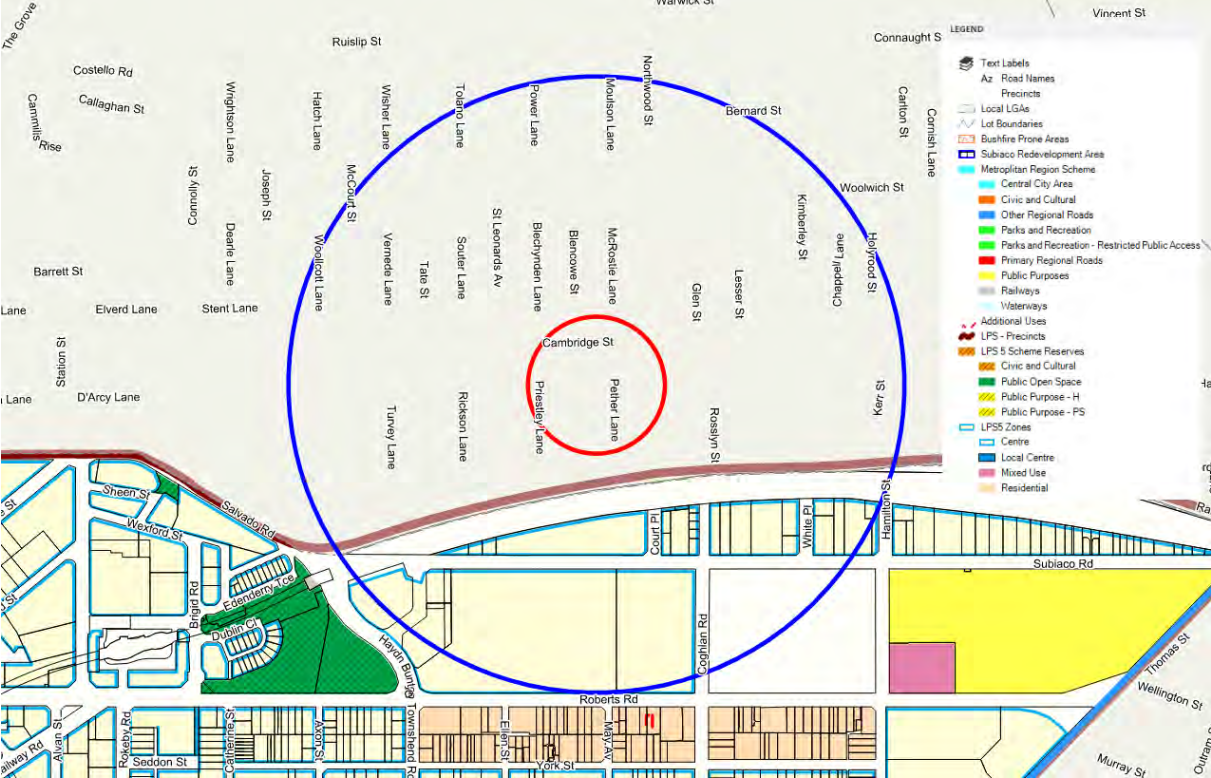
ROAD	WA EPNR CLASSIFICATION	ANNUAL AVERAGE DAILY TRAFFIC VOLUMES / YEAR
Cambridge St (West of Loftus St)	Major Road	16989 (2021 - 22)
Railway Pde - West Perth Leederville (West of Northwood St)	Major Road	15247 (2023 - 24)

Figure 2: Zoning maps for the project and surrounding areas – Town of Cambridge



Source: Town of Cambridge Intramaps

Figure 3: Zoning maps for the project and surrounding areas – City of Subiaco



Source: City of Subiaco Intramaps

Table 2: Influencing factor (IF) noise sensitive receiver

NOISE SENSITIVE RECIEVERS	COMMERCIAL	INDUSTRIAL	ROAD	INFLUENCING FACTOR
24 Blencowe St, West Leederville WA 6007	21 % within 100m radius 11 % within 450m radius	0 % within 100m radius 0 % within 450m radius	Cambridge Street within 100m radius	8 dB

2.1.2 ASSIGNED NOISE LEVELS – NOISE SENSITIVE RECEIVERS:

Table 3 summarises the assigned levels at the nearest noise sensitive receivers. All noise emissions from the development are below the assigned level criteria for all defined periods of the day and at the lot boundary of the receiver or 15m from any associated building.

Table 3: Assigned levels – 24 Blencowe St, West Leederville

Type of premises receiving noise	Time of day	Assigned Level (dB)		
		LA10	LA1	L _{Amax}
Noise sensitive premises: Highly sensitive area	0700 to 1900 hours Monday to Saturday	53	63	73
	0900 to 1900 hours Sunday & public holidays	48	58	73
	1900 to 2200 hours all days	48	58	63
	2200 hours on any day to 0700 hours Monday to Saturday, and 0900 hours Sunday & public holidays	43	53	63
Noise sensitive premises: any area other than highly sensitive areas	All Hours	60	75	80
Commercial premises	All Hours	60	75	80
Industrial and utility premises	All Hours	65	80	90

2.1.3 NOISE CHARACTER ADJUSTMENTS:

Regulation 7 states that the noise character must be “free” of annoying characteristics, namely —

- Tonality, e.g. whining, droning;
- Modulation, e.g. like a siren; and
- Impulsiveness, e.g. banging, thumping.

Regulation 9 (1) establishes the methodology for determining noise characteristics. If these characteristics cannot be reasonably and practicably removed, a series of adjustments to the measured levels are required, indicated in Table 4.

Table 4: Noise character adjustment

ADJUSTMENT WHERE NOISE EMISSION IS NOT MUSIC THESE ADJUSTMENTS ARE CUMULATIVE TO A MAXIMUM OF 15 DB			ADJUSTMENT WHERE NOISE EMISSION IS MUSIC	
Where tonality is present	Where modulation is present	Where impulsiveness is present	Where impulsiveness is not present	Where impulsiveness is present
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

2.1.4 MECHANICAL SERVICES NOISE EMISSIONS:

Mechanical equipment serving the project is required to meet the assigned levels of the EPNR at the nearest sensitive receivers. It is important that noise emissions from the site do not present any form of tonality, modulation or impulsiveness (as defined by the EPNR).

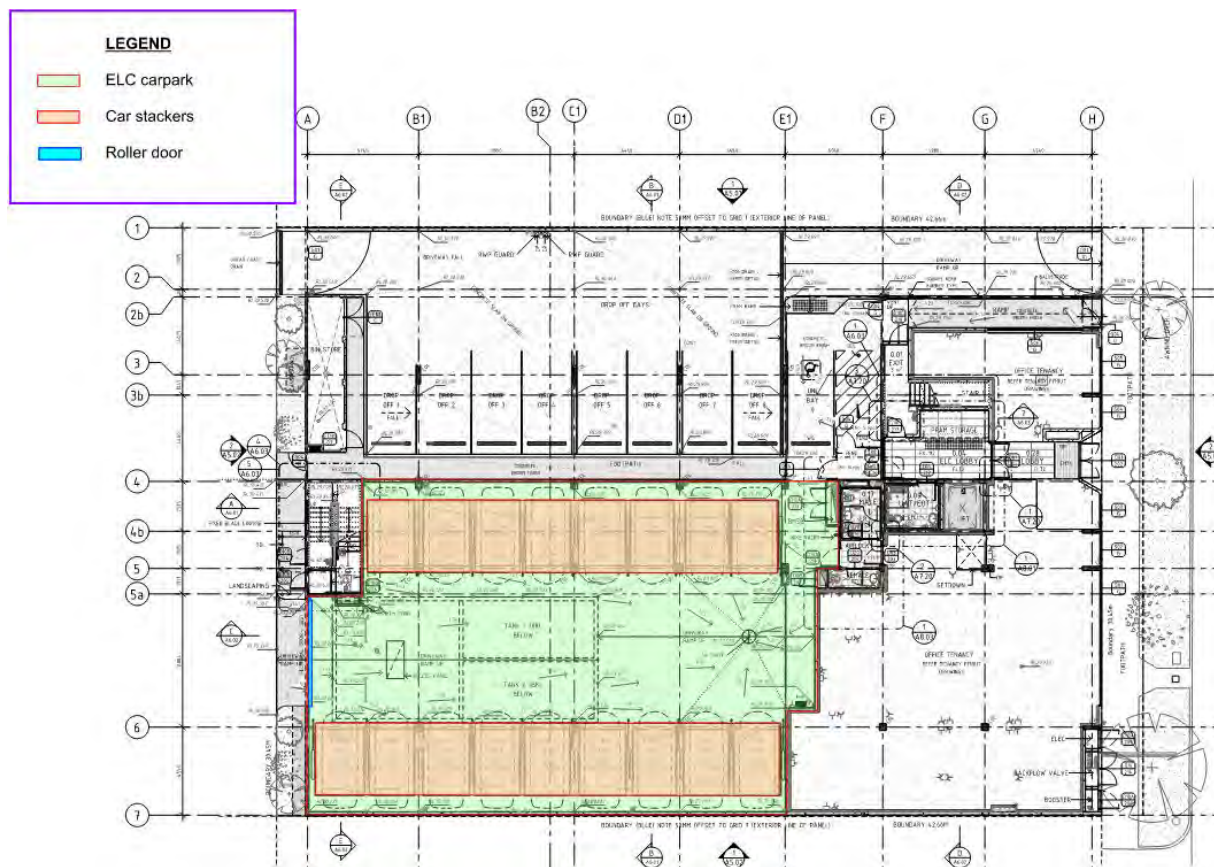
3 NOISE EMISSIONS

Following noise emitting sources have been considered in the assessment:

- Car stacker operation
- Car stacker impact noise
- Car door closing
- Car idling in parking bays
- Roller door

Figure 4 presents a markup on the architectural plan indicating the location of the noise sources under consideration.

Figure 4: Noise sources markup on architectural plan.



3.1 ASSESSMENT CRITERIA

Assessment of each noise source against the WA EPNR criteria (L_{A10} , L_{A1} , or L_{Amax}) is proportional to the period of the day, and the combined frequency and duration of each noise event. L_{A1} represents the noise level exceeded for 1% of the representative measurement period and is generally used to assess short-duration or intrusive events. L_{A10} represents the noise level exceeded for 10% of the period and is typically applied to characterise intermittent or frequent noise events, such as vehicle movements. L_{Amax} refers to the single highest instantaneous sound level during the measurement period, and is relevant for assessing discrete, high-impact noise events.

3.1.1 Car Stacker and Roller Door Operation

The operation of the car stacker, involving vertical movement, and opening and closing of the roller door, occurs infrequently and represents approximately 1% of the representative measurement period. On this basis, the associated noise activity has been assessed against the L_{A1} criterion.

3.1.2 Car Door Closing and Car Stacker Impact Noise

Car door closing, along with the impulsive noise generated when the car stacker comes to rest with a lifted vehicle, constitutes a noise event that is expected to occur infrequently for a very short duration of time. Given the low likelihood of occurrence of the noise, this activity has been assessed against the L_{Amax} criteria.

3.1.3 Car Idling

The cars parked with engine on (idling) in the parking bays of the car park have been considered as a noise event with frequent occurrence (10% of the representative measurement period) and assessed to L_{A10} criteria.

3.2 OPERATING TIMES

The ELC operating times listed below have been considered in the assessment.

- Monday to Friday: 6:30 AM to 6:00 PM

3.3 SOUND LEVEL DATA

The sound power level data of the noise sources used in the assessment were based on measurements undertaken on-site and acquired from the E-LAB technical library. Table 5 presents the sound power levels for the noise sources used in the assessment.

Table 5: Sound power level data

NOISE SOURCE	SOUND POWER LEVEL, dB(A)	SOURCE
Car idling	79	E-LAB technical library
Car stackers operation	87	On-site measurement
Car stackers impact	97	On-site measurement
Car door closing	98	E-LAB technical library
Carpark roller door	80	On-site measurement

3.4 PREDICTED NOISE EMISSIONS

The noise level within the premises of 24 Blencowe Street have been predicted by using measured sound levels, applying distance attenuation and accounting for the barrier effect of the boundary fence. The noise predictions have been made 15m from the associated building within the property boundary. The predicted noise levels from the car stacker operation, car door closing, car door closing and car stacker impulsive noise and car idling are summarised in Tables 5, 6, and 7, respectively.

Table 6: Predicted noise emissions – Car stacker and roller door operation

NOISE SENSITIVE RECEIVER	NOISE SOURCE	PREDICTED LEVELS INSIDE THE PROPERTY dB(A)	CRITERIA L _{A1} dB(A)			COMPLIANCE
			DAY	EVENING	NIGHT	
24 Blencowe St, West Leederville WA 6007	Car stacker operation	33 ¹	63	58	53	Yes
	Roller door operation	51	63	58	53	Yes

1. Inclusive of 5dB penalty for tonality

Table 7: Predicted noise emissions – Car door closing and car stacker impact noise

NOISE SENSITIVE RECEIVER	NOISE SOURCE	PREDICTED LEVELS INSIDE THE PROPERTY dB(A)	CRITERIA L _{Amax} dB(A)			COMPLIANCE
			DAY	EVENING	NIGHT	
24 Blencowe St, West Leederville WA 6007	Car door closing	63 ¹	73	63	63	Yes
	Car stacker impact noise	62 ¹	73	63	63	Yes

1. Inclusive of 10dB penalty for impulsiveness

Table 8: Predicted noise emissions – Car idling

NOISE SENSITIVE RECEIVER	PREDICTED LEVELS INSIDE THE PROPERTY dB(A)	CRITERIA L _{A10} dB(A)			COMPLIANCE
		DAY	EVENING	NIGHT	
24 Blencowe St, West Leederville WA 6007	38	53	48	43	Yes

3.5 RECOMMENDATIONS

The predicted noise emissions from all the assessed sources against their respective criteria, are expected to comply with the requirements of WA EPNR during all assessment periods, i.e. daytime, evening, and night-time.

Following recommendations are made to provide and maintain adequate acoustic amenity to the noise sensitive receivers:

Roller Door

The roller door as it is perforated provides limited benefit in having open or closed. It is recommended roller is opened at 6.30 a.m. and kept open for the remainder of the day until the childcare centre closes.

It is also noted from the details available from the operator of the premises only 2 staff members are rostered to arrive between 6.30a.m -7.00a.m. Remainder of staff are rostered to arrive after 7.15a.m and not all staff members use the car park.

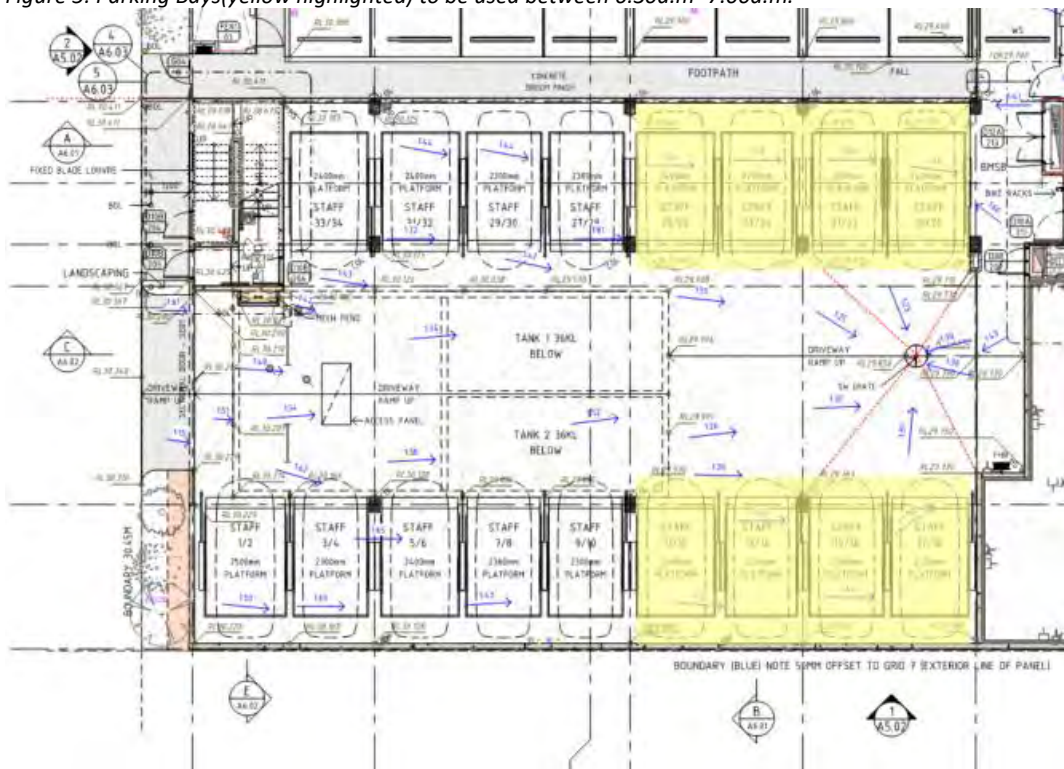
Car Stackers

With regards to the use of car stackers by the staff for 6.30a.m -7.00a.m, it is required the staff use utilise the rear parking bays first, specifically bays 12 to 18 in Row 1 and bays 20 to 25 in Row 2. Refer to Figure 5 showing the proposed bays to be used for the 6.30a.m – 7.00a.m. This would provide compliance to the night time EPNR criteria.

It is confirmed with the operator that compliance with the night-time EPNR criteria is achieved through the implementation and ongoing enforcement of strict management policies and controls, under which staff are required to use the stackers listed above.

For day time hours 7.00a.m – 7.00p.m, staff can use any bay within the car park as predicted noise emissions are compliant for day time.

Figure 5: Parking Bays(yellow highlighted) to be used between 6.30a.m -7.00a.m.



4 CONCLUSION

E-LAB Consulting was engaged by Georgiou Developments to carry out an acoustic assessment of the car park associated with 29 Northwood Street ELC, West Leederville WA 6007. The car park includes car stackers and features a perforated roller door, which allows noise from the stackers to propagate across the site and potentially affect nearby noise-sensitive receivers.

The following acoustic assessment has been undertaken, and recommendations are made to achieve compliance or improve acoustic outcomes with:

- Noise emissions from the car park impacting noise sensitive receivers in accordance with WA Environmental Protection (Noise) Regulations 1997

The following noise emitting sources were considered in the assessment:

- Car stackers operation
- Car stacker impact noise
- Car door closing
- Car Idling in parking bays
- Roller door

Noise emissions from the above-mentioned noise sources of the project are predicted to comply with their respective assessment criteria. It is noted the noise emissions are compliant to the WA Environmental Protection (Noise) Regulations 1997 with the perforated roller door to the car park.

In summary, in view of the available information and following the recommendations of this report, it is considered that the emissions from the use of car park are compliant with the WA Environmental Protection (Noise) Regulations 1997.

APPENDIX A RESPONSE TO PEER REVIEW COMMENTS

ITEM	PEER REVIEW COMMENT	E-LAB RESPONSE
1 (i)	<i>The Report presents the background information, and it summarises the objective of the noise assessment well. The intent of the noise assessment approach is clearly defined and the noise sources specifically identified, namely, car stacker operation noise, car stacker impact noise, car doors closing, car idling in parking bay and roller doors noise.</i>	Noted
1 (ii)	<i>The skills and experience of the report author are referenced in the Report and these are believed to be suitable for noise assessment work in Western Australia.</i>	Noted
1 (iii)	<i>The noise sensitive receivers and the noise criteria identified in the Report are consistent with the previous Hewshott report. The assigned noise levels (noise limit criteria) were correctly calculated in the Report and also consistent with the previous noise study.</i>	Noted
1 (iv)	<i>While the identified noise sensitive receivers' lots are correct, the specific location of the points used for noise predictions are unclear from the Report. It appears the assessment point used in the Report is a generic location within 15 meters from the main dwellings. This point of assessment could underestimate noise predicted at all highly sensitive buildings within 24 Blencowe Street. From aerial imagery, an ancillary building was identified in close proximity to the car park doors, which may be assessable as a highly sensitive building.</i>	Measurements were undertaken within the car park or along Pether Lane. Based on these measurements noise emissions were predicted at the noise sensitive receiver. The predicted results were assessed for compliance to WA EPNR. The ancillary buildings noted in the comment are understood to be car parking / garage and a storage shed / storeroom. Nevertheless, the predicted noise emissions are compliant to WA EPNR within the lot boundary.
1 (v)	<i>The predicted noise levels in Section 3.5 of the Report are provided on the basis of the noise measurements conducted on site, which seem to be within reasonably conservative levels; however, details are not available on the noise measurements methodology used, including location, acoustic standards referenced, corrections applied, duration of measurements, spectral results.</i>	Details included in this revision of the report.
1 (vi)	<i>Due to the above, noise sources levels are not provided in the Report. ACA has conducted comparative calculations based on ACA's noise sources libraries for prediction. Our</i>	Noted, data now included in the revised report.

ITEM	PEER REVIEW COMMENT	E-LAB RESPONSE
	<i>comparative predictions showed overall agreement with predictions in the Report of all the noise sources other than those for the car stacker operation. While our calculations flagged potential for discrepancy on car stacker noise predictions, this does not necessarily mean predictions in the Report are incorrect.</i> <i>Considering that E-LAB used in-situ captured data, it is reasonable to assume that noise levels of the car stackers on site are quieter than standard car stacker noise levels used by ACA; however, lack of detail in the Report regarding the source levels measured by E-LAB and used for predictions is seen as a discrepancy point.</i>	
1 (vii)	<i>The management recommendations provided in Section 3.6, while overall reasonable, are not clearly marked as strictly required for compliance or only recommended for general good practice on site.</i>	Revised report updated with strict requirements around management measures.
2(i)	<i>The approach to define the noise criteria in the Report nominates various noise metrics in the EPNR for the various noise sources present in the car park in isolation. The assumptions include:</i> <i>(a) Assessing impulsive events such as car doors closing and car stacker impacts against the LAmax 63 dB night-time assigned noise level. ACA agrees to this approach.</i>	Noted
	<i>(b) Assessing limited time events such as roller doors opening/closing and car stackers operation against the LA1 53 dB night-time assigned noise level. ACA disagrees to this approach for the 30 minutes of assessable night-time period.</i> <i>The EPNR defines the Representative Assessment Periods as a block of time when the subject noise source is present and assessable, with minimum duration of 15 minutes and long enough to characterise the noise source in question. Given the short period of night-time assessment (i.e. 6:30am to 7am), it would be expected that a reasonable number of cars would be driving in the car park in that period. Using LA1 would only be justified as the assessment basis if the car stackers are operated for a maximum of 18 seconds in the 30</i>	The representative assessment period is determined and established by an 'authorised officer'. This has been described in detail in <i>Noise Regulations fact sheet – Noise Regulations (Part 3): Noise Measurement, dated November 2021</i>. An excerpt from this document is presented below: Noise measurement The way to establish whether a noise emission is meeting the assigned level is to carry out sound level measurements. The instrument normally used for this is a sound level meter but special sound recorders and analysers may also be used. The science of sound measurement calls for certain rules to be put in place to ensure that the results will be fair and repeatable. A noise emission level may be determined by measurement at the receiving point if other noise sources are not dominant, or by measurement at a reference position to enable calculation of the sound level at the receiver. Measurements need to be done over a long enough period to represent the noise emission. For a constant noise, this may only need to be a few minutes, while for a noise that varies over time, a longer duration (up to several hours) may be needed to capture a sample that is typical of the noise, or to capture several cycles if the noise is repetitive. The assessing officer uses the measurement results to determine the levels of the noise emission (e.g. $L_{Aeq,T}$, L_{Amax} or L_{A10-90} as appropriate) over a representative assessment period of 15 minutes to four hours (as determined by an inspector or authorised person to be appropriate for the emission), for comparison with the assigned levels. Note that the duration of the measurement period may differ from the representative assessment period.

ITEM	PEER REVIEW COMMENT	E-LAB RESPONSE
	<i>minutes between 6:30am and 7am (cumulative). In our opinion this could be exceeded with a single car.</i>	Car Stackers and roller door both are not a 'constant' noise. As the noise from these sources vary with time in combination with noise from Cambridge Street a 'representative assessment period' of 15minutes may not be practical. Furthermore, it would be difficult to nominate which 15minutes the roller door or car stacker would be used as not all staff within the childcare arrive at the same time or use the cars. E-Lab undertook on-site measurement and have noted only 2 or 3 stackers have been used, approximately 50% of car bays were unused. To address this comment in the best interests of project it has been agreed to have the roller door open after it opens at 6.30a.m. and kept open for the remainder of the day until the childcare centre closes. The roller door as it is perforated provides limited benefit in having open or closed. Based on our onsite measurements with the roller door open the carpark borne noise meets compliance at the nearest noise sensitive receiver. It is also noted from the details available from the operator of the premises that limited staff members are rostered to arrive between 6.30a.m - 7.00a.m to open the centre. Remainder of staff are rostered to arrive after 7.15a.m. The operator has selected this location due to its proximity to various train and bus networks as not all staff members own their own cars.
	<i>(c) Assessing longer duration events such as car idling noise against the LA10 43 dB night-time assigned noise level. ACA agrees with this approach.</i>	Noted
2(ii)	<i>Noise prediction in the Report lacks definition of noise source used in calculations. Since the noise assessment claims source levels defined by means of noise measurements, details of such noise measurements should be reported for clarity. Of particular concern are noise levels from car stackers, which seem much quieter than expected. Predicted noise level of car stacker operation is 33 dBA (inclusive of 5 dB tonality adjustment), this predicted level seem very low.</i>	Details of noise sources and source data included in the revised report. Appropriate corrections for reverberant and direct field noise, in combination with the opening sizes of car park openings have been included in the assessment.
2(iii)	<i>Conducting a noise predictive study is generally acceptable pre-development and upon very complex scenarios. Since the site is operational, it would be expected that noise measurements at the noise sensitive</i>	E-Lab agrees with this methodology, this is easier when the dominant noise is from the project site. Pether Lane is heavily impacted from the noise spill from Cambridge Street, and the noise sources

ITEM	PEER REVIEW COMMENT	E-LAB RESPONSE
	<i>receivers' point of assessment, or at the very least at lot boundaries, would be feasible and reasonable to undertake. This car park assessment scenario is relatively simple, where noise measurements at the residents' boundaries located approximately 9 meters off the car park entry point. Additionally, the representative assessment period would require 2 sets of</i> <i>15-minute data within the 30-minute window of the morning to demonstrate compliance based on actual noise measurement data.</i>	of the childcare centre are intermittent, so it presents complexity and challenge to accurately measure all sources in the stated 15-30 minutes interval. Furthermore, Pether Lane has regular traffic movement which is not related to the SoEL. On Northwood Street there are a number of commercial premises that utilise Pether Lane for deliveries and waste removal, as well as a 6-level 35-apartment building where all resident parking and waste removal is serviced from Pether Lane. Similarly on Blencowe Street there are multiple (at least 6) residences with laneway-facing garages used on a regular basis.



PEER REVIEW

DATE:	24 November 2025
FROM:	Miguel de la Mata Acoustics Consultants Australia – Director
TO:	Steven Laming Town of Cambridge
SUBJECT:	Acoustic Assessment Peer Review: Early Learning Centre Car Park, 29–33 Northwood St, West Leederville.
REFERENCE:	10.00983R-2

Dear Steven,

Acoustics Consultants Australia (ACA) conducted a technical review of the of the acoustic assessment completed for the existing Early Learning Centre (ELC) located at 29-33 Northwood St, West Leederville (the site). ACA completed a Peer Review report (Ref. 10.00983R-1, dated 21 October 2025) of the acoustic assessment by E-LAB Consulting (Ref. project P02782 Rev 0, dated 10/10/2025).

Subsequent to the Peer Review, E-LAB provided commentary with responses and a revised noise assessment (Ref. P02782 Rev 1, dated 7/11/2025, 'Revision 1'). This document provides a second peer review of the revised report and a continuation to the responses provided by E-LAB.

Additionally, ACA conducted noise measurements at 24 Blencowe Street on Wednesday 19th of November 2025 between 6:30am and 8:00am to witness the noise levels generated by the various subject noise sources from the car park.

In summary:

1. The Revision 1 report by E-LAB provided an updated section (Section 3.3, Sound Level Data) with details of the sound power levels used in the assessment and further description of the recommendations around the staff car park roller door;
2. It was clarified by E-LAB and then witnessed during the site visit that between 6:30am and 7am only two staff members make use of the car park;
3. From the previous point, assessment of car stackers can be limited to daytime as there is no use of car stackers before 7am;
4. E-LAB clarified the methodology for noise predictions and the location chosen as the point of assessment;
5. From our site visit and noise measurements, it was determined that:
 - i. The point of assessment is indeed a point located 15 meters from the dwelling at 24 Blencowe St;
 - ii. Based on the noise levels registered and annotated during the morning, actual noise levels measured of roller door, car stackers and car doors closing differ to E-LAB's predictions;

- iii. Despite the previous point, the noise levels of the noise sources of interest measured on site did not go above the assigned noise levels;
 - iv. Based on the duration of the car stacker events, it is ACA's opinion that when more than 2 car stackers are used within the same 15-minute period, these shall be assessed against the L_{A10} assigned noise level. Thus, given that the perforated garage roller door does not provide any sound attenuation from noise breaking out the garage, car stackers should be limited to daytime use (i.e. after 7am) to prevent noise exceedances of the assigned noise levels.
6. In conclusion, while a general discrepancy persists on the duration of the 'Representative Assessment Period', which determines the selection of the noise metric for the assessment of the suitable assigned noise levels (L_{A10} or L_{A1}); this does not seem to impact the outcome of the overall noise assessment for the noise sources analysed under this document. However, it poses restrictions to the hours of operations applicable to the car stackers (see dot point 5.iv.).

Further details and a summary of the noise measurements conducted by ACA are presented in the following Sections attached to this letter.

Should you have any further questions, please contact me directly by any of the means provided.

Sincerely,



Miguel de la Mata (MAAS)

Acoustics Consultants Australia | Director

e. miguel@acousticsconsultants.com.au

Ph. (08) 6186 4145 | m. 0475 036 804

NOISE MEASUREMENTS

Noise monitoring has been undertaken in accordance with the following documents:

- Australian Standard 1055:2018 - *Acoustics - Description and measurement of environmental noise*
- IEC 61672:2019 - *Electroacoustics - Sound level meters*
- Western Australia Environmental Protection (Noise) Regulations 1997 (EPNR) – *Part 3 & Schedule 4*

1. Australian Standard AS1055:2018

This standard sets out general procedures for the description and measurement of environmental noise, including repetitive impulsive noise. It defines the basic quantities to be used for the description of noise in community environments and provides basic procedures for the determination of these quantities.

The standard applies primarily to noise emitted from industrial, commercial and residential premises. It excludes the setting of environmental noise criteria. Such levels are set by regulations or organizational policy.

2. Standard IEC 61672:2019

This standard presents electro acoustical performance specifications for three kinds of sound measuring instruments:

- A time-weighting sound level meter that measures exponential-time-weighted, frequency weighted sound levels;
- an integrating-averaging sound level meter that measures time-averaged, frequency weighted sound levels; and
- an integrating sound level meter that measures frequency-weighted sound exposure levels.

Sound level meters conforming to the requirements of IEC 61672 have a specified frequency response for sound incident on the microphone from one principal direction in an acoustic free field or successively from random directions.

3. WA Noise Regulations – Part 3 & Schedule 4

Noise emissions from industrial premises received at nearby sensitive receivers are covered by state noise policy in the form of the EPNR.

Part 3 of the EPNR details requirements for the place of measurement of noise and measurement of noise at nearby premises. Part 3 of the EPNR also indicates that any sound measuring equipment must comply with Schedule 4 of the EPNR.

Schedule 4 of the EPNR presents 'rules' for sound measuring equipment, including the calibration of sound measuring equipment, that the equipment must meet or exceed the requirements of IEC 61672 and the undertaking of field performance checks.

4. Methodology

Two class 1 sound level meters were used for continuous noise measurements between 6:30am and 8:00am on Wednesday 19th of November 2025. Weather conditions were fine (no rain and wind speeds under 5 m/s) and closely monitored throughout the noise monitoring.

All items of acoustic instrumentation employed for noise monitoring were set to A-weighting (frequency weighting) and 'Slow' response. The instrumentation employed during noise monitoring complies with 'Schedule 4 – Part 3' of the EPNR and AS IEC 61672.1-2019 *Electroacoustics – Sound level meters – Specifications*. The following table lists the equipment used for all attended measurements. All equipment used for monitoring hold traceable NATA calibration certificates.

Table 1 **Equipment used for noise measurements**

Sound Level Meter				
Location	Make and model	Type	Serial No.	Calibrated on
A	SVANTEK 977	1	97590	26/02/2024
B	NTi Audio XL2	1	A2A-18134-E0	20/03/2025
Field Calibrator				
Make and model			Serial No.	Calibrated on
SVANTEK SV-33 (Type 1)			76674	20/03/2025

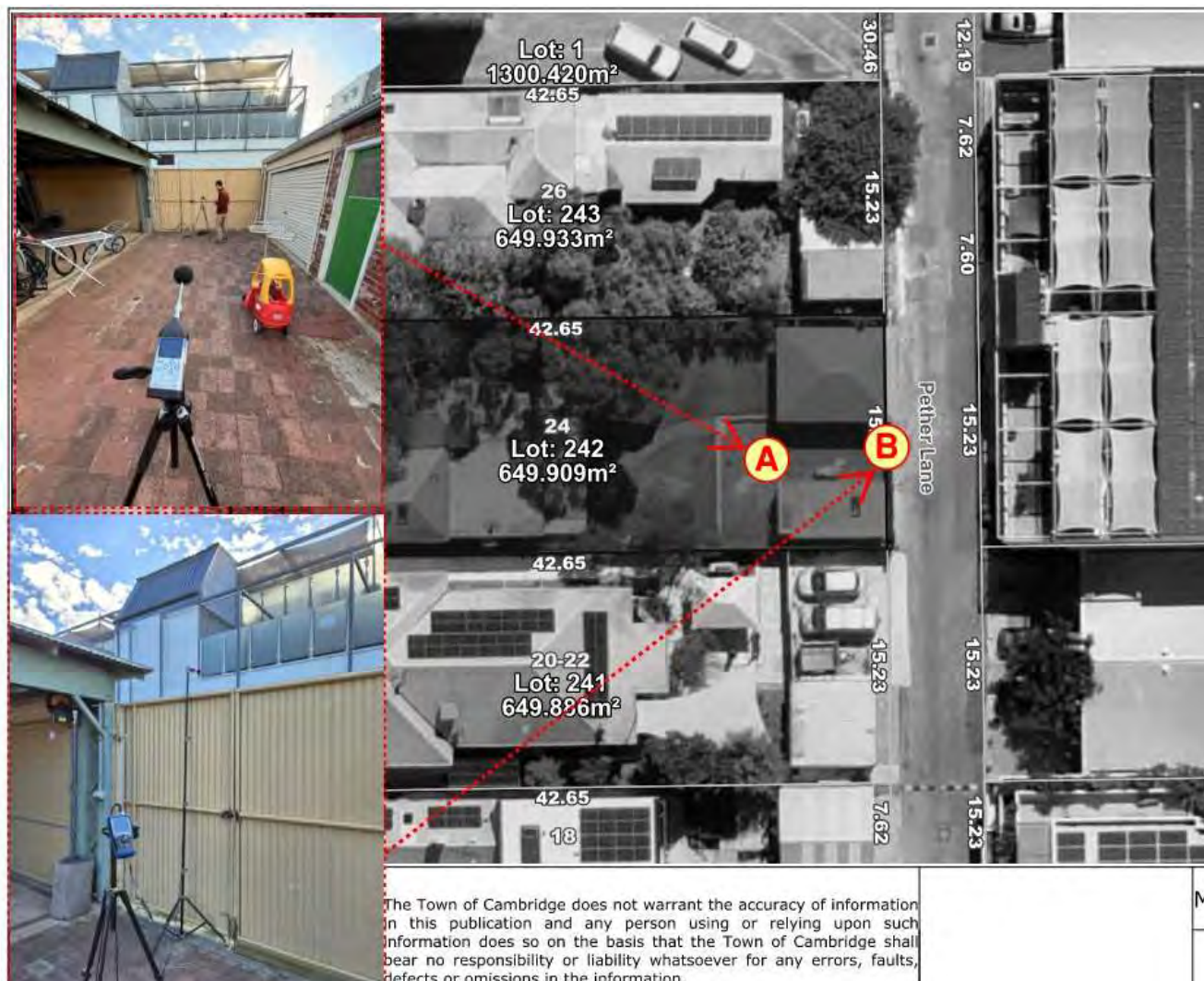
The meters were field calibrated before the monitoring period and will be calibrated again when the monitoring period ends in order to confirm the absence of any significant drift (greater than 0.5 dB) in calibration. Each microphone was fitted with a windshield and mounted to a pole or a tripod.

Two noise monitoring locations were established following analysis and interpretation of the site. Two sound level meters were positioned at the most noise sensitive locations; these being:

- **Location A:** A point 15 meters away from the dwelling at 24 Blencowe Street in the direction of the child care premises, 1.2 metres above the ground; and
- **Location B:** At the site boundary at a point above the boundary fence to avoid reflections and diffusion effects, that is approximately 2.5 m above the ground.

Figure 1 presents a figure showing the monitoring locations.

Figure 1 Noise monitoring locations



5. Results

Table 2 presents the overall noise levels measured during the site visit. It is noted; however, that these levels captured between 6:30am and 8:00am are not representative of noise emissions from the child care premises. The noise levels were split in blocks of 15 minutes, apart from the 6:30am to 7:00am period, which continued for 30 minutes at Location A, as there was no activity from the child care premises during the first half of the 30 minutes. Logged noise levels are presented in **Appendix A**.

The actual noise levels from the events observed on site, such as car stackers, doors closing, roller door, etc. were documented from the observed instantaneous levels and annotated while observing the sound level meters while the events were occurring. Then the duration of the events and its relative contribution to the environment were written down in field notes. This was done as the noise levels from the site were not dominant of the ambient noise and interpretation would be required given that ambient noise levels in the locality (unrelated to the child care garage) are generally higher than noise emissions from the sources in question.

It is also noted that the point of assessment for highly sensitive receiver (resident) is Location A. Location B was captured for completeness; however, the assigned noise level applicable to this point is less stringent.

Table 2 Noise monitoring summary

Time Frame (hrs)	Noise Level (dB) – Location A				Noise Level (dB) – Location B				Comments from attended measurement
	L _{Aeq}	L _{A1}	L _{A10}	L _{A90}	L _{Aeq}	L _{A1}	L _{A10}	L _{A90}	
06:30 – 06:45	50	61	50	42	55	60	56	54	➤ During this period noise from the site was negligible and no vehicles arrive the site. ➤ Noise levels were entirely readings of the locality background noise.
06:45 – 07:00					57	65	59	54	➤ One car counted arriving the site. One car stacker event was witnessed. Sound pressure generated by the <u>car stacker</u> was ~45 dBA just audible, duration of the event was less than 30 seconds. ➤ It was observed that noise from the garage at this time does not significantly contributes to the environment at the measurement locations.
07:00 – 07:15	47	56	49	42	56	63	57	54	➤ One <u>roller door</u> event was audible at Location A, sound pressure @ ~46 dBA, only audible over the first 2-3 seconds. ➤ Other contribution from the site is negligible.
07:15 – 07:30	53	66	53	43	62	76	60	54	➤ Two <u>car stacker</u> events were audible at Location A, sound pressures @ 44–48 dBA, audible over 15 seconds. ➤ <u>Roller door</u> events audible at the initial impulses @ 45 dBA L_{max}, then mostly inaudible. ➤ Other contribution from the site is negligible.
07:30 – 07:45	52	63	55	44	61	72	64	54	➤ More cars entered the site; however, not audible after entering. Other external noise sources (Cambridge St and was removalist truck) would mask the site noise. ➤ Other contribution from the site is negligible.
07:45 – 08:00	47	55	49	42	56	65	58	54	➤ One <u>car door closing</u> was audible @ 49 dBA L_{max} ➤ Other contribution from the site is negligible.

6. Conclusions

Based on the noise measurements and the site observations. The following noise levels were derived and consequently assessed against the EPNR assigned noise levels:

- Noise Levels from the site as measured at the receiving assessable point (Location A):
 - a) Car Stackers Operations: L_{10} 45-48 dBA with durations of approximately 20 seconds.
 - b) Roller Doors: L_p 45-46 dBA on the first 2-3 seconds, then inaudible.
 - c) Car door closing: L_{max} 49 dBA, impulsive noise.
- Thus, the following is concluded:
 - a) Car stacker operations (no impact audible), adjusted + 5 dB for tonality = 53 dBA is compliant with the daytime L_{A10} 53 dB assigned noise level.
[This would not be compliant for night-time operations]
 - b) Roller Doors = L_p 46 dBA is compliant with the L_{Amax} 63 dB assigned noise level.
[L_{A1} or L_{A10} was not found suitable as this source was mostly inaudible during operation]
 - c) Car Doors Closing = L_p 49 dBA is compliant with the L_{Amax} 63 dB assigned noise level.

From the measurements conducted on the day, the noise generated by the garage of the child care premises is compliant with the assigned noise levels.

The one event where full compliance with the EPNR could be compromised is where car stackers are used before 7am. This shall be avoided.

7. AUTHOR QUALIFICATIONS

The author has provided engineering consulting services for the past 17 years in occupational, industrial, buildings and environmental acoustics in a broad range of industries. The author is Member of the Australian Acoustical Society (MAAS) and current Member of the WA Division Committee.

The author's professional experience includes design and assessment associated with a variety of projects ranging from local government and infrastructure assets to projects across multiple States and jurisdictions.

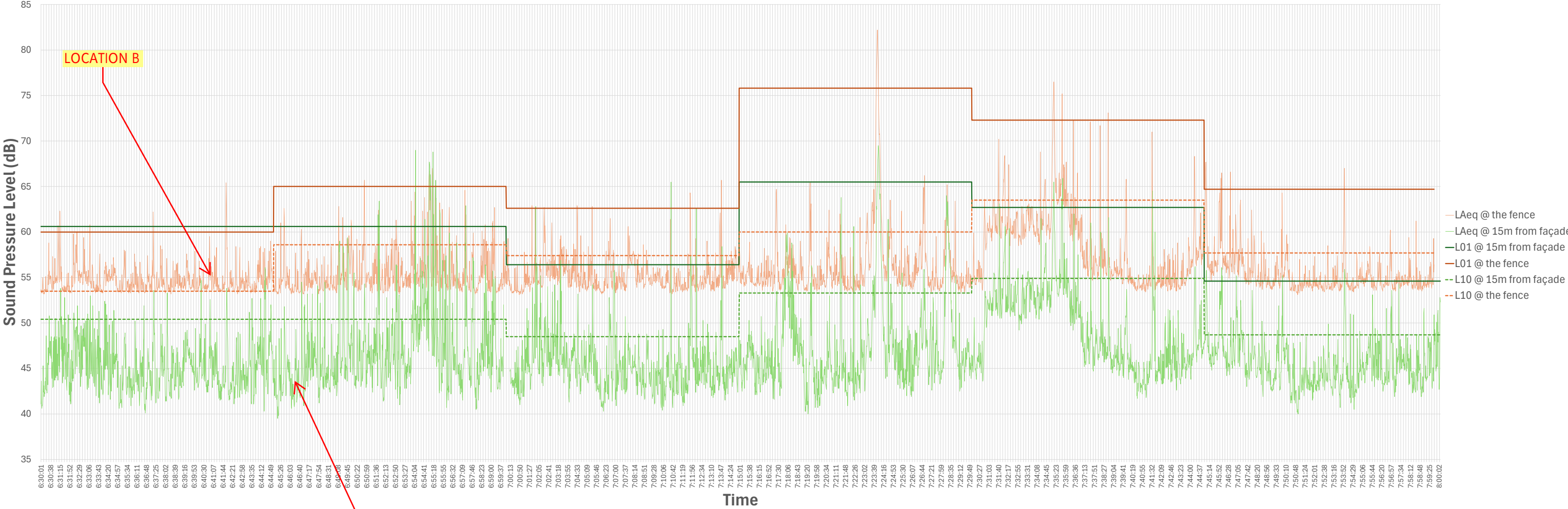
Limitation

This letter has been prepared by ACA with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by our agreement. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid. This document is for your exclusive use.

No warranties or guarantees are expressed or should be inferred by any third parties. This document may not be relied upon by other parties without written consent from ACA. ACA disclaims any responsibility to you and others in respect of any matters outside the agreed scope of the work.

APPENDIX A – NOISE LOGGING GRAPHS

Noise Monitoring Chart - 24 Blencowe Street, West Leederville - 06:30 to 08:00 am, Wed 19/11/2025





LG Ref: DA20/0380
DAP Ref: DAP/20/01911
Enquiries: (08) 6551 9919

Mr Peter Simpson
PTS Town Planning Pty Ltd
PO Box 538 Inglewood, WA 6932

Dear Mr Simpson

METRO INNER-NORTH JDAP - TOWN OF CAMBRIDGE - DAP APPLICATION - DA20/0380 - DETERMINATION

Property Location:	Lot 226, 703, and 704 (29-33) Northwood Street, West Leederville
Application Details:	Three Storey Mixed-Use Development (Office and Child Care Premises)

Thank you for your Form 1 Development Assessment Panel (DAP) application and plans submitted to the Town of Cambridge on 1 December 2020 for the above-mentioned development.

This application was considered by the Metro Inner-North JDAP at its meeting held on 2 March 2021, where in accordance with the provisions of the Town of Cambridge Local Planning Scheme No.1, it was resolved to **approve** the application as per the attached notice of determination.

Should the applicant not be satisfied by this decision, an application may be made to amend or cancel this planning approval in accordance with regulation 17 and 17A of the *Planning and Development (Development Assessment Panels) Regulations 2011*.

Please also be advised that there is a right of review by the State Administrative Tribunal in accordance with Part 14 of the *Planning and Development Act 2005*. Such an application must be made within 28 days of the determination, in accordance with the *State Administrative Tribunal Act 2004*.

Should you have any queries with respect to the conditions of approval, please contact Mr Andrew Bratley on behalf of the Town of Cambridge on 93476000.

Yours sincerely,

DAP Secretariat

12 July 2021

Encl. DAP Determination Notice
Approved Plans

Cc: Mr Andrew Bratley
Town of Cambridge



Planning and Development Act 2005

Town of Cambridge Local Planning Scheme No.1

Metro Inner-North Joint Development Assessment Panel

**Determination on Development Assessment Panel
Application for Planning Approval**

Property Location: Lot 226, 703, and 704 (29-33) Northwood Street, West Leederville

Application Details: Three Storey Mixed-Use Development (Office and Child Care Premises)

In accordance with regulation 8 of the *Planning and Development (Development Assessment Panels) Regulations 2011*, the above application for planning approval was **granted** on 2 March 2021, subject to the following:

1. **Accept** that the DAP Application reference DAP/20/01911 is appropriate for consideration as a "Child Care Premises and Office" land use and compatible with the objectives of the zoning table in accordance with Clause 16 of the Town of Cambridge Town Planning Scheme No. 1.
2. **Approve** DAP Application reference DAP/20/01911 and accompanying plans (plan numbers A.002, A.101 to A.105, A.201 and A.202, and A.301) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the Town of Cambridge Town Planning Scheme No. 1, subject to the following:

Conditions

1. Pursuant to clause 26 of the Metropolitan Region Scheme, this approval is deemed to be an approval under clause 24(1) of the Metropolitan Region Scheme.
2. Amended plans being submitted to, and approved by, the Town prior to the building permit application being lodged, which show direct access from the child care staff car parking bays to the footpath abutting the drop off bays (refer to Advice Note 2).
3. Amended plans being submitted to, and approved by, the Town prior to the building permit application being lodged and shall show the lobby being extended through to the main Northwood Street entrance door.
4. The crossovers shall be constructed in accordance with the Town's specifications and thereafter be maintained for the life of the development to the satisfaction of the Town.



5. Prior to the practicable completion of the development, all car parking bays and manoeuvring/circulation areas shown on the approved plans shall be sealed/paved, and surface marked, in accordance with Australian Standard 2890.1 - Off-street car parking and Australian Standard 2890.6 - Off-street parking for people with disabilities (where relevant), kerbed and drained and thereafter maintained by the landowner(s) for the life of the development to the satisfaction of the Town.
6. Prior to practical completion of the development, the external surface of the boundary walls shall have white painted vertical bands on acratex grey, in accordance with the approved north and south elevations (or similar alternative to the Town's satisfaction), and be finished to a professional standard (provided access is granted by the adjoining landowner(s)), and thereafter be maintained, by the landowners for the life of the development to the satisfaction of the Town (refer to Advice Note 4).
7. All structures (and associated footings) shall be contained within the lot boundaries of the subject site.
8. The Waste Management Plan (prepared by Talis, dated 17 December 2020) is to be implemented to the satisfaction of the Town prior to the occupation of any part of the building, and is to be thereafter complied with by the residents and the landowner for the life of the development.
9. Prior to commencement of the uses, the Acoustic Report (prepared by Hewshott Acoustics and dated 17 December 2020) shall be implemented and thereafter complied with by the landowner(s) for the life of the development to the satisfaction of the Town. This includes, but is not limited to, the external activity areas not being used prior to 7.00am.
10. The subject lots being amalgamated prior to the occupancy permit being issued.
11. Redundant vehicle crossover(s) to be removed and the kerbing, verge, and footpath reinstated by the landowner to the Town specifications.
12. The landowner(s) shall comply with the Town's Local Planning Policy 3.19 - Percent for Public Art via one of the following options:
 - i) Provide public art on the subject site, with a minimum value of 1% of the development's construction value (Option 1); or
 - ii) Provide public art in the vicinity of the subject site in the public realm, with a minimum value of 1% of the development's construction value, (Option 2); or
 - iii) Pay 1% of the development's construction value, in accordance with Local Planning Policy 3.19 - Percent for Public Art, in lieu of providing public art on the subject site (Option 3).

If Option 1 or 2 is elected, the public art design shall be submitted to, and approved by the Town prior to lodgement of the Building Permit application (refer to Advice Note 5).



Prior to commencement of use/occupation of any part of the development, a Notification pursuant to Section 70A of the Transfer of Land Act 1893 shall be registered on the Certificate of Title of the subject site at the landowner's cost and to the satisfaction of the Town to notify owners and prospective purchasers that the public art forming part of the development shall be maintained at their cost for the life of the development, or have an alternative agreement where applicable, to the Town's satisfaction.

The public art shall be installed prior to commencement of use/occupation of any part of the development and thereafter maintained for the life of the development to the satisfaction of the Town.

If Option 3 is elected, the cash-in-lieu amount shall be paid in full to the Town prior to lodgement of the Building Permit application

13. The window on the northern façade of the ground floor tenancy (the window directly facing into the internal vehicle access way) not being frosted and/or covered with signage, so as to allow maximum surveillance.
14. The ground floor windows directly facing Northwood Street not being frosted and/or covered with signage, so as to allow maximum surveillance.
15. The child care premises shall only be permitted to operate between Monday and Friday, 6.30am to 6.00pm.
16. Prior to lodgement of the Building Permit application, a Construction Management Plan must be submitted to, and approved by, the Town. The Plan must address the following issues, where applicable (as determined by the Town):
 - Staging plan for the entire works, including timeframes and assigned responsibilities for tasks;
 - Contact details of essential site personnel, construction period and operating hours;
 - The on-site storage of materials and equipment • Site security and public safety and amenity measures;
 - Community information, consultation and complaints and incident procedures;
 - Traffic, access and parking management;
 - Vibration, air, dust and noise management;
 - Dilapidation reports of nearby properties;
 - Waste management and materials re-use;
 - Earthworks, excavation, land retention/piling methods and associated matters;
 - Stormwater and sediment control;
 - Protection of existing roads, kerbs, footpaths, street trees and miscellaneous services;
 - Asbestos removal;
 - Any other matter deemed relevant by the Town.

The Plan must be implemented upon commencement of any site works/development for their entire duration to the satisfaction of the Town.



17. The landscaping areas shown on the approved landscaping plans shall be installed and reticulated within six months of practical completion of the development, and be thereafter maintained by the landowner(s) for the life of the development to the satisfaction of the Town.

Advice Notes

1. This decision constitutes planning approval only and is valid for a period of 2 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
2. With regard to Condition 2, the applicant and the landowner are advised that the Town has concerns that there will not be the ability for child care staff and visitors to use a front door to access the child care premises if the ground floor tenancy changes in future. To overcome this issue, more direct child care access from the child care staff car parking bays to the ground floor lobby is required. This could be achieved, for example, by providing more direct access from the child care staff car parking bay area to the footpath adjacent to the drop off and pick up car parking bays.
3. With regard to Condition 3, the applicant and the landowner are advised that it is a requirement under the draft West Leederville Activity Centre Plan for uses to obtain their main public pedestrian entry directly from with the Active Street (in this case, Northwood Street) interface.

The Town has concerns that there will not be the ability for child care staff and visitors to use the front door to access the child care premises if the ground floor office tenancy changes in future. The amended plans are to show permanent unrestricted access from the building's main entrance to the lobby for the child care premises (above ground floor tenancy(s)).

It is important that uses, particularly the main use on a property (in this case the child care premises), has a main entrance which is clearly defined and identifiable. The amended plans will also need to show what measures are proposed to ensure that the building's main entrance to the child care is clearly defined and identifiable should the ground floor office tenancy change in the future (e.g. signage).

4. With regard to Condition 6, the applicant and the landowner are to consider using different shades and textures to break the walls' scale, for instance, at the stepped parapet walls for the second floor rear balcony. This will add interest, and break up the appearance of the walls.
5. With regard to Condition 12, the applicant and the landowner are advised that it is accepted that the development has the potential to contribute to a strong sense of community through extensive active frontage (awning works as public art) at the ground floor along Northwood Street. Therefore, if the awning works are incorporated into the design as public art, it will be expected to show a variety of materials and colours being used, which ideally make use of the natural light, and such that the appearance of the public art has some connection with the land uses.



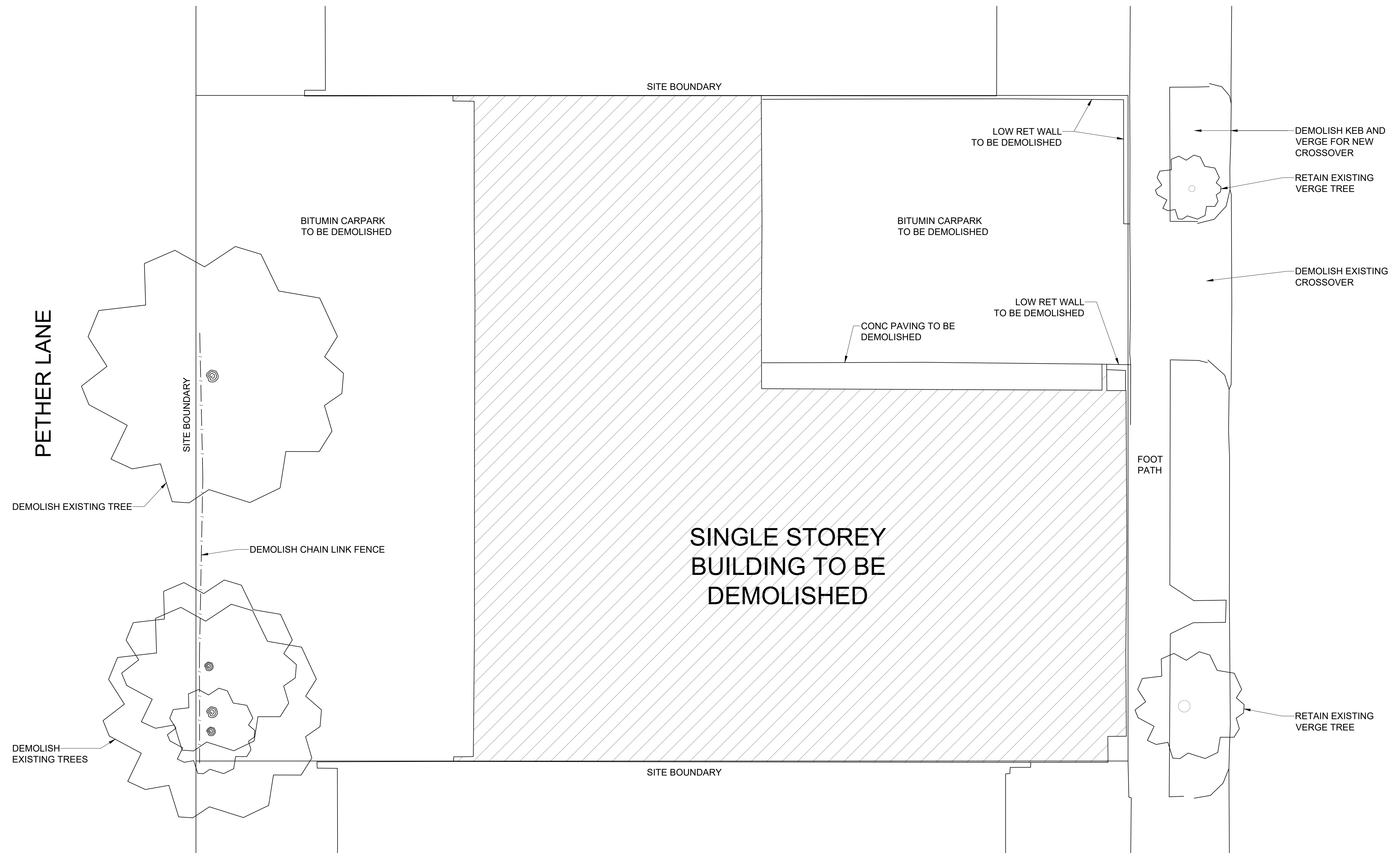
6. The landowner/applicant shall be responsible for ensuring that all lot boundaries as shown on the approved plans are correct.
7. The applicant and the landowner are advised that the noise generated by activities on-site, including machinery motors or vehicles is not to exceed the levels as set out under the Environmental Protection (Noise) Regulations 1997.
8. The applicant and the landowner are advised that the implementation of the development shall not cause a dust nuisance to surrounding properties (as determined by the Town) in accordance with the Town of Cambridge Private Property Local Law 2016 (as amended). Where appropriate, measures such as installation of sprinklers, use of water tanks, mulching or other land management systems shall be implemented by the landowner/developer at the direction of the Town if the Town determines that a dust nuisance exists.
9. All development works are to be carried out in accordance with control of noise practices set out in Section 6 of Australia Standard 2436:2010 - Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites.
10. The applicant and the landowner are advised that all works within the road reserve, such as crossovers, verge treatments and landscaping require a separate application and approval by the Town's Infrastructure branch. All works shall conform to the Town's specifications.
11. The landowner is advised that a "Food Act 2008 Notification/Registration Form" shall be submitted to, and approved by the Town prior to any food being prepared/sold on the subject premises in accordance with the *Food Act 2008* and *Food Regulations 2009*.
12. The landowner is advised that:
 - i) a Demolition Permit application shall be submitted to, and approved by the Town prior to any demolition work commencing on the subject site; and
 - ii) a Building Permit application shall be submitted to, and approved by the Town prior to any construction or site works commencing on the subject site in accordance with the *Building Act 2011* and *Building Regulations 2012*.

Where an approval has so lapsed, no development shall be carried out without further approval having first been sought and obtained, unless the applicant has applied and obtained Development Assessment Panel approval to extend the approval term under regulation 17(1)(a) or local government approval under regulation 17A of the *Planning and Development (Development Assessment Panels) Regulations 2011*.

DEVELOPMENT ASSESSMENT PANEL
APPROVED 02-Mar-2021

02-Mar-2021

LOT 702



LOT 227



A: ABWA Reg: 3116
B: (Regional) PO BOX 183
Margaret River WA 6285
A: (Metro) 6 Burns St
North Fremantle WA 6159
M: 0439 907 502
E: tom@goddenprojects.com.au

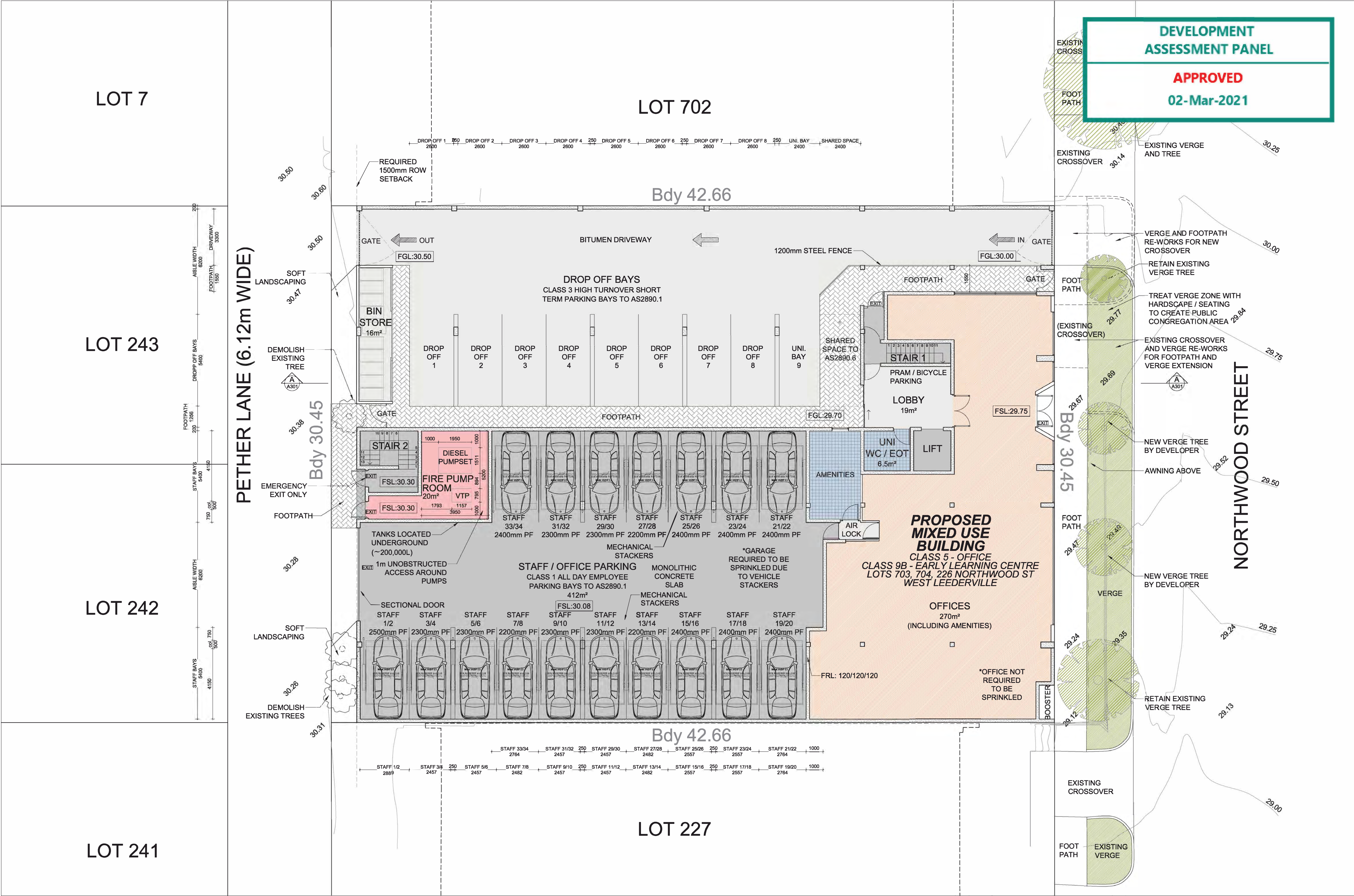


Proposed Early Learning Centre

PROPOSED DEVELOPMENT AT COMBINED LOTS 703, 704, 226 (No's. 29-33)
NORTHWOOD STREET, WEST LEEDERVILLE



				DRAWING TITLE	DRAWING No.
				DEMOLITION PLAN	A.002
				NOVEMBER 2020	
				SCALE 1:100 @A1 1:200 @A3	
0	30/11/2020	ISSUE FOR DA		DA	0
REV:	DATE:	NOTE:	APPR:	Check all dimensions on site - Do not scale this drawing - This drawing is copyright-	



TOM GODDEN ARCHITECTS
A: ABWA Reg: 3116
B: (Regional) PO BOX 183
Margaret River WA 6285
A: (Metro) 6 Burns St
North Fremantle WA 6159
M: 0439 907 502
E: tom@goddenprojects.com.au



Proposed Early Learning Centre

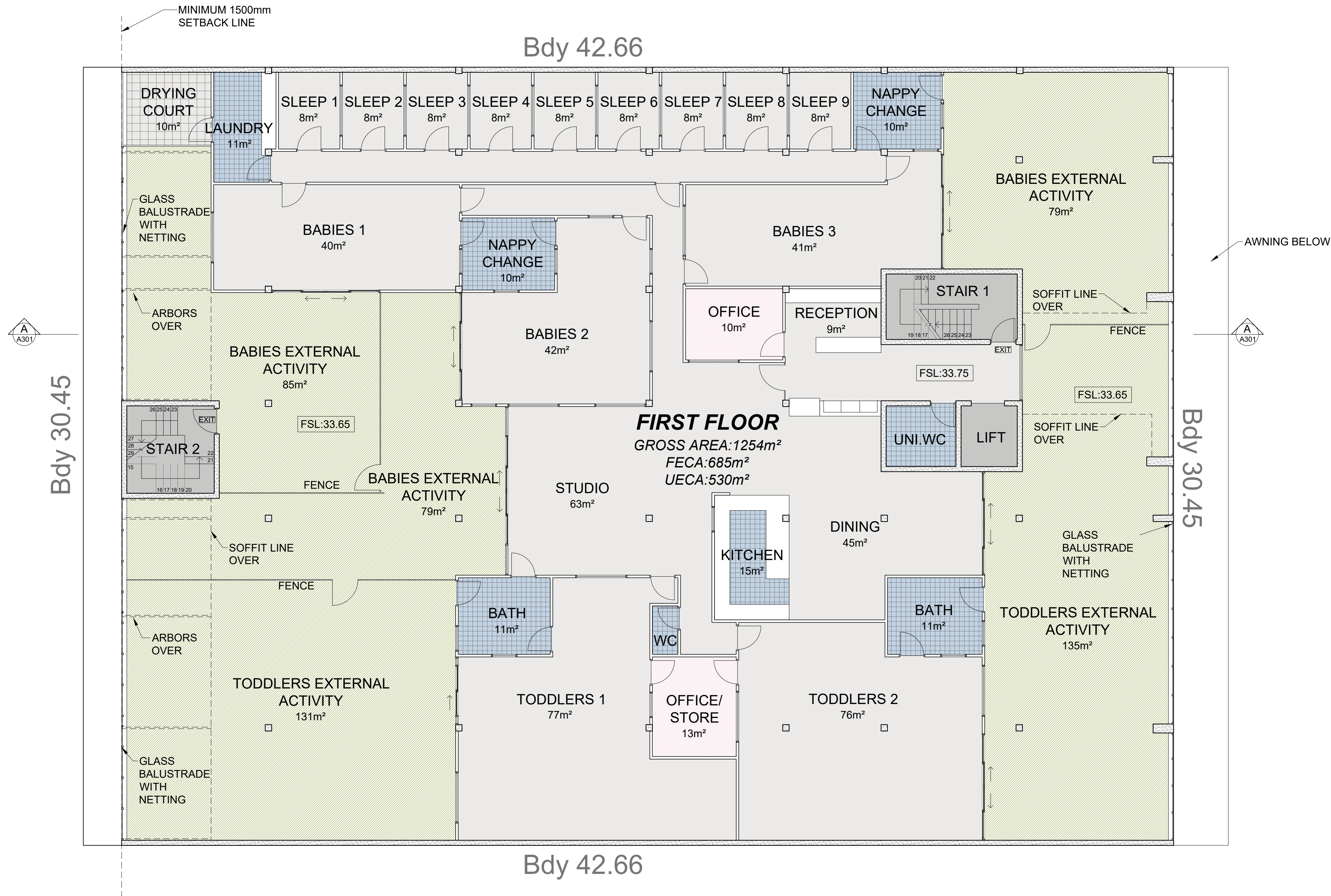
PROPOSED DEVELOPMENT AT COMBINED LOTS 703, 704, 226 (No's. 29-33)
NORTHWOOD STREET, WEST LEEDERVILLE

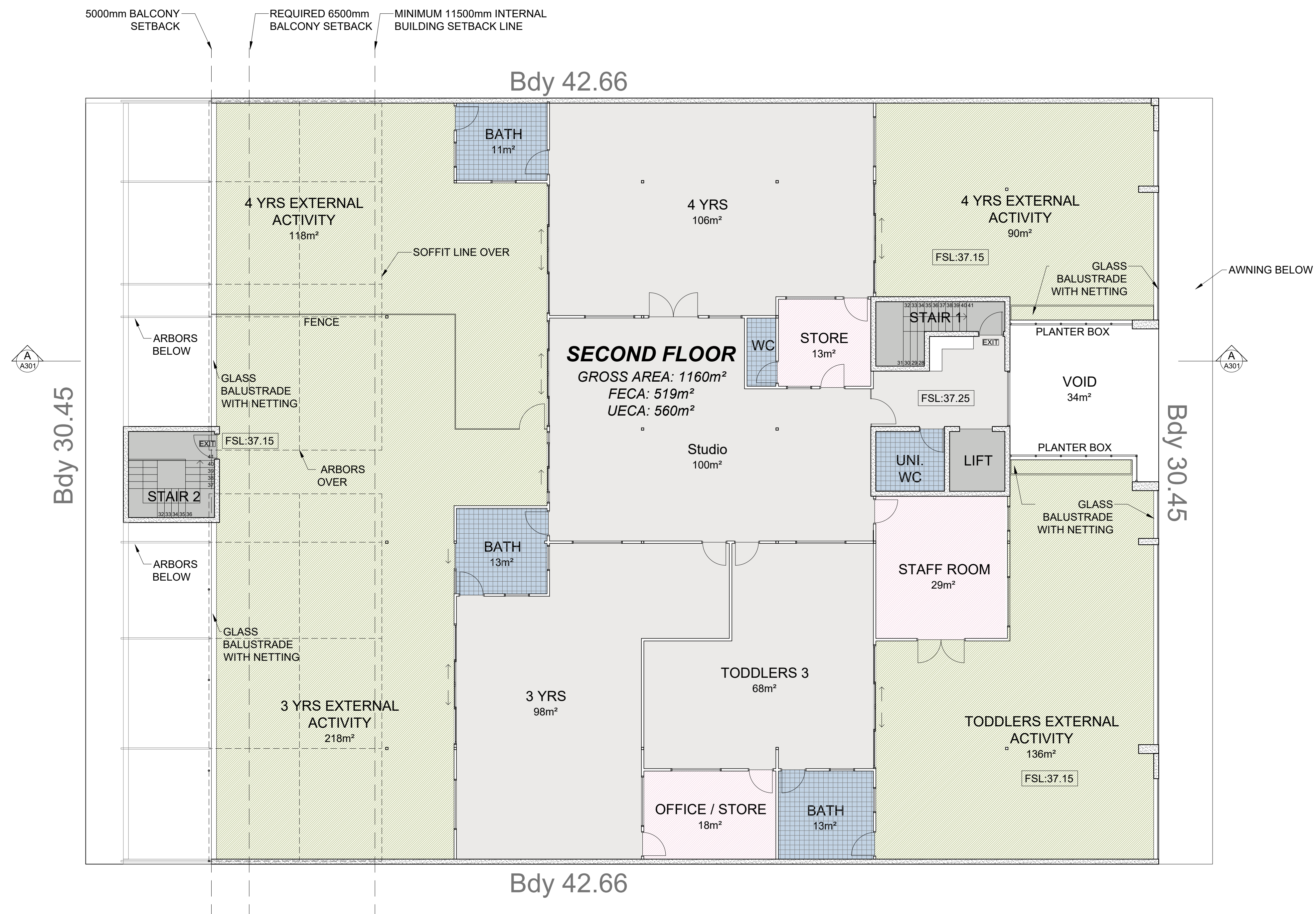


5	07/02/2021	REVISED ISSUE FOR DA
4	05/02/2021	REVISED ISSUE FOR DA
3	01/02/2021	REVISED ISSUE FOR DA
2	21/01/2021	STACKERS REVISED
1	14/12/2020	REVISED ISSUE FOR DA
0	30/11/2020	ISSUE FOR DA
REV:	DATE:	NOTE:

DRAWING TITLE	SITE AND GROUND FLOOR PLAN
DATE	NOVEMBER 2020
SCALE	1:100 @A1 1:200 @A3
ISSUE	DA
APPR:	Check all dimensions on site - Do not scale this drawing - This drawing is copyright -

DRAWING No.	A.101
REVISION	5



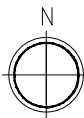


				DRAWING TITLE			DRAWING No.	
				SECOND FLOOR PLAN			A.103	
				DATE				
				NOVEMBER 2020				
1	14/12/2020	REVISED ISSUE FOR DA		SCALE	ISSUE		REVISION	
0	30/11/2020	ISSUE FOR DA		1:100 @A1 1:200 @A3	DA		1	
REV.	DATE	NOTE	APPR.	Check all dimensions on site • Do not scale this drawing • This drawing is copyright-				



LEGEND

- | | |
|-----|--------------------------|
| DP | DOWNPIPE |
| FG | FASCIA GUTTER |
| HP | HIGH POINT OF BOX GUTTER |
| PC | PARAPET CAPPING |
| SH | SHADE SAIL |
| RC | RIDGE CAPPING |
| RWS | RAIN WATER SUMP |



CAMBRIDGE STREET

**DEVELOPMENT
ASSESSMENT PANEL**

APPROVED

02-Mar-2021

LOT 223 CAMBRIDGE STREET

LOT 701 NORTHWOOD STREET

LOT 702 NORTHWOOD STREET

PETHER LANE

NORTHWOOD STREET

LOT 227 NORTHWOOD STREET
SITE AREA = 650m²
SHADED AREA = 608m²
=93.53%

LOT 228 NORTHWOOD STREET
SITE AREA = 650m²
SHADED AREA = 83m²
=12.77%

OVERSHADOWING DIAGRAM

WINTER SOLSTICE JUNE 21 MIDDAY



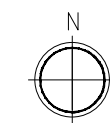
TOM GODDEN ARCHITECTS

A: ABWA Reg: 3116
B: (Regional) PO BOX 183
Margaret River WA 6285
A: (Metro) 6 Burns St
North Fremantle WA 6159
M: 0439 907 502
E: tom@goddenprojects.com.au

Georgiou 
Developments

Proposed Early Learning Centre

PROPOSED DEVELOPMENT AT COMBINED LOTS 703, 704, 226 (No's. 29-33)
NORTHWOOD STREET, WEST LEEDERVILLE



					DRAWING TITLE	OVERSHADOWING DIAGRAM		DRAWN BY	A
					DATE	NOVEMBER 2020		CHECKED BY	
					SCALE	1:200 @A1 1:400 @A3	ISSUE	DA	REVIEWED BY
1	14/12/2020	REVISED ISSUE FOR DA							
0	30/11/2020	ISSUE FOR DA							
REV:	DATE:	NOTE:		APPR.	- Check all dimensions on site - Do not scale this drawing - This drawing is copyright -				

WING No.

A.105

1

COLOURS DEPICTED ARE INDICATIVE ONLY AND ARE TO BE RESOLVED DURING DESIGN DEVELOPMENT



WEST ELEVATION
1:100

A: ABWA Reg: 3116
B: (Regional) PO BOX 183
Margaret River WA 6285
A: (Metro) 6 Burns St
North Fremantle WA 6159
M: 0439 907 502
E: tom@goddenprojects.com.au

Georgiou 
Developments

Proposed Early Learning Centre

PROPOSED DEVELOPMENT AT COMBINED LOTS 703, 704, 226 (No's. 29-33)
NORTHWOOD STREET, WEST LEEDERVILLE



				DRAWING TITLE			DRAWING No.	
				ELEVATIONS			A.201	
4	05/02/2021	REVISED ISSUE FOR DA						
				DATE			4	
3	01/02/2021	REVISED ISSUE FOR DA		NOVEMBER 2020				
2	21/01/2021	REVISED ISSUE FOR DA - WALL COLOUR		SCALE			REVISION	
1	14/12/2020	REVISED ISSUE FOR DA		1:100 @A1 1:200 @A3			DA	
0	30/11/2020	ISSUE FOR DA						
REV.	DATE	NOTE	APPR.	* Check all dimensions on site - Do not scale this drawing - This drawing is copyright -				

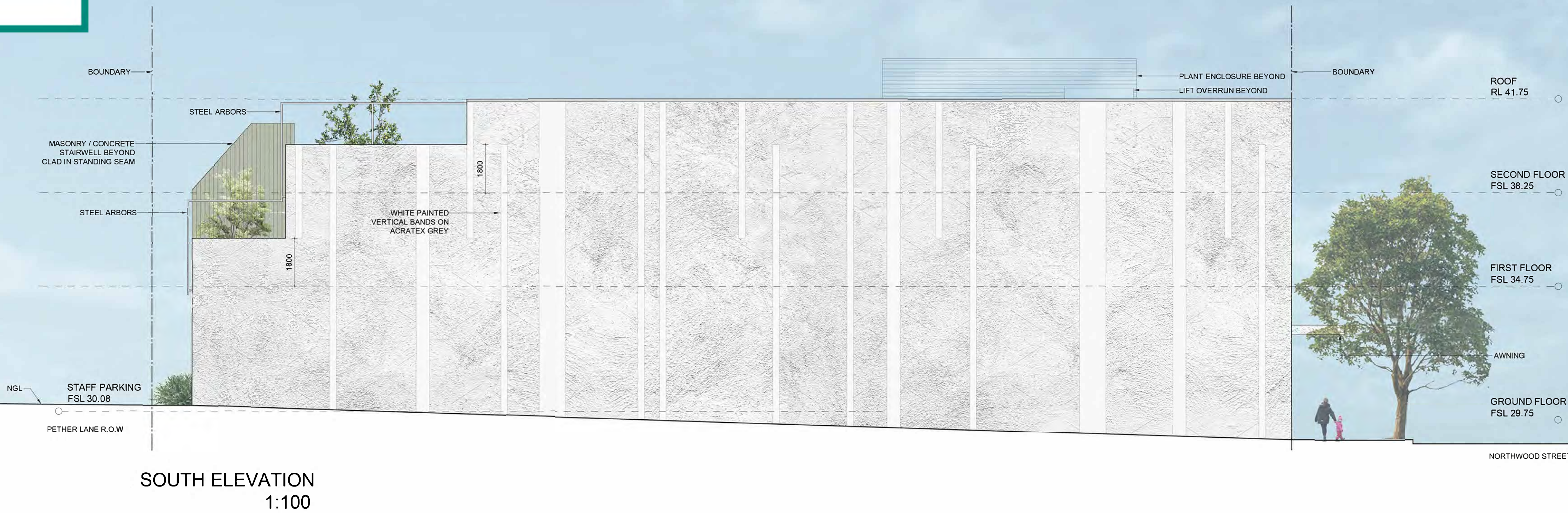
DEVELOPMENT
ASSESSMENT PANEL

APPROVED

02-Mar-2021

NOTE:

COLOURS DEPICTED ARE INDICATIVE
ONLY AND ARE TO BE RESOLVED
DURING DESIGN DEVELOPMENT



TGA

TOM GODDEN ARCHITECTS

A: ABWA Reg: 3116
B: (Regional) PO BOX 183
Margaret River WA 6285
A: (Metro) 6 Burns St
North Fremantle WA 6159
M: 0439 907 502
E: tom@goddenprojects.com.au

Georgiou
Developments

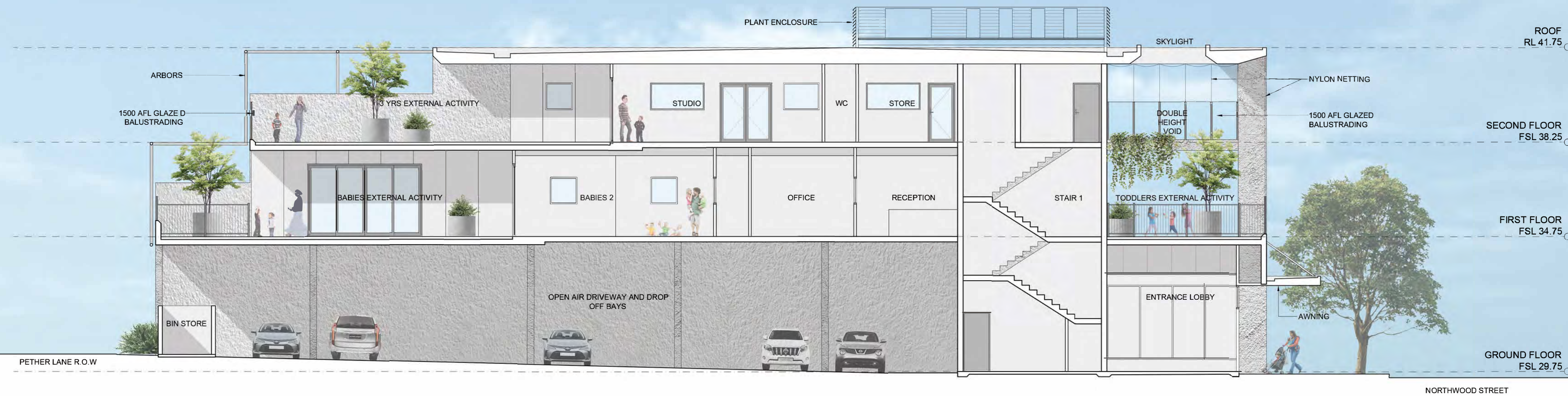
Proposed
Early Learning Centre

PROPOSED DEVELOPMENT AT COMBINED LOTS 703, 704, 226 (No's. 29-33)
NORTHWOOD STREET, WEST LEEDERVILLE



DRAWING TITLE				DRAWING No.	
ELEVATIONS				A.202	
DATE				NOVEMBER 2020	
SCALE				1:100 @A1 1:200 @A3	DA
ISSUE				4	
REVISION					
* Check all dimensions on site * Do not scale this drawing * This drawing is copyright *					
REV	DATE	NOTE	APPR		
4	05/02/2021	REVISED ISSUE FOR DA			
3	01/02/2021	REVISED ISSUE FOR DA			
2	21/01/2021	REVISED ISSUE FOR DA - WALL COLOUR			
1	14/12/2020	REVISED ISSUE FOR DA			
0	30/11/2020	ISSUE FOR DA			

02-Mar-2021



SECTION A
1:100



A: ABWA Reg: 3116
B: (Regional) PO BOX 183
Margaret River WA 6285
A: (Metro) 6 Burns St
North Fremantle WA 6159
M: 0439 907 502
E: tom@goddenprojects.com.au



PROPOSED DEVELOPMENT AT COMBINED LOTS 703, 704, 226 (No's. 29-33)
NORTHWOOD STREET, WEST LEEDERVILLE



				DRAWING TITLE				DRAWING No.	
				SECTION A				A.301	
				DATE					
				NOVEMBER 2020					
				SCALE		ISSUE		REVISION	
				1:100 @A1 1:200 @A3		DA			
1 14/12/2020 REVISED ISSUE FOR DA									
0 30/11/2020 ISSUE TO DA									
REV: DATE: NOTE:				APPRO:		Check all dimensions on site - Do not scale this drawing - This drawing is copyright -			
						1			

PETHER LANE

NORTHWOOD STREET

L702

L927

DROP OFF BAYS

STAFF/OFFICE PARKING

PROPOSED
MIXED USE
BUILDING

LOBBY

FIRE PUMP

BIN STORE



PLATANUS ACERIFOLIA

LEGEND

- 01 EXISTING CROSSOVER DEMOLISHED AND VERGE RE-ESTABLISHED WITH TURF AND/OR GROUNDCOVER
- 02 EXISTING TREES TO BE REMOVED
- 03 EMERGENCY ACCESS TO STAIR
- 04 NEW PATHWAY WITH UNIT PAVING
- 05 EXISTING TREES TO RETAIN
- 06 NEW STREET TREES - PLATANUS ACERIFOLIA
- 07 VERGE AND FOOTPATH REWORKS FOR NEW CROSSOVER
- 08 GROUNDCOVER PLANTING TO LANEWAY

WEST LEEDERVILLE EARLY LEARNING CENTRE

LANDSCAPE CONCEPT PLAN - GROUND
DECEMBER 2020

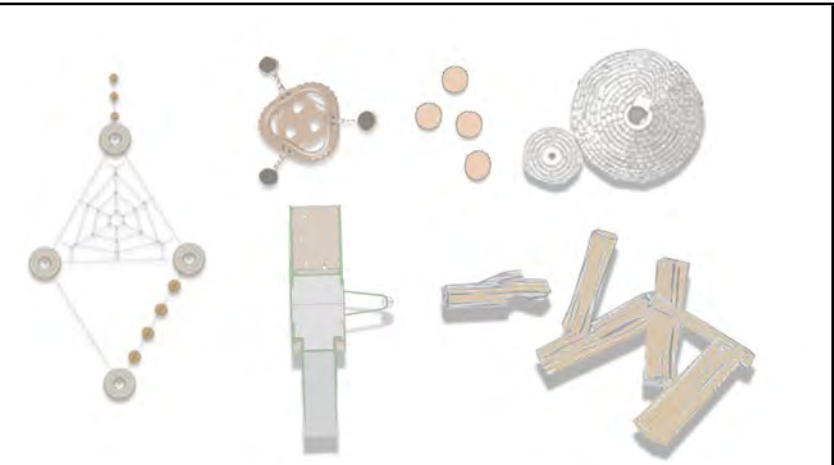
JOB NO. 2012701
1:100 @ A1

C1.101
0 1 2 4 6 10m
REV F

COPYRIGHT THIS DOCUMENT IS AND
SHALL REMAIN THE PROPERTY OF
PLAN E



LANDSCAPE ARCHITECTS
414 ROKEBY RD SUBIACO WA 6008
T: (08) 9388 9566 E: mail@plane.com.au



NOTE: ALL LOOSE PLAY
EQUIPMENT AND LOCATIONS BY
OPERATOR



CITRUS 'EUREKA LEMON'



02



PATHENOCISSUS QUINQUEFOLIA



03

PYRUS 'CAPITAL'



FICUS LYRATA



08

CAESALPINIA FERREA

LEGEND

- 01 FRUIT TREES IN POTS IE. CITRUS 'EUREKA LEMON'
- 02 ARBOR STRUCTURE WITH CREEPER GROWING OVER IE. HIBBERTIA SCANDENS
- 03 SELF-ADHERING CREEPERS TO WALL (IE. PARTHENOCISSUS QUINQUEFOLIA/FICUS PIMULA) WITH TALL NARROW TREE IN RAISED PLANTER IE. PYRUS 'CAPITAL'
- 04 DECKING AT DOOR THRESHOLDS- DOUBLE
- 05 DECKING AT DOOR THRESHOLDS- SINGLE
- 06 INDICATIVE SAND PIT LOCATION, WITH INTEGRATED LOW PLANTERS AND DECK
- 07 SHADE TOLERANT PALM/ SHADE TOLERANT SMALL TREE SPECIES IE. FICUS LYRATA/DYPSIS LUTESCENS
- 08 TALL TREE SPECIES IN LARGE POT GROWING THROUGH VOID - IE. CAESALPINIA FERREA
- 09 INDICATIVE SAND PIT LOCATION FOR BABY AREAS



WEST LEEDERVILLE EARLY LEARNING CENTRE

LANDSCAPE CONCEPT PLAN - LEVEL 1
DECEMBER 2020

JOB NO. 2012701
1:100 @ A1

C1.102
0 1 2 4 6 10m
REV F

COPYRIGHT THIS DOCUMENT IS AND
SHALL REMAIN THE PROPERTY OF
PLAN E



LANDSCAPE ARCHITECTS
414 ROKEBY RD SUBIACO WA 6008
T: (08) 9388 9566 E: mail@plane.com.au



NOTE: ALL LOOSE PLAY
EQUIPMENT AND LOCATIONS BY
OPERATOR



ASPIDISTRA ELIATOR



ASPLENUM
NIDUS



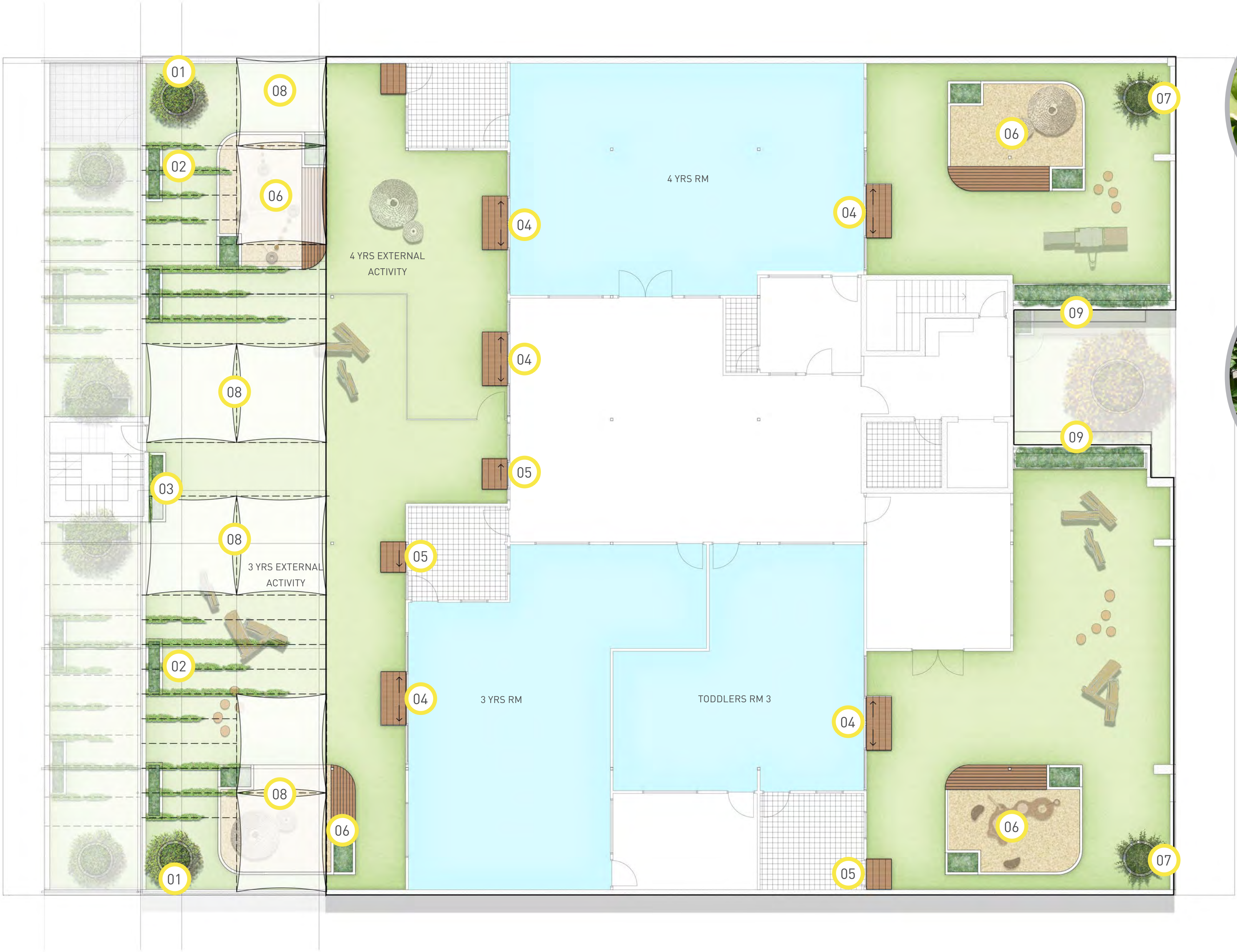
PHILODENDRON
XANADU



EPIPRENUM AUREUM

LEGEND

- 01 FRUIT TREES IN POTS IE. CITRUS 'EUREKA LEMON'
- 02 ARBOR STRUCTURE WITH CREEPER GROWING OVER IE. HIBBERTIA SCANDENS
- 03 SELF-ADHERING CREEPERS TO WALL IE. PARTHENOISSUS QUINQUEFOLIA/FICUS PIMULA WITH LUSH SHADE TOLERANT SHRUB PLANTING IN RAISED PLANTER IE. ASPIDISTRA ELIATOR, ASPLENUM & PHILODENDRON SP
- 04 DECKING AT DOOR THRESHOLDS- DOUBLE
- 05 DECKING AT DOOR THRESHOLDS- SINGLE
- 06 INDICATIVE SAND PIT LOCATION, WITH INTEGRATED LOW PLANTERS AND DECK
- 07 SHADE TOLERANT PALM/ SHADE TOLERANT SMALL TREE SPECIES IE. FICUS LYRATA/DYPSIS LUTESCENS
- 08 SHADE SAILS INTERSPERSED OVER PLAY AREA
- 09 TALL PLANTER TO BALUSTRADE EDGE WITH CASCADING PLANTING IE. EPIPREMNUM AUREUM



WEST LEEDERVILLE EARLY LEARNING CENTRE

LANDSCAPE CONCEPT PLAN - LEVEL 2
DECEMBER 2020

JOB NO. 2012701
1:100 @ A1

C1.103
0 1 2 4 6 10m
REV F

COPYRIGHT THIS DOCUMENT IS AND
SHALL REMAIN THE PROPERTY OF
PLAN E



LANDSCAPE ARCHITECTS
414 ROKEBY RD SUBIACO WA 6008
T: (08) 9388 9566 E: mail@plane.com.au



LG Ref: DA20/0380
DAP Ref: DAP/20/01911
Enquiries: (08) 6551 9919

Peter Simpson
PTS Town Planning Pty Ltd
PO Box 538
Inglewood WA 6932

Dear Peter

METRO INNER DAP - TOWN OF CAMBRIDGE - DAP APPLICATION - DA20/0380 - DETERMINATION

Property Location:	Lot 800 (29-33) Northwood Street, West Leederville
Application Details:	Development of a Three Storey Office and Child Care Centre
Amendment Details:	Form 2.1 - Amendments to DAP/20/1911 (DA20/0380) (Works already carried out)

Thank you for your Form 2.1 Development Assessment Panel (DAP) application and plans submitted to the Town of Cambridge on 29 July 2024 for the above-mentioned development.

The application was considered by the Metro Inner DAP at its meeting held on 28 November 2024, where in accordance with the provisions of the Town of Cambridge Local Planning Scheme No.1, it was resolved to **approve** the application as per the attached notice of determination.

Should the applicant not be satisfied by this decision, an application may be made to amend or cancel this planning approval in accordance with regulation 17 and 17A of the *Planning and Development (Development Assessment Panels) Regulations 2011*.

Please also be advised that there is a right of review by the State Administrative Tribunal in accordance with Part 14 of the *Planning and Development Act 2005*. Such an application must be made within 28 days of the determination, in accordance with the *State Administrative Tribunal Act 2004*.

Should you have any queries with respect to the conditions of approval, please contact Steve Laming on behalf of the Town of Cambridge on 08 9347 6000.

Yours sincerely,

DAP executive director

2 December 2024

Encl. DAP Determination Notice
Approved Plans

Cc: Steve Laming
Town of Cambridge

Planning and Development Act 2005

Town of Cambridge Local Planning Scheme No.1

Metro Inner Development Assessment Panel

**Determination on Development Assessment Panel
Application for Planning Approval**

Property Location: Lot 800 (29-33) Northwood Street, West Leederville

Application Details: Development of a Three Storey Office and Child Care Centre

Amendment Details: Form 2.1 - Amendments to DAP/20/1911 (DA20/0380) (Works already carried out)

In accordance with regulation 8 of the *Planning and Development (Development Assessment Panels) Regulations 2011*, the above application for planning approval was **granted** on 28 November 2024, subject to the following:

1. **Accept** that the DAP Application reference DAP/20/01911 as detailed on the DAP Form 2 dated 25 July 2024 is appropriate for consideration in accordance with regulations 17 of the *Planning and Development (Development Assessment Panels) Regulations 2011*.
2. **Approve** DAP Application reference DAP/20/01911 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the Town of Cambridge Local Planning Scheme No 1; being the proposed amendment to the previous development approval DAP20/01911 (dated 2 March 2021 and being for a Three-Storey Child Care Premises and Associated Offices) to the extent of the following elements only:

	Floor Plan/Elevation	Works Description
1	Below ground floor:	A new below ground floor plan to accommodate Pump Room and Tanks.
2	Ground floor:	Reconfiguration of the approved 17 parking bays in the enclosed area below the first floor.
3		The dimensions of the stairwell that have changed to 4.5m (length) x 3.6m (width) from the approved dimensions of 3.8m (length) x 3.4m (depth).
4		Bollards that have been constructed along a portion of the rear elevation.
5		The surface treatment of the parking areas and access ways in broomed concrete and bitumen instead of brick paving.
6	First floor:	Increased kitchen and dining area
7	Second floor:	The top floor balcony area that has been reduced in area from 226m ² to 220m ² due to the increase in the size of the void.
8	East elevation:	The windows above the utility box that have been deleted.

9		Plant screen and lift overrun that has been reduced in size but increased in height.
10	North and South elevations:	The parapet walls on both elevations have increased in height from 1.8m (36.55) to 3.463m (38.213) calculated from the finished floor level of the level 1 (34.75).
11	West elevation:	The various mechanical grilles that have replaced the solid wall on the ground floor.
12		Two windows that have replaced the proposed one window to the toddler playroom.
13		The glass balustrade has been frosted where it was approved with clear glass and contains gaps between the stainless-steel support poles and the glass and the glass and floor of each level.
14		The vent pipes from bathrooms above the roof line.

3. **Advise** the applicant that except for the elements listed above, the development must strictly be in accordance with the previously approved plans (Ref: DAP20/01911, stamped approved 2 March 2021), with all conditions of the previous approval continuing to have effect, unless otherwise approved to the satisfaction of the Town of Cambridge.

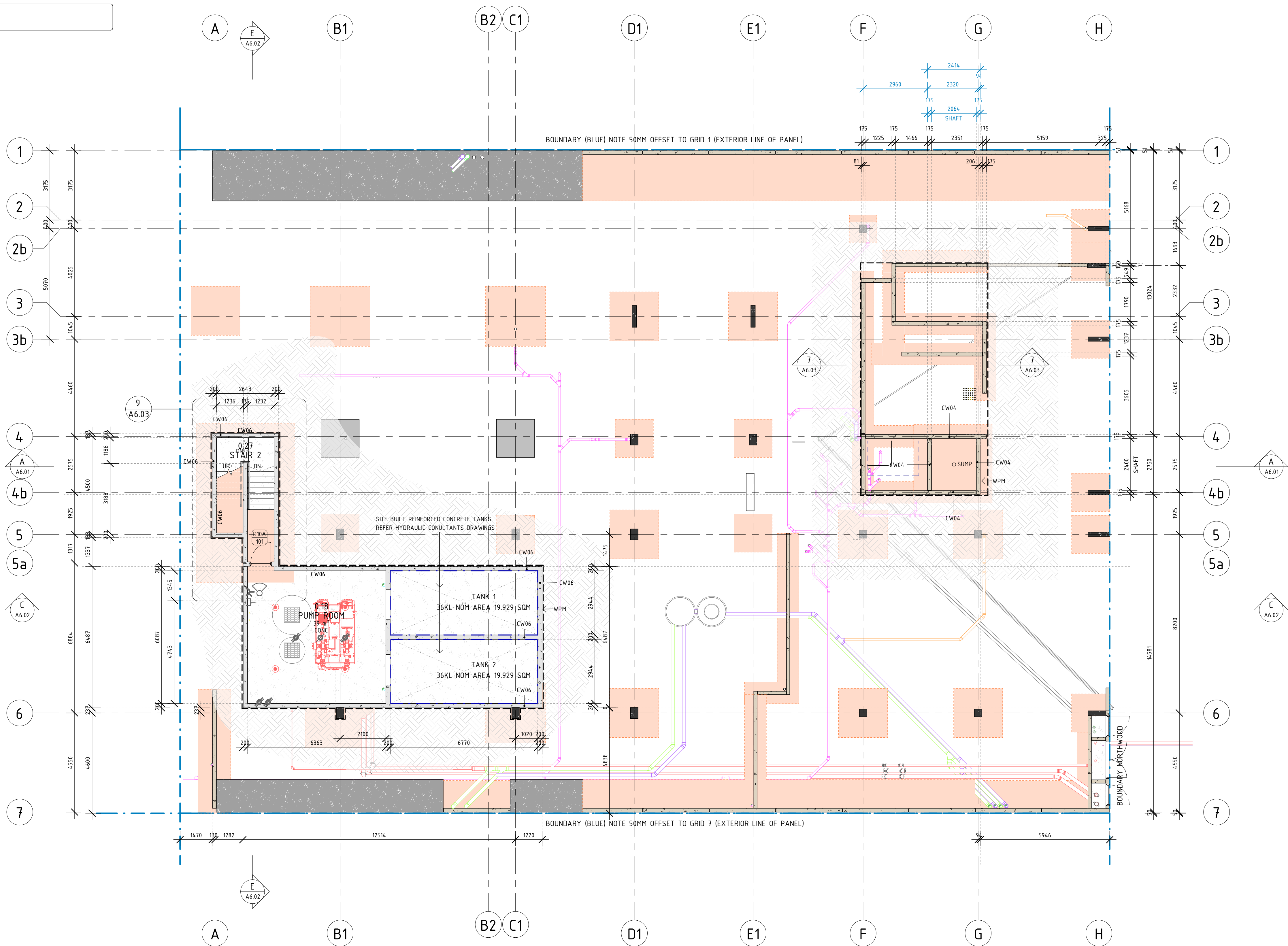
All other conditions, footnotes and advice notes remain as per the DAPs' original decision dated 2 March 2021.

Where an approval has so lapsed, no development shall be carried out without further approval having first been sought and obtained, unless the applicant has applied and obtained Development Assessment Panel approval to extend the approval term under regulation 17(1)(a) or local government approval under regulation 17A of the *Planning and Development (Development Assessment Panels) Regulations 2011*.

KEY SCHEDULE SHEET REFERENCE

WINDOW & GLAZING SCHEDULE	SHEET A9.03
DOOR SCHEDULE	SHEET A9.01/ 902
WALL SCHEDULE	SHEET A9.05
CEILING COLUMN FLOOR SCHEDULE	SHEET A9.06

PRINT IN COLOUR



1 FLOOR PLAN - BASEMENT
A6.01 SCALE 1 : 100

TOWN OF CAMBRIDGE
RECEIVED
15 October 2024

DEVELOPMENT
ASSESSMENT PANEL

APPROVED
28-Nov-2024

GENERAL NOTES

REFER ALSO TO THE SLAB AND COLUMN SETOUT DRAWINGS FOR SETOUT OF COLUMNS AND FLOOR SLAB

CONTROL JOINTS IN PLASTERBOARD LINING AT MAXIMUM 12m SPACING, OR TO MANUFACTURER'S RECOMMENDATION

DIMENSIONS SHOWN FOR STUD FRAMING ARE TO THE CENTRE LINE OF STUD

'CLEAR' DENOTES THAT THE DIMENSION SHALL BE BETWEEN WALL LININGS

LEGEND

	DENOTES NEW DOOR
	DENOTES DOOR / WINDOW REFERENCE
	DENOTES COLUMN (STEEL FR REFER SHEET A9.06) - REFER TO STRUCTURAL ENGINEER DRAWINGS
	DENOTES RAIN WATER PIPE
	DENOTES FLOOR WASTE GULLY
	DENOTES HYDRAULIC STACKER. REFER TO HYDRAULIC ENGINEER DRAWINGS
	DENOTES HOSE COCK
	DENOTES FLOOR DRAIN - REFER CIVIL CONSULTANTS DRAWINGS
	NOTE: REFER TO ACOUSTIC REPORT FOR PLANS DENOTING ACOUSTIC REQUIREMENTS.

SMOKE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL WITH IN ROOF SPACE. LINE STUDS WITH 1 LAYER 13 THICK PLASTERBOARD AND FULL SEAL TO PREVENT EGRESS OF SMOKE. CARRY WALL UP TO UNDER SIDE OF SLAB OVER OR ROOF AND EXTEND INTO ANY BOXED EAVES. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING

FIRE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL AND LINE WITH BOTH SIDES OF STUD WORK WITH 2 LAYERS FLUSH 13mm THICK FIRE RESISTANT PLASTERBOARD IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS. SEAL LINING TO EXISTING BRICK WALL AND TO ROOF CLADDING. SEAL ALL GAPS AND EXTEND OUT INTO BOXED EAVES OVER HANGS. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING.

15	SPH	02.12.22	COORDINATION
14	SPH	08.11.22	COORDINATION
13	SPH	21.09.22	VO_03 POST IFC CHANGES
12	SPH	02.09.22	VO_03 POST IFC CHANGES
11	SPH	25.05.22	ISSUE FOR CONSTRUCTION
10	SPH	29.04.22	ISSUE FOR INFORMATION
9	SPH	12.04.22	ISSUE FOR INFORMATION
8	SPH	06.04.22	ISSUED FOR BUILDING PERMIT ADDENDUM
7	SPH	03.03.22	ISSUED FOR BUILDING PERMIT
REV	BY	DATE	DESCRIPTION

CONSTRUCTION

sph
architecture
+ interiors

T: 08 9284 1888
E: mail@sph.net.au
Studio: 143 Cambridge Street
West Leederville WA 6007
ABN: 88123 655 176 ABWA: 2115

EARLY LEARNING
CENTRE

29-33
NORTHWOOD STREET, LEEDERVILLE

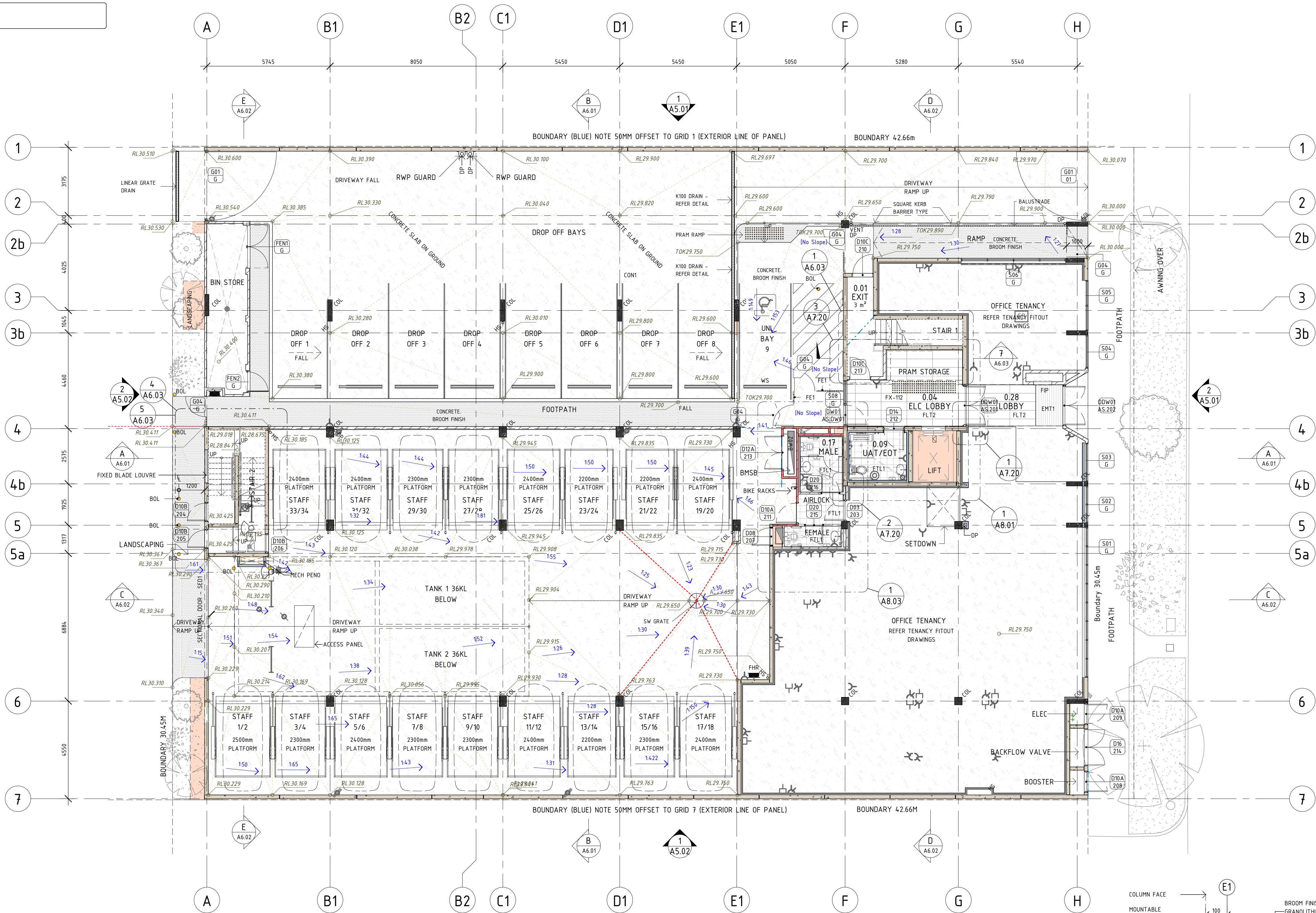
FLOOR PLAN -
BASEMENT

SCALE AT A1: AS SHOWN	CAD FILE No: 221019.rvt	DATE: 221019	DRN: LG	CKD: MC
PROJECT No: 221019	DRAWING No: A2.00	REVISION: 15		

KEY SCHEDULE SHEET REFERENCE

WINDOW & GLAZING SCHEDULE	SHEET A9.03
DOOR SCHEDULE	SHEET A9.01/ 902
WALL SCHEDULE	SHEET A9.05
CEILING COLUMN FLOOR SCHEDULE	SHEET A9.06

PRINT IN COLOUR



1 FLOOR PLAN - GROUND
SCALE 1 : 100

TOWN OF CAMBRIDGE
RECEIVED
15 October 2024

2 K100 DRAIN DETAIL
SCALE 1 : 10

GENERAL NOTES

REFER ALSO TO THE SLAB AND COLUMN SETOUT DRAWINGS FOR SETOUT OF COLUMNS AND FLOOR SLAB

CONTROL JOINTS IN PLASTERBOARD LINING AT MAXIMUM 12m SPACING, OR TO MANUFACTURER'S RECOMMENDATION

DIMENSIONS SHOWN FOR STUD FRAMING ARE TO THE CENTRE LINE OF STUD

'CLEAR' DENOTES THAT THE DIMENSION SHALL BE BETWEEN WALL LININGS

LEGEND

	DENOTES NEW DOOR
	DENOTES DOOR / WINDOW REFERENCE
	DENOTES COLUMN (STEEL FR REFER SHEET A9.06) - REFER TO STRUCTURAL ENGINEER DRAWINGS
	DENOTES RAIN WATER PIPE
	DENOTES FLOOR WASTE GULLY
	DENOTES HYDRAULIC STACKER. REFER TO HYDRAULIC ENGINEER DRAWINGS
	DENOTES HOSE COCK
	DENOTES FLOOR DRAIN - REFER CIVIL CONSULTANTS DRAWINGS
NOTE: REFER TO ACOUSTIC REPORT FOR PLANS DENOTING ACOUSTIC REQUIREMENTS.	

SMOKE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL WITH IN ROOF SPACE. LINE STUDS WITH 1 LAYER 13 THICK PLASTERBOARD AND FULL SEAL TO PREVENT EGRESS OF SMOKE. CARRY WALL UP TO UNDER SIDE OF SLAB OVER OR ROOF AND EXTEND INTO ANY BOXED EAVES. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING

FIRE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL AND LINE WITH BOTH SIDES OF STUD WORK WITH 2 LAYERS FLUSH 13mm THICK FIRE RESISTANT PLASTERBOARD IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS. SEAL LINING TO EXISTING BRICK WALL AND TO ROOF CLADDING. SEAL ALL GAPS AND EXTEND OUT INTO BOXED EAVES OVER HANGS. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING

27	SPH 10.02.23	DOOR SCHEDULE
26	SPH 07.02.23	D.SCHEDULE
25	SPH 02.12.22	COORDINATION
24	SPH 08.11.22	COORDINATION
23	SPH 24.10.22	GL PRAM RAMP
22	SPH 21.10.22	CIVIL LEVELS
21	SPH 20.10.22	CIVIL LEVELS
20	SPH 14.10.22	CIVIL COORDINATION
19	SPH 11.10.22	CIVIL COORDINATION
REV	BY DATE	DESCRIPTION

CONSTRUCTION

T: 08 9284 1888
E: mail@sph.net.au
Studio: 143 Cambridge Street
West Leederville WA 6007
ABN: 88123 655 176 ABWA: 2115

sph
architecture
+ interiors

EARLY LEARNING
CENTRE

29-33
NORTHWOOD STREET, LEEDERVILLE

FLOOR PLAN - GROUND

SCALE AT A1: AS SHOWN	CAD FILE No: 221019.rvt	DATE: 221019	DRN: LG	CKD: MC
PROJECT No: 221019	DRAWING No: A2.01	REVISION: 27		

DEVELOPMENT
ASSESSMENT PANEL

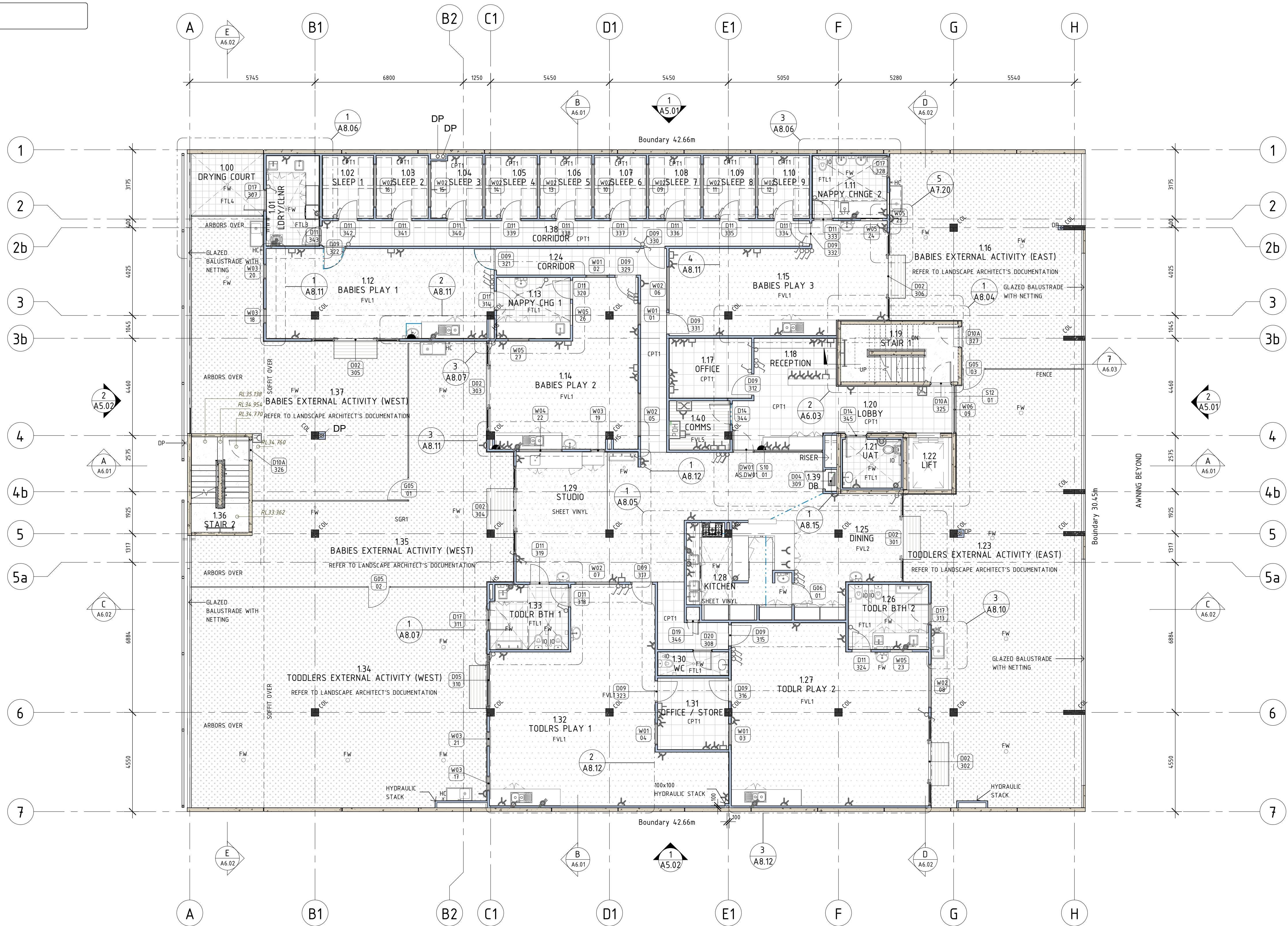
APPROVED

28-Nov-2024

KEY SCHEDULE SHEET REFERENCE

WINDOW & GLAZING SCHEDULE	SHEET A9.03
DOOR SCHEDULE	SHEET A9.01/ 902
WALL SCHEDULE	SHEET A9.05
CEILING COLUMN FLOOR SCHEDULE	SHEET A9.06

PRINT IN COLOUR



1 FLOOR PLAN - LEVEL 1
SCALE 1 : 100

TOWN OF CAMBRIDGE
RECEIVED
15 October 2024

DEVELOPMENT
ASSESSMENT PANEL

APPROVED
28-Nov-2024

GENERAL NOTES

REFER ALSO TO THE SLAB AND COLUMN SETOUT DRAWINGS FOR SETOUT OF COLUMNS AND FLOOR SLAB

CONTROL JOINTS IN PLASTERBOARD LINING AT MAXIMUM 12m SPACING, OR TO MANUFACTURER'S RECOMMENDATION

DIMENSIONS SHOWN FOR STUD FRAMING ARE TO THE CENTRE LINE OF STUD

'CLEAR' DENOTES THAT THE DIMENSION SHALL BE BETWEEN WALL LININGS

LEGEND

	DENOTES NEW DOOR
	DENOTES DOOR / WINDOW REFERENCE
	DENOTES COLUMN (STEEL FR REFER SHEET A9.06) - REFER TO STRUCTURAL ENGINEER DRAWINGS
	DENOTES RAIN WATER PIPE
	DENOTES FLOOR WASTE GULLY
	DENOTES HYDRAULIC STACK. REFER TO HYDRAULIC ENGINEER DRAWINGS
	DENOTES HOSE COCK
	DENOTES FLOOR DRAIN - REFER CIVIL CONSULTANTS DRAWINGS
NOTE: REFER TO ACOUSTIC REPORT FOR PLANS DENOTING ACOUSTIC REQUIREMENTS.	

SMOKE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL WITH IN ROOF SPACE. LINE STUDS WITH 1 LAYER 13 THICK PLASTERBOARD AND FULL SEAL TO PREVENT EGRESS OF SMOKE. CARRY WALL UP TO UNDER SIDE OF SLAB OVER OR ROOF AND EXTEND INTO ANY BOXED EAVES. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING

FIRE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL AND LINE WITH BOTH SIDES OF STUD WORK WITH 2 LAYERS FLUSH 13mm THICK FIRE RESISTANT PLASTERBOARD IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS. SEAL LINING TO EXISTING BRICK WALL AND TO ROOF CLADDING. SEAL ALL GAPS AND EXTEND OUT INTO BOXED EAVES OVER HANGS. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING.

18	SPH 10.02.23	DOOR SCHEDULE
17	SPH 02.12.22	COORDINATION
16	SPH 08.11.22	COORDINATION
15	SPH 21.09.22	VO_03 POST IFC CHANGES
14	SPH 02.09.22	VO_03 POST IFC CHANGES
13	SPH 29.07.22	REVISE ROOM AREAS
12	SPH 28.07.22	FLOOR FINISH REVISED
11	SPH 13.06.22	HYD COORDINATION
10	SPH 25.05.22	ISSUE FOR CONSTRUCTION
REV	BY DATE	DESCRIPTION

CONSTRUCTION

T: 08 9284 1888
E: mail@sph.net.au
Studio: 143 Cambridge Street
West Leederville WA 6007
ABN: 88123 655 176 ABWA: 2115

sph
architecture
+ interiors

EARLY LEARNING
CENTRE

29-33
NORTHWOOD STREET, LEEDERVILLE

FLOOR PLAN - LEVEL 1

SCALE AT A1: AS SHOWN	CAD FILE No: 221019.rvt	DATE: 221019	DRN: LG	CKD: MC
PROJECT No: 221019	DRAWING No: A2.02	REVISION: 18		

WINDOW & GLAZING SCHEDULE	SHEET A9.03
DOOR SCHEDULE	SHEET A9.01/ 902
WALL SCHEDULE	SHEET A9.05
CEILING COLUMN FLOOR SCHEDULE	SHEET A9.06

[illegible]

SCALE AT A1: AS SHOWN	CAD FILE No: 221019.rvt	DATE:	DRN: LG	CK: MC
PROJECT No: 221019		DRAWING No: A2.03		REVISION: 19

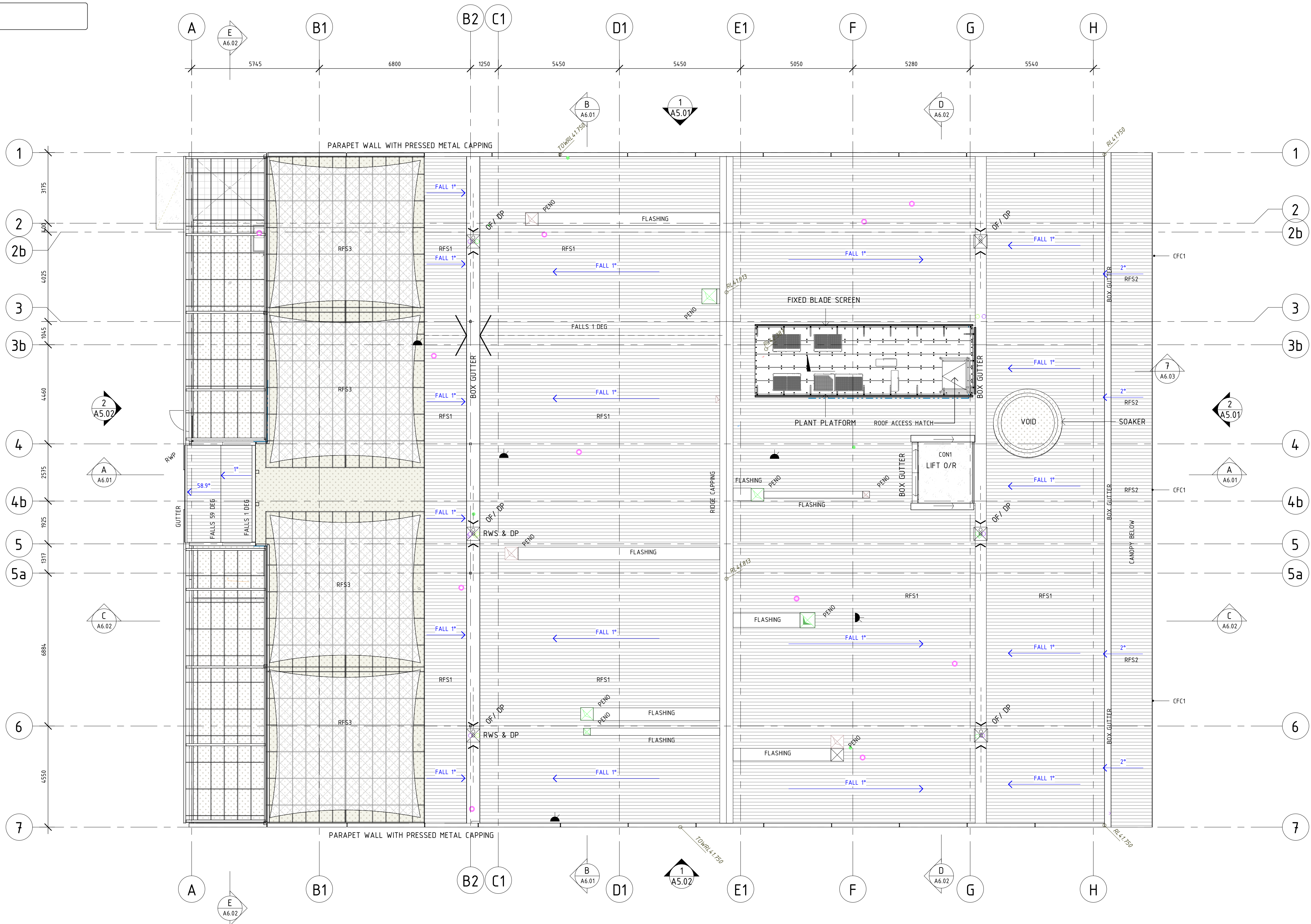
APPROVED
28-Nov-2024

TOWN OF CAMBRIDGE
RECEIVED
15 October 2024

KEY SCHEDULE SHEET REFERENCE

WINDOW & GLAZING SCHEDULE	SHEET A9.03
DOOR SCHEDULE	SHEET A9.01/ 902
WALL SCHEDULE	SHEET A9.05
CEILING COLUMN FLOOR SCHEDULE	SHEET A9.06

PRINT IN COLOUR



1 ROOF PLAN
A5.01 SCALE 1 : 100

DEVELOPMENT
ASSESSMENT PANEL

APPROVED

28-Nov-2024

TOWN OF CAMBRIDGE
RECEIVED
15 October 2024

GENERAL NOTES

REFER ALSO TO THE SLAB AND COLUMN SETOUT DRAWINGS FOR SETOUT OF COLUMNS AND FLOOR SLAB

CONTROL JOINTS IN PLASTERBOARD LINING AT MAXIMUM 12m SPACING, OR TO MANUFACTURER'S RECOMMENDATION

DIMENSIONS SHOWN FOR STUD FRAMING ARE TO THE CENTRE LINE OF STUD

'CLEAR' DENOTES THAT THE DIMENSION SHALL BE BETWEEN WALL LININGS

LEGEND

	DENOTES NEW DOOR
	DENOTES DOOR / WINDOW REFERENCE
	DENOTES COLUMN (STEEL FR REFER SHEET A9.06) - REFER TO STRUCTURAL ENGINEER DRAWINGS
	DENOTES RAIN WATER PIPE
	DENOTES FLOOR WASTE GULLY
	DENOTES HYDRAULIC STACKER. REFER TO HYDRAULIC ENGINEER DRAWINGS
	DENOTES HOSE COCK
	DENOTES FLOOR DRAIN - REFER CIVIL CONSULTANTS DRAWINGS
NOTE: REFER TO ACOUSTIC REPORT FOR PLANS DENOTING ACOUSTIC REQUIREMENTS.	

SMOKE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL WITH IN ROOF SPACE. LINE STUDS WITH 1 LAYER 13 THICK PLASTERBOARD AND FULL SEAL TO PREVENT EGRESS OF SMOKE. CARRY WALL UP TO UNDER SIDE OF SLAB OVER OR ROOF AND EXTEND INTO ANY BOXED EAVES. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING

FIRE WALL
CONSTRUCT STUD WALL TO TOP OF EXISTING BRICK WALL AND LINE WITH BOTH SIDES OF STUD WORK WITH 2 LAYERS FLUSH 13mm THICK FIRE RESISTANT PLASTERBOARD IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS. SEAL LINING TO EXISTING BRICK WALL AND TO ROOF CLADDING. SEAL ALL GAPS AND EXTEND OUT INTO BOXED EAVES OVER HANGS. ALLOW FOR THE MODIFICATION OF EXISTING ROOF AND CEILING FRAMING.

12	SPH	02.12.22	COORDINATION
11	SPH	08.11.22	COORDINATION
10	SPH	21.09.22	VO_03 POST IFC CHANGES
9	SPH	02.09.22	VO_03 POST IFC CHANGES
8	SPH	25.05.22	ISSUE FOR CONSTRUCTION
7	SPH	29.04.22	ISSUE FOR INFORMATION
6	SPH	12.04.22	ISSUE FOR INFORMATION
5	SPH	03.03.22	ISSUED FOR BUILDING PERMIT
4	SPH	04.02.22	PRICING ISSUE
REV	BY	DATE	DESCRIPTION

CONSTRUCTION

sph
architecture
+ interiors

T: 08 9284 1888
E: mail@sph.net.au
Studio: 143 Cambridge Street
West Leederville WA 6007
ABN: 88123 655 176 ABWA: 2115

EARLY LEARNING
CENTRE

29-33
NORTHWOOD STREET, LEEDERVILLE

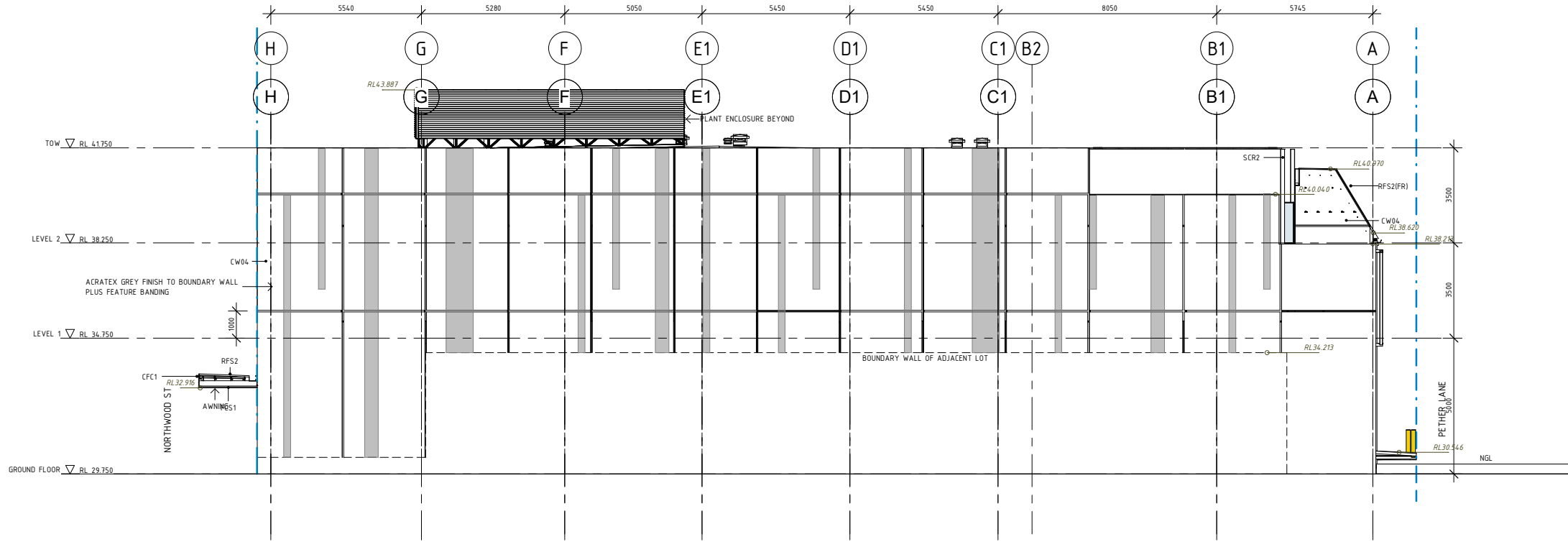
ROOF PLAN

SCALE AT A1: AS SHOWN	CAD FILE No: 221019.rvt	DATE: 221019	DRN: LG	CKD: MC
PROJECT No: 221019	DRAWING No: A4.01	REVISION: 12		

KEY SCHEDULE SHEET REFERENCE

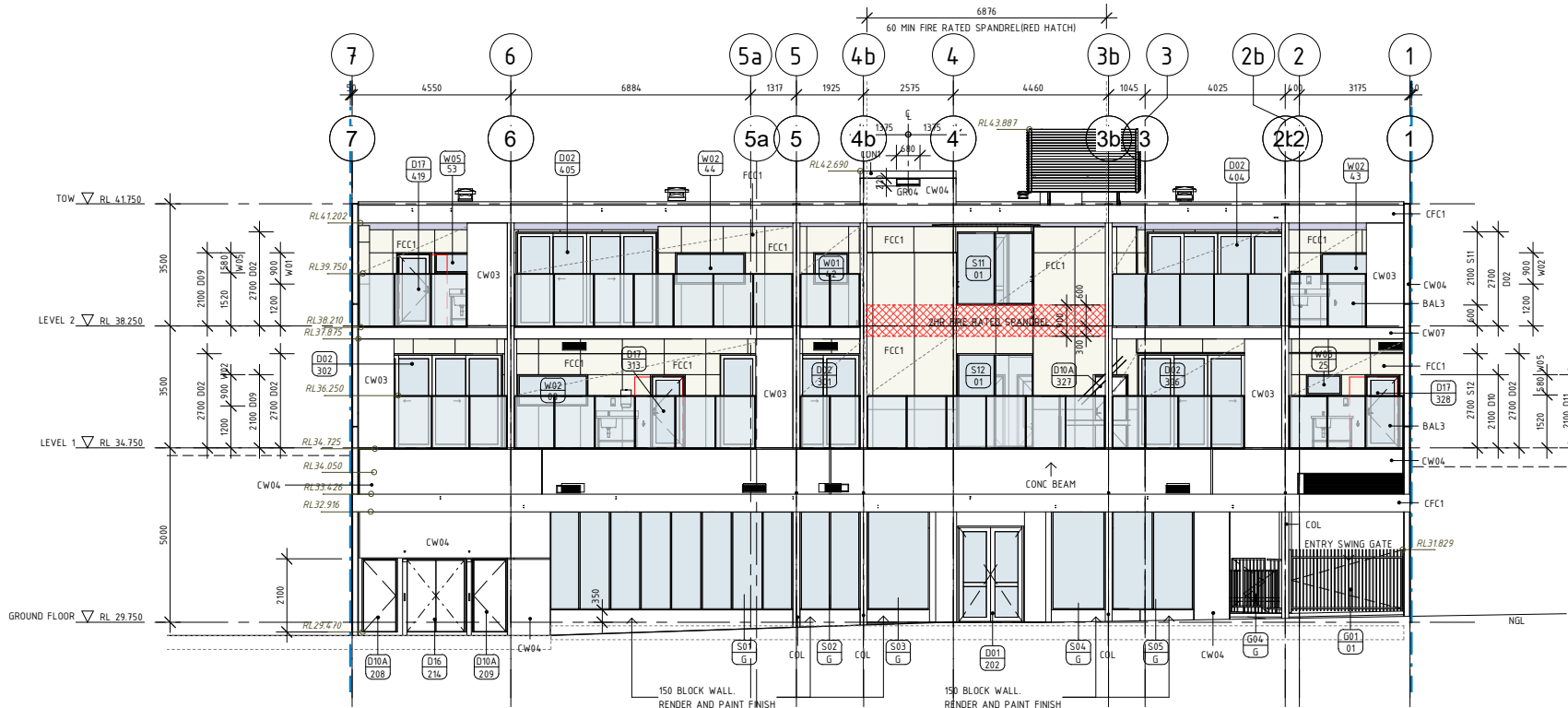
WINDOW & GLAZING SCHEDULE	SHEET A9.03
DOOR SCHEDULE	SHEET A9.01/ 902
WALL SCHEDULE	SHEET A9.05
CEILING COLUMN FLOOR SCHEDULE	SHEET A9.06

PRINT IN COLOUR



1 NORTH ELEVATION
A2.01 SCALE 1 : 100

TOWN OF CAMBRIDGE
RECEIVED
15 October 2024



2 EAST ELEVATION
A2.01 SCALE 1 : 100

DEVELOPMENT
ASSESSMENT PANEL

APPROVED

28-Nov-2024

13	SPH	01.02.23	WINDOW SILL
12	SPH	02.12.22	COORDINATION
11	SPH	17.10.22	WINDOW HEAD LEVELS SHOWN ON ELEVATIONS
10	SPH	21.09.22	VO_03 POST IFC CHANGES
9	SPH	02.09.22	VO_03 POST IFC CHANGES
8	SPH	15.02.22	TOP OF PARAPET
7	SPH	25.05.22	ISSUE FOR CONSTRUCTION
6	SPH	29.04.22	ISSUE FOR INFORMATION
5	SPH	12.04.22	ISSUE FOR INFORMATION
REV	BY	DATE	DESCRIPTION

CONSTRUCTION

sph
architecture
+ interiors

T: 08 9284 1888
E: mail@sph.net.au
Studio: 143 Cambridge Street
West Leederville WA 6007
ABN: 88123 655 176 ABWA: 2115

EARLY LEARNING
CENTRE

29-33
NORTHWOOD STREET, LEEDERVILLE

ELEVATIONS

SCALE AT A1: AS SHOWN	CAD FILE No: 221019.rvt	DATE: 221019	DRN: LG	CKD: MC
PROJECT No: 221019	DRAWING No: A5.01	REVISION: 13		

WINDOW & GLAZING SCHEDULE	SHEET A9.03
DOOR SCHEDULE	SHEET A9.01/ 902
WALL SCHEDULE	SHEET A9.05
CEILING COLUMN FLOOR SCHEDULE	SHEET A9.06

**DEVELOPMENT
ASSESSMENT PANEL**

APPROVED

28-Nov-2024

Architectural section drawing showing Levels 1, 2, and Ground Floor. The drawing includes structural elements, mechanical systems, and various annotations. Key features include:

- Level 2:** RL 38.250. Features include a large open area with a steel arbor, a garage door, and various mechanical grilles. Annotations include "ENCLOSED WITH PROTECTIVE NYLON NETTING" and "STEEL ARBOR".
- Level 1:** RL 36.750. Features include a large open area with a steel arbor, a garage door, and various mechanical grilles. Annotations include "ENCLOSED WITH PROTECTIVE NYLON NETTING" and "STEEL ARBOR".
- Ground Floor:** RL 29.750. Features include a large open area with a steel arbor, a garage door, and various mechanical grilles. Annotations include "ENCLOSED WITH PROTECTIVE NYLON NETTING" and "STEEL ARBOR".
- Structural Elements:** The drawing shows a large open area with a steel arbor, a garage door, and various mechanical grilles. Annotations include "ENCLOSED WITH PROTECTIVE NYLON NETTING" and "STEEL ARBOR".
- Mechanical Systems:** The drawing shows a large open area with a steel arbor, a garage door, and various mechanical grilles. Annotations include "ENCLOSED WITH PROTECTIVE NYLON NETTING" and "STEEL ARBOR".
- Annotations:** The drawing includes various annotations such as "ENCLOSED WITH PROTECTIVE NYLON NETTING", "STEEL ARBOR", "MECH GRILLE", "GARAGE DOOR", "EXIT SWING GATE", "RWP", "CW04", "BW01", "COL1", "G01 G", "G04 G", "D108 204", "D108 205", "D17 307", "D17 308", "D17 309", "D17 310", "D17 311", "D17 312", "D17 313", "D17 314", "D17 315", "D17 316", "D17 317", "D17 318", "D17 319", "D17 320", "D17 321", "D17 322", "D17 323", "D17 324", "D17 325", "D17 326", "D17 327", "D17 328", "D17 329", "D17 330", "D17 331", "D17 332", "D17 333", "D17 334", "D17 335", "D17 336", "D17 337", "D17 338", "D17 339", "D17 340", "D17 341", "D17 342", "D17 343", "D17 344", "D17 345", "D17 346", "D17 347", "D17 348", "D17 349", "D17 350", "D17 351", "D17 352", "D17 353", "D17 354", "D17 355", "D17 356", "D17 357", "D17 358", "D17 359", "D17 360", "D17 361", "D17 362", "D17 363", "D17 364", "D17 365", "D17 366", "D17 367", "D17 368", "D17 369", "D17 370", "D17 371", "D17 372", "D17 373", "D17 374", "D17 375", "D17 376", "D17 377", "D17 378", "D17 379", "D17 380", "D17 381", "D17 382", "D17 383", "D17 384", "D17 385", "D17 386", "D17 387", "D17 388", "D17 389", "D17 390", "D17 391", "D17 392", "D17 393", "D17 394", "D17 395", "D17 396", "D17 397", "D17 398", "D17 399", "D17 400", "D17 401", "D17 402", "D17 403", "D17 404", "D17 405", "D17 406", "D17 407", "D17 408", "D17 409", "D17 410", "D17 411", "D17 412", "D17 413", "D17 414", "D17 415", "D17 416", "D17 417", "D17 418", "D17 419", "D17 420", "D17 421", "D17 422", "D17 423", "D17 424", "D17 425", "D17 426", "D17 427", "D17 428", "D17 429", "D17 430", "D17 431", "D17 432", "D17 433", "D17 434", "D17 435", "D17 436", "D17 437", "D17 438", "D17 439", "D17 440", "D17 441", "D17 442", "D17 443", "D17 444", "D17 445", "D17 446", "D17 447", "D17 448", "D17 449", "D17 450", "D17 451", "D17 452", "D17 453", "D17 454", "D17 455", "D17 456", "D17 457", "D17 458", "D17 459", "D17 460", "D17 461", "D17 462", "D17 463", "D17 464", "D17 465", "D17 466", "D17 467", "D17 468", "D17 469", "D17 470", "D17 471", "D17 472", "D17 473", "D17 474", "D17 475", "D17 476", "D17 477", "D17 478", "D17 479", "D17 480", "D17 481", "D17 482", "D17 483", "D17 484", "D17 485", "D17 486", "D17 487", "D17 488", "D17 489", "D17 490", "D17 491", "D17 492", "D17 493", "D17 494", "D17 495", "D17 496", "D17 497", "D17 498", "D17 499", "D17 500", "D17 501", "D17 502", "D17 503", "D17 504", "D17 505", "D17 506", "D17 507", "D17 508", "D17 509", "D17 510", "D17 511", "D17 512", "D17 513", "D17 514", "D17 515", "D17 516", "D17 517", "D17 518", "D17 519", "D17 520", "D17 521", "D17 522", "D17 523", "D17 524", "D17 525", "D17 526", "D17 527", "D17 528", "D17 529", "D17 530", "D17 531", "D17 532", "D17 533", "D17 534", "D17 535", "D17 536", "D17 537", "D17 538", "D17 539", "D17 540", "D17 541", "D17 542", "D17 543", "D17 544", "D17 545", "D17 546", "D17 547", "D17 548", "D17 549", "D17 550", "D17 551", "D17 552", "D17 553", "D17 554", "D17 555", "D17 556", "D17 557", "D17 558", "D17 559", "D17 560", "D17 561", "D17 562", "D17 563", "D17 564", "D17 565", "D17 566", "D17 567", "D17 568", "D17 569", "D17 570", "D17 571", "D17 572", "D17 573", "D17 574", "D17 575", "D17 576", "D17 577", "D17 578", "D17 579", "D17 580", "D17 581", "D17 582", "D17 583", "D17 584", "D17 585", "D17 586", "D17 587", "D17 588", "D17 589", "D17 590", "D17 591", "D17 592", "D17 593", "D17 594", "D17 595", "D17 596", "D17 597", "D17 598", "D17 599", "D17 600", "D17 601", "D17 602", "D17 603", "D17 604", "D17 605", "D17 606", "D17 607", "D17 608", "D17 609", "D17 610", "D17 611", "D17 612", "D17 613", "D17 614", "D17 615", "D17 616", "D17 617", "D17 618", "D17 619", "D17 620", "D17 621", "D17 622", "D17 623", "D17 624", "D17 625", "D17 626", "D17 627", "D17 628", "D17 629", "D17 630", "D17 631", "D17 632", "D17 633", "D17 634", "D17 635", "D17 636", "D17 637", "D17 638", "D17 639", "D17 640", "D17 641", "D17 642", "D17 643", "D17 644", "D17 645", "D17 646", "D17 647", "D17 648", "D17 649", "D17 650", "D17 651", "D17 652", "D17 653", "D17 654", "D17 655", "D17 656", "D17 657", "D17 658", "D17 659", "D17 660", "D17 661", "D17 662", "D17 663", "D17 664", "D17 665", "D17 666", "D17 667", "D17 668", "D17 669", "D17 670", "D17 671", "D17 672", "D17 673", "D17 674", "D17 675", "D17 676", "D17 677", "D17 678", "D17 679", "D17 680", "D17 681", "D17 682", "D17 683", "D17 684", "D17 685", "D17 686", "D17 687", "D17 688", "D17 689", "D17 690", "D17 691", "D17 692", "D17 693", "D17 69

15	SPH	02.12.22	COORDINATION
14	SPH	08.11.22	COORDINATION
13	SPH	21.10.22	RFI 6.2 dimensions
12	SPH	17.10.22	WINDOW HEAD LEVELS SHOWN ON ELEVATIONS
11	SPH	03.10.22	CIVIL COORDINATION
10	SPH	21.09.22	VO_03 POST IFC CHANGES
9	SPH	02.09.22	VO_03 POST IFC CHANGES
8	SPH	15.02.22	TOP OF PARAPET
7	SPH	25.05.22	ISSUE FOR CONSTRUCTION
REV	BY	DATE	DESCRIPTION

EARLY LEARNING
CENTRE
29-33
NORTHWOOD STREET, LEEDERVILLE
ELEVATIONS

SCALE AT A1: AS SHOWN	CAD FILE No: 221019.rvt	DATE:	DRN: LG	CKD: MC
PROJECT No: 221019	DRAWING No: A5.02		REVISION:	

2052a/CC

17 December 2020

Early Learning Centre and Office 29 – 33 Northwood Street, West Leederville – Acoustic Report

Acoustic Report for Development Application [issue] Rev. 1

Disclaimer

This report has been produced by Hewshott International having been prepared for the specific client and project detailed in the report. It is based on the objectives agreed with the client's instructions, specific scope of works, conditions and limitations and instructions to Hewshott International taking into account the relevant standards and guidelines in force at the time of issuing this report. Information contained in this report is not warranted to be suitable for other uses than the original intended objective. Only the client may use the information contained in this report without prior written consent from Hewshott International. This report may provide an approximate reference to costs or fees for services or products provided by a third party, for which Hewshott International accepts no responsibility for their accuracy.

Copyright

All contents of this document are the property of Hewshott International. Using or copying of this document in whole or in part without the prior written consent of Hewshott International is prohibited, and constitutes an infringement of copyright. This document or any of the information it contains may not be redistributed to any third party without prior written consent from Hewshott International.

Hewshott International | Acoustics 16 Century Court 100 Hay Street Subiaco Western Australia 6008

PO Box 1188 Kalamunda Western Australia 6926

t: +61 8 6230 2780 e: info@hewshott.com w: www.hewshott.com



green building council australia
MEMBER 2016-2017



Hewshott International (Australia) Pty Ltd (registered in Australia, ABN 37 600 306 241) trades as Hewshott International under licence, without recourse to the licensor or other members of the Hewshott International group.



Document Control

Hewshott | Acoustics



Rev No	Date	Revision Details	Author	Verifier	Approver
A	23 rd November 2020	Draft for comment	NB	DML	NB
B	24 th November 2020	Draft for comment	NB	DML	NB
0	27 th November 2020	DA Issue	NB	DML	NB
1	17 th December 2020	DA Issue	NB	DML	NB



Table of contents

1. Executive Summary	5
2. Design and Test Standards	6
2.1. Noise	6
2.1.1 Internal Noise	6
2.1.2 External Noise Emission	6
2.2. Vibration	6
2.2.1 Human Response	6
2.2.2 Machinery	6
2.2.3 Structures	6
3. Project Location	7
4. Environmental Noise Impact Criteria	8
4.1. EPNR 1997 Assigned Noise Levels Table	8
4.2. EPNR 1997 Noise Character Adjustments	8
4.3. Nearest Noise Sensitive Receiver (NSR)	9
4.4. Calculation of Assigned Noise Levels	9
4.4.3 Traffic/Transport Factor	10
4.4.5 EPNR 1997 Assigned Noise Levels Table – NSR	10
4.5. Vibration mitigation	11
5. Noise emission	12
5.1. Mechanical services	12
5.2. Waste services	12
5.3. Car park activity	12
5.4. Outdoor play areas – Children noise	14
6. Indoor Ambient Noise	18
7. Internal Sound Insulation / Speech Privacy	19
8. Internal Design Criteria	20
8.1. Internal Background Noise and Reverberation Times	20
8.2. Internal Sound Insulation	20
9. Existing Noise Levels	22
10. Mechanical Services – General Advice	23
10.1. New Duct-work	23
10.2. Fans, Air-Handling Units, Fan-Coil-Units, Variable-Air-Volume Units	23
10.3. Crosstalk Noise	23
10.4. Diffusers, Grilles and Dampers	23



A. Glossary	24
B. Acoustic Wall (Privacy) Mark-up	25



1. Executive Summary

Hewshott International has been engaged by Georgiou Developments to undertake the acoustic consultancy services for Development Application for the proposed early learning centre and office development at 29-33 Northwood Street, West Leederville.

The key aspects are:

- Environmental noise emission from the development,
- Internal ambient noise levels,
- Reverberation time (speech intelligibility)
- Walls, floors, ceilings and services separation
- Children noise
- Car stacker and mechanical services noise and vibration.

Recommendations for noise emission from the mechanical services and waste collection associated with the development have been made to ensure the development will achieve compliance with the Environmental Protection Noise Regulation 1997 at the nearest noise sensitive receptors.

Preliminary assessment of noise emission from the car parks activity has been undertaken and revealed compliance with the EPNR 1997 at the nearest noise sensitive receptors.

Preliminary assessment of noise emission from the outdoor play areas, based on the Small Group Policy, has been undertaken and revealed that the development will achieve compliance with the day time (7am – 10pm) assigned noise levels according to the EPNR 1997 at the nearest noise sensitive receptors.

To ensure that the final design of the building achieves the recommended acoustic design criteria, we recommend that a further acoustic assessment is undertaken at subsequent phases of the project (e.g. detailed design).



2. Design and Test Standards

Australian Standards (AS) are now equivalent of International Standards (ISO), although some additional Australian Standards are referenced in this briefing document which have not yet been introduced into an ISO version. Note that British and European Standards are now being merged with ISO Standards.

2.1. Noise

2.1.1 Internal Noise

- AS 2021-2015, "Acoustics - Aircraft Noise Intrusion-Building Siting and Construction".

2.1.2 External Noise Emission

- AS 1055-1997 "Acoustics - Description and measurement of environmental noise-general procedures"

The above standard is similar to ISO 1996:2016 "Acoustics - Description, measurement and assessment of environmental noise".

- Environmental Protection (Noise) Regulations 1997

2.2. Vibration

2.2.1 Human Response

These standards relate to the response of humans within a building, when subjected to continuous or intermittent vibration (e.g. footfall, transportation), or transient vibration (e.g. piling during construction). The excitation frequency considered is between 1Hz and 80Hz.

- AS 2670-2001 "Evaluation of human exposure to whole-body vibration"

Equivalent to ISO 2631-2003 "Mechanical vibration and shock - Evaluation of human exposure to whole-body vibration".

Where resonance of a building structure results from wind excitation with a resonance frequency less than 1Hz, the following standard is relevant:

- ISO 6897-1984 "Guidelines for the evaluation of the response of occupants of fixed structures, especially buildings and off-shore structures, to low-frequency horizontal motion (0.063 to 1Hz)"

2.2.2 Machinery

These standards relate to allowable vibration limits for machinery installed within a building.

- ISO 10816:2015 "Mechanical vibration - Evaluation of machine vibration by measurements on non-rotating parts"

2.2.3 Structures

These standards refer to compromise of the integrity of structures subject to vibration from ground-borne sources such as construction, demolition and transportation.

- ISO 4866:2010: Mechanical vibration and shock - Vibration of fixed structures (equivalent to BS ISO 4866:2010)

Other standards for consideration include DIN 4150-3 (1999-02): "Structural vibration - Effects of vibration on structures". The Australian Standard AS 2187-2006 "Explosives-Storage and Use of explosives" also provides guidance.

3. Project Location

29-33 Northwood Street, West Leederville is located in a Mixed-Use Zone, according to the Town of Cambridge Town Planning Scheme No 1. It is surrounded by residential and other mixed-use properties.

The proposed development will consist of ground floor office space and carpark and early learning centre over two upper floors.

The nearest noise sensitive receivers (NSR) have been identified and are located at:

- 24 Blencowe Street, to the west from the development,
- 26 Blencowe Street, to the west from the development.

Perth Airport is located approximately 10km to the east of the proposed development. The proposed site falls outside the ANEF Contours stated in AS 2021-2015. The proposed development is not expected to require additional sound insulation for aircraft noise.

Figure 3.1: Aerial view of site and its surroundings – source: Google Maps





4. Environmental Noise Impact Criteria

In Western Australia, the noise emissions from a development to a receiver are assessed in accordance with the Environmental Protection (Noise) Regulations 1997 (EPNR 1997). The noise emissions from the development are compared with calculated assigned noise levels at a given noise sensitive receiver.

4.1. EPNR 1997 Assigned Noise Levels Table

The Western Australian Department of Environmental Protection Noise Regulations (EPNR 1997) operate under the Environmental Protection Act 1986. The Regulations specify maximum noise levels that can be received at noise sensitive premises, including industrial, commercial and residential premises.

EPNR 1997 provides a methodology and stipulates clear procedures relating to noise assessments and control. The regulations provide limits for three types of assigned noise level:

- L_{Amax} assigned noise level which cannot be exceeded at any time;
- L_{A1} assigned noise level that cannot be exceeded for more than 1% of the time;
- L_{A10} assigned noise level that cannot be exceeded for more than 10% of the time.

The resulting assigned noise levels are displayed in Table 4.1.1 below.

Table 4.1.1: Assigned noise levels

Type of premises receiving noise	Time of day	Assigned noise level (dBA)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises at locations within 15 metres of a building directly associated with a noise sensitive use	07:00 to 19:00 Monday to Saturday	45+IF	55+IF	65+IF
	09:00 to 19:00 Sunday and Public holidays	40+IF	50+IF	65+IF
	19:00 to 22:00 All days	40+IF	50+IF	55+IF
	22:00 to 07:00 All days	35+IF	45+IF	55+IF
Noise sensitive premises at locations further than 15 metres from a building directly associated with a noise sensitive use	All hours	60	75	80
Commercial premises	All times	60	75	80
Industrial and utility premises	All times	60	75	80

The “influencing factor” (IF) is calculated for each of noise-sensitive premises receiving noise. It takes into account the amount of industrial and commercial land and the presence of major roads within a 450m radius around the noise receiver.

4.2. EPNR 1997 Noise Character Adjustments

It is a requirement of EPNR 1997 that the noise character of any breakout noise from a development be free of annoying characteristics, namely –

- Tonality, e.g. whining, droning;
- Modulation, e.g. like a siren; and
- Impulsiveness, e.g. banging, thumping.



According to EPNR 1997, “if these characteristics cannot be reasonably and practicably removed, e.g. in the case of an emission like music, then a series of adjustments to the measured levels are set out, and the adjusted level must comply with the assigned level”. The adjustments are set out below.

Table 4.2.1: EPNR 1997 noise character adjustments

Adjustment where noise emission is not music These adjustments are cumulative to a maximum of 15 dB			Adjustment where noise emission is music	
Where tonality is present	Where modulation is present	Where impulsiveness is present	Where impulsiveness is not present	Where impulsiveness is present
+5 dB	+5 dB	+10 dB	+10 dB	+15 dB

4.3. Nearest Noise Sensitive Receiver (NSR)

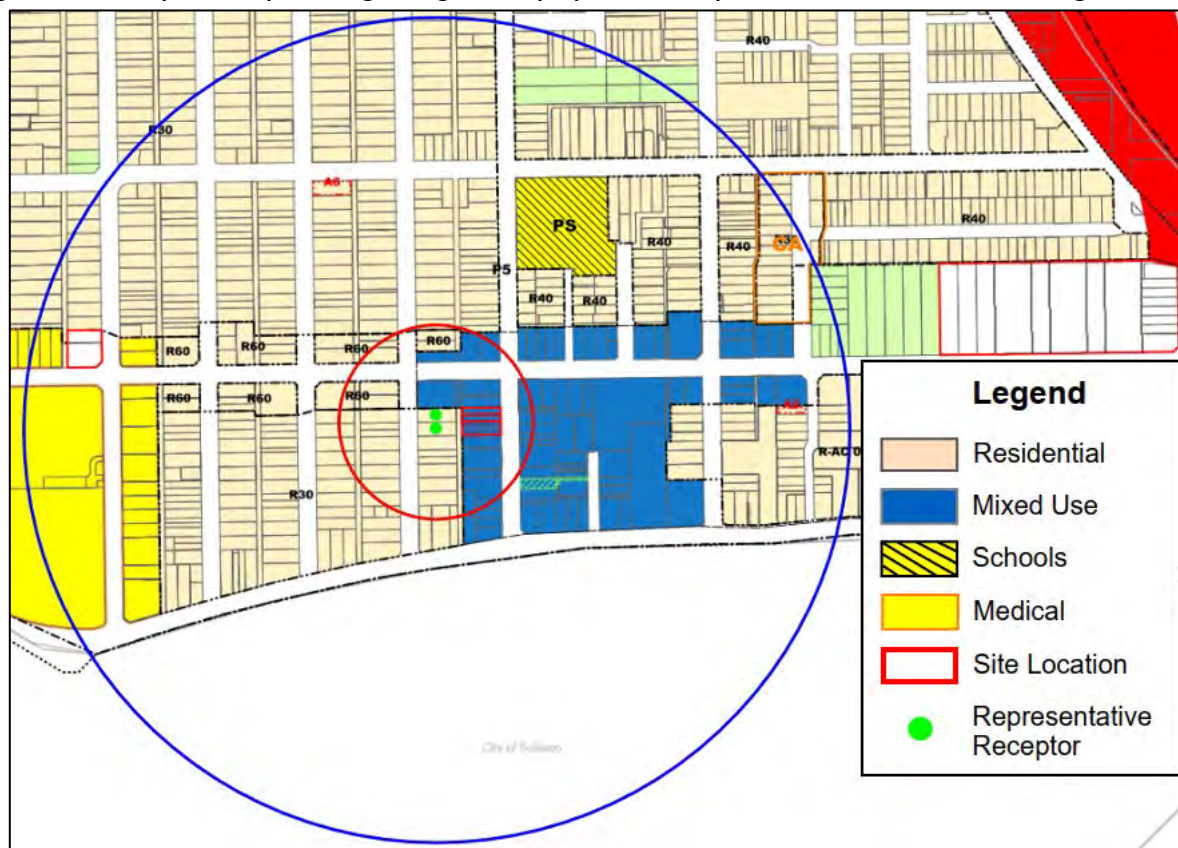
The assigned noise levels defined in the regulations have been calculated for the following nearest noise sensitive receivers (NSR) below:

- 24 Blencowe Street,
- 26 Blencowe Street.

4.4. Calculation of Assigned Noise Levels

Based on the regulations set out in the WA Environmental Protection (Noise) Regulations 1997, the maximum allowable noise levels are determined using the assigned noise level base values and the influencing factor (IF). The influencing factor takes into account zoning and road traffic around the receiver of interest within a 100 and 450m radius. In figure 4.4.1, the red circle is the 100m radius circle, and the blue circle is the 450m radius circle. Their centre is the noise-sensitive receiver under consideration (24 & 26 Blencowe St).

Figure 4.4.1: Composite map showing zoning around proposed development – source: Town of Cambridge Intramaps





4.4.1 100-Metre-Radius Circle

Based on the available information, the percentage of commercial use within the 100-metre-radius circle is 31%, and no industrial use has been identified within this area.

4.4.2 450-Metre-Radius Circle

Based on the available information, the percentage of commercial use within the 450-metre-radius circle is 8%, and 0% industrial activity has been identified within this area.

4.4.3 Traffic/Transport Factor

There is one major road (more than 15,000 vehicles per day) within the 100m radius area and one within the 450m radius area. There are no secondary roads (6,000 – 15,000 vehicles per day) within the 100m radius area.

From information provided by Main Roads WA, which is summarised in table below, the transport factor is 6.

Table 4.4.3.1: Traffic Volume in the Area.

Road	Vehicles per day	Classification
Cambridge Street	19 078	Major road
Railway Parade	16 204	Major road

4.4.4 Influencing Factor

Based on calculations, and taking into account the percentage of commercial, industrial and residential areas as well as secondary and major roads in the 100 and 450 metre radius circles, the influencing factor is 8 dB.

4.4.5 EPNR 1997 Assigned Noise Levels Table – NSR

The resulting assigned noise levels for the NSR are displayed in Table 4.4.5.1 below.

Table 4.4.5.1: Assigned Noise Levels at Cooper Street

Type of premises receiving noise	Time of the day	Assigned Noise Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises at locations within 15 metres of a building directly associated with a noise sensitive use	07.00 to 19.00 hrs Monday To Saturday	53	63	73
	09.00 to 19.00 hrs Sunday and Public holidays	48	58	73
	19.00 to 22.00 hrs All days	48	58	63
	22.00 to 07.00 hours all days	43	53	63
Commercial premises	All times	60	75	80
Industrial and utility premises	All times	65	80	90

The time period that is applicable to the development is highlighted in bold.

L_{A10} is an acoustic descriptor which corresponds to the noise level exceeded for ten per cent of the time period under consideration; this may be considered to represent an “average maximum level” and is often used for the assessment of road traffic noise. The L_{A1} is the level exceeded for one per cent of the



time; this is representative of the maximum levels recorded during the sample period. The L_{Amax} is the absolute maximum recorded level, which is most useful for assessing sounds of short duration.

4.5. Vibration mitigation

It is the responsibility of the installer to ensure that any rotational equipment or pumps do not cause objectionable vibration. In order to minimise the transmission of vibration and noise from rotating reciprocating or vibrating equipment to building elements, it is necessary to provide vibration control comprising vibration isolators and inertia bases where necessary to limit building vibrations in occupied areas as follows:

Table 4.5.1: Maximum allowable RMS velocity levels

Equipment	Allowable rms velocity level mm/s
Pumps	3.3
Centrifugal compressors	3.3
Fans (vent sets, centrifugal, axial)	2.3

Isolator selection: Select mounts with static deflections to limit building vibration allowing for span, stiffness and mass of supporting structure, and mass, imbalance, and operating speed range of equipment.

All equipment must be balanced to minimise vibration.

Rotating and reciprocating machinery – within evaluation zone A measured in accordance with *ISO 10816-3:1998* and *AS 2625.4:2003*.

Vibration mounts are required except for external equipment which is not connected to the structure of any building, support rotating, reciprocating or vibrating equipment on vibration isolating mounts.

It is a responsibility of an equipment installer and maintenance company, that all vibration mitigation measures are implemented, and all vibration isolation is checked and maintained on regular basis, in order to minimise a vibration emission into the building structure. It is proposed at this stage that Allied Air will be employed to install and maintain a mechanical equipment.

Further details regarding the building maintenance will be provided as a part of the building permit process.



5. Noise emission

5.1. Mechanical services

The mechanical services noise emissions must be kept to a level that is not exceeded at any nearby neighbours' boundary. The night-time assigned noise level is 43 dB, L_{A10} and has been calculated in Table 4.4.5.1.

All noise from condenser units and exhaust fans must not exceed this value at the boundary of any nearby residential neighbour.

Due to the close proximity to residential neighbours, the noise from condenser units must be mitigated using the following options:

- All condenser units should be either roof or garage located, facing away from nearby residents.
- If the intention is to mount units on walls, compliance with the assigned noise levels must be confirmed and detailed mechanical noise assessment must be undertaken on subsequent phases of the project, once mechanical services design is finalised.
- Vibration from any condenser units would also need to be controlled appropriately to minimise structure borne noise. Guidance has been provided on how to mitigate vibration in Section 4.5.

Current design shows proposed mechanical plant to be located on the roof of the development, screened with a louvers. It is the responsibility of the installer that the overall noise from all mechanical items must be kept to a sound pressure level of 70 dBA or less at one metre, subject to the final location. As far as practicable, noise from mechanical services including condenser units and exhaust fans should be free from tonality and impulsiveness.

Further mechanical services noise assessment will be undertaken on subsequent phase of the project, once the services design is finalised.

Provided that condenser units and exhaust fans are carefully selected and mitigated, assigned noise levels will not be exceeded at nearby properties.

5.2. Waste services

The waste collection vehicles noise emissions must be kept to a level that is not exceeded at any nearby neighbours' boundary. The daytime assigned level is 73 dB, L_{Amax} , and has been calculated and presented in Table 4.4.5.1. All noise from services vehicles must not exceed this value at the boundary of any nearby residential neighbour at any time.

Waste collection services is proposed to be managed through a private contractor. It is proposed the waste will be collected three time a week between 10am and 2pm Monday to Friday. All reversing vehicles and noise associated with it must comply with the assigned daytime noise levels L_{Amax} . Please refer to the development Waste Management Plan for detailed information about vehicles routes.

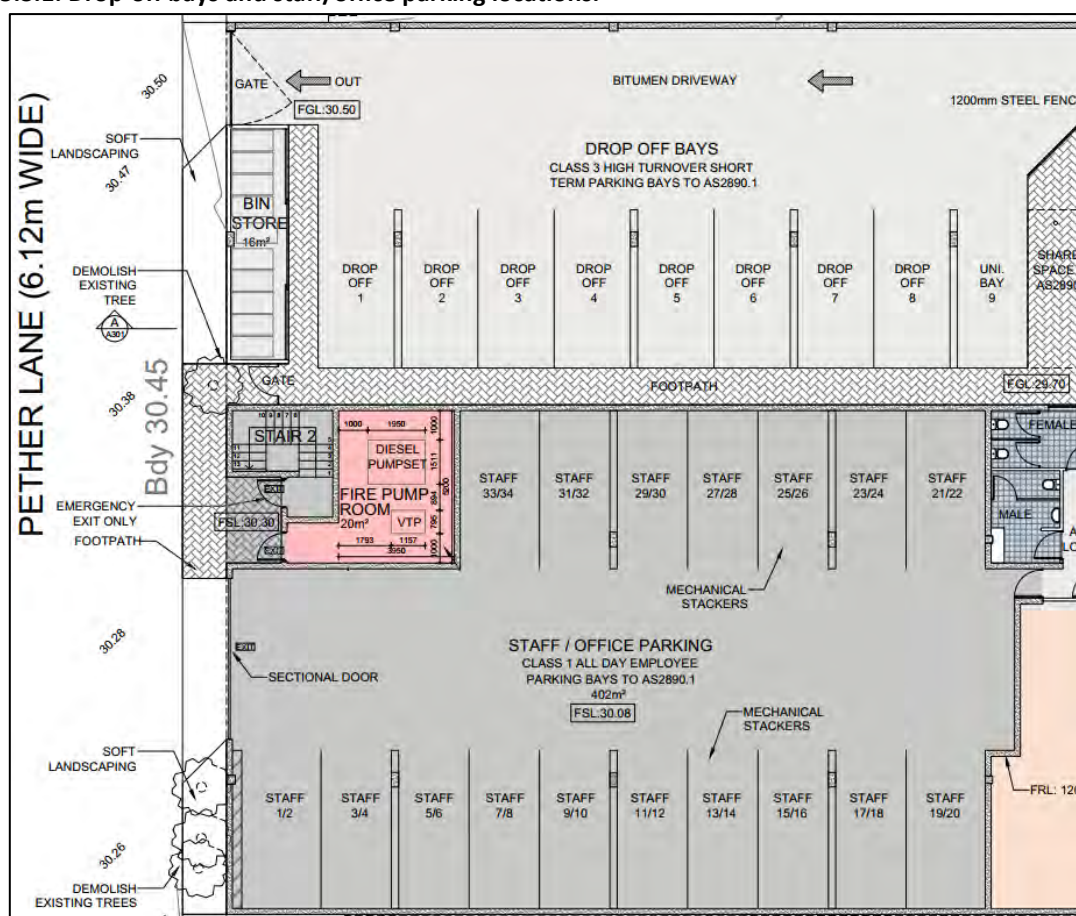
Provided that services vehicles are maintained in order to minimise noise emission, assigned noise levels will not be exceeded at nearby residential properties.

5.3. Car park activity

Nine car bays for parents' drop-off and pick-up, including one ACROD bay, associated with the development will be located at the ground level, in northern part of the property.

Seventeen (17) double mechanical car stacker bays for staff and office use will be located at the ground level of the development, total of 34 car bays. The parking will be enclosed with the entrance from Pether Lane. Both Drop-off bays and Staff/ Office parking locations are presented in Figure 5.3.1 below.

Figure 5.3.1: Drop-off bays and staff/office parking locations.



Noise from car park activity with potential to cause impacts at the nearest sensitive receptors are likely to be car door slamming which is generally assessed in terms of L_{max} . From previous measurements a typical Sound Power Level (SWL) has been derived for car door slamming and generally has an L_{max} between 80 to 90 dBA, 85dBA has been used in this assessment which is presented in table 5.3.1 below.

Table 5.3.1: SWL car door slamming.

Item	Sound Power Level (dBA)
Car door slamming	85

The most activity is expected to be from the drop-off/pick-up car park, located approximately 10m away from the nearby residential property.

Proposed operation hours are from 6.30am till 6pm on weekdays Monday to Friday. Therefore the drop-off times fall into the night time assigned noise levels.

Based on the SWL, an approximate distance correction (10m) noise levels will achieve compliance at noise sensitive receptor in accordance with WA EPNR 1997 as presented in Table 5.3.2 below.

Table 5.3.2: Predicted compliance results for car park activity.

Location	EPNR 1997 Assigned Noise Level L_{Amax} (dB) 22.00 – 07.00 hours	Predicted L_{Amax} (dB)	Compliance predicted?
24 & 26 Blencowe Street	63	57	Yes



The above predictions can be regarded as worst-case, as all cars have been assumed to be at the closest point to the nearest noise sensitive receptor. In reality, cars will not always park at the closest point to the receptors all of the time.

Also, no screening from the properties fences has been assumed. In reality, a further reduction of approximately 5dB will be achievable based on coordinates of the source (car bays) and receiver (nearest residents) having no direct line of sight.

A typical noise level for car stacker has been obtained from the literature and sound attenuation for car park façade elements has been estimated. Based on the car stacker location in the enclosed car park, it is predicted that the car stacker will not have a noise impact to the nearest noise sensitive receptors. Compliance with WA EPNR 1997 is presented in Table 5.3.3 below.

Table 5.3.3: Predicted compliance results for car stacker.

Location	Estimated car stacker noise Sound Pressure Level dB(A) @1.5m	EPNR 1997 Assigned Noise Level L_{A10} (dB) 22.00 – 07.00 hours	Predicted L_{Amax} (dB)	Compliance predicted?
24 & 26 Blencowe Street	75	43	40	Yes

It is recommended to keep the garage door closed during the car stackers operation during the day-time hours (7am-7pm), to minimise the noise emission to the NSRs. It is essential that the garage door is closed for car stackers operation before 7am, in order to comply with the EPNR criteria at the NSRs.

It is the responsibility of the installer and maintenance company, that all noise associated with the car stacker will be minimised as far as possible. Provided that car stacker will be installed according to a manufacturer instruction and regularly maintained, assigned noise levels will not be exceeded at nearby properties.

5.4. Outdoor play areas – Children noise

A noise associated with outdoor play areas, including children noise, has a potential to have an impact on the nearby residential properties.

There are nine outdoor play areas proposed on site, five on level 1 and four on level 2, as showed on Figure 5.4.1 below.

Figure 5.4.1: Outdoor play areas location – Level 1.

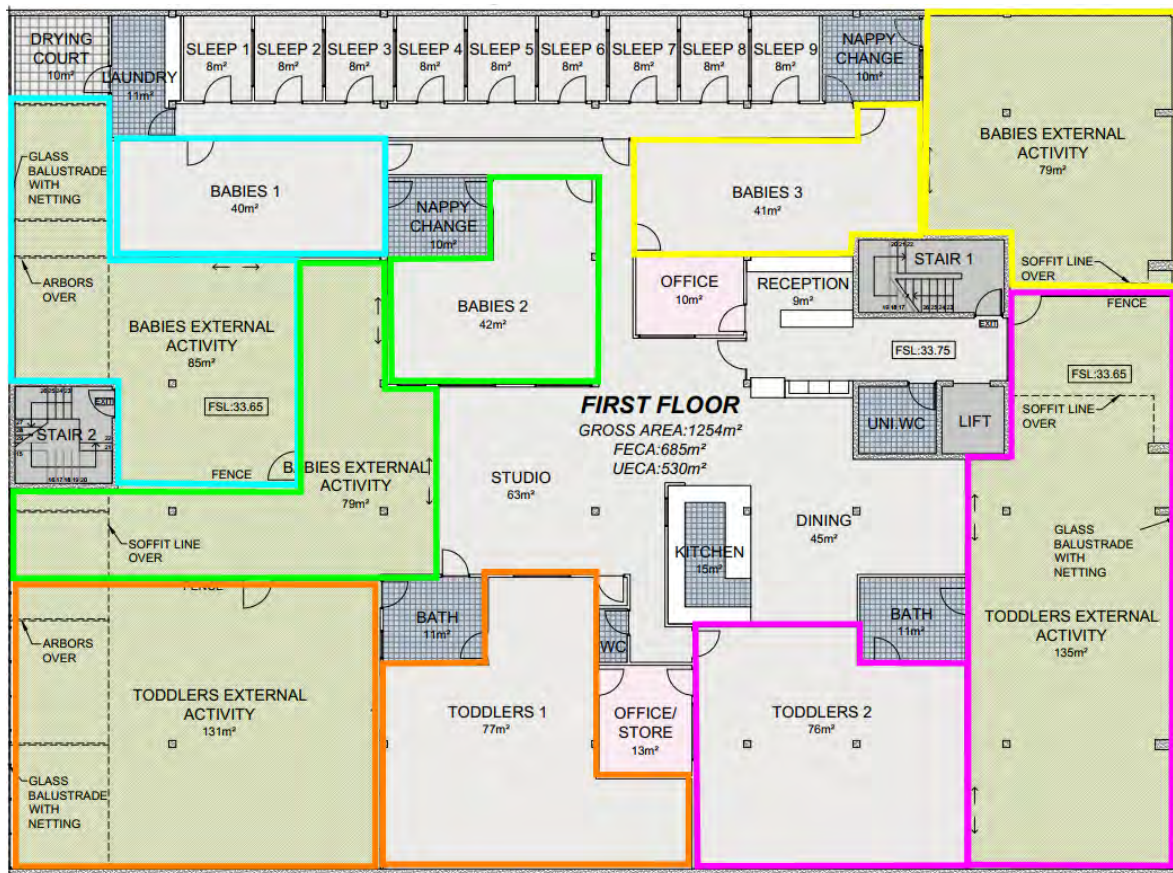
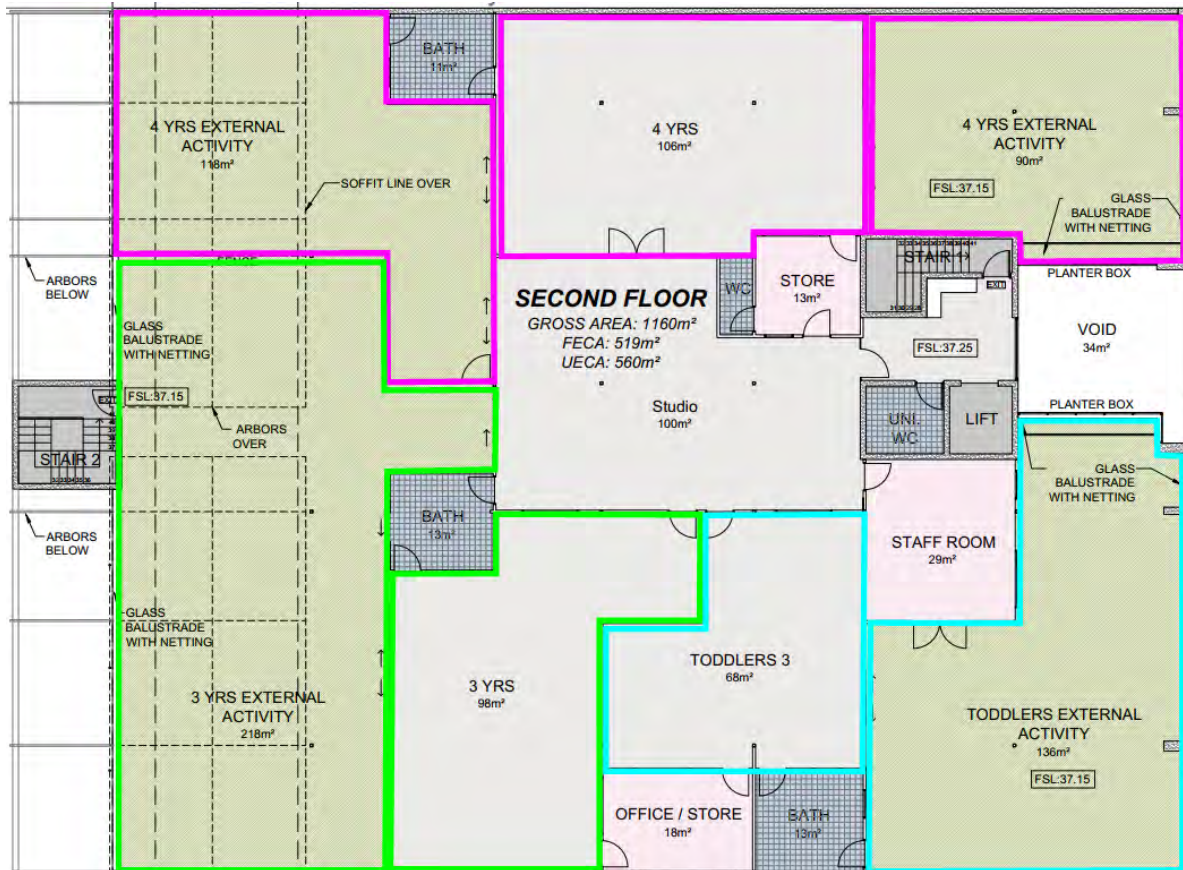


Figure 5.4.2: Outdoor play areas location – Level 2.





Proposed play areas with children capacity are detailed in Table 5.4.1 below.

Table 5.4.2: Outdoor play areas capacity.

Outdoor Areas	Location	Children age	Number of children
Babies 1	First Floor West	0-18 months old	12
Babies 2	First Floor West	0-18 months old	12
Babies 3	First Floor East	0-18 months old	12
Toddlers 1	First Floor West	18-36 months old	20
Toddlers 2	First Floor East	18-36 months old	20
Toddlers 3	Second Floor East	18-36 months old	20
3 Years Old	Second Floor West	3 years old	30
4 Years Old	Second Floor East and West	4 years old	30

It should be noted that the centre will be guided by a *Small Group Policy*, where not all children are outside at any point during the day. Also, due to the building orientation and outdoor play areas location, the only play areas that potentially may have an impact to the identified nearest noise sensitive receptors are located at the western parameter of the development.

Based on a Small Group Policy, a 50% capacity of each children group has been taken to estimate children noise emission. This can be regarded the worst-case scenario. Typical children noise levels have been obtained based on literature data, number of children and our previous experience on similar projects and is presented in Table 5.4.3 below.

Table 5.4.3: Children noise Sound Powe Levels, dBA

Children age group	Number of children per each age group	Sound Power Level SWL dB(A)	Leq [dB], Octave band centre frequency [Hz]				
			125	250	500	1k	2k
0-1 years old	6	75	49	59	66	72	70
2-3 years old	10	83	56	66	73	79	78
3-4 years old	15	86	60	70	77	83	81

Based on the noise emission from the outdoor play areas, predicted noise levels will achieve compliance for day times at noise sensitive receptor in accordance with WA EPNR 1997 as presented in Table 5.4.4 below.

Table 5.4.4: Noise levels at the NSR properties.

Location	Time of the day	EPNR 1997 Assigned Noise Level LA10 (dB)	Predicted Noise Level dB(A)	Compliance predicted?
24 Blencowe Street	Day Time 07.00 – 19.00 hours	53	52	Yes
	Night Time 22.00 – 07.00 hours	43	52	No
26 Blencowe Street	Day Time 07.00 – 19.00 hours	53	52	Yes
	Night Time 22.00 – 07.00 hours	43	52	No



Predicted noise levels will not achieve compliance for night-times at noise sensitive receptor in accordance with WA EPNR 1997 criteria, therefore it is recommended that no children are playing in the external areas before 7am.

The above prediction can be regarded the worst-case scenario, as no shielding from the 1.5m high glazed balustrading has been assumed. In reality, a further reduction of between 3-6dB will be achievable based on the coordinates of the source (children) and receiver (nearest residents) having no direct line of sight.



6. Indoor Ambient Noise

AS/NZS 2107 has been used to derive the indoor noise criteria.

The 'educational buildings', 'residential buildings' and 'office buildings' categories in AS/NZS 2107 have been considered appropriate due to the proximity of Cambridge Street.

Table 6.1: Recommended indoor noise levels summary according to AS/NZS 2107

Type of occupancy/activity	Recommended design sound level L _{Aeq} (dB)		Recommended reverberation time (RT), s
	Satisfactory	Maximum	
EDUCATIONAL BUILDINGS			
Teaching spaces	35	45	See Note 2
Staff common rooms	40	45	< 0.6
Office	40	45	0.4 – 0.7
Professional and administrative offices	35	40	0.6 – 0.8
Toilets	-	55	-
RESIDENTIAL BUILDINGS			
Hostels, residential halls and barracks –			
Cafeterias	45	50	< 1.0
Games rooms	45	50	< 1.0
Kitchen and service areas	45	55	-
Sleeping areas near major roads	35	40	-
OFFICE BUILDINGS			
Open plan office	40	45	0.4 See Note 2
Private office	35	40	0.4 – 0.6
Meeting room (small)	40	45	0.4 – 0.6

NOTES:

1. The recommended indoor design sound levels are for a fully fitted out and completed building. Attention is drawn to the additive noise effect of many machines within the same area and adjacent areas. Allowance for the total number and type of noise sources should therefore be made in the selection of equipment and in the design of building spaces. A building owner or developer may consider an allowance of 3-5 dBA to be appropriate.
2. Reverberation time should be minimised as far as practicable for noise control.

Any mechanical services must be selected and installed so that the resultant indoor ambient noise levels in the proposed development do not exceed the values shown in Table 6.1.



7. Internal Sound Insulation / Speech Privacy

AS 2822-1985, “Acoustics-Methods of Assessing and Predicting Speech Privacy and Speech Intelligibility” gives methods of assessing and predicting speech intelligibility/privacy of sound insulation ratings for adjoining spaces (The Building Code of Australia regulates sound insulation criteria for residential buildings). The privacy rating is not just dependent on the acoustic performance of the dividing partition (and flanking partitions), but also on the reverberation time and background noise level in the adjoining space. Recommendations are provided in terms of the Dw rating (Weighted Sound Level Difference as defined in AS/NZS ISO 717.1-2004 and ISO 141-4-1998), with Table 7.1 below providing the subjective response to given ratings.

Table 7.1: Wall Partition Privacy Criteria

Weighted Sound Level Difference (D _w)	Weighted Sound Reduction Index (R _w)	Subjective Rating ¹
50-55	55-60	High Confidential Privacy. Good sound insulation for loud (or amplified) speech. Loud speech inaudible.
45-50	50-55	Very good privacy. Moderate sound insulation for loud speech. Speech inaudible unless raised.
40-45	45-50	Good privacy. Good sound insulation for normal speech. Speech audible but unintelligible (unless raised).
35-40	40-45	Average Privacy. Moderate sound insulation for normal speech. Speech audible and intelligible (unless soft).
<35	35	Privacy not required or not critical

1. Subjective Privacy Ratings are based on an ambient noise level in the receiving room of 35-40 dB(A).

The ratings above do not account for partitions with doorsets. If doorsets are included within the partition, the above ratings should be reduced by 10 dB. Where subjective speech privacy must be achieved between two spaces, we recommend designing the layout of rooms in such a way that doors do not separate two sensitive areas. Where this is unavoidable, doors designed to match the sound insulation performance of the partition may be required in order to retain the desired level of speech privacy.

Mark-ups showing privacy wall recommendations for the childcare centre and commercial spaces are available in Appendix B



8. Internal Design Criteria

8.1. Internal Background Noise and Reverberation Times

The acoustic requirements of the building with reference to the descriptors of performance in Section 5 and 6 are nominated in Table 8.1.1 & 8.2.1 below.

Table 8.1.1: Indoor noise levels & Reverberation Time design criteria for the project

Location	Design sound level range L _{Aeq} dB		Reverberation Time RT (seconds)
Early Learning Centre – Level 1 & 2			
Studio	35	45	0.4 – 0.5
Group/play areas	45	50	< 1.0
Sleep areas	35	40	-
Office	40	45	0.4 – 0.7
Kitchen	45	55	-
Toilets	-	55	-
Office – Ground Floor			
Open plan office	40	45	0.4 See Note 1
Private office	35	40	0.4 – 0.6
Toilets	-	55	-

Note 1: in accordance with AS 2107:2016, reverberation time should be minimized as far as practicable for noise control.

8.2. Internal Sound Insulation

Doors are inevitably the weakest point in a partition, for this reason it is necessary to specify partitions (typically room frontage or entrance) with doors separately than partitions separating room to room (no doors). Table 8.2.1 below presents the privacy subject rating along with the design criteria for both situations, values have been nominated in accordance with the values stated in Table 7.1.

Table 8.2.1: Sound insulation design criteria for the project

Location	Security Rating Recommended Privacy Subjective Rating Airborne	Room to Room Airborne Sound Insulation Walls/Floors D _w	Room to Corridor Room Frontage, Doors within partition D _w
Early Learning Centre – Level 1 & 2			
Studio	Good privacy	40-45	30-35
Group/play areas	Good privacy	40-45	30-35
Sleep areas	Very good/ good privacy	45-50	30-35
Office	Good privacy	40-45	30-35
Toilets	Good privacy	40-45	30-35
Office – Ground Floor			
Private office	Good privacy	40-45	30-35
Toilet	Very good privacy	45-50	30-35



A colour coded preliminary Acoustic partition mark-up showing overall partition ratings is presented in Appendix B.

The D_w is an onsite performance where the R_w is a laboratory performance, for simplicity D_w in Table 8.2.1. is approximately equal to the R_w -5 to 8 dB, as shown in the equation below.

$$D_w \approx R_w - (5 \text{ to } 8)$$



9. Existing Noise Levels

A noise survey was undertaken in the vicinity of the proposed development, at 29-33 Northwood Street, in peak traffic morning hours to assess noise levels which are to be incident upon the façade of the development.

Sample measurements were undertaken on Wednesday 11th November 2020, approximately 2 meters from the side of the road on Northwood Street, 2m from the boundary of the 29-33 Northwood St property.

The wind speed for the measurement duration was always below 5m/s; the weather was cloudy, 16°C, with no rain.

Table 9.1: Measurement equipment and settings used in survey

Item	Description
Sound level meter	RION NA-28 Type 1 Sound Level Meter
Calibrator	RION NC-74 Sound Calibrator
Real time analysis	One-third octave band and octave band frequencies
Frequency weighting	Unweighted and A-weighted

The sound level meter was calibrated both before and after the survey and did not deviate from the calibration level of 94dB.

Results of the noise survey are given in Table 9.2 for the measurement location, along with the corresponding Leq spectral data.

Table 9.2: Sample measurement spectra L_{Aeq} [dB]

Location	Time	Duration of sample measurement	L _{Aeq} [dB]	Octave band centre frequency [Hz]				
				125	250	500	1k	2k
29-33 Northwood Street	08:00 – 09:00	15 min	58	42	47	50	55	51
		15 min	57	43	47	50	54	49
		15 min	59	45	50	52	55	50
		15 min	57	44	47	50	53	48

The measured on-site results will be used during the design development phase to determine noise levels breaking into the façade of the development.



10. Mechanical Services – General Advice

10.1. New Duct-work

New duct-work will be lined internally with 25-50mm acoustic insulation where necessary. Insulation will be faced to prevent the erosion of fibres. Any new flexible duct-work will provide acoustic attenuation (with or without an unperforated inner core) which will be considered when analysing noise transmitted down-duct from fans.

When duct-work penetrates internal partitions, it will be isolated from the partition, with standard penetration details as required. Duct-work layout must be considered to avoid introducing unexpected system effects on fans, and turbulence within ducts, which may increase sound power levels above manufacturer's claims.

Particular attention shall be given to potential flanking noise via duct-work between noise sensitive spaces, or between noise sensitive spaces and adjoining public spaces. Potential paths include return and relief air duct-work.

10.2. Fans, Air-Handling Units, Fan-Coil-Units, Variable-Air-Volume Units

Sound power levels for fan powered units (AHU, FCU, Fans, Fan assisted VAV's) or pressure break-down boxes (eg. VAV's) must be specified. Sound power levels from a range of manufacturers must be considered during the design process to ensure they are achievable. System resistance for powered units must be sized to allow for further resistance from sound attenuators if considered necessary.

10.3. Crosstalk Noise

Where ducted systems supply or exhaust from adjacent rooms, such that there is a short route for noise through the outlets and ductwork from one room to another, the possibility of cross-talk must be considered. Where privacy between rooms is required, with minimal sound insulation requirements, attenuation may be needed. Where the rooms have a low services noise criterion, additional noise control may be necessary, for example the use of crosstalk attenuators or transfer air ducts (TAD's) may be required.

10.4. Diffusers, Grilles and Dampers

Noise from diffusers and grilles is related to airflow across the louvres/grille and is subject to the air velocity across the face of the diffuser/grille. Manufacturer's test data (in the form of NC ratings based on air-flow) will be reviewed to ensure compliance with the Schematic Design.



A. Glossary

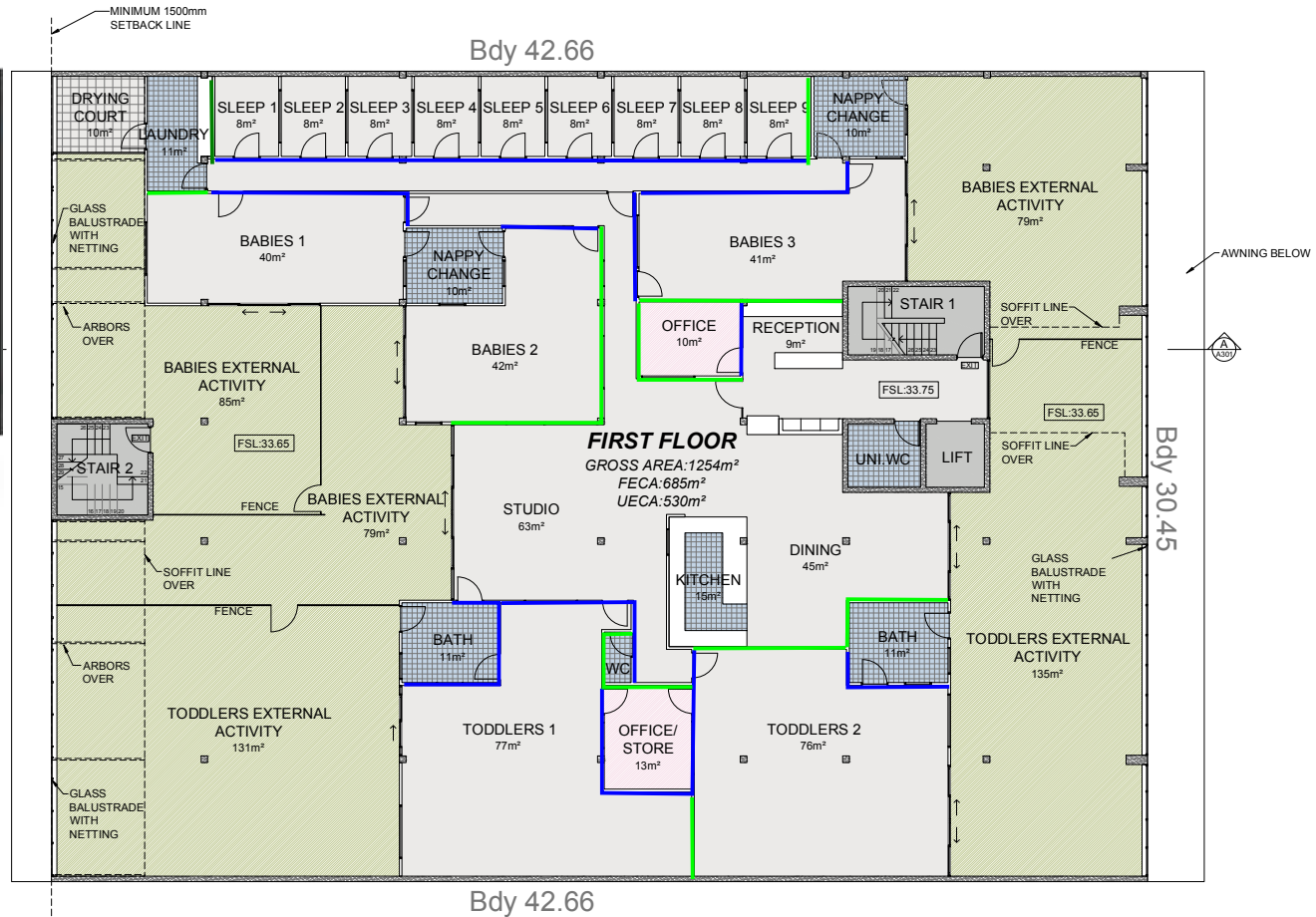
Term	Description
A-weighting:	Refers to a standardised frequency response used in sound measuring instruments, specified in Australian Standard AS 1259.1. Historically it was developed to model human ear response at low-level sounds. However A-weighting is now frequently specified for measuring sounds irrespective of level, and studies have shown a relationship between the long term exposure to A-weighted sound pressure levels and hearing damage risk.
Airborne sound:	Sound waves propagate within a construction (structure-borne sound) and are radiated into the air where their propagation continues (airborne sound).
AS:2107	AS/NZS 2107:2016 Acoustics -Recommended design sound levels and reverberation times for building interiors
Impact noise	Noise resulting from the direct impact on a building element (e.g. footfall, furniture movement on a floor).
C_{tr}, C_i	Spectrum adaptation term
D:	This value, in decibels, is the difference in sound pressure level values between two rooms.
dB:	Means the abbreviation for decibel.
dBA :	A-weighted sound pressure level in decibels.
D_{nT} :	The 'normalized level difference', in decibels, compares the sound pressure level values between two rooms by referring the result to a standard reverberation time value, typical in most residential rooms and office spaces.
$D_{nT,w}$:	The 'weighted standardized level difference' is a single-number value which is determined by applying <i>ISO 717-1</i> to the D_{nT} results obtained in the field measurements. It is used to describe the ability to isolate noise. Higher values represent a better performance. This value is usually between 5 to 8 dB lower than the laboratory tests for a certain type of construction (R_w).
$D_{nT,w} (C; C_{tr})$:	This is the complete expression that covers all values obtained from the test. If the result is 20 (-2; -3), it means the $D_{nT,w}$ is 20 dB, the $D_{nT,A}$ is 20-2=18, and the value of the equivalent D_{nT} related to traffic noise or other similar sources is 20-3=17.
$L_{Aeq,T}$:	The equivalent continuous A-weighted sound pressure level in dBA. It is often accompanied by an additional subscript suffix "T" such as $L_{Aeq,15min}$, which means it is evaluated over 15 minutes.
$L_{A10,T}$:	A-weighted sound pressure level in decibels which is not surpassed for more than 10% of the measurement time. This value is often similar to that of the L_{Aeq} for the same period of time.
$L_{A1,T}$:	A-weighted sound pressure level in decibels which is not surpassed for more than 1% of the measurement time. This value is often used to have a reference of the highest levels of the measured noise and is used to evaluate the presence of occasional impulsiveness in the noise.
$L_{A90,T}$:	A-weighted sound pressure level in decibels which is not surpassed for more than 90% of the measurement time. This value is often used to have a certain reference of the constant floor background noise level.
L_{Amax} :	Maximum A-weighted sound pressure level over a certain period of evaluation.
L_w	Impact sound level reduction L_w is an acoustic descriptor quantifying the improvement in impact noise isolation as a result of the installation of a floor covering or floating floor on a test floor in a laboratory (<i>ISO717.2:1997</i>)
$L_{n,w}$	The lower the $L_{n,w}$ rating the better the performance of a building element at insulating impact noise.
Perception of noise level differences:	Generally, a variation of 2-3 dB in a sound pressure level cannot be detected by most of the population; a 5 dB difference is perceived as a louder noise, and a 10 dB variation is perceived as a sound which is twice as loud.

B. Acoustic Wall (Privacy) Mark-up

Weighted Level Difference (Dw)		
Weighted Sound Reduction Index Rating (Rw)		
—	Dw 25-30	Rw 30-35
—	Dw 30-35	Rw 35-40
—	Dw 35-40	Rw 40-45
—	Dw 40-45	Rw 45-50
—	Dw 45-50	Rw 50-55
—	Dw 50-55	Rw 55-60

Note: Generally the Rw is +5-8 points above the Dw, for the above nominated ratings. For simplicity +5 has been used. However calculations for all areas should be undertaken based on the required Dw to obtain the correct and exact Rw.

Hewshott
Acoustics



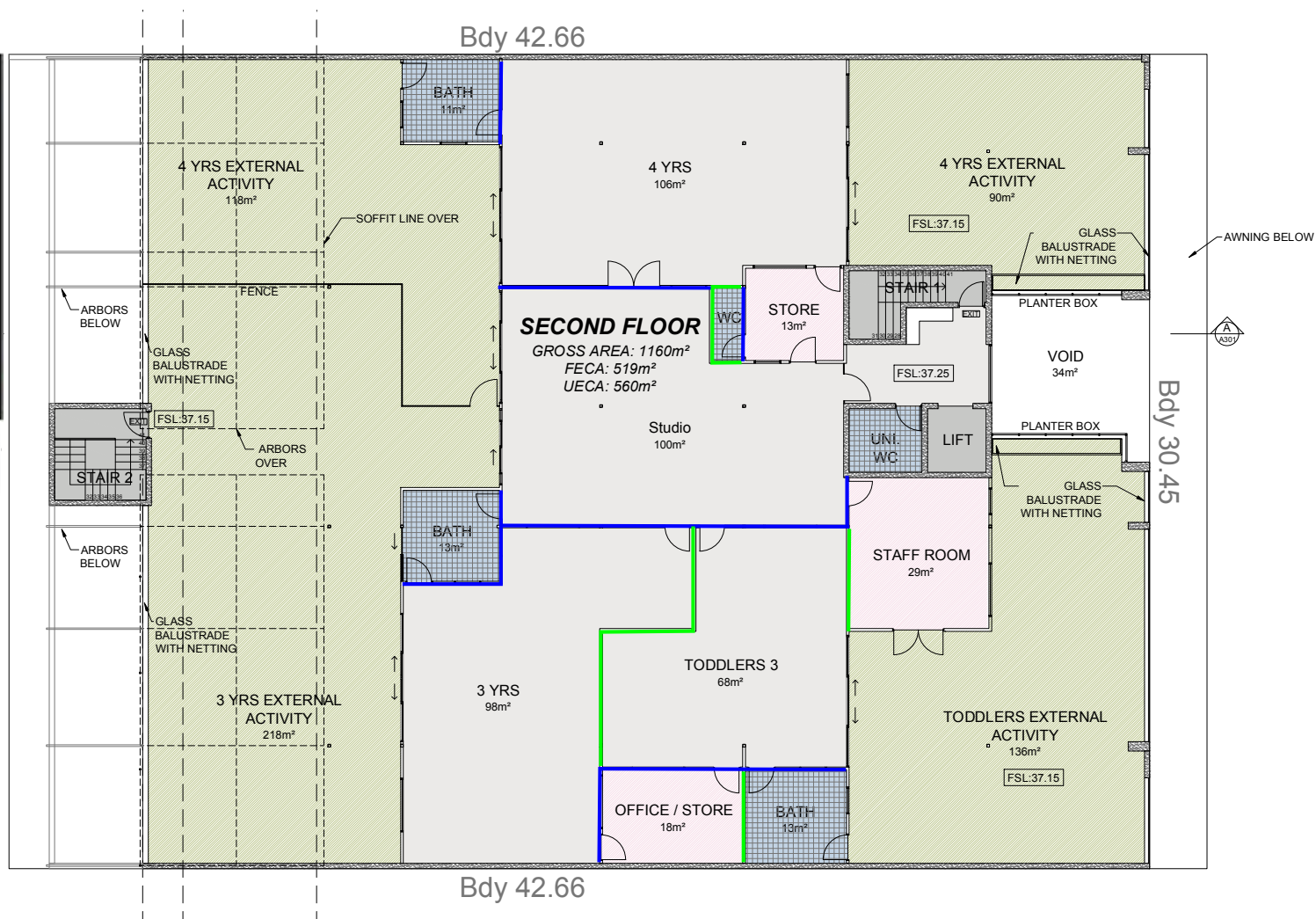
Weighted Level Difference (Dw)

Weighted Sound Reduction Index Rating (Rw)

	Dw 25-30	Rw 30-35
	Dw 30-35	Rw 35-40
	Dw 35-40	Rw 40-45
	Dw 40-45	Rw 45-50
	Dw 45-50	Rw 50-55
	Dw 50-55	Rw 55-60

Note: Generally the Rw is +5-8 points above the Dw, for the above nominated ratings. For simplicity +5 has been used. However calculations for all areas should be undertaken based on the required Dw to obtain the correct and exact Rw.

Hewshott Acoustics





PART C – OTHER BUSINESS

- 1. State Administrative Tribunal Applications and Supreme Court Appeals**
- 2. Meeting Closure**