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ALTON PROPERTY GROUP PTY LTD



Salinity Management Plan

93-107 Cecil Avenue & 9-10 Roger Avenue, Castle
Hill, NSW

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1. INTRODUCTION

1.1 Background

EI Australia (EI) was engaged by Alton Property Group Pty Ltd to prepare a Salinity Management Plan (SMP) for the property located at 93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill, NSW (henceforth referred to as 'the site').

The site is located within the local government area (LGA) of The Hills Shire Council (**Figure 1, Appendix A**). It comprises eighteen, adjoining properties, identified as Lot 27 in Deposited Plan (DP) 15399, Lots 21-22 of DP778595, Lots 5-6 of DP705913, Lots 1-4 of DP5812933, Lots 1-2 of DP547897, Lots 1-2 of DP591676, Lot 20 of DP15399, Lots 4-6 of DP29141, and Lot 1 of DP531559. The site covers an approximate area of 1.762 ha, fronting Cecil Avenue on the north-eastern boundary and Roger Avenue on the southern boundary (**Figure 2, Appendix A**). At the time of drafting this plan, each property had residential type structures, although some were being used for commercial purposes.

The site was rezoned to *MU1 Mixed Use* under *The Hills Local Environmental Plan 2019*. This report has been prepared to assist with the management of saline soils, should it be encountered during the proposed redevelopment of the site and will be in support of a State Significant Development (SSD) Application to The Hills Shire Council.

Notes:

This plan has been drafted in the absence of site assessment data and assumes that saline soils are present. An investigation component thus forms part of the proposed scope of works and should it establish that saline materials are not present, then the remainder of this plan would not apply to future site (soil) management.

1.2 Proposed Development

Based on the supplied plans (**Appendix B**), the proposed development involves demolition of the existing structure, followed by the construction of four, mixed commercial (retail) and residential (apartment) buildings, overlying multi-level basement facilities (accessible via driveway from Cecil Avenue). The development would be delivered in three stages, being (as per the plans in **Appendix B**):

- Stage 1: Buildings A and B, plus a public through-site link;
- Stage 2: Building C; and
- Stage 3: Building D.

1.3 Objective

The objective of this plan is to provide a framework for the identification and management of any saline soils that may be encountered during the proposed development works.

1.4 Scope of Works

In order to achieve the project objective, the scope of works is as follows:

- Identification of the site investigation requirements, to establish if and where saline soils are present;
- Description of the soil management procedures to be undertaken on-site, which when implemented will prevent, or control, the generation of saline leachate; and

- Description of the contingency measures to be implemented in the case of failure of management procedures.

1.5 Regulatory Framework

This plan was completed with reference to the following guidelines:

- DLWC (2002) *Site Investigations for Urban Salinity*;
- DPI (2014) *Salinity Training Manual*;
- DPINR (2003) *Building in a Saline Environment*; and
- WSROC (2004) *Western Sydney Salinity Code of Practice*.

2. DESKTOP REVIEW

2.1 Property Identification

The site identification details and associated information are presented in **Table 2-1**. Refer to **Appendices A** and **B** for site plans.

Table 2-1 Site Identification, Location and Zoning

Information	Detail
Street Address	93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill, NSW
Lot and DP	Lot 27 of DP15399; Lots 21-22 of DP778595; Lots 5-6 of DP705913; Lots 1-4 of DP5812933; Lots 1-2 of DP547897; Lots 1-2 of DP591676; Lot 20 of DP15399; Lots 4-6 of DP29141; and Lot 1 of DP531559.
Site Area	1.762 ha
Geographical Coordinates	North-eastern corner of site (datum GDA2020-MGA56): <ul style="list-style-type: none"> Easting: 315074.207 Northing: 6265348.801 (Source: http://maps.six.nsw.gov.au)
LGA	The Hills Shire Council
Current Zoning	MU1: Mixed Use (The Hills Local Environmental Plan 2019)
Land Use	The site is currently occupied by eighteen, adjoining residential properties.
Location and Surroundings	Approximately 24 kilometres north-west of the Sydney CBD. Bound by: <ul style="list-style-type: none"> North: Cecil Avenue, followed by University of Canberra Sydney (Hills Campus) and residential and commercial properties; East: Residential properties; South: Residential and commercial properties, and Roger Avenue; West: Residential and commercial properties.

2.2 Regional Setting

Local topography, (hydro)geology and soil landscape information is summarised in **Table 2-2**.

Table 2-2 Regional Setting Information

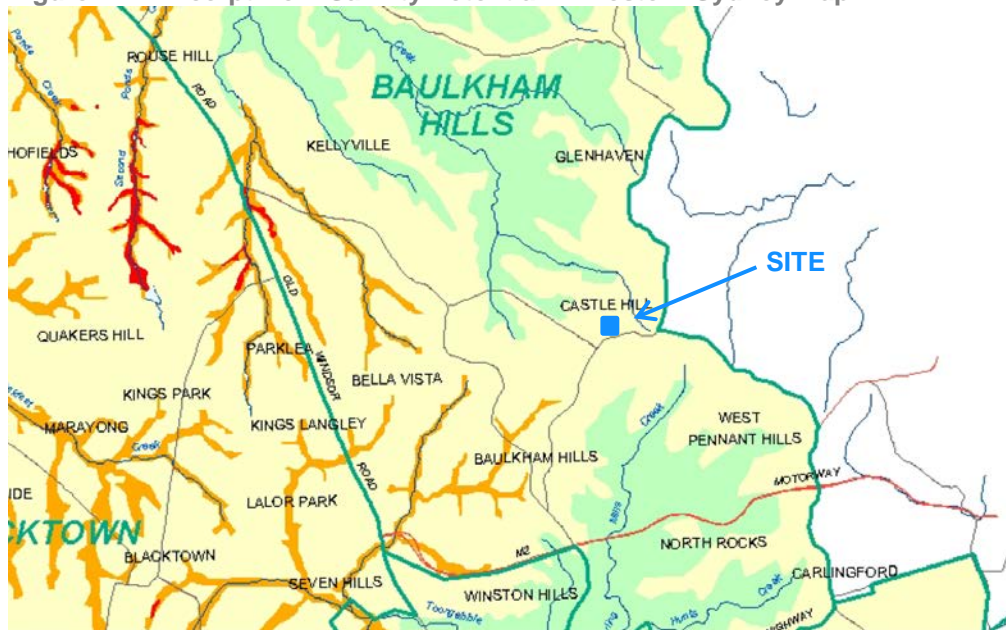
Attribute	Description
Topography	The site displays a moderate slope from the northern to southern boundary, from 132.61m Australian Height Datum (AHD) to 113.5m AHD (Appendix B).
Drainage	It is expected that drainage will be consistent with the site topography, flowing in the southerly direction towards the Excelsior Creek.
Geology	According to the Department of Mineral Resources <i>Sydney 1:100,000 Geological Series Sheet 9130</i> (DMR, 1983), the site is underlain by Bringelly Shale (<i>Rwb</i>), consisting of shale, carbonaceous claystone, laminate, fine to medium-grained lithic sandstone and

Attribute	Description
	rare coal.
Soil Landscape	The NSW Government Department of Planning, Industry and Environment eSPADE v2.0 website indicates that the site overlies a Glenorie (<i>gn</i>) erosional landscape. This landscape type comprises gently undulating to rolling low hills on Wianamatta Group shales. Soils are shallow to moderately deep on upper slopes, with red and brown podzols on crests, grading to yellow and gleyed podzols along drainage lines.
Acid Sulfate Soil (ASS) Risk	According to <i>The Hills Environmental Plan 2019</i> , the subject land lies in an area having “No Known Occurrence”. In such case, ASSs are not known or expected to occur and “land management activities are not likely to be affected”.
Groundwater	A search for groundwater bores registered with WaterNSW was conducted on 29/10/2024, which revealed four bores within a 500m radius of the site, including GW111750, GW111751, GW109571, and GW109570. All bores were authorised for ‘domestic purpose’, suggesting the local groundwater resource was being utilised to some extent.
Nearest Surface Water Feature	Excelsior Creek, located approximately 550m south of the site.

2.3 Salinity Potential

The DIPNR (2003) *Salinity Potential in Western Sydney Map 2002* depicts the distribution and severity of dryland salinity in the corresponding area, based on related biophysical factors. According to this map, the site is within an area of moderate salinity potential (**Figure 2-1**).

Figure 2-1 Excerpt from Salinity Potential in Western Sydney Map



Legend:

Known Salinity		Areas where there is a known occurrence of saline soil, or where air photo interpretation and field observations have confirmed saline soil characteristics.
High Salinity Potential		Areas where soil, geology, topography and groundwater conditions predispose a site to salinity. These conditions are similar to areas of known salinity.
Moderate Salinity Potential		Areas on Wianamatta Group Shales and Tertiary Alluvial Terraces. Scattered areas of scalding and indicator vegetation have been noted but no concentrations have been mapped. Saline areas may occur in this zone.
Very Low Salinity Potential		Areas where salinity processes do not operate or are of minor significance. No salinity has been observed in these areas and is not expected to occur.

2.4 Salinity Indicators

Salinity is either a naturally occurring process or a result of human changes to ecosystems, resulting in increased salt content. An excess amount of salt and water can damage ecosystems (particularly flora) and urban infrastructure. Typical indicators of dryland salinity are presented in **Table 2-3**.

Table 2-3 Salinity Indicators

Building Indicators	Ecological Indicators
Crumbling of bricks and mortar (brick fretting)	Accumulation of water in an area (waterlogging)
An accumulation of white salt crystals	High soil erosion and increased runoff
Damp walls (rising or falling; tide marks)	“Puffiness” of dry soils
Bleaching of sandstone	Black iron staining
Breakdown of render or cement/concrete	Bare soil patches (with or without salt crystals)
	Efflorescence (of soil or building materials)
	Excessively clear water
	Plants (include spiny rush and sea barley grass)
	Yellow, stunted, wilting or dead vegetation
	Distinct changes in vegetation

2.5 Likelihood of Saline Soil Occurrence

Based on preliminary findings, the site was situated within a relatively sloped, 132.61-113.5m AHD, shale environment. It displayed a moderate potential for saline soils. None of the indicators listed in **Table 2-3** were apparent.

As the proposed development involved bulk soil excavations to depths of 12-13m BGL, intrusive investigation, involving soil sampling and laboratory analysis, was needed prior to excavation to confirm the presence or absence of saline soils. This requirement was consistent with *The Hills Local Environmental Plan 2019*, as well as Schedule 3 of the NSW *Environmental Planning and Assessment Regulation 1994*.

An investigation component thus forms part of the proposed scope for site redevelopment. Should it confirm that saline soils are not present, then the remainder of this plan would not apply to any subsequent site management.

3. SALINITY MANAGEMENT

The salinity management procedures described herein are in general accordance with the WSROC (2004) *Western Sydney Salinity Code of Practice*. Since a moderate potential has been identified, a site-specific salinity investigation is warranted. The findings of the investigation will determine which level of response is required.

3.1 Intrusive Investigation

Investigation is to be performed prior to any soil disturbance (i.e. excavation) being undertaken at the site. It must include soil profiling, sampling and analysis, to confirm the presence / absence of saline soils. Soil sodicity (i.e. susceptibility to erosion) and aggressivity to concrete and steel structures are also relevant.

If groundwater is intercepted during the intrusive works, it is recommended that representative samples be collected for appropriate analysis.

Based on the site area (1.762 ha) and predicted total volume of soils to be disturbed during bulk excavation (at least 210,000m³), then in accordance with DLWC (2002) *Site Investigations for Urban Salinity*, the investigation is to comprise:

- Soil profiling at a minimum of four boreholes / test pits, each extended to at least 4m BGL;
- The collection of soil samples from each distinguishable layer and/or at 0.5m increments, ensuring each horizon is represented by the sampling program;
- The collection of a groundwater sample from at least one of the bores / pits, should sufficient inflow be encountered;
- Laboratory analysis of selected soil and groundwater samples for salinity, sodicity and aggressivity parameters; and
- Data interpretation against the adopted assessment criteria.

Soil Description

Examined soils are to be described in-field with respect to lithological characteristics (including texture), based on the Unified Soil Classification System (USCS) and Australian Standard AS1726:2017 *Geotechnical Site Investigations* (Standards Australia, 2017). They are to be evaluated on a qualitative basis for signs of high salt content (see **Table 2-3**).

Sample Handling Procedures

A stainless steel trowel should be used to transfer soil aliquots from the auger drill flights / excavator bucket into laboratory-supplied, zip-lock bags (the sampler wearing dedicated nitrile gloves). Groundwater samples are to be collected in high-density, polyethylene bottles.

Upon sealing the bag / bottle, the sample shall be immediately stored in an insulated chest (containing ice packs), before transportation to the designated NATA-accredited analytical laboratory under strict chain-of-custody (COC) procedures.

Laboratory Analysis

To confirm the presence/absence of saline, sodic and/or aggressive soils, representative samples will be assigned for determination of the following parameters (at least):

- Field pH (pH_f);
- Electrical conductivity (EC);
- Cation exchange capacity (CEC):

- Exchangeable cations (sodium, potassium, magnesium and calcium);
- Soluble chloride (Cl⁻) and sulphate (SO₄²⁻); and
- Exchangeable sodium percentage (ESP %).

All laboratory analyses are to be conducted on discrete (un-composited) samples using NATA-registered methods. They shall establish the salinity, sodicity and aggressivity risks and associated levels of management response.

Assessment Criteria

The soil analytical results are to be interpreted with respect to the indicators (screening and action criteria) presented in:

- DLWC (2002) *Site Investigation for Urban Salinity*;
- Hazelton and Murphy (2007) *Interpreting Soil Test Results*;
- Northcote (1979) *A Factual Key for the Recognition of Australian Soils*;
- Standards Australia (2009a) *Australian Standard AS2159: Piling - Design and Installation*;
- Standards Australia (2009b) *Australian Standard AS3600: Piling - Concrete Structures*.

3.2 Preliminary Management Considerations

Assuming saline soils are present on-site, the following activities may intercept and disturb them, thus creating associated environmental impacts via leachates:

- Excavation for the basement;
- Piling;
- Excavations for crane pads, lift overrun pits, building footings and service trenches; and
- Dewatering for basement construction (if groundwater inflow and/or heavy rains occur).

The extent of any adverse impacts associated with salinity will depend on the following factors:

- Volume of disturbed / exposed soil identified as being saline (or sodic / aggressive);
- Physical characteristics of the soil, such as grain size and clay content;
- Time that the soil is exposed to air; and
- Rate of transport of the saline products.

In order to minimise environmental impacts associated with saline, sodic and/or aggressive soils, the management options commonly adopted are:

- Avoidance, or minimisation of soil disturbance;
- Soil amelioration (typically with gypsum, lime or organic matter);
- Strategic reburial; and/or
- Off-site disposal.

Effective identification and monitoring, combined with a planned treatment program that includes appropriate contingencies, will ensure there is no incremental contribution of saline leachates during basement excavation and building construction.

It is understood that all excavated materials will be disposed off-site to landfill. It is recommended that all saline soils be assessed on-site immediately upon disturbance. No such soil should be used for structural or general filling above the groundwater table.

3.3 Level of Management Response

WSROC (2004) *Western Sydney Salinity Code of Practice* outlines the requirements for a salinity response plan for sites / works occurring within Western Sydney. Three levels of response are identified, corresponding to increasing salinity resistance. The level applicable to a site is dependent on the identified salinity potential, the associated risk posed to receptors, and the type of works proposed. A summary of the defined levels is provided in **Table 3-1**.

Table 3-1 WSROC Salinity Response Levels

Level	Salinity / Development Requirements	Management Response
1	Sites in areas of 'moderate' salinity potential as defined by DIPNR Salinity Potential Maps. Specific to small scale (single lot) development involving low risk activities.	Implement 'Level 1 Salinity Management Response Checklist' which focuses on basic building techniques and 'good house-keeping' to manage waterlogging and rising dampness.
2	Sites in areas of 'high' salinity potential as defined by DIPNR Salinity Potential Maps. Specific to small scale (single lot) development involving low risk activities.	Implement 'Level 2 Salinity Management Response Checklist' which focuses on basic building techniques and includes suggestions for varying building materials and techniques, and stringent water and damp control measures for the site.
3	Intended for multiple lot developments / rezoning in areas with a moderate - high salinity potential, or for developments involving salinity risk activities.	Requires a SMP to be developed. The plan should detail the site's response based on the development proposed and should include controls to protect buildings, infrastructure, roads, underground services and the natural water balance.

Footnote:

Salinity risk activities include quarrying, intensive agriculture, high levels of irrigation, infiltration to soil and/or groundwater from large, artificial water bodies, waste water re-use and/or treatment, as well as major landscaping

3.4 Management during Excavation and Building Construction

Bulk excavation and building construction should be undertaken in accordance with *The Hills Development Control Plan 2012*. For specific requirements regarding building in saline environments, provisions described in The Building Code of Australia (BCA) and relevant Australian Standards (AS) should be referred to.

For this site, the management requirements should include, but not necessarily be limited to, the measures detailed below.

Earthworks

The management procedures for excavated saline soils are:

- 1) Prior to work commencement, the proposed excavation area will be isolated and appropriate bunding put in place.
- 2) When clearance is granted for soil disposal, the material shall be excavated to the required depth, with direct loading onto waiting trucks.
- 3) If immediate disposal is not possible, saline soil will be stockpiled on-site, with temporary bunding placed around each mound. Alternatively, it can be deposited into a skip bin.
- 4) Saline soils are to be disposed at a licenced landfill facility in accordance with the EPA (2014) *Waste Classification Guidelines*.

It is recommended that stockpile(s) containing saline soils be formed on an area where no development works are proposed. The designated area may be subject to change, depending on (modified) plans of the proposed development and access needs. If disposal cannot be performed immediately, plastic sheeting shall be placed over the stockpile.

Additional Considerations

- Areas of cut and fill should be restricted to the building envelope.
- Appropriate measures are required to control stormwater and sediment resulting from road works or utility/service installation.
- Moisture content of fill should not be increased with saline water without field or laboratory trials.
- Waterlogging through poor drainage should be avoided or rectified, with consideration to shrink / swell hazards.
- Erosion / disturbance are to be minimised. Excavation techniques should minimise site disturbance and the exposure of sensitive soil material.
- Implementation of mitigation measures to address potential soil erosion during construction (i.e. mixing of soils with gypsum).
- If extended periods of rain are forecast, bare ground should be either:
 - › Covered with stable fill such as ripped sandstone; or
 - › Stabilised with lime proportioned to 3% by weight.

Notes:

The large basement excavation area and depth may preclude the ability to stockpile soils on-site. In the interests of project efficiency, approval with the designated landfill facility should be sought prior to works commencement.

The designated landfill facility must be licensed for the certified waste category. Documentation (tipping docket) must be collated, accounting for each truck load of soil disposed off-site.

Concrete and Brick Works

- Exposure class masonry units and upgraded mortar classification should be utilised below the damp proof course.
- Consideration should be made to the use of salt resistant bricks and construction materials throughout the construction as a preventative measure for infrastructure degradation.
- Susceptible construction material, such as porous brickwork or lower quality materials should be avoided.
- Manufacturer's recommendations regarding the suitability for use in saline environments for all bricks and concrete blocks should be followed.
- Class N32 concrete or type SR cement with water / cement ratio of 0.5 must be used, with reference to Cement, Concrete and Aggregates Australia (2005) *Guide for residential slabs and footings in saline environments*.
- Proper compaction of the concrete must be achieved.
- Proper curing procedures and duration (minimum 7 days) are to be followed.
- Ensure materials including sand and aggregate are suitable for site conditions.
- Concrete cover over steel reinforcement of minimum 50mm.
- Turbulence of any water flowing over a concrete structure should be minimised.
- For on-ground slab construction, a sand seating layer of minimum 50mm thickness must be provided, in accordance with Building Code of Australia (BCA) clause 3.3.3.2.
- Appropriate sub-soil drainage must be installed for slabs, footings, retaining walls and driveways.

Damp Proof Course (DPC)

Damp proof courses should be installed during the initial construction of infrastructure and maintained throughout the development, including the landscaping phase. More specifically:

- A DPC should be installed beneath slabs and extend to the outside face of the external edge beam up the finished ground level, in accordance with BCA clause 3.2.2.6.
- Minimum overlapping of 200mm at joints with appropriate sealing. Joint seals should be validated (i.e. via air lancing) to ensure satisfactory installation.
- Service penetrations shall be sealed with a close fitting sleeve (i.e. top hat with jubilee clip).
- The DPC materials should be in accordance with AS/NZS 2904 – *Damp-proof courses and flashings*.
- Once installed, the DPC must not be breached by any later works or additions such as steps, verandas, walls, rendering, bagging, pointing, paving, or landscaping. Protective boards should be utilised where follow-on trades must work in an area where the DPC has been installed. The importance of the integrity of the DPC should be included within site toolbox talks to reduce the risk of damage.

3.5 Management of Stormwater and Drainage

The following measures are to be considered during water collection, containment and disposal:

- Implement measures to avoid the infiltration of stormwater, as detailed by the stormwater management plan(s) developed for the site.
- Any permanent surface water infrastructure such as ponds and dams should be lined and regularly maintained to limit infiltration.
- Underground water carrying pipes and any on-site sewerage systems are to be properly installed and any existing pipes checked for damage or leaks. Rubber sealed pipes should be used to minimise the risk of water leakage.
- Infrastructure such as concrete slabs, foundations, and retaining walls should be designed to allow good drainage and minimise water logging. The design and layout of retaining walls, driveways, and underground services should have minimal cut, minimise impediment of natural groundwater flow, and provide good drainage. Design and construction is to be carried out in accordance with Australian Standards and Building Codes, to ensure current best practices are occurring.
- Drainage pipes are to be properly connected and maintained.

3.6 Management of Vegetation and Landscaping

The following measures are to be considered during the protection and/or development of landscaped areas with vegetation:

- Areas of established vegetation should be maintained (where possible). In areas of deep soil, mulch should be used or salt tolerant plants should be planted to use the groundwater source and reduce infiltration.
- Landscaping plans apply to 'waterwise' gardening principles. However, procedures designed to encourage excessive infiltration through the soil should be avoided. In certain landscaping situations, infiltration measures to be incorporated may include a sub-surface drain and liner when rapid infiltration to groundwater is likely to occur.
- Irrigation systems should be properly installed to avoid leakage and smart sprinkler systems should be considered.

- Watering of open space should be kept to a minimum.
- Over-watering must be avoided.

3.7 Dewatering (Groundwater) Issues

If groundwater is encountered during the bulk excavation phase, the removal (pumping) of seepage water from the basement excavation area may be necessary. The proposed excavation work and/or pumping is unlikely to cause significant alterations to the existing (local) groundwater table, at least in the long term. Nevertheless, any required dewatering must be performed in accordance with council DA consent conditions.

Specific measures that must be implemented are as follows:

- 1) The civil and dewatering works program will be undertaken in a staged manner, to minimise their duration and the magnitude of water volume.
- 2) Active management of civil works and dewatering operations is required to minimise potential impacts on the environment and other groundwater users. The use of shoring to physically confine the cone of depression (in the pit), or temporarily slow down groundwater flow, should be considered. Specifications for shoring are to be determined by the appointed structural engineer.
- 3) Excavation areas will be left open for the shortest possible time.
- 4) Water to be discharged to Council's stormwater system must:
 - Be pumped to an agreed discharge point;
 - Not contain a concentration of suspended sediment exceeding 50 mg/L;
 - Have a pH of between 6-8; and
 - Comply with the ANZG (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (specifically the criteria for the protection of 95% of species in freshwater ecosystems), as well as the criteria included in Landcom (2004) *Managing Urban Stormwater: Soils and Construction*.
- 5) Should acidic water (pH<6) be encountered during the works, it will be treated with lime to display a pH level of 6-8. The treatment system should include a settlement tank of suitable capacity, with dosing pump to neutralise any acidic water, prior to controlled off-site release. A flow meter is to be located on the discharge line, to record volumes of treated effluent.
- 6) Granulated lime should be added to the water by hand and/or excavator bucket, then mixed. Field pH testing on representative samples should be performed to ensure that sufficient neutralisation has occurred, prior to disposal.
- 7) Water testing shall be carried out to ensure groundwater is appropriate for discharge. This testing must be undertaken by a suitably qualified environmental consultant and results provided to Council upon request.
- 8) Results of water testing must be provided in a certification report. Water that does not comply with the above standards must not be discharged off-site. A permit may be required to discharge such water. It is recommended that consultation with Council be undertaken prior to discharge into the stormwater network.
- 9) No water containing any suspended matter or contaminants is to leave the site in a manner which could significantly pollute a receiving waterway. Sediment retention traps will be used to control any runoff water.

3.8 Risk Management

This management plan is based on the assumption that up to 210,000m³ of saline soils from within the proposed basement area will be disturbed and exposed (on wall and base surfaces), as a consequence of the corresponding excavation. Should the actual amounts of saline materials significantly differ from those in this report, management techniques may need to be revised. Indeed, management may not necessarily be required at all, depending on investigation findings.

Prior to the commencement of any excavation works, the applicant shall nominate an appropriately qualified environmental scientist to complete the investigation phase and supervise the management of saline, sodic and/or aggressive soils (if necessary). The scientist shall:

- a) Provide an acceptance in writing to supervise the aforementioned works and ensure compliance with this management plan and conditions of consent. This must be provided to the *Director - Environmental Services* of The Hills Shire Council prior to works commencing.
- b) On completion of all saline soil management, certify that the aforementioned works were conducted in compliance with the approved plan(s), specifications and conditions of consent. This certification shall be submitted to the *Director - Environmental Services* of The Hills Shire Council within 30 days of the completion of works.

During the proposed basement excavation, site inspection is to be conducted by the appointed environmental consultant, in order to check that the assumptions made in this plan are consistent with field evidence and practices. The consultant will be responsible for ensuring that:

- Saline soils are kept separate from other soils; and
- Testing of excavated and exposed soils is performed, where required.

All contractors must employ best practices in managing any off-site water and soil quality impacts during site redevelopment. All waste materials must be contained and disposed at appropriate landfill facilities, in accordance with the EPA (2014) *Waste Classification Guidelines*. Any soils to be imported onto the site for the purpose of back-filling or landscaping will require some form of validation, to confirm their suitability for the proposed land use.

If parts of the basement are to be set on saline soil horizons, it is suggested that salt-resistant concrete be considered for the concrete shell. The specifications for salt-resistant concrete will be determined by the appointed structural engineer.

Notes:

All demolition activities must be managed in accordance with Australian Standard AS 2601 *The Demolition of Structures* (Standards Australia, 2001). The overriding objective will be the minimization of soil disturbance.

During demolition, each structure is to be maintained in a stable and safe condition. Best practices must be employed in managing any off-site water and soil quality impacts. No water containing any suspended matter is to leave the site in a manner which could significantly pollute a receiving waterbody.

4. CONSULTATION AND RECORDS

During the development and any saline soil management, the following authorities may require consultation:

- New South Wales Environment Protection Authority (EPA), concerning pollution incident and response issues, including off-site migration of leachates;
- WaterNSW, for a dewatering permit and associated conditions; and
- The Hills Shire Council, regarding development compliance and environmental issues.

The party responsible for the implementation of this SMP should maintain a portfolio documenting all records associated with on-site soil management. Such records will comprise, though not necessarily be limited to:

- Soil investigation results;
- Field records of salinity monitoring, such as daily field screening results on stockpiled materials, excavation surfaces, application of gypsum / lime, groundwater level and pH level monitoring;
- Records of saline soil transportation, including truck registers and waste (tipping) dockets issued by the receiving land fill facility; and
- Environmental incident reports, in cases of non-conformance and subsequent mitigation measures adopted.

All analysis and monitoring information will be stored electronically to permit ease of access and data interpretation.

5. STATEMENT OF LIMITATIONS

This plan has been prepared for the exclusive use of Alton Property Group Pty Ltd, whom is the only intended beneficiary of EI's work. The scope of this plan was limited to that agreed with the client.

No warranties are made as to the information provided in this plan. All recommendations and procedures are of the professional opinions of EI personnel involved with the project and while normal checking of the accuracy of data has been conducted, any circumstances outside the scope of this report or which are not made known to EI personnel and which may impact on those opinions are not the responsibilities of EI.

This plan was prepared for the above named client and no responsibility is accepted for use of any part of this report in any other context or for any other purpose or by other third parties. This report does not purport to provide legal advice.

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REFERENCES

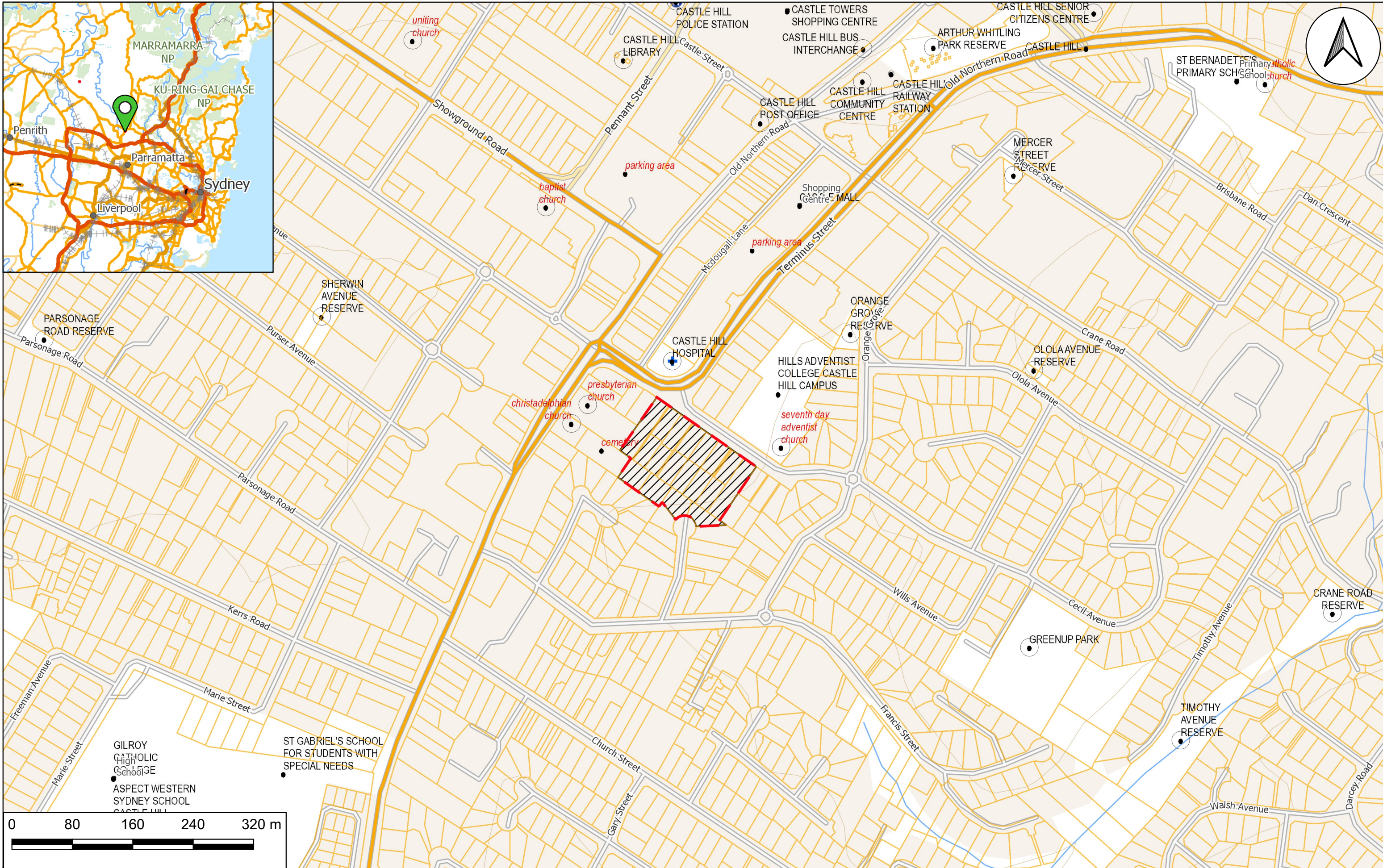
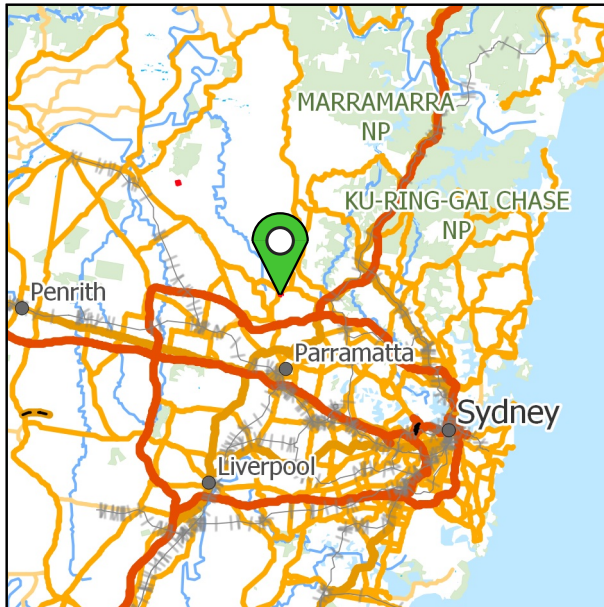
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Appendix A – Figures



LEGEND. Note: All locations are approximate

Site Boundary



Drawn:	T.Y.
Approved:	
Date:	30/10/2024

Alton Property Pty Ltd
 Salinity Management Plan
 93-107 Cecil Avenue & 9-10 Roger Avenue,
 Castle Hill, NSW
 Site Locality Plan

Figure:
1
 Project: E26536.G17



LEGEND. Note: all locations are approximate

 Site Boundary



Drawn:	T.Y.
Approved:	
Date:	30/10/2024

Alton Property Pty Ltd
 Salinity Management Plan
 93-107 Cevil Avenue & 9-10 Roger Avenue,
 Castle Hill, NSW
 Site Layout Plan

Map Source:
NearMap, dated 30/10/24

Figure:
2
 Project: E26536.G17

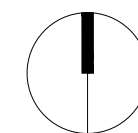
Appendix B – Site Survey and Proposed
Development Plans



LEGEND:
 RESIDENTIAL PARKING
 NON-RESIDENTIAL PARKING

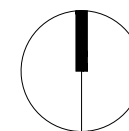


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A	SSDA	2024-12-04





Rev	Description	Date
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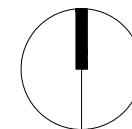




- LEGEND:**
- STUDIO
 - 1 BEDROOM
 - 2 BEDROOM
 - 2 BEDROOM (>=110m²)
 - 3 BEDROOM
 - 3 BEDROOM (>=135m²)
 - 4 BEDROOM
 - COMMERCIAL / RETAIL
 - RESIDENTIAL LIFT / PARKING
 - NON-RESI LIFT / PARKING
 - RESIDENTIAL ENTRY

Rev	Description	Date
A	SSDA	2024-12-04

Project Name
 93-107 Cecil Avenue and 9-10 Roger Ave, Castle Hill



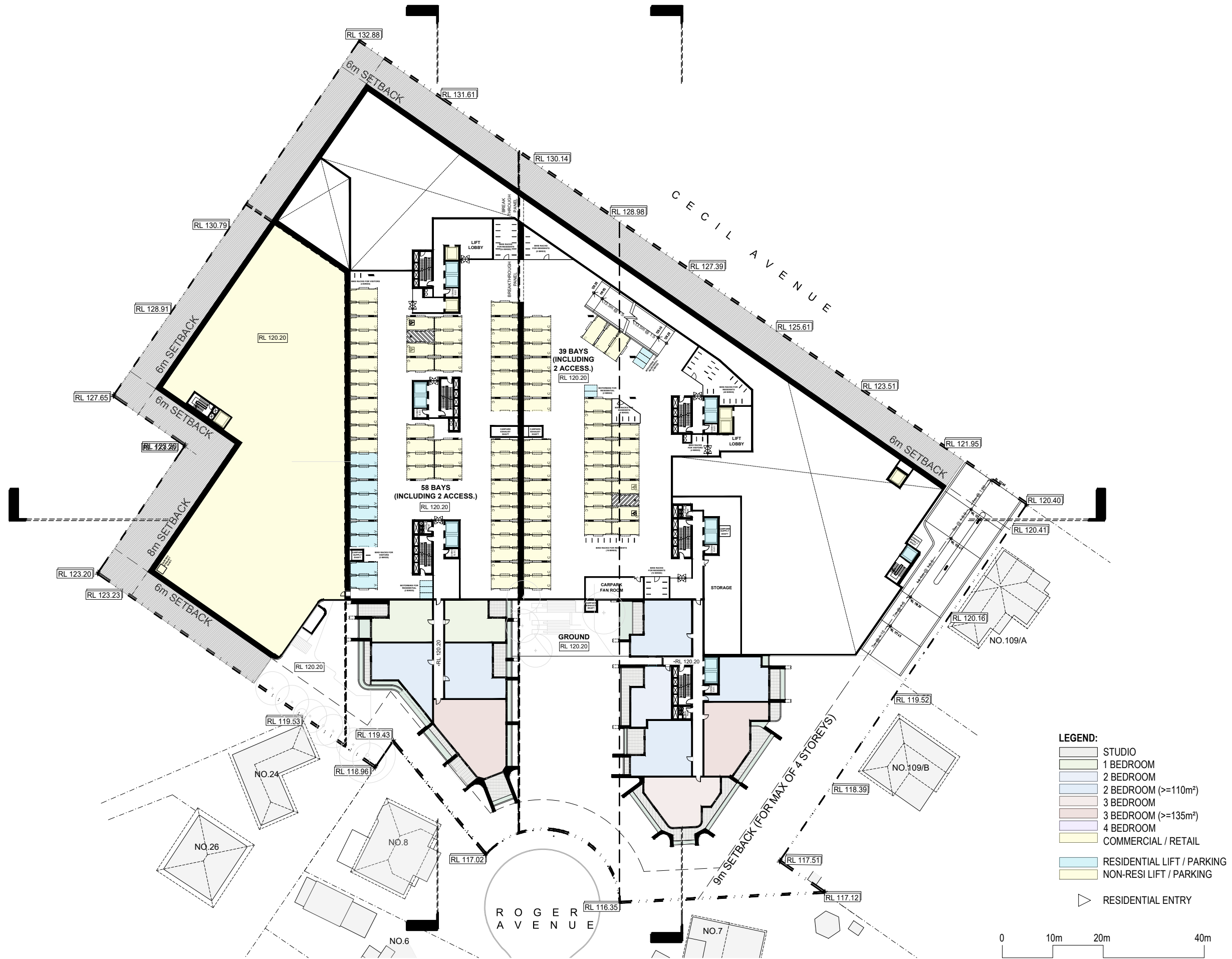
Drawing Title
 LOWER GROUND

SCALE 1:750 @ A3

Drawing no:
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Project No.
 A24033

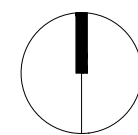
ISSUE
 A



- LEGEND:**
- STUDIO
 - 1 BEDROOM
 - 2 BEDROOM
 - 2 BEDROOM (>=110m²)
 - 3 BEDROOM (>=135m²)
 - 4 BEDROOM
 - COMMERCIAL / RETAIL
 - RESIDENTIAL LIFT / PARKING
 - NON-RESI LIFT / PARKING
 - RESIDENTIAL ENTRY

Rev	Description	Date
A	SSDA	2024-12-04

Project Name
 93-107 Cecil Avenue and 9-10 Roger Ave, Castle Hill



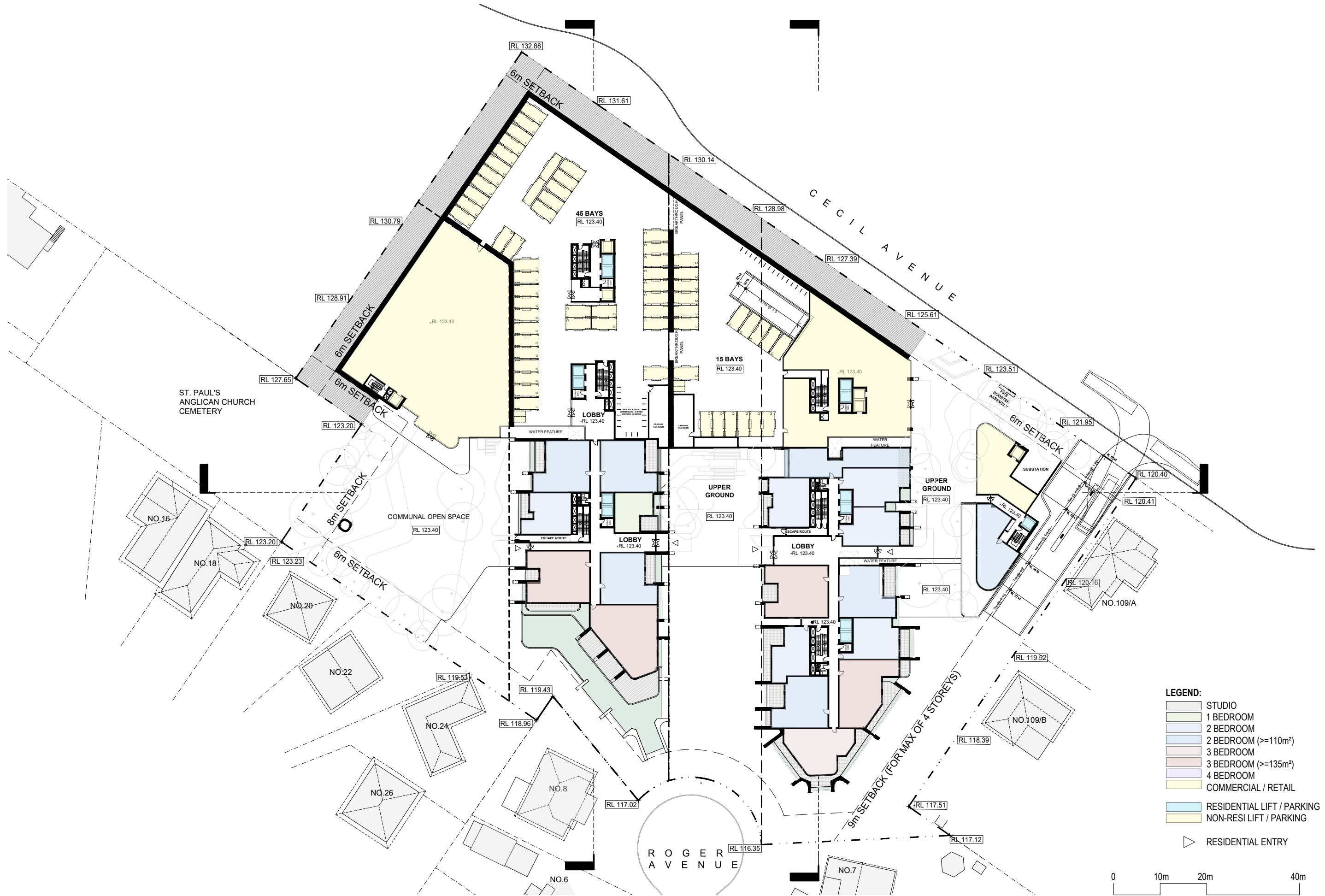
Drawing Title
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SCALE 1:750 @ A3

Drawing no:
 A204

Project No.
 A24033

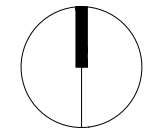
ISSUE
 A



- LEGEND:**
- STUDIO
 - 1 BEDROOM
 - 2 BEDROOM
 - 2 BEDROOM (>=110m²)
 - 3 BEDROOM
 - 3 BEDROOM (>=135m²)
 - 4 BEDROOM
 - COMMERCIAL / RETAIL
 - RESIDENTIAL LIFT / PARKING
 - NON-RESI LIFT / PARKING
 - RESIDENTIAL ENTRY

Rev	Description	Date
A	SSDA	2024-12-04

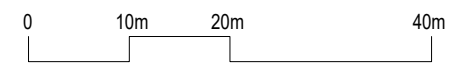
Project Name
 93-107 Cecil Avenue and 9-10 Roger Ave, Castle Hill



Drawing Title UPPER GROUND	Project No. A24033
SCALE 1:750 @ A3	ISSUE A
Drawing no: A205	

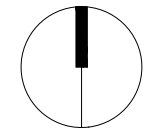


- LEGEND:**
- STUDIO
 - 1 BEDROOM
 - 2 BEDROOM
 - 2 BEDROOM (>=110m²)
 - 3 BEDROOM
 - 3 BEDROOM (>=135m²)
 - 4 BEDROOM
 - COMMERCIAL / RETAIL
 - RESIDENTIAL LIFT / PARKING
 - NON-RESI LIFT / PARKING
 - RESIDENTIAL ENTRY



Rev	Description	Date
A	SSDA	2024-12-04

Project Name
 93-107 Cecil Avenue and 9-10 Roger Ave, Castle Hill



Drawing Title LEVEL 1	Project No. A24033
SCALE 1:750 @ A3	ISSUE A
Drawing no: A206	