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STATEMENT OF ENVIRONMENTAL EFFECTS

120-PLACE CHILDCARE CENTRE

5 Huntingdale Drive
Thornton

for

Stevens Holdings Pty Limited

M&P CONTACT
Sally Cottom
Planner

P (02) 6541 1509
M 0477 115 330
s.cottom@monteathpowys.com

monteathpowys.com.au

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Our Ref: 21/0477	11 February 2022
Project	120-Place Childcare Centre 5 Huntingdale Drive, Thornton
Client	Stevens Holdings Pty Limited
Author	Sally Cottom Planner
Certification	*I hereby certify that this Statement of Environmental Effects has been prepared in accordance with the requirement of the Environmental Planning & Assessment Act 1979 and its associated Regulations. I certify that to the best of my knowledge the information contained within this report is neither false nor misleading.*
Signature	
Reviewer	Rebecca Boresch Senior Planner B U&R P RPIA
Signature	

This report was prepared by Monteath & Powys Pty Ltd.

Document Control					
Revision	**Date**	**Revision Details**	**Author**	**Verifier**	**Approver**
0	11/02/2022	Draft	SC	RB	RB
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ABN 94 000 861 110 13/125 Bull Street Newcastle West NSW 2302 info@monteathpowys.com.au
P (02) 4926 1388 PO Box 2270 Dangar NSW 2309 monteathpowys.com.au

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1. INTRODUCTION

This Statement of Environmental Effects (SOEE) has been prepared on behalf of the applicant Stevens Holdings Pty Limited by Monteath & Powys Pty Ltd. This SOEE is to accompany a Development Application to Maitland City Council to construct a 120-Place Childcare Centre at 5 Huntingdale Drive, Thornton.

The subject site is zoned 'B5 Business Development' with the proposed development for a Centre-based childcare facility being permissible with consent. The proposal is consistent with the relevant strategies for the Local Government Area, objectives of the development standards under the Maitland *Local Environmental Plan 2011* and the development controls under Maitland Development Control Plan 2011.

This application has been prepared on behalf of the applicant Stevens Holdings Pty Limited and addresses the matters referred to in Section 4.15(1) and Section 6 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the matters required to be considered by the consent authority.

The purpose of this SOEE is to:

- Describe the existing environment to which the DA relates and the character of the surrounding area.
- Describe the proposed development.
- Outline the statutory planning framework within which the DA is assessed and determined.
- Assess the proposed development in considering the relevant heads of consideration (Section 4.15(1) of the EP&A Act).

1.1 OWNER AND SITE DETAILS

The Applicant:

Stevens Holdings Pty Limited
C/- Monteath & Powys
PO Box 2270
DANGAR NSW 2309

Contact:

Sally Cottom
Phone: 02 6541 1509

The Owner(s):

The site is legally identified as 5 Huntingdale Drive, Thornton, Lot 812 DP 1032401 and is owned by Stevens Holdings Pty Limited.

1.2 LOCATION AND CONTEXT

The site is situated at 5 Huntingdale Drive, Thornton in the Maitland Local Government Area (MLGA). The site is approximately 3,138 square metres in area (Refer **Figure 1** and **Appendix A**).

Figure 1: *Location of Site (Source: Six Maps)*

The site is vacant and has been used for the purposes of storage, most of the site is cleared of vegetation with existing turf along the frontage of the road reserve. The site has existing access to Huntingdale Drive at the north-western corner of the allotment.

Surrounding development mainly consists of land used for mixed business purposes requiring large floor area. There is an allotment to the north consisting of land zoned for Environmental Management which contains the Thornton Fire Brigade and Aspect Hunter School (Refer **Figure 2**).

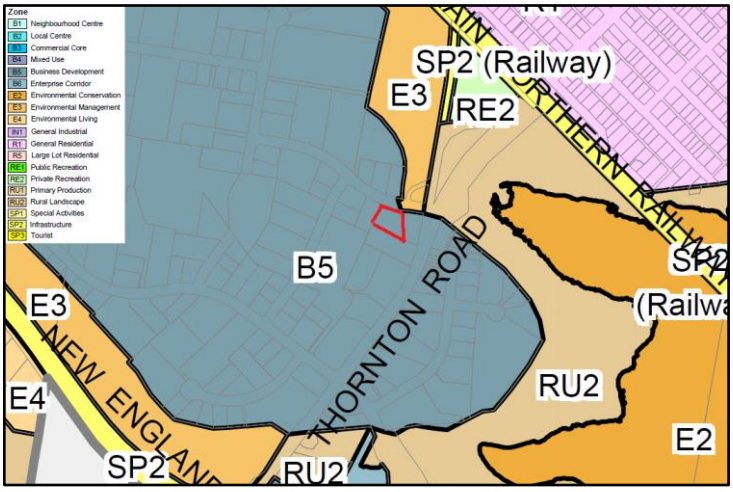


Figure 2: *Land Zoning Map (Source: MLEP2011)*

2. PROPOSED DEVELOPMENT

The development involves the construction and use of a 120-Place Childcare Centre containing:

Three (3) Playrooms for Babies, Aged 1 - 2 Years Old	
Playroom 01:	12 children 39m² in area
Playroom 02:	12 children 39m² in area
Playroom 03:	16 children 52m² in area

Two (2) Playrooms for Toddlers, Aged 3 - 4 Years Old	
Playroom 04:	20 children 65m² in area
Playroom 05:	20 children 65m² in area

Two (2) Playrooms for Pre-school, Aged 4 - 5 Years Old	
Playroom 06:	20 children 66m² in area
Playroom 07:	20 children 66m² in area

External Play Area	
Play Area:	120 children 1,037m² in area

Four (4) Cot Rooms	
Cot Room:	Containing six (6) cots 8m² in area
Cot Room:	Containing six (6) cots 8m² in area
Cot Room:	Containing six (6) cots 8m² in area
Cot Room:	Containing 10 cots 10m² in area

Amenities
Two (2) Separate Babies Toilets / Change Rooms
Two (2) Separate Babies Prep Rooms
One (1) Toddlers Toilet
One (1) Pre-school Toilet

Storage	
Babies Playrooms:	Three (3) Storage Areas and One (1) Bed Store
Toddlers Playrooms:	Seven (7) Storage Areas
Pre-school Playrooms:	Four (4) Storage Areas

Other Internal Rooms	
Foyer:	20m² in area
Office Reception:	11m² in area
Directors Office:	9m² in area
Program Room:	7m² in area
Staff Room:	17m² in area
Kitchen:	18m² in area
Laundry:	7m² in area
Staff WC Accessible Bathroom:	4m² in area
Accessible Shower and Toilet:	7m² in area
Main Dining Room:	30m² in area

External Areas	
External Storage:	36m³ in area
Refuse and Plant Enclosure:	16m² in area
Translucent Covered Rear Area	
30 Car Park Spaces, One (1) Accessible Car Park Space	
Landscaping	

Operational Details:

- ***Hours of operation:*** 7:00am – 6:00pm.
- ***Staff numbers:*** 23 staff.
- ***Proposed hours for staff arriving and leaving:*** Arrival (6.30am) and Depart (6.30pm).
- ***Centre hours for sleep periods:*** Babies (Pen ended all day depending on child's needs and Toddlers – Preschool (11:00am till 2:30pm).
- ***Times of outdoor play:*** Seasonal, can vary from 8:00am till 4:00pm depending on weather conditions / temperature etc. and will be based on a winter program / summer program.

Construction:

The proposed Childcare Centre is approximately 56 metres wide and 16.6 metres in depth with a building height of 5.95 metres and has existing access via a single access driveway 6.5 metres wide to Huntingdale Drive. External finishes of the proposed building consist of timber cladding, painted timber cladding, steel paint finishes, smooth concrete render, colourbond roof sheet, anodized aluminium framed glazing, translucent polycarbonate roof sheeting, painted fibre cement fascia and timber fencing (Refer **Figure 3** and **Appendix B**).

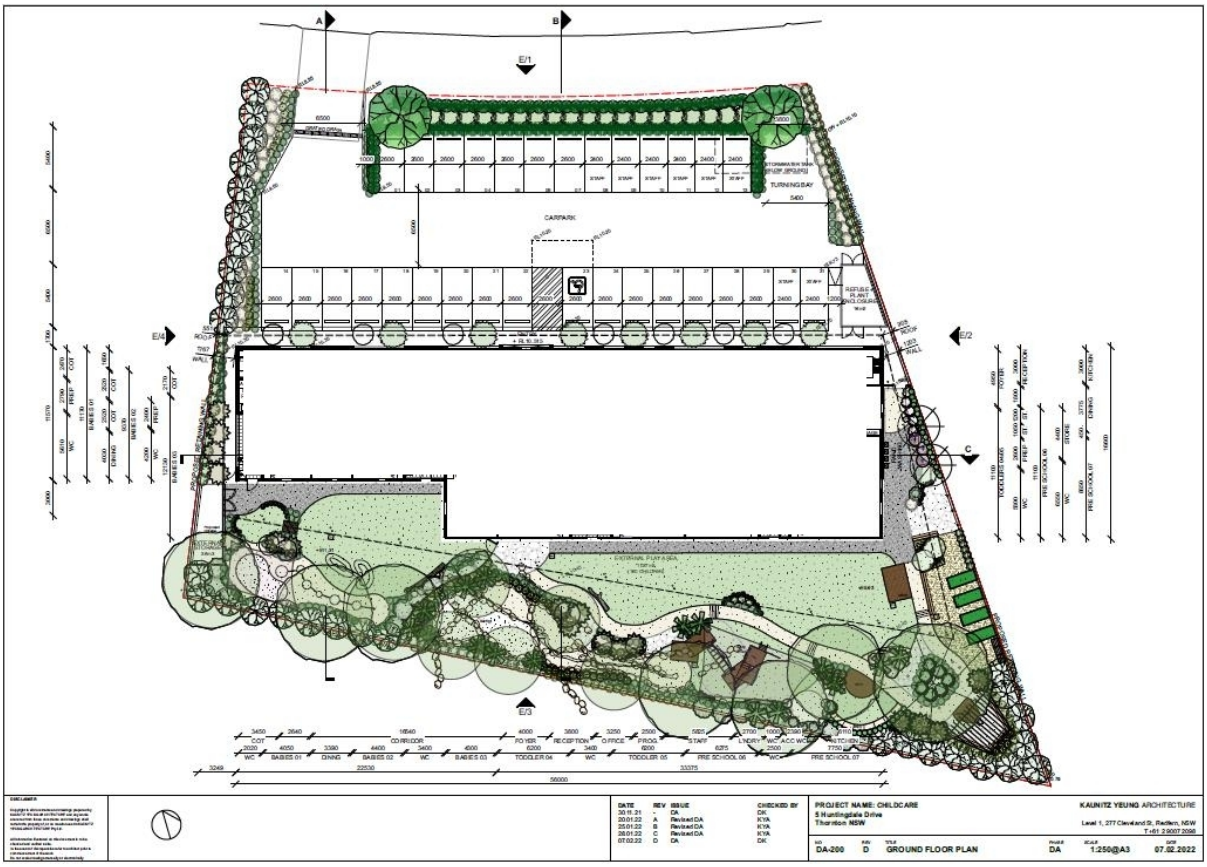


Figure 3: *Plan of Proposed Development (Source: Kaunitz Yeung Architecture)*

3. PLANNING CONSIDERATIONS

This section identifies the statutory planning provisions that apply to the subject site. The proposed development is being determined under the provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act), subject to determination by Council.

3.1 REGIONAL AND LOCAL STRATEGIC PLANNING CONSIDERATIONS

Hunter Regional Plan 2036

The Hunter Regional Plan 2036 sets out four goals:

1. To create the leading regional economy in Australia.
2. To establish a biodiversity rich natural environment.
3. To create thriving communities.
4. To deliver greater housing choice and local employment opportunities.

The proposed development is consistent with these goals in that it will provide a centre-based childcare facility within an existing business development area enabling families to work close by to their children, reduce travel times and vehicle pollution to the environment, will generate local jobs (construction and operational) and assist in the ongoing development of Thornton.

Lower Hunter Regional Strategy 2006-31

The vision of the Lower Hunter Regional Strategy 2006-31 is one that is 'sustainable, affordable, prosperous and liveable' where:

1. There is a sense of community spirit and national identity.
2. Innovation is supported and there are diverse employment opportunities.
3. There is access to quality infrastructure and services, including education and health.
4. Ecological and culturally significant landscapes are valued and protected.
5. The Region's quality lifestyle is protected and strengthened for its residents and visitors.

The proposed development is consistent with the vision for the future of the Lower Hunter in that it will provide a centre-based childcare facility within an existing business development area enabling families to work close by to their children, reduce travel times and vehicle pollution to the environment, will generate local jobs (construction and operational) and assist in the ongoing development of Thornton.

Maitland +10 Community Strategic Plan

The Maitland +10 Community Strategic Plan sets a number of outcomes for the future of Maitland. The plan sets out five key themes to enable the vision for the Maitland Community over the next 10 years:

1. Proud people, great lifestyle.
2. Our built space.
3. Our natural environment.
4. A prosperous and vibrant city.
5. Connected and collaborative community leaders.

The proposed development is consistent with the outcomes and themes of the Maitland +10 Community Strategic Plan in that it will provide accessibility to a centre-based childcare facility within an existing business development area enabling families to work close by to their children, reduce travel times and vehicle pollution to the environment, will generate local jobs (construction and operational) and assist in the ongoing development of Thornton.

3.2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The following details the proposal against the relevant heads of consideration in Section 4.15(1), EP&A Act, as outlined within the relevant headings of this report. Section 4.15 of the *EP&A Act* specifies the matters for consideration required for the evaluation of a development application as outlined below.

(1) Matters for Consideration – General

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) The provisions of:

(i) Any environmental planning instrument, and

(ii) Any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) Any development control plan, and

(iiia) Any planning agreement that has been entered into under Section 7.4, or any draft planning agreement that a developer has offered to enter into under Section 7.4, and

(iv) The regulations (to the extent that they prescribe matters for the purposes of this paragraph),

(v) (Repealed)

that apply to the land to which the development application relates,

(b) The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) The suitability of the site for the development,

(d) Any submissions made in accordance with this Act or the regulations,

(e) The public interest.

These matters have been addressed under the relevant headings below.

3.3 OTHER LEGISLATION

Consideration was afforded to the following legislation:

- *Fisheries Management Act 1994*
- *Threatened Species Conservation Act 1995 and Biodiversity Conservation Act 2016*
- *Heritage Act 1977*
- *Coal Mine Subsidence Compensation Act 2017*
- *Contaminated Land Management Act 1997*

- *National Parks and Wildlife 1974*
- *Protection of the Environment Operations Act 1997*
- *Roads Act 1993*
- *Rural Fires Act 1997*
- *Water Management Act 2000*

On review, it was considered that the proposal is not deemed integrated development under the above legislation. No further investigation is required pertaining to this development.

3.3.1 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(A)(I) – Provisions of any Environmental Planning Instrument that apply to the Land

State Environmental Planning Policies

The relevant State Environmental Planning Policies applicable to the land and the development types have been considered.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017.

SEPP No. 55 – Remediation of Land.

SEPP No. 64 – Advertising and Signage.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

The Aim of the State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 is to facilitate the effective delivery of educational establishments and early education and care facilities across the State.

The proposed development is for a 120-Place Childcare Facility, as such an assessment against SEPP (Educational Establishments and Child Care Facilities) 2017 has been undertaken (Refer **Appendix C**).

State Environmental Planning Policy No. 55 – Remediation of Land

(1) The object of this Policy is to provide for a State-wide planning approach to the remediation of contaminated land to reduce the risk of harm to human health and the environment.

The land is vacant and has been used for the purposes of a storage holding yard. Historical records pertaining to the site confirm that there is potential for land contamination onsite, as such a SEPP 55 Remediation of Land Phase 1 Report has been undertaken by Sanko (Excavation Environmental & Civil Services P/L) to confirm potential land contamination onsite (Refer **Appendix D**).

The Phase 1 Report confirms that contaminants of concern were not encountered above the relevant threshold guidelines in the soil and groundwater sample collected, with the exception of the slight exceedances zinc concentrations of Ecological Screening Limits (with no exceedances of Health Investigation Levels) that do not present a significant risk of harm to human or environmental receptors with remediation and management not required.

On this basis no further action is required under SEPP No. 55 – Remediation of Land.

State Environmental Planning Policy No. 64 – Advertising and Signage

The intention of this policy is to ensure signage is compatible, effective and of a quality that is consistent with the desired amenity and visual character of an area.

The proposed Centre-based Childcare includes signage consisting of two (2) 2 metre x 2 metre wall signs and two (2) 900mm x 2.2 metre doorway signs which are not illuminated (Refer **Appendix B**).

In accordance with SEPP 64, Schedule 1 Assessment Criteria, refer **Appendix E** the proposed development is consistent with the future character of the locality and is consistent with adjoining development.

Local Environmental Plans

Maitland Local Environmental Plan 2011

The Maitland *Local Environmental Plan 2011* applies to the land. The provisions of the plan have been addressed in **Table 1** below.

Table 1: *Maitland Local Environmental Plan 2011*

SECTION	PROVISION	STATEMENT OF COMPLIANCE
Part 1	**Preliminary**	
Part 2	**Permitted or prohibited development**	
2.1	Land use zones	The land is zoned B5 Business Development under this plan. The proposal for a Centre-based childcare facility is permissible with consent.
2.2	Zoning to which Plan applies	Noted.
2.3	Zone objectives and Land Use Tables **B5 Business Development** • To enable a mix of business and warehouse uses, and specialised retail premises that require a large floor area, in locations that are close to, and that support the viability of, centres. • To minimise conflict between land uses within the zone and with adjoining zones.	The proposed development for a Centre-based childcare facility is permissible with consent in this zone.

SECTION	PROVISION	STATEMENT OF COMPLIANCE
Part 3	**Exempt and complying development**	Part 3 does not apply.
Part 4	**Principal development standards**	Part 4 does not apply.
Part 5	**Miscellaneous provisions**	Part 5 does not apply.
Part 6	**Urban release areas**	Part 6 does not apply.
Part 7	**Additional local provisions**	
7.1	Acid Sulfate soils. Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the water table is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.	Mapped as 'Class 5'. In accordance with the Sanko Preliminary Environmental Site Assessment (Refer **Appendix D**) the site is not a known area of Acid Sulfate Soils. There is however an area of High Probability for Acid Sulfate Soils occurrence within 1 metre below the existing surface level comprising alluvial material. Figure 4 of the report shows this location being immediately to the north-east of the site.
7.2	Land Earthworks	The proposed development requires earthworks including cut and fill with a difference of volume of 69m³ over the site. Soil and erosion controls are shown on the Civil Design plan completes by Northrop (refer **Appendix F**).

3.3.2 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(A)(II) – Provisions of any Proposed Instrument that is or has been the Subject of Public Consultation under this Act and that has been Notified by the Consent Authority

Draft State Environmental Plans

There are no draft State Environmental Plans that affect this development.

Draft Local Environmental Plans

There are no draft Local Environmental Plans that affect this development.

3.3.3 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(A)(III) – Provisions of any Development Control Plan that apply to the Land

Development Control Plans

Maitland Development Control Plan 2011

The Maitland Development Control Plan 2011 applies to the land and requires consideration based on the development type. The development controls within the plan have been addressed within **Table 2** below.

Table 2: *Maitland Development Control Plan 2011*

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
A	**Administration**	The purpose of the plan, relationship to legislation, other plans and polices have been noted. The plan applies to the land and relevant controls have been addressed within this table.
B	**Environmental Guidelines**	
B.1	***Introduction***	Noted.
B.2	***Domestic Stormwater***	Part B.2 does not apply to the proposed development.
B.3	***Hunter River Floodplain***	Part B.3 does not apply to the proposed development.
B.4	**On-site Sewerage Management Systems**	Part B.4 does not apply to the proposed development.
B.5	**Tree Management**	Part B.5 does not apply to the proposed development.
B.6	**Waste Not – Site Waste Minimisation & Management**	
6.1	*Introduction*	Noted.
6.2	Submission/Application Requirements	Consistent.
6.2.1	*Documentation to be submitted*	
a)	Site Waste Minimisation and Management Plans (SWMMP)	Site Waste Management and Minimisation Plan (SWMMP) (refer **Appendix F**).
b)	Submission of a SWMMP	Consistent.
6.2.2	*Implementing the SWMMP*	Noted.
6.2.3	*Waste/Recycling Generation Rates*	Noted.
6.3	Site Preparation Phase	Part 6.3 does not apply to the proposed development.
6.4	Construction Phase	
6.4.1	*Construction of Buildings or Structures*	Consistent.
a)	Specific Controls	Consistent.
b)	Submission Requirements	Site Waste Management and Minimisation Plan (SWMMP) (refer **Appendix G**).
6.5	Operational Phase	
6.5.2	*Commercial Developments and Change of Use*	Site Waste Management and Minimisation Plan (SWMMP) (refer **Appendix G**).
B.7	**Riparian Land and Waterways**	Part B.7 does not apply to the proposed development.
Part C	**Design Guidelines**	
C.1	**Accessible Living**	Part C.1 does not apply.
C2	**Child Care Centres**	

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
1	Introduction	Noted.
2	Development	
2.1	*Location*	Consistent with the objectives.
	Development Controls	
(e)	*To ensure that child care centres provide a safe and healthy environment for staff and children, Council will not consider any application that proposes the location of a child care centre:*	Consistent.
(i)	*Within 200m of a service station unless the application is supported by a preliminary hazard analysis (PHA) under State Environmental Planning Policy 33 and a risk assessment (biophysical and societal) taking into account the sensitivity of the use.*	Consistent. The proposed development is not within 200 metres of a service station.
(ii)	*Within 125m of a classified road (as defined in the MLEP 2011) without the submission of a report detailing the results of air quality and noise level testing.*	Consistent. The proposed development is not located within 125 metres of a classified road.
(iii)	*Within 100m of heavy industry (as defined in the MLEP 2011) without the submission of a report detailing the results of air quality and noise level testing.*	Consistent. The proposed development is not located within 100 metres of heavy industry.
(iv)	*Within 100m of rural industries, swamps or creeks.*	Consistent. The proposed development is not located within 100 metres of a rural industry, swamp, or creek.
(v)	Within 100m or in view of a sex services premises or restricted premises.	Consistent. The proposed development is approximately 350 metres north-west of restricted premises Nauti and Nice located at 8 Hartley Drive, Thornton. The proposed development is not in view of this restricted premises.
(vi)	Within an aircraft noise exposure level area from the aerodrome that is 20ANEF or greater.	Consistent. The proposed development is not located near airspace operations.
(vii)	Within 100m of above ground high voltage transmission lines, unless the application is supported by a hazard risk assessment which addresses the potential impacts on human health.	Consistent. The proposed development is not located within 100 metres of above ground high voltage transmission lines.

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
2.2	*Parking and Accessibility*	Consistent. The proposed development includes 31 car park spaces, which includes 1 accessible space. Child Care Centre parking requirements in NSW Road & Traffic Authority's, Guide to Traffic Generating Developments current at the time (currently at the rate of one space for every four children in attendance. Access and facilities for the disabled are to be provided in accordance with the Australian Standard AS 1428 Part 1 and Chapter C.1: Accessible Living in this DCP.
	Development Controls	
(h)	A child care centre will not be supported in any area which has significant impact on amenity within a neighbourhood area. A Statement of Environmental Effects must consider the impacts of the child care establishment on the local community. (Refer to Appendix 4.0 for details)	Consistent. The proposed centre-based childcare facility will have a minimal impact as it is not located within a neighbourhood area. The land is zoned B5 Business Development and is surrounded by business development.
(i)	Proposed child care centres located within a 500m radius of an existing child care establishment must include an assessment of the cumulative impact, including the requirement of a traffic study.	Consistent. The proposed development is approximately 450 metres north-west of the Thornton Early Learning Centre, located at 14 Hartley Drive, Thornton. The proposed development is unlikely to have a negative cumulative impact on the Thornton Early Learning Centre. The Traffic and Parking Assessment undertaken by Intersect Traffic the proposed development confirms the development will not have an adverse impact on the local road network.
(j)	Minimum onsite parking shall be provided in accordance with Child Care Centre parking requirements in NSW Road & Traffic Authority's, Guide to Traffic Generating Developments current at the time (currently at the rate of one space for every four children in attendance. Note that the minimum parking requirements in the RTA guide is inclusive of client and staff parking.	Consistent. The proposed development includes 31 car park spaces, which includes 1 accessible space. Child Care Centre parking requirements in NSW Road & Traffic Authority's, Guide to Traffic Generating Developments current at the time (currently at the rate of one space for every four children in attendance. Access and facilities for the disabled are to be provided in accordance with the Australian Standard AS 1428 Part 1 and Chapter C.1: Accessible Living in this DCP.

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
(k)	Where requested by Council, a traffic and car park study should be provided demonstrating that the level of traffic generation by the child care centre is within the technical and environmental capacity of the existing road system. The traffic study should take into account major traffic generating developments (including other child care centres) within the affected area.	Consistent. In accordance with the Traffic and Parking Assessment undertaken by Intersect Traffic (refer **Appendix H)** the proposed development will not have an adverse impact on the local road network.
(l)	Access and facilities for the disabled are to be provided in accordance with the Australian Standard AS 1428 Part 1 and Chapter C.1: Accessible Living in this DCP.	Consistent. The proposed development is deemed to comply with this section.
(m)	One of the allotted vehicle parking spaces shall be provided for disabled parking / service vehicles close to the main entrance of the child care centre.	Consistent. The proposed development includes one (1) accessible car park located at the frontage access to the foyer of the building.
(n)	Design of the car park surface and borders should incorporate adequate facility for people with prams or mobility aids.	Consistent. The proposed development provides adequate access for people with prams and mobility aids.
(o)	Parking area dimensions and parking layout shall comply with Australian standard 2890.1 – 2004 User Class 3 (being 2.6 metres wide). A minimum aisle width of 6.5m shall be provided.	Consistent. The proposed development is consistent with the standard.
(p)	Where 90 degree on-site parking is provided adjacent to the building, pathway access between the car spaces and the building entry point. In such cases vehicle wheel stops must be provided.	Consistent. All parking spaces are 90° and satisfy the requirements of this control.
(q)	Carparks should be provided with separate entrance and exit driveways (adequately signposted) and separated by a distance that ensures safe, reasonable operation of the car park.	Can Comply. The proposed development continues the use of the existing driveway approximately 6.5 metres wide to allow for access to and from the site and sufficient space within the carpark for manoeuvrability.
(r)	A footpath must be provided not less than one (1) metre wide across the frontage of the child care establishment building and extend the full length of the car park where the footpath connects directly to the car park.	Consistent. The Traffic and Parking Assessment (refer **Appendix H**) outlines that the proposal includes safe access for pedestrians via a footpath that extends the length of the carpark along the front of the car parking and pedestrian access through the parking spaces is available via the shared area for the accessible car parking.

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
(s)	Pedestrian access between public street frontage to the child care centre site and the building should be segregated from vehicle movement areas.	The Traffic and Parking Assessment (refer **Appendix H**) outlines that there is no pedestrian access from the street. This is not considered to be required as the grade difference between the street frontage and the car park is significant (2 to 3 metres) therefore pedestrian access from the street frontage would only be able to be provided via stairs. Therefore, the dropping off of children from the street frontage will not be popular and with a 1 space excess within the car park there will be very little if any pedestrian access from the kerb to the childcare centre. As such whilst the pedestrian access could be conditioned on any consent issued it would not be necessary.
(t)	A minimum of two (2) parallel car parking spaces should be provided adjacent to the child care centres building entrance to enhance convenience and safety for parents and children.	The Traffic and Parking Assessment (refer **Appendix H**) outlines that the provision of a parallel 2 space drop off area near the entrance. It is argued however that the design of the car park is just as convenient for parents as providing a dedicated set down bay.
(u)	Parking areas shall not be located within the building line setback unless the depth of landscaping between the street boundary and the car park is a minimum of 3.0m and the landscaping effectively screens the parking areas from the street. It must be demonstrated that car parking areas will not negatively impact on the streetscape and will not compromise the domestic scale and character of residential areas.	Consistent. The proposed parking areas are setback behind proposed landscaping which will screen the parking areas from the street.
(v)	Design of site elements and access ways between site elements are to cater for the needs of all users, particularly those with disabilities.	Consistent. The proposed development has been designed to cater for the needs of all users.
2.3	*Acoustic Privacy*	To be shown on the plans.
	Development Controls	
(d)	Where Council is of the opinion that noise has the potential to adversely affect the amenity of neighbouring premises, it may direct the applicant to submit with the Development Application a report prepared by an accredited acoustic consultant demonstrating that the LAeq(15 minute) noise level emitted from the site (including playground activity noise and indoor activity noise) does not exceed the Rating Background Level by more than 5dBA at the proposed site and predicted noise traffic levels are below the level set by the EPA in its Environmental Criteria for Road Traffic Noise.	Consistent. Consideration has been made as part of the design process.

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
(e)	Where necessary, selected noise treatments such as acoustic cladding, windows and flooring or the provision of acoustic fencing or landscaping to shield nearby premises from the noise should not impact adversely upon the amenity of surrounding properties or the streetscape and character of the locality.	Consistent. The proposed development includes the installation of timber fencing along the south, east and west boundaries and landscaping around all boundaries of the subject site to reduce noise impacts on adjoining development.
(f)	Where feasible, appropriate noise mitigation treatments shall be implemented to minimise noise being generated by arrivals and departures, including traffic noise. These treatments could include the careful positioning of arrival and departure access points away from residential property boundaries, the appropriate placement of buildings constructed on site to shield the noise or the provision of acoustic fencing or landscaping.	Not applicable. The proposed development is not identified within a residential area.
(g)	Outdoor playgrounds for the child care centre should not be located adjacent to the living/bedroom areas of adjoining residents and consideration should be given to noise minimisation related to hard- paved areas and pathways within the children's play area. All external pedestrian gates shall be fitted with appropriate door closers to provide a slow and regulated closing of the gate to prevent the generation of impact sound.	Not applicable. The proposed development is within a Business Development zone.
(h)	For proposals that are located on or within close proximity to a main or arterial road, and/or railway line, a noise assessment must be submitted with the development application which demonstrates that the LAeq(1 hour) ambient noise level at any location within the boundary of the centre during the hours when the centre is operating shall not exceed the "Recommended Maximum" noise level indicated for "school playground" in the table "Amenity criteria" nominated in the EPA's NSW Industrial Noise Policy".	Consistent. The proposed development is approx. 440 metres south-west from the Main Northern Railway line. It is unlikely that the noise generated from the railway line will have an adverse impact on the proposal. In accordance with the plans, mitigation measures such as timber fencing, landscaping, and the placement of rooms within the proposed building demonstrate that the railway line is unlikely to have an adverse impact on the proposed development.
2.4	*Site Layout, Building Form and Appearance*	
	Development Controls	

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
(c)	In established residential areas, development proposals for new buildings must have due regard to aspects such as scale, height, bulk, form, density and appearance to ensure that development is appropriate to its surroundings and will maintain and enhance the streetscape character and the general amenities of the locality.	Not applicable. The proposed development is not within a residential area.
(d)	A development application will need to demonstrate that the site layout would not adversely affect adjoining or opposite properties by way of noise, light, smell, or general activities.	Consistent. The proposed development is unlikely to have an adverse impact on noise, light, smell, or general activities. The installation of timber fencing and landscaping will reduce noise impacts on adjoining development.
(e)	A detailed site analysis plan must be provided with any development application showing the location and proximity of adjoining areas of private open space and habitable room windows to any residential properties.	Not applicable. The proposed development is not located in a residential area.
(f)	The front setback of a child care centre in a new residential area should be 6m. In all other areas or in older residential areas the front set back should be the average of the existing setbacks of the two properties on either side of the site.	Not applicable. The proposed development is not located in a residential area.
(g)	The design and layout of the child care centre must respond to the character of the existing neighbourhood and streetscape. Existing residential character of the locality must be maintained through the use of appropriate finishes material, landscaping, fencing and plantings.	Consistent. The proposed childcare centre will complement the existing business development area and is compatible with the existing streetscape. The proposed development is not located in a residential area.
(h)	The child care centre must have a domestic scale and character from public view in all residential zones.	Not applicable. The proposed development is not located in a residential zone.
(i)	The design of buildings should relate to the slope of the land to minimise earthworks and disturbance to the land.	Consistent. Earthworks are required to level the site for the construction works, a difference of 69m³ in volume over the site which consist of a cut of 717m³ and fill of 648m³ (Refer **Appendix F**). Soil that is not used to fill the site will be retained onsite for future landscaping.

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
2.5	*Landscaping and Planting*	Consistent.
	Development Controls	
(e)	Development Applications for child care centres must include a detailed landscaping and planting scheme showing existing and proposed planting (including a schedule of species). Appropriate landscaping / planting is to be used to provide screening and privacy to dwellings and private open space areas on adjoining sites; to soften car parking areas and to enhance the visual amenity of the development in the streetscape.	Consistent. Detailed landscape and planting scheme showing existing and proposed planting (including schedule of species) (refer **Appendix B**).
(f)	Existing vegetation and other natural features, particularly mature trees shall be preserved on the site wherever possible.	No vegetation located on site.
(g)	Appropriate use of planting along the street frontage is encouraged to complement the neighbourhood streetscape.	Consistent. Detailed landscape and planting scheme showing existing and proposed planting (including schedule of species) (refer **Appendix B**).
3	Definitions	
	Appendix 1	Noted.
	Appendix 2 Common Design Errors Made in Relation to Proposed Child Care Centres.	Consistent. The proposed development ensures these common errors have been avoided as part of the design process.
	Appendix 3 Community Needs Assessment for Proposed Child Care Centre.	The locality of Thornton currently contains five (5) Childcare Centres located between 450 metres and 3kms from the subject site. Goodstart Early Learning, Thornton Childcare and Preschool Centre, Little Zac's Academy and Community Kids Thornton Early are all located on the northern side of Thornton with Thornton Early Learning Centre being the only childcare centre located south of Thornton Railway. There are a range of business, industry and other employment opportunities within the community, which attract workers to the area such as Agriculture, Mining, Manufacturing, Construction, Wholesale, Retail, Accommodation and Food, Transport, postal and warehousing, Financial and insurance services, rental, hiring and real estate services, Professional, Scientific and technical services, Administrative, Public Administration and Safety, Education and training, Health Care and Social Assistance, Arts and recreation services, and the area is still within a growth phase.

PART	DEVELOPMENT CONTROL	STATEMENT OF COMPLIANCE
		The Australian Bureau of Statistics during the period of 2015-2020 indicated there was an increase of an additional 218 persons aged 0-4 years old with an increase of an additional 38 more children enrolled in a preschool or preschool program during the same period. The workforce status of parents in the Thornton locality is 80.3%. The demand for additional childcare centre south of the rail line is consistent with the growth and demand within the locality.
1	**Appendix 4** Checklist for Proposed Child Care Centre Development Applications.	Consistent. Online Lodgement of Application includes all required plans/reports.
	Appendix 5 **PROPOSED CHILD CARE CENTRE SITE ANALYSIS PLAN REQUIREMENTS**	Refer **Appendix B**.
C3	**Exhibition Homes & Villages**	Part C.3 does not apply.
C4	**Heritage Conservation**	Part C.4 does not apply.
Part D	**Locality Plans**	Part D does not apply.
Part E	**Special Precincts**	Part E does not apply.
Part F	**Urban Release Areas**	Part F does not apply.

3.3.4 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(A)(IIIA) – Provisions of any Planning Agreement that has been entered into under Section 7.4, or any Draft Planning Agreement that a Developer has offered to enter into under Section 7.4

3.3.5 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(A)(IV) – Provisions of the Regulations that apply to the Land

There are no sections of Regulation applicable to the land at the time of this report.

3.3.6 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(B) – The Likely Impact of the Development including *Environmental Impacts on both the Natural and Built Environments, and Social and Economic Impacts in the Locality*

Context and Setting:

The site is vacant and has been used for the purposes of storage, most of the site is cleared of vegetation with existing turf along the frontage of the road reserve. The site has existing access to Huntingdale Drive at the north-western corner of the allotment.

Surrounding development mainly consists of land used for the purposes of Business Development with an allotment to the north consisting of land zoned for Environmental Management which contains the Thornton Fire Brigade and Aspect Hunter School (Refer **Figure 2**).

Soils and Geology:

Review of the eSPADE soils landscape identifies the development within the *Beresfield soils* landscape.

The qualities of the Beresfield soil landscape are detailed below:

Landscape - Undulating low hills and rises on Permian sediments in the East Maitland Hills region. Slope gradients 3–15%, local relief to 50 metres, elevation is 20 – 50 metres. Partially cleared tall open-forest.

Soils - Consists of moderately deep (<120cm), moderately well to imperfectly drained Yellow Podzolic Soils (Dy2.21), Brown Podzolic Soils (Db1.21) and brown Soloths (Db2.41) occur on crests with moderately deep (<120cm), well-drained Red Podzolic Soils (Dr2.21) and Red Soloths (Dr2.41) on upper slopes, moderately well to imperfectly drained Brown Soloths (Db2.41, Db1.41) and Yellow Soloths (Dy3.41) on side slopes and deep (>200cm), imperfectly to poorly drained Yellow Podzolic Soils (Dy2.21), yellow Soloths (Dy2.41, Dy3.41) and Gleyed Podzolic Soils (Dg2.41) on lower slopes.

Qualities and Limitations - High foundation hazard, water erosion hazard, Mine Subsidence District, seasonal waterlogging and high run-on on localised lower slopes, highly acid soils of low fertility.

In accordance with the Preliminary Contamination Assessment undertaken by Sanko (refer **Appendix D**), no further action is required to undertake remediation works.

Earthworks:

Minimal Impact – Earthworks consist of a cut of 717m³ and a fill of 648m³ resulting in a difference of 69m³ overall, to level the site for the construction works. Soil and erosion controls relating to the construction of the proposed development are shown on the plans at **Appendix F**.

Hydrology, Flooding and Water Quality:

Minimal Impact – The proposed development is not identified as being affected by flooding.

Flora and Fauna:

Minimal Impact - The proposed development site is not identified within 500 metres of land that contain items of environmental significance, wetlands, or riparian corridors.

The proposed development does not include the removal of any vegetation except minor topsoil removal as part of the proposed development, it would be considered that a flora and fauna survey is not required for this proposal due to the highly developed land.

As the proposed development will not significantly impact on flora and fauna on the site, contains minimal vegetation which is well maintained and will not affect the flora or fauna surrounding the site, no further action is required.

Bushfire:

Minimal Impact – The proposed development is not identified as bushfire prone land.

Aboriginal and Cultural Heritage:

Minimal Impact - A search of the Aboriginal Heritage Information Management Services was undertaken on 3 September 2021 and did not identify any Aboriginal sites or places on or within a 50 metre buffer of the proposed development site, no further action is required.

Noise and Vibration:

Minimal Impact - During construction, appropriate environmental safeguards shall be implemented where necessary (e.g., screening for dust or noise attenuation measures).

Works will be undertaken on weekdays between 7:00am and 7:00pm and Saturday between 7:00am and 5:00pm. No works will be undertaken on Sundays and public holidays.

The construction will involve earthworks and subsequent heavy plant and vehicles entering the site. Barriers will be erected around the construction area, if necessary, to minimise risk to the public and safe access during construction for visitors and contractors.

All construction waste generated by the works will be managed in accordance with a waste management plan and will be either disposed of at a registered waste management facility or recycled for other purposes.

Design measures to ensure that noise from surrounding development including the Main Northern Railway have been incorporated into the development design which include the construction of timber fencing, the installation of landscaping and the appropriate placement of internal rooms to ensure that periods of sleep time are not adversely affected by surrounding noise.

Air Quality / Climate / Energy:

Minimal Impact - No further action is required.

Traffic and Transportation:

Minimal Impact - The proposed development for a Centre-based Childcare Facility is a Traffic generating development, with high peak times during pick up and drop off of children. In accordance with the DCP, a Traffic and Parking Assessment was undertaken by Intersect Traffic, refer **Appendix H**. The report confirmed that the proposed development will not generate a significant volume of traffic that would have an adverse impact on the local road network and complies with all relevant Maitland City Council, Australian Standard and NSW Roads and Maritime Services (RMS) requirements.

Visual Characteristics:

Minimal Impact – The proposed Centre-based Childcare Centre will use materials and colours schemes which will complement the existing Business Development Area.

Social:

Minimal Impact - The proposed development will have a positive social impact on the locality of Thornton and surrounding localities, providing a Centre-based Childcare close to businesses allowing for lesser travel times for families and provide care for children close to their parents' workplaces.

Economic:

Minimal Impact - The proposed development will have a positive economic impact by enabling job opportunities for people within the locality and providing services that facilitate the existing business development area.

Waste Management:

Minimal Impact - The proposed development will create waste during the construction stage of the development. Construction waste generated by the works will be managed in accordance with the waste management plan (Refer **Appendix G**) and will be either disposed of at a registered waste management facility or recycled for other purposes.

The proposed development includes locations for the storage of waste and recycling receptacles for the ongoing waste management of the Centre-based Childcare Facility.

Cumulative Environmental Impacts:

Minimal Impact – The development is unlikely to result in cumulative impacts as indicated by the above assessment.

Environmentally Sustainable Development:

Minimal Impact – The proposed development includes the installation of solar panels to reduce the need for conventional electricity use (refer **Appendix B**). Stormwater is proposed to be drained to existing kerb inlet on Huntingdale Drive (refer **Appendix L**).

Climate Change:

Minimal Impact – The development is a low risk in that it is not flood affected, is not located within a coastal or riparian catchment, and does not form part of a climate change adaption plan. No further action is required.

3.3.7 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(C) – The Suitability of the Site for the Development

The proposal is in keeping with the existing and future character of the subject land, it is in alignment with the objectives of the relevant strategies, is deemed to satisfy the relevant development controls and standards as well as being consistent with the objectives of the B5 Business Development zone. On this basis it is considered that the site is suitable for the proposed development.

3.3.8 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(D) – Any Submissions made in accordance with this Act or the Regulations

The application will be notified in accordance with the DCP at Council's discretion. Additional information required to address any submissions received will be provided to enable the assessment of the application.

3.3.9 Environmental Planning and Assessment Act 1979 Clause:

4.15(1)(E) – The Public Interest

The public interest is best served through the orderly use of the land for purposes which it is zoned and in accordance with the relevant planning controls and policies. The proposed development is consistent with the relevant strategies, is permissible with consent and complies substantially with the relevant policies and controls governing the land.

4. CONCLUSION

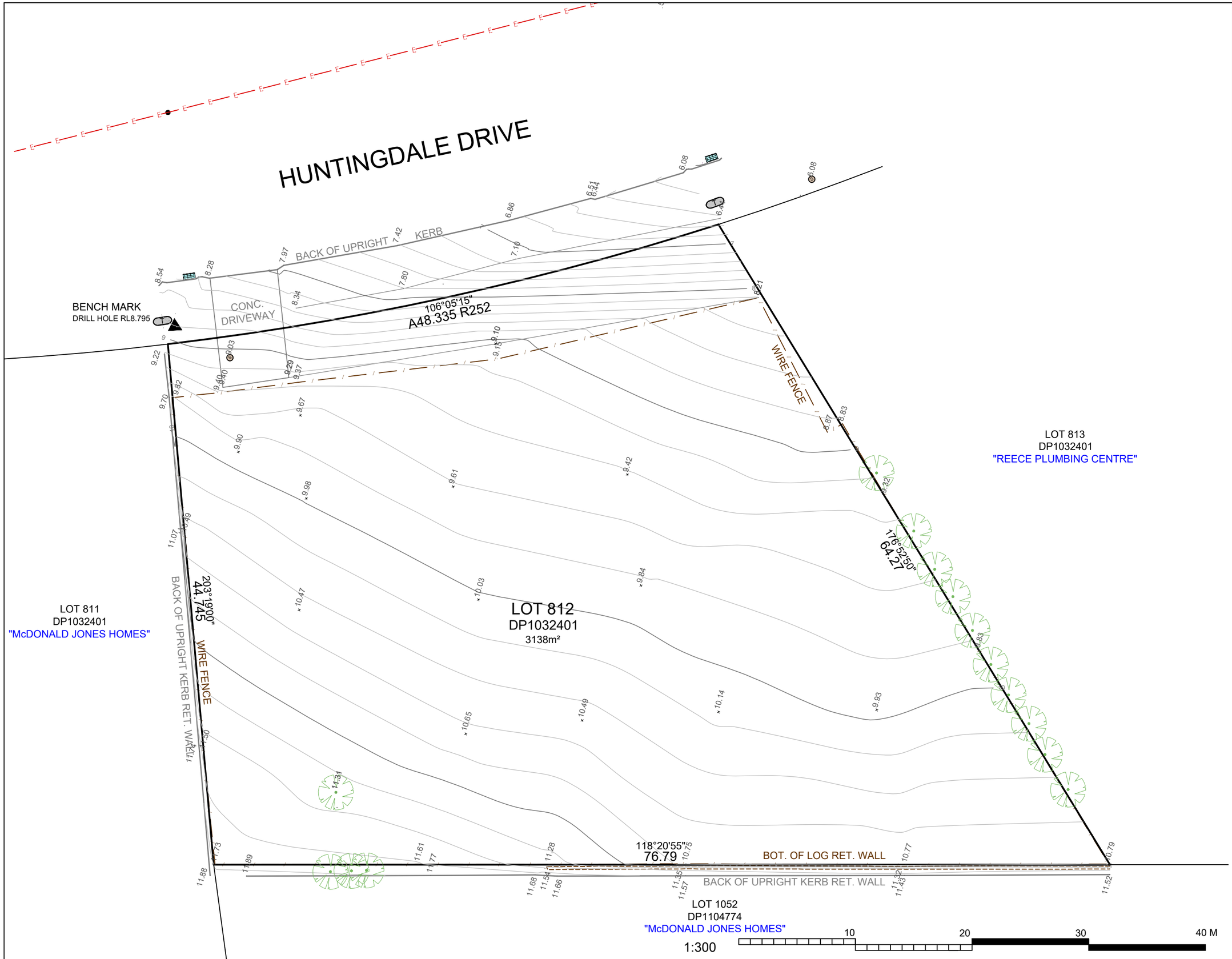
This report has been prepared to accompany a Development Application to Maitland City Council to construct a 120-Place Childcare Centre at 5 Huntingdale Drive, Thornton.

The proposal is consistent with the Regional and Local Strategies, the objectives of the B5 Business Development zone and is permissible with development consent. The proposal overall complies with the development standards development controls within the Local Environmental Plan and Development Control Plan that apply to the land.

The proposal has addressed the matters referred to in Section 4.15(1) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the matters required to be considered by the consent authority.

Overall, it is considered that the proposal will not have any significant environmental impact resulting from the construction of the Centre-based Child Care Facility, it is permissible with consent and will not jeopardise the public interest. As such, there is no reason as to why the approval of the Centre-based Child Care Facility should not be supported.

APPENDIX A: Site Plan



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LEGEND

×12.34	SURFACE LEVEL	S	SEWER MANHOLE
▲	BENCH MARK	S	SEWER INSPECTION POINT
FL 9.87	SURFACE FLOOR LEVEL	S	SEWER AIR VENT
●	ELECTRICITY POLE	S	SEWER PUMP WELL
L	LIGHT POLE	H	WATER HYDRANT
EP	ELECTRICITY PILLAR	SV	STOP VALVE
T	TELECOMMUNICATIONS PIT		WATER METER
T	TELECOMMUNICATIONS POST		LINTEL STORMWATER PIT
T	TELECOMMUNICATIONS PIT (MAJOR)		STORMWATER PIT
G	GAS	×12.34 INVERT	PIT INVERT R.L.
SIGN	SIGN		WINDOW

LINETYPE LEGEND:

BOUNDARY LINE
OVERHEAD ELECTRICITY
UNDERGROUND ELECTRICITY
TELEPHONE CABLE
SEWER PIPE
WATER PIPE
GAS PIPE
STORMWATER PIPE
TOP OF BANK
OPEN DRAIN/TABLEDRAIN

GENERAL NOTE:

1. TOPOGRAPHICAL & FEATURE DETAILS HAVE BEEN LOCATED BY APPROXIMATE SURVEY METHODS ONLY AND ARE SHOWN AS SUCH FOR CLARITY.
2. THE TITLE BOUNDARIES AS SHOWN HEREON HAVE NOT BEEN MARKED BUT HAVE BEEN DETERMINED BY CALCULATIONS AND PLAN DIMENSIONS.
3. IF FURTHER DEVELOPMENT IS CONTEMPLATED ON OR NEAR THE BOUNDARIES, THEN BOUNDARY DIMENSIONS SHOULD BE FULLY INVESTIGATED BY SURVEY & MARKS PLACED.
4. TREE SYMBOL SIZES SHOWN ARE INDICATIVE ONLY & SHOULD NOT BE SCALED. ANY ADDITIONAL TREE MEASUREMENTS SHOWN ARE APPROXIMATE. TYPES ARE INDICATIVE ONLY AND HAVE NOT BEEN IDENTIFIED BY A QUALIFIED BOTANIST.
5.

SERVICES CAUTION

6. SERVICES INDICATED HEREON HAVE BEEN LOCATED BY APPROXIMATE SURVEY METHODS ONLY & ARE SHOWN AS SUCH FOR CLARITY
7. UNDERGROUND SERVICES HAVE NOT BEEN LOCATED BY SURVEY. IF INDICATED ON THE PLAN, THEIR POSITION IS APPROXIMATE ONLY.
8. VERIFICATION OF THE SERVICE LOCATION SHOULD BE SOUGHT WITH THE RELEVANT AUTHORITY.
9. GENERAL CAUTION IS HEREBY GIVEN TO ANY PERSON EXCAVATING ON SITE. SERVICE ENQUIRIES TO DIAL BEFORE YOU DIG SHOULD BE UNDERTAKEN PRIOR TO SUCH EXCAVATION. NO LIABILITY TO DISRUPTION OR INTERFERENCE WITH ANY EXISTING SERVICES DUE TO THE ACTION OF OTHERS EXIST THROUGH THE MAKING OF THIS TOPOGRAPHICAL SURVEY.
10. CONTACT DIAL BEFORE YOU DIG.

SURVEY DATE	DATUM	SCALE
15/1/2020	AHD +/- 0.05	1:300 @ A3
REVISION DATE	DRAWN/CHKD BY	CONTOURS
-	SG / BH	0.2 m

FILENAME: C:\Users\KAIDEN~1\AppData\Local\Temp\7zO435D7051\TS1.dwg

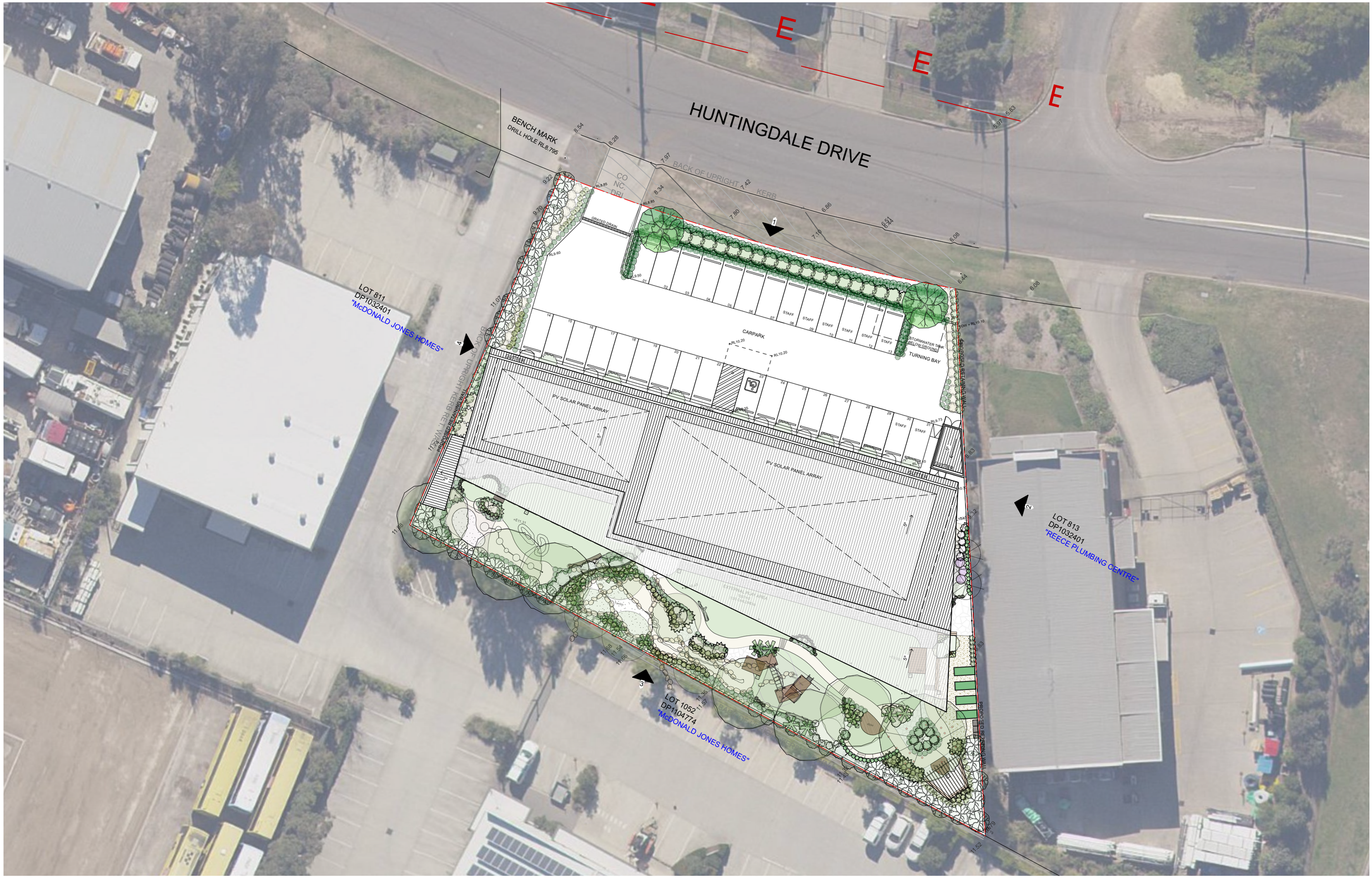
AMENDMENTS:

2020005 TS1

CLIENT:	WILLIAMS RIVER STEEL	SITE ADDRESS:	No.5 HUNTINGDALE DRIVE, THORNTON	THIS DRAWING:	TOPOGRAPHICAL SURVEY

Monteath & Powys

APPENDIX B: Architectural Drawings



DISCLAIMER

DATE	REV	ISSUE	CHECKED BY
07.02.22	A	DA	DK

PROJECT NAME: CHILDCARE
5 Huntingdale Drive
Thornton NSW

KAUNITZ YEUNG ARCHITECTURE
Level 1, 277 Cleveland St, Redfern, NSW
T +61 2 9007 2098

NO	REV	TITLE	PHASE	SCALE	DATE
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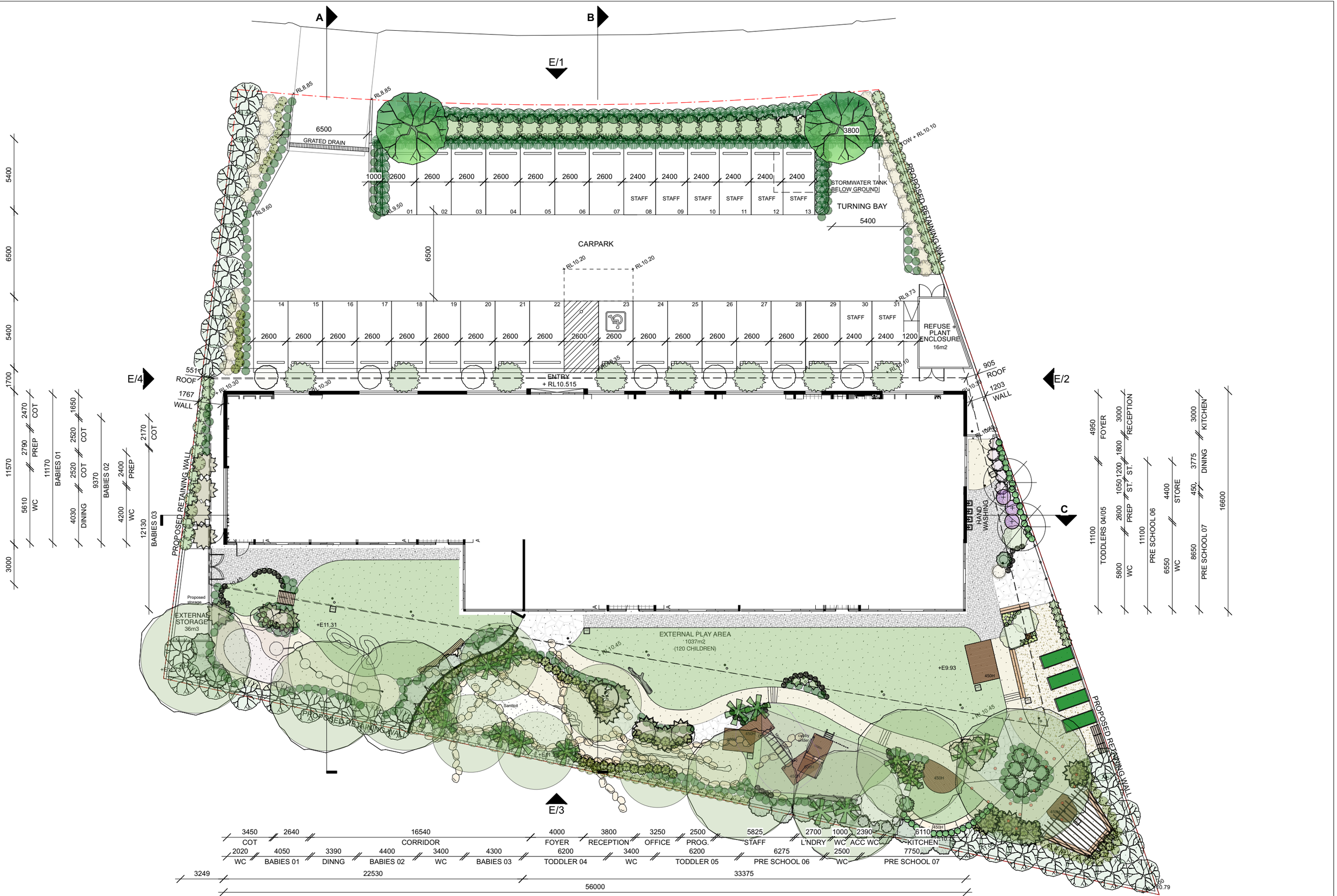

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30.11.21	-	DA	DK
20.01.22	A	Revised DA	KYA
25.01.22	B	Revised DA	KYA
28.01.22	C	Revised DA	KYA
07.02.22	D	DA	DK

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NO	REV	TITLE	PHASE	SCALE	DATE
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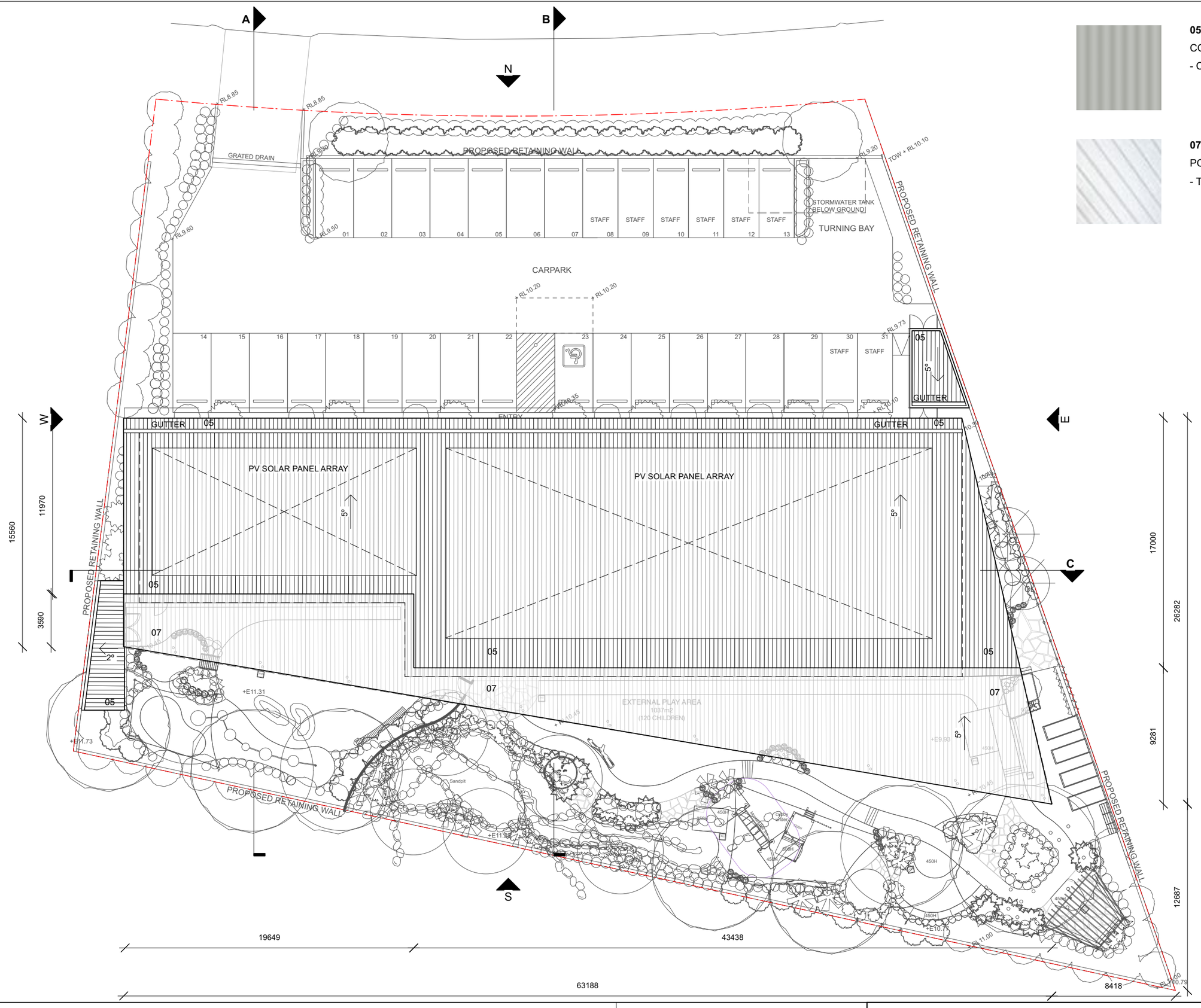

05
COLORBOND ROOF SHEET
- COSMIC

07
POLYCARBONATE ROOF SHEET
- TRANSLUCENT

DATE	REV	ISSUE	CHECKED BY
30.11.21	-	DA	DK
20.01.22	A	Revised DA	KYA
25.01.22	B	Revised DA	KYA
07.02.22	C	DA	DK

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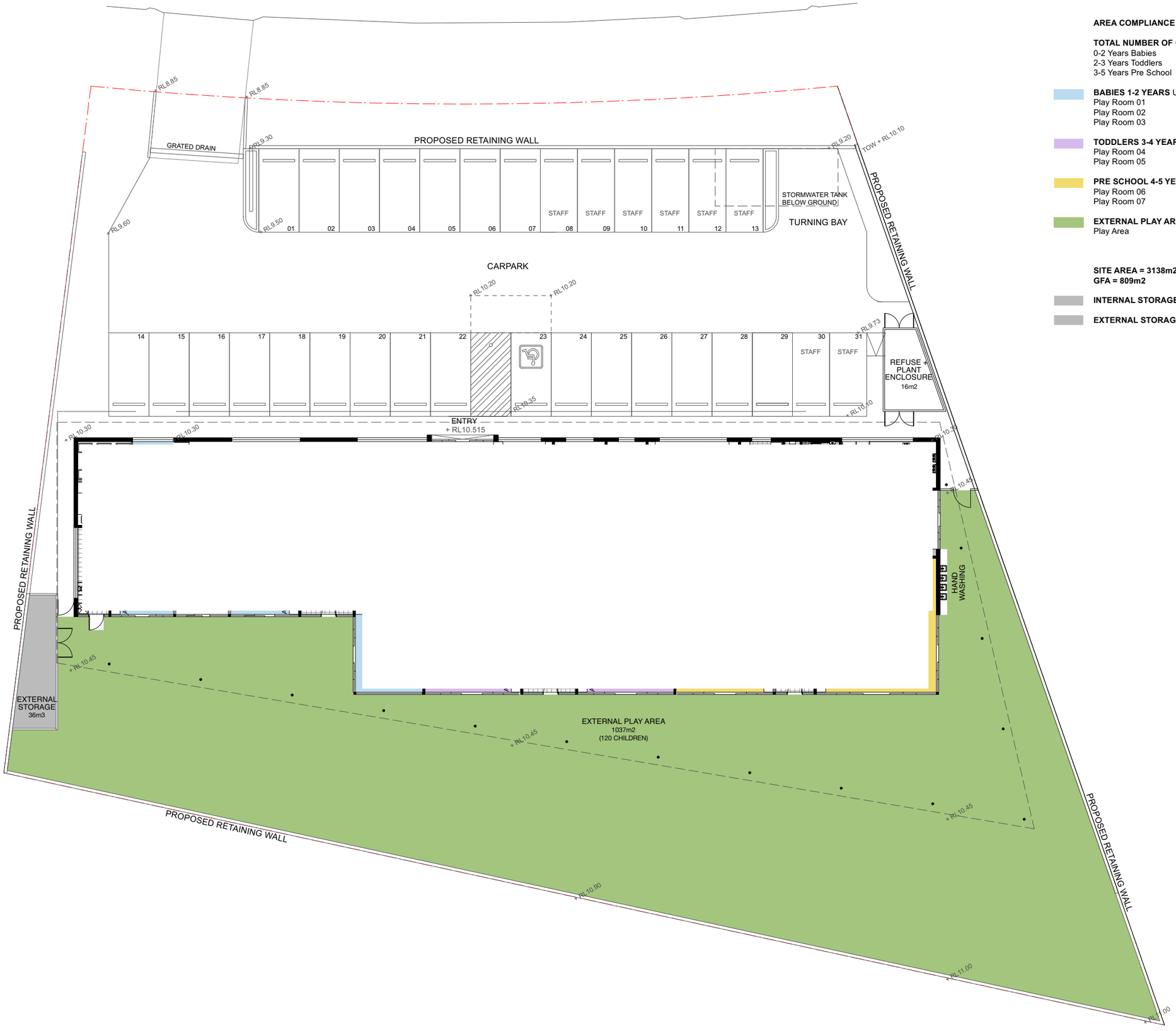

AREA COMPLIANCE SUMMARY

TOTAL NUMBER OF CHILDREN			**120**
0-2 Years Babies			40
2-3 Years Toddlers			40
3-5 Years Pre School			40
BABIES 1-2 YEARS Unencumbered Area			
Play Room 01	- 12 Children	40m2	(39m2 Req.)
Play Room 02	- 12 Children	39m2	(39m2 Req.)
Play Room 03	- 16 Children	52m2	(52m2 Req.)
TODDLERS 3-4 YEARS Unencumbered Play Area			
Play Room 04	- 20 Children	66m2	(65m2 Req.)
Play Room 05	- 20 Children	66m2	(65m2 Req.)
PRE SCHOOL 4-5 YEARS Unencumbered Play Area			
Play Room 06	- 20 Children	66m2	(65m2 Req.)
Play Room 07	- 20 Children	66m2	(65m2 Req.)
EXTERNAL PLAY AREA Unencumbered Play Area			
Play Area	- 120 Children	1037m2	(840m2 Req.)

SITE AREA = 3138m2
GFA = 809m2

INTERNAL STORAGE	- 41.5m3	(24m3 Req.)
EXTERNAL STORAGE	- 36m3	(36m3 Req.)

DATE	REV	ISSUE	CHECKED BY
30.11.21	-	DA	DK
21.12.21	-	DA	DK
20.01.22	A	Revised DA	KYA
25.01.22	B	Revised DA	KYA
07.02.22	C	DA	DK

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NO	REV	TITLE	PHASE	SCALE	DATE
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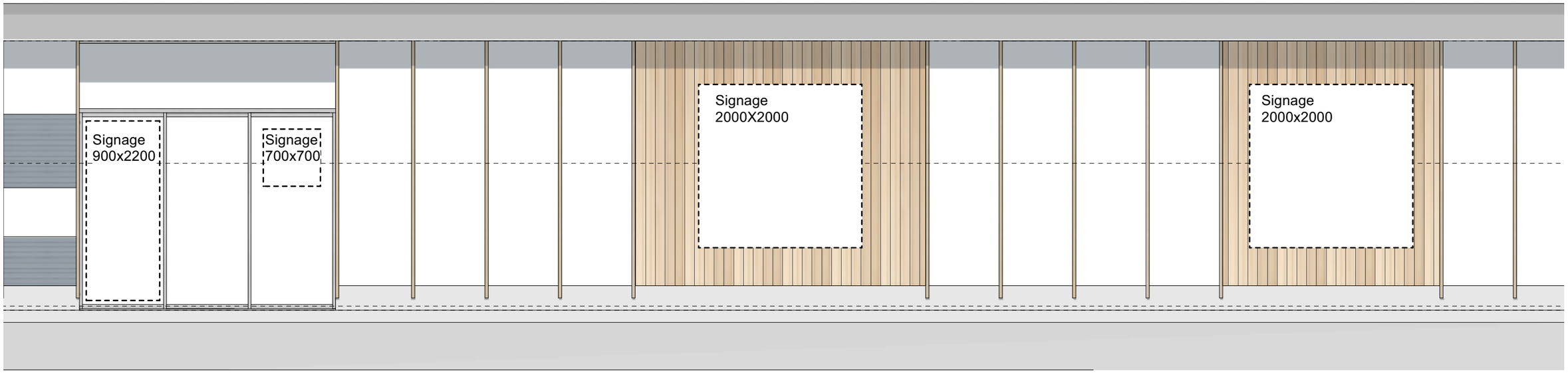

- SIGNAGE - NORTH ELEVATION

KEY

S Signage

DATE	REV	ISSUE	CHECKED BY
08.02.22	A	DA	DK

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NO	REV	TITLE	PHASE	SCALE	DATE
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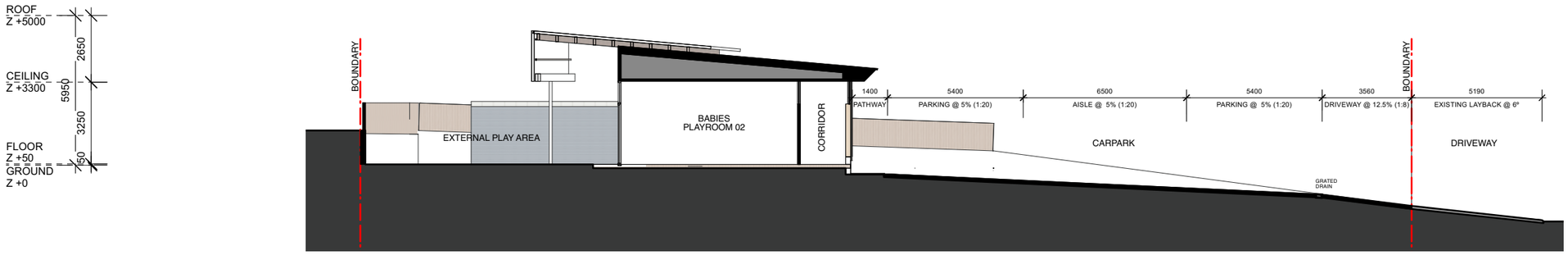

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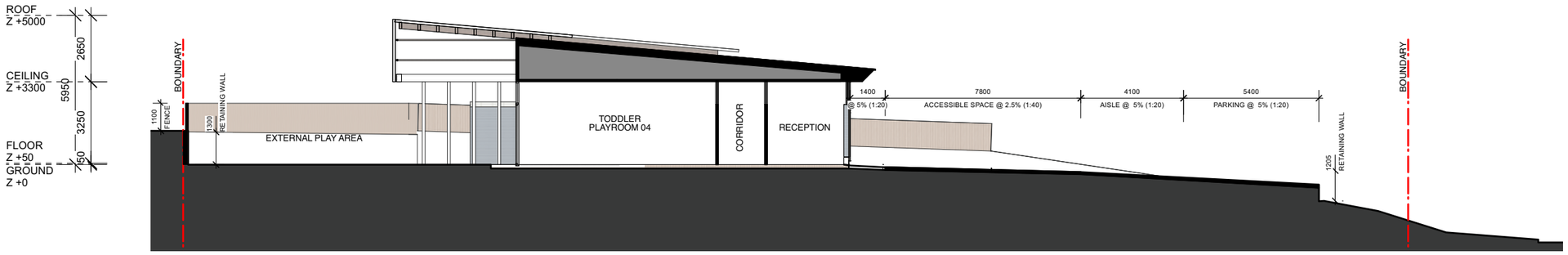

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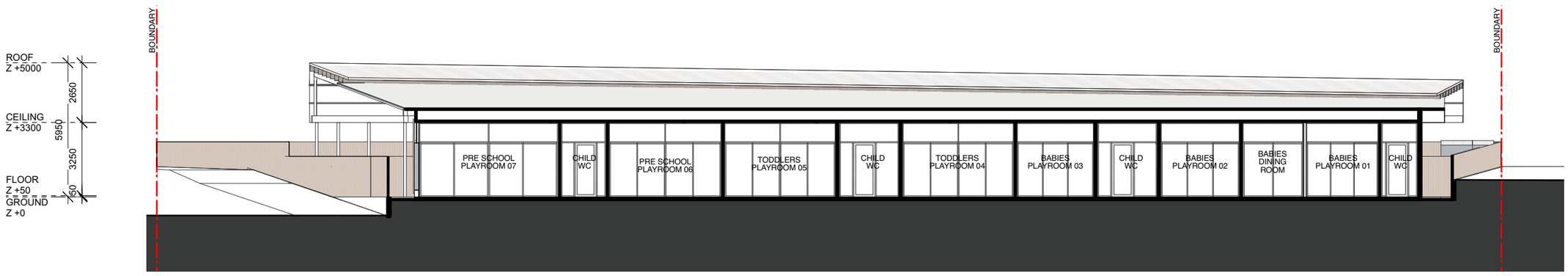

C SECTION

DATE	REV	ISSUE	CHECKED BY
07.02.22	A	DA	DK

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Thornton NSW

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NO	REV	TITLE	PHASE	SCALE	DATE
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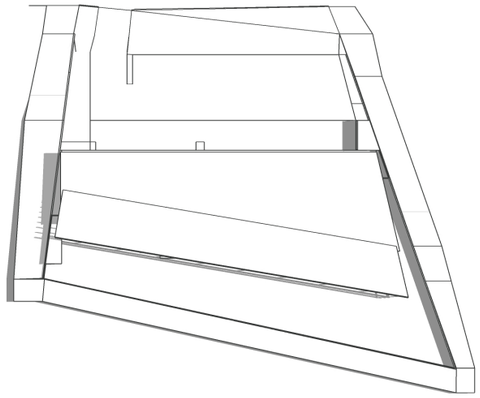

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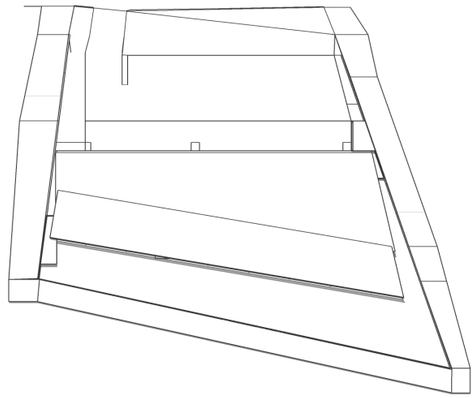

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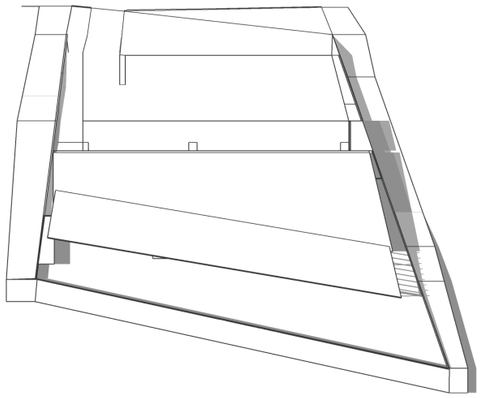

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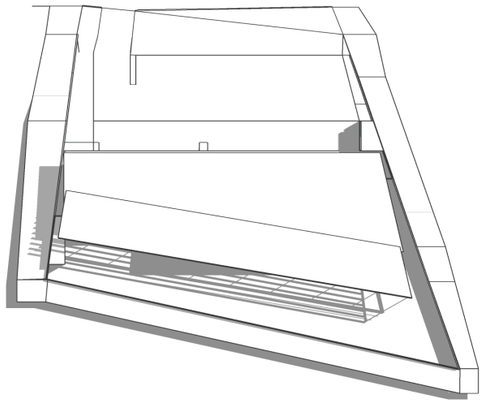

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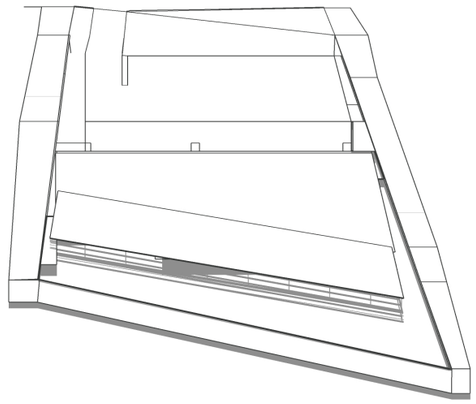

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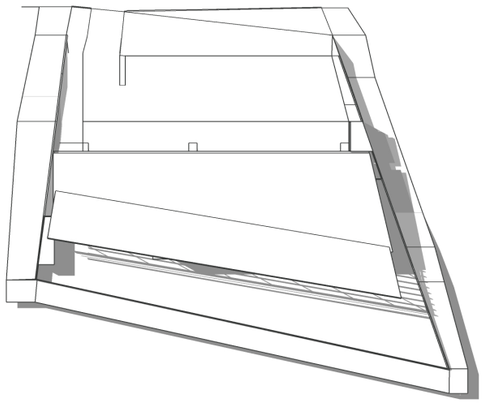

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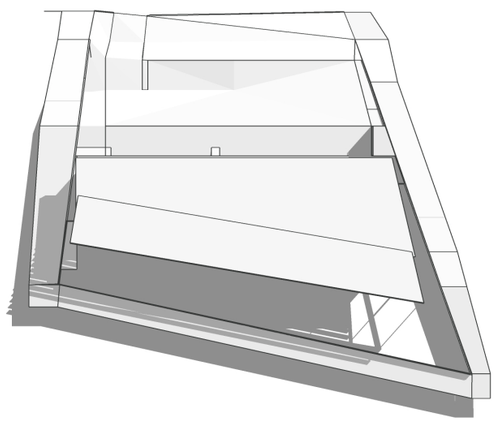
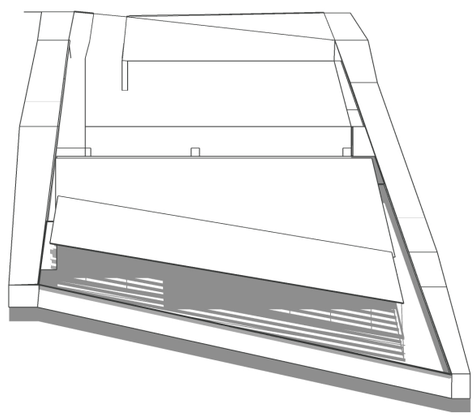


WINTER - 21 JUNE - 9am



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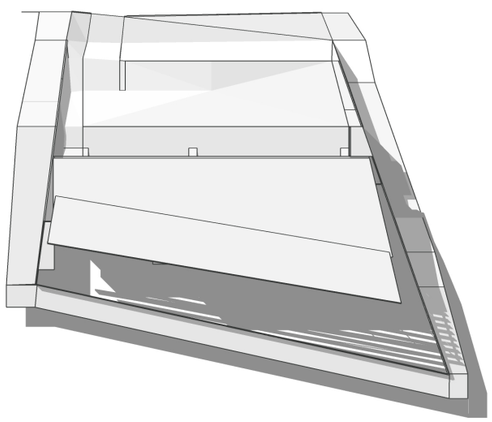

WINTER - 21 JUNE - 3pm

DATE	REV	ISSUE	CHECKED BY
07.02.22	A	DA	DK

PROJECT NAME: CHILDCARE
5 Huntingdale Drive
Thornton NSW

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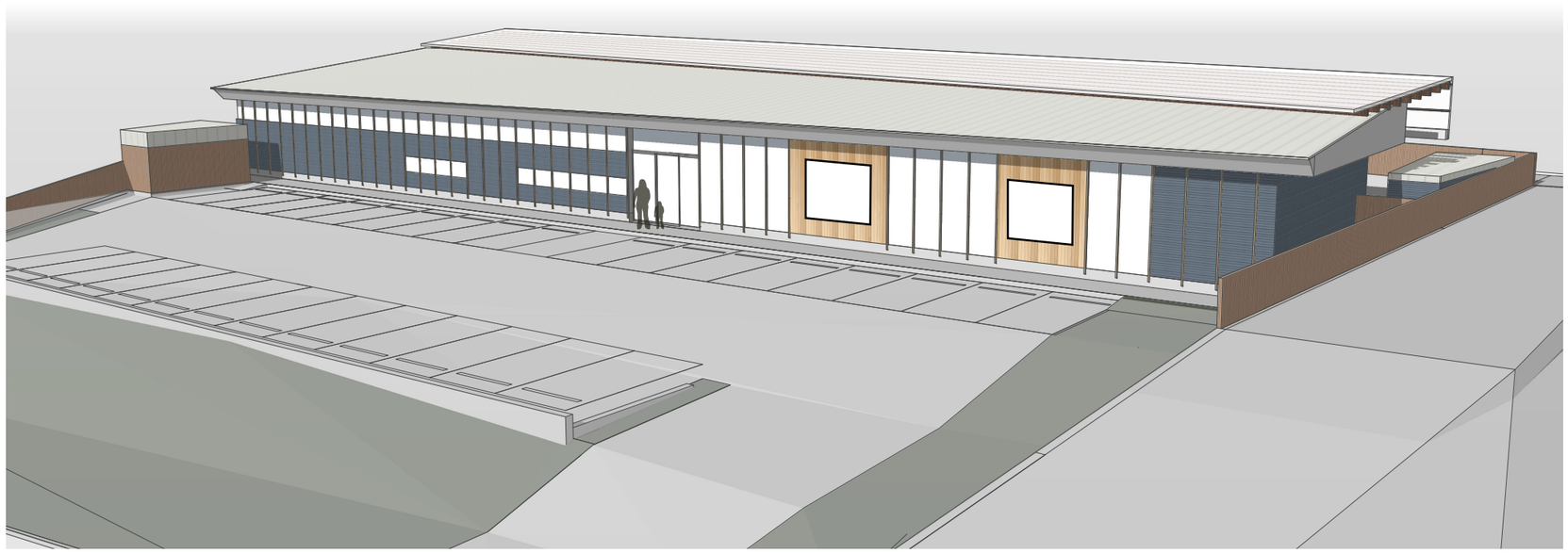
NO	REV	TITLE	PHASE	SCALE	DATE
DA-470	**-**	**SHADOW DIAGRAMS**	**DA**	**1:250@A3**	**07.02.2022**

DEVELOPMENT APPLICATION
PROPOSED CHILDCARE CENTRE

5 HUNTINGDALE DRIVE, THORNTON NSW

LOT 812, DP1032401

SHEET LIST



DATE	REV	ISSUE	CHECKED BY
30.11.21	-	DA	DK
07.02.22	A	DA	DK
08.02.22	B	DA	DK

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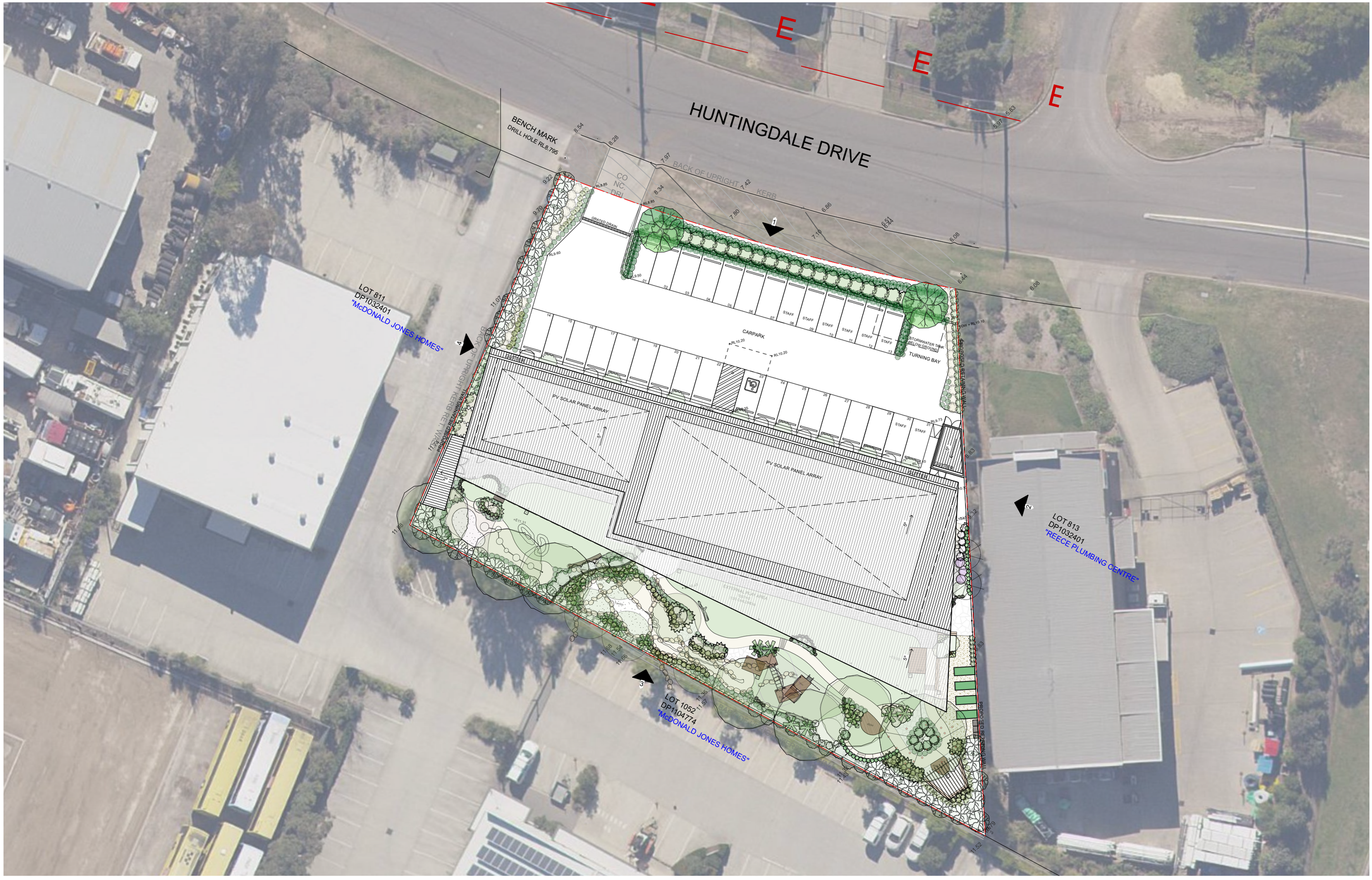
NO	REV	TITLE	PHASE	SCALE	DATE
DA-000	**B**	**Cover Page**	**DA**	NTS	**08.02.2022**



DISCLAIMER

DATE	REV	ISSUE	CHECKED BY
07.02.22	A	DA	DK

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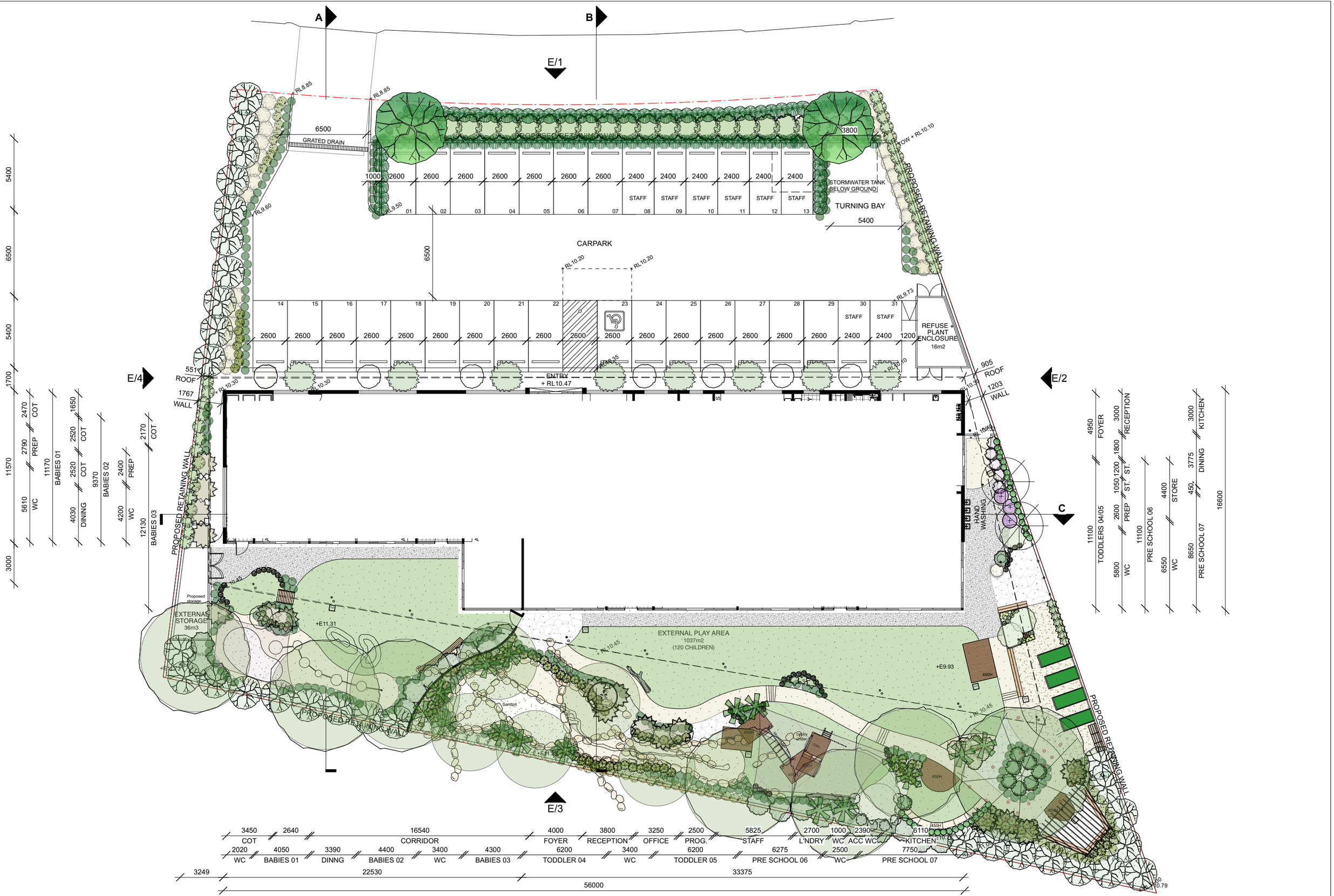
NO	REV	TITLE	PHASE	SCALE	DATE
DA-100	**-**	**SITE PLAN**	**DA**	**1:250@A3**	**07.02.2022**



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In the event of discrepancies refer to architect prior to commencement of the work.
Do not scale drawings manually or electronically

DATE	REV	ISSUE	CHECKED BY
30.11.21	-	DA	DK
20.01.22	A	Revised DA	KYA
25.01.22	B	Revised DA	KYA
28.01.22	C	Revised DA	KYA
07.02.22	D	DA	DK

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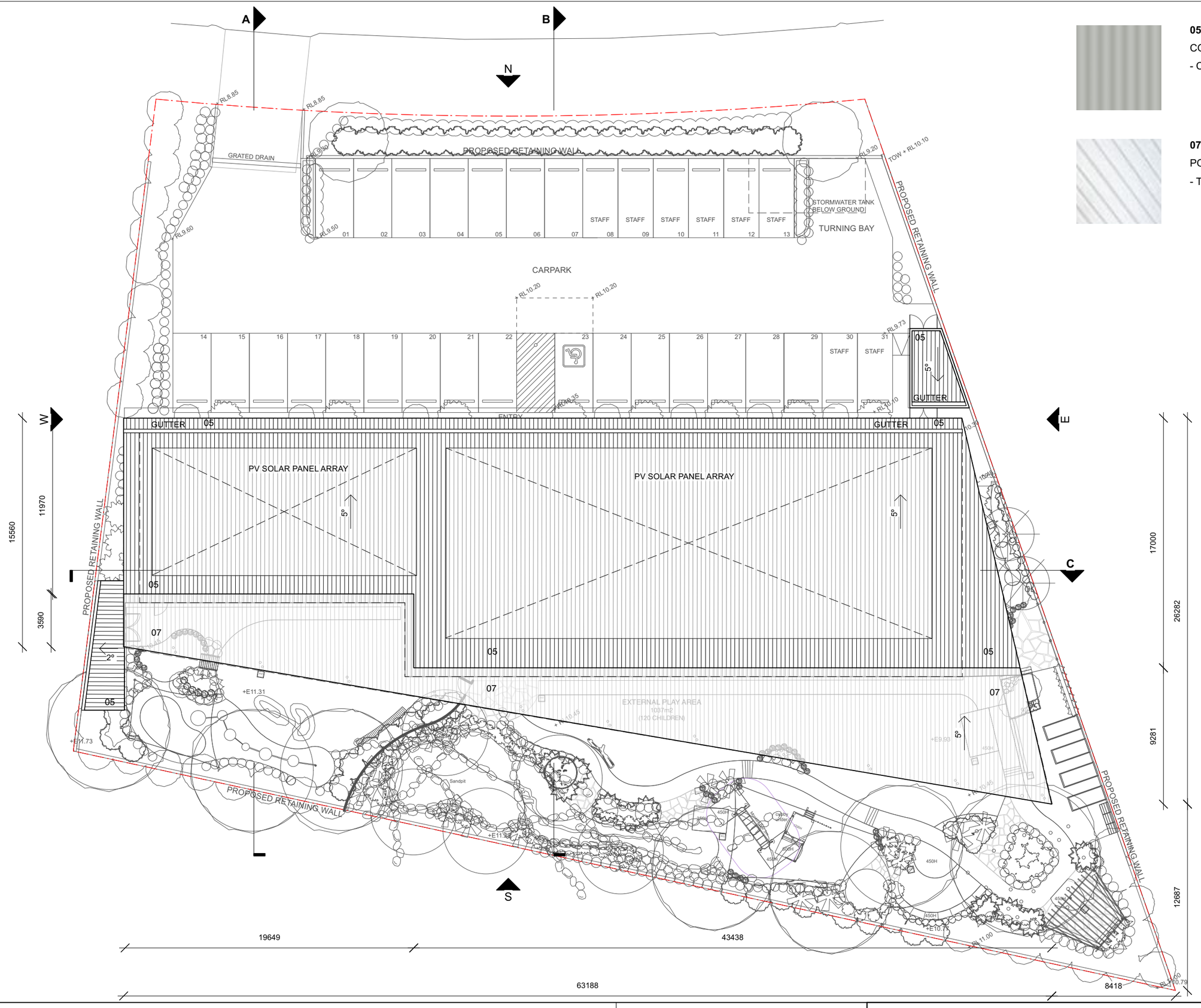
NO	REV	TITLE	PHASE	SCALE	DATE
DA-200	**D**	**GROUND FLOOR PLAN**	**DA**	**1:250@A3**	**07.02.2022**



05
COLORBOND ROOF SHEET
- COSMIC

07
POLYCARBONATE ROOF SHEET
- TRANSLUCENT

DATE	REV	ISSUE	CHECKED BY
30.11.21	-	DA	DK
20.01.22	A	Revised DA	KYA
25.01.22	B	Revised DA	KYA
07.02.22	C	DA	DK

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NO	REV	TITLE	PHASE	SCALE	DATE
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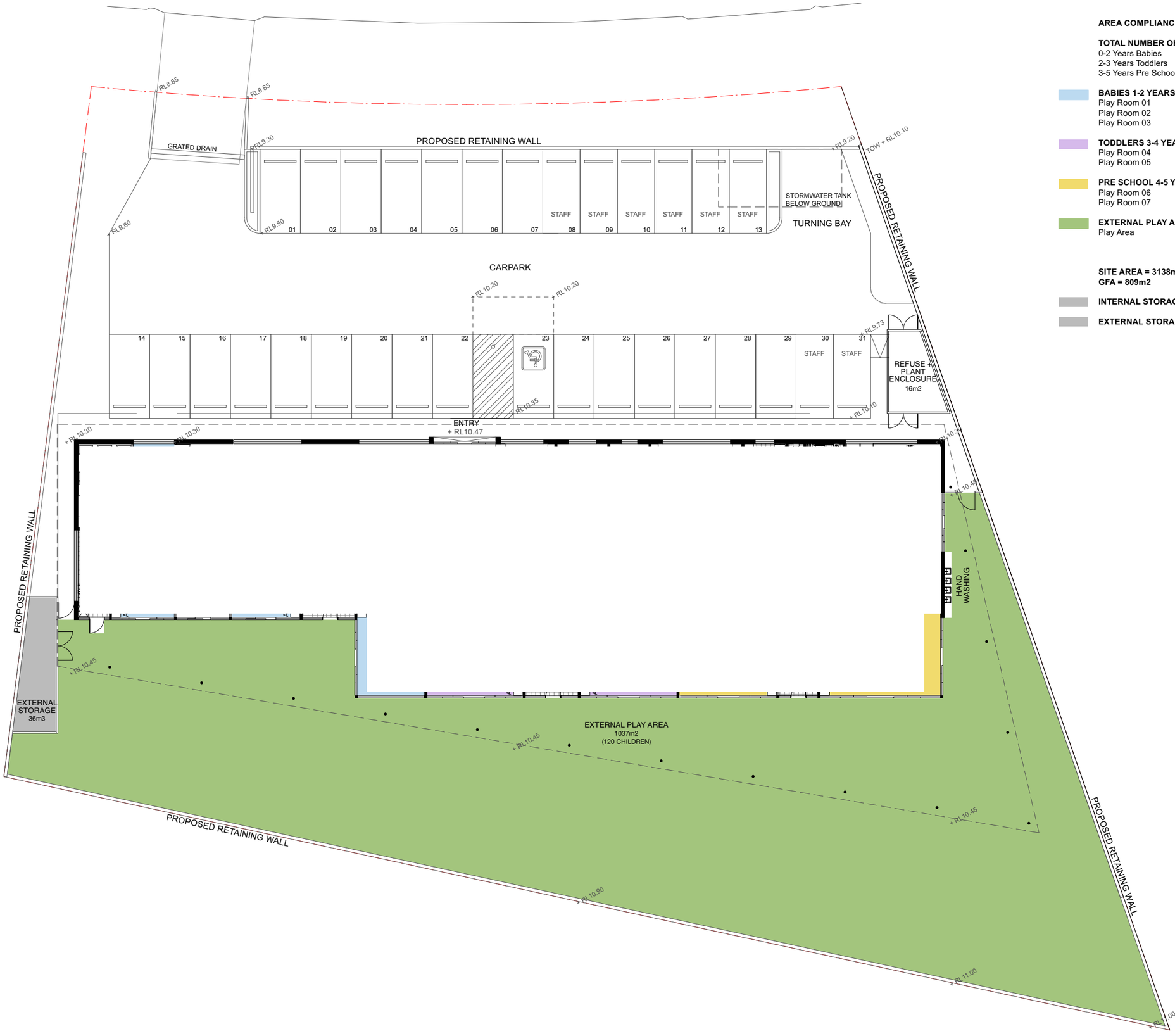

AREA COMPLIANCE SUMMARY

TOTAL NUMBER OF CHILDREN			**120**
0-2 Years Babies			40
2-3 Years Toddlers			40
3-5 Years Pre School			40
BABIES 1-2 YEARS Unencumbered Area			
Play Room 01	- 12 Children	40m2	(39m2 Req.)
Play Room 02	- 12 Children	39m2	(39m2 Req.)
Play Room 03	- 16 Children	52m2	(52m2 Req.)
TODDLERS 3-4 YEARS Unencumbered Play Area			
Play Room 04	- 20 Children	66m2	(65m2 Req.)
Play Room 05	- 20 Children	66m2	(65m2 Req.)
PRE SCHOOL 4-5 YEARS Unencumbered Play Area			
Play Room 06	- 20 Children	66m2	(65m2 Req.)
Play Room 07	- 20 Children	66m2	(65m2 Req.)
EXTERNAL PLAY AREA Unencumbered Play Area			
Play Area	- 120 Children	1037m2	(840m2 Req.)

SITE AREA = 3138m2
GFA = 809m2

INTERNAL STORAGE	- 41.5m3	(24m3 Req.)
EXTERNAL STORAGE	- 36m3	(36m3 Req.)

DATE	REV	ISSUE	CHECKED BY
30.11.21	-	DA	DK
21.12.21	-	DA	DK
20.01.22	A	Revised DA	KYA
25.01.22	B	Revised DA	KYA
07.02.22	C	DA	DK

PROJECT NAME: CHILDCARE
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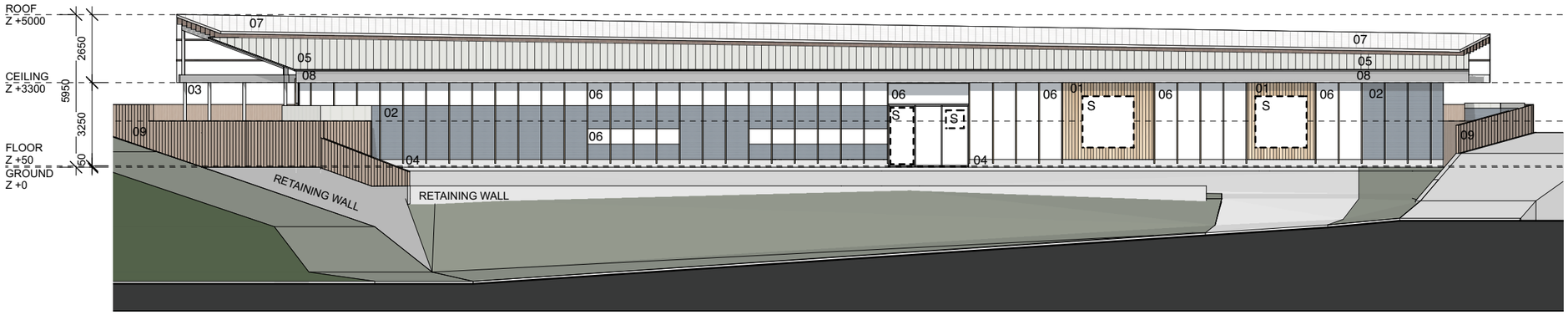
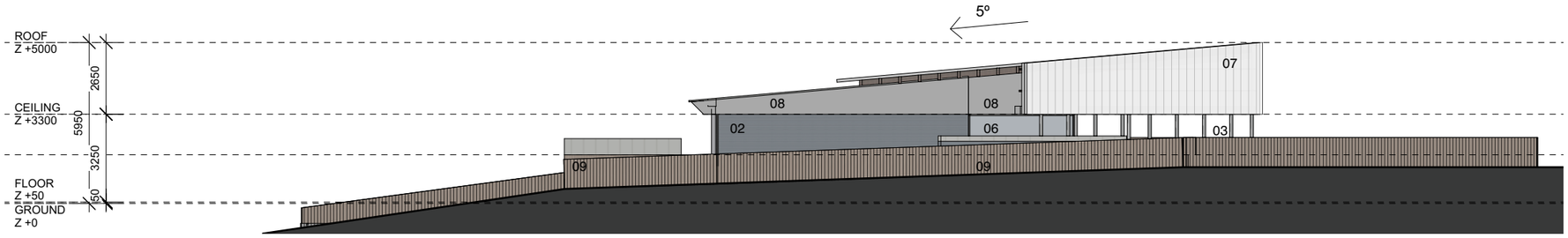
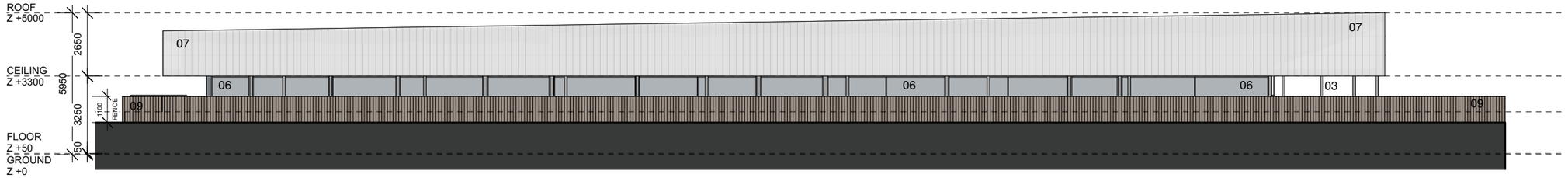
NO	REV	TITLE	PHASE	SCALE	DATE
DA-250	**C**	**COMPLIANCE PLAN**	**DA**	**1:250@A3**	**07.02.2022**



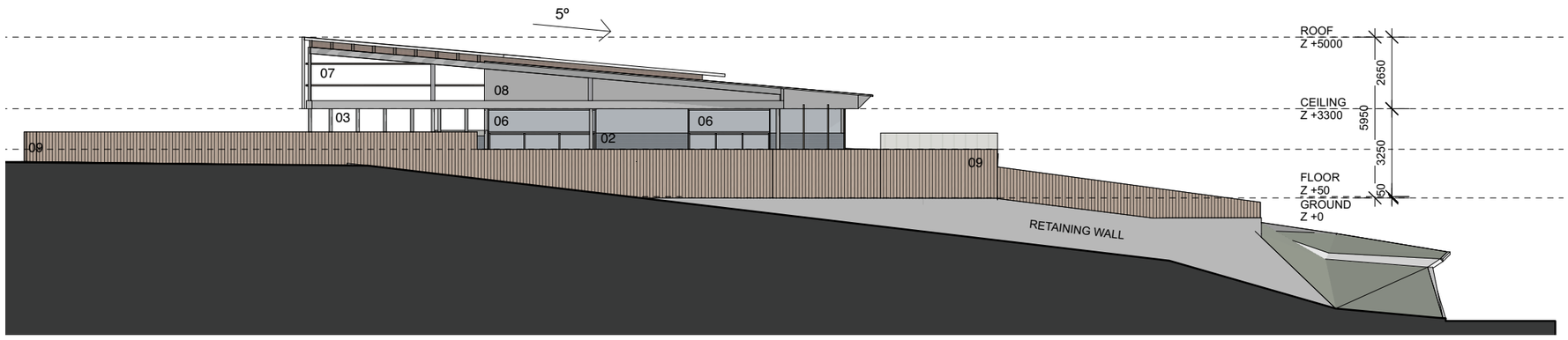
1 NORTH ELEVATION



2 EAST ELEVATION



3 SOUTH ELEVATION

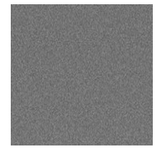


4 WEST ELEVATION

EXTERNAL FINISHES

01
TIMBER CLADDING

02
PAINTED TIMBER CLADDING



03
STEEL PAINT FINISH
- DULUX MIO - ST ENOCH GREY

04
SMOOTH CONCRETE RENDER
- APPLIED FINISH

05
COLORBOND ROOF SHEET
- COSMIC

06
ANODIZED ALUMINIUM
FRAMED GLAZING

07
POLYCARBONATE ROOF SHEET
- TRANSLUCENT

08
PAINTED FIBRE CEMENT FACIA
- DULUX DIESKAU

09
TIMBER FENCE

KEY

S Signage

DATE	REV	ISSUE	CHECKED BY
30.11.21	-	DA	DK
07.02.22	A	DA	DK
08.02.22	B	DA	DK

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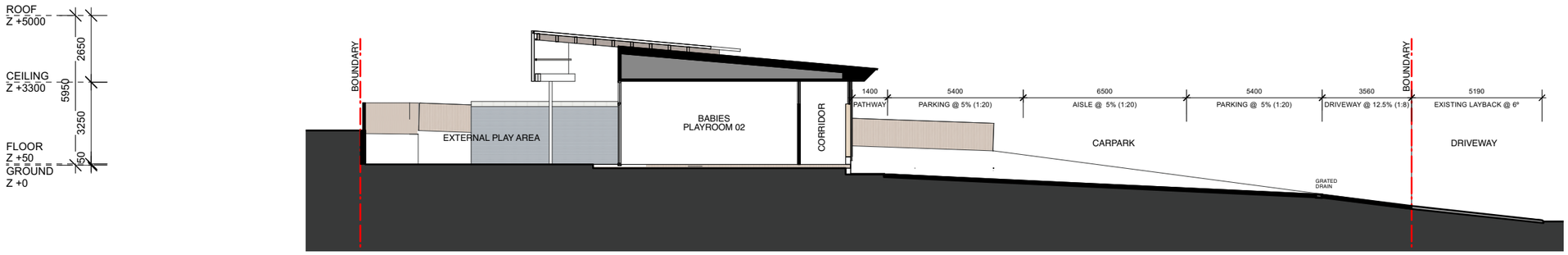
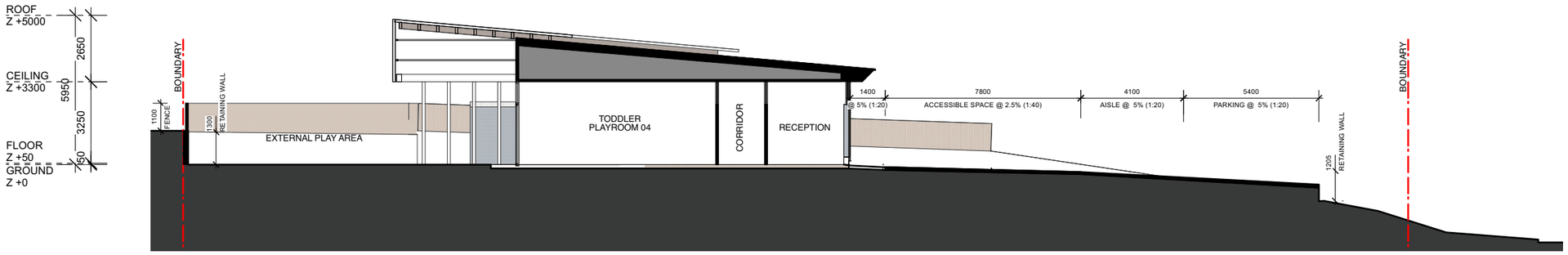
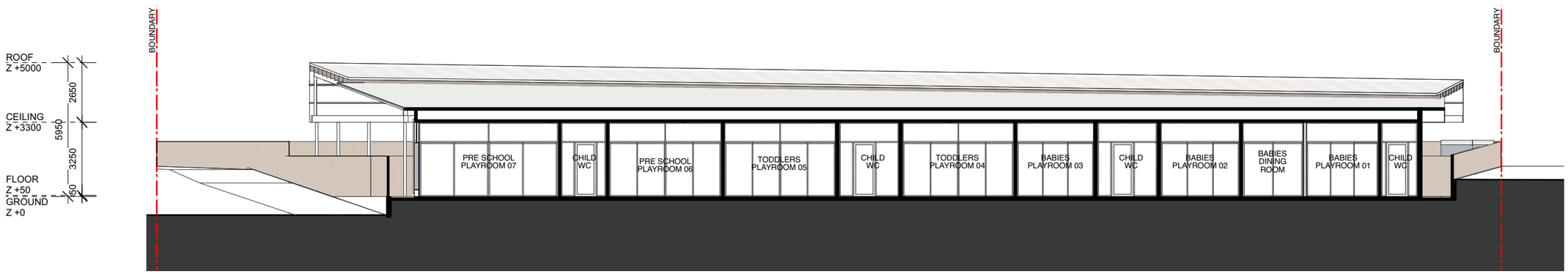
NO	REV	TITLE	PHASE	SCALE	DATE
DA-400	**B**	**ELEVATIONS & MATERIALS**	**DA**	**1:250@A3**	**08.02.2022**



A SECTION



B SECTION



C SECTION

DATE	REV	ISSUE	CHECKED BY
07.02.22	A	DA	DK

PROJECT NAME: CHILDCARE
5 Huntingdale Drive
Thornton NSW

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NO	REV	TITLE	PHASE	SCALE	DATE
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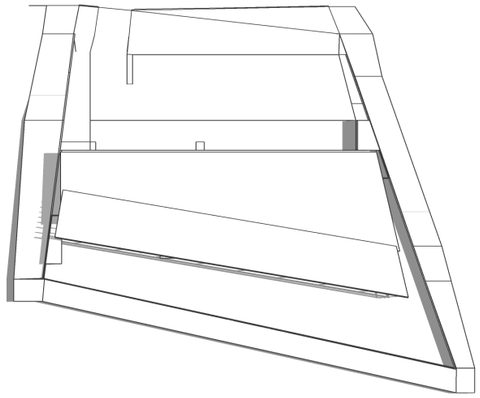
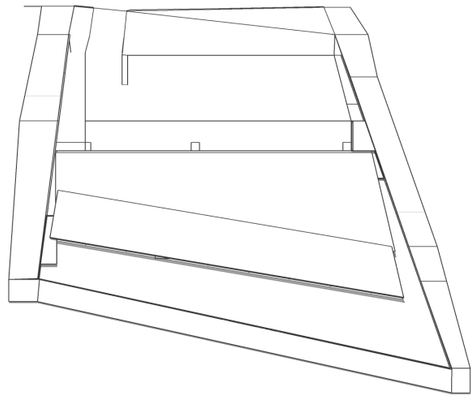


SUMMER - DEC 21 - 9am



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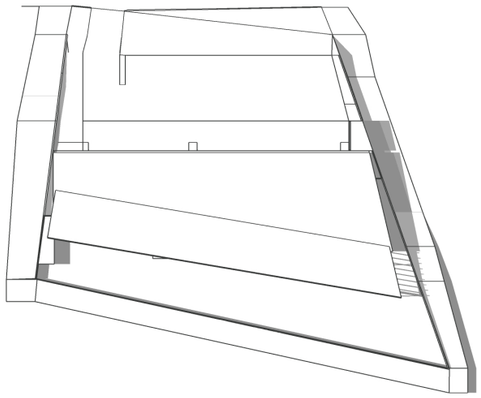

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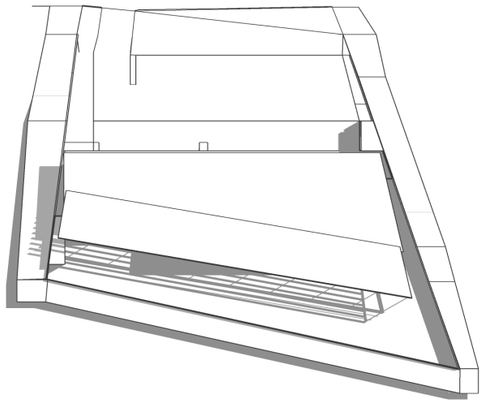

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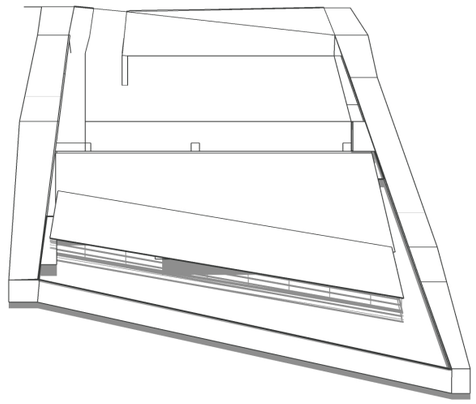

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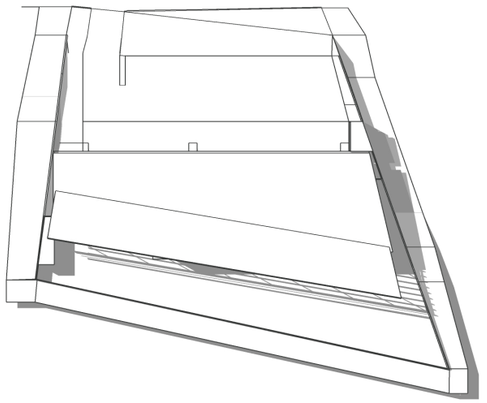

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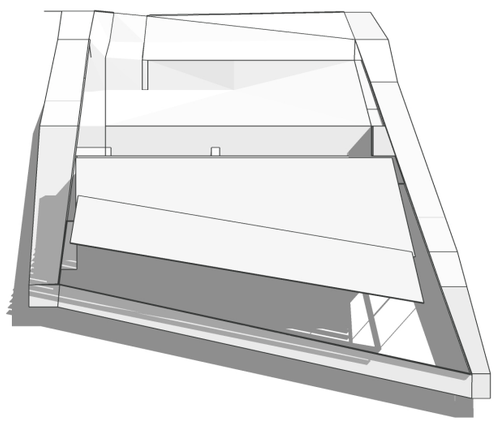

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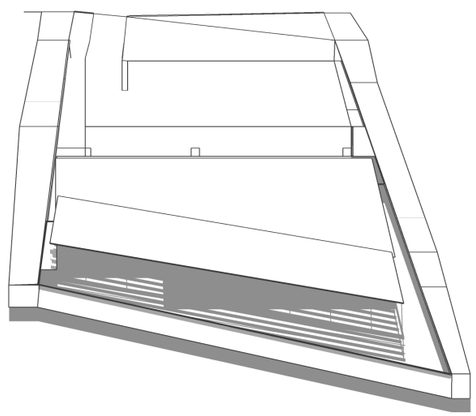
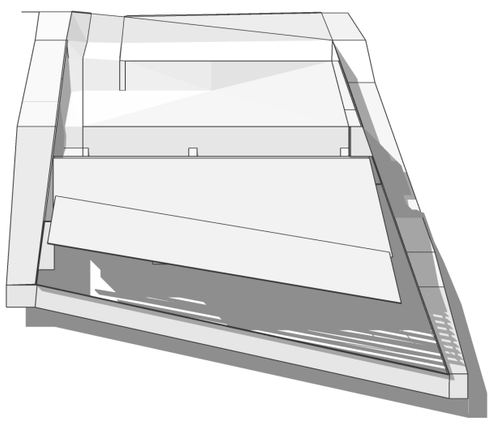


WINTER - 21 JUNE - 12pm



WINTER - 21 JUNE - 3pm

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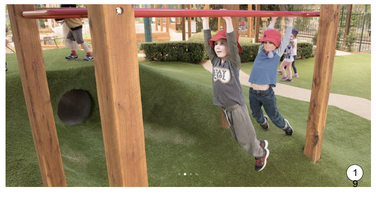
NO	REV	TITLE	PHASE	SCALE	DATE
DA-470	**-**	**SHADOW DIAGRAMS**	**DA**	**1:250@A3**	**07.02.2022**








KEY:

ELEMENTS:

01. Garden areas to boundary
02. Proposed storage to match architecture
03. Hardwood log steppers
04. Garden at ground level
05. Cypress timber bridge with handrail
06. Sandpit to Babies Yard 300mm deep
07. Water channel carved in concrete
08. Synthetic grass mounds 300mm high
09. Sand kitchen
10. Countour bench seat
11. Cubby: staggered timber decks with bubble panel
12. Pool fence and gate 1200H
13. Sandstone boulder edge
14. Class 1 Australian hardwood log seat 1200mm long
15. Large sandpit 300mm deep
16. Class 1 Australian hardwood log for seat and play
17. Water pump
18. Staggered timber decks 300H and 450H
19. Monkey bar 3m long
20. Play structure lookout: cypress timber decks, bubble panel, ladder and slide 1200H
21. Rustic tee pee
22. -
23. 400h sandstone block seating edge
24. Feature tree
25. Cypress timber deck 450H to C.O.L.A
26. Trellis to C.O.L.A
27. Cypress rail bench seat 450H
28. Worm farm composting bays
29. Wicking beds for growing produce
30 Climbers
31. Rumble rack to bike track path
32. Performance stage
33. Pollination Station - Stingless Native Bee Hive
34. Raised planter 450H
35. Easel attached to boundary wall
36. Citrus Grove

SURFACING:

- Softfall synthetic grass (A)
- Synthetic grass (B)
- Stone paving (C)
- Sandstone flagging (D)
- Coloured concrete path (E)

Scale 1:100

0 1 2 3 5 10m

Rev.	Date	Description	By
A	27/1/22	Revised to suit discussions with 'Eden academy early learning'	GA

Notes:

Northpoint

Urban Landscape Projects

Client: Stevens Group

File Name: 211126 Thornton CCC.vwx

Project Name: 5, Huntingdale Drive Thornton NSW

Drawing Name: Landscape Concept Plan

Drawn to AS1100	Dimensions in Millimetres	Do not Scale
Drawn by: GA	Date: 22/11/21	Plot Date: 3/2/22
Job No:	Scale: 1:100 @ A1	Sheet No: 1
		Copyright
Sheet: A1	Dwg No: (A1)2 A	Revision: A

APPENDIX C: SEPP (Educational Establishments & Childcare Facilities) 2017

SEPP (Educational Establishments and Child Care Facilities) 2017

SECTION	PROVISION	APPLICABLE
Part 1	**Preliminary**	Noted.
Part 2	**General**	Consideration to be made by Council as part of this development application.
Division 1	**Consultation and Notification**	
10	**Consultation with councils—development with impacts on council-related infrastructure or services**	
11	**Consultation with councils—development with impacts on local heritage**	
12	**Notification of councils and State Emergency Service—development on flood liable land**	
12A	**Consideration of Planning for Bush Fire Protection**	
13	**Consultation with public authorities other than councils**	
14	**Exceptions**	
Division 2	**Site Compatibility Certificates**	
15	**Site Compatibility Certificates**	
Division 3	**Additional Uses of State Land**	
16	**Additional uses of certain State land permitted**	
Division 4	**Exempt Development**	
17	**General Requirements for exempt development**	
18	**Exempt development for Schedule 1 purposes carried out by public authorities in connection with educational establishments**	
Division 5	**Complying Development**	
19	**General requirements for complying development**	
19A	**Land on which complying development may not be carried out—bush fire prone land**	
20	**Development affecting certain trees or vegetation**	
21	**General conditions of complying development certificates**	
Part 3	**Early education and care facilities-specific development controls**	Part 3 applies to the Proposed Development.
22	**Centre-based childcare facility-concurrence of Regulatory Authority required for certain development**	
(1)	This clause applies to development for the purpose of a centre-based child care facility if—	
(a)	the floor area of the building or place does not comply with regulation 107 (indoor unencumbered space requirements) of the *Education and Care Services National Regulations*, or	The proposed development is consistent with the requirements of Regulation 107 (indoor unencumbered space requirements) of the *Education and Care Services National Regulations*,

SECTION	PROVISION	APPLICABLE
		Proposed development 405m² Indoor Unencumbered Space, 405m² / 120 children 3.37m² unencumbered indoor space, which is consistent with Regulation 107 of the *Education and Care Services National Regulations* of 3.25m² per child.
(b)	the outdoor space requirements for the building or place do not comply with regulation 108 (outdoor unencumbered space requirements) of those Regulations.	The proposed development is consistent with the requirements of Regulation 108 (outdoor unencumbered space requirements) of the *Education and Care Services National Regulations*, Proposed development 1,037m² Outdoor Unencumbered Space, 1,037m² / 120 children 8.64m² unencumbered outdoor space, which is consistent with Regulation 108 of the *Education and Care Services National Regulations* of 7m² per child.
(2)	The consent authority must not grant development consent to development to which this clause applies except with the concurrence of the Regulatory Authority.	Concurrence of the Regulatory Authority is required.
(3)	The consent authority must, within 7 days of receiving a development application for development to which this clause applies—	Noted.
(a)	forward a copy of the development application to the Regulatory Authority, and	
(b)	notify the Regulatory Authority in writing of the basis on which the Authority's concurrence is required and of the date it received the development application.	
(4)	In determining whether to grant or refuse concurrence, the Regulatory Authority is to consider any requirements applicable to the proposed development under the *Children (Education and Care Services) National Law (NSW)*.	Noted.
(5)	The Regulatory Authority is to give written notice to the consent authority of the Authority's determination within 28 days after receiving a copy of the development application under subclause (3). **Note—** The effect of section 4.13(11) of the Act is that if the Regulatory Authority fails to inform the consent authority of the decision concerning concurrence within the 28 day period, the consent authority may determine the development application without the concurrence of the Regulatory Authority and a development consent so granted is not voidable on that ground.	Noted.
(6)	The consent authority must forward a copy of its determination of the development application to the Regulatory Authority within 7 days after making the determination.	Noted.

SECTION	PROVISION	APPLICABLE
(7)	In this clause— Regulatory Authority means the Regulatory Authority for New South Wales under the Children (Education and Care Services) National Law (NSW) (as declared by section 9 of the Children (Education and Care Services National Law Application) Act 2010). **Note—** Concurrence to development may be granted subject to conditions. A development consent subject to concurrence may be voidable if it is granted not subject to any conditions of the concurrence. (See section 4.13 of the Act.)	Noted.
23	**Centre-based childcare facility-matters for consideration by consent authorities**	
	Before determining a development application for development for the purpose of a centre-based child care facility, the consent authority must take into consideration any applicable provisions of the *Child Care Planning Guideline*, in relation to the proposed development.	Noted.
24	**Centre-based childcare facility in Zone IN1 or IN2-additional matters for consideration by consent authorities**	Not applicable. The proposed development is within the B5 Business Development Zone.
25	**Centre-based childcare facility-non-discretionary development standards**	
(1)	The object of this clause is to identify development standards for particular matters relating to a centre-based child care facility that, if complied with, prevent the consent authority from requiring more onerous standards for those matters.	The proposed development can comply with the development standards for centre-based childcare facilities that apply.
(2)	The following are non-discretionary development standards for the purposes of section 4.15(2) and (3) of the Act in relation to the carrying out of development for the purposes of a centre-based child care facility—	
(a)	**location**—the development may be located at any distance from an existing or proposed early education and care facility,	The proposed development is approx. 450 metres north-west of the Thornton Early Learning Centre, located at 14 Hartley Drive, Thornton.
(b)	**indoor or outdoor space**	
(i)	for development to which regulation 107 (indoor unencumbered space requirements) or 108 (outdoor unencumbered space requirements) of the *Education and Care Services National Regulations* applies—the unencumbered area of indoor space and the unencumbered area of outdoor space for the development complies with the requirements of those regulations, or	The proposed development is consistent with the requirements for indoor and outdoor unencumbered space per child in accordance with the Education and Care Services National Regulations.

SECTION	PROVISION	APPLICABLE
(ii)	for development to which clause 28 (unencumbered indoor space and useable outdoor play space) of the *Children (Education and Care Services) Supplementary Provisions Regulation 2012* applies—the development complies with the indoor space requirements or the useable outdoor play space requirements in that clause,	The proposed development is consistent with the requirements for indoor and outdoor unencumbered space per child in accordance with the Education and Care Services National Regulations.
(c)	**site area and site dimensions**—the development may be located on a site of any size and have any length of street frontage or any allotment depth,	The proposed development has a site area of 3,138m² and a 48.335 metre street frontage and between 44 metres and 64 metres in depth.
(d)	**colour of building materials or shade structures**—the development may be of any colour or colour scheme unless it is a State or local heritage item or in a heritage conservation area	The proposed development is not identified as being a State or local heritage item or within a Heritage Conservation Area.
(3)	To remove doubt, this clause does not prevent a consent authority from—	Noted.
(a)	refusing a development application in relation to a matter not specified in subclause (2), or	
(b)	granting development consent even though any standard specified in subclause (2) is not complied with.	
26	**Centre-based childcare facility-development control plans**	
(1)	A provision of a development control plan that specifies a requirement, standard or control in relation to any of the following matters (including by reference to ages, age ratios, groupings, numbers or the like, of children) does not apply to development for the purpose of a centre-based child care facility—	
(a)	operational or management plans or arrangements (including hours of operation),	Consistent. Provided in Part 2 of the Statement of Environmental Effects Report.
(b)	demonstrated need or demand for child care services,	Consistent. Provided in Part 3 of the Statement of Environmental Effects Report.
(c)	proximity of facility to other early education and care facilities,	Consistent The proposed development is approximately 450 metres north-west of the Thornton Early Learning Centre, located at 14 Hartley Drive, Thornton.
(d)	any matter relating to development for the purpose of a centre-based child care facility contained in—	
(i)	the design principles set out in Part 2 of the *Child Care Planning Guideline*, or	The proposed development can comply with the design principles set out in Part 2 of the *Child Care Planning Guideline.*

SECTION	PROVISION	APPLICABLE
(ii)	the matters for consideration set out in Part 3 or the regulatory requirements set out in Part 4 of that Guideline (other than those concerning building height, side and rear setbacks or car parking rates).	The proposed development can comply with the design principles set out in Part 3 and 4 of the *Child Care Planning Guideline.*
(2)	This clause applies regardless of when the development control plan was made.	Noted.
Part 4	**Schools-specific development controls**	Part 4 does not apply to the proposed development.
Part 5	**Universities-specific development controls**	Part 5 does not apply to the proposed development.
Part 6	**TAFE establishments-specific development controls**	Part 6 does not apply to the proposed development.
Part 7	**General development controls**	Part 7 does not apply to the proposed development.

APPENDIX D: SEPP 55 Remediation of Land
Preliminary Contamination Report

APPENDIX E: SEPP 64 Advertising and Signage

SEPP 64 – Advertising and Signage

Schedule 1 – Assessment Criteria

Criterion	Satisfied	Comment
1. Character of the Area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	Yes	The proposed signage is consistent with signage on adjoining development and is compatible with the existing and desired future character of the locality.
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	Yes	The proposed signage is consistent with the particular theme of adjoining development signage and advertising which consist of advertising attached to buildings.
2. Special Areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	No	The proposed signage is not located in an environmentally sensitive area, heritage area, natural or other conservation area, open space area, waterway or rural landscapes or residential area.
3. Views and vistas		
Does the proposal obscure or compromise important views?	No	The proposed signage is attached to the proposed building and does not compromise any important views.
Does the proposal dominate the skyline and reduce the qualities of vistas?	No	The proposed signage is attached to the proposed building and does not dominate the skyline.
Does the proposal respect the viewing rights of other advertisers?	Yes	The proposed signage respects the viewing rights of other advertisers in the locality.
4. Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	Yes	The scale, proportion and form of the proposed signage is appropriate for the streetscape and setting of the site and is consistent with adjoining signage.
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	Yes	The proposed signage will contribute to the visual interest of the setting of the site.
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	Yes	The proposed signage is consistent with adjoining advertisers.
Does the proposal screen unsightliness?	No	The proposed signage is proposed to be attached to a proposed new building.
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	No	The proposed signage will be attached to the proposed new building and not protrude about the height of the building.
Does the proposal require ongoing vegetation management?	No	The proposed signage does not require ongoing vegetation management.

5. Site and Building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	Yes	The proposed signage is compatible with the scale, proportion and characteristics of the proposed child-care centre building.
Does the proposal respect important features of the site or building, or both?	Yes	The proposed signage respects the important features of both the site and the building by ensuring that the signage does not have an adverse impact to adjoining development and does not reduce safety to the proposed building.
Does the proposal show innovation and imagination in its relationship to the site, building, or both?	Yes	The proposed signage will be innovative and imaginative in its' relationship to the site and building.
6. Associated devices and logos with advertisements and advertising structures		
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structures on which it is to be displayed?	No	The proposed signage will be flush against the proposed building.
7. Illumination		
Would illumination result in unacceptable glare?	N/A	The proposed signage is not illuminated.
Would illumination affect safety for pedestrians, vehicles or aircraft?	N/A	The proposed signage is not illuminated.
Would illumination detract from the amenity of any residence or other form of accommodation?	N/A	The proposed signage is not illuminated.
Can the intensity of illumination be adjusted if necessary?	N/A	The proposed signage is not illuminated.
Is the illumination subject to curfew?	N/A	The proposed signage is not illuminated.
8. Safety		
Would the proposal reduce the safety for any public road?	No	The proposed signage is not illuminated and is not erected on any public road.
Would the proposal reduce the safety for pedestrians or bicyclists?	No	The proposed signage is not illuminated and is not erected on any public road and there are no pedestrian footpaths.
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	No	The proposed signage is not erected on a pedestrian footpath.

Monteath & Powys

APPENDIX F: Bulk Earthworks & Sediment Plan

PROPOSED CHILDCARE CENTRE

5 HUNTINGDALE DRIVE, THORNTON NSW 2322
CIVIL DA ENGINEERING PACKAGE

LOCALITY PLAN

DRAWING LIST

DWG No.	DRAWING TITLE
DA-C-01	COVER SHEET, DRAWING LIST AND LOCALITY PLAN
DA-C-02	CONCEPT EROSION AND SEDIMENT CONTROL PLAN
DA-C-03	CONCEPT CIVIL WORKS PLAN
DA-C-04	CONCEPT BULK EARTHWORKS PLAN

DRAWN: JRYALL DESIGNED: JHOEY JOB MANAGER: JHOEY VERIFIER:

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR APPROVAL	BB		JH	02.02.22

CLIENT: STEVENSGROUP

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ARCHITECT: KAUNITZ YEUNG ARCHITECTURE

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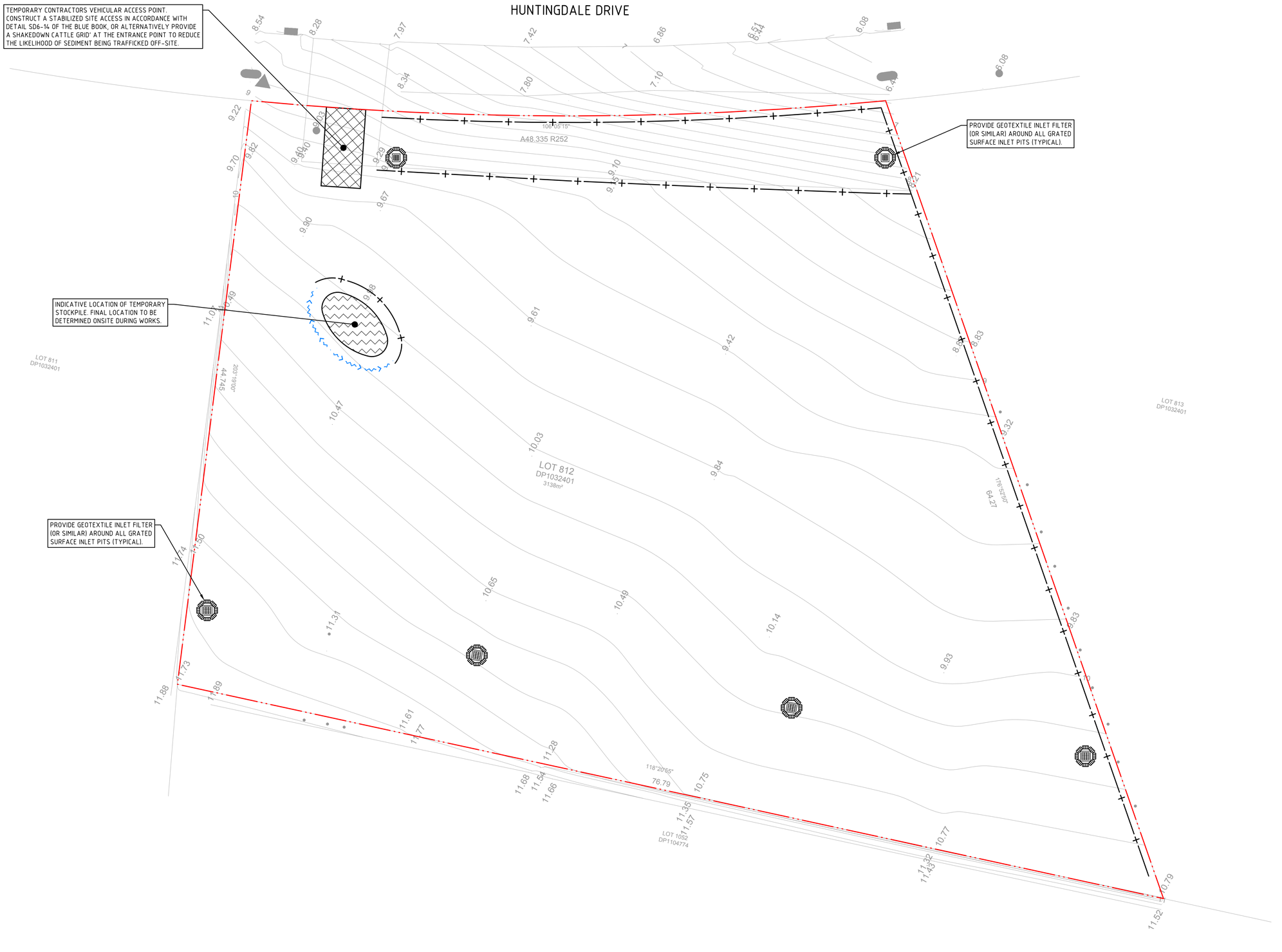
SCALE 1:500@A1 0 5 10 15 20 25m

NORTHROP
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT: PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
COVER SHEET, DRAWING LIST AND LOCALITY PLAN

JOB NUMBER: NL212677
DRAWING NUMBER: DA-C-01
REVISION: 1
DRAWING SHEET SIZE = A1



LEGEND

- DENOTES PROPOSED BOUNDARY LINE
- DENOTES EXISTING SPOT HEIGHTS
- DENOTES EXISTING CONTOURS
- DENOTES PROPOSED SEDIMENT FENCE. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED SANDBAG SEDIMENT FILTER. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED DIVERSION DRAIN. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED STABILISED SITE ACCESS. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED STOCKPILE. DETAILS TO BE PROVIDED AT CC STAGE

EROSION AND SEDIMENTATION MANAGEMENT NOTES

1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE APPROPRIATE FOR THE SEDIMENT TYPE(S) OF THE SOILS ON-SITE, IN ACCORDANCE WITH THE 'BLUE BOOK' (MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION. LANDCOM, 2004), OR OTHER CURRENT RECOGNISED INDUSTRY STANDARDS FOR EROSION AND SEDIMENT CONTROL FOR AUSTRALIAN CONDITIONS. THIS INCLUDES SEDIMENT TRAPS AND LINING OF CHANNELS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION AND SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS AND SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY/ALL MAINTENANCE, CLEANING AND BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.
3. INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL SD6-11 OR THE GEOTEXTILE INLET FILTER DETAIL SD6-12 OF THE 'BLUE BOOK'.
4. ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
5. INSTALL SEDIMENT FENCING, OR OTHER SEDIMENT CONTROL DEVICES, AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT OR APPROPRIATE COUNCIL OFFICER.
6. ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.
7. THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB & GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION.
8. ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ON-SITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
9. STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE AS REQUIRED. ANY SURPLUS MATERIAL SHALL BE SPREAD ON-SITE AS DIRECTED BY THE SUPERINTENDENT OR REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.
10. CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL SD4-1 OF THE 'BLUE BOOK' (INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE).
11. ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.
12. PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.
13. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.

CONSTRUCTION SEQUENCE

1. INSTALL ACCESS POINT, AS DETAILED BELOW AND ON THE DETAILS SHEET.
2. INSTALL SEDIMENT FENCE IN LOCATION SHOWN, AS PER DETAILS ON DRAWING C12.10DA
3. INSTALL OTHER SOIL AND WATER MANAGEMENT CONTROL MEASURES, AS DETAILED.
4. COMPLETION OF CONSTRUCTION WORKS, IN ACCORDANCE WITH SOIL AND WATER MANAGEMENT PLAN, NOTES AND DETAILS.
5. REHABILITATION OF DISTURBED AREAS AS SOON AS PRACTICAL TO MINIMISE SOIL LOSS.

NOT FOR CONSTRUCTION

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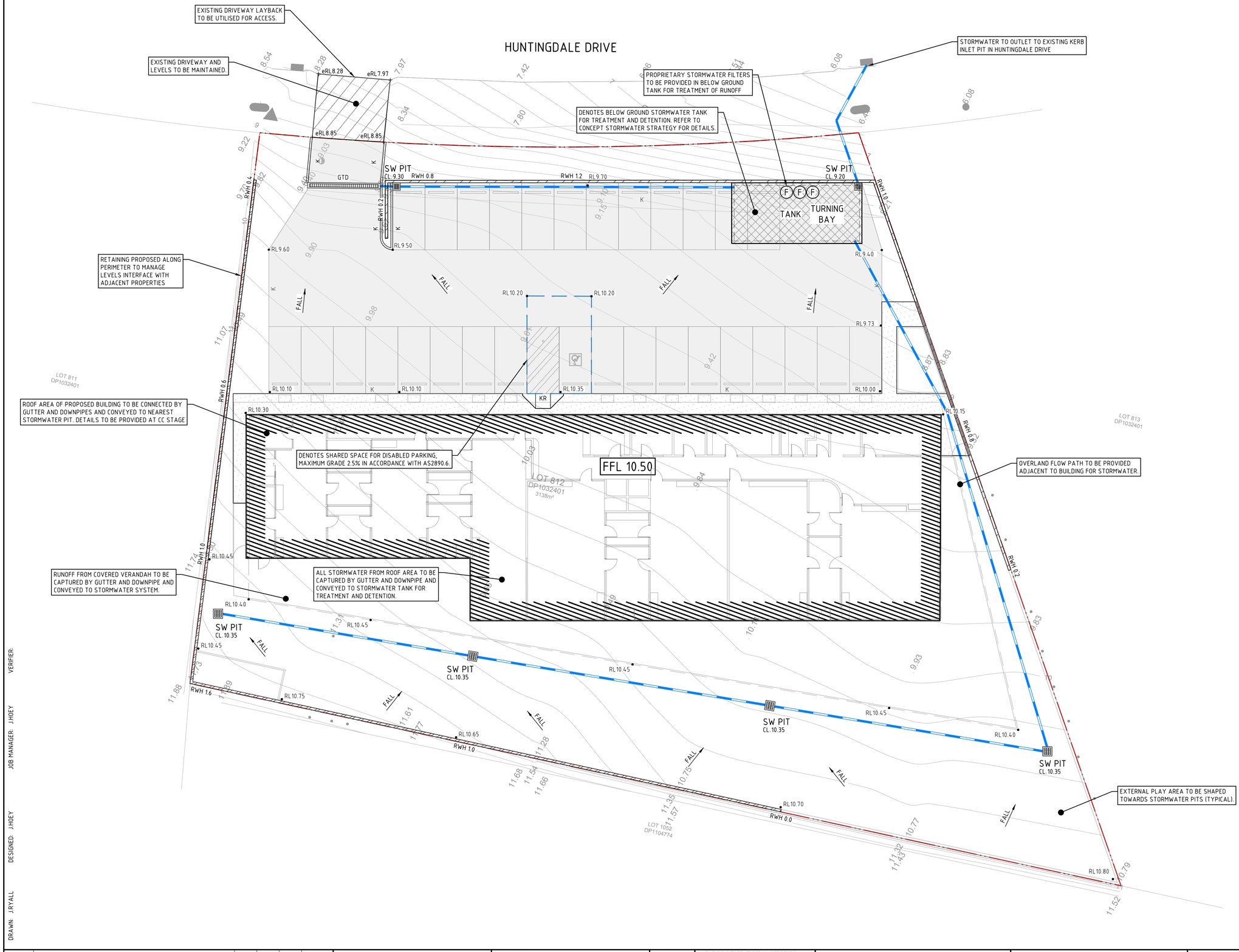
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT: PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
CONCEPT EROSION AND SEDIMENT CONTROL PLAN

JOB NUMBER: NL212677
DRAWING NUMBER: DA-C-02
REVISION: 1
DRAWING SHEET SIZE = A1



LEGEND

- DENOTES PROPOSED BOUNDARY LINE
- DENOTES EXISTING CONTOURS
- DENOTES EXISTING SPOT HEIGHTS
- DENOTES PROPOSED STORMWATER PIPE
- SW PIT CL.XX.XX — DENOTES PROPOSED GRATED INLET PIT AND COVER LEVEL. DETAILS TO BE PROVIDED AT CC STAGE
- FALL — DENOTES DIRECTION OF GRADE IN FINISHED SURFACE
- GTD — DENOTES PROPOSED GRATED TRENCH DRAIN. DETAILS TO BE PROVIDED AT CC STAGE
- RL.XX.XX — DENOTES PROPOSED SPOT HEIGHT
- DENOTES PROPOSED VEHICULAR PAVEMENT. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED PEDESTRIAN PAVEMENT. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED BUILDING. REFER TO ARCHITECTURAL PLANS FOR MORE DETAILS.
- DENOTES EXISTING DRIVEWAY CROSSOVER TO BE RETAINED
- DENOTES EXTENT OF PROPOSED SHARED SPACE. MAX GRADE 2.5% IN ACCORDANCE WITH AS2890.6
- DENOTES PROPOSED COVERED VERANDAH. REFER TO ARCHITECTURAL PLANS FOR MORE DETAIL
- K — DENOTES PROPOSED VEHICULAR KERB. DETAILS TO BE PROVIDED AT CC STAGE
- KR — DENOTES PROPOSED KERB RAMP. DETAILS TO BE PROVIDED AT CC STAGE
- FFL XX.XX — DENOTES PROPOSED FINISHED FLOOR LEVEL
- TANK — DENOTES PROPOSED BELOW GROUND STORMWATER TANK. DETAILS TO BE PROVIDED AT CC STAGE
- (F) — DENOTES PROPRIETARY STORMWATER FILTER FOR TREATMENT OF RUNOFF. REFER TO CONCEPT STORMWATER STRATEGY FOR ADDITIONAL INFORMATION
- RWH XX.XX — DENOTES PROPOSED RETAINING WALL AND HEIGHT. DETAILS TO BE PROVIDED AT CC STAGE

NOTES

PLANS TO BE READ IN CONJUNCTION WITH CONCEPT STORMWATER MANAGEMENT REPORT

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DESIGNED: J.HOEY
JOB MANAGER: J.HOEY
VERIFIER:

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Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT: **PROPOSED CHILDCARE CENTRE**

5 HUNTINGDALE DRIVE THORNTON NSW 2322

DRAWING TITLE: **CIVIL ENGINEERING PACKAGE**

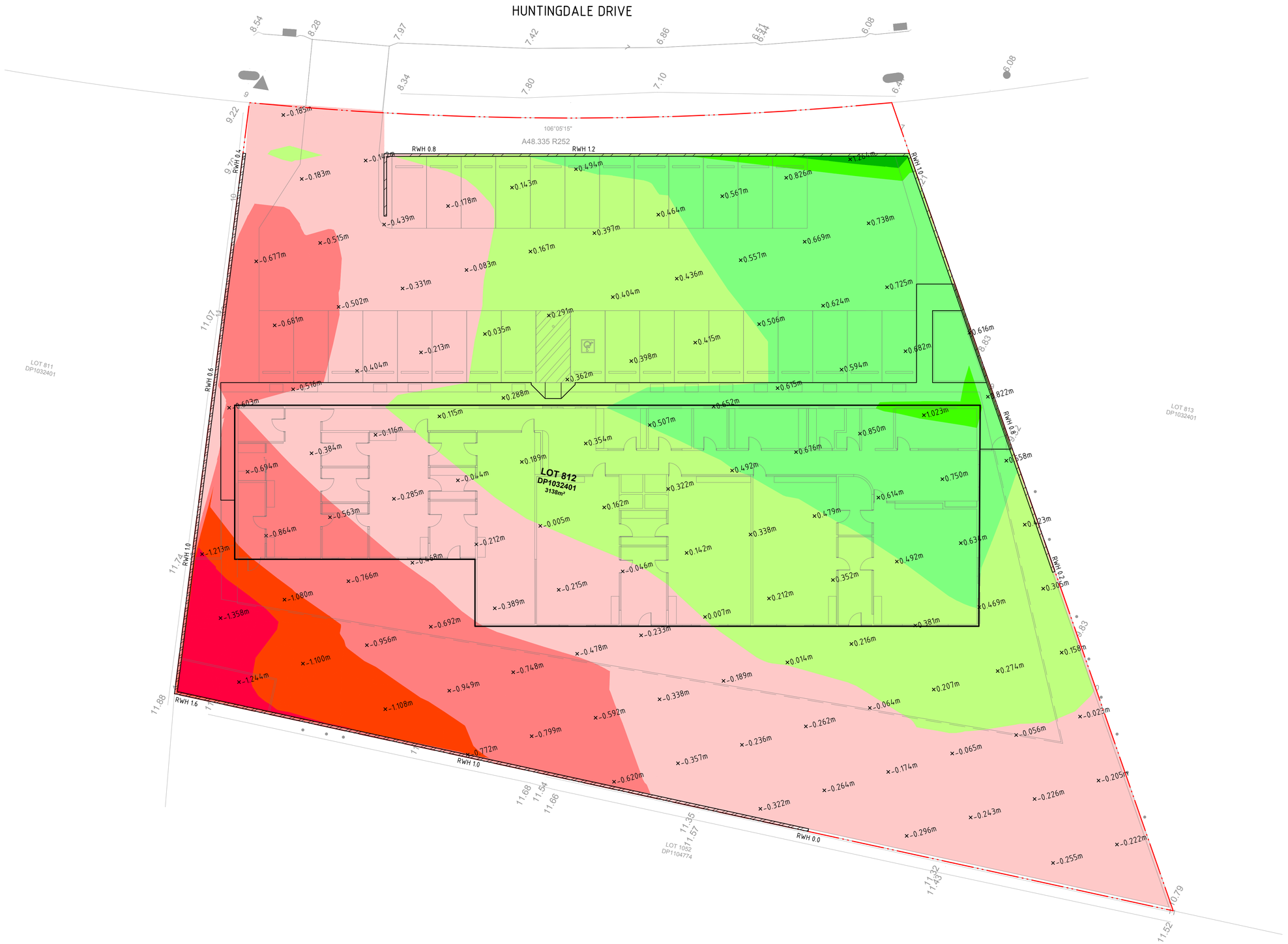
CONCEPT CIVIL WORKS PLAN

JOB NUMBER: **NL212677**

DRAWING NUMBER: **DA-C-03**

REVISION: **1**

DRAWING SHEET SIZE = A1



LEGEND

DENOTES PROPOSED BOUNDARY LINE

DEPTH OF CUT

- - 1.542m TO - 1.200m
- - 1.200m TO - 1.000m
- - 1.000m TO - 0.500m
- - 0.500m TO - 0.000m

DEPTH OF FILL

- 0.000m TO 0.500m
- 0.500m TO 1.000m
- 1.000m TO 1.200m
- 1.200m TO 1.400m

BULK EARTHWORKS NOTES

1. THE APPROXIMATE SITE EARTHWORKS VOLUMES BASED ON THE NOTED PAVEMENT THICKNESSES ARE OUTLINED BELOW:
   - CUT: 717m³
   - FILL: 648m³
   - NET: 69m³ (CUT)

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DRAWN: JRYALL
DESIGNED: JHOEY
JOB MANAGER: JHOEY
VERIFIER:

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Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT
PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
CONCEPT BULK EARTHWORKS PLAN

JOB NUMBER
NL212677

DRAWING NUMBER
DA-C-04

REVISION
1

DRAWING SHEET SIZE = A1

APPENDIX G: Site Waste Management & Minimisation Plan (SWMMP)

SITE WASTE MANAGEMENT AND MINIMISATION PLAN

OUTLINE OF PROPOSAL

1. SITE ADDRESS:

5 Huntingdale Drive, Thornton

Lot 812 in DP 1032401

2. APPLICANT NAME:

Stevens Holdings Pty Ltd

3. APPLICANT ADDRESS:

Suite 6, 257-259 Central Coast Highway, Erina

4. BUILDINGS & OTHER STRUCTURES CURRENTLY ON SITE:

- Vacant

5. BRIEF DESCRIPTION OF THE PROPOSAL:

- Proposed Childcare facility
- With Associated Landscaping, Car Parking, Earthworks & Signage

DEMOLITION PHASE

1. N/A

ONGOING OPERATIONS PHASE – SERVICE STATION

1. A private waste contractor will be engaged to remove general waste from the child care centre on a weekly basis.
2. A private recycling contractor will be engaged to remove recycling from the child care centre on a weekly basis.
3. A site specific Waste Management Plan will be prepared by the occupiers to ensure waste is managed correctly until removed by the nominated contractor.

CONSTRUCTION PHASE

The waste will be separated on site by builder's contractors and builder's labourers during the construction stage. The site will be checked on a regular basis to make sure no recyclable materials are mixed with non-recyclable materials, and to set aside on site an area to store the recyclable materials for transportation to local recycling plants. The site manager will erect a sign on site for waste areas, and will inform the builder's staff where material is to be collected for recycling. The site manager and/or builder will impose the execution of the waste separation policy on a regular basis and to have on-going checks.

DESCRIPTION		DESTINATION	
WASTE MATERIALS	**Vol (m^3)**	**ON SITE**	**OFF SITE**
Excavation Material/ Garden Waste	69m^3	-	Taken to local site receiving clean fill material. Contaminated material taken to local waste management facility.
Tiles	<1m^3	-	Taken to local waste management facility.
Concrete	1.5m^3	-	Removed from site by concrete contractor.
Timber	<1m^3	-	Taken to local Recycling Facility.
Plasterboard	2m^3	-	Taken to local waste management facility.
Metal	1.5m^3	-	Taken to local Recycling Facility.
Other	<1m3	-	Taken to local waste management facility.

APPENDIX H: Traffic and Parking Assessment

TRAFFIC & PARKING ASSESSMENT

CHILD CARE CENTRE

LOT 821 DP 1032401

5 HUNTINGDALE DRIVE, THORNTON

PREPARED FOR: STEVENS GROUP

FEBRUARY 2022

21/182

TRAFFIC & PARKING ASSESSMENT
STEVENS GROUP

CHILD CARE CENTRE

LOT 821 DP 1032401
5 HUNTINGDALE DRIVE
THORNTON

Intersect Traffic Pty Ltd (ABN: 43 112 606 952)

Address:
16 Mount Harris Drive,
Maitland Vale NSW 2320
PO Box 268
East Maitland NSW 2323

Contact:
(Mob) 0423 324 188
Email: jeff@intersecttraffic.com.au

QUALITY ASSURANCE

This document has been prepared, checked and released in accordance with the Quality Control Standards established by Intersect Traffic Pty Ltd.

Issue	Date	Description	By
A	27/11/21	Draft	JG
B	28/11/21	Edit	JG
C	08/02/22	Final Proof/Client Amendments	JG
D	08/02/22	Amended Plans / Approved	JG

This document has been authorised by

Date 8th February 2022

Disclaimer

This report has been prepared based on the information supplied by the client and investigation undertaken by Intersect Traffic Pty Ltd & other consultants. Recommendations are based on Intersect Traffic's professional judgement only and whilst every effort has been taken to provide accurate advice, Council and any other regulatory authorities may not concur with the recommendations expressed within this report. This document and the information are solely for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by Intersect Traffic Pty Ltd. Intersect Traffic makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.

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CONTENTS

ATTACHMENTS

FIGURES

PHOTOGRAPHS

TABLES

1.0 INTRODUCTION

Intersect Traffic Pty Ltd was engaged by Stevens Group to prepare a Traffic and Parking Assessment Report for a proposed child care centre on Lot 1 DP 1032401 – 5 Huntingdale Drive, Thornton. The child care centre will provide 116 places for children aged 5 years and under and will operate as a Long Day Care Facility between the hours of 6.30 am and 6.30 pm. Thirty (30) on-site car parking spaces are proposed in an at grade car park adjacent to the centre accessed at Huntingdale Drive approximately 80 metres west of Thornton Road via the existing combined entry / exit to the site. The development concept plans are shown in ***Attachment A***.

This report is required to support a development application to Maitland City Council and presents the findings of the traffic and parking assessment including the following.

1. An outline of the existing situation in the vicinity of the site.
2. An assessment of the traffic impacts of the proposed development including the predicted traffic generation and its impact on existing road and intersection capacities.
3. Reviews parking, public transport, pedestrian, and cycle way requirements for the proposed development, including assessment against Council, Australian Standards and Transport for NSW (TfNSW) standards and requirements as required.
4. Presentation of conclusions and recommendations.

2.0 SITE DESCRIPTION

The subject site is shown in ***Figure 1*** below. It is located on the southern side of Huntingdale Drive approximately 80 metres west of Thornton Road, Thornton. The site is located within the Thornton Industrial area approximately 1km south of the Thornton shopping centre and 5 km south-east of Greenhills Shopping Centre.

The site is titled and addressed as Lot 821 DP 1032401, 5 Huntingdale Drive, Thornton and has an area of 3,138 m^2. The site has frontage to Huntingdale Drive with a combined entry/ exit driveway located at the western end of the site and is currently vacant industrial land. The site is currently zoned B5 – Business Development pursuant to the Maitland LEP (2011). The development site and existing site access are shown in ***Photographs 1 & 2***.

Figure 1 – Site Location

Photograph 1 – Development site

Photograph 2 – Existing site access

3.0 EXISTING ROAD NETWORK

3.1 Thornton Road

Thornton Road is a major local collector road, being the main access from the New England Highway into Thornton. Therefore it is under the care and control of Maitland City Council. Thornton Road runs north-south from the New England Highway through the Thornton industrial Area before crossing the Hunter Rail Line before connecting to the Thornton residential area. In the vicinity of the site Thornton Road is a two lane two-way sealed urban road constructed to a high standard (***Photograph 3***). Travel lane widths are approximately 3.5 metres with kerb and gutter north and south of Huntingdale Drive. A marked centreline and edge lines exist on the road in the vicinity of the development. A 60 km/h speed limit applies to this section of road and at the time of inspection Thornton Road was assessed as being in good condition, suitable for use by traffic associated with the proposed development.

Photograph 3 – Thornton Road in the vicinity of the site.

3.2 Huntingdale Drive

Huntingdale Drive in the vicinity of the site is a local industrial access road under the care and control of Maitland City Council with its primary function providing access to properties within the northern section of the Thornton Industrial Estate. In the vicinity of the site Huntingdale Drive has a carriageway width of 12.5 metres between upright kerb and gutter and drainage on both sides of the street. This allows two lanes of traffic one in each direction as well as on-street car parking along both sides of the road. A 50 km/h speed limit applies to this section of road and at the time of inspection it was assessed as being in excellent condition suitable for use by development traffic

as shown in ***Photograph 4***. Huntingdale Drive intersects with Thornton Road via a stop sign controlled priority urban seagull intersection as shown in ***Photograph 5***.

Photograph 4 – Huntingdale Drive in the vicinity of the site.

Photograph 5 – Thornton Road / Huntingdale Drive intersection.

4.0 ROAD NETWORK IMPROVEMENTS

There are two further road upgrades identified within the Thornton North Developer contributions plan that will increase the capacity of the local road network. These are;

1. Widening of Thornton Road to provide an additional travelling lane in each direction; and
2. The installation of traffic signals at the Raymond Terrace Road / Government Road intersection which will not impact on road capacity near Huntingdale Drive.

Item 1 works are within close vicinity of the site and will need to be undertaken within the next 10 years with the level of development growth within the Thornton North URA. It will double the capacity of Thornton Road near the site. Item 2 works are more remote from the site and unlikely to have a major impact on the development and construction works on this project is imminent.

Further improvements to the local road network may be undertaken in the future in line with Maitland City Council's Works Programmes.

5.0 TRAFFIC VOLUMES

As part of this assessment Intersect Traffic engaged Northern Transport Planning and Engineering (NTPE) to undertake traffic data collection via manual counts during AM (10 November 2021) and PM (9 November 2021) peak periods at the Thornton Road / Huntingdale Drive urban seagull intersection. The manual intersection counts identified the peak hour periods were 8.00 am – 9.00 am & 4.15 pm to 5.15 pm. Traffic data collected as part of this assessment is provided within ***Attachment B***.

The peak hour two way mid-block traffic volumes recorded on Thornton Road and Hunter Street road sections from these counts are provided in ***Table 1*** below. Projected two way mid-block traffic volumes for 2031 have been calculated using the average lower Hunter background traffic growth rate of 1.5% per annum. These are also presented in ***Table 1*** below with both the 2021 and 2031 traffic volumes used in this assessment.

Table 1 – Current and Future Peak Traffic Volumes

Road	Section	2021		2031	
		AM (vtph)	PM (vtph)	AM (vtph)	PM (vtph)
Thornton Road	north of Huntingdale Drive	1903	2053	2209	2383
Thornton Road	south of Huntingdale Drive	2016	2026	2340	2351
Huntingdale Drive	west of Thornton Road	431	371	500	431

6.0 ROAD CAPACITY

The capacity of urban roads is generally determined by the capacity of intersections. However, Table 4.3 of the *RTA's Guide to Traffic Generating Developments* provides some guidance on mid block capacities for urban roads for a level of service (LoS C). This table is reproduced below. Based on this table noting Thornton Road and Huntingdale Drive currently as two lane two way undivided roads they would have a two-way mid-block capacity of 1,800 vtph. However Thornton Road as a major collector road can still operate satisfactorily with a LoS D and one way lane capacity up to 1,200 vtph. This would increase the two-way mid-block capacity to 2,400 vtph. Therefore the road capacities adopted in this assessment are;

- Thornton Road – 2,400 vtph; and
- Huntingdale Drive – 1,800 vtph.

Table 4.3
Typical mid-block capacities for urban roads with interrupted flow

Type of Road	One-Way Mid-block Lane Capacity (pcu/hr)	
Median or inner lane:	Divided Road	1,000
	Undivided Road	900
Outer or kerb lane:	With Adjacent Parking Lane	900
	Clearway Conditions	900
	Occasional Parked Cars	600
4 lane undivided:	Occasional Parked Cars	1,500
	Clearway Conditions	1,800
4 lane divided:	Clearway Conditions	1,900

Source: - RTA's Guide to Traffic Generating Developments (2002).

From the traffic volume data collected by Northern Transport Planning and Engineering (NTPE) for this assessment it can be seen that as the highest existing peak two way mid-block traffic volumes (Thornton Road – 2,053 vtph & Huntingdale Drive - 431 vtph) are less than the determined two way mid-block road capacities of 2,400 vtph and 1,800 vtph respectively, there is existing spare capacity within the local road network to cater for additional traffic generated by development in the area.

7.0 ALTERNATE TRANSPORT MODES

7.1 Public Transport

Hunter Valley Buses run public transport (bus) services in the area. Route 182 (Rutherford to Thornton) runs along Thornton Road past the site within 80 metres of the site (see ***Figure 2*** below). This provides a frequent and reliable service to all the major shopping, medical, and business areas between Rutherford and Thornton as well as connecting to the Hunter Rail Line at Maitland Station. With bus interchanges located at Maitland Railway Station and Greenhills the site can be conveniently accessed by bus from any residential areas in the Maitland area. The nearest bus stops are located on Thornton Road 120 metres south of Huntingdale Road. The site is also within convenient walking distance of Thornton Railway Station (500 metres). It can therefore be concluded that the site is already well serviced by public transport which could be used by staff and parents to access the site.

7.2 Pedestrians and Bicycles

As a mainly industrial area there is not a lot of pedestrian or cycle infrastructure in the area. There is no concrete pedestrian paths or on and off road cycleways along Huntingdale Drive or Thornton Road south of Huntingdale Drive. Pedestrians and cyclists using these section of the road network will need to use the grassed footways or parking lanes sharing the road pavement with other vehicles. There is however a shared concrete pedestrian / cycle pathway running along the western side of Thornton Road from Huntingdale Drive to Thornton Railway Station that was constructed when the Thornton Railway Overbridge was replaced a few years ago (see ***Photograph 6***).

The nearest safe pedestrian crossing facilities for pedestrians in the area are the pedestrian crossings provided within the signalised intersection of Railway Avenue (extension of Thornton Road) and Glenroy Street in the Thornton village area some 600 metres north of the site.

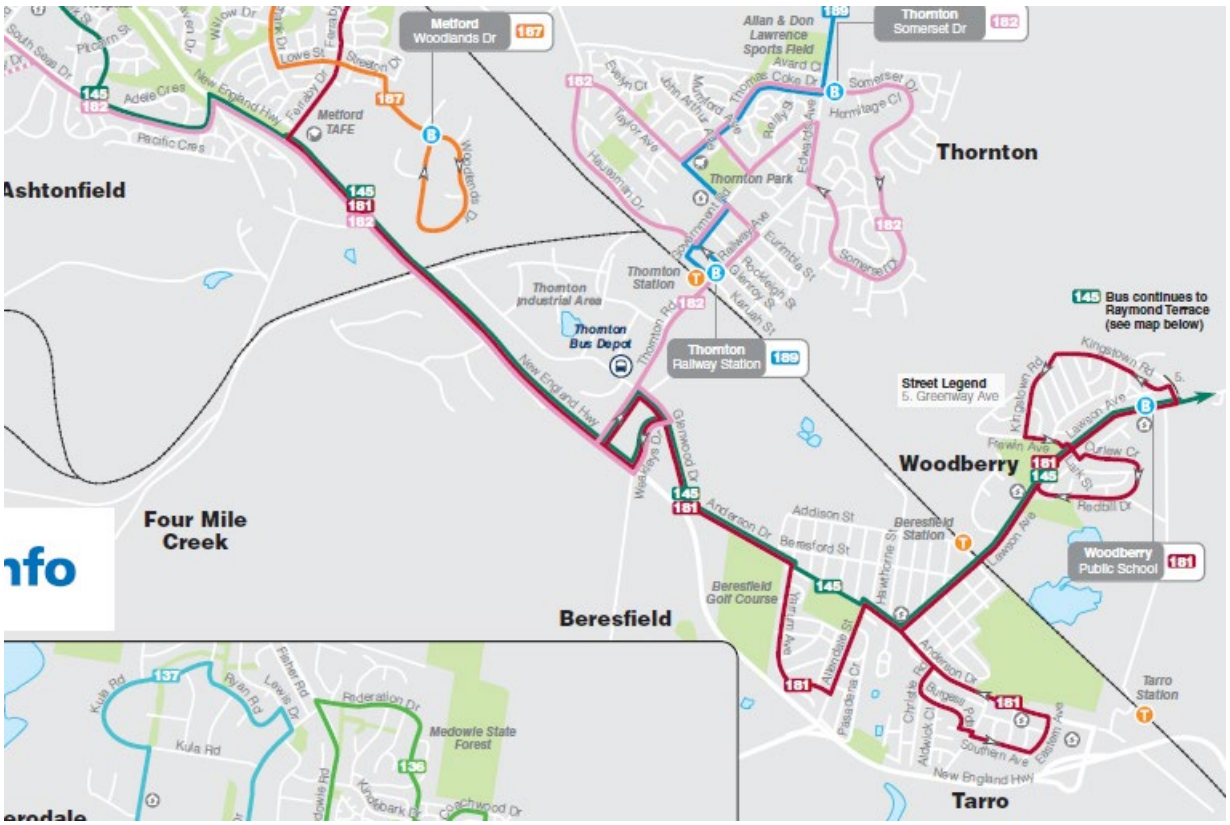


Figure 2 – Bus route map.

Photograph 6 – Shared concrete pathway Thornton Road north of site.

8.0 DEVELOPMENT PROPOSAL

The development proposal is to construct a child care centre on the site providing 116 places for children aged 5 years and under which will operate as a Long Day Care Facility between the hours of 6.30 am and 6.30 pm. Thirty (30) on-site car parking spaces are proposed in an at grade car park adjacent to the centre accessed off Huntingdale Drive via the existing combined entry / exit access driveway to the site located 115 metres west of Thornton Road. The development concept plans are shown in ***Attachment A***.

Specifically the site development includes;

- 1 newly constructed child care centre building;
- Amenities;
- Covered veranda and outdoor play space;
- 30 on-site car parks including 1 accessible space;
- External storage shed (36 m^2);
- Refuse and plant enclosure beside entry to car park;
- Landscaping; and
- Use of the existing combined entry / exit driveway to the site.

9.0 TRAFFIC GENERATION

The NSW RMS' *Guide to Traffic Generating Development's* provides specific advice on the traffic generation potential of various land uses.

In regard to Child Care Centres the following advice is provided within Table 3.6 of the guide.

Table 3.6
Traffic generation rates

Centre Type	Peak Vehicle Trips / Child		
	7.00-9.00am	2.30-4.00pm	4.00-6.00pm
Pre-school	1.4	0.8	-
Long-day care	0.8	0.3	0.7
Before/after care	0.5	0.2	0.7

Source: - RTA's Guide to Traffic Generating Developments 2002.

Using these rates the traffic generating potential of the proposed 116 place child care centre can be calculated as follows;

AM Peak Hour

Traffic Generation = 0.8 vehicle trips per child x 116 children
= **93 vtph**.

PM Peak Hour

Traffic Generation = 0.7 vehicle trips per child x 116 children
= **82 vtph**.

10.0 TRIP DISTRIBUTION

Before considering the traffic impacts of the development, the traffic generated by the development needs to be distributed onto the local road network. In this regard assumptions need to be made in relation to origins and destinations of trips and the nature of the trips to and from the site. In determining the trip distribution it is considered that because of the location of the site it is likely that the majority of the children attending the centre will access the sight from the north from the residential areas of Thornton, Somerset Park, Thornton North and Chisholm. It is also assumed inbound and outbound trips will be equal in the peak hour. The assumptions used in distributing the traffic are listed below.

AM peaks & PM peaks

- In the AM peak all trips will arrive via Thornton Road with origins of 80 % from and to the north and 20% from the south, respectively as children will be transported to the site from their homes;
- In the PM peak all trips will arrive via Thornton Road with origins of 50% from the north and 50% from the south as some children will be picked up be parents on their way home from work in Newcastle, Beresfield and other destinations east and south of the site.
- In the AM peak all trips will leave via Thornton Road with destinations from 50 % north and 50 % south as some children will be dropped off by parents on their way to work in Newcastle, Beresfield and other destinations east and south of the site.
- In the PM peak all trips will depart via Thornton Road with destinations of 80 % to the north and 20% to the south, respectively as children will be transported home from the site; and
- 50% of the trips will be inbound and 50% of trips will be outbound;

The resulting trip distribution onto the road network is therefore likely to be as shown below in ***Figure 3.***

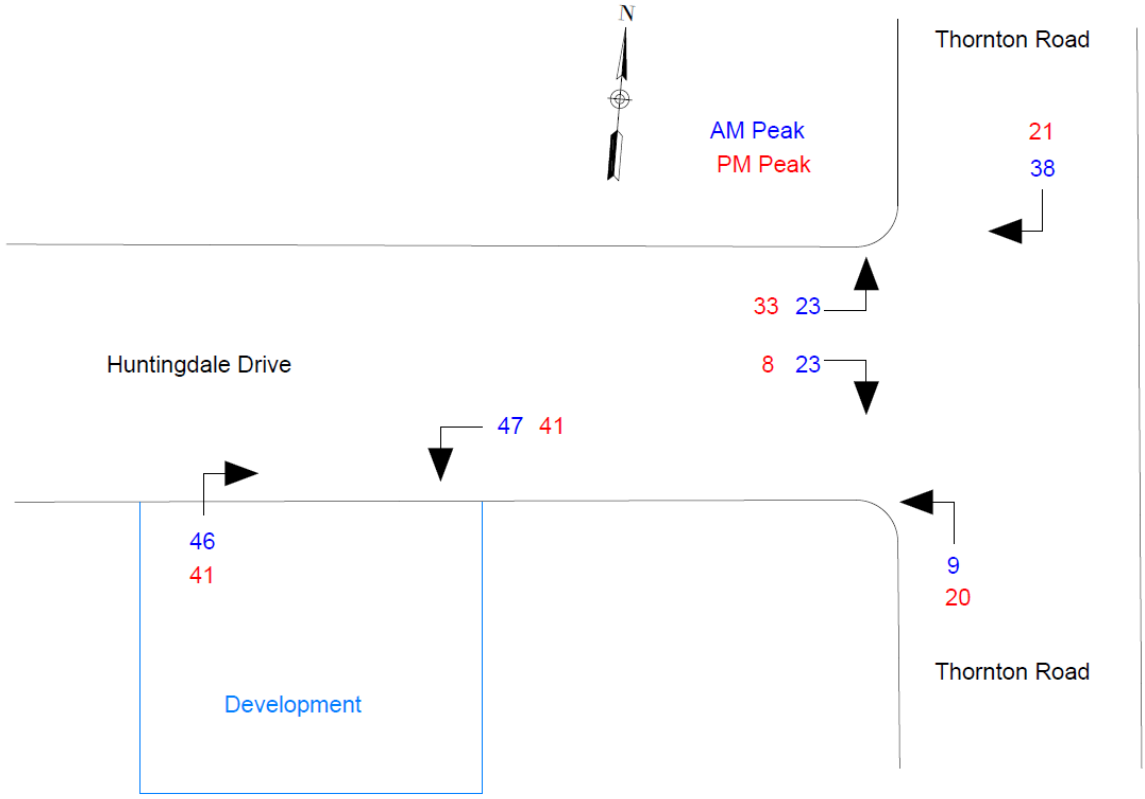


Figure 3 – Development Traffic Distribution

11.0 TRAFFIC IMPACTS OF DEVELOPMENT

The traffic impacts that the development will have on the local road network include:

- The impact of the additional traffic generated by the development on the capacity of the road network;
- The road safety issues associated with the proposed access to the development; and
- The parking demand generated by the development.

11.1 Road Network Mid-Block Capacity

It has previously been shown in ***Section 6*** of this report that the adjacent road network is currently operating within its technical capacity and the addition of up to 93 vtph on Huntingdale Drive and 61 vtph on Thornton Road resulting from this development (see ***Figure 3***) will not result in the technical mid-block road capacity thresholds determined in ***Section 6*** being reached until 2031. By 2031 the capacity of the two lane two-way Thornton Road is likely to be reached and this section of road will need to be widened to four lanes as per the developer contributions plan for Thornton North. This is shown in ***Table 2*** below. Therefore any developer contributions paid by this development to road works should be assigned to the Thornton Road widening project and the contribution would then represent the developments fair and reasonable contribution to the upgrade works. Therefore subject to satisfactory intersection performance and payment of the developer contribution for future widening of Thornton Road, the development will not adversely impact on the local road network..

Table 2 – Two Way Mid-block Road Capacity Assessment

Road	Section	Capacity	2021		2031		Development traffic	
		vtph	AM (vtph)	PM (vtph)	AM (vtph)	PM (vtph)	AM	PM
Thornton Road	north of Huntingdale Drive	2400	1964	2107	2270	2437	61	54
Thornton Road	south of Huntingdale Drive	2400	2048	2054	2372	2379	32	28
Huntingdale Drive	west of Thornton Road	1800	524	453	593	513	93	82

11.2 Intersection Capacity

The major intersection likely to be impacted by this development is the Thornton Road / Huntingdale Drive stop sign controlled urban seagull T-intersection. As traffic from the development gets further distributed through the network the additional traffic generated by the development is disbursed such that it would likely represent less than 1% of existing traffic through the busy road intersections that have a high level of intersection control and therefore would not have any noticeable or adverse impact on these intersections. It is therefore reasonable to conclude that should the development not adversely impact on the Thornton Road / Huntingdale Drive intersection it will not adversely impact on other intersections on the local road network.

By observation the intersection is currently operating within its capacity requirements however to demonstrate this, the intersection has been modelled using the Sidra intersection modelling software. This micro-analytical program identifies “Level of Service” (LoS) criteria for intersection analysis which range from LoS A to LoS F. Assessment is then based on the level of service requirements of TfNSW shown below. Assumptions made in this modelling are;

- The intersection remains as an urban seagull though it is likely to become either a left in or out only give way controlled priority T-intersection or a signalised intersection with the widening of Thornton Road. This will be determined as part of the widening project.
- Background traffic growth of 2% per annum has been used to reflect higher than average growth in the Chisholm and Thornton North areas; and
- Minimum gap acceptance data provided by Austroads has been used in the modelling.

Table 4.2
Level of service criteria for intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

Source: - RTA's Guide to Traffic Generating Development (2002).

The results of the modelling are summarised below in ***Table 3*** for the worst movement results. The full movement summary tables generated by the models are provided in ***Appendix C***.

Table 3 – Sidra Summary Results – Thornton Road / Huntingdale Drive urban seagull intersection.

Scenario	LoS	Average Delay (seconds)	95% Back of Queue Length (veh)
2021AM peak	B	16.3	0.3
2021PM peak	F	71.0	2.7
2021 AM peak + development	B	16.7	0.4
2021 PM peak + development	F	112.1	5.2
2031 AM peak + development	B	23.6	0.8
2031 PM peak + development	F	2612.9	58.1

This modelling shows that the intersection already operates with a LoS F for vehicles turning left out of Huntingdale Drive in the PM peak with high northbound traffic volumes on Thornton Road. Currently delays average around 71 seconds and queue lengths are only around 2.7 cars. With the development the average delays will extend by 50 seconds but queue lengths only increase by 2 to 3 cars. It is considered this is not sufficient to warrant upgrading of the intersection immediately as this indicates that the development only has a minor impact on the operation of the intersection during the PM peak. During the AM peak the intersection operates satisfactorily post development through to 2031 with good levels of service and little queuing. By 2031 the failure of the intersection is such that a higher level of control or restriction of movements is needed and this will happen as part of the Thornton Road widening project.

As previously mentioned the traffic issues at this intersection is a result of continued development of the Thornton Industrial area and the Thornton North residential area and all these developments are required to contribute to these road upgrades. It is not the sole responsibility of this development to construct and fund improvement works and the improvements should be undertaken in conjunction with the Thornton Road widening project. Therefore the developer contributions required of this development should be allocated to the Thornton Road widening project and would represent the developments fair and reasonable contribution to this work.

As the development only has a minor impact on the operation of the intersection it is considered the development can still be supported by Council with the payment of normal developer contributions for the future road upgrading works.

11.3 Access

The on-site car park for this development will be accessed via the existing combined entry / exit vehicular access crossing and driveway at Huntingdale Drive. In assessing the access compliance with Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* the following is noted:

- Vehicular sight distance at the access has been observed to be suitable to meet the requirements as shown in Figure 3.2 of the Standard. i.e. minimum 45 metres for a 50 km/h speed zone
- Pedestrian sight lines as required in Figure 3.2 of the Standard is achieved at the existing access; and
- The access supports a 30 space car park for Class 1A and Class 3 parking accessed from a local road. Table 3.1 of the Standard thus requires a minimum Category 1 access facility to be constructed. Table 3.2 of the Standard then designates a Category 1 access facility as a combined entry / exit 3.0 metres to 5.5 metres wide. The proposed access being a combined entry / exit driveway 6 metres wide conforms to a Category 2 access which meets the requirements of the Australian Standard.

It is therefore concluded the proposed car park access would be safe and suitable to service the car park and comply with Maitland City Council and Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking,* though a centre-line delineation on the existing access may be required to comply with Maitland City Council's requirements that the entry and exit lanes be suitably identified.

11.4 Off-Street Parking

On-site parking and manoeuvrability should comply with Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *Section C2 – Child Care Centres* within the *Design Guidelines* of Maitland City Council's DCP (2011). The DCP states in part that;

- *Minimum on-site parking shall be provided in accordance with Child Care Centre parking requirements in NSW Road & Traffic Authority's Guide to Traffic Generating Developments current at the time (currently at the rate of one space for every four children in attendance.) Note that the minimum parking requirements in the RMS guide is inclusive of client and staff parking.*
- *One of the allotted vehicle parking spaces shall be provided for disabled parking / service vehicle close to the main entrance of the child care centre.*
- *Parking area dimensions and parking layout shall comply with Australian Standard 2890.1-2004 User Class 3 (being 2.6 metres wide). A minimum aisle width of 6.5 metres shall be provided.*
- *Where 90 degree on-site parking is provided adjacent to the building, pathway access between the car spaces and the building entry point. In such cases vehicle wheel stops must be provided.*
- *A footpath must be provided not less than (1) metre wide across the frontage of the child care establishment building and extend the full length of car park where the footpath connects directly to the car park.*
- *Pedestrian access between public street frontage to the child care centre site and the building should be segregated from vehicle movement areas.*
- *A minimum of two (2) parallel car parking spaces* should *be provided adjacent to the child care centres building entrance to enhance convenience and safety for parents and children.*

Based on the above DCP advice the on-site parking requirement for the child care centre can be calculated as 29 spaces. The proposed development provides 30 car spaces including an accessible space near the building entrance therefore is considered to generally comply with Council's requirements for car parking. A footpath extends the length of the car park along the front of the car parking and pedestrian access through the parking spaces is available via the

shared area for the accessible car parking. Whilst the plans provided to Intersect Traffic do not show dimensions it has been advised that the car parking spaces and aisle widths also comply with Council's requirements. A turning bay has been provided at the end of the car park to further facilitate movement through the site and comply with Australian Standard requirements for long blind aisle car parks. The two requirements of Council that the development does not comply with are;

1. The provision of a parallel 2 space drop off area near the entrance. It is argued however that the design of the car park is just as convenient for parents as providing a dedicated set down bay; and
2. There is no pedestrian access from the street. This is not considered to be required as the grade difference between the street frontage and the car park is significant (2 to 3 metres) therefore pedestrian access from the street frontage would only be able to be provided via stairs. Therefore the dropping off of children from the street frontage will not be popular and with a 1 space excess within the car park there will be very little if any pedestrian access from the kerb to the child care centre. As such whilst the pedestrian access could be conditioned on any consent issued it would not be necessary.

Overall it is considered the proposed child care centre would comply with Australian Standard *AS2890.1-2004 Parking facilities Part 1 – Off street car parking* and Maitland City Council's DCP requirements for on-site car parking.

11.5 Servicing

In terms of the provision of a service bay it should be noted that as a child care centre:

1. Most consumables are purchased by staff and transported to site within private light vehicles;
2. Waste collection will be via private contractor during non-peak periods allowing the collection vehicle to enter and exit the site in a forward direction and collecting the waste from the waste refuge area designated on the plans; and
3. Other deliveries to the site will be infrequent (once or twice a week) using small rigid vehicles (SRV) that could utilise a normal car parking space within the car park. All these deliveries would occur outside the peak parking demand periods for the child care centre, therefore, will not conflict with the majority of child drop off and pick up traffic movements.

12.0 PEDESTRIAN & CYCLE FACILITIES

The proposed development will not generate any external pedestrian traffic. Children are transported to the centre by private vehicle as parents then tend to be heading off to or coming home from work. Therefore no nexus exists for the provision of additional external pedestrian infrastructure.

However internal pedestrian linkages are important within the site and a pedestrian footpath will be provided along the front of the car park directing parents to the entrance to the building. A suitable marked foot crossing of the car park at the entrance to the building will also be provided to ensure safe crossing of the car park by pedestrians at an appropriate location.

Again the development will not generate any significant cycle traffic therefore no nexus exists for the provision of any additional external infrastructure. Storage areas and end of trip facilities will be available within the centre however to encourage staff to consider cycling to and from work.

13.0 ALTERNATE TRANSPORT MODE FACILITIES

The proposed development will not generate increased demand for public transport therefore will not generate a need to improve the public transport services to the site. It is concluded that no changes to the existing public transport services is required as a result of this development and no additional infrastructure would be required.

14.0 CONCLUSIONS

This traffic and parking assessment for a proposed 116 place child care centre on Lot 1 DP 1032401 – 5 Huntingdale Drive, Thornton has determined the following;

- Current traffic volumes on the local and state road network are below the technical mid-block capacities of the roads and as such there is spare capacity within the road network to cater for development in the area.
- It is expected that the additional traffic generated by the development will be up to 93 vtph in the AM peak and 82 vtph in the PM peak.
- The local road network has sufficient spare capacity to cater for the additional development traffic without adversely impacting on current levels of service (LoS) experienced by motorists on the road network.
- Sidra modelling of the Thornton Road / Huntingdale Drive intersection has shown that significant delay already occurs at this intersection during the PM peak periods while the intersection operates satisfactorily during the AM peak post development through to 2031. The development has little impact on the operation of the intersection with no loss of LoS and only relatively minor increases in average delay and queuing.
- As the development only has a minor impact on the operation of the Thornton Road / Huntingdale Drive intersection it is considered the development can still be supported by Council with the payment of normal developer contributions for the future road upgrading works on Thornton Road.
- The proposed car park access would be safe and suitable to service the car park and could comply with Maitland City Council and Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking.*
- A review of the plans indicates that the car parking layout would comply with the requirements of both Maitland City Council's DCP (2011) and *Australian Standard AS2890.1-2004 Parking Facilities – Off-street car parking* ensuring sufficient parking supply that is both safe and convenient for parents and children.
- Servicing of the site will be infrequent (once or twice a week) by vehicles only up to a small rigid vehicle (SRV) that could utilise on-site car parking spaces outside peak parking demand periods for the child care centre.
- Waste collection is proposed via a private contractor during non-peak periods allowing the collection vehicle to enter and exit the site in a forward direction and collecting the waste from the waste refuge area designated on the plans.
- The proposed development will not generate any external pedestrian traffic. Therefore no nexus exists for the provision of additional external pedestrian infrastructure.
- The proposed development will not generate an increased need for public transport therefore will not require changes to existing public transport services or the need for additional infrastructure.
- The development will not generate any significant additional bicycle traffic therefore no nexus for the provision of additional cycle ways in the vicinity of the site exists as a result of the development.

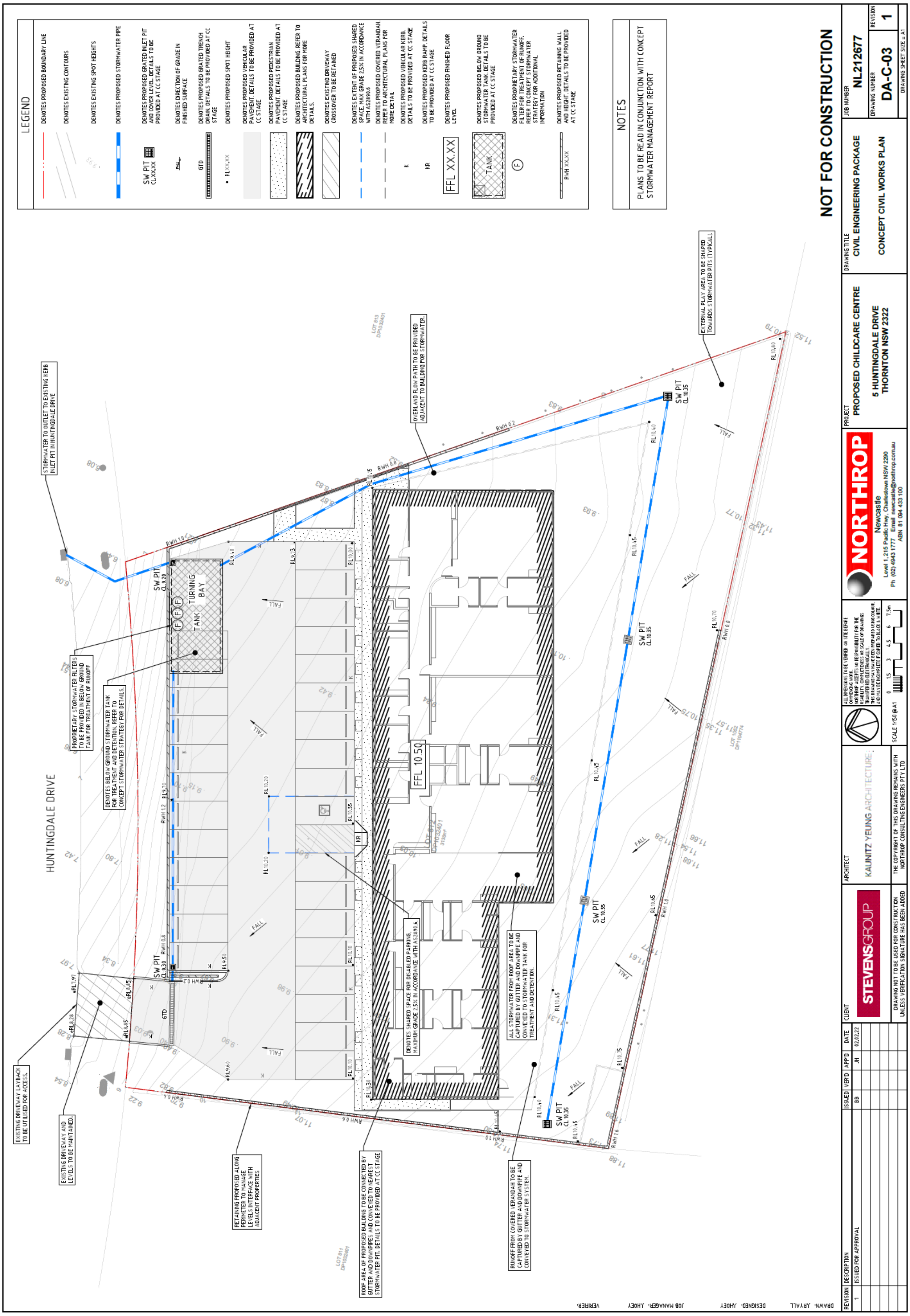
15.0 RECOMMENDATION

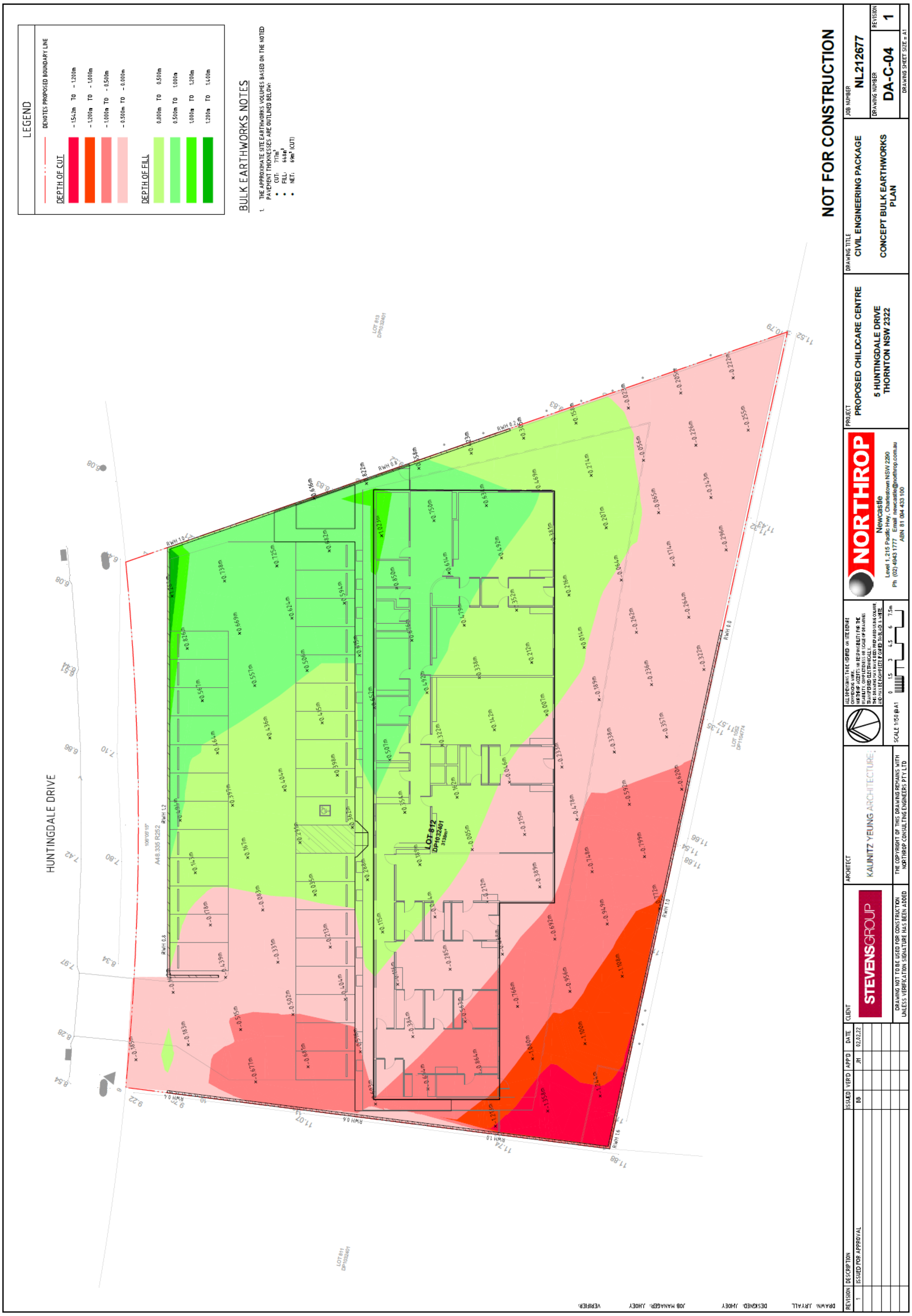
Having carried out this traffic and parking assessment for a proposed 116 place child care centre on Lot 1 DP 1032401 – 5 Huntingdale Drive, Thornton it is recommended that the proposal can be supported from a traffic impact perspective as it will not adversely impact on the local road network and complies with all relevant Maitland City Council, Australian Standard and NSW Roads and Maritime Services (RMS) requirements.

JR Garry BE (Civil), Masters of Traffic
Director
Intersect Traffic Pty Ltd

ATTACHMENT A

Development Plans


NOT FOR CONSTRUCTION
HUNTINGDALE DRIVE
LEGEND
NOTES
PLANS TO BE READ IN CONJUNCTION WITH CONCEPT STORMWATER MANAGEMENT REPORT
TURNING BAY
TANK
FFL 10.50
NORTHROP
STEVENSGROUP
KAUNITZ YEUNG ARCHITECTURE
PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322
CIVIL ENGINEERING PACKAGE
CONCEPT CIVIL WORKS PLAN
NL212677
DA-C-03
ISSUED FOR APPROVAL


LEGEND
DENOTES PROPOSED BOUNDARY LINE
DEPTH OF CUT
-1.542m TO -1.200m
-1.200m TO -1.000m
-1.000m TO -0.500m
-0.500m TO -0.000m
DEPTH OF FILL
0.000m TO 0.500m
0.500m TO 1.000m
1.000m TO 1.200m
1.200m TO 1.400m
BULK EARTHWORKS NOTES
1. THE APPROXIMATE SITE EARTHWORKS VOLUMES BASED ON THE NOTED PAVEMENT THICKNESSES ARE OUTLINED BELOW:
CUT: 717m³
FILL: 648m³
NET: 69m³ (CUT)
HUNTINGDALE DRIVE
LOT 812
NOT FOR CONSTRUCTION
NORTHROP
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100
PROJECT
PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322
DRAWING TITLE
CIVIL ENGINEERING PACKAGE
CONCEPT BULK EARTHWORKS PLAN
JOB NUMBER
NL212677
DRAWING NUMBER
DA-C-04
REVISION
1
DRAWING SHEET SIZE = A1
STEVENSGROUP
KAUNITZ YEUNG ARCHITECTURE
ISSUED FOR APPROVAL

ATTACHMENT B

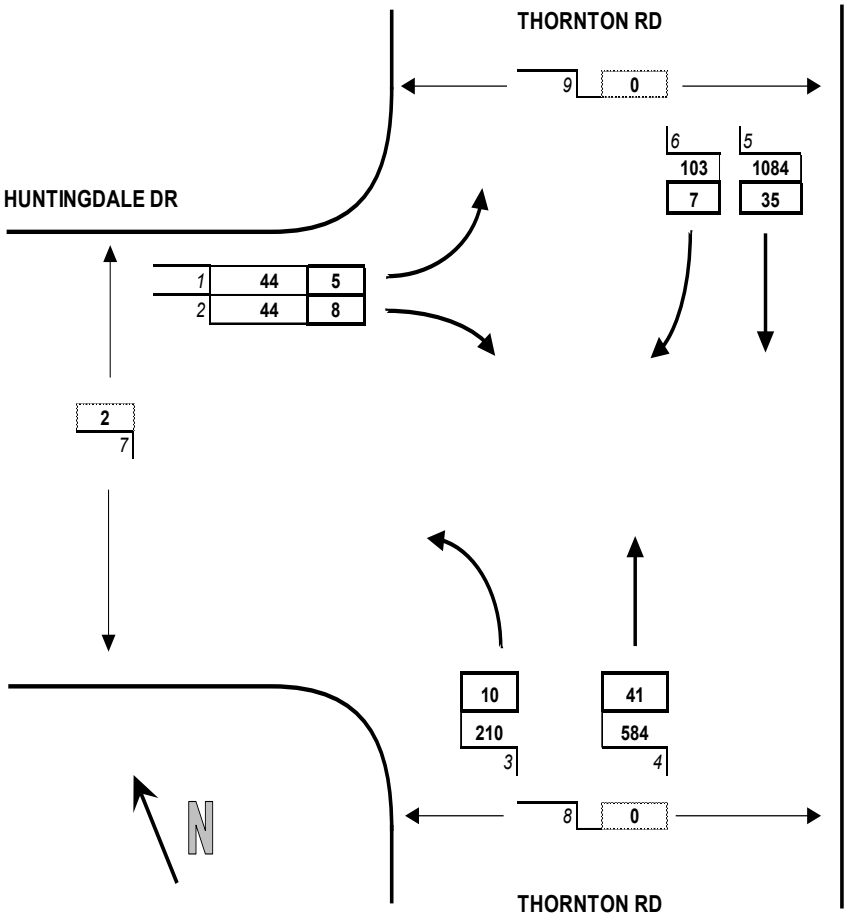
Traffic Count Sheets

10/11/2021 - THORNTON RD / HUNTINGDALE DR, THORNTON

9:00 <<< HOUR ENDING **Wednesday**

Summary: THORNTON RD / HUNTINGDALE DR	
2069	Total Light Vehicles
106	Total Heavy Vehicles
2	Total Pedestrians

Quality Surveys
223390



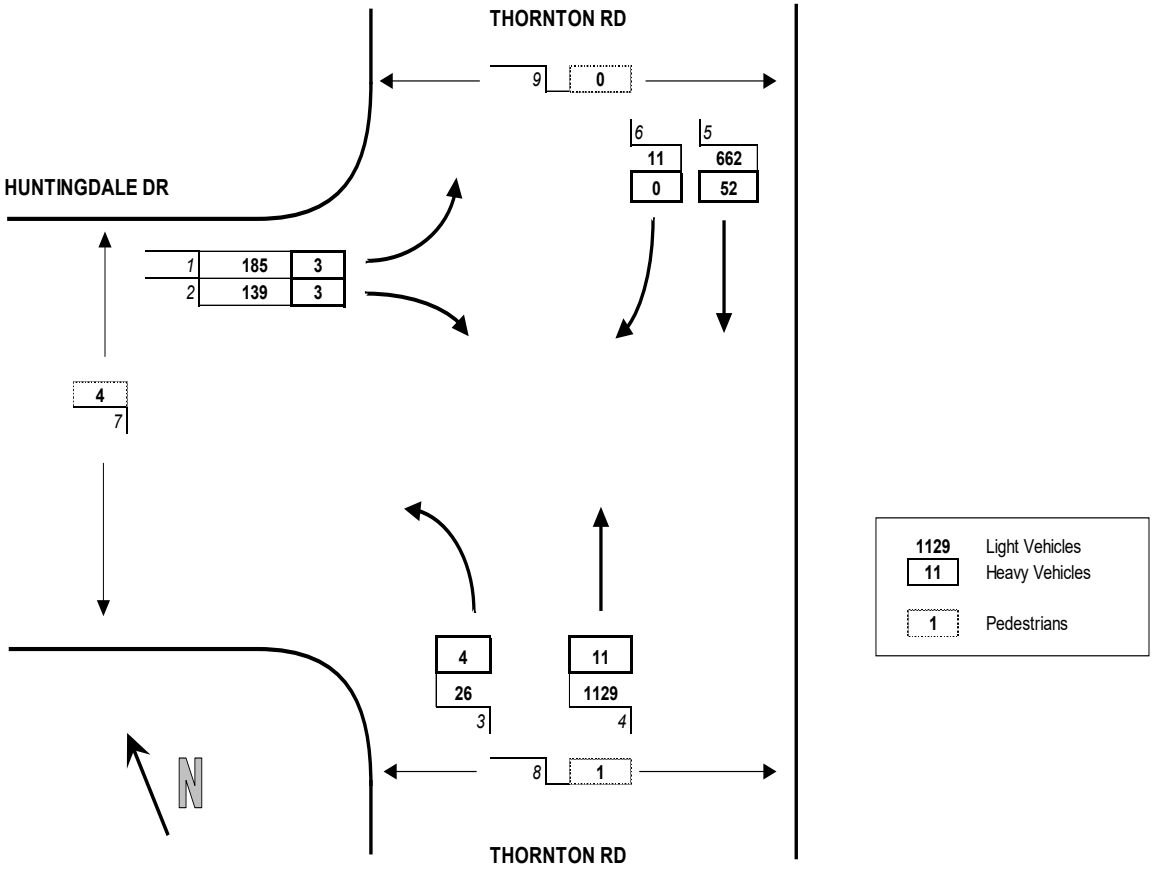
584	Light Vehicles
41	Heavy Vehicles
0	Pedestrians

9/11/2021 - THORNTON RD / HUNTINGDALE DR, THORNTON

17:15 <<< HOUR ENDING **Tuesday**

Summary: THORNTON RD / HUNTINGDALE DR	
2152	Total Light Vehicles
73	Total Heavy Vehicles
5	Total Pedestrians

Quality Surveys
223390



ATTACHMENT C

Sidra Movement Summary Sheets

MOVEMENT SUMMARY

Site: 101 [2021 AM (Site Folder: General)]

Network: N101 [2021AM (Network Folder: General)]

Thornton Road / Huntingdale Drive urban seagull
November 2021 counts
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Thornton Road														
1	L2	232	4.5	232	4.5	0.129	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
2	T1	658	6.6	658	6.6	0.352	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		889	6.0	889	6.0	0.352	1.6	NA	0.0	0.0	0.00	0.15	0.00	58.0
North: Tornton Road														
9	R2	116	6.4	116	6.4	0.191	11.2	LOS A	0.3	2.3	0.70	0.88	0.70	49.1
Approach		116	6.4	116	6.4	0.191	11.2	NA	0.3	2.3	0.70	0.88	0.70	49.1
West: Huntingdale Drive														
10	L2	52	10.2	52	10.2	0.061	13.2	LOS A	0.1	1.0	0.74	0.86	0.74	49.1
11	T1	55	15.4	55	15.4	0.139	16.3	LOS B	0.2	1.5	0.71	1.01	0.71	41.1
Approach		106	12.9	106	12.9	0.139	14.8	LOS B	0.2	1.5	0.73	0.94	0.73	46.0
All Vehicles		1112	6.7	1112	6.7	0.352	3.8	NA	0.3	2.3	0.14	0.30	0.14	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 28 November 2021 11:30:46 AM
Project: C:\Work Documents\Projects\2021\2021.182 - Child Care Centre - Thornton\Sidra\Thornton_Huntingdale.sip9

MOVEMENT SUMMARY

Site: 101 [2021 PM (Site Folder: General)]

Network: N101 [2021PM (Network Folder: General)]

Thornton Road / Huntingdale Drive urban seagull
November 2021 counts
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Thornton Road														
1	L2	32	13.3	32	13.3	0.019	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	53.1
2	T1	1200	1.0	1200	1.0	0.619	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.3
Approach		1232	1.3	1232	1.3	0.619	0.5	NA	0.0	0.0	0.00	0.01	0.00	59.2
North: Tornton Road														
9	R2	12	0.0	12	0.0	0.038	17.1	LOS B	0.1	0.4	0.84	0.93	0.84	45.7
Approach		12	0.0	12	0.0	0.038	17.1	NA	0.1	0.4	0.84	0.93	0.84	45.7
West: Huntingdale Drive														
10	L2	198	1.6	198	1.6	0.825	71.0	LOS F	2.7	19.2	0.98	1.39	2.40	27.8
11	T1	149	2.1	149	2.1	0.734	41.6	LOS C	1.4	9.8	0.95	1.21	1.80	26.3
Approach		347	1.8	347	1.8	0.825	58.4	LOS E	2.7	19.2	0.97	1.31	2.14	27.3
All Vehicles		1591	1.4	1591	1.4	0.825	13.2	NA	2.7	19.2	0.22	0.30	0.47	48.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 28 November 2021 11:30:48 AM
Project: C:\Work Documents\Projects\2021\2021.182 - Child Care Centre - Thornton\Sidra\Thornton_Huntingdale.sip9

MOVEMENT SUMMARY

Site: 101 [2021 AM + development (Site Folder: General)]

Network: N101 [2021AM + development (Network Folder: General)]

Thornton Road / Huntingdale Drive urban seagull
November 2021 counts
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Thornton Road														
1	L2	241	4.4	241	4.4	0.134	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
2	T1	658	6.6	658	6.6	0.352	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		899	6.0	899	6.0	0.352	1.6	NA	0.0	0.0	0.00	0.15	0.00	57.9
North: Tornton Road														
9	R2	156	4.7	156	4.7	0.255	11.7	LOS A	0.4	3.2	0.72	0.91	0.79	48.8
Approach		156	4.7	156	4.7	0.255	11.7	NA	0.4	3.2	0.72	0.91	0.79	48.8
West: Huntingdale Drive														
10	L2	76	6.9	76	6.9	0.086	13.0	LOS A	0.2	1.5	0.74	0.88	0.74	49.3
11	T1	79	10.7	79	10.7	0.203	16.7	LOS B	0.3	2.2	0.74	1.02	0.77	40.6
Approach		155	8.8	155	8.8	0.203	14.9	LOS B	0.3	2.2	0.74	0.95	0.76	45.9
All Vehicles		1209	6.2	1209	6.2	0.352	4.6	NA	0.4	3.2	0.19	0.35	0.20	55.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 28 November 2021 11:30:51 AM
Project: C:\Work Documents\Projects\2021\2021.182 - Child Care Centre - Thornton\Sidra\Thornton_Huntingdale.sip9

MOVEMENT SUMMARY

Site: 101 [2021 PM + development (Site Folder: General)]

Network: N101 [2021PM + development (Network Folder: General)]

Thornton Road / Huntingdale Drive urban seagull
November 2021 counts
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Thornton Road														
1	L2	53	8.0	53	8.0	0.030	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
2	T1	1200	1.0	1200	1.0	0.619	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.3
Approach		1253	1.3	1253	1.3	0.619	0.6	NA	0.0	0.0	0.00	0.02	0.00	59.1
North: Tornton Road														
9	R2	34	0.0	34	0.0	0.114	17.8	LOS B	0.2	1.1	0.85	0.94	0.85	45.2
Approach		34	0.0	34	0.0	0.114	17.8	NA	0.2	1.1	0.85	0.94	0.85	45.2
West: Huntingdale Drive														
10	L2	233	1.4	233	1.4	0.966	112.1	LOS F	5.2	36.8	1.00	1.83	4.01	21.2
11	T1	158	2.0	158	2.0	0.795	47.8	LOS D	1.6	11.6	0.97	1.27	2.07	24.1
Approach		391	1.6	391	1.6	0.966	86.1	LOS F	5.2	36.8	0.98	1.60	3.23	21.9
All Vehicles		1677	1.3	1677	1.3	0.966	20.8	NA	5.2	36.8	0.25	0.41	0.77	44.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 28 November 2021 11:30:54 AM
Project: C:\Work Documents\Projects\2021\2021.182 - Child Care Centre - Thornton\Sidra\Thornton_Huntingdale.sip9

MOVEMENT SUMMARY

Site: 101 [2031 AM + development (Site Folder: General)]

Network: N101 [2031 AM + development (Network Folder: General)]

Thornton Road / Huntingdale Drive urban seagull
November 2021 counts
Site Category: (None)
Stop (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Thornton Road														
1	L2	294	4.4	294	4.4	0.163	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
2	T1	802	6.6	802	6.6	0.429	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		1096	6.0	1096	6.0	0.429	1.6	NA	0.0	0.0	0.00	0.15	0.00	57.9
North: Tornton Road														
9	R2	190	4.7	190	4.7	0.435	17.2	LOS B	0.8	6.1	0.84	1.03	1.16	45.5
Approach		190	4.7	190	4.7	0.435	17.2	NA	0.8	6.1	0.84	1.03	1.16	45.5
West: Huntingdale Drive														
10	L2	92	6.9	92	6.9	0.143	15.4	LOS B	0.3	2.3	0.79	0.97	0.79	47.8
11	T1	96	10.7	96	10.7	0.354	23.6	LOS B	0.5	4.0	0.85	1.06	1.05	35.4
Approach		189	8.8	189	8.8	0.354	19.6	LOS B	0.5	4.0	0.82	1.02	0.92	42.6
All Vehicles		1474	6.2	1474	6.2	0.435	5.9	NA	0.8	6.1	0.21	0.38	0.27	54.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 28 November 2021 11:31:08 AM
Project: C:\Work Documents\Projects\2021\2021.182 - Child Care Centre - Thornton\Sidra\Thornton_Huntingdale.sip9

MOVEMENT SUMMARY

Site: 101 [2031 PM + development (Site Folder: General)]

Network: N101 [2031PM + development (Network Folder: General)]

Thornton Road / Huntingdale Drive urban seagull
November 2021 counts
Site Category: (None)
Stop (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Thornton Road														
1	L2	64	8.0	64	8.0	0.037	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
2	T1	1463	1.0	1463	1.0	0.755	0.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.8
Approach		1527	1.3	1527	1.3	0.755	0.8	NA	0.0	0.0	0.00	0.02	0.00	58.5
North: Tornton Road														
9	R2	41	0.0	41	0.0	0.320	39.8	LOS C	0.4	2.9	0.95	1.01	1.07	35.6
Approach		41	0.0	41	0.0	0.320	39.8	NA	0.4	2.9	0.95	1.01	1.07	35.6
West: Huntingdale Drive														
10	L2	284	1.4	284	1.4	3.841	2612.9	LOS F[11]	58.1	411.4	1.00	3.89	12.82	1.3
11	T1	192	2.0	192	2.0	2.181	1110.0	LOS F[11]	28.8	205.2	1.00	3.85	13.63	1.6
Approach		476	1.6	476	1.6	3.841	2005.3	LOS F[11]	58.1	411.4	1.00	3.87	13.15	1.4
All Vehicles		2044	1.3	2044	1.3	3.841	468.5	NA	58.1	411.4	0.25	0.94	3.08	6.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 28 November 2021 11:31:24 AM
Project: C:\Work Documents\Projects\2021\2021.182 - Child Care Centre - Thornton\Sidra\Thornton_Huntingdale.sip9

APPENDIX I: Database Searches

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 210477

Client Service ID : 619649

Monteath & Powys Pty Ltd - Newcastle West Office

PO Box 2270 125 Bull Street
Danger New South Wales 2309

Attention: Sally Cottom

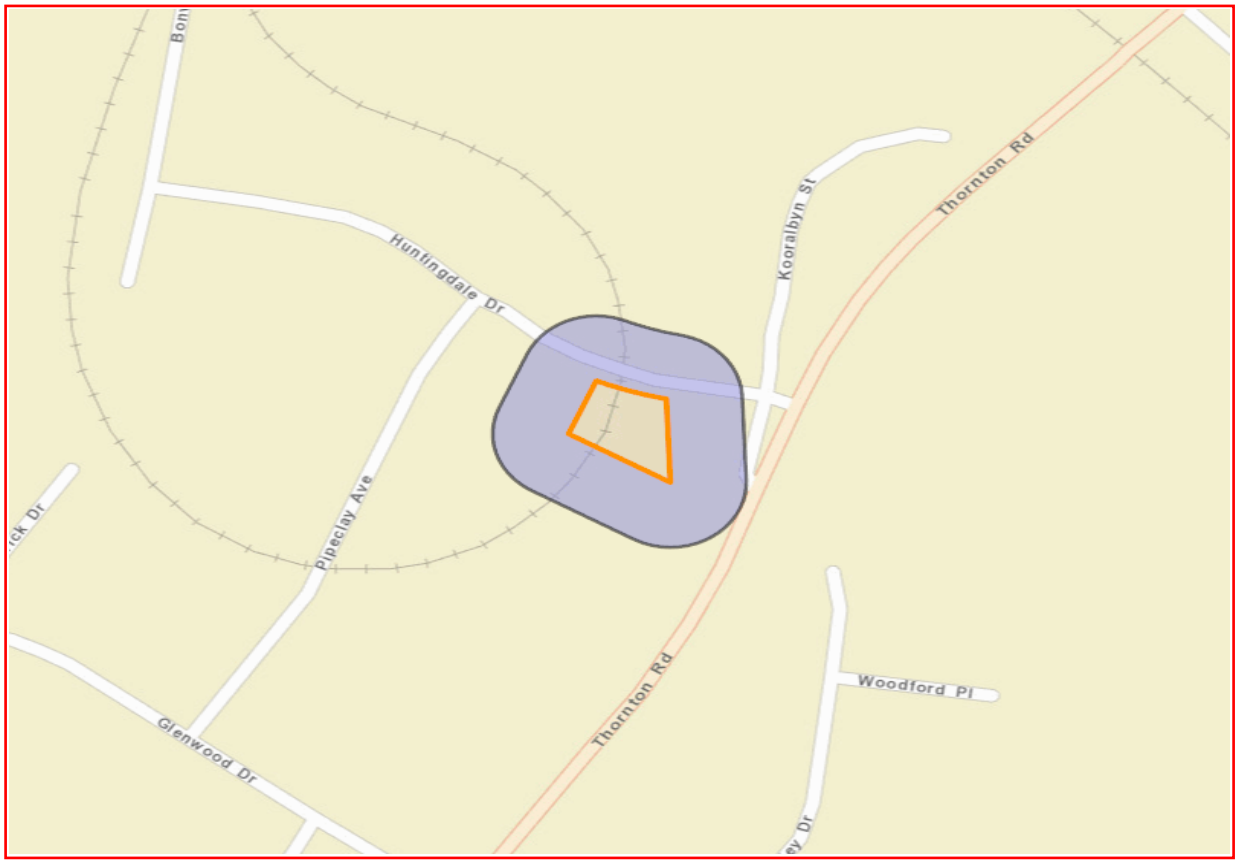
Email: s.cottom@monteathpowys.com.au

Date: 03 September 2021

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 812, DP:DP1032401, Section : - with a Buffer of 50 meters, conducted by Sally Cottom on 03 September 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

be BERESFIELD

Landscape—undulating low hills and rises on Permian sediments in the East Maitland Hills region. Slope gradients 3–15%, local relief to 50 m, elevation is 20–50 m. Partially cleared tall open-forest.

Landscape Variant—bea—steeper upper slopes (15–<25%).

Soils—moderately deep (<120 cm), moderately well to imperfectly drained Yellow Podzolic Soils (Dy2.21), Brown Podzolic Soils (Db1.21) and brown Soloths (Db2.41) occur on crests with moderately deep (<120 cm), well-drained Red Podzolic Soils (Dr2.21) and red Soloths (Dr2.41) on upper slopes, moderately well to imperfectly drained brown Soloths (Db2.41, Db1.41) and yellow Soloths (Dy3.41) on sideslopes and deep (>200 cm), imperfectly to poorly drained Yellow Podzolic Soils (Dy2.21), yellow Soloths (Dy2.41, Dy3.41) and Gleyed Podzolic Soils (Dg2.41) on lower slopes.

Qualities and Limitations—high foundation hazard, water erosion hazard, Mine Subsidence District, seasonal waterlogging and high run-on on localised lower slopes, highly acid soils of low fertility.

LOCATION

Undulating low hills and rises on Permian sediments in the East Maitland Hills region in the centre-west of the area, including Beresfield and East Maitland. Type location is south-west of Beresfield (Area reference 3 **71*****E, 63 **66*****N).

LANDSCAPE

Geology and Regolith

Permian Tomago Coal Measures—shale, mudstone, sandstone, coal, tuff and clay.

Permian Mulbring Siltstone—siltstone, claystone, thin sandstone, and limestone.

Small areas of Permian Waratah Subgroup also occur—cross-laminated grey brown sandstone.

Topography

Undulating low hills and rises. Local relief is 10–50 m. Elevation is 20–50 m. Slopes are 3–15%. Crests are broad (250–400 m). Sideslopes are long and gently inclined (350–750 m), with some very long footslopes up to 2 000 m long. Occasional short, steep sideslopes occur, with common terracetting. Drainage lines are deeply incised and narrow (2–3 m). Rock outcrop is generally absent.

Vegetation

Partially cleared tall open-forest comprising *Eucalyptus maculata* (spotted gum), *E. fibrosa* (broad-leaved ironbark), *E. punctata* (grey gum), *E. oblonga* (narrow-leaved stringybark), *E. eugenioides* (thin-leaved stringybark) and *E. paniculata* (grey ironbark). Understorey vegetation contains *Bursaria spinosa* (blackthorn), paperbarks including *Melaleuca nodosa,* and wattles, including *Acacia falcata.*

Eucalyptus tereticornis (forest red gum) occurs on some lower slopes.

In drainage lines, *Melaleuca styphelioides, Backhousia myrtifolia* (grey myrtle), *Alphitonia excelsa* (red ash) and *Lantana camera* (lantana) are common.

Land Use

Urban centres occur at East Maitland, Beresfield and some northern suburbs of Newcastle. Small areas have been cleared for grazing or poultry farming.

Existing Land Degradation

Disturbed areas suffer considerable erosion. Unsealed tracks which are poorly maintained exhibit minor gully erosion. Moderate to severe rill erosion may occur on exposed batters, occasionally batter collapse may occur due to tunnel erosion of subsoils. Moderate sheet erosion occurs where vegetative cover has been removed.

Minor salt scalds occur on some lower slopes.

Landscape Variants

Areas marked as **bea** on the map have steeper slopes (15–<25%); otherwise, they have similar landscape features to Beresfield soil landscape.

SOILS

Dominant Soil Materials

be1—Friable brownish black loam (topsoil—A_1 horizon)

Colour	brownish black (10YR 2/2, 10YR 2/3), occasionally black (10YR 2/1) or dark brown (10YR 3/3)
Texture	sandy loam to loam fine sandy or silt loam
Structure	weak, fine (10–20 mm) sub-angular blocky peds which part easily to <2 mm crumb peds
Fabric	rough ped
Field pH	moderately acid to neutral (pH 5.5–7.0)
Exposed condition	often friable, may be firm when dry
Permeability	highly permeable
Coarse fragments	gravel-sized platy ironstone and sub-angular sandstone generally few, but may be abundant. Very few fine charcoal fragments may occur
Roots	common to abundant, in-ped, fine
Type location	John Renshaw Drive, 200 m ENE of intersection with Minmi Road (Grid Ref. 3 **72**40*E, 63 **68**45*N). Soil Data System card 33, 0–10 cm

be2—Hardsetting dull yellowish brown sandy loam (topsoil—A_2 horizon)

Colour	dull yellowish brown (10YR 4/3) to dark brown (10YR 3/3, 7.5YR 3/3). Dry colour is often bleached dull yellow orange (10YR 7/2, 10YR 6/3). Few small rusty mottles may occur down root traces
Texture	ranges from sandy loam through clay loam to fine sandy clay loam
Structure	massive, rarely a weak to moderate (5–10 mm) sub-angular blocky ped occurs
Fabric	earthy, rarely rough ped
Field pH	moderately to slightly acid (pH 5.5–6.0)
Exposed condition	massive appearance, hardsetting and brittle when dry
Permeability	moderate
Coarse fragments	few to common gravel-sized tabular ironstone fragments may occur, occasionally in the form of a stone line at the base of this material. Few to common conglomerate pebbles and very few charcoal fragments may occur
Roots	few to common, fine
Type location	John Renshaw Drive, 200 m ENE of intersection with Minmi Road (Grid Ref. 3 **72**40*E, 63 **68**45*N). Soil Data System card 33, 10–15 cm

be3—Pedal brown plastic mottled clay (subsoil—B_2 horizon)

Colour	brown (7.5YR 4/4, 7.5YR 4/6), dark brown (7.5YR 3/3, 10YR 5/4), bright yellowish brown (10YR 6/6) and yellowish brown (10YR 5/6, 2.5Y 5/3) common, but ranging to greyish yellow brown (10YR 4/2) and dull yellowish brown (10YR 5/3, 10YR 4/3). Few to common red/grey/orange mottles occur
Texture	dominantly medium clay, ranging from light-medium to heavy plastic clay, occasionally fine sandy clay
Structure	strong, dense (10–20 mm) angular blocky peds. A 50–100 mm prismatic or angular blocky macrostructure is generally present
Fabric	smooth ped
Field pH	moderately to slightly acid (pH 5.0–6.0)
Exposed condition	when dry, fine 1–2 mm fragments form on the surface and cracking evident. When wet, a surface mulch is formed
Permeability	slow
Coarse fragments	common to many angular and sub-angular ironstone fragments may occur
Roots	few, fine, ex-ped
Type location	John Renshaw Drive, 200 m ENE of intersection with Minmi Road (Grid Ref. 3 **72**40*E, 63**68**45*N). Soil Data System card 33, 15–120 cm

be4—Reddish brown plastic pedal clay (subsoil—B_2, B_3 horizons)

Colour	reddish brown (5YR 4/6, 2.5YR 4/6), dull reddish brown (5YR 4/4), red/grey mottles may be common
Texture	medium to heavy plastic clay
Structure	primary 20–50 mm angular blocky peds which part easily to 10–20 mm angular blocky or polyhedral peds. A 100–200 mm prismatic macrostructure may occur
Fabric	smooth ped
Field pH	strongly to slightly acid (pH 4.5–6.0)
Exposed condition	when dry, fine (1–2 mm) fragments form on the surface. Cracking 2–5 cm in width common. Upon wetting, a surface mulch forms. Consistence is moderately firm to very firm when dry, weak and labile when moist
Permeability	slow to moderate
Coarse fragments	sub-angular and tabular ironstone fragments may occur and be common to many
Roots	few, ex-ped
Other	clay skins (cutans) abundant
Type location	John Renshaw Drive at Black Hill Road turnoff (Grid Ref. 3 **67**40*E, 63 **67**20*N). Soil Data System card 23, 40–85 cm

be5—Gleyed "puggy" silty clay (subsoil—B_2, B_3, C horizons)

Colour	dull yellow orange (10YR 7/2, 10YR 6/4), light grey (10YR 7/1), light yellow (2.5YR 7/3) occur. Red/orange/grey mottling may occur and be common
Texture	commonly silty clay, but ranging from sandy clay to light-medium clay
Structure	large (100–200 mm) prismatic peds part easily to 20–50 mm angular blocky or sub-angular blocky peds. Structure strong when dry, but massive when wet
Fabric	smooth ped
Field pH	moderately acid to neutral (pH 5.0–7.0)
Exposed condition	1–2 mm surface fragments form. When abundant tabular ironstones are present, surface condition is gravelly
Permeability	slow
Coarse fragments	few to abundant gravel-sized sub-angular tabular ironstone fragments, which may be stratified
Roots	few to absent, fine (<2 mm)
Type location	John Renshaw Drive at Black Hill Rd turnoff (Grid Ref. 3 **67**4**E, 63 **67**2**N). Soil Data System card 23, 85– 144 cm

Occurrence and Relationships

Moderately well-drained crests. 5–15 cm friable brownish black loam **(be1)** overlies 5–30 cm of hardsetting dull yellowish brown sandy clay loam **(be2)**, which in turn overlies 40–105 cm pedal brown plastic mottled clay **(be3)**. Soil boundaries are clear to sharp. Total soil depth is <120 cm [moderately well-drained Yellow Podzolic Soils (Dy2.21) and Brown Podzolic Soils (Db1.21, Db2.41)].

Sideslopes. 5–10 cm **be1** overlies 10–30 cm **be2** and commonly 16–65 cm **be3.** These materials may in turn be underlain by 25–80 cm of reddish brown plastic pedal clay **(be4)** and, in turn, often >200 cm gleyed "puggy" silty clay **(be5).** Where disturbed, **be1** has often been lost to erosion and **be2** is exposed at the surface. Soil boundaries are clear to abrupt. Total soil depth is >200 cm [moderately well-drained brown Soloths (Db2.41, Db1.41), some yellow Soloths (Dy3.41)].

On better drained upper slopes. Up to 10 cm **be1** overlies 10–35 cm **be2**, then 35–>80 cm **be4**, which in turn overlies <115 cm **be5.** Soil boundaries are abrupt to clear. Total soil depth is >120 cm [well-drained Red Podzolic Soils (Dr2.21) and some red Soloths (Dr2.41)].

On some lower slopes and more poorly drained flat low crests. Up to 10 cm **be1** overlies 10–30 cm **be2** which is underlain by 140–>400 cm **be5.** Soil boundaries are abrupt. Total soil depth is >200 cm [imperfectly drained Yellow Podzolic Soils (Dy2.21), yellow Soloths (Dy2.41, Dy3.41) and some poorly drained Gleyed Podzolic Soils (Dg2.41)].

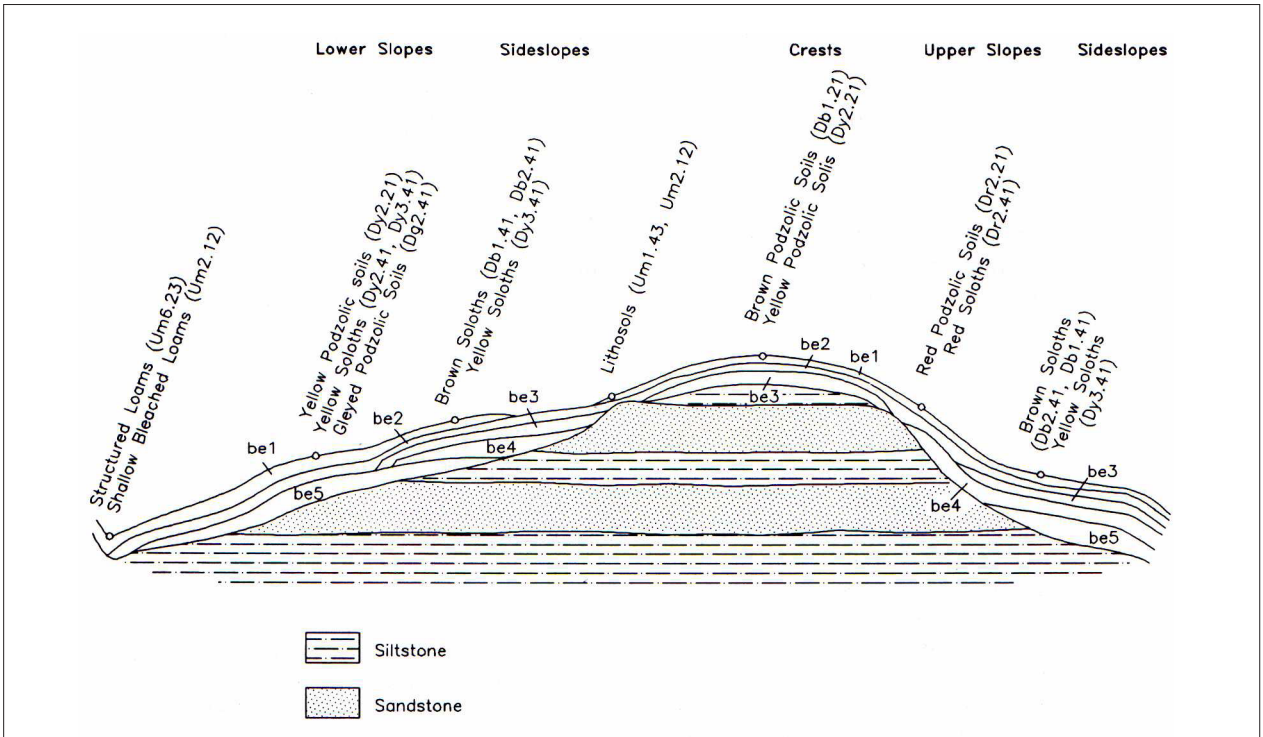
Drainage lines. 15–>180 cm **be1** occurs [imperfectly drained Structured Loams (Um6.23), some Earthy Loams (Um5.52)]. Occasionally, **be1** is underlain by 15 cm **be2.** Soil boundaries are clear. Total soil depth is 30–>180 cm [poorly drained Bleached Loams (Um2.12)].

Where sandstone outcrops occur. Up to 10 cm **be1** overlies 18–30 cm **be2.** Boundaries are clear. Total soil depth is <100 cm [rapidly drained Lithosols (Um1.43, Um2.12)].

QUALITIES AND LIMITATIONS

Landscape Limitations

Foundation hazard
Steep slopes (localised)
High run-on (localised)



■ *Schematic cross-section of Beresfield soil landscape illustrating the occurrence and relationship of the dominant soil materials.*

Water erosion hazard
Seasonal waterlogging (localised, lower slopes)
Rock outcrop (localised)
Mine Subsidence District

Landscape Limitations—bea

Steep slopes (localised)
Mass movement hazard
High foundation hazard
Water erosion hazard
Mine Subsidence District
High run-on

Soil Limitations

be1 Very strong acidity
High potential aluminium toxicity
Stoniness (localised)
High erodibility
Low fertility

be2 Hardsetting surface
Strong acidity
High potential aluminium toxicity
Stoniness
Low fertility

be3 High plasticity
Moderate shrink-swell potential
Low permeability
Very strong acidity
High aluminium toxicity potential
Low fertility
Stoniness (localised)

be4 High plasticity
Very strong acidity
Very high potential aluminium toxicity
Low permeability
Moderate shrink-swell potential
Sodicity/dispersion
Stoniness (localised)
Low fertility

be5 High erodibility
Low wet bearing strength
Very strong acidity
High potential aluminium toxicity
Low fertility
Stoniness (localised)
Very low permeability
High sodicity/dispersion
High salinity

Fertility

Soil Materials as Plant Growth Media. Soil material suitability as growth media is moderate **(be1)** to low **(be2**, **be3**, **be4**, **be5)**. All soil materials are strongly to very strongly acid, with high potential aluminium toxicity . Topsoil **be1** is friable when moist and has moderate organic matter, but high phosphorus sorption.

Soil Profile Fertility. Soil profile suitability as a plant growth medium is low. Soil volumes available for root penetration are moderate.

Erodibility

	K factor	Non-concentrated flows	Concentrated flows	Wind
be1	0.028	moderate	high	V low
be2	0.033	moderate	moderate	V low
be3	0.017	low	high	V low
be4	0.018	low	moderate	V low
be5	0.048	high	high	V low

Erosion Hazard

	Non-concentrated flows	Concentrated flows	Wind
grazing	low	mod-high	slight
cultivation	high	extreme	low-mod
urban	mod-high	high	slight

Foundation Hazard

Generally high foundation hazard due to moderate to high shrink-swell (reactive) and highly plastic subsoils. Topsoil depth is 5–50 cm. Total soil depth is <120–>200 cm.

Urban Capability

Generally moderate limitations for urban development due to high foundation hazard.

Rural Capability

Generally moderate limitations for cultivation and low limitations for grazing.

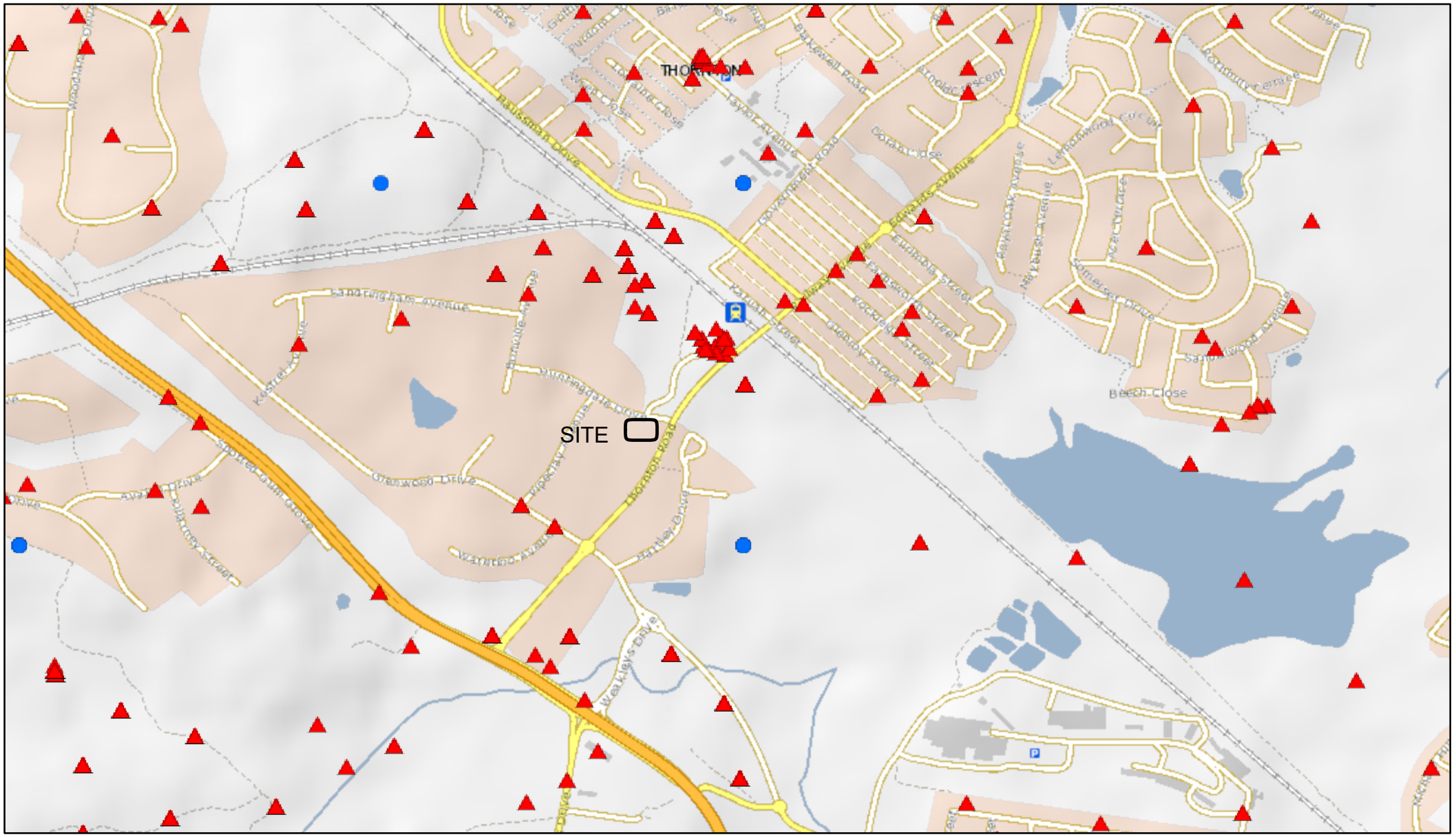
Sustainable Land Management Recommendations

Care should be taken that topsoil loss is minimised by maintaining a permanent protective ground cover. If exposure of the hardsetting **be2** occurs, increased runoff and erosion will result. Incorporation of organic matter, and fertilisers, including phosphorus and lime, may be beneficial for pasture establishment. Areas of salt scalding should be fenced off to exclude stock and sown with salt tolerant grass species. Drainage or diversion of surface water may also be required. The Department (SCS) can provide advice on the management of areas effected by land degradation.

Soil Conservation Earthworks

Generally moderate limitations for earthworks due to high shrink-swell subsoils **(be4)** and highly aggregated subsoils **(be3)**. Localised limitations include shallow soils and imperfectly drained soils. Soils tested have earthworks categories J for **be1**, B for **be2** and **be5**, C for **be3** and G for **be4**. Soils are often highly dispersible and further testing is recommended prior to undertaking earthworks.

Atlas Map



September 13, 2021

drawGraphics_poly

Override 1

spc0

spc2

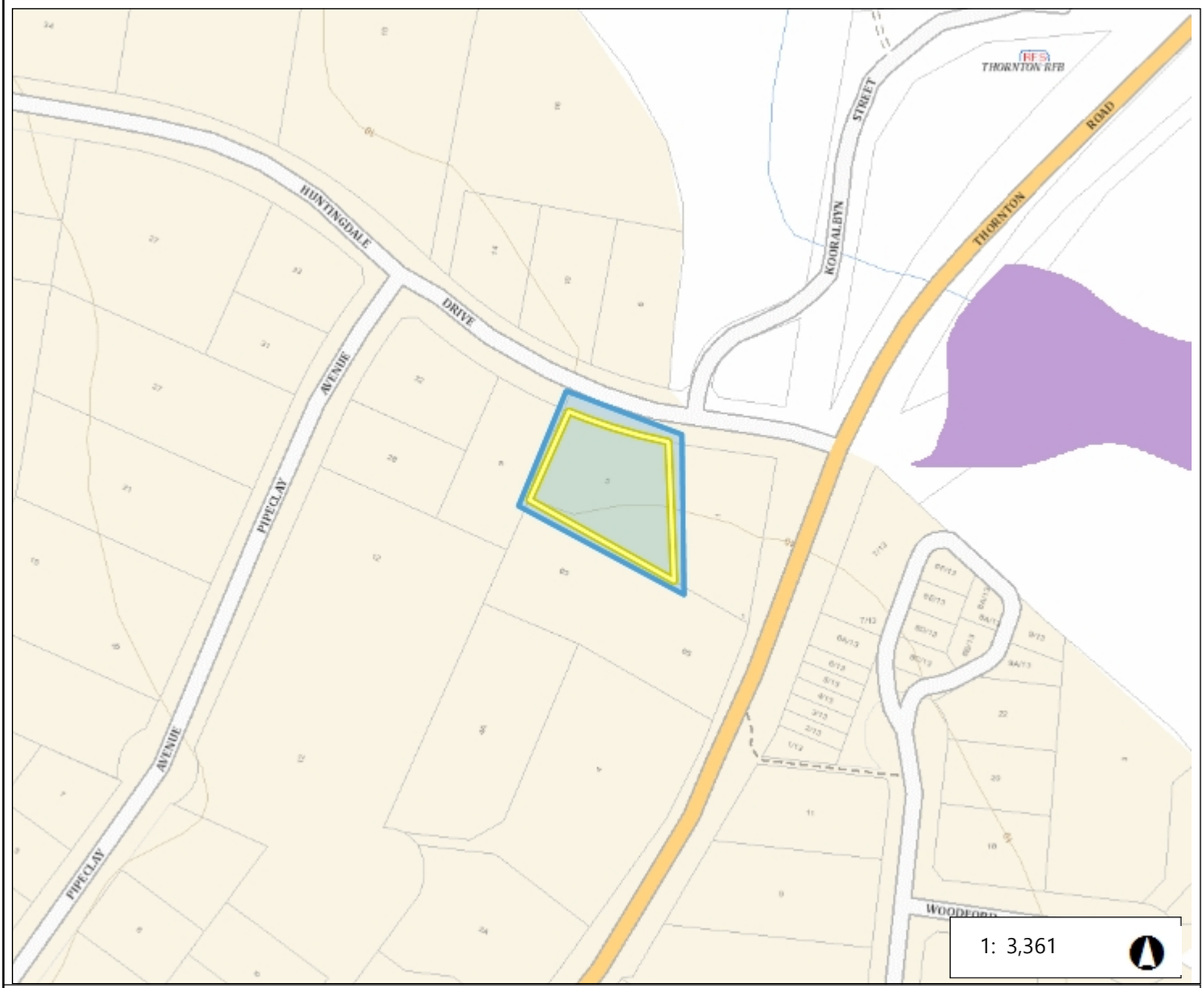
1:16,000

0 0.125 0.25 0.5 mi

0 0.2 0.4 0.8 km

Source: https://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx

Biodiversity Offset Scheme (BOS) Entry Threshold Map



170.7 0 85.36 170.7 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days

Notes

Biodiversity Values Map and Threshold Report

Results Summary

Date of Calculation	11/02/2022 1:49 PM		**BDAR Required***
Total Digitised Area	0.45	ha	
Minimum Lot Size Method	Lot size		
Minimum Lot Size	0.25	ha	
Area Clearing Threshold	0.25	ha	
Area clearing trigger Area of native vegetation cleared	Unknown #		Unknown #
Biodiversity values map trigger Impact on biodiversity values map(not including values added within the last 90 days)?	no		no
Date of the 90 day Expiry	N/A		

*If BDAR required has:

- at least one 'Yes': you have exceeded the BOS threshold. You are now required to submit a Biodiversity Development Assessment Report with your development application. Go to https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor to access a list of assessors who are accredited to apply the Biodiversity Assessment Method and write a Biodiversity Development Assessment Report
- 'No': you have not exceeded the BOS threshold. You may still require a permit from local council. Review the development control plan and consult with council. You may still be required to assess whether the development is '"likely to significantly affect threatened species' as determined under the test in s. 7.3 of the Biodiversity Conservation Act 2016. You may still be required to review the area where no vegetation mapping is available.

Where the area of impact occurs on land with no vegetation mapping available, the tool cannot determine the area of native vegetation cleared and if this exceeds the Area Threshold. You will need to work out the area of native vegetation cleared - refer to the BOSET user guide for how to do this.

On and after the 90 day expiry date a BDAR will be required.

Disclaimer

This results summary and map can be used as guidance material only. This results summary and map is not guaranteed to be free from error or omission. The State of NSW and Office of Environment and Heritage and its employees disclaim liability for any act done on the information in the results summary or map and any consequences of such acts or omissions. It remains the responsibility of the proponent to ensure that their development application complies will all aspects of the *Biodiversity Conservation Act 2016.*

The mapping provided in this tool has been done with the best available mapping and knowledge of species habitat requirements. This map is valid for a period of 30 days from the date of calculation (above).

Acknowledgement

I as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature_____ Date:11/02/2022 01:49 PM

Australian Government

Department of Agriculture, Water and the Environment

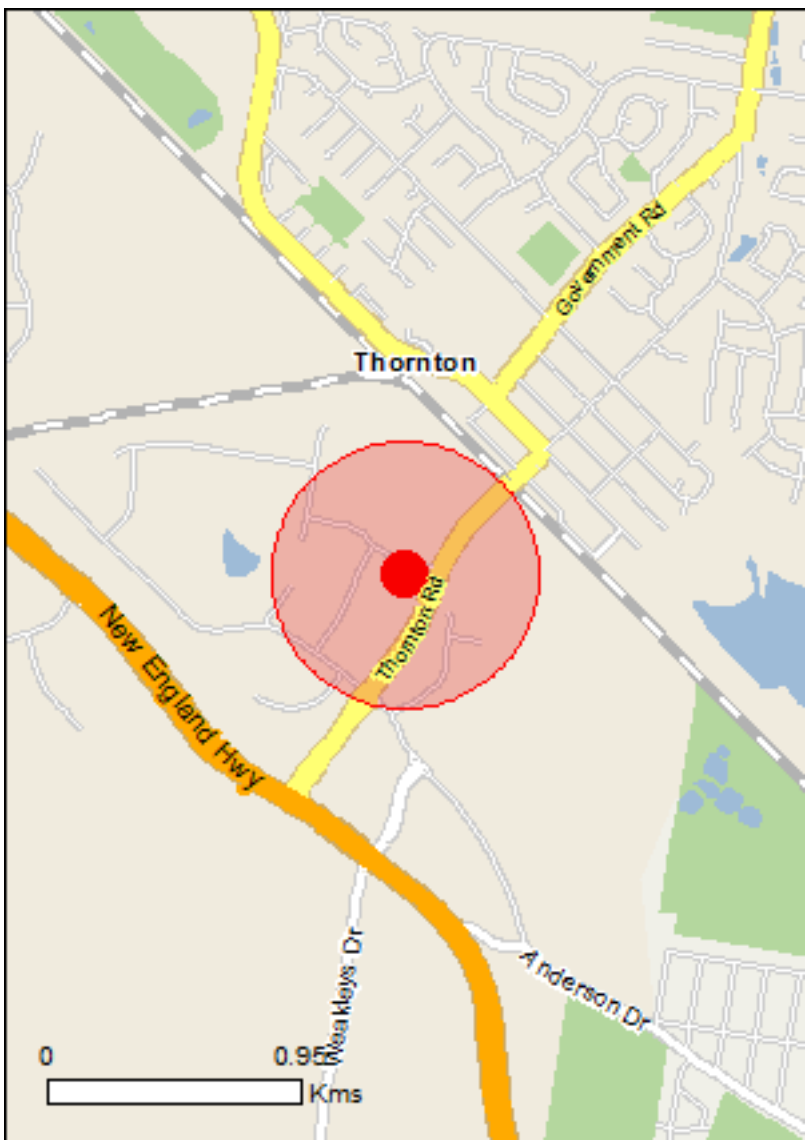
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

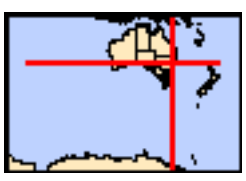
Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 13/09/21 11:43:37



Coordinates

Buffer: 0.5Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	33
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	21
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	1
Invasive Species:	42
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Hunter estuary wetlands	Within 10km of Ramsar

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Central Hunter Valley eucalypt forest and woodland	Critically Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Thinornis cucullatus cucullatus Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Frogs		
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat may occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area
Grevillea parviflora subsp. parviflora Small-flower Grevillea [64910]	Vulnerable	Species or species habitat likely to occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area
Rutidosis heterogama Heath Wrinklewort [13132]	Vulnerable	Species or species habitat may occur within area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area
Tetratheca juncea Black-eyed Susan [21407]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus		
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
North East NSW RFA	New South Wales

Invasive Species

[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within

Name	Status	Type of Presence
		area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
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Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

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Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-32.78672 151.63694

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Department of Agriculture Water and the Environment
GPO Box 858
Canberra City ACT 2601 Australia
+61 2 6274 1111

Australian Government

Department of Agriculture, Water and the Environment

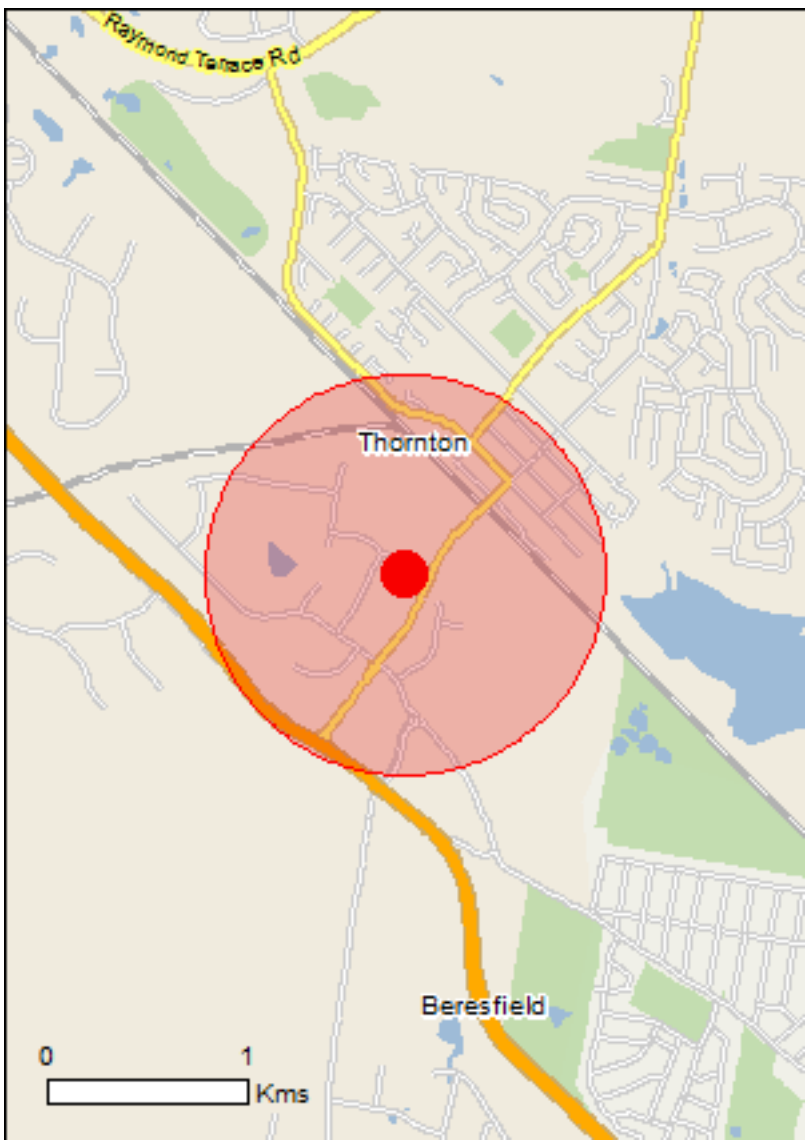
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

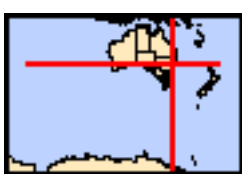
Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 13/09/21 11:44:07



Coordinates

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	35
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	21
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	1
Invasive Species:	42
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Hunter estuary wetlands	Within 10km of Ramsar

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Central Hunter Valley eucalypt forest and woodland	Critically Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
[Thinornis cucullatus cucullatus](#) Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Frogs		
[Litoria aurea](#) Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area
[Mixophyes balbus](#) Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area
Mammals		
[Chalinolobus dwyeri](#) Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
[Dasyurus maculatus maculatus (SE mainland population)](#) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
[Petauroides volans](#) Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
[Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)](#) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
[Potorous tridactylus tridactylus](#) Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat may occur within area
[Pseudomys novaehollandiae](#) New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
[Caladenia tessellata](#) Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat may occur within area
[Cryptostylis hunteriana](#) Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
[Cynanchum elegans](#) White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area
[Euphrasia arguta](#) [4325]	Critically Endangered	Species or species habitat may occur within area
[Grevillea parviflora subsp. parviflora](#) Small-flower Grevillea [64910]	Vulnerable	Species or species habitat likely to occur within area
[Persicaria elatior](#) Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area
[Pomaderris brunnea](#) Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area
Pterostylis gibbosa Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood [4562]	Endangered	Species or species habitat may occur within area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area
Rutidosis heterogama Heath Wrinklewort [13132]	Vulnerable	Species or species habitat may occur within area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area
Tetratheca juncea Black-eyed Susan [21407]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		

Name	Threatened	Type of Presence
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
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Name	Threatened	Type of Presence
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
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Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
North East NSW RFA	New South Wales

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		

Name	Status	Type of Presence
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
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- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-32.78672 151.63693

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Department of Agriculture Water and the Environment
GPO Box 858
Canberra City ACT 2601 Australia
+61 2 6274 1111

Australian Government

Department of Agriculture, Water and the Environment

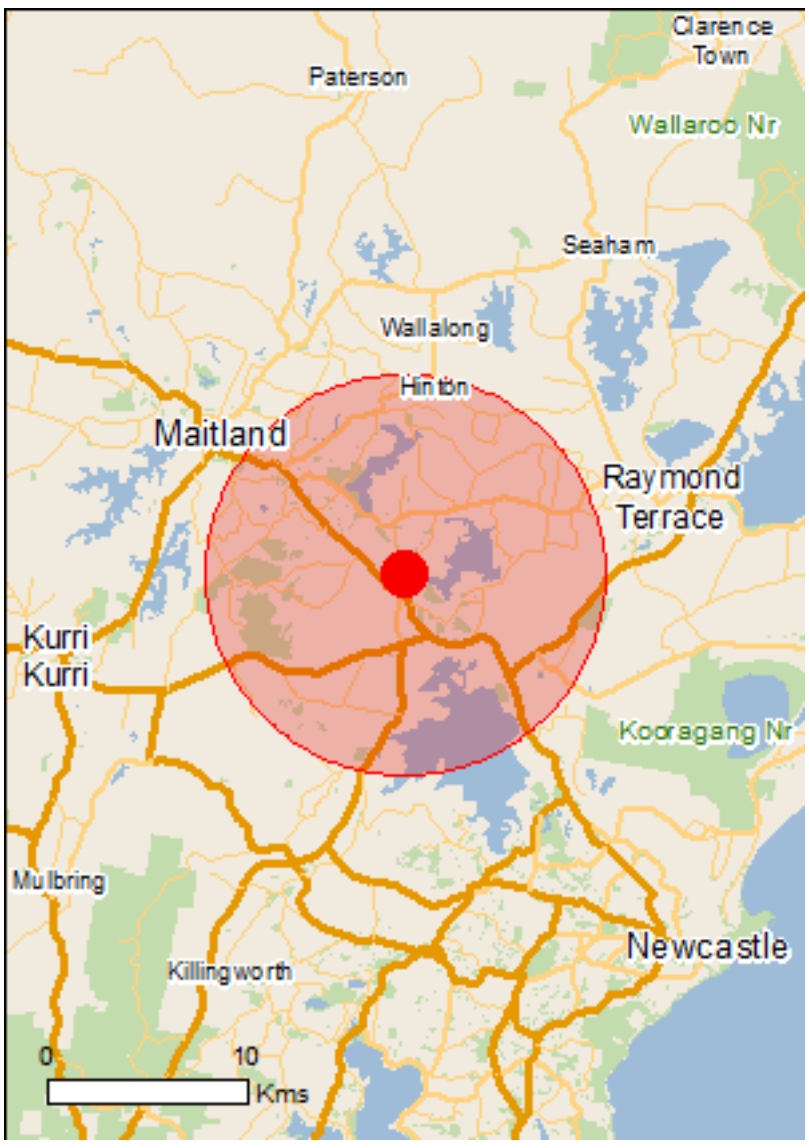
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

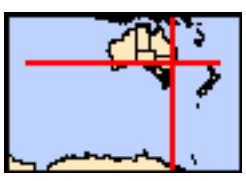
Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 13/09/21 11:44:07



Coordinates

Buffer: 10.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	78
Listed Migratory Species:	57

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	6
Commonwealth Heritage Places:	None
Listed Marine Species:	65
Whales and Other Cetaceans:	1
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	3
Regional Forest Agreements:	1
Invasive Species:	45
Nationally Important Wetlands:	3
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Hunter estuary wetlands	Within 10km of Ramsar

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Central Hunter Valley eucalypt forest and woodland	Critically Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Name	Status	Type of Presence
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Name	Status	Type of Presence
Thalassarche impavida		
Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris		
Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini		
Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi		
White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thinornis cucullatus cucullatus		
Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Fish		
Epinephelus daemelii		
Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area
Frogs		
Heleioporus australiacus		
Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat may occur within area
Litoria aurea		
Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area
Mixophyes balbus		
Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area
Mixophyes iteratus		
Giant Barred Frog, Southern Barred Frog [1944]	Endangered	Species or species habitat likely to occur within area
Uperoleia mahonyi		
Mahony's Toadlet [89189]	Endangered	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area
Dasyurus maculatus maculatus (SE mainland population)		
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat known to occur within area
Petrogale penicillata		
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus		
Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae		
New Holland Mouse, Pookila [96]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat may occur within area
Angophora inopina Charmhaven Apple [64832]	Vulnerable	Species or species habitat likely to occur within area
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat may occur within area
Asperula asthenes Trailing Woodruff [14004]	Vulnerable	Species or species habitat may occur within area
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area
Commersonia prostrata Dwarf Kerrawang [87152]	Endangered	Species or species habitat likely to occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat known to occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Diuris praecox Newcastle Doubletail [55086]	Vulnerable	Species or species habitat may occur within area
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat may occur within area
Eucalyptus glaucina Slaty Red Gum [5670]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus parramattensis subsp. decadens Earp's Gum, Earp's Dirty Gum [56148]	Vulnerable	Species or species habitat likely to occur within area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area
Grevillea parviflora subsp. parviflora Small-flower Grevillea [64910]	Vulnerable	Species or species habitat known to occur within area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Pomaderris brunnea Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species habitat may occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area
Pterostylis gibbosa Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood [4562]	Endangered	Species or species habitat may occur within area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat known to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat known to occur within area
Rutidosis heterogama Heath Wrinklewort [13132]	Vulnerable	Species or species habitat likely to occur within area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area
Tetratheca juncea Black-eyed Susan [21407]	Vulnerable	Species or species habitat known to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		

Name	Threatened	Type of Presence
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Name	Threatened	Type of Presence
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -
Commonwealth Land - Australian Postal Commission
Commonwealth Land - Australian Telecommunications Commission
Commonwealth Land - Defence Housing Authority
Commonwealth Land - Director of Defence Service Homes
Commonwealth Land - Director of War Service Homes

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Breeding likely to occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or

Name	Threatened	Type of Presence
		related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea gibsoni Gibson's Albatross [64466]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Puffinus griseus Sooty Shearwater [1024]		Species or species habitat likely to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat known to occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely

Name	Threatened	Type of Presence
		to occur within area
Thalassarche sp. nov.		
Pacific Albatross [66511]	Vulnerable*	Species or species habitat may occur within area
Thalassarche steadi		
White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thinornis rubricollis rubricollis		
Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis		
Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus		
Terek Sandpiper [59300]		Roosting known to occur within area
Reptiles		
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Hexham Swamp	NSW
Hunter Wetlands	NSW
Pambalong	NSW

Regional Forest Agreements	[Resource Information]

Note that all areas with completed RFAs have been included.

Name	State

Name	State
North East NSW RFA	New South Wales

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area

Nationally Important Wetlands [Resource Information]

Name	State
Hexham Swamp	NSW
Kooragang Nature Reserve	NSW
Shortland Wetlands Centre	NSW

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-32.78677 151.63692

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Department of Agriculture Water and the Environment
GPO Box 858
Canberra City ACT 2601 Australia
+61 2 6274 1111

APPENDIX J: Hunter Water Stamped Plans

Developer Plan

Enquiries: 1300 657 657

LOT/SECTION/DP: Lot 812 DP 1032401

PROPERTY ADDRESS: 5 HUNTINGDALE DR , THORNTON NSW 2322

S

HUNTINGDALE DRIVE

810//1032401
32
PIPECLAY AVE

811//1032401
9
HUNTINGDALE DR

812//1032401
5
HUNTINGDALE DR

813//1032401
1
HUNTINGDALE DR

824//1032401
3
KOORALBYN ST

53//1009823
12
PIPECLAY AVE

1502//1104774
65
THORNTON RD

LOT 811 DP1032401 "McDONALD JONES HOMES"

LOT 1052 DP1104774 "McDONALD JONES HOMES"

LOT 813 DP1032401 "REECE PLUMBING CENTRE"

150 UPVC-HD20

300 PVC-U(PN16)

225 PROFILE UPVC-SN8

150 PROFILE UPVC-SN8

300 DICL

W1265A1

H4589
SUR:9.035
INV:5.905

DE
SUR:11.910
INV:10.660

H4603
SUR:7.295
INV:5.680

H4588
SUR:8.210
INV:5.750

H3154
SUR:7.310
INV:5.570

Scour

CARPARK

TURNING BAY

PV SOLAR PANEL ARRAY

STORMWATER TANK BELOW (280,000L)

PROPOSED RETAINING WALL

DATE	REV	ISSUE	CHECKED BY
07.02.22	A	DA	DK

PROJECT NAME: CHILDCARE
5 Huntingdale Drive
Thornton NSW

KAUNITZ YEUNG ARCHITECTURE
Level 1, 277 Cleveland St, Redfern, NSW
T +61 2 9007 2098

NO	REV	TITLE	PHASE	SCALE	DATE
DA-100	-	SITE PLAN	DA	1:250@A3	07.02.2022

HUNTER WATER CORPORATION

A.B.N. 46 228 513 446

Developer Plan

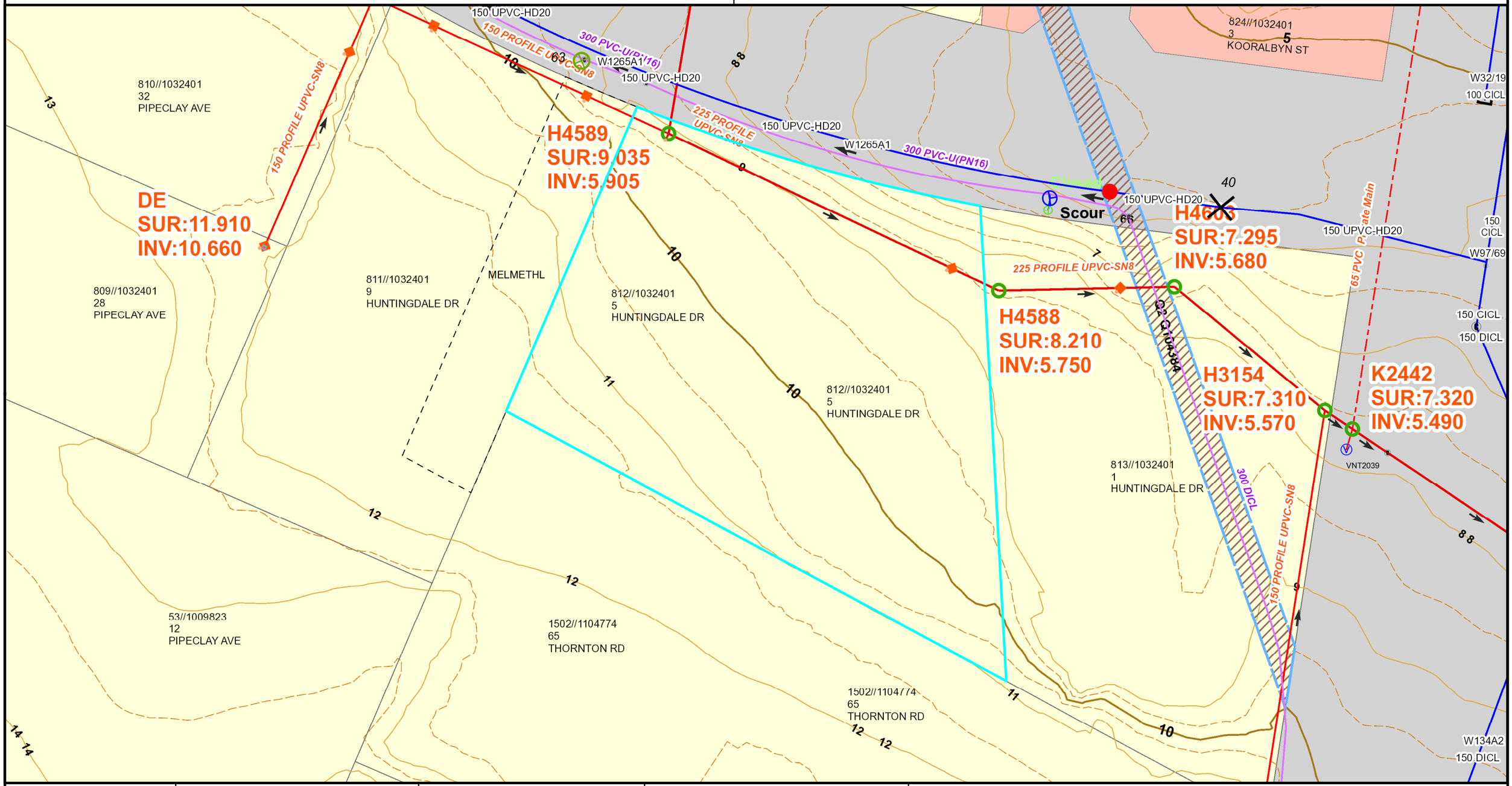
Enquiries: 1300 657 657

N
W E
S

RATEABLE PREMISE NO.: 5609910065

LOT/SECTION/DP: Lot 812 DP 1032401

PROPERTY ADDRESS: 5 HUNTINGDALE DR , THORNTON NSW 2322



Date: 9/02/2022 Scale: at A3 1:500	CADASTRAL DATA © Department Finance, Services & Innovation [Nov 2017]. Modified [09/02/2022] AERIAL DATA © NearMap CONTOUR DATA © AAMHatch © Department of Planning	SEWER/WATER/RECYCLED WATER/ELECTRICAL UTILITY DATA © HUNTER WATER CORPORATION	HUNTER WATER ASSETS POSITION ARE APPROXIMATE ONLY. SUBJECT PROPERTY BOLDED. ALL MEASUREMENTS ARE METRIC.	IMPORTANT: ANY INFORMATION ON THIS PLAN MAY NOT BE UP TO DATE AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.

HUNTER WATER CORPORATION

A.B.N. 46 228 513 446

Developer Plan

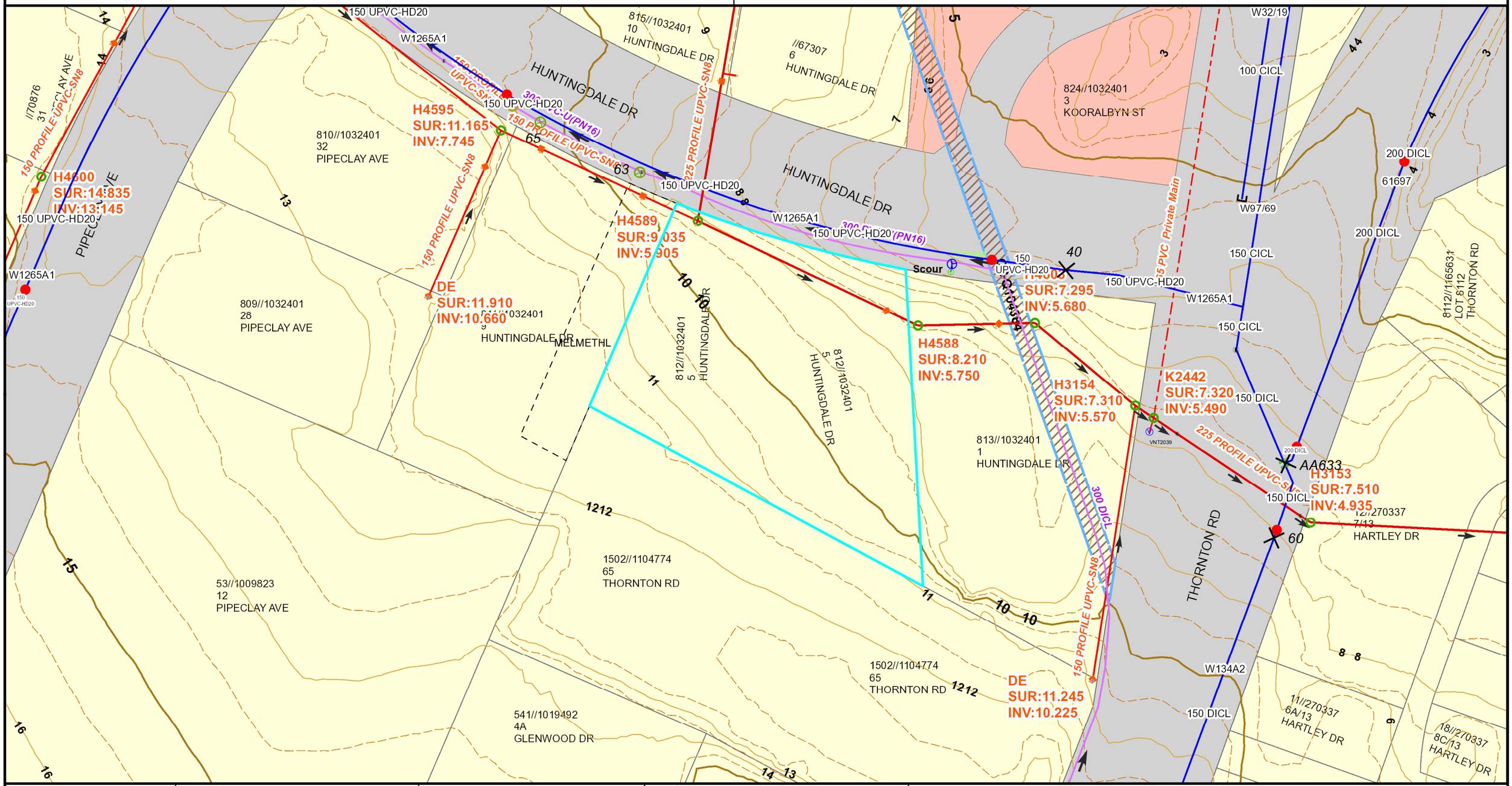
Enquiries: 1300 657 657

N
W E
S

RATEABLE PREMISE NO.: 5609910065

LOT/SECTION/DP: Lot 812 DP 1032401

PROPERTY ADDRESS: 5 HUNTINGDALE DR , THORNTON NSW 2322



Date: 9/02/2022 Scale: at A3 1:750	CADASTRAL DATA © Department Finance, Services & Innovation [Nov 2017]. Modified [09/02/2022] AERIAL DATA © NearMap CONTOUR DATA © AAMHatch © Department of Planning	SEWER/WATER/RECYCLED WATER/ELECTRICAL UTILITY DATA © HUNTER WATER CORPORATION	HUNTER WATER ASSETS POSITION ARE APPROXIMATE ONLY. SUBJECT PROPERTY BOLDED. ALL MEASUREMENTS ARE METRIC.	IMPORTANT: ANY INFORMATION ON THIS PLAN MAY NOT BE UP TO DATE AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.

HUNTER WATER CORPORATION

A.B.N. 46 228 513 446

Developer Plan

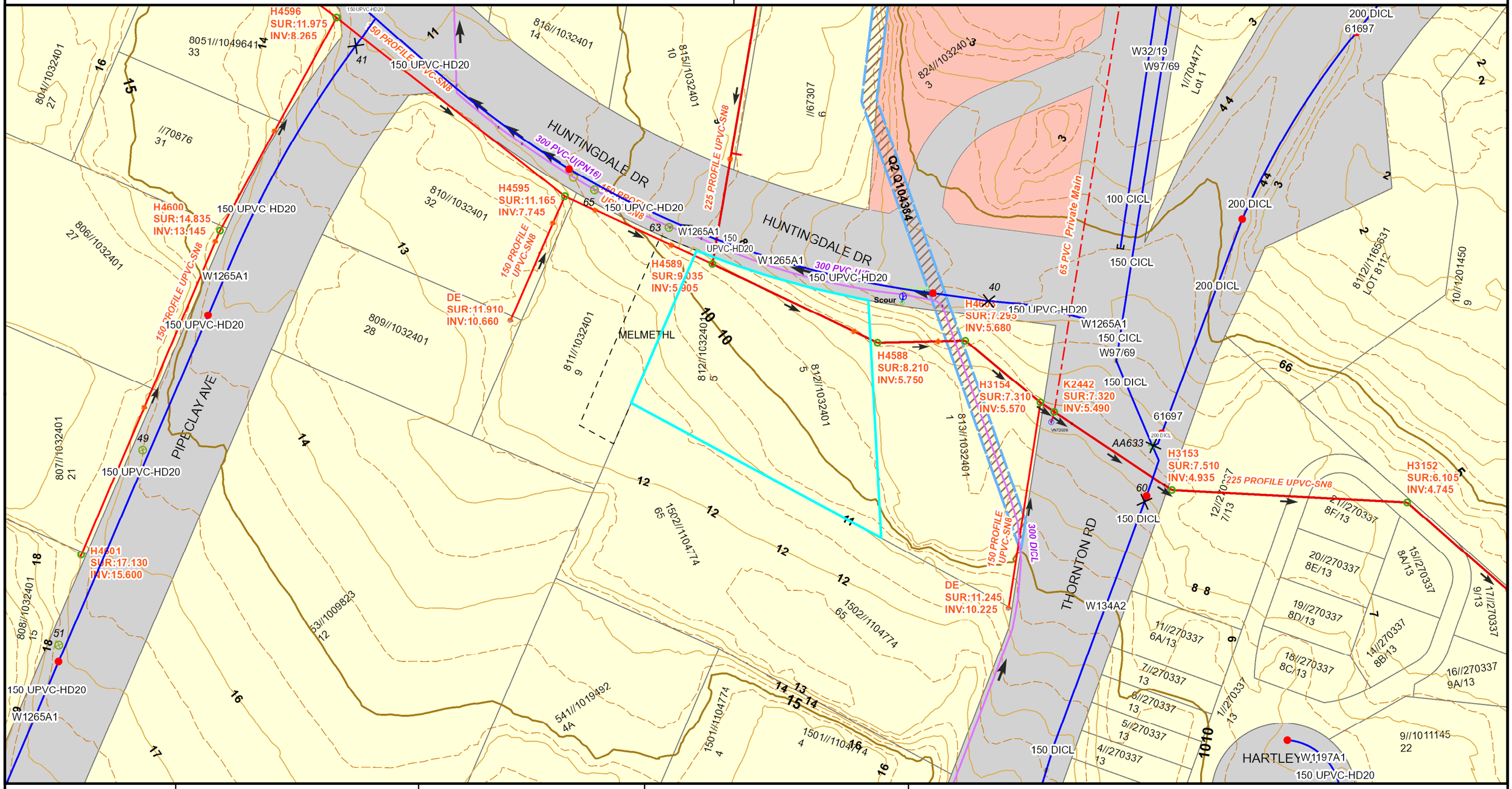
Enquiries: 1300 657 657

N
W E
S

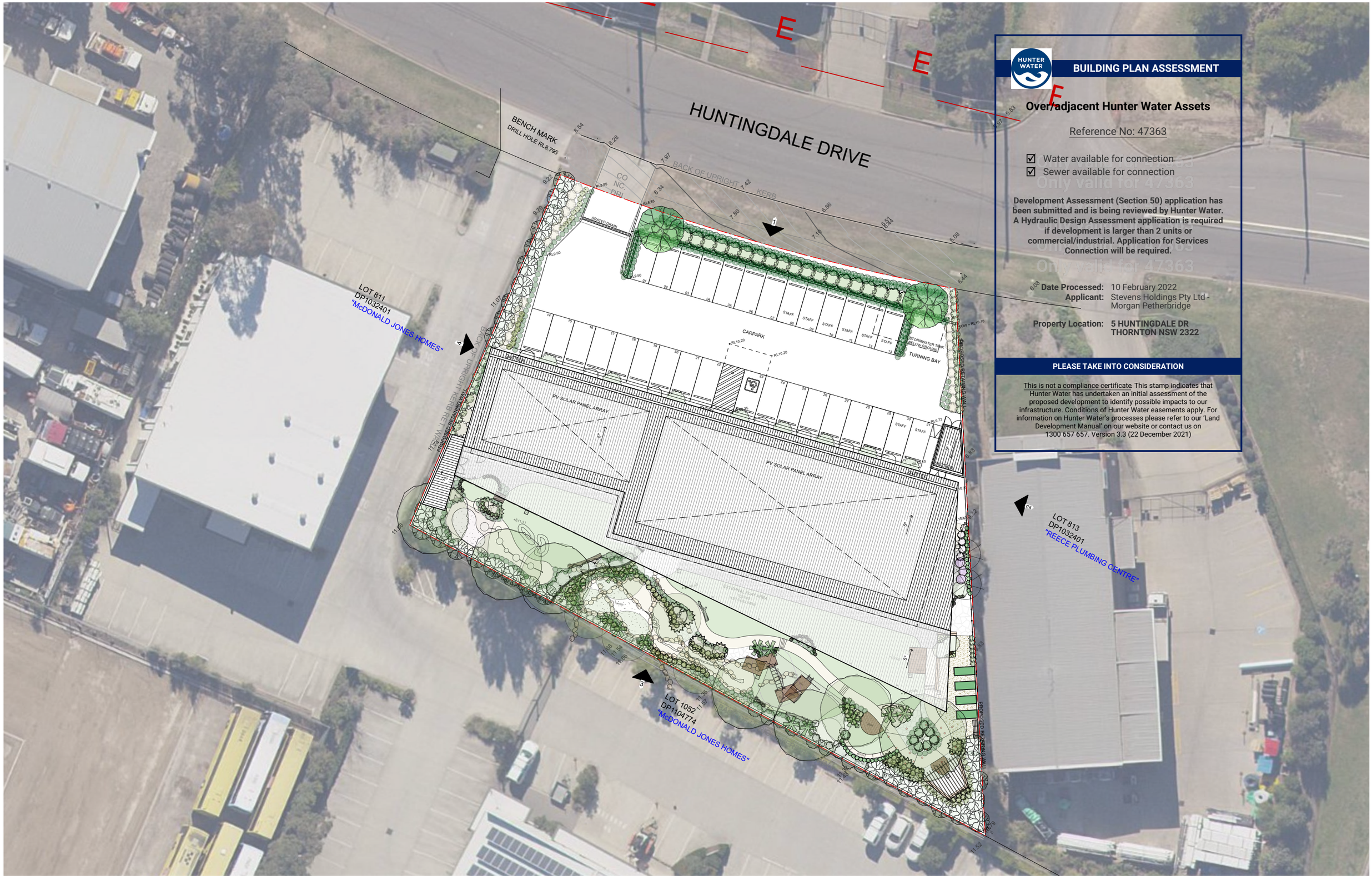
RATEABLE PREMISE NO.: 5609910065

LOT/SECTION/DP: Lot 812 DP 1032401

PROPERTY ADDRESS: 5 HUNTINGDALE DR , THORNTON NSW 2322



Date: 9/02/2022 Scale: at A3 1:1,000	CADASTRAL DATA © Department Finance, Services & Innovation [Nov 2017]. Modified [09/02/2022] AERIAL DATA © NearMap CONTOUR DATA © AAMHatch © Department of Planning	SEWER/WATER/RECYCLED WATER/ELECTRICAL UTILITY DATA © HUNTER WATER CORPORATION	HUNTER WATER ASSETS POSITION ARE APPROXIMATE ONLY. SUBJECT PROPERTY BOLDED. ALL MEASUREMENTS ARE METRIC.	IMPORTANT: ANY INFORMATION ON THIS PLAN MAY NOT BE UP TO DATE AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.



HUNTER WATER

BUILDING PLAN ASSESSMENT

Over/adjacent Hunter Water Assets

Reference No: 47363

- ☑ Water available for connection
- ☑ Sewer available for connection

Development Assessment (Section 50) application has been submitted and is being reviewed by Hunter Water. A Hydraulic Design Assessment application is required if development is larger than 2 units or commercial/industrial. Application for Services Connection will be required.

Date Processed: 10 February 2022
Applicant: Stevens Holdings Pty Ltd - Morgan Petherbridge

Property Location: **5 HUNTINGDALE DR THORNTON NSW 2322**

PLEASE TAKE INTO CONSIDERATION

This is not a compliance certificate. This stamp indicates that Hunter Water has undertaken an initial assessment of the proposed development to identify possible impacts to our infrastructure. Conditions of Hunter Water easements apply. For information on Hunter Water's processes please refer to our 'Land Development Manual' on our website or contact us on 1300 657 657. Version 3.3 (22 December 2021)

DATE	REV	ISSUE	CHECKED BY
07.02.22	A	DA	DK

PROJECT NAME: CHILDCARE
5 Huntingdale Drive
Thornton NSW

KAUNITZ YEUNG ARCHITECTURE
Level 1, 277 Cleveland St, Redfern, NSW
T +61 2 9007 2098

NO	REV	TITLE	PHASE	SCALE	DATE
DA-100	**-**	**SITE PLAN**	**DA**	**1:250@A3**	**07.02.2022**

APPENDIX K: NSW Subsidence Advisory

Sally Cottom

From: Morgan Petherbridge <morgan@stevensgroup.com.au>
Sent: Wednesday, 9 February 2022 2:42 PM
To: Sally Cottom
Cc: Lisa Kennedy
Subject: FW: NO REPLY - Application Withdrawn - 5 HUNTINGDALE DRIVE THORNTON – TBA22-00358 CRM:0184310

Hi Sally,

Please see below advice from SANSW. Plan stamping is not required.

Regards
Morgan Petherbridge
Project Manager

Mobile: 0458 404 886
Email: morgan@stevensgroup.com.au

Stevens Holdings Pty Limited | **ABN:** 14 002 386 450 | (Trading as Stevens Group)
Postal Address: PO Box 3171 Erina NSW 2250 | Suite 6, 257-259 Central Coast Highway Erina NSW 2250
Phone: 02 4365 3351 | **Fax:** 02 4365 3750 | www.stevensgroup.com.au

STEVENSGROUP

From: SANSW Queue / SERVICES <mail@SANSW.onmicrosoft.com>
Sent: Wednesday, 9 February 2022 2:41 PM
To: Morgan Petherbridge <morgan@stevensgroup.com.au>
Subject: NO REPLY - Application Withdrawn - 5 HUNTINGDALE DRIVE THORNTON – TBA22-00358 CRM:0184310

Dear Morgan

Subsidence Advisory NSW advises this property is not within a Mine Subsidence District and SA NSW approval is not required.

Kind Regards,

Subsidence Advisory NSW | Better Regulation Division | Department of Customer Service
p (02) 4908 4300 | e subsidencedevelopment@customerservice.nsw.gov.au | www.subsidenceadvisory.nsw.gov.au
Ground Floor, Government Offices, 117 Bull Street Newcastle West NSW 2302

***PLEASE DO NOT REPLY TO THIS EMAIL AS THE INBOX IS NOT MONITORED. IF YOU HAVE ANY FURTHER QUESTIONS OR QUERIES ABOUT THIS APPLICATION PLEASE SEND THEM TO: Subsidencedevelopment@customerservice.nsw.gov.au OR CALL 02 4908 4300.**

APPENDIX L: Stormwater Management Plans

Thornton Childcare

5 Huntingdale Drive Thornton NSW 2322

Concept Civil and Stormwater Report prepared for Stevens Group

Report Document Control

Project: Thornton Childcare

Project Ref: NL212677

File Name: NL212677_E01(A) Concept Stormwater Management Plan

Client: Stevens Group

Title: Concept Civil and Stormwater Report

Revision History:

Revision	Report Status	Issue Date	Prepared	Reviewed	Admin
A	For Approval	10/2/2022	J Hoey		J Hoey

Limitation Statement

Northrop Consulting Engineers Pty Ltd (Northrop) has been retained to prepare this report based on specific instructions, scope of work and purpose pursuant to a contract with its client. It has been prepared in accordance with the usual care and thoroughness of the consulting profession for the use by Stevens Group. The report is based on generally accepted practices and standards applicable to the scope of work at the time it was prepared. No other warranty, express or implied, is made as to the professional advice included in this report.

Except where expressly permitted in writing or required by law, no third party may use or rely on this report unless otherwise agreed in writing by Northrop.

Where this report indicates that information has been provided to Northrop by third parties, Northrop has made no independent verification of this information except as expressly stated in the report. Northrop is not liable for any inaccuracies in or omissions to that information.

The report was prepared on the dates shown and is based on the conditions and information received at the time of preparation.

This report should be read in full, with reference made to all sources. No responsibility is accepted for use of any part of this report in any other context or for any other purpose. Northrop does not purport to give legal advice or financial advice. Appropriate specialist advice should be obtained where required.

To the extent permitted by law, Northrop expressly excludes any liability for any loss, damage, cost or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this report.

Introduction

Northrop Consulting Engineers have been engaged by Stevens Group to prepare Concept civil design and documentation for the proposed childcare development at 5 Huntingdale Drive, Thornton. This report has been prepared for development application submission to Maitland City Council (MCC) to convey the philosophy adopted throughout the management plan.

Presented herein is a description of the subject site, the proposed development as well as the civil and stormwater strategies integrated within the development in accordance with the MCC Development Control Plan (DCP).

Site Description

The subject site is located at 5 Huntingdale Drive otherwise known as Lot 812 DP1032401.

The site has an area of approximately 0.3138ha and is currently considered vacant. The site is bordered by Huntingdale Drive to the north and existing commercial/industrial facilities to the east, south and west.

The site generally falls from the south western corner to the north eastern corner at an even grade of approximately 5% (or 1:20). There is a batter along the Huntingdale frontage, likely the result of previous earthworks as part of the subdivision.

The below figure shows the site highlighted yellow;

Figure 1: Site Locality (SixMaps)

Proposed Development

The development proposal is for a childcare, with associated carparking, landscaping, retaining and stormwater infrastructure. The below figure shows the concept site layout;

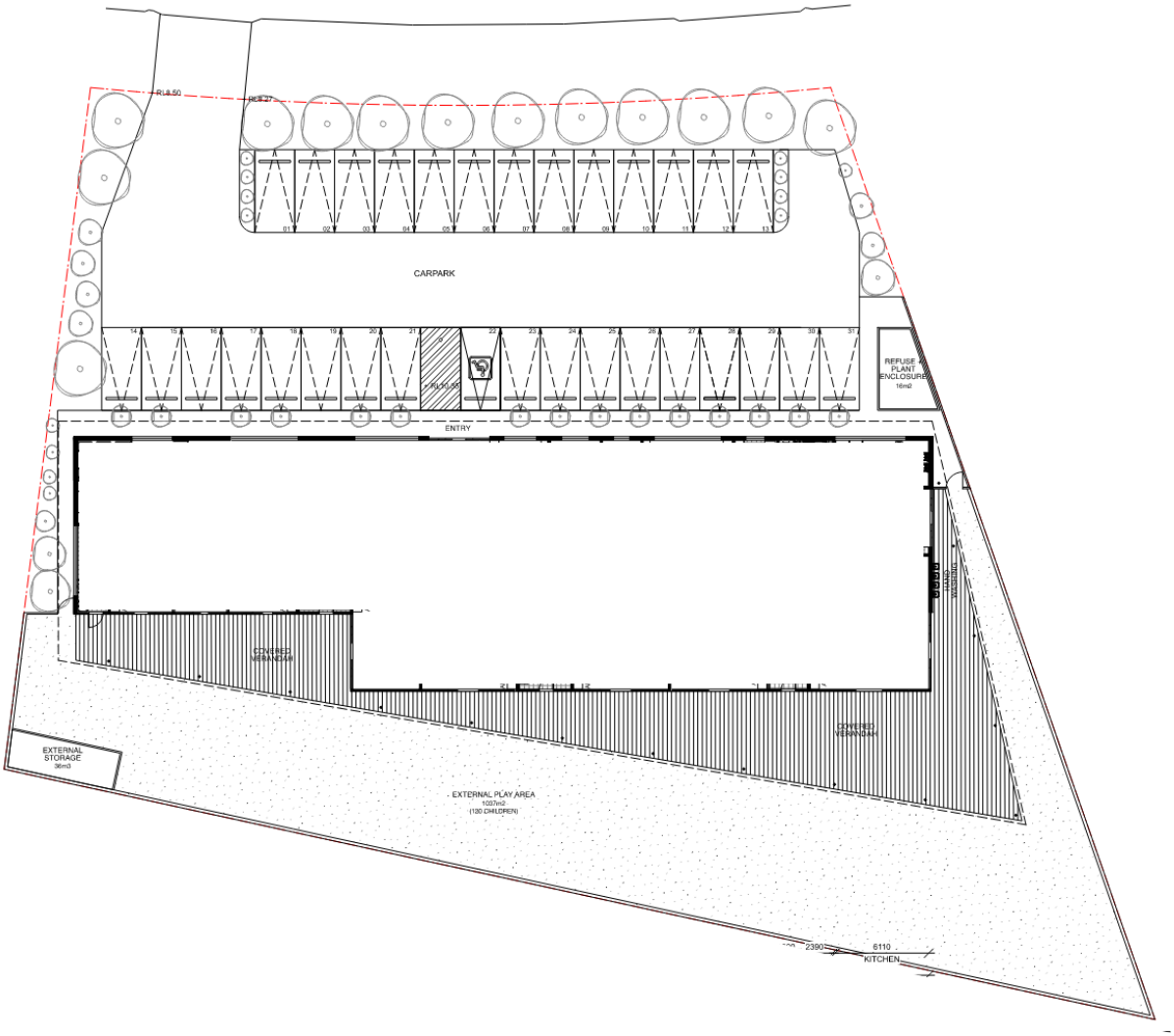


Figure 2: Proposed Concept Layout (Kaunitz Yeung)

Civil and stormwater works are required as part of the development to provide levels to suit the concept. Retaining walls will be provided in some locations to manage level discrepancies between adjacent properties. Stormwater infrastructure will be provided to manage runoff in a practical way in accordance with Council requirements. Please refer to the Concept Civil package submitted as part of the development application for additional information.

Review of Council Requirements

Stormwater Management Strategy

The proposed stormwater management system adopted on site has been designed generally in accordance with the MCC DCP 2011, MCC Manual of Engineering Standards (MOES) and the Council pre-lodgement meeting minutes from October 28th 2021. The below highlights the infrastructure proposed onsite to manage stormwater runoff.

Stormwater runoff from the roof area will be captured by gutter and downpipe and conveyed to the nearest stormwater pit.

Stormwater runoff from the majority of hardstand, landscaped and external play areas will be captured by the stormwater pit and pipe network and conveyed to the proposed below ground stormwater tank. There is a small portion of the site (hardstand beneath the grated trench drain, refer plans for details) that bypasses this system. A proposed below ground stormwater tank is utilised for treatment of both stormwater quality and stormwater quantity. The DRAINS and MUSIC modelling used to determine the quantity of each is detailed below. The external play area was considered impervious for modelling purposes.

Stormwater Quantity

The DRAINS model was used to determine the peak runoff pre-development (assuming 100% pervious), post development and post-development with detention provided. Rainfall data for the local area was downloaded from the AR&R website. The detention modelled in DRAINS had a capacity of 50kL. The below table demonstrates compliance with Council's Stormwater Quantity Targets;

Table 1: DRAINS Results

AEP %	PRE	POST (no det)	POST (det)
20	0.058	0.094	0.057
10	0.081	0.127	0.077
5	0.110	0.152	0.110
2	0.149	0.187	0.130
1	0.176	0.218	0.149

From the above modelling results, it is considered the proposed detention is effective in mitigating the post developed runoff to the predeveloped flows. The capacity of the detention tank was not exceeded in the 1% AEP event.

Stormwater Quality

The proposed development has the potential to impact the quality of stormwater runoff from the site. In order to minimise any adverse impacts on the downstream watercourses; stormwater treatment devices have been incorporated into the design of the development. Council's Post Construction Stormwater Management Targets identifies the level of stormwater quality treatment to be provided for the proposed development. These are outlined in Table below.

Table 2: MCC Water Quality Targets

Pollutant	Reduction Target
Total Suspended Solids (TSS)	80%
Total Phosphorus (TP)	45%
Total Nitrogen (TN)	45%
Gross Pollutants	70%

Stormwater Quality Improvement Devices (SQIDs) have been incorporated throughout the development to ensure runoff is treated in line with the above Council requirements. 3 Full height SPEL Filters were modelled in MUSIC, however any proprietary alternative could be used given the pollutant reduction targets are achieved.

To review the performance of the proposed SQIDs, a MUSIC model has been prepared for the proposed development. The MUSIC model can be provided to Council upon request.

The results from the MUSIC modelling are presented in 3.

Table 3: MUSIC Model Result Summary (Outlet Node)

	Source Load (kg/yr)	Residual Loads (kg/yr)	Percentage Reduction	Target Objectives
Total Suspended Solids (TSS)	777	149	**80.8%**	80 %
Total Phosphorous (TP)	1.76	0.57	**67.6%**	45 %
Total Nitrogen (TN)	15.8	7.86	**50.4%**	45 %
Gross Pollutants	191	15.6	**91.8%**	90 %

Table 33 shows that the proposed stormwater management strategy effectively achieves the load reduction targets set out in the MCC MOES, as estimated by MUSIC.

Ongoing maintenance of the implemented treatment devices will be required to ensure they continue to operate as intended.

Site Discharge

Stormwater from the proposed development is intended to be discharged to the existing stormwater kerb inlet pit on Huntingdale Drive, near the site's eastern boundary. As this is the lowest point of the site, and the site is raised above the road levels, this is not expected to be an issue.

Construction Phase

In accordance with authority guildeines a Concept Erosion and Sediment Control Plan has been prepared for the site. The plan is intended to ensure appropriate management of soil disturbance and stormwater runoff throughout the construction phase of the project. In accordance with Council requirements the plan has been developed with primary refence to Landcom's 2004 publication *'Managing Urban Stormwater – Soils and Construction'.*

Conclusion

Northrop Consulting Engineers have been engaged to prepare a concept civil and stormwater management plan for the proposed development at 5 Huntingdale Drive, Thornton.

Based on the contents of this report, it is considered the proposed development provides treatment and management of stormwater in accordance with the relevant Council guidelines.

Should you have any queries, please feel free to contact the undersigned on (02) 4943 1777.

Prepared by:

Jordan Hoey
Civil Engineer
BEng (Civil)

Contact Us

NEWCASTLE
02 4943 1777
newcastle@northrop.com.au
Level 1, 215 Pacific Highway
Charlestown NSW 2290

CENTRAL COAST
02 4365 1668
centralcoast@northrop.com.au
Level 1, Suite 4, 257-259
Central Coast Highway
Erina NSW 2250

WWW.NORTHROP.COM.AU

APPENDIX M: Swept Paths

PROPOSED CHILDCARE CENTRE

5 HUNTINGDALE DRIVE, THORNTON NSW 2322
CIVIL DA ENGINEERING PACKAGE

LOCALITY PLAN

DRAWING LIST

DWG No.	DRAWING TITLE
DA-C-01	COVER SHEET, DRAWING LIST AND LOCALITY PLAN
DA-C-02	CONCEPT EROSION AND SEDIMENT CONTROL PLAN
DA-C-03	CONCEPT CIVIL WORKS PLAN
DA-C-04	CONCEPT BULK EARTHWORKS PLAN
DA-C-05	VEHICLE SWEPT PATH PLAN

DRAWN: JRYALL DESIGNED: JHOEY JOB MANAGER: JHOEY VERIFIER:

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR APPROVAL	BB		JH	02.02.22
2	ISSUED FOR APPROVAL	JS		JH	09.02.22

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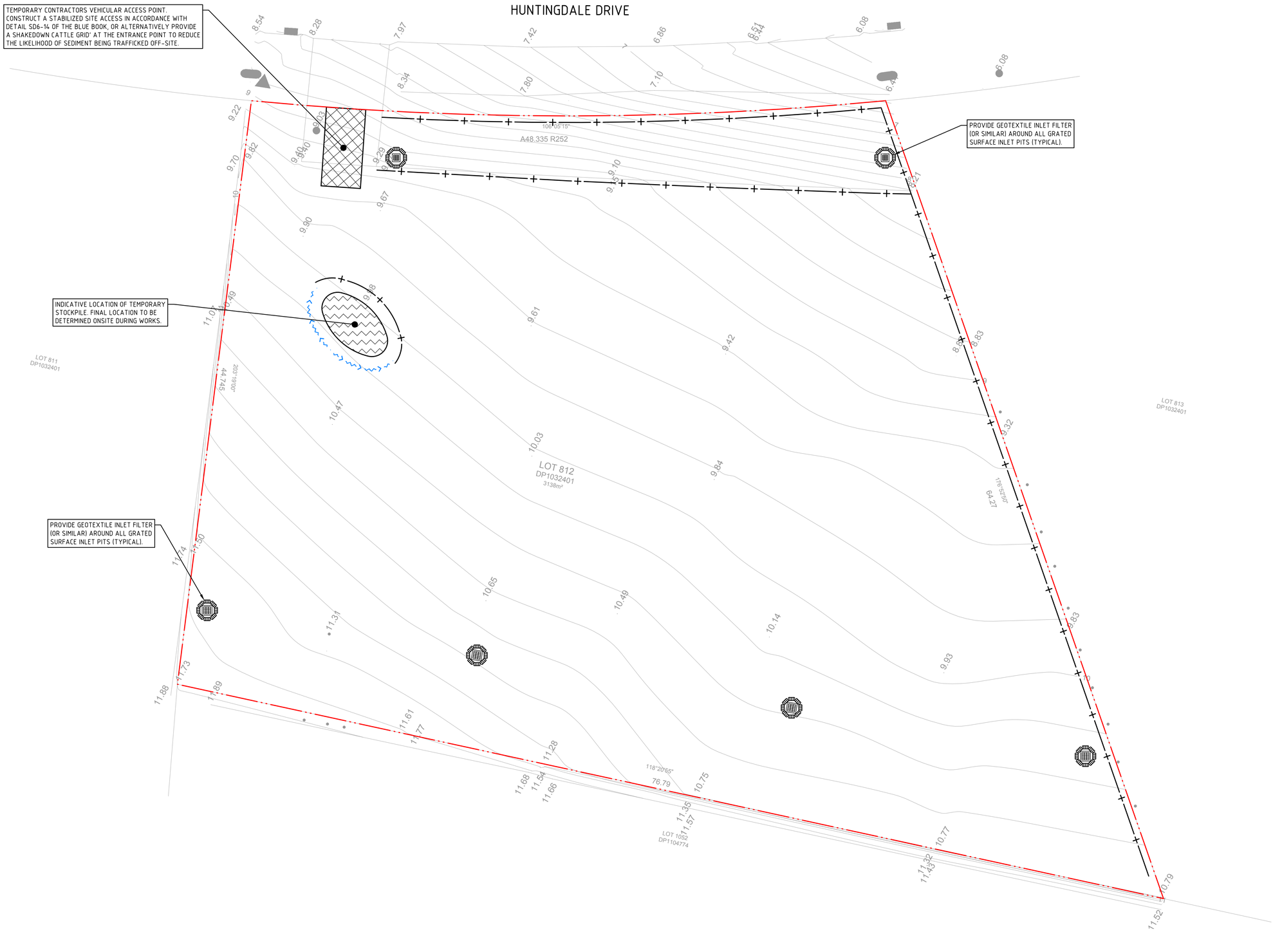
NORTHROP
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT: PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
COVER SHEET, DRAWING LIST AND LOCALITY PLAN

JOB NUMBER: NL212677
DRAWING NUMBER: DA-C-01
REVISION: 2
DRAWING SHEET SIZE = A1



LEGEND

- DENOTES PROPOSED BOUNDARY LINE
- DENOTES EXISTING SPOT HEIGHTS
- DENOTES EXISTING CONTOURS
- DENOTES PROPOSED SEDIMENT FENCE. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED SANDBAG SEDIMENT FILTER. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED DIVERSION DRAIN. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED STABILISED SITE ACCESS. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED STOCKPILE. DETAILS TO BE PROVIDED AT CC STAGE

EROSION AND SEDIMENTATION MANAGEMENT NOTES

1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE APPROPRIATE FOR THE SEDIMENT TYPE(S) OF THE SOILS ON-SITE, IN ACCORDANCE WITH THE 'BLUE BOOK' (MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION. LANDCOM, 2004), OR OTHER CURRENT RECOGNISED INDUSTRY STANDARDS FOR EROSION AND SEDIMENT CONTROL FOR AUSTRALIAN CONDITIONS. THIS INCLUDES SEDIMENT TRAPS AND LINING OF CHANNELS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION AND SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS AND SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY/ALL MAINTENANCE, CLEANING AND BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.
3. INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL SD6-11 OR THE GEOTEXTILE INLET FILTER DETAIL SD6-12 OF THE 'BLUE BOOK'.
4. ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
5. INSTALL SEDIMENT FENCING, OR OTHER SEDIMENT CONTROL DEVICES, AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT OR APPROPRIATE COUNCIL OFFICER.
6. ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.
7. THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB & GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION.
8. ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ON-SITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
9. STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE AS REQUIRED. ANY SURPLUS MATERIAL SHALL BE SPREAD ON-SITE AS DIRECTED BY THE SUPERINTENDENT OR REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.
10. CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL SD4-1 OF THE 'BLUE BOOK' (INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE).
11. ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.
12. PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.
13. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.

CONSTRUCTION SEQUENCE

1. INSTALL ACCESS POINT, AS DETAILED BELOW AND ON THE DETAILS SHEET.
2. INSTALL SEDIMENT FENCE IN LOCATION SHOWN, AS PER DETAILS ON DRAWING C12.10DA
3. INSTALL OTHER SOIL AND WATER MANAGEMENT CONTROL MEASURES, AS DETAILED.
4. COMPLETION OF CONSTRUCTION WORKS, IN ACCORDANCE WITH SOIL AND WATER MANAGEMENT PLAN, NOTES AND DETAILS.
5. REHABILITATION OF DISTURBED AREAS AS SOON AS PRACTICAL TO MINIMISE SOIL LOSS.

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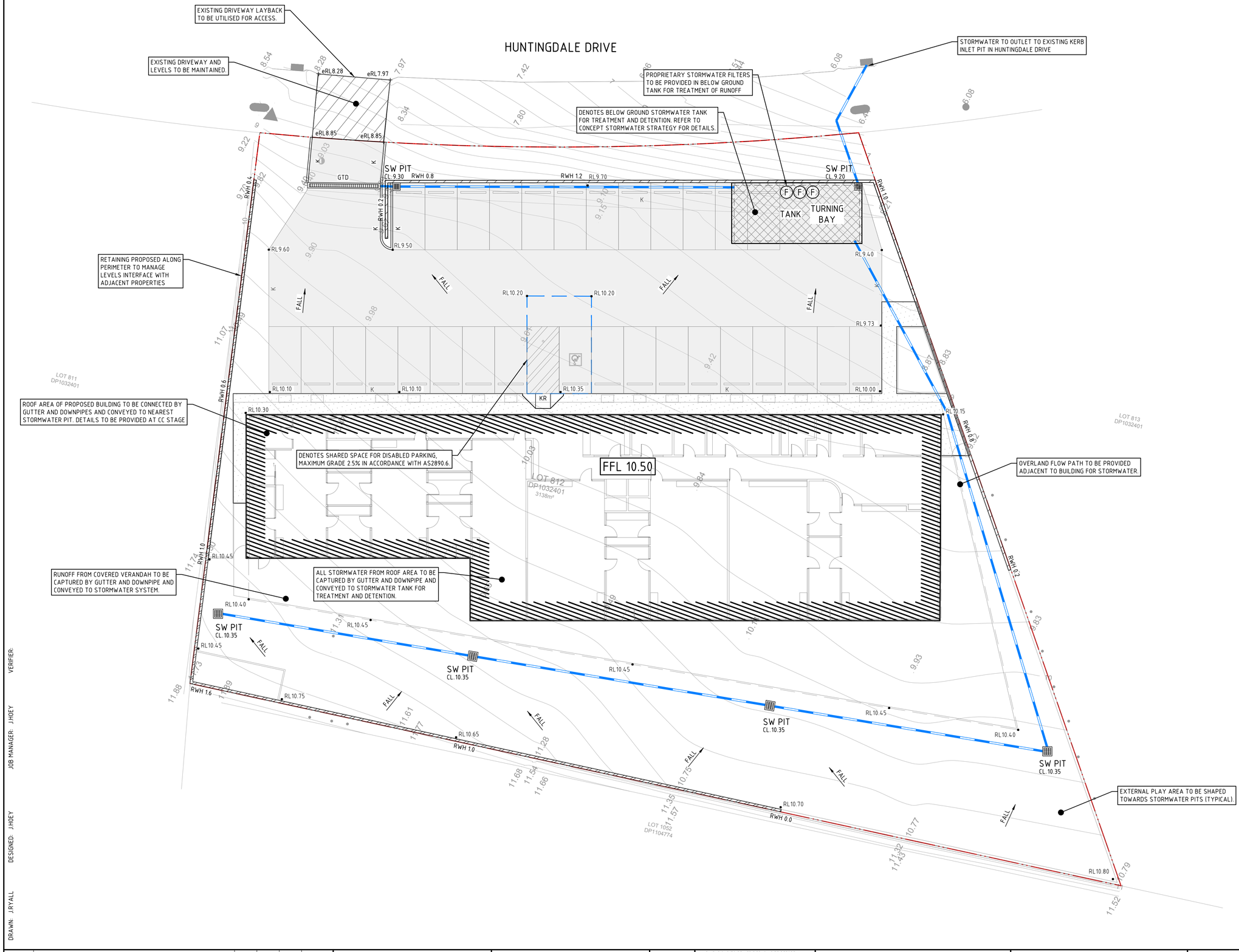
NORTHROP
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT: PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
CONCEPT EROSION AND SEDIMENT CONTROL PLAN

JOB NUMBER: NL212677
DRAWING NUMBER: DA-C-02
REVISION: 1
DRAWING SHEET SIZE = A1



LEGEND

- DENOTES PROPOSED BOUNDARY LINE
- DENOTES EXISTING CONTOURS
- DENOTES EXISTING SPOT HEIGHTS
- DENOTES PROPOSED STORMWATER PIPE
- SW PIT CL.XX.XX — DENOTES PROPOSED GRATED INLET PIT AND COVER LEVEL. DETAILS TO BE PROVIDED AT CC STAGE
- FALL — DENOTES DIRECTION OF GRADE IN FINISHED SURFACE
- GTD — DENOTES PROPOSED GRATED TRENCH DRAIN. DETAILS TO BE PROVIDED AT CC STAGE
- RL.XX.XX — DENOTES PROPOSED SPOT HEIGHT
- DENOTES PROPOSED VEHICULAR PAVEMENT. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED PEDESTRIAN PAVEMENT. DETAILS TO BE PROVIDED AT CC STAGE
- DENOTES PROPOSED BUILDING. REFER TO ARCHITECTURAL PLANS FOR MORE DETAILS.
- DENOTES EXISTING DRIVEWAY CROSSOVER TO BE RETAINED
- DENOTES EXTENT OF PROPOSED SHARED SPACE. MAX GRADE 2.5% IN ACCORDANCE WITH AS2890.6
- DENOTES PROPOSED COVERED VERANDAH. REFER TO ARCHITECTURAL PLANS FOR MORE DETAIL
- K — DENOTES PROPOSED VEHICULAR KERB. DETAILS TO BE PROVIDED AT CC STAGE
- KR — DENOTES PROPOSED KERB RAMP. DETAILS TO BE PROVIDED AT CC STAGE
- FFL XX.XX — DENOTES PROPOSED FINISHED FLOOR LEVEL
- TANK — DENOTES PROPOSED BELOW GROUND STORMWATER TANK. DETAILS TO BE PROVIDED AT CC STAGE
- (F) — DENOTES PROPRIETARY STORMWATER FILTER FOR TREATMENT OF RUNOFF. REFER TO CONCEPT STORMWATER STRATEGY FOR ADDITIONAL INFORMATION
- RWH XX.XX — DENOTES PROPOSED RETAINING WALL AND HEIGHT. DETAILS TO BE PROVIDED AT CC STAGE

NOTES

PLANS TO BE READ IN CONJUNCTION WITH CONCEPT STORMWATER MANAGEMENT REPORT

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DESIGNED: J.HOEY
JOB MANAGER: J.HOEY
VERIFIER:

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NORTHROP
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT: **PROPOSED CHILDCARE CENTRE**

5 HUNTINGDALE DRIVE THORNTON NSW 2322

DRAWING TITLE: **CIVIL ENGINEERING PACKAGE**

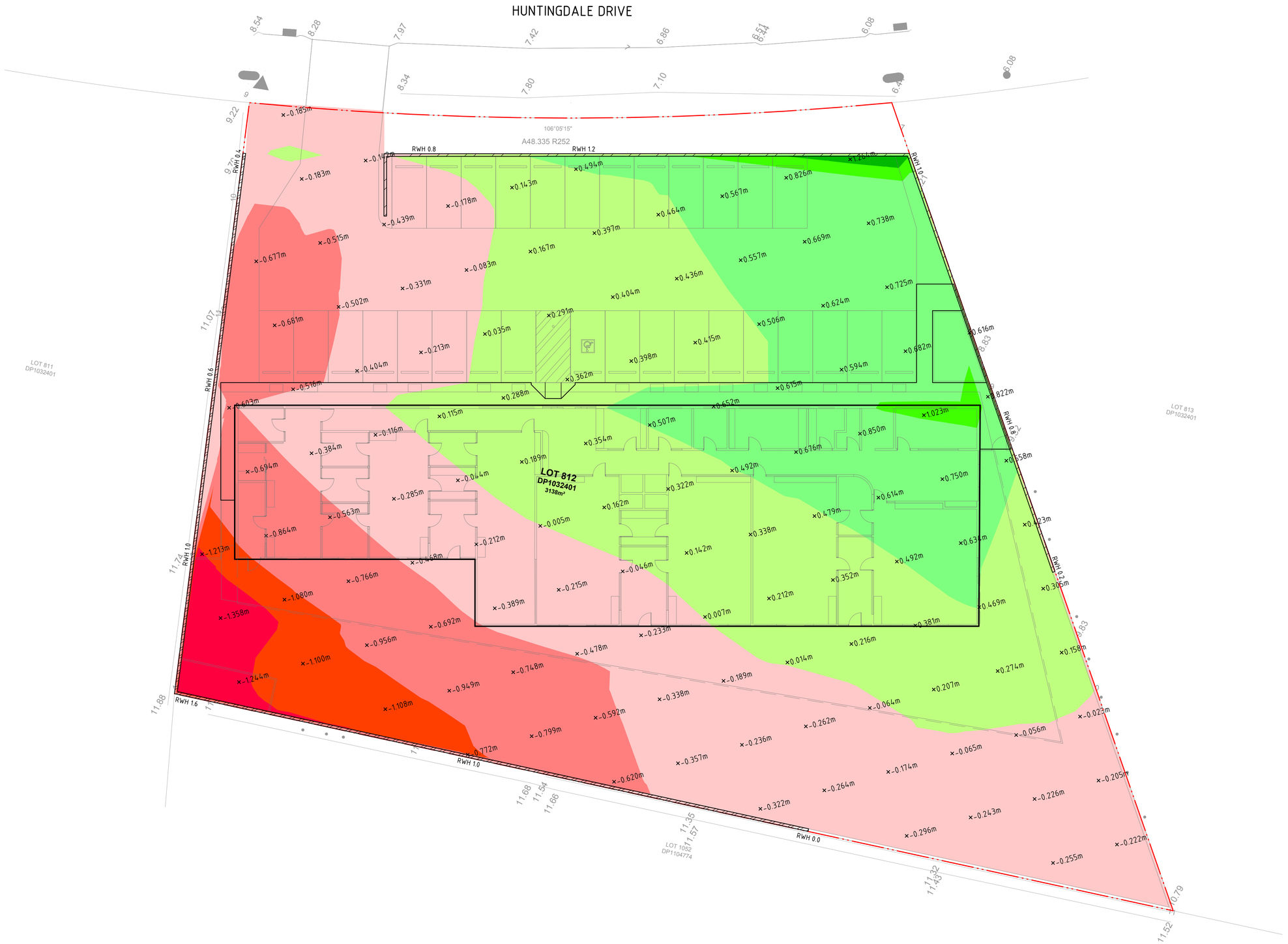
CONCEPT CIVIL WORKS PLAN

JOB NUMBER: **NL212677**

DRAWING NUMBER: **DA-C-03**

REVISION: **1**

DRAWING SHEET SIZE = A1



LEGEND

DENOTES PROPOSED BOUNDARY LINE

DEPTH OF CUT

- - 1.542m TO - 1.200m
- - 1.200m TO - 1.000m
- - 1.000m TO - 0.500m
- - 0.500m TO - 0.000m

DEPTH OF FILL

- 0.000m TO 0.500m
- 0.500m TO 1.000m
- 1.000m TO 1.200m
- 1.200m TO 1.400m

BULK EARTHWORKS NOTES

1. THE APPROXIMATE SITE EARTHWORKS VOLUMES BASED ON THE NOTED PAVEMENT THICKNESSES ARE OUTLINED BELOW:
   - CUT: 717m³
   - FILL: 648m³
   - NET: 69m³ (CUT)

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DESIGNED: JHOEY
JOB MANAGER: JHOEY
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Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

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PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE
THORNTON NSW 2322

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
CONCEPT BULK EARTHWORKS PLAN

JOB NUMBER
NL212677

DRAWING NUMBER
DA-C-04

REVISION
1

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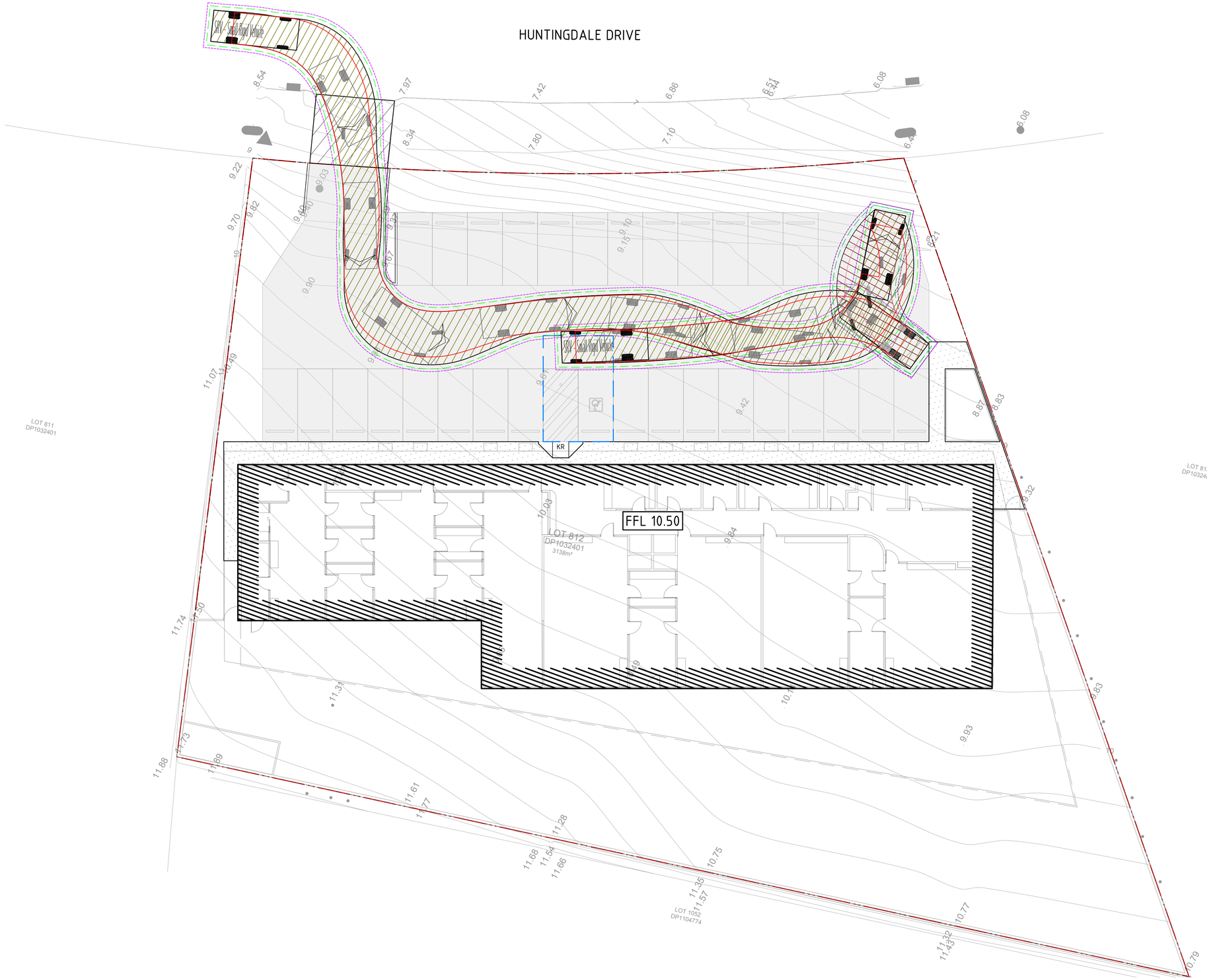


VEHICLE MOVEMENTS

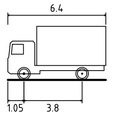
FORWARD MOVEMENT

- VEHICLE BODY
- VEHICLE WHEELS
- VEHICLE VERTICAL CLEARANCE (0.3m FROM BODY)
- VEHICLE VERTICAL CLEARANCE (0.5m FROM BODY)

REVERSE MOVEMENT

- VEHICLE BODY
- VEHICLE WHEELS
- VEHICLE VERTICAL CLEARANCE (0.3m FROM BODY)
- VEHICLE VERTICAL CLEARANCE (0.5m FROM BODY)

VEHICLE PROFILE



SRV - SMALL RIGID VEHICLE

OVERALL LENGTH	6.400m
OVERALL WIDTH	2.330m
OVERALL BODY HEIGHT	3.500m
MIN BODY GROUND CLEARANCE	0.398m
TRACK WIDTH	2.330m
LOCK-TO-LOCK TIME	4.00s
CURB TO CURB TURNING RADIUS	7.100m
TRAVELLING SPEED	15 km/h

DISCLAIMER

THE TURNING PATHS/TEMPLATES PROVIDED HAVE BEEN PRODUCED USING SIMULATION SOFTWARE AND ARE TO BE USED AS A GUIDE ONLY. THESE SIMULATIONS MAY NOT REFLECT ACTUAL DRIVER BEHAVIOUR AND/OR EXPERIENCE UNDER ACTUAL DRIVING CONDITIONS.

IT IS NORTHROP'S INTENTION TO UTILISE STANDARD VEHICLES NOMINATED IN AS2890.1 AND AS2890.2 FOR ALL DESIGN/CHECKING VEHICLE SIMULATIONS AT AN IDEAL MOVEMENT SPEED OF 10KM/H WITH A NOMINAL VEHICLE BODY OFFSET OF 500MM. WHERE MANOEUVRABILITY IS LIMITED AND SITE CONDITIONS ARE FAVOURABLE, AN ABSOLUTE MINIMUM SPEED OF 5KM/H WITH AND ABSOLUTE MINIMUM VEHICLE BODY CLEARANCE OF 300MM MAY BE ADOPTED.

IF THE USE OF SPECIFIC VEHICLES (NOT DETAILED UNDER AS2890) IS REQUESTED, IT IS TO BE NOTED THAT THEIR DIMENSIONS AND MANOEUVRING CHARACTERISTICS HAVE BEEN INTERPRETED INTO THE SIMULATION SOFTWARE FROM INFORMATION PROVIDED BY SERVICE PROVIDERS AND VEHICLE MANUFACTURES. NORTHROP ACCEPTS NO RESPONSIBILITY OF THE ACCURACY THESE VEHICLE MOVEMENTS, AND ANY MANOEUVRES PROVIDED SHOULD ONLY BE USED AS A GUIDE WITH ACTUAL DESIGN BEING BASED AROUND ENGINEERING ADVICE AND AUSTRALIAN STANDARDS.

AT ALL TIMES, STANDARD VEHICLE TURNING PATHS/TEMPLATES ARE TO TAKE DESIGN PRECEDENCE OVER ALL SPECIFIC VEHICLES. UNDER NO CIRCUMSTANCE DOES THE SIMULATION PROVIDED RELIEVE ANY PARTY OF THEIR ROLE AND RESPONSIBILITY FOR PROVIDING DESIGN SOLUTIONS IN ACCORDANCE WITH GOOD DESIGN PRACTICES.

NOTE

B-DOUBLE SWEPT PATHS SHOWN FOR DESIGN PURPOSES ONLY.
BRIGALOW AVENUE IS NOT A B-DOUBLE ROUTE

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
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ARCHITECT
KAUNITZ YEUNG ARCHITECTURE

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NORTHROP
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT
PROPOSED CHILDCARE CENTRE
5 HUNTINGDALE DRIVE THORNTON NSW 2322

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
VEHICLE SWEPT PATH PLAN

JOB NUMBER **NL212677**
DRAWING NUMBER **DA-C-05**
REVISION **1**
DRAWING SHEET SIZE = A1

Monteath
& Powys

ABN 94 000 861 110

13/125 Bull Street
Newcastle West NSW 2302

PO Box 2270
Dangar NSW 2309

P (02) 4926 1388
info@monteathpowys.com.au

monteathpowys.com.au