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# Noise Impact Assessment

**28 - 30 Forrest Road, East Hills**

Reference 3186-NI-01-A

## Project Details

### Site Location

28 - 30 Forrest Road, East Hills

### Client

Dawsonvu

### Project Description

Childcare Centre

### Project Reference



3186-NI



Project Details

|                   |                                  |
|-------------------|----------------------------------|
| Site Location     | 28 - 30 Forrest Road, East Hills |
| Client            | Dawsonvu                         |
| Project Contact   | Trang Vu – trang@dawsonvu.com.au |
| Project Reference | 3186-NI                          |

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Release Details

| Date       | Version | Description                |
|------------|---------|----------------------------|
| 12/09/2024 | 01-A    | For submission to council. |

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# 1 INTRODUCTION

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Soundscape Consulting Pty Ltd was commissioned by Dawsonvu to complete a noise impact assessment at 28 - 30 Forrest Road, East Hills. The report is to be submitted to the certifying authority as part of the development application.

The proposal seeks consent for the construction of a two-storey childcare centre. The childcare centre proposes to cater for a maximum of 120 children: 20 aged 0-2, 20 aged 2-3 and 80 aged 3 and over. The proposal includes an outdoor play area and basement carpark. All teaching spaces are located on the lower level. The upper level has a considerably smaller building footprint consisting of two offices, a staff room and staff bathroom. A copy of the floorplans is available in Appendix A.

The noise assessment follows the methodology of NSW EPA Noise Policy for Industry for assessing impacts to surround sensitive receivers. Where relevant, other criteria for noise intrusion and transmission have been applied as outlined in section 3 of the report.

The proposed scope of works are as follows:

1. **Review client data** including correspondence, operation details, plan drawings, aerial photos and specific material.
2. **Noise criteria** relevant to the project is identified based on the proposed operations, surrounding sensitive receivers and noise sources.
3. **Conduct noise measurements** of the background noise levels for 7-10 business days in accordance with the EPA Noise Policy for Industry requirements.
4. **Noise modelling** of the site operations to predict the likely impact on surrounding receivers. The noise modelling will be broken into different scenarios where noise sources are unlikely to occur at the same time. The results from the noise modelling are summarised to verify compliance with the noise criteria or otherwise. Where compliance is not achieved, recommendations for mitigation are provided.
5. **Recommendations** are provided as required, and may include relocation of noisy equipment, sound walls, operational changes, or adjustments to the development.

## 2 NOISE CRITERIA

### 2.1 NSW EPA Noise Policy for Industry (2017)

The Noise Policy for Industry (herein: NPI) applies to industrial noise sources from activities listed in Schedule 1 of the POEO Act and regulated by the EPA. All scheduled activities require an environment protection licence issued under the POEO Act.

The NPI sets out the EPA's requirements for the assessment and management of noise from industry in NSW. It aims to ensure that noise is kept to acceptable levels in balance with the social and economic value of industry in NSW. When new industry is being proposed or existing industry is being upgraded, redeveloped, or needs review, attention needs to be paid to controlling noise from the industry. The NPI is designed to assist industry and authorities to ensure that potential noise impacts associated with industrial projects are managed effectively.<sup>1</sup>

The NPI recommends two noise criteria are considered, the Intrusive Noise Criteria and the Amenity Noise Criteria. The lowest value of the amenity and the intrusiveness noise level is adopted as the project noise trigger for the assessment.

**Table 2.1.1:** EPA NPI Noise Criteria

| Time of Day                      | RBL <sup>1</sup> | Intrusiveness <sup>2</sup> | Amenity <sup>3</sup> | Project Specific Levels <sup>3</sup> |
|----------------------------------|------------------|----------------------------|----------------------|--------------------------------------|
| Residential dwellings (suburban) |                  |                            |                      |                                      |
| Day (7:00–18:00)                 | 38               | 43                         | 53                   | <b>43</b>                            |
| Evening (18:00–22:00)            | 40               | 43                         | 43                   | <b>43</b>                            |
| Night (22:00–7:00)               | 31               | 36                         | 38                   | <b>36</b>                            |
| Place of worship (internal)      |                  |                            |                      |                                      |
| When in use                      |                  |                            | 38                   | <b>38</b>                            |

- 1) The Rating Background level (RBL) – see section B1.3 of the NPI.
- 2) Intrusiveness is equal to the RBL + 5.0 dBA.
- 3) Amenity noise levels are taken from table 2.2 of the NPI. Adjustment for 15-minute interval, road noise and existing industrial noise levels applied as appropriate.
- 4) Project specific levels are the lesser of the intrusiveness, amenity and minimum values recommended by the NPI.

### 2.2 AAAC Child Care Acoustic Assessment 2013

The Child Care Acoustic Assessment (CCAA) guideline provides guidance on the Sound Power Levels from children playing and recommended noise criteria which extends on the Noise Policy for Industry. For residential areas with a background level less than 40dBA, a base criteria of 40dBA is recommended. If the background level is greater than 40dBA, a base criteria of 5dBA

<sup>1</sup> NSW EPA Noise Guide for Local Government (2023) – Section 9.2

above background is recommended. If outdoor play is limited to 4 hours per day, a base criteria 10dBA above background is recommended.

## 2.3 NSW Department of Planning Interim Guideline (2008)

The assessment criteria of the NSW Department of Planning Development near Rail Corridors and Busy Roads – Interim Guideline (herein NSW DOP) is outlined within Table 3.1 of Section 3.6.1 Airborne Noise, Part C: Noise and Vibration. Non-residential criteria is based upon the NSW EPA (1999) ECRTN guideline (now superseded by the NSW DECCW (2011) RNP).

## 2.4 NSW Road Noise Policy 2011

The NSW and the Department of Environment, Climate Change and Water NSW released the Road Noise Policy in 2011 (RNP) to help and agencies to assess and mitigate the impacts of traffic noise from new and redeveloped road projects, and traffic-generating developments on residential and other sensitive lands. Table 4 provides assessment criteria for the allowable noise levels at childcare centres as follows:

**Table 2.3.1:** Road traffic noise assessment criteria for non-residential land uses affected by proposed road projects and traffic generating developments

| Location           | Day Criteria<br>LAeq,1 hour dBA |
|--------------------|---------------------------------|
| Sleeping rooms     | 35                              |
| Indoor playrooms   | 40                              |
| Outdoor play areas | 55                              |

Multi-purpose spaces, e.g. shared indoor play/sleeping rooms should meet the lower of the respective criteria. Measurements for sleeping rooms should be taken during designated sleeping times for the facility, or if these are not known, during the highest hourly traffic noise level during the opening hours of the facility.

## 2.5 Australian Standard 2107 (2016) Recommended Design Sound Levels and Reverberation Times for Building Interiors

AS2107 provides targets for the noise levels and reverberation times of rooms for a variety of building types, occupations, and activities. These targets contribute to the specification of building methods to control noise transmission, privacy, and acoustic comfort. The relevant criteria for the project have been extracted and summarised below.

**Table 2.2.1:** Recommended design sound levels and reverberation times

| Type of occupancy/activity   | Design Sound Level (LAeq) | Design reverberation time (s) |
|--|---------------------------|-------------------------------|
| <b>Educational Buildings – Teaching Spaces / single classrooms</b> |                           |                               |
| Open plan teaching spaces  | 35 - 45                   | 0.45 - 0.55*                  |
| Primary Schools  | 35 - 45                   | 0.45 - 0.55*                  |

\*Based on a room volume of 200m<sup>3</sup>

## 2.6 Canterbury-Bankstown Council DCP

**Bankstown Council DCP 2015** states that the acoustic privacy of adjoining residential land should be considered to maintain residential amenity. Specifically:

(5.1) Air conditioning, mechanical ventilation or any other continuous noise source must not exceed the ambient level at any specified boundary by more than 5dB(A).

(5.2) The location and design of child care centres must consider the projection of noise from various activities to avoid any adverse impacts on the residential amenity of adjoining land.

For the purpose of this clause, Council requires development applications to submit an Acoustic Report prepared by a suitably qualified acoustic consultant to determine:

- (a) existing noise levels at the identified sensitive receiver locations;
- (b) likely noise levels to emanate from the child care centre at the identified sensitive receiver locations;
- (c) whether the development must apply measures to ensure the noise of children playing in outdoor areas does not exceed 10dB(A) above the background noise level;
- (d) whether the location and setbacks of the development are sufficient to protect the acoustic privacy of adjacent dwellings;
- (e) whether the location of outdoor areas should avoid living areas and bedrooms of adjacent dwellings; and
- (f) whether the development must install certain noise attenuation measures to protect the acoustic privacy of adjacent dwellings.

The Acoustic Report must measure the noise readings over a 15 minute period and must provide details of all modelling assumptions including source noise data, noise monitoring positions, receiver heights and locations, prevailing meteorological conditions during the monitoring, confirmation of the methodology adopted along with a copy of the model input and output data.

(5.3) The maximum height for noise attenuation walls and fences along the boundary of an allotment is 2 metres.

**Canterbury Council DCP 2012** states that “the amenity of adjoining neighbours is maintained and is not detrimentally affected by noise or other impacts from child care centres, particularly from clustering.”

Clause F2.13 Visual and Acoustic Privacy Controls states that:

A new child care centre and is to include measures to minimise noise impacts on neighbouring properties:

- (a) Orientating the child care centre to have regard to neighbouring property layout, including locating playgrounds and playroom windows and doorways away from neighbouring bedrooms;
- (b) Using double-glazing where necessary;
- (c) Planting hedges along fence lines to create a play ground buffer zone; and
- (d) Include fencing that minimises noise transmission and loss of privacy (such as lapped and capped timber fencing, cement block, brick).

### 3 EXISTING NOISE ENVIRONMENT

As part of this assessment an acoustic logger was set up to conduct a noise survey of the existing acoustic environment. The logger location was selected to be representative of the nearest sensitive receiver. Consideration of reflections, biasing noise sources and security was given when selecting the positioning. The noise levels measured at this location are suitably representative of the nearest noise sensitive receiver locations to the proposed development.

Noise logging was undertaken using a Rion NL-43 logger with the serial number 00730475. Directly prior and following the noise survey calibration was checked using a 1000hz signal at 94dBA, with no significant drift measured. The NATA calibration certificate is available on request.

The logger was set up in accordance with the methodology provided in the NPI. The microphone was placed in a foam windshield 1.5m above the ground. The survey began on the 03/09/2024 and ended on the 10/09/2024.

The data was validated to remove periods affected extraneous weather conditions and noise impacts in accordance with section A1 of the NPI. The most suitable weather station for monitoring weather data was a private weather station located at Sydney Georges River District.

**Table 3.1:** Noise Survey Results (dBA)

| Time of Day           | LAeq,15min | RBL |
|-----------------------|------------|-----|
| Day (7:00–18:00)      | 49         | 38  |
| Evening (18:00–22:00) | 59         | 40  |
| Night (22:00–7:00)    | 49         | 31  |

The surrounding sensitive receivers for the assessment (see Figure 3.1) have been identified as:

| Receiver                 | Description   |
|--------------------------|---|
| <b>R1</b>                | Residential Dwelling – Double storey  |
| <b>R2</b>                | Place of Worship  |
| <b>R3</b>                | Residential Dwelling – Single storey  |
| <b>R4a</b><br><b>R4b</b> | Residential Dwelling – Double storey<br>Single storey at rear of dwelling                         |
| <b>R5</b>                | Residential Dwelling – Double storey  |
| <b>R6</b>                | Residential Dwelling – Single storey  |
| <b>R7a</b><br><b>R7b</b> | Residential Dwelling – Double storey balcony at rear<br>Double storey window at front of dwelling |
| <b>R8</b>                | Residential Dwelling – Single storey  |



**Figure 3.1:** Logger location (red) and sensitive receivers

## 4 EXTERNAL NOISE EMISSION ASSESSMENT

### 4.1 Operational assumptions

The childcare centre is proposed to be open Monday to Friday, from 07:00am to 06:00pm. It is assumed that staff may arrive and leave within a 30-minute shoulder period. The maximum capacity for the childcare centre is 120 children, with 17 staff members. The breakdown of child age is shown in Table 4.1.

**Table 4.1:** Number of staff and children in each age group

| Description | Quantity |
|-------------|----------|
| Staff       | 17       |
| 0-2 years   | 20       |
| 2-3 years   | 20       |
| 3-5 years   | 80       |

Noise modelling has been completed based on the different operating scenarios of the centre:

#### Scenario 1: Mechanical equipment

- Air conditioner
- Kitchen exhaust fan
- Bathroom fans
- Laundry fan
- Carpark exhaust fan

#### Scenario 2: Child pick-up and drop-off

- 25 car movements per 15-minute period
- All mechanical plant and equipment

#### Scenario 3: Outdoor play (20x 0-2 years and 20x 2-3 years simultaneously)

- 20 children aged 0-2 years engaged in outdoor play (81dBA as an area source)
- 20 children aged 2-3 years engaged in outdoor play (91dBA as an area source) positioned closest to the sensitive receivers to demonstrate worst-case scenario
- All mechanical plant and equipment

#### Scenario 4: Outdoor play (40x 3-5 years)

- 40 children aged 3-5 years engaged in outdoor play (93dBA as an area source)
- All mechanical plant and equipment

#### Scenario 5: Sleep disturbance

- Car movement (LAmax)
- All mechanical plant and equipment

## 4.2 Adopted Sound Power Levels

**Table 4.2.1:** Sound power levels (A-Weighted) for noise sources

| Source                                   | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Total     |
|--|----|-----|-----|-----|------|------|------|------|-----------|
| Children<br>(10x 0-2 years)              | 54 | 60  | 66  | 72  | 74   | 71   | 67   | 64   | <b>78</b> |
| Children<br>(10x 2-3 years)              | 61 | 67  | 73  | 79  | 81   | 78   | 74   | 70   | <b>85</b> |
| Children<br>(10x 3-5 years)              | 64 | 70  | 75  | 81  | 83   | 80   | 76   | 72   | <b>87</b> |
| Car Movement (SEL)                       | 90 | 87  | 80  | 78  | 77   | 72   | 70   | 64   | <b>82</b> |
| One patron speaking<br>(normally)        | -  | 55  | 64  | 66  | 60   | 56   | 52   | 47   | <b>69</b> |
| Air Conditioner                          | 77 | 74  | 70  | 66  | 63   | 57   | 49   | 47   | <b>80</b> |
| Kitchen Exhaust                          | 45 | 55  | 64  | 63  | 64   | 63   | 55   | 45   | <b>70</b> |
| Small exhaust fan<br>(bathroom, laundry) | 26 | 40  | 43  | 57  | 49   | 55   | 49   | 37   | <b>60</b> |
| Carpark exhaust fan                      | 51 | 65  | 68  | 82  | 74   | 80   | 74   | 62   | <b>85</b> |

## 4.3 Noise modelling results

Noise modelling has been conducted using software validated against the ISO-9613 (2024) calculation methodology. The model is three dimensional, and includes the effects of reflections, ground absorption, meteorological conditions, and barriers. Noise modelling requires a simplification of real-world conditions into basic components.

The modelling results are inclusive of the recommendations provided in Section 5. The layout, noise nodes, barriers, structures, and results from the noise modelling can be viewed in Appendix C.

**Table 4.3:** Noise limits (dBA)

| Scenario                                 | Day | Evening | Night |
|--|-----|---------|-------|
| Mechanical plant <sup>1</sup>            | 43  | 45      | 36    |
| Child pick-up and drop-off <sup>2</sup>  | 43  | 43      | -     |
| Outdoor play <sup>3</sup>                | 48  | -       | -     |
| Place of worship (internal) <sup>4</sup> | 40  | 40      | -     |
| Sleep disturbance <sup>5</sup>           | -   | -       | 52    |

- 1) Bankstown Council DCP 2015 requires that air conditioning, mechanical ventilation or any other continuous noise source must not exceed the ambient level at any specified boundary by more than 5dB(A).
- 2) Project-specific levels according to NSW Policy for Industry (see Table 2.1.1)
- 3) Bankstown Council DCP 2015 requires that the noise of children playing in outdoor areas does not exceed 10dB(A) above the background noise level.
- 4) When in use.
- 5) Assessment of L<sub>Amax</sub>.

### 4.3.1: Scenario 1: Mechanical equipment

**Table 4.3.1:** Noise modelling results for mechanical equipment

| Receiver   | LAeq | Complies* | Attenuation Required |
|------------|------|-----------|----------------------|
| <b>R1</b>  | 39   | Yes       | --                   |
| <b>R2</b>  | 37   | Yes       | --                   |
| <b>R3</b>  | 30   | Yes       | --                   |
| <b>R4a</b> | 32   | Yes       | --                   |
| <b>R4b</b> | 29   | Yes       | --                   |
| <b>R5</b>  | 24   | Yes       | --                   |
| <b>R6</b>  | 24   | Yes       | --                   |
| <b>R7a</b> | 31   | Yes       | --                   |
| <b>R7b</b> | 39   | Yes       | --                   |
| <b>R8</b>  | 36   | Yes       | --                   |

\*Excluding night time period

### 4.3.2: Scenario 2: Child pick-up and drop-off

**Table 4.3.2:** Noise modelling results for child pick-up and drop-off

| Receiver   | LAeq | Complies | Attenuation Required |
|------------|------|----------|----------------------|
| <b>R1</b>  | 40   | Yes      | --                   |
| <b>R2</b>  | 37   | Yes      | --                   |
| <b>R3</b>  | 30   | Yes      | --                   |
| <b>R4a</b> | 32   | Yes      | --                   |
| <b>R4b</b> | 29   | Yes      | --                   |
| <b>R5</b>  | 24   | Yes      | --                   |
| <b>R6</b>  | 25   | Yes      | --                   |
| <b>R7a</b> | 31   | Yes      | --                   |
| <b>R7b</b> | 43   | Yes      | --                   |
| <b>R8</b>  | 38   | Yes      | --                   |

### 4.3.3: Scenario 3: Outdoor Play (0-2 years and 2-3 years simultaneously)

**Table 4.3.3:** Noise modelling results for outdoor play of all 0-2 and 2-3 year old children

| Receiver   | L <sub>Aeq</sub> | Complies | Attenuation Required |
|------------|------------------|----------|----------------------|
| <b>R1</b>  | 42               | Yes      | --                   |
| <b>R2</b>  | 49               | Yes*     | --                   |
| <b>R3</b>  | 44               | Yes      | --                   |
| <b>R4a</b> | 46               | Yes      | --                   |
| <b>R4b</b> | 45               | Yes      | --                   |
| <b>R5</b>  | 47               | Yes      | --                   |
| <b>R6</b>  | 47               | Yes      | --                   |
| <b>R7a</b> | 45               | Yes      | --                   |
| <b>R7b</b> | 44               | Yes      | --                   |
| <b>R8</b>  | 39               | Yes      | --                   |

\*A façade with an open window will attenuate 10dBA, bringing the internal noise level within the place of worship (R2) to below 40dBA (assuming it is within use at the time).

### 4.3.4: Scenario 4: Outdoor Play (40x children aged 3-5 years)

**Table 4.3.4:** Noise modelling results for outdoor play of 40 children aged 3-5 years

| Receiver   | L <sub>Aeq</sub> | Complies | Attenuation Required |
|------------|------------------|----------|----------------------|
| <b>R1</b>  | 44               | Yes      | --                   |
| <b>R2</b>  | 51               | Yes*     | --                   |
| <b>R3</b>  | 46               | Yes      | --                   |
| <b>R4a</b> | 48               | Yes      | --                   |
| <b>R4b</b> | 47               | Yes      | --                   |
| <b>R5</b>  | 48               | Yes      | --                   |
| <b>R6</b>  | 47               | Yes      | 2m fence extension   |
| <b>R7a</b> | 47               | Yes      | --                   |
| <b>R7b</b> | 45               | Yes      | --                   |
| <b>R8</b>  | 40               | Yes      | --                   |

\*A façade with a window with standard glazing will attenuate 20-30dBA, bringing the internal noise level within the place of worship (R2) to below 40dBA (assuming it is within use at the time).

#### 4.3.5: Scenario 5: Sleep disturbance

**Table 4.3.5:** Noise modelling results from sleep disturbance (staff parking)

| Receiver   | LAeq | Complies | Attenuation Required |
|------------|------|----------|----------------------|
| <b>R1</b>  | 41   | Yes      | --                   |
| <b>R2</b>  | 38   | Yes      | --                   |
| <b>R3</b>  | 30   | Yes      | --                   |
| <b>R4a</b> | 32   | Yes      | --                   |
| <b>R4b</b> | 29   | Yes      | --                   |
| <b>R5</b>  | 25   | Yes      | --                   |
| <b>R6</b>  | 25   | Yes      | --                   |
| <b>R7a</b> | 32   | Yes      | --                   |
| <b>R7b</b> | 47   | Yes      | --                   |
| <b>R8</b>  | 41   | Yes      | --                   |

Based on the results, and provided the recommendations in Section 5 are followed, no noise exceedance against the criteria is predicted for the surrounding sensitive receivers.

## 5 Recommendations

Based on the predicted noise levels, the proposed development has a low risk of impacting nearby receptors on the condition the following recommendations are implemented:

### 5.1 Boundary Fence

The fence on the southern boundary of the outdoor play area is required to be 2.0m in order to mitigate noise from children playing (Figure 5.1). All other fencing shall be either 1.8m or 2m high and of solid construction as indicated in the plan drawings. A wooden lapped and capped fence is suitable for use. Colourbond fencing is not considered suitable.

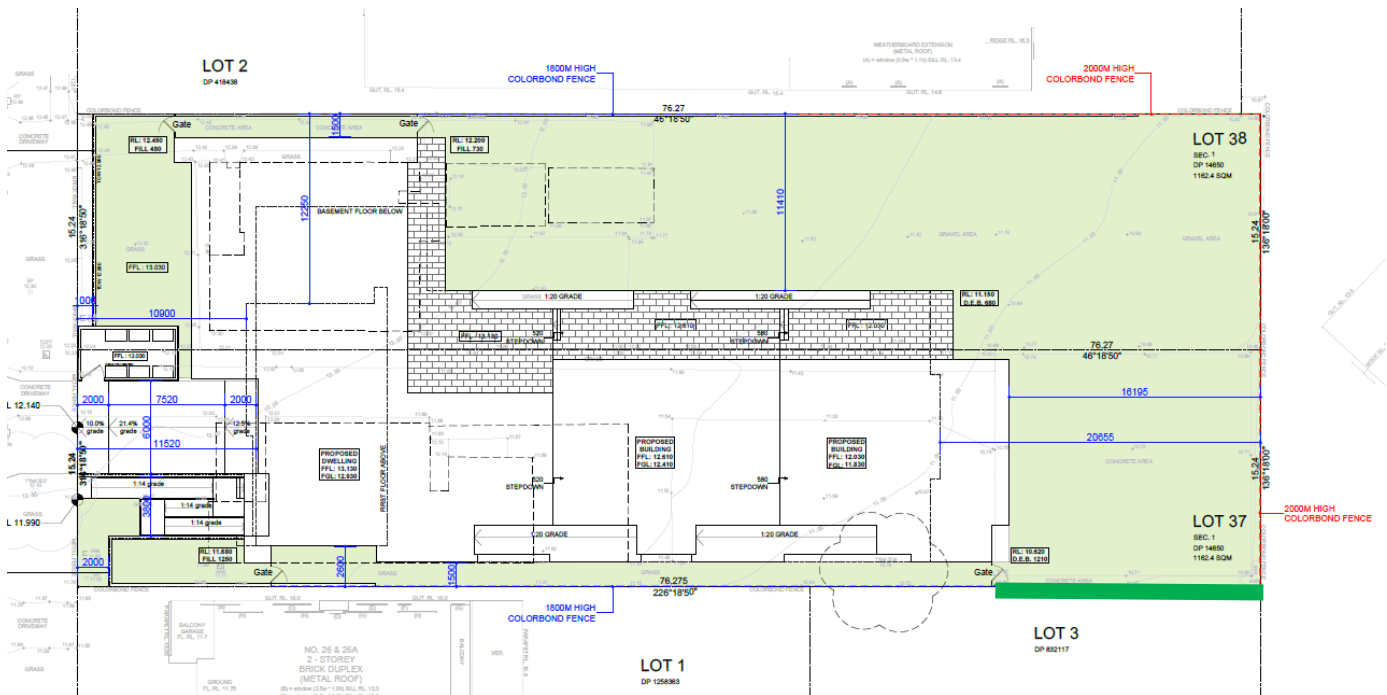


Figure 5.1: Acoustic fence requirements. Fence height increased from 1.8m to 2m as indicated in green.

### 5.2 Mechanical Plant

Mechanical plant has been modelled as part of the assessment to show compliance is achievable. Typically the exact equipment model and location of mechanical plant is not known until CC stage. It is recommended that an acoustic assessment is conducted of the mechanical plant prior to the CC being issued to verify compliance. Soundscape can provide an assessment of future mechanical plant when required.

All mechanical plant equipment must be turned off during the night period. It is critical that the carpark exhaust fan is not operational at night to achieve compliance.

The NSW DoPE – Child Care Planning Guideline requires all mechanical plant or equipment is screened by solid, gap free material and constructed to reduce noise levels.

### **5.3 Outdoor Play**

In order to reduce the noise impact from children outside, only 40 children should be allowed outside at any given time. This may be 40 three-to-five year olds or 40 zero-three year olds. The plan of management should clearly stipulate this requirement, preferably with a table showing the rotation of children.

### **5.4 Reverberation**

It is highly recommended that reverberation control measures are implemented within rooms 1 to 6 to prevent sound build up and improve speech intelligibility. AS 2107: 2016 contains design reverberation times which the Architect should incorporate into the design. For a learning space of 200m<sup>3</sup>, the recommended reverberation time is 0.55 seconds. Building design input should be sought as required.

## 6 CONCLUSION

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Soundscape Consulting Pty Ltd was commissioned by Dawsonvu to complete a noise impact assessment at 28 - 30 Forrest Road, East Hills. The report is to be submitted to the certifying authority as part of the development application.

The proposal seeks consent for the construction of a two-storey childcare centre. The childcare centre proposes to cater for a maximum of 120 children: 20 aged 0-2, 20 aged 2-3 and 80 aged 3 and over. The proposal includes an outdoor play area and basement carpark.

A noise survey was conducted for 7 days to obtain statistical noise data at the critical location (see section 3) to determine the background noise levels. Noise modelling was employed to predict the noise levels at surrounding sensitive receivers for assessment against the EPA Noise Policy for Industry criteria (see sections 2 and 4).

Provided the recommendations as presented in section 5 of the report are implemented, it is our opinion that the proposed development is capable of meeting the requirements of the EPA Noise Policy for Industry, NSW SEPP and Canterbury-Bankstown Council's requirements.

## Appendix A – Client Plan Drawings

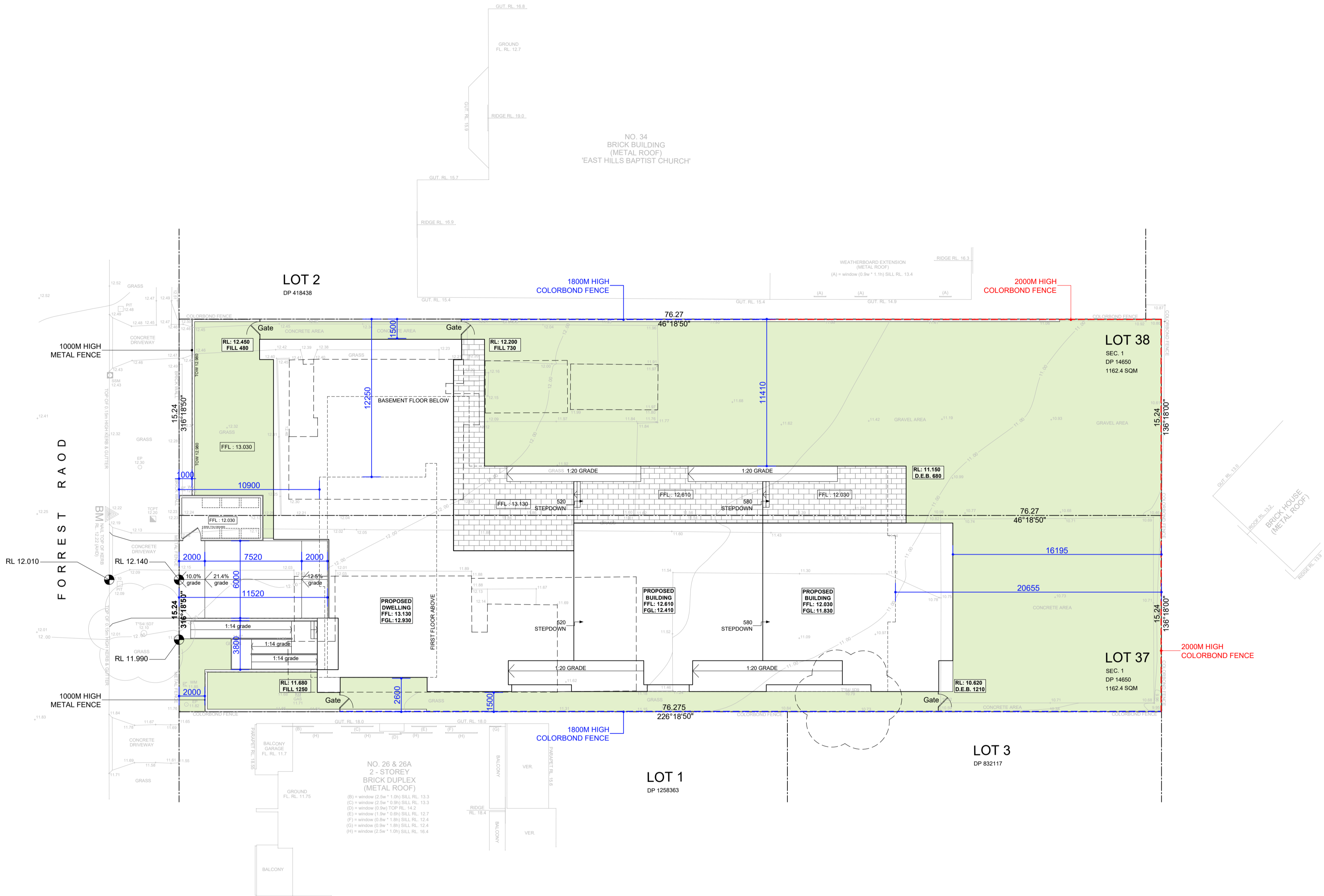
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PROJECT SUMMARY :

|                                    |                              |
|------------------------------------|------------------------------|
| LAND ZONING:                       | R2 LOW DENSITY RESIDENTIAL   |
| PRECINCT:                          | CANTERBURY BANKSTOWN COUNCIL |
| MIN LOT SIZE REQUIRED:             | SQM                          |
| PROPOSED SITE AREA:                | 2,324 SQM                    |
| MIN FRONTAGE REQUIRED:             | NTS M                        |
| PROPOSED FRONTAGE:                 | 30.48 M                      |
| MAX BUILDING HEIGHT:               | 9M TO TOP OF ROOF            |
| MAX BUILDING HEIGHT PROPOSED :     | 8.014M TO TOP OF ROOF        |
| MAX FLOOR SPACE RATIO:0.5:1        | (0.5 x 2324) = 1162 SQM      |
| FLOOR SPACE RATIO PROPOSED:        | (0.38) 879.36 SQM            |
| CAR PARKING REQUIRED (BY COUNCIL): | 32 SPACES                    |
| CAR PARKING PROPOSED:              | 32 SPACES                    |
| MAX NUMBER OF STOREYS:             | 2 STOREYS                    |
| PROPOSED:                          | 2 STOREYS                    |

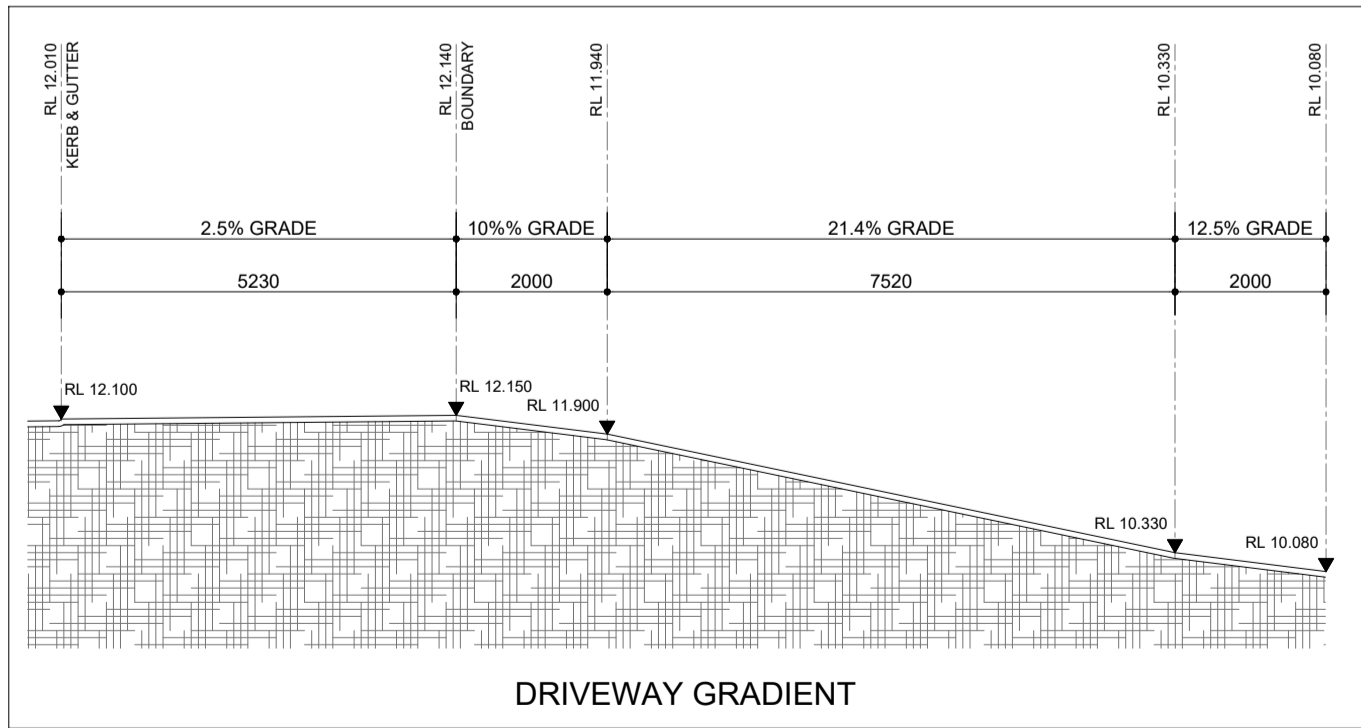
|                |          |             |                  |
|----------------|----------|-------------|------------------|
| 120 children   |          |             |                  |
| years          | children | staff ratio | Staff required   |
| 0 - 2          | 20       | 1:4         | 5                |
| 2- 3           | 20       | 1:5         | 4                |
| 3>             | 80       | 1:10        | 8                |
| Total children | 120      |             | 17 (total staff) |

Play Area  
Indoor space ratio 3.25 m² / child  
Outdoor space ratio 7 m² / child  
Outdoor space required 840 m²



AREAS CALCULATION:

|                |             |
|----------------|-------------|
| Basement Floor | 816.16 sqm  |
| Ground Floor   | 806.08 sqm  |
| First Floor    | 141.83 sqm  |
| Front Porch    | 5.07 sqm    |
| Patio          | 198.24 sqm  |
| Total          | 1967.38 sqm |
|                | 211.77 sq   |



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0438 297 962

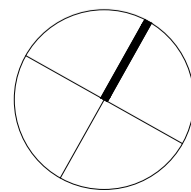
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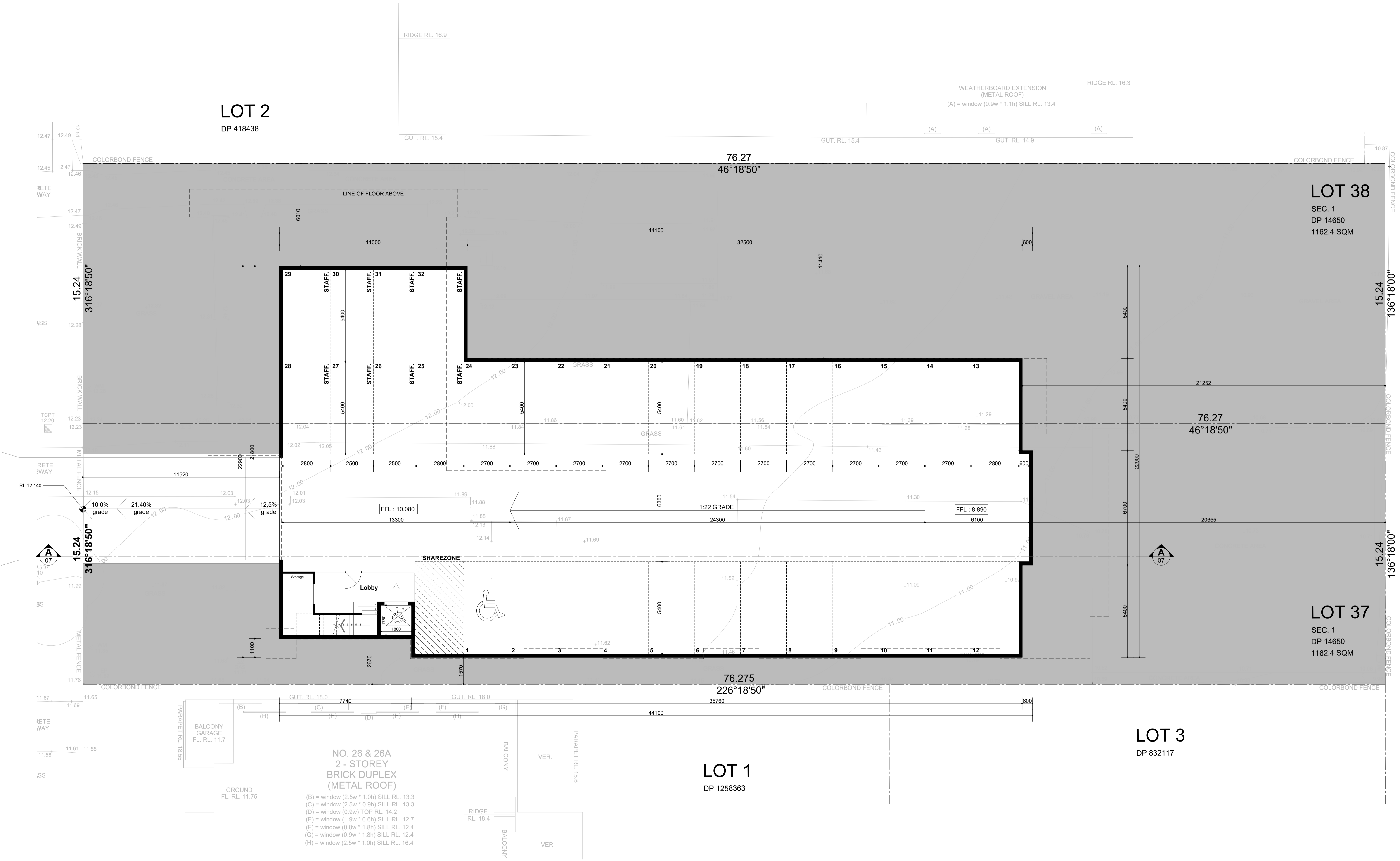
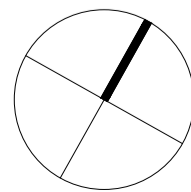
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| 16.06.22 | A        | DA submission         |
| date     | revision | issue                 |

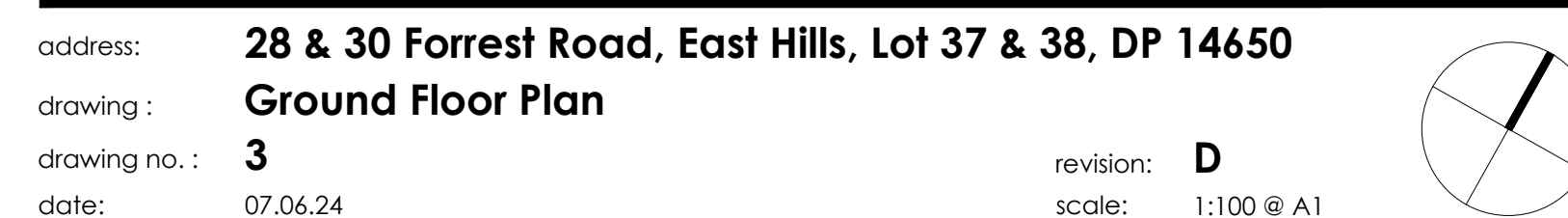
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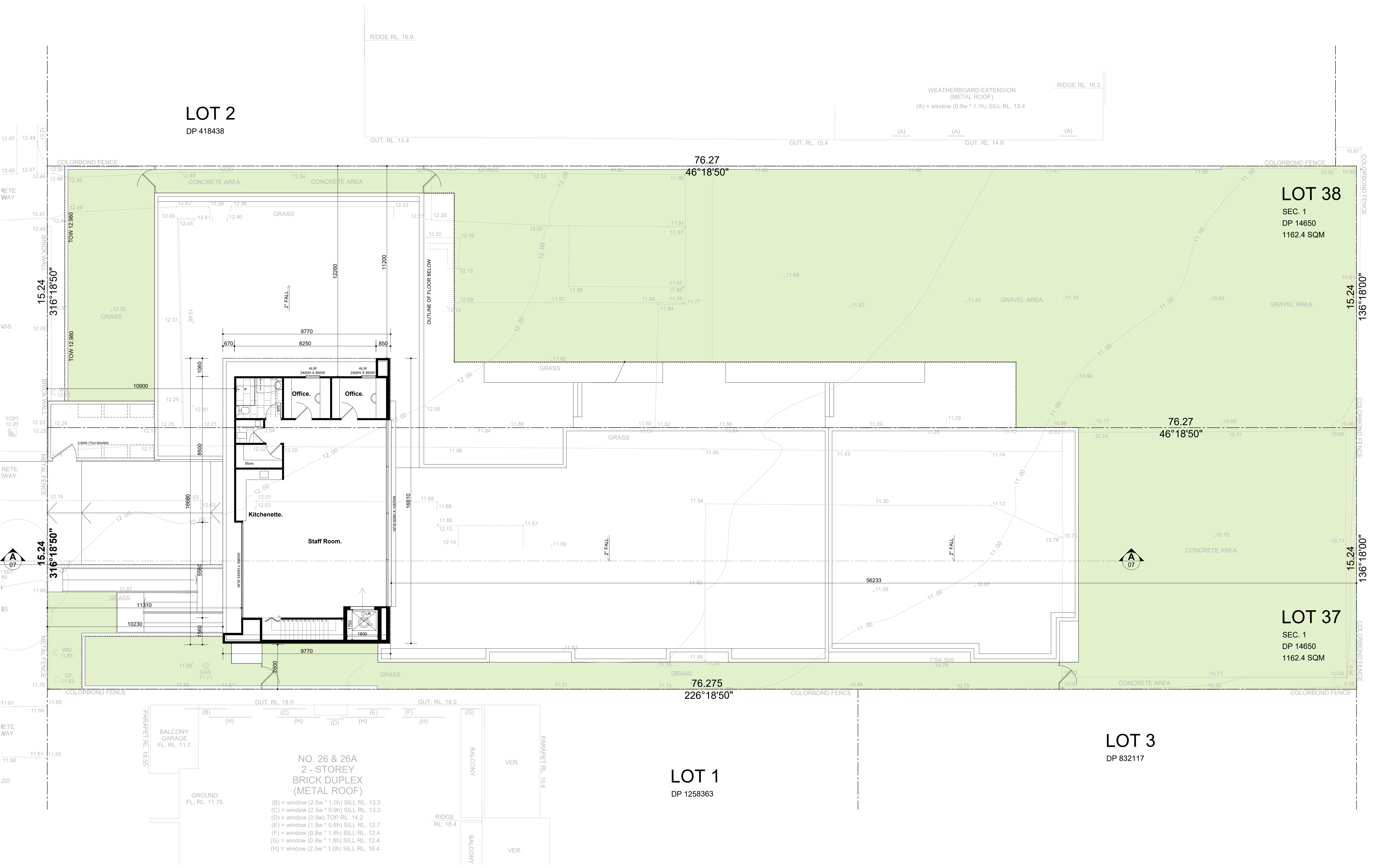
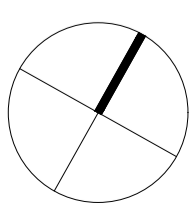
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drawing : Site Plan  
drawing no.: 1  
date: 07.06.24

revision: D  
scale: 1:200 @ A1









LOT 2  
DP 418438

LOT 38  
SEC. 1  
DP 14650  
1162.4 SQM

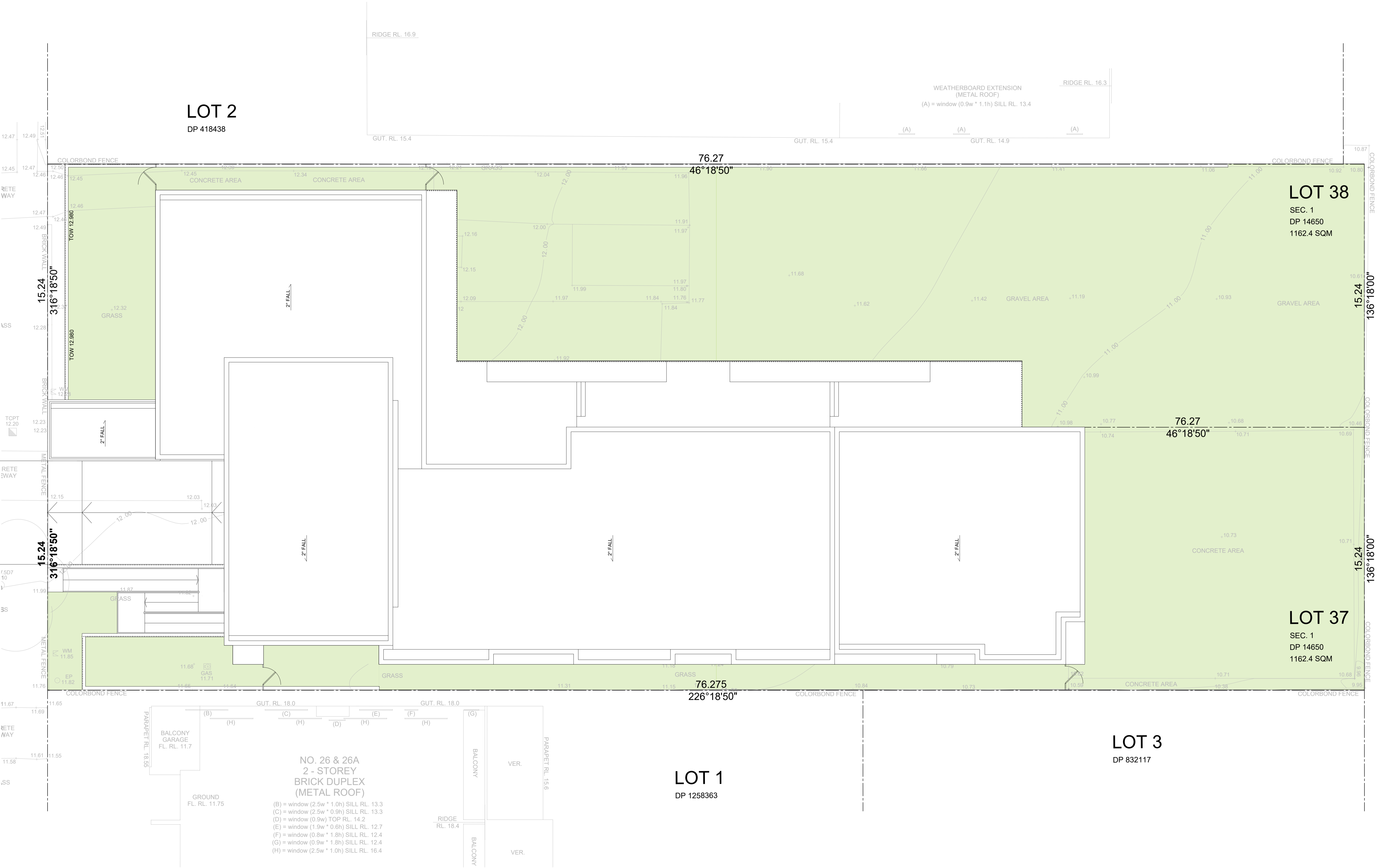
LOT 37  
SEC. 1  
DP 14650  
1162.4 SQM

LOT 3  
DP 832117

LOT 1  
DP 1258363

NO. 26 & 26A  
2 - STOREY  
BRICK DUPLEX  
(METAL ROOF)

(B) = window (2.5w \* 1.0h) SILL RL. 13.3  
(C) = window (2.5w \* 0.9h) SILL RL. 13.3  
(D) = window (0.9w) TOP RL. 14.2  
(E) = window (1.9w \* 0.6h) SILL RL. 12.7  
(F) = window (0.8w \* 1.8h) SILL RL. 12.4  
(G) = window (0.9w \* 1.8h) SILL RL. 12.4  
(H) = window (2.5w \* 1.0h) SILL RL. 16.4



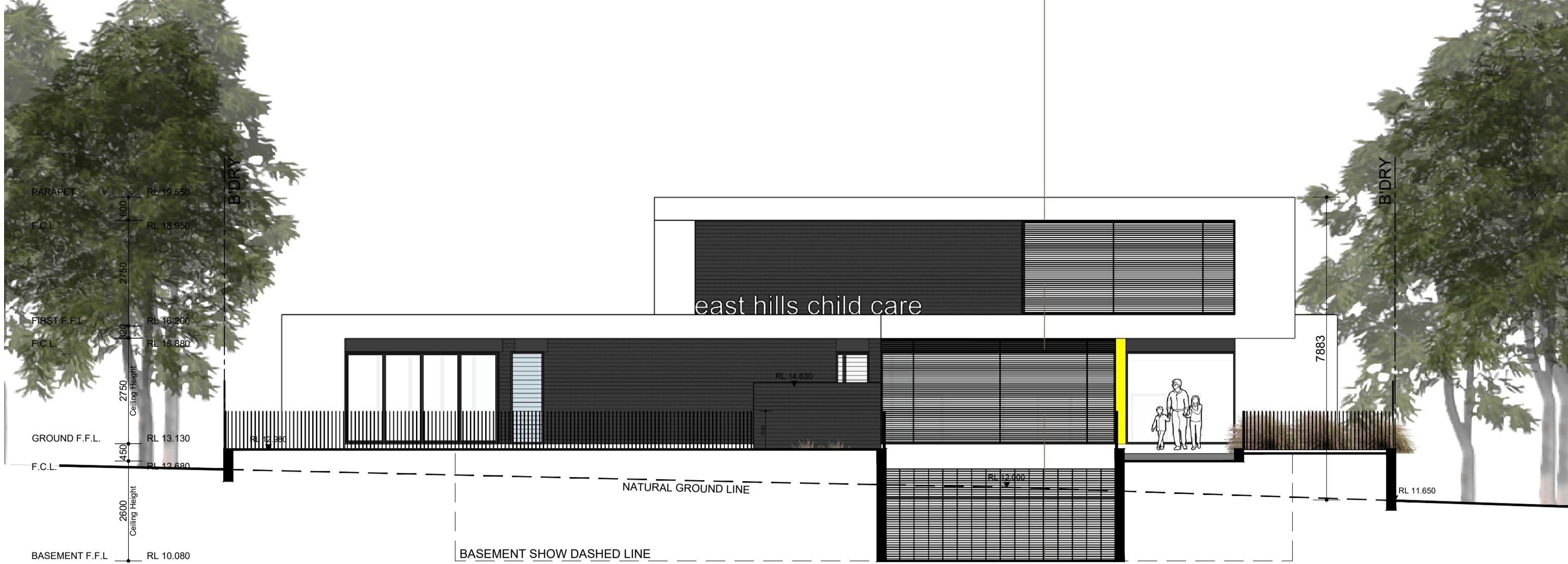
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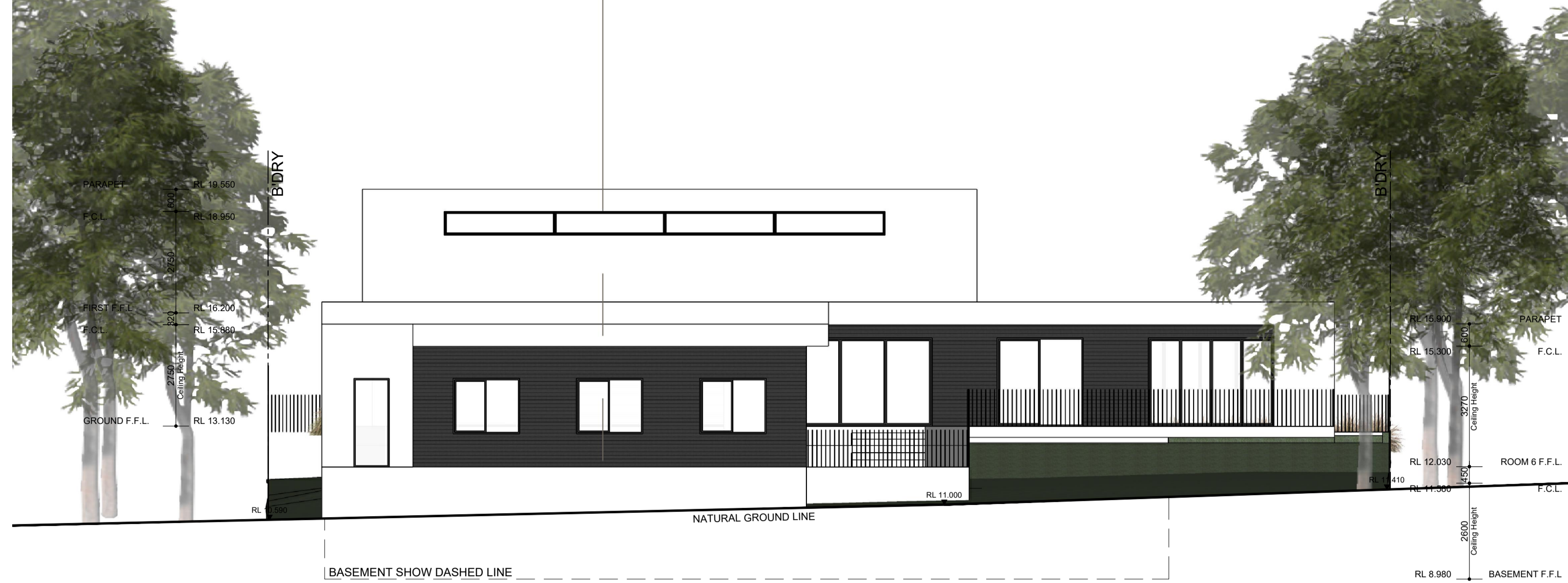
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| date     | revision | issue                 |

date revision issue

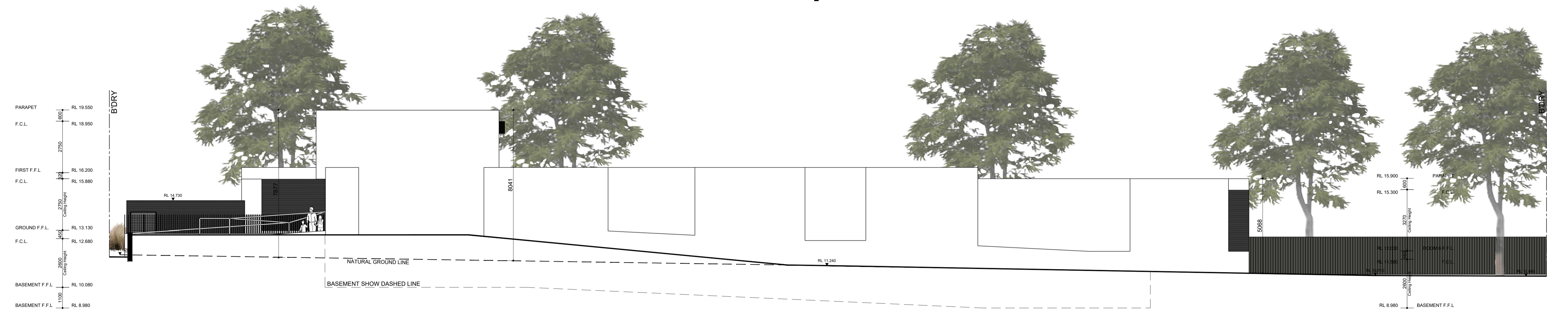
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| drawing :     | Roof Plan   |           |            |
| drawing no. : | 5   |           |            |
| date:         | 07.06.24  | revision: | D          |
|               |   | scale:    | 1:100 @ A1 |



Elevation South West



Elevation North East



Elevation South East



Elevation North West



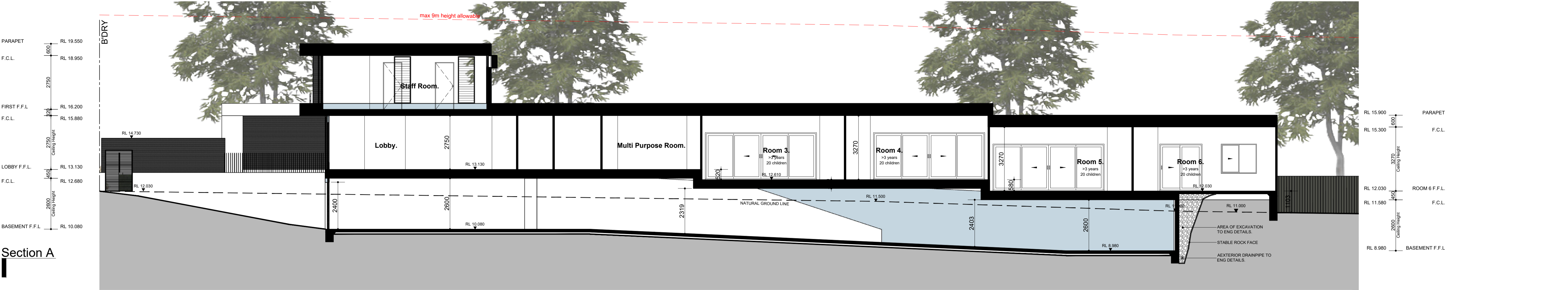
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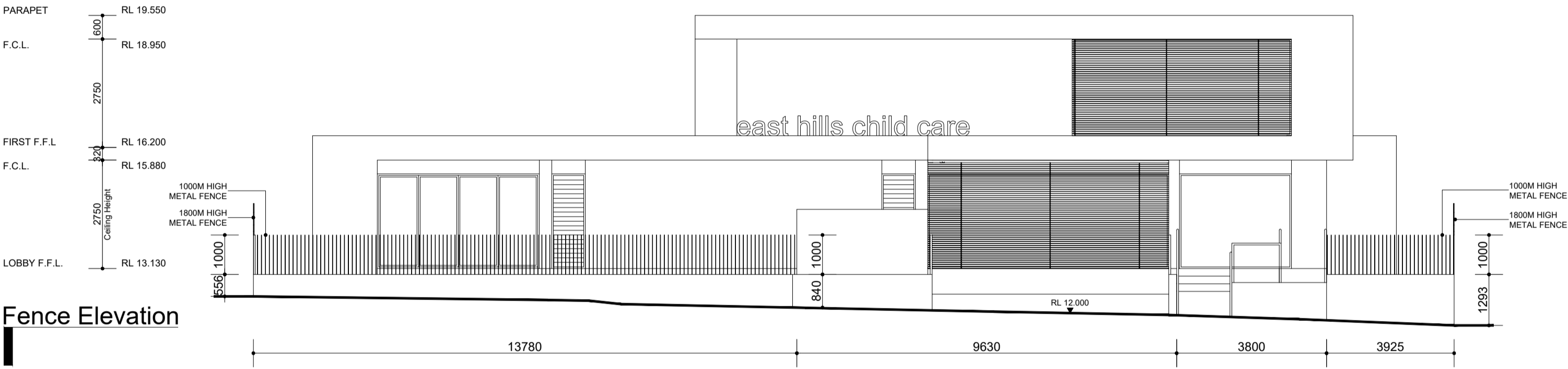
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| date     | revision | issue                 |

date revision issue

address: 28 & 30 Forrest Road, East Hills, Lot 37 & 38, DP 14650  
drawing : Elevations  
drawing no.: 6  
date: 07.06.24  
revision: D  
scale: 1:100 @ A1



Section A



Fence Elevation

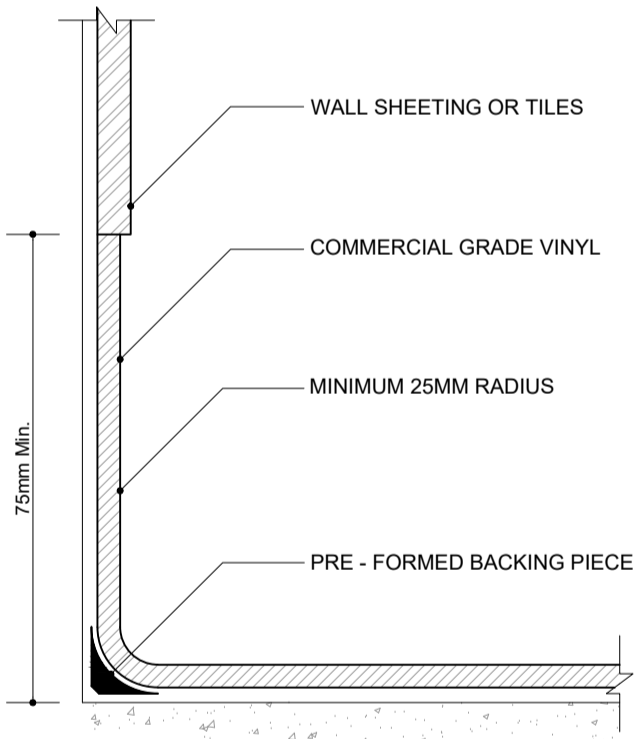
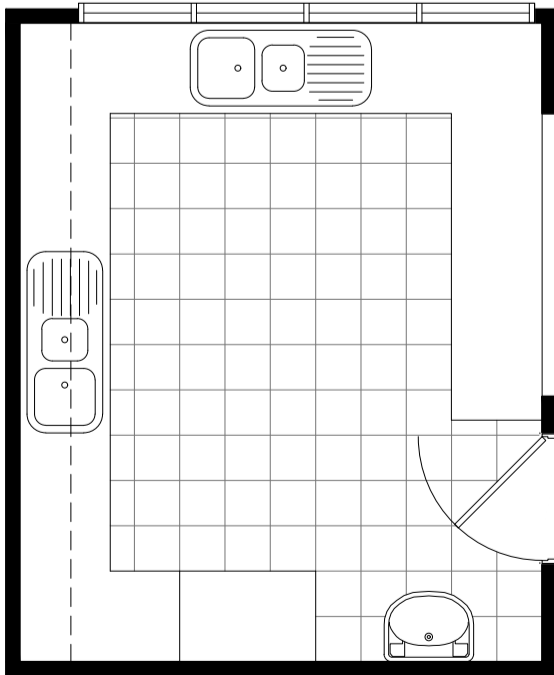
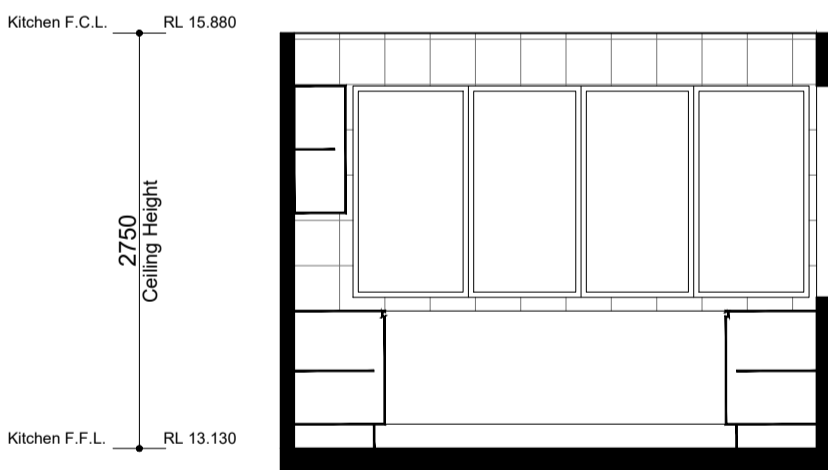


Figure 3.1 Typical coving methods



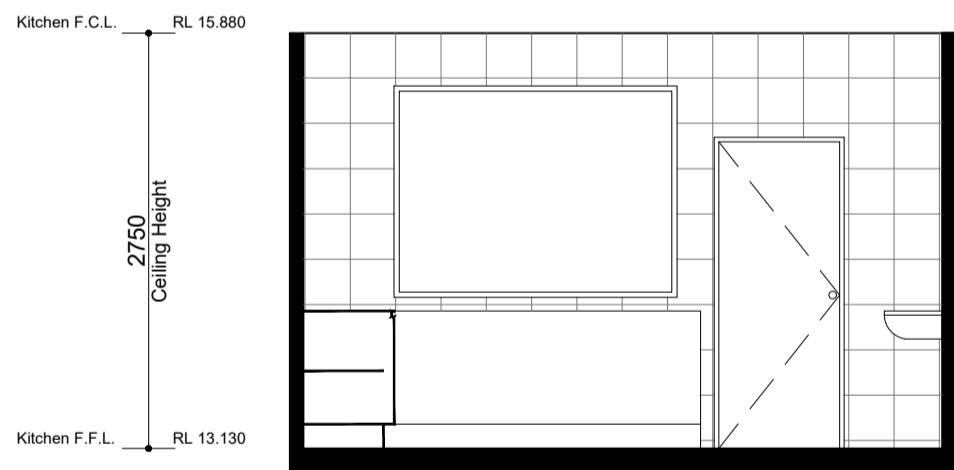
Kitchen - Floor Plan

scale: 1/50



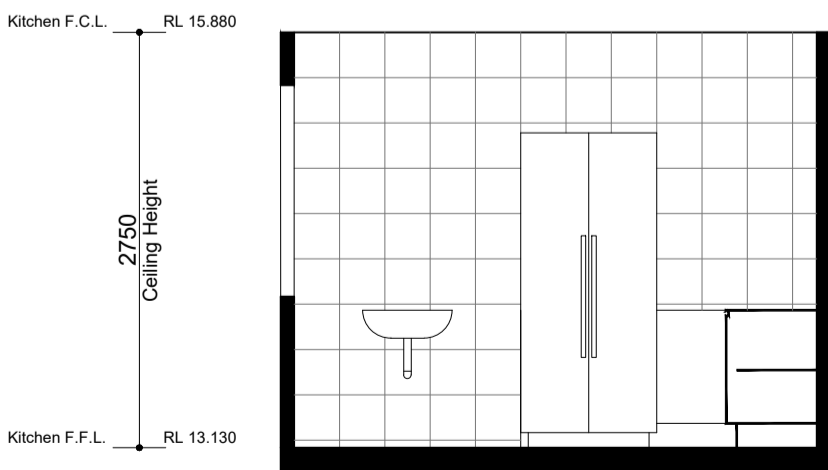
Kitchen - Elevation C

scale: 1/50



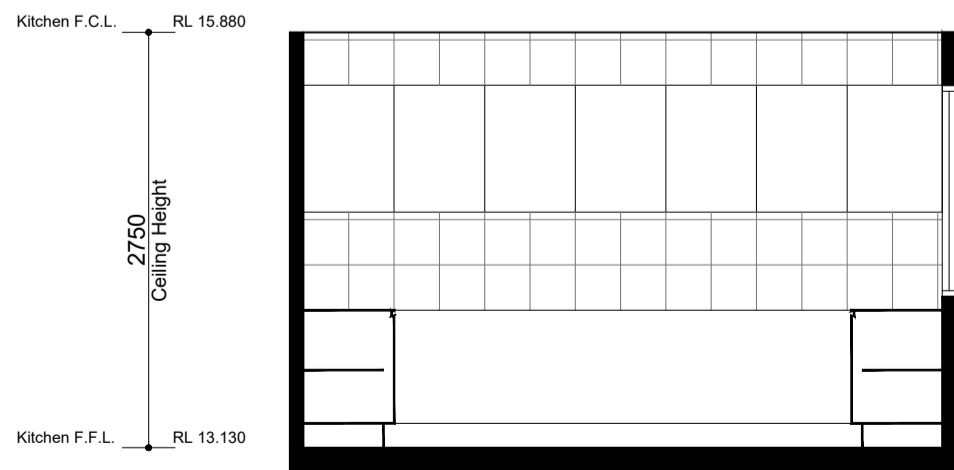
Kitchen - Elevation D

scale: 1/50



Kitchen - Elevation A

scale: 1/50



Kitchen - Elevation B

scale: 1/50

#### Child Care Centre Kitchen

The premises are to be constructed and fitted out strictly in accordance with the Australian/New Zealand Food Safety Standards Code 3.2.3 'Food Premises & Equipment' and Australian Standard 4674.2004 'Design, Construction & Fit Out of Food Premises'.

#### Fitout of Food Preparation Area

A rigid smooth faced impervious ceiling shall be provided over the food preparation, cooking and serving areas. The surface finish shall be free of open joints, cracks, crevices or openings with the intersection of the walls and ceiling being tight jointed, sealed and dustproof.

The ceiling shall be painted with a light coloured washable paint.

All fluorescent light fittings shall be fitted with a smooth faced diffuser.

Lighting shall be either:  
- recessed so that the diffuser is flush with the ceiling or  
- designed to ensure that no horizontal surface exists which would allow dust & grease to accumulate.

The floor is to be constructed of concrete or other material impervious to moisture, finished to a smooth trowelled finish, coved at the intersections with the walls and graded and drained to approved sewerage connections.

Coving is to be provided between all walls and the floor and between the floor and all fitting. This can be achieved by coving tiles, cement render, or by turning vinyl flooring up the walls. In this case a fillet or backing piece is required to support the cove.

Floor to be constructed of material impervious to water, non slip and graded and drained to floor waste.

The walls in the kitchen are to be constructed of cement rendered bricks, blocks or concrete finished to a smooth, steel trowelled surface, coved to the floor, and where not tiled, painted with a light coloured gloss paint. Unrendered brick or block work is not permitted.

The walls of the kitchen are to be tiled with close jointed, glazed tiles of a light colour to a height of 2 metres.

The walls of the kitchen are to be tiled with close jointed, glazed tiles of a light colour to a height of 450mm above all sinks, tubs, draining boards, wash hand basins and preparation benches.

All walls where not tiled shall be cement rendered to a smooth surface and painted with a light coloured washable paint.

Refrigeration, frozen food cabinets, cooking appliances, equipment, fitting, cupboards, and cabinets are to be supported on one of the following systems: Wheels or casters which allow the fully loaded fitting to be easily moved

Legs which provide a min. 150mm clearance from the floor to the underside of the fitting.

All shelving being installed on approved metal brackets and kept at least 25mm clear off wall.

Food preparation benches shall be constructed of stainless steel.

The top and exposed edges of all benches, counters and shelving shall be

finished in a smooth and non absorbent material free of joints.

All service pipes, condensate pipes and electrical conduits must be sealed into the walls, floors or plinths.

All service pipes, condensate pipes and electrical conduits which are not capable of being concealed within the walls shall be mounted on brackets so as to provide at least 25mm clearance between the pipe and adjacent (wall) vertical surface and 100mm between the pie and adjacent (floor) horizontal surface.

A freestanding wash hand basin is to be provided in an approved position in the kitchen/food preparation area connected to both hot and cold water at a minimum temperature of 40°C through a single outlet, as required by Clause 14 (1) and (2) of the Australian New Zealand Food Standards Code Food Safety Standard 3.2.3. Provide and maintain dispensable soap and single use towels or other suitable hand drying facilities near the wash hand basin.

All openings in the walls, floors and ceiling and all external doors and windows must be vermin proof.

All windows and doors to the external air are to be provided with fly screens.

A kitchen exhaust hood is to be provided above all appliances of heating capacity greater than 8KW in accordance with AS 1668 Part 2. A test certificate shall be submitted to the Principal Certifying Authority with application for an Occupation Certificate.

The doors of the air-lock and sanitary compartments must be close fitting and self closing.

A liquid soap dispenser and paper towel dispenser must be provided above or adjacent to the hand basin.

Washing facilities must be provided and comply with the Food Premises Code.

Not less than 300 lux of light will be available on all surfaces where food is prepared, or utensils are washed and sterilised in accordance with SA 1680.

Table 3 – Daily food amounts for children (2 to 5 years)\*.

| Food Group and Serve Sizes   | Minimum number of serves while in care for 0 hours | Comments  |
|--|--|---|
| <b>Vegetables and legumes/beans</b><br><b>Each of the following foods is one serve:</b><br>½ cup cooked vegetables<br>½ cup cooked dried, canned beans, peas or lentils<br>1 cup salad vegetables<br>½ medium potato or sweet potato<br>1 medium tomato                          | 2  | <ul style="list-style-type: none"><li>Include different types and colours.</li><li>Fresh, frozen and canned varieties can be used.</li><li>Choose canned varieties with no added salt.</li></ul>  |
| <b>Fruit</b><br><b>Each of the following foods is one serve:</b><br>1 medium (150g) piece of fruit e.g. apple, banana, orange or pear<br>2 small apricots, kiwi fruits or plums<br>1 cup dried or canned fruit (no added sugar)<br>30g dried fruit e.g. 4 dried apricot halves   | 1  | <ul style="list-style-type: none"><li>Serve fresh fruit rather than juice.</li></ul>  |
| <b>Wholegrain cereal foods and breads</b><br><b>Each of the following foods is one serve:</b><br>1 slice of bread<br>½ a bread roll<br>¾ cup wheat cereal flakes<br>½ cup cooked rice<br>½ cup cooked pasta<br>3 crispbread biscuits<br>1 crumpet<br>1 English muffin<br>1 scone | 2  | <ul style="list-style-type: none"><li>Include a variety – breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley.</li><li>Choose wholegrain or wholemeal varieties and when available varieties with added iron.</li></ul> |

|   |   |  |
|---|---|--|
| <b>Lean meat and poultry, fish, eggs, tofu, seeds and legumes</b><br><b>Each of the following foods is one serve:</b><br>65g cooked lean meats - beef, lamb, veal, pork, goat, kangaroo (90-100g raw)<br>80g cooked lean poultry or turkey (100g raw)<br>100g cooked fish (115g raw)<br>1 small can fish<br>2 large eggs<br>1 cup cooked or canned legumes/beans<br>170g tofu | ¾ | <ul style="list-style-type: none"><li>Trim fat from meat where possible.</li></ul>   |
| <b>Milk, yoghurt, cheese and alternatives</b><br><b>Each of the following foods is one serve:</b><br>1 cup milk<br>2 slices of cheese (40g)<br>200g yoghurt<br>120g ricotta cheese<br>1 cup soy milk with at least 100mg of added calcium per 100ml   | 1 | <ul style="list-style-type: none"><li>Serving milk at morning and afternoon tea may be an easy and reliable way to meet this requirement.</li><li>Choose mostly reduced fat varieties.</li></ul> |

**Note:** If a child is in care for more than eight hours extra meals and/or midmeals (i.e. breakfast or late afternoon tea) should be provided.

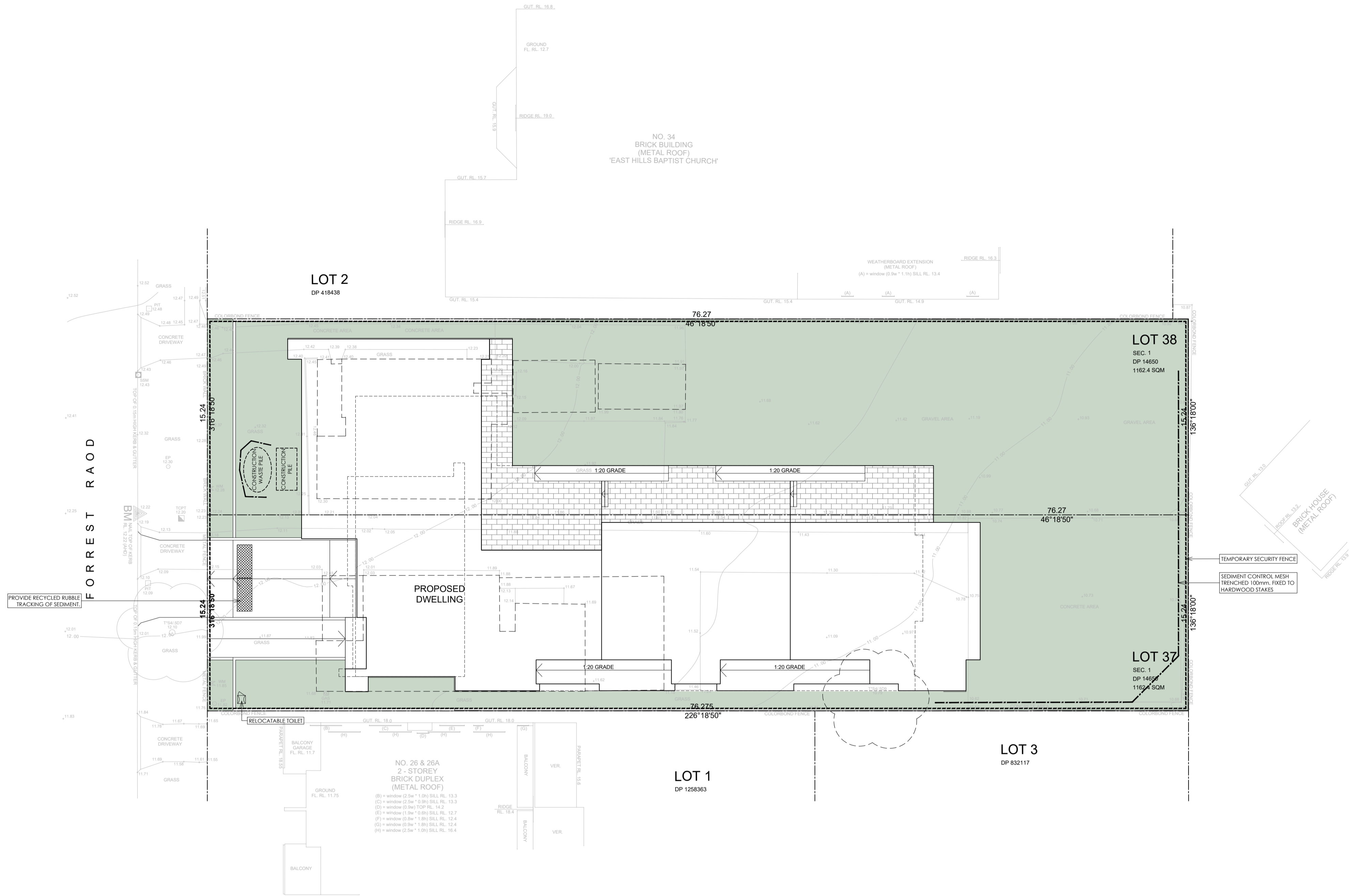
Legend:

- Existing Tree To Be Removed
- Temporary Security Fence
- Contour Lines
- Sediment Control
- Ongoing Waste Management
- Relocatable Toilet
- Construction Pile
- Construction Waste Pile

NOISE →

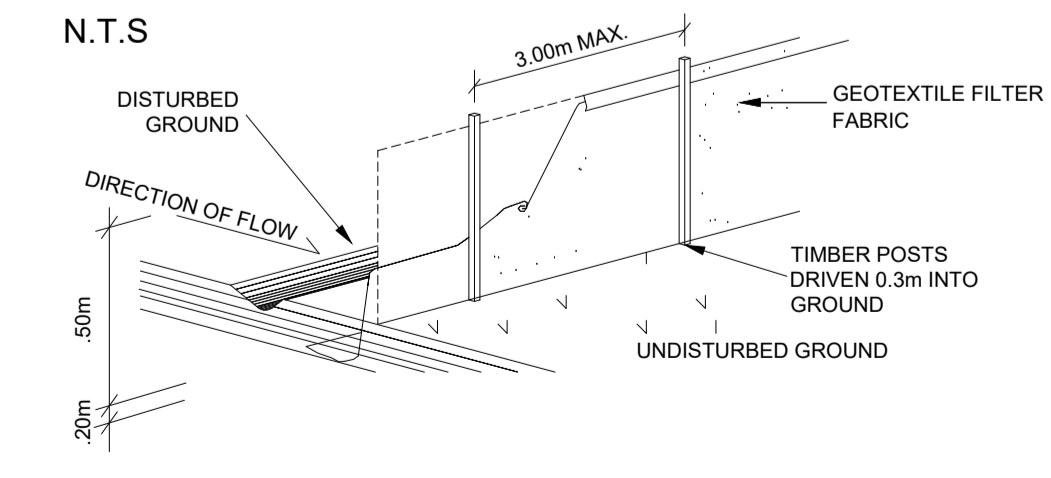
NOISE →

NOISE →



- SEDIMENT CONTROL NOTES
1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE STANCDGRDS OF THE SOIL CONSERVATION OF NSW.
  2. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILIZED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
  3. SEDIMENT TRAPS SHALL BE CONSTRUCTED AROUND ALL INLET PITS, CONSISTING OF 300mm WIDE X 300mm DEEP TRENCH.
  4. ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN THE STRUCTURES ARE A MAXIMUM OF 60 % FULL OF SOIL MATERIALS, INCLUDING THE MAINTENANCE PERIOD.
  5. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.
  6. SOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREA WHERE WATER MAY CONCENTRATE.
  7. FILTER SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR APPROVED EQUIVALENT BETWEEN POST AT 3.0m CENTRES, FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE.

SEDIMENT FENCE DETAIL



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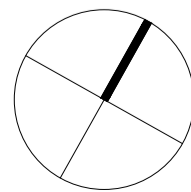
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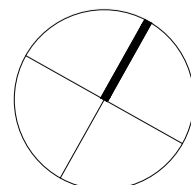
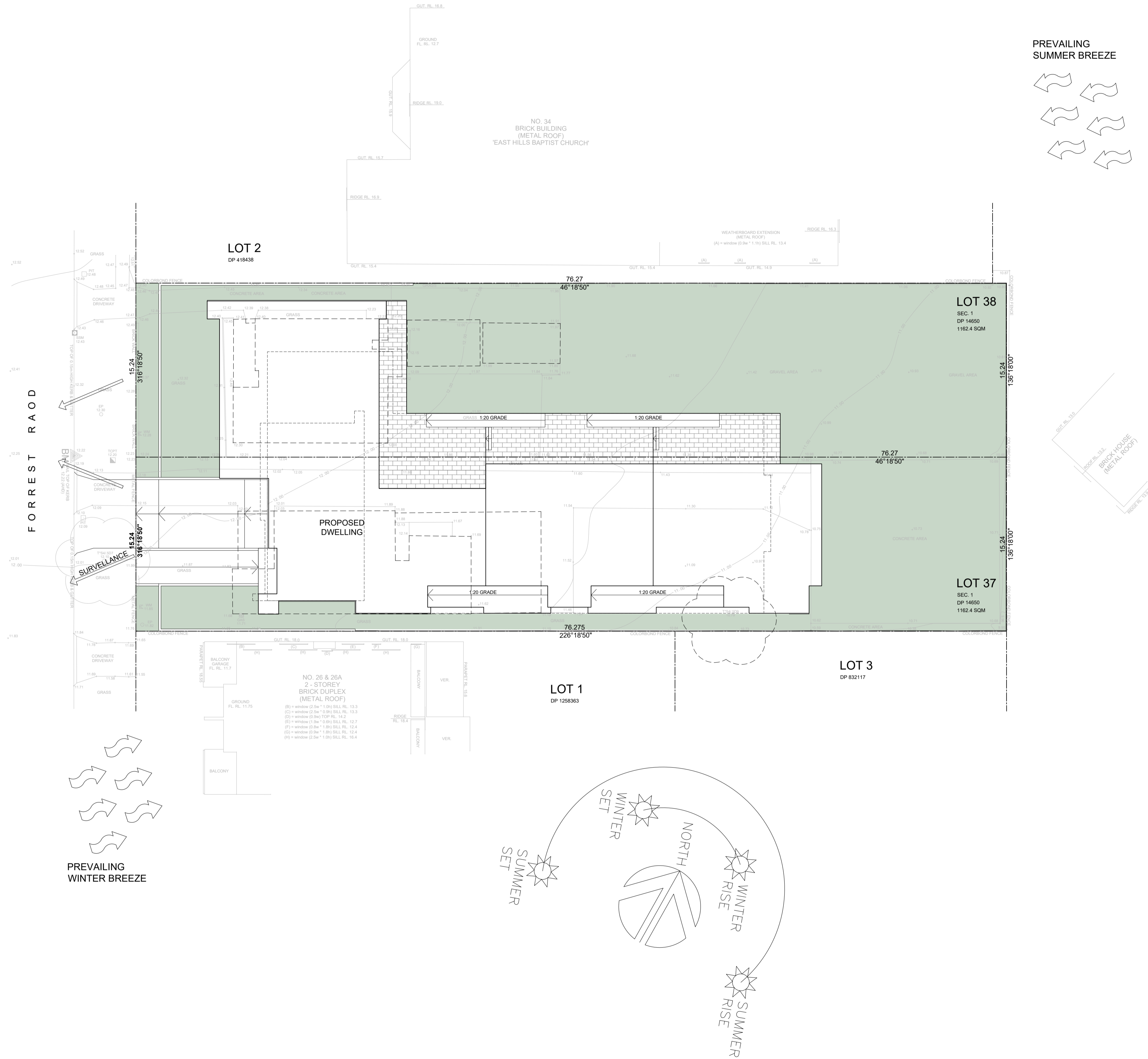
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| 26.04.24 | C        | DA submission         |
| 13.12.22 | B        | Revised DA submission |
| 16.06.22 | A        | DA submission         |
| date     | revision | issue                 |

date revision issue

address: 28 & 30 Forrest Road, East Hills, Lot 37 & 38, DP 14650  
drawing : Erosion & Sediment Control Plan  
drawing no.: 9  
date: 07.06.24

revision: D  
scale: 1:200 @ A1

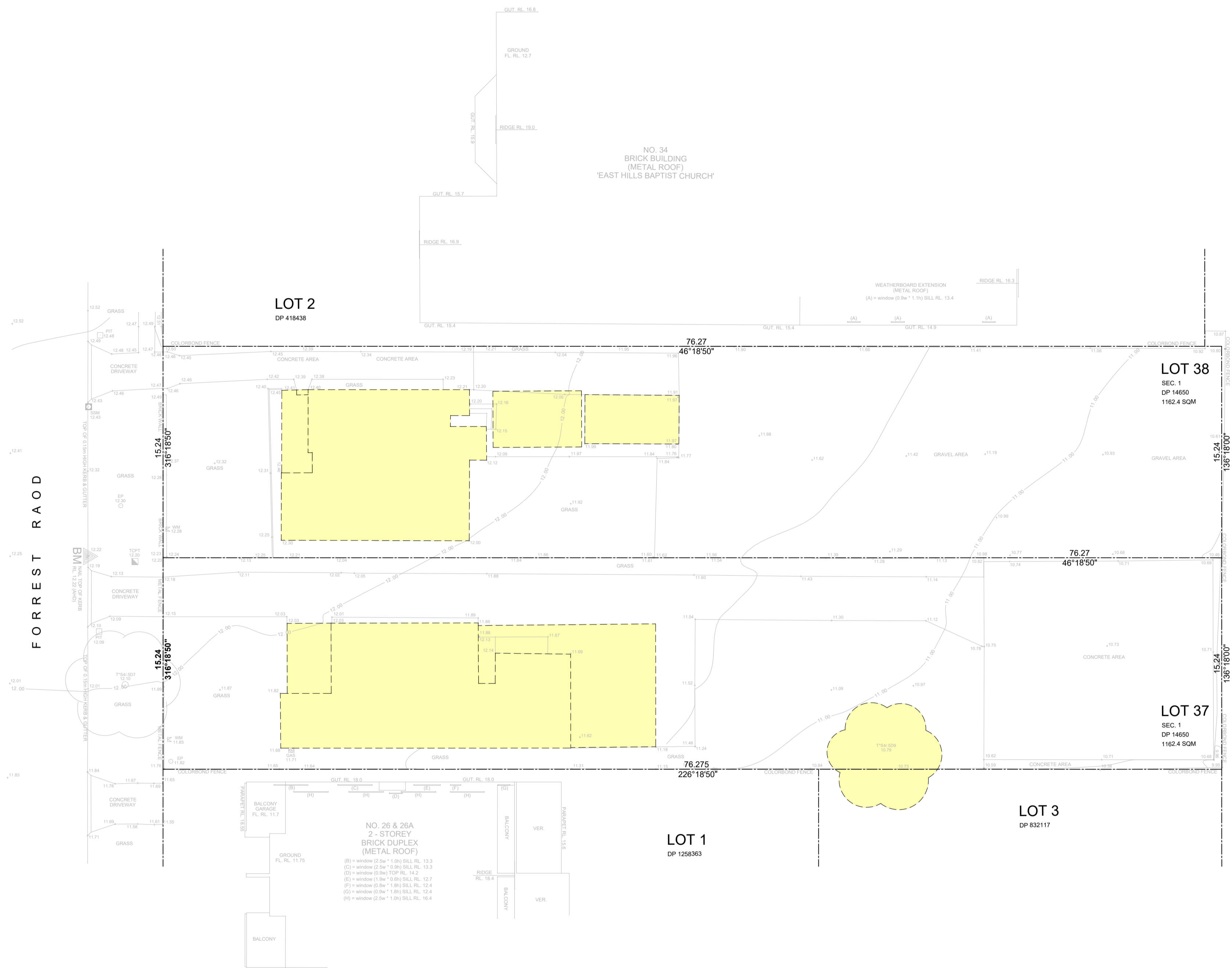




Legend:



Demolished



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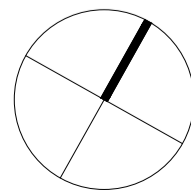
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| date     | revision | issue                 |

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drawing : **Demolition Plan**  
drawing no.: **11**  
date: 07.06.24

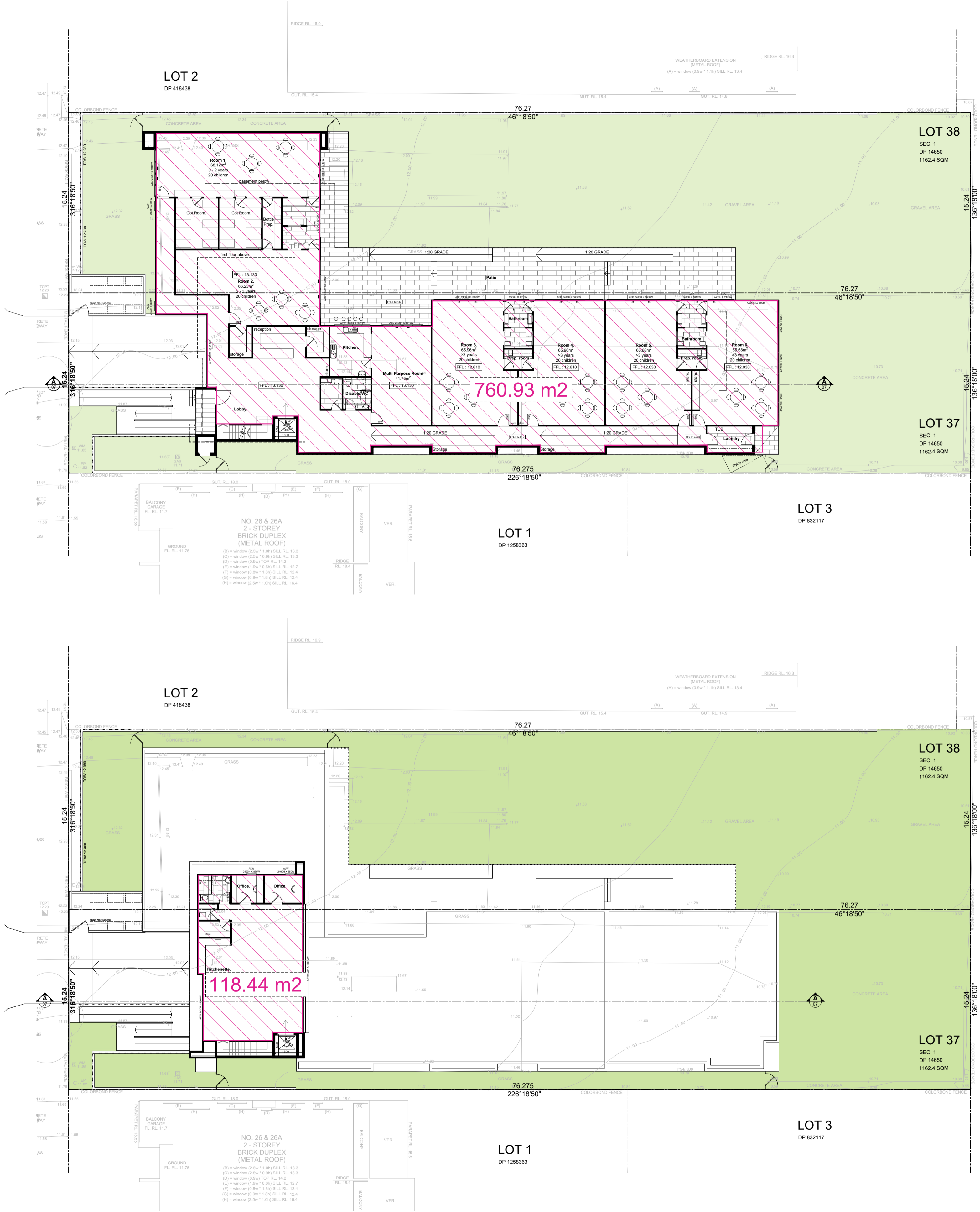
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PROJECT SUMMARY :

MAX FLOOR SPACE RATIO 0.5:1 (0.5 x 2324) = 1162 SQM  
FLOOR SPACE RATIO PROPOSED: (0.4) 879.36 SQM

LEGEND:



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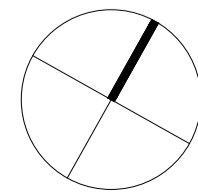
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| 16.06.22 | A        | DA submission         |
| date     | revision | issue                 |

date revision issue

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drawing : FSR Area  
drawing no.: 12a  
date: 07.06.24

revision: D  
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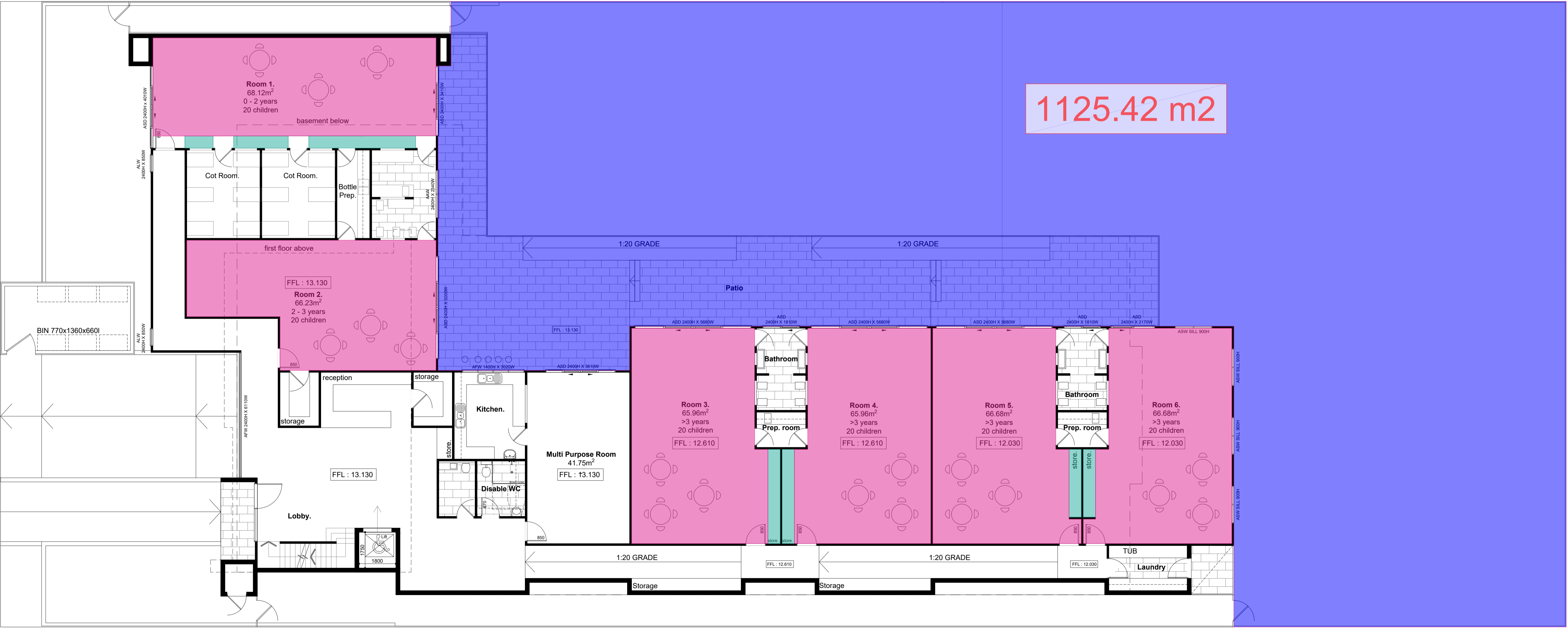


| Room 1(20 children) (0-2 years) - Indoor play area |  |            |
|--|--|------------|
| INDOOR SPACE RATIO REQUIRED                        | 01 room (3.25 m² x 20 children) x 6 room | 390.00 sqm |
| UNENCUMBERED INDOOR PLAY SPACE                     |  | 396.53 sqm |
| ENCUMBERED INDOOR PLAY SPACES                      |  | 15.02 sqm  |
| Total  |  | 411.55 sqm |

| Outdoor play area                           |  |             |
|---|--|-------------|
| outdoor space required (7m² x 120 Children) |  | 840.00 sqm  |
| Proposed                                    |  | 1125.42 sqm |

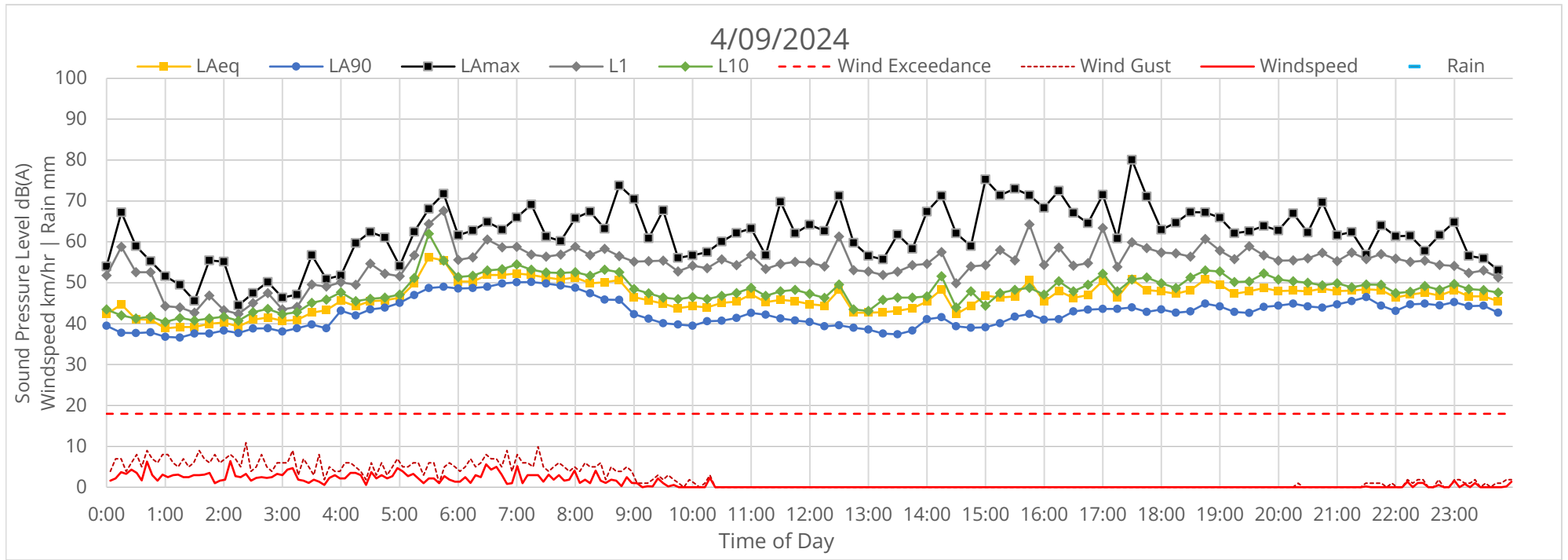
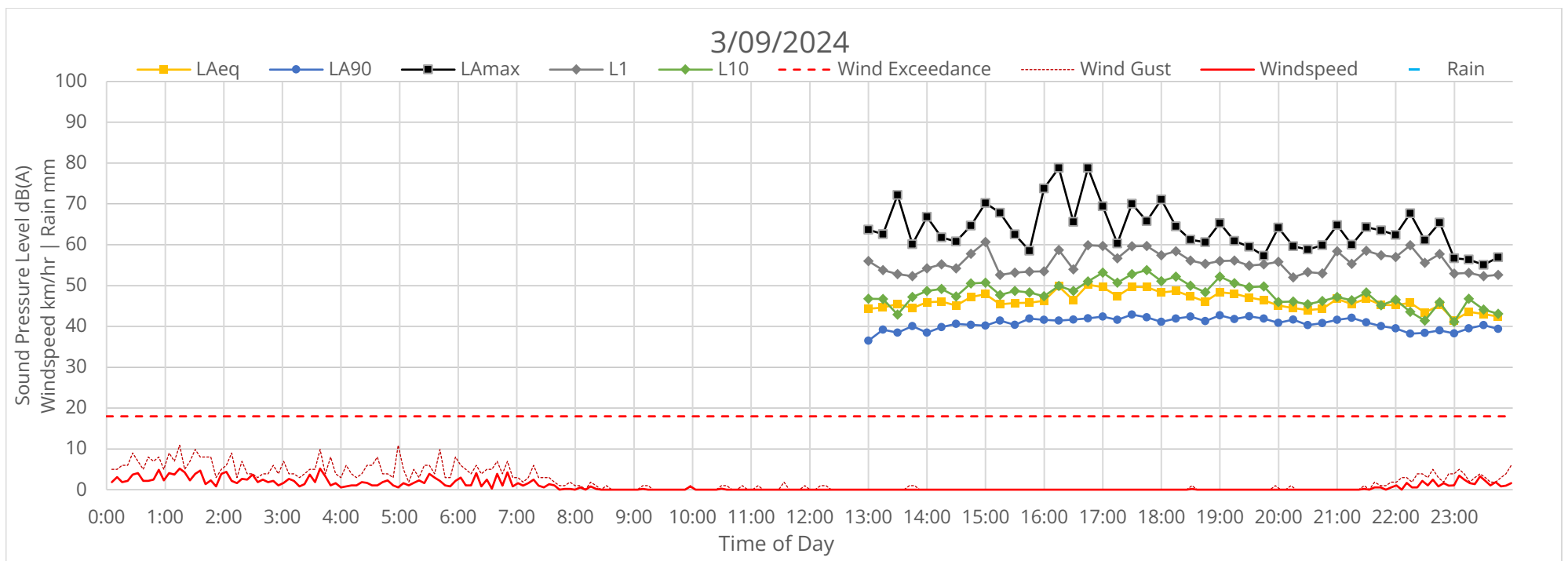
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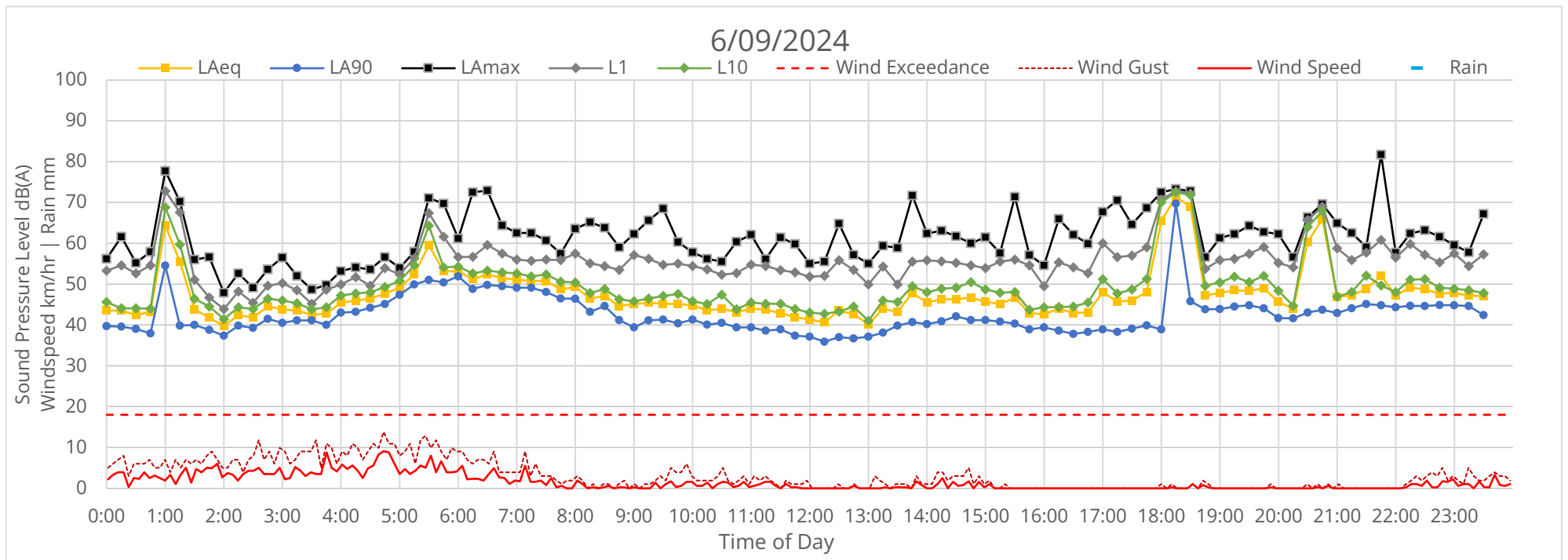
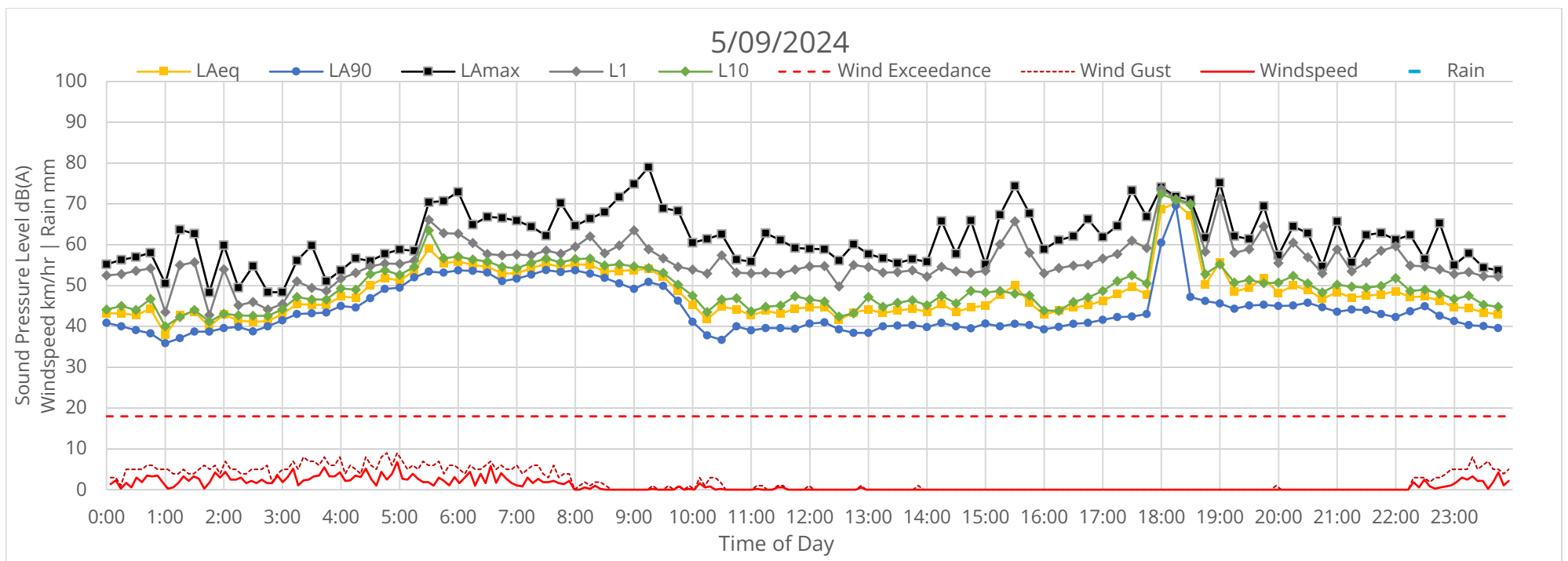
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INDOOR PLAY SPACE
- ENCUMBERED  
INDOOR PLAY SPACE
- OUTDOOR PLAY  
AREA

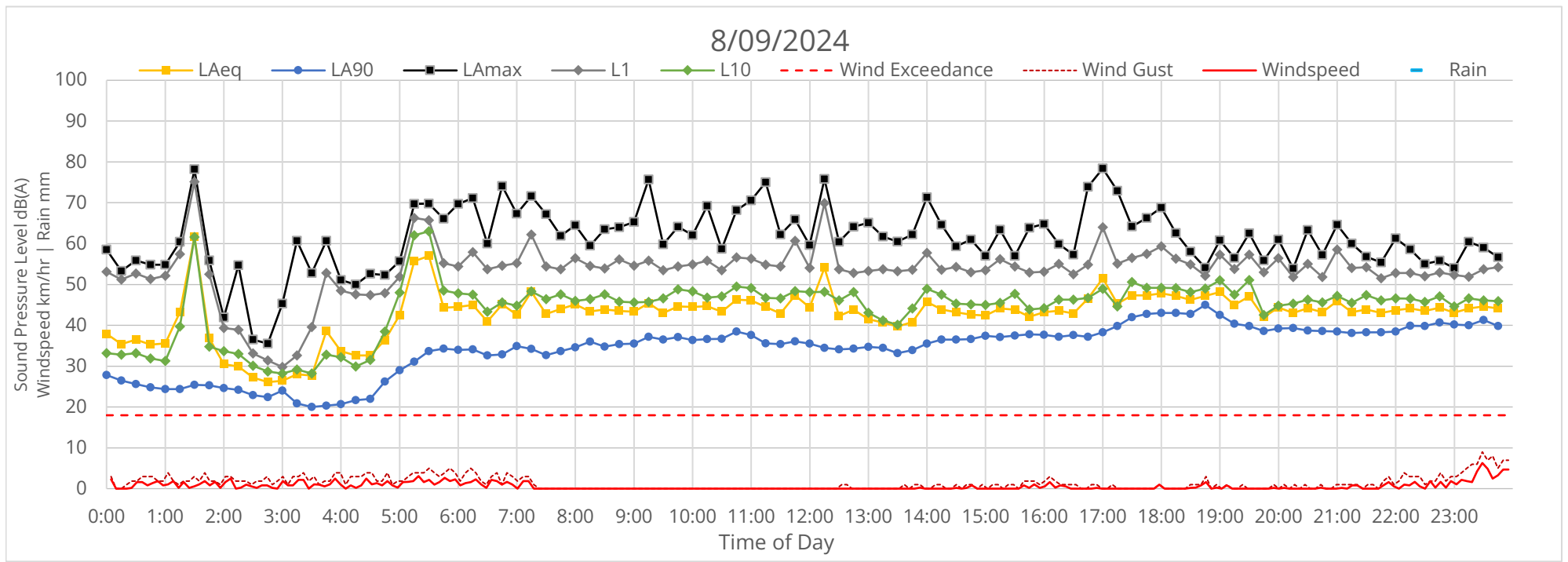
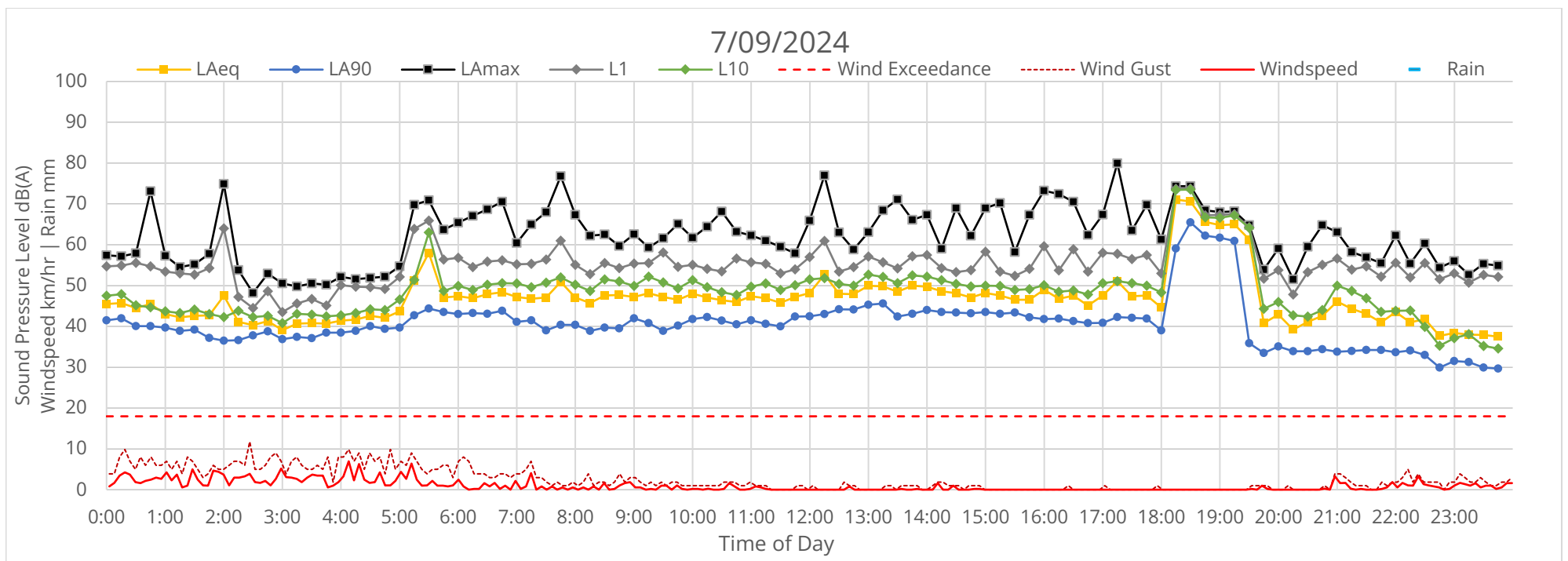


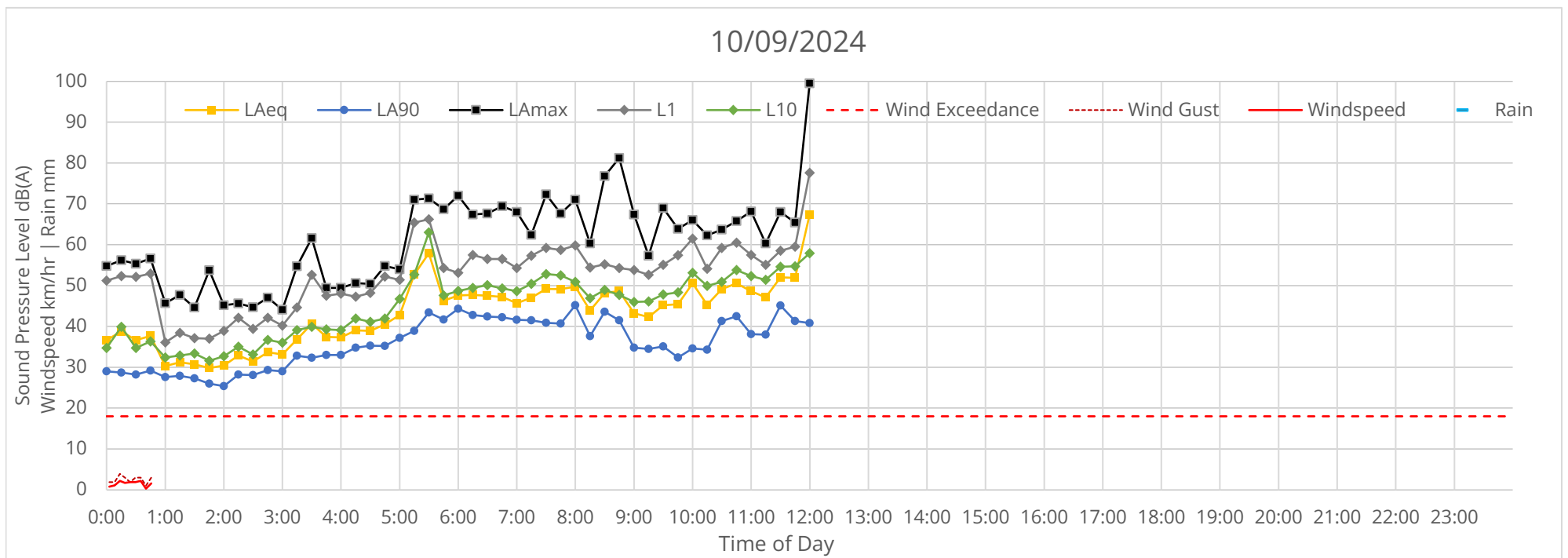
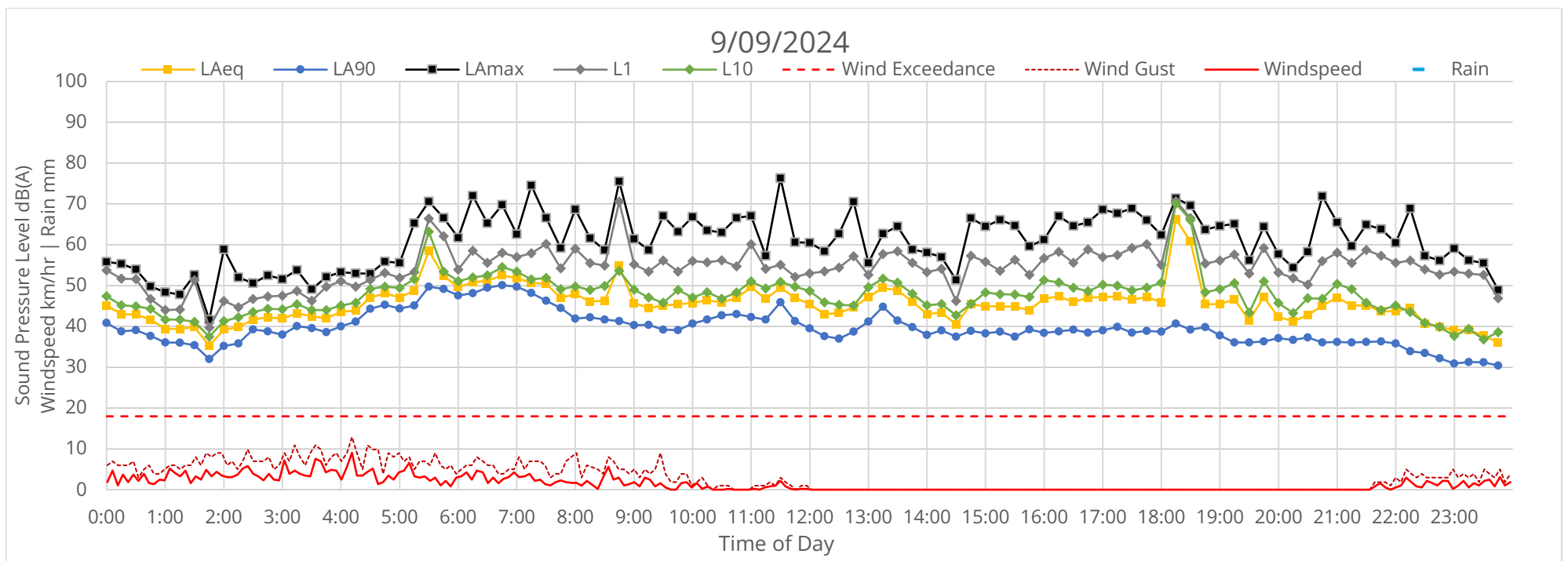
## Appendix B: Noise Survey Graphs

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## Appendix C – Noise Modelling

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