

Appendix 7

**Stage 2 Road Safety Audit
prepared by
Bitzios Consulting**

JORDAN SPRINGS RESIDENTIAL SUBDIVISION PRELIMINARY DESIGN RSA

FOR

LEND LEASE

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CONTENTS

	Page
1. INTRODUCTION	1
1.1 BACKGROUND	1
1.2 SCOPE OF AUDIT	2
1.3 LIMITATIONS	2
2. ROAD SAFETY AUDIT PROCESS	3
2.1 DEFINITIONS	3
2.2 METHODOLOGY	3
2.3 AUDIT TEAM	3
2.4 COMMENCEMENT MEETING	3
2.5 INFORMATION SOURCES	4
2.6 SITE INSPECTION	4
3. AUDIT FINDINGS	5
3.1 OVERVIEW	5
3.2 AUDIT FINDINGS AND SUGGESTED IMPROVEMENTS	5
4. CONCLUDING STATEMENT	9

Tables

Table 3.1: Preliminary Stage Road Safety Audit – Findings and Suggested Treatments

Figures

Figure 1.1: Subject Site Location

Figure 1.2: Proposed Residential Development Road Network

Appendices

Appendix A: Plans Audited

1. INTRODUCTION

1.1 BACKGROUND

Bitzios Consulting has been commissioned by Lend Lease to undertake a preliminary design road safety audit for the proposed road network which would provide access to the proposed residential subdivision. The focus of the audit mainly involves assessing the main access location to the proposed residential subdivision i.e. Jordan Spring Boulevard/ Road 1 intersection.

Figure 1.1 below shows the location of the subject site and Figure 1.2 shows the preliminary design of the proposed development primary intersection with Jordan Springs Boulevard including the proposed internal road network.



Source: Google Maps

Figure 1.1: Subject Site Location

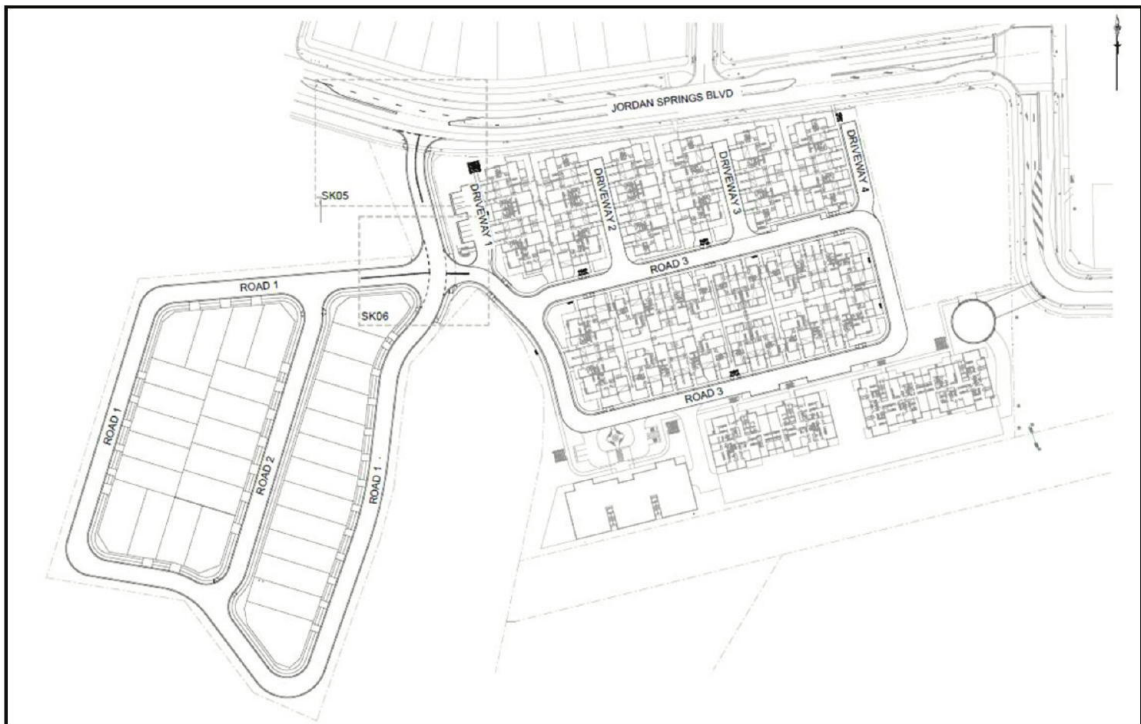


Figure 1.2: Proposed Residential Development Road Network

1.2 SCOPE OF AUDIT

The road safety audit was undertaken in accordance with the procedures set out in the *Austrroads Guide to Road Safety Part 6: Road Safety Audit (2009)*. The audit involved undertaking a Preliminary Design Stage Road Safety Audit (as per the *Austrroads Guide to Road Safety Part 6: Road Safety Audit Checklist 2*) of the preliminary design layouts for the proposed development main access with Jordan Springs Boulevard and internal road network.

The scope of this road safety audit also included undertaking a desktop review of the internal road network/intersection layout. Specifically, the following were assessed:

- intersection geometry;
- intersection sight distance;
- signs and pavement markings; and
- roadside objects and hazards.

This road safety audit presents a list of issues that were identified as presenting a safety risk.

1.3 LIMITATIONS

Actions have been suggested for each of the issues primarily as a guide for the personnel responsible for selecting and implementing remedial measures. It is not intended to imply that the suggested actions are the only possible actions.

Furthermore, while the scope items listed above presents a range of items that were reviewed as part of the audit process, only the issues identified as presenting a safety risk have been raised and commented upon within the report.

2. ROAD SAFETY AUDIT PROCESS

2.1 DEFINITIONS

The Austroads Guide to Road Safety (2009) defines a road safety audit as:

“a formal examination of an existing or future road or traffic project, or any project which interacts with road users, in which an independent, qualified examiner looks at the project’s accident potential and safety performance.”

The essential elements of this definition are that it is:

- a formal process and not an informal check;
- an independent process;
- carried out by someone with appropriate experience and training; and
- restricted to road safety issues.

The objectives of a road safety audit are:

- to identify potential safety problems for road users and others affected by a road project; and
- to ensure that measures to eliminate or reduce the problems are considered fully.

The benefits of conducting road safety audits are that:

- the likelihood of accidents on the road network can be reduced; and
- the severity of accidents can be reduced.

The aim of a road safety audit is:

“to identify any existing safety deficiencies of design, layout and road furniture which are not consistent with the road’s function and use. There should be a consistency of standards such that the road users’ perception of local conditions assists safe behaviour.”

2.2 METHODOLOGY

The road safety audit was carried out as per the procedures set out in the Austroads Guide to Road Safety. Items audited as part of the road safety audit included (but was not limited to) the following:

- intersection geometry;
- signs and pavement markings;
- sight distances;
- road side objects and hazards; and
- provision for special road users including pedestrians and cyclists and potential conflict points.

2.3 AUDIT TEAM

The road safety audit was carried out by an audit team comprising:

- Praveen Bollavaram – Accredited Lead / Senior Road Safety Auditor; and
- Alan Finlay – Senior Road Safety Auditor (Level 3).

2.4 COMMENCEMENT MEETING

A formal commencement meeting was not held for this audit as the requirements for the project were adequately communicated in the project brief of the audit.

2.5 INFORMATION SOURCES

Data sources for the road safety audit included:

- preliminary road layout design drawings prepared by J. Wyndham Prince Signs and Linemarking Layout Plan(Plan No: 110487SK/SK04;
- preliminary road layout design drawings prepared by J. Wyndham Prince Signs and Linemarking Layout Plan(Plan No: 110487SK/SK05;
- preliminary road layout design drawings prepared by J. Wyndham Prince Signs and Linemarking Layout Plan (Plan No: 110487SK/SK06;
- NSW Road and Maritime Services Road Design Guide;
- the Manual of Uniform Traffic Control Devices (MUTCD);
- the Austroads Guide to Road Design; and
- the Austroads Road Safety Audit Guidelines.

2.6 SITE INSPECTION

A day time site inspection was undertaken on the 22nd of May 2018 between the hours of 11am and 12noon.

3. AUDIT FINDINGS


3.1 OVERVIEW


This section summarises the safety issues identified during the audit of the proposed new intersection preliminary design layouts and also presents the suggested remedial measures to address the issues raised.

3.2 AUDIT FINDINGS AND SUGGESTED IMPROVEMENTS

A list of audit findings with the suggested treatment is contained in Table 3.1.

Table 3.1: Preliminary Stage Road Safety Audit – Findings and Suggested Treatments

Item	Issues	Site Illustration	Suggested Treatment	Designers Response
1	<p>An existing driveway currently exists for the subject site which is located directly opposite Tyler Street/ Jordan Spring Boulevard.</p>		<p>The existing driveway will need to be removed/closed off at this location to improve safety.</p>	<p>Existing Driveway will be removed during construction</p>

2	<p>Sight distances from the proposed development access onto Jordan Springs Blvd are adequate and meet the relevant sight distance criteria.</p>	 <p>The top photograph shows a perspective view of a paved residential street with a concrete curb on the right side, a grassy shoulder, and trees in the background under a clear blue sky. The bottom photograph shows a similar view from a different angle, highlighting the concrete curb and the clear sightline down the road.</p>	<p>No action required.</p>	
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3

The existing vegetation and a tree with low branches may potentially obstruct the sightlines of drivers of any approaching eastbound vehicle on Jordan Springs Boulevard.



Consider clearing the vegetation including the removal of the tree to improve the sight lines.

Vegetation will be removed during construction.

4. CONCLUDING STATEMENT

This audit has recognised potential safety problems for road users and others and has suggested improvements to eliminate or reduce these problems. Through the introduction of the recommendations outlined in this report, the possibility of accidents should reduce but this is also dependant on the awareness of the road user in their environment.



Praveen Bollavaram, Level 3 Road Safety Auditor (Lead Auditor)

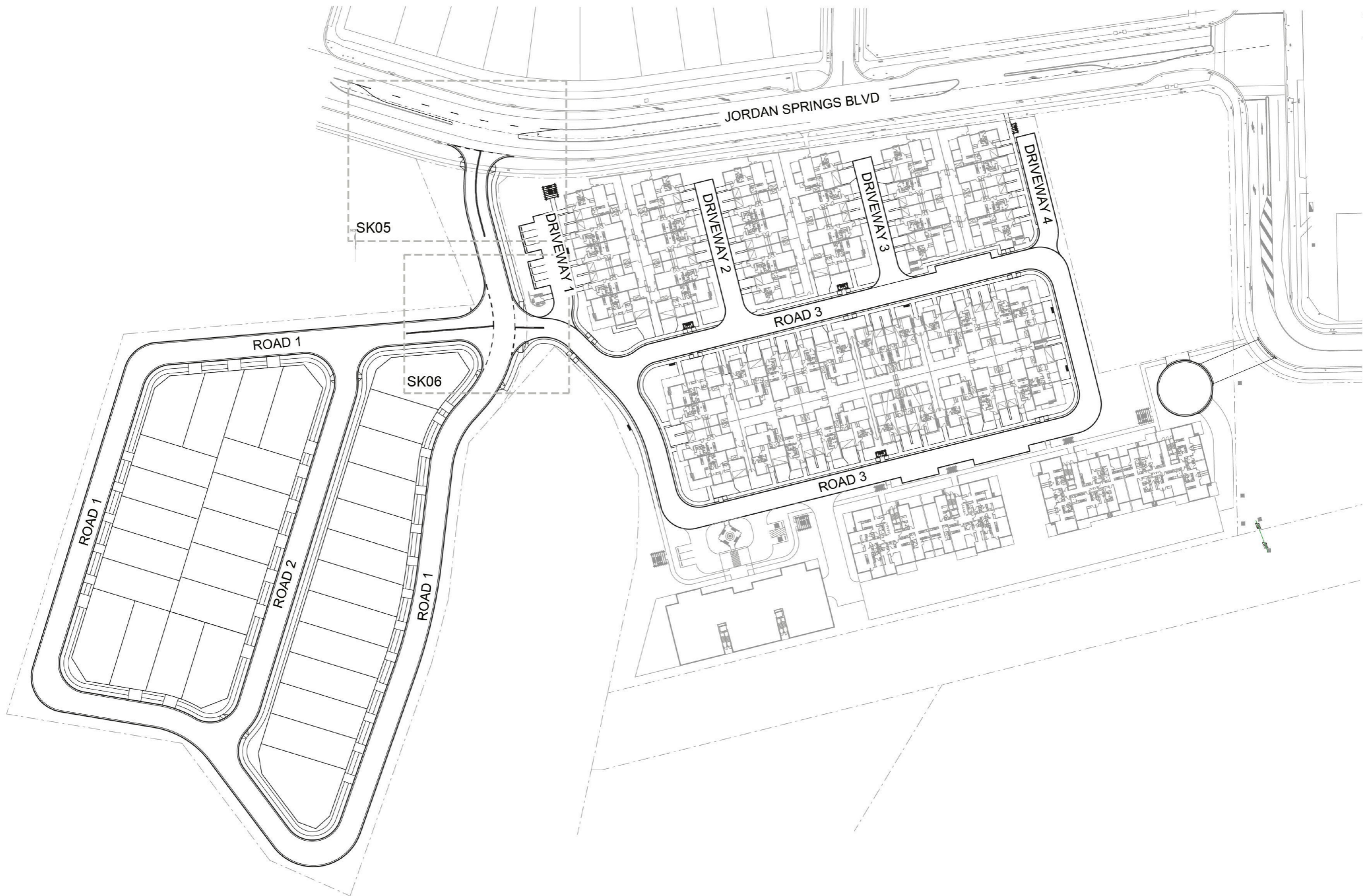


Alan Finlay, Level 3 Road Safety Auditor (Team Member)

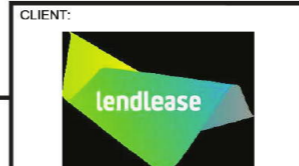
APPENDIX A

PLANS AUDITED

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JORDAN SPRING
 STAGE 01 & 02
 SIGNS AND LINEMARKING LAYOUT PLAN

PLAN No: 110487SK/SK04 1
 FILE No: 110487SK04
 SHEET SIZE: A1 ORIGINAL

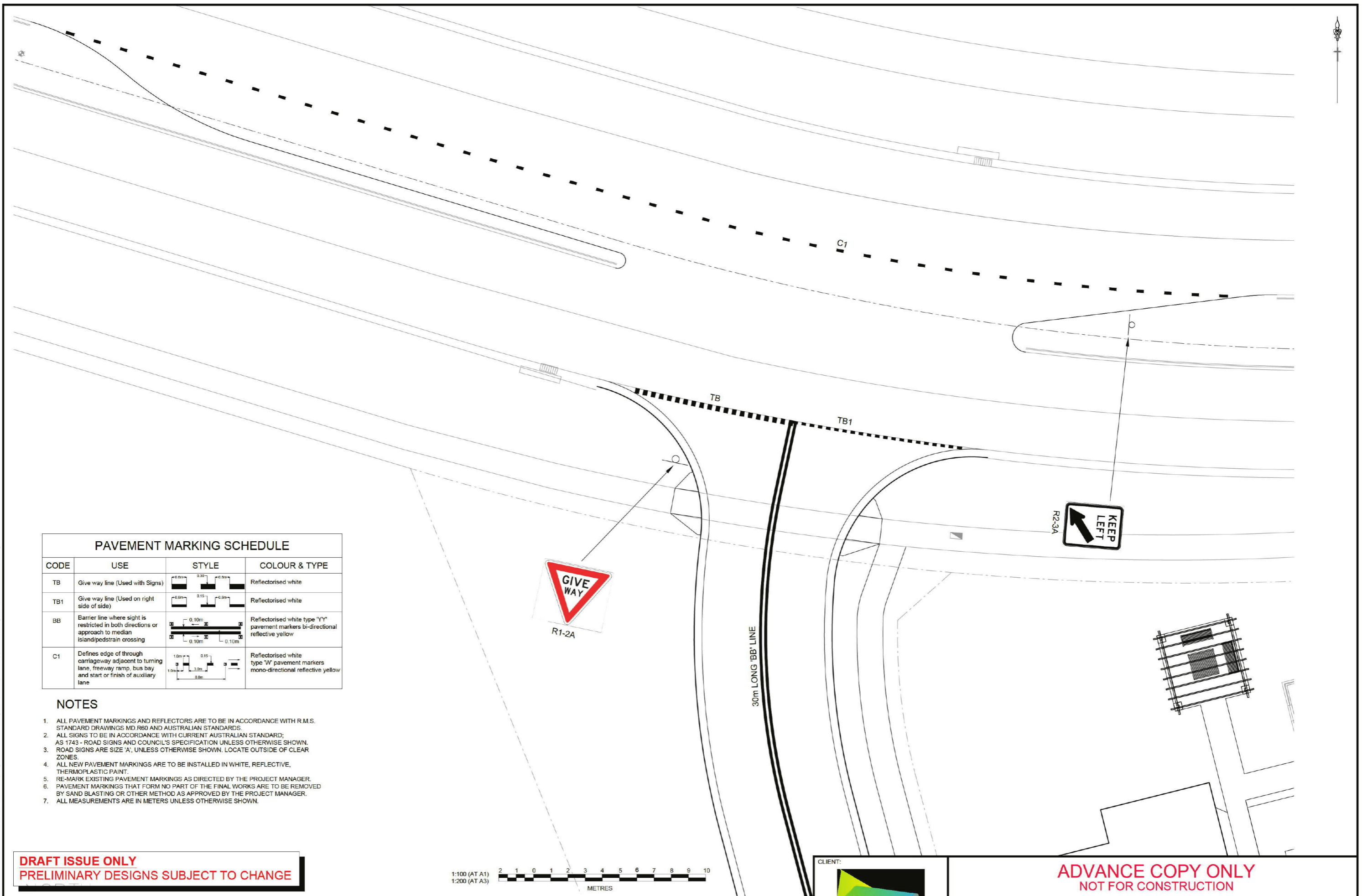
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PAVEMENT MARKING SCHEDULE			
CODE	USE	STYLE	COLOUR & TYPE
TB	Give way line (Used with Signs)		Reflectorised white
TB1	Give way line (Used on right side of side)		Reflectorised white
BB	Barrier line where sight is restricted in both directions or approach to median island/pedestrian crossing		Reflectorised white type 'YY' pavement markers bi-directional reflective yellow
C1	Defines edge of through carriageway adjacent to turning lane, freeway ramp, bus bay and start or finish of auxiliary lane		Reflectorised white type 'W' pavement markers mono-directional reflective yellow

NOTES

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JORDAN SPRING
STAGE 01 & 02
SIGNS AND LINEMARKING DETAIL PLAN

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FILE No: 110487SK05
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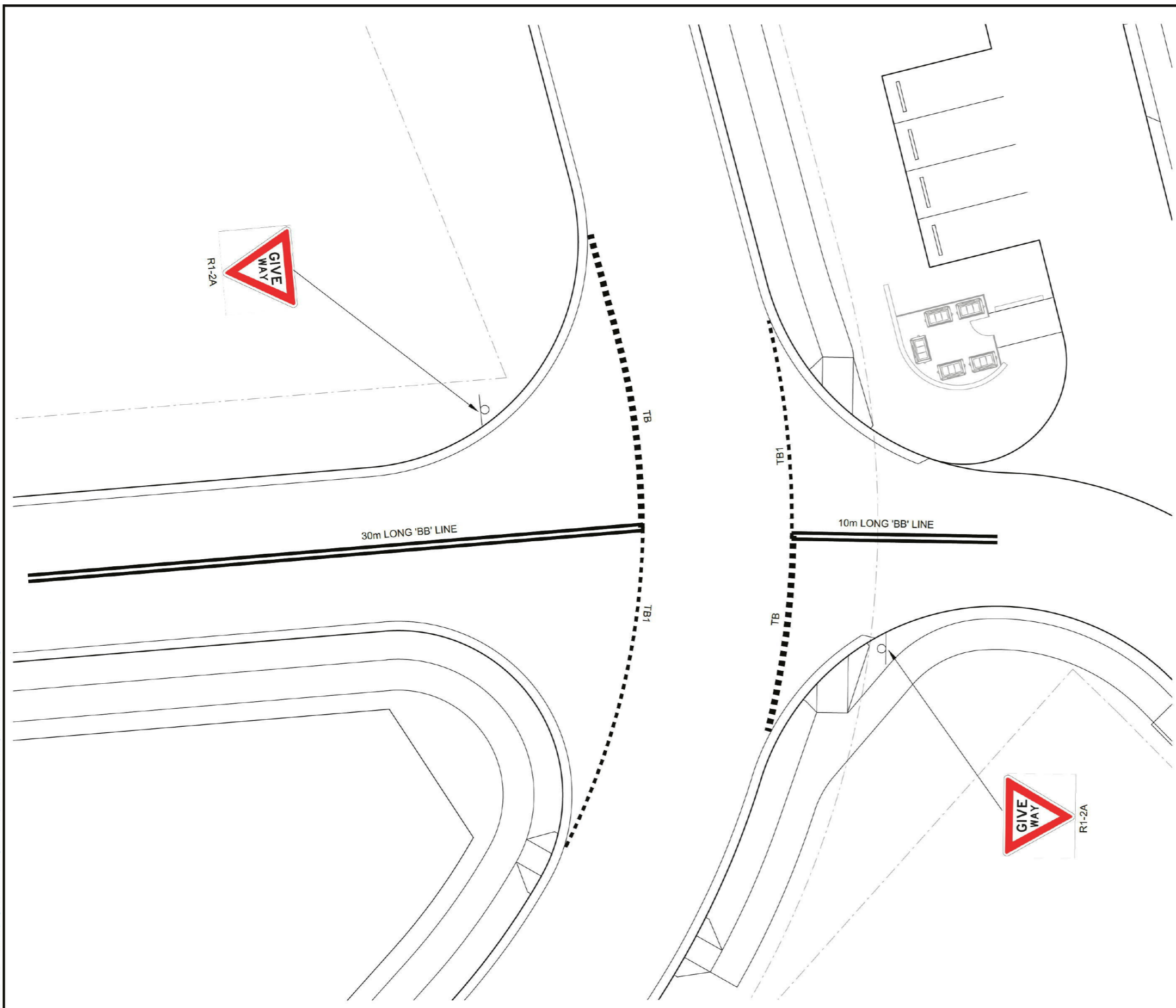
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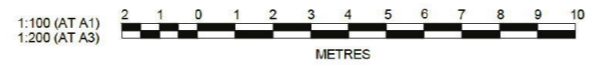
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STAGE 01 & 02
SIGNS AND LINEMARKING DETAIL PLAN

PLAN No: 110487SK/SK06 **1**

FILE No: 110487SK06

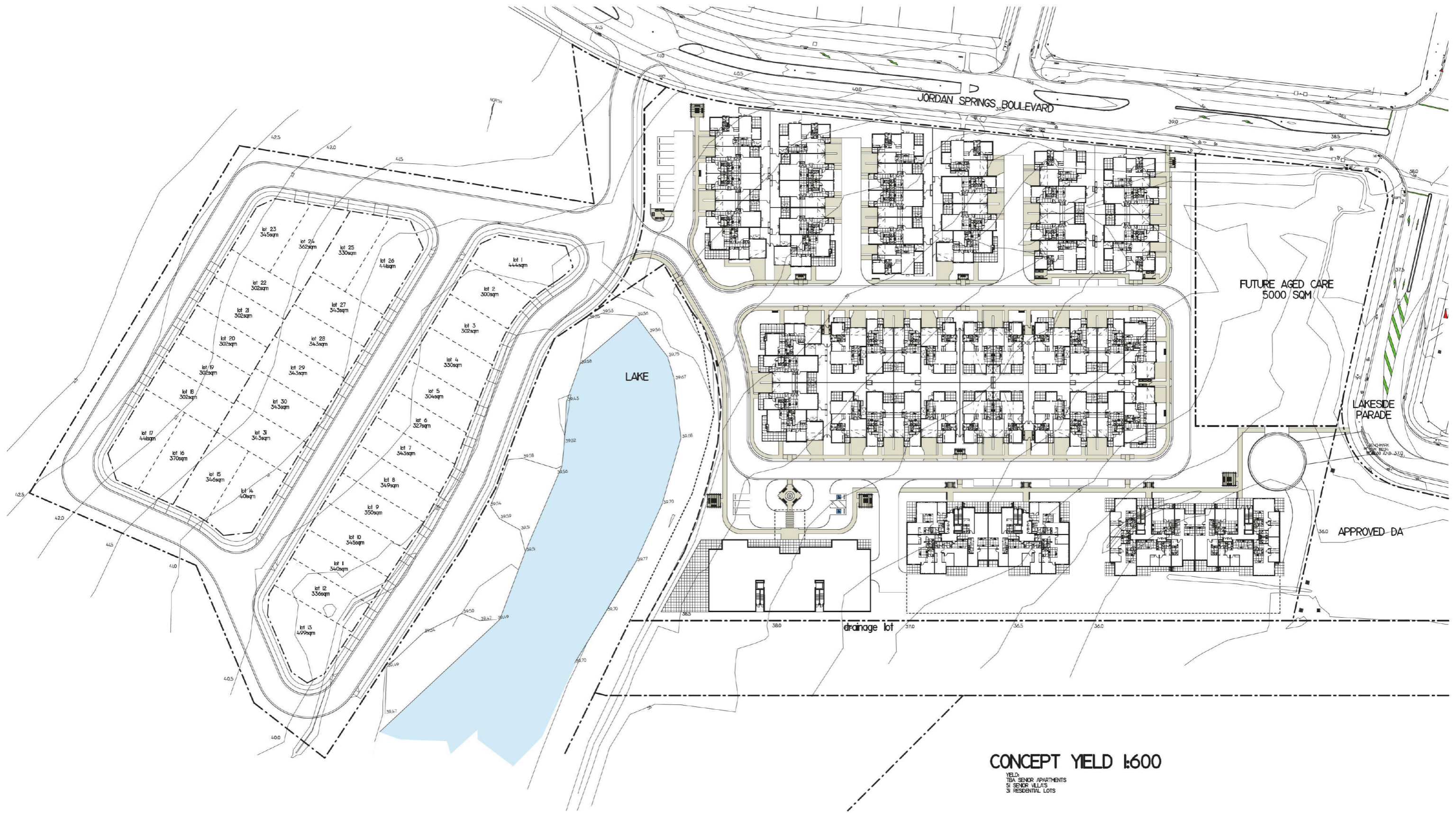
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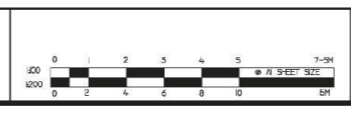


CONCEPT YIELD 1:600
 YIELD:
 15 SENIOR APARTMENTS
 3 SENIOR VILLAS
 3 RESIDENTIAL LOTS

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C	23.3.18	CONCEPT YIELD	VS	
B	7.2.18	CONCEPT YIELD	VS	
A	6.1.18	CONCEPT YIELD	VS	F 30.4.18 REVISED LOT LAYOUT VS
N			E 5.6.18	REVISED LOT LAYOUT VS

PROJECT: **JORDAN SPRINGS CID SITE**



JOB ADDRESS: **JORDAN SPRINGS BOULEVARD
 JORDAN SPRINGS**

FOR: **LEND LEASE**
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