

Traffic Impact Study

J7453-119-123_Jonson_St-TIS01-RevC

119-123 Jonson St, Byron Bay, NSW 2481
Lot 1-3 Section 48 on DP758207

JD Property Group Pty Ltd
By Planit Consulting Pty Ltd

November 2023



This report has been written by

Planit Consulting Pty Ltd
ABN 20 099 261 711

Suite 9A, 80-84 Ballina Street
Lennox Head NSW 2478

PO Box 161
Lennox Head NSW 2478

Telephone: (02) 6687 4666

Email: administration@planitconsulting.com.au
Web: www.planitconsulting.com.au

Document Control:

Version	Date	Document Type	Prepared By	Reviewed By
Rev A	12.05.2023	For Approval	CW	JB
Rev B	16.05.2023	For Approval	CW	JB
Rev C	01.11.2023	For Approval	CW	JB

Project Details:

Project Name	119-123 Jonson St, Byron Bay, NSW 2481
Client	JD Property Group Pty Ltd
Authors	Chaej Wrencher
Planit Reference	J7453-119-123_Jonson_St-TIS01-RevC

Disclaimer:

Planit Consulting Pty Ltd retains the ownership and copyright of the contents of this document including drawings, plans, Figures and all work produced by Planit Consulting Pty Ltd. This document is not to be reproduced in full or in part, unless separately approved by Planit Consulting Pty Ltd. The client may use this document only for the purpose for which it was prepared. No third party is entitled to use or rely on this document whatsoever. Planit Consulting accepts no liability whatsoever for any possible subsequent loss or damage arising from the use of this data or any part thereof.

Contents

Executive Summary.....	5
1 Introduction.....	6
1.1 Project Background.....	6
1.2 Project Scope.....	7
1.3 Standards, Policies and Guidelines.....	7
1.4 Development Advisory Panel (DAP) Meeting.....	7
1.5 Strategic Environment.....	7
1.6 Definitions:.....	8
2 Site Assessment.....	10
2.1 Site Description.....	10
2.2 On-Street Parking Provisions.....	11
2.3 Public Transport (PT).....	12
2.4 Pedestrian and Cycling Provisions.....	14
2.5 Peak Hour Traffic Survey.....	16
3 Development Site Access.....	19
3.1 Vehicular Access.....	19
3.2 Service Vehicle Access.....	19
3.3 Middleton Lane Upgrade.....	20
4 Carparking.....	22
4.1 Carparking Provisions.....	22
4.1.1 Overall Car Parking.....	22
4.1.2 Accessible Car Parking.....	22
4.1.3 Bicycle Parking.....	22
4.1.4 Motorbike Parking.....	23
4.1.5 Loading Bays.....	23
4.2 Geometric Requirements.....	23
4.2.1 Basement Carpark Requirements.....	23
4.2.2 Basement Ramp Requirements.....	23
5 Trip Generation.....	24
6 Impact on Surrounding Road Network.....	25
6.1 Modelling Scenarios.....	25
6.2 Modelling Information.....	25
6.3 Trip Distribution.....	25
6.4 SIDRA Results.....	28
7 Conclusions and Recommendations.....	29
Appendix A SIDRA Results.....	30
Appendix B Concept Civil Plans.....	31

Figures

Figure 1: Subject Site Locality (Source: Nearmaps).....	6
Figure 2: Land Zoning 2014 - Subject Site (Source: BSC Interactive Mapping).....	10
Figure 3: Byron Bay Council Interactive Mapping – Road Hierarchy.....	11
Figure 4: BSC Paid Parking Scheme (Source: Byron Shire Council 2022).....	12
Figure 5: Bus Operational Hours Surrounding the Subject Site (Source: https://goingplaces.org.au/regions/byron-shire/byron-bay/).....	13
Figure 6: Alternative PT Services (Source: https://goingplaces.org.au/regions/byron-shire/byron-bay/).....	13
Figure 7: Solar Train Timetable (Source: https://byronbaytrain.com.au/wpcontent/uploads/2018/02/Newsletter_January4-1.pdf).....	14
Figure 8: Pop Car Sharing Scheme Locations (Source: https://popcar.com.au/cars-and-locations/).....	14
Figure 9: Existing Byron Bay Path Network (Source: BSC).....	15
Figure 10: Pedestrian Routes to The Site (Source: Nearmaps).....	16
Figure 11: VCR Traffic Count Location (Source: TDC).....	17
Figure 12: Site Access to The Subject Site.....	19

Figure 13: Proposed MRV Service Bay Location..... 20
 Figure 14: Middleton Ln Road Upgrade – Typical Section 21
 Figure 15: Proposed Road Upgrades located on Middleton Lane..... 21
 Figure 16: Proposed Traffic Distribution 25

Tables

Table 1: Site Details Summary 6
 Table 2: Level of Service (LOS) Definitions 9
 Table 3: TDC Traffic Count Summary – Kingsley Street and Middleton Street Intersection – AM Peak
 Period..... 17
 Table 4: TDC Traffic Count Summary - Kingsley Street and Middleton Street Intersection- PM Peak Period
 18
 Table 5: Traffic Survey Summary 18
 Table 6: Overall Car-Parking Calculation In Accordance with BSC Parking Rates 22
 Table 7: Bicycle Space Calculations 22
 Table 8: Loading Bay Calculations 23
 Table 9: Parking Design Requirements 23
 Table 10: Trip Generation Rates 24
 Table 11: Peak Hour Trip Generation Estimate..... 24
 Table 12: SIDRA Modelling Inputs (2022 Pre-Development Scenario – AM Peak)..... 26
 Table 13: SIDRA Modelling Inputs (2032 Pre-Development Scenario – AM Peak)..... 26
 Table 14: SIDRA Modelling Inputs (2022 Pre-Development Scenario – PM Peak) 26
 Table 15: SIDRA Modelling Inputs (2032 Pre-Development Scenario – PM Peak) 27
 Table 16: SIDRA Modelling Inputs (2022 Post-Development Scenario – AM Peak) 27
 Table 17: SIDRA Modelling Inputs (2032 Post-Development Scenario – AM Peak) 27
 Table 18: SIDRA Modelling Inputs (2022 Post-Development Scenario – PM Peak)..... 28
 Table 19: SIDRA Modelling Inputs (2032 Post-Development Scenario – PM Peak)..... 28

Executive Summary

This Traffic Impact Study (TIS) has been prepared to provide an assessment on the potential impact of a mixed-use development on the surrounding road network. The proposed development is located at 119-123 Jonson Street on Lot 1-3 Section 48 on DP758207. Planit was engaged by JD Property Group Pty Ltd to prepare a TIS in support of the development application (DA).

The subject site currently consists of three (3) existing lots with Lot 1 and 2 containing the enterprise 'The Secret Garden' an existing driveway and carpark area, and Lot 3 consisting of a single storey residential dwelling with the inclusion of 2 x granny flats. The proposed site layout shall consist of a 3-storey mixed use development with the inclusion of a basement carpark.

The main roads surrounding the subject site are Jonson St (West), Kingsley St (North), and Middleton Ln (East).

- Jonson St includes two traffic lanes separated by a vegetated concrete median strip with parallel (western side of roadway) and nose in angled kerbside parking (eastern side of roadway).
- Kingsley St includes two traffic lanes with parallel (northern side of roadway) and unformalised 90-degree nose in parking (southern side of roadway).

It is proposed that this basement access be provided off Middleton Ln as this is noted as the preferred access location for Basement access ramps (DCP Chapter B4). In addition, it is proposed that access for service vehicles shall be via Middleton Ln. Middleton Ln currently has a narrow sealed road lane with an open drain. As part of this development, it is proposed to upgrade Middleton Ln for the extent from Kingsley St to Kingsley Ln.

Based on this assessment, the total number of carparks required is 85 with the development proposing 85 carparks. Therefore, appropriate number of parks has been provided. Refer to Table 9 for a summary of the carparking credits to the proposed developments.

SIDRA modelling results for the 2022 and 2032 pre-and post-development AM and PM peak scenarios demonstrated that a LOS of 'A' is achieved for all scenarios.

Based on the results of this assessment, traffic internal and external to the site can be managed appropriately for the proposed development.

1 Introduction

1.1 Project Background

This Traffic Impact Study (TIS) has been prepared to provide an assessment on the potential impact of a mixed-use development on the surrounding road network. The proposed development is located at 119-123 Jonson Street on Lot 1-3 Section 48 on DP758207. Planit was engaged by JD Property Group Pty Ltd to prepare a TIS in support of the development application (DA).

The subject site currently consists of three (3) existing lots with Lot 1 and 2 containing the enterprise 'The Secret Garden' an existing driveway and carpark area, and Lot 3 consisting of a single storey residential dwelling with the inclusion of 2 x granny flats. The proposed site layout shall consist of a 3-storey mixed use development with the inclusion of a basement carpark. Refer to Table 1 and Figure 1 for a site details summary and aerial image of the subject site, respectively.

Table 1: Site Details Summary

Component	Details
Applicant	JD Property Group Pty Ltd
Street Address	119-123 Jonson Street, Byron Bay NSW 2481
Local Government Area	Byron Shire Council (BSC)
Zoning	Local Centre (B2)
Proposed development type	Mixed Use Development
Site Area	2,727m ²
Map Reference	Lot 1-3 Section 48 on DP758207



Figure 1: Subject Site Locality (Source: Nearmaps)

1.2 Project Scope

The report outlines the opportunities and constraints regarding the proposed development including:

- Site Assessment.
 - Parking Provisions.
 - Public Transport.
 - Pedestrian and Cycling provisions.
 - Existing Peak Hour Traffic Volumes.
- Development Access.
- Proposed carparking:
 - Overall Carparking.
 - Accessible Carparking.
 - Bicycle Carparking.
 - Motorbike Parking.
 - Loading Bays.
 - Geometric requirements.
- Trip generation:
 - Trip Generation Rates.
 - Daily Trip Calculations.
- Impacts on Surrounding Road Networks including SIDRA Modelling for the following scenarios:
 - 2022 AM and PM Peak traffic impact without the development.
 - 2022 AM and PM Peak traffic impact with the development.
 - 2032 AM and PM Peak traffic impact without the development.
 - 2032 AM and PM Peak traffic impact with the development.
- Conclusions and Recommendations for the Proposed Site.

1.3 Standards, Policies and Guidelines

This assessment is based on requirements from the following standards, policies and guidelines:

- Byron Shire Development Control Plan 2014-Chapter B4- Traffic Planning, Vehicle.
- 2002 RTA Guide to Traffic Generating Developments.
- Australian/New Zealand Standard 2890.1 to 2890.6.
- Austroads Guide to Road Design.
- Austroads Guide to Traffic Management.
- ITE Trip Generation Manual.
- Building Code of Australia-Class 2 to Class 9 Buildings.

1.4 Development Advisory Panel (DAP) Meeting

To seek Council's input into the development proposal, Planit's attended a development advisory panel meeting on the 10th of October 2022, during which a discussion was between BSC and Planit Consulting on the stormwater and traffic components of the project. Feedback was provided by council on the proposed traffic items. The following items are to be addressed in this Traffic Impact Study (TIS):

- Site access is via Middleton Lane (Ln) towards the eastern boundary and is to be in accordance with BSC DCP and AS2890.1.
- The proposed service bay arrangement is suitable noting clause 3.2.2. of AS2890.2.
- Middleton lane (Ln) is proposed to be upgraded as part of the proposed development.
- Formalisation of on-street parking to consider offset from kerbing in according with AS2890.5.

This report aims to provide a detailed assessment of these items in the subsequent sections of this Traffic Impact Study (TIS).

1.5 Strategic Environment

Byron Shire Council published a Strategic Transport Statement (Transport Policy) that aims to integrate a shire-wide transport network and network approach that improves mobility, accessibility, and choice for all road users. The Byron Shire aims to mitigate the use of non-renewable energy and improve sustainability, amenity, and opportunities for environmental health. Council has many mechanisms to implement these actions and they can be identified as either supply or demand.

Council's supply techniques that are currently in place are:

- Council adopted bike plan: This identifies the needs for off-road paths, on-road bicycle lanes, bicycle parking and end of trip facilities.
- Proposed Pedestrian Access and Mobility Plan (PAMP) and car parking studies: This will be influenced by development of a transport strategy to ensure an integrated and coordinated approach is adopted for future road network. The first step of this process is assessing the existing infrastructure and transport supply.
- Disability and Inclusion Action Plan: This was developed for people with a disability through a stakeholder engagement process and a whole-of-council process. This action plan was Council's commitment to reducing the barrier for people with disabilities by improving the access for disabled people. The plan facilitated an inclusion and participation process across the Byron Shire.

The Byron Shire Bike Strategy and Action Plan was adopted in October 2019 and provides an assessment of existing conditions in each town within the Byron Shire by reviewing the pedestrian and cyclists needs of the different user groups. Byron Shire Council currently accommodates for bicycle users and pedestrians by providing new cycle ways and pedestrian footpaths in conjunction with the road system. This offers opportunity for locals, workers, and visitors to utilise these facilities for recreation access. The plan facilitates the expansion of the existing network of bicycles facilities within the Byron Shire. The plan analyses the current bike needs and demands within the Shire and aims to predict the future demand on the bicycle network.

Provision of pedestrian and bicycle facilities such as signage, bicycle storage racks and special kerb crossings will be undertaken as part of the road network improvements. The purpose of these proposed pedestrian and cycle facilities will be for commuter access as well as for recreational purposes.

1.6 Definitions:

The following definitions are used throughout the report:

- Annual Average Daily Traffic (AADT) is the total volume of vehicle traffic for a year divided by 365 days. Sometimes also referred to as "Average Annual Daily Traffic" it provides a rudimentary traffic volume.
- Carriage is the portion of the road assigned to the use of vehicles, inclusive of shoulder and auxiliary lanes.
- SRV, Small rigid vehicle as defined in AS 2890.2-2004.
- MRV, Medium rigid vehicle as defined in AS 2890.2-2004.
- HRV, Heavy rigid vehicle as defined in AS2890.2-2004.
- AV, Articulated vehicle as defined in AS 2890.2-2004.
- Design year, standard practise in traffic engineering is to determine the impact of a development 10-years after the date of the assessment. For a 2022 assessment, the design year is 2032.
- Classification of buildings, the classification of a building or part of a building is determined designed, constructed, or adapted to be used.
- Level of Service (LOS), (in accordance with the Austroads definition), is a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of factors such as speed and travel time, delay, density, freedom to manoeuvre, traffic interruptions, comfort and convenience, and delay. Levels of service can be described for interrupted and uninterrupted flow facilities. Descriptions are provided in Table 2.

Table 2: Level of Service (LOS) Definitions

LOS	Uninterrupted flow facility definition (*HCM 2010)	Interrupted flow facility definition (**AGTMM3)
A	A condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.	Describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to manoeuvre within the traffic stream. Control delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
B	In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.	Describes reasonably unimpeded operation. The ability to manoeuvre within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
C	Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.	Describes stable operation. The ability to manoeuvre and change lanes at mid segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.
D	Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.	Indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.
E	Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown.	Characterised by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.
F	In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result.	Characterised by a flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed. LOS F is assigned to the subject direction of travel if the through movement at one or more boundary intersections has a volume-to-capacity ratio greater than 1.0.

* HCM – Highway Capacity Manual 2010

**AGTMM3 – Austroads Guide to Traffic Management Part 3

2 Site Assessment

2.1 Site Description

The proposed development site (Figure 2) is located in a area zoned as local centres (B2), and forms part of the Byron Shire Council (BSC) Local Government Area (LGA).

The subject site is approximately 2,727m² in plan and is located on Lot 1-3 Section 48 on DP758207. The site currently contains:

- Lot 1-2 on DP758207 (1,716m²):
 - A single storey rendered brick building with the inclusion of a concrete patio.
 - Car park/ loading area to the north-west.
 - Small landscaped area to the east.
- Lot 3 on DP758207 (1,011m²):
 - A single storey fibro building.
 - 2 x Granny Flat.
 - Small landscaped area.

The main roads surrounding the subject site are Jonson St (West), Kingsley St (North), and Middleton Ln (East).

- Jonson St includes two traffic lanes separated by a vegetated concrete median strip with parallel (western side of roadway) and nose in angled kerbside parking (eastern side of roadway).
- Kingsley St includes two traffic lanes with parallel (northern side of roadway) and unformalised 90-degree nose in parking (southern side of roadway).

Current access to the site is via a driveway entrance of Jonson St and Kingsley St for the secret Garden Site and an additional driveway for the existing lot to the south.

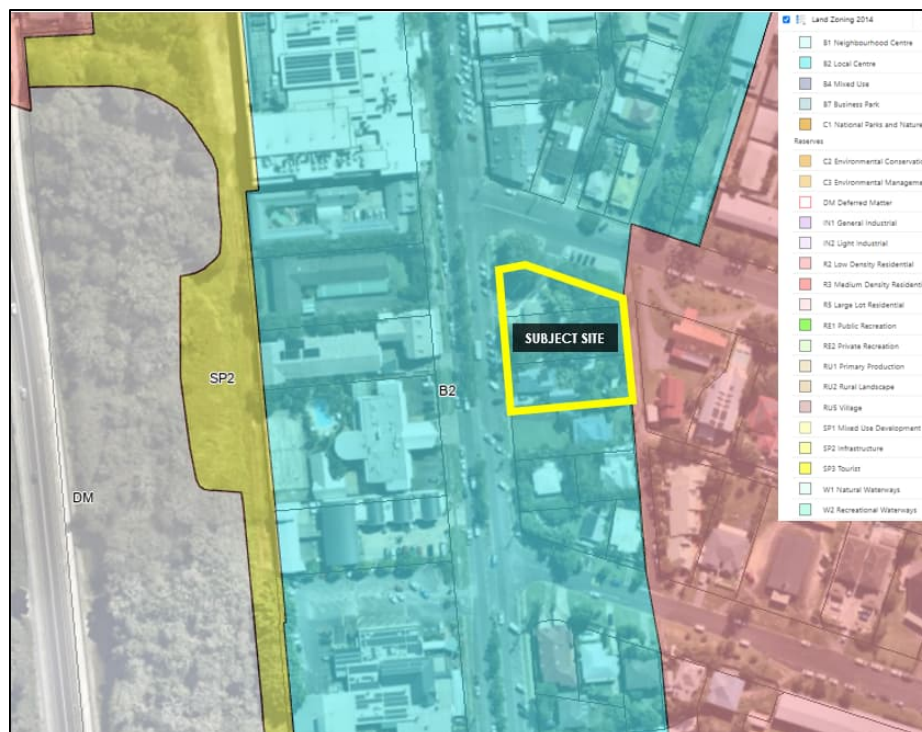


Figure 2: Land Zoning 2014 - Subject Site (Source: BSC Interactive Mapping)

It is proposed to construct a three-storey mixed used development with the inclusion of a basement carpark. Access to the site shall be via Middleton Lane (Ln). Middleton Lane is an access lane, and road users have access via Kingsley Street and Ruskin Street.

Kingsley and Ruskin Street are both classified as local access streets and provide access to individual properties and distributor roads. Refer to Figure 3 for a summary of the Road Hierarchy surrounding the site.



Figure 3: Byron Bay Council Interactive Mapping – Road Hierarchy

As part of the proposed development, it is proposed to upgrade Middleton Lane (Ln) to accommodate for swept paths and additional traffic utilising the access laneway. Details of the proposed road upgrades are provided in Section 6.1.

2.2 On-Street Parking Provisions

Byron Shire Council introduced a paid parking scheme in December 2015 that extends throughout the Byron Bay CBD, including the majority of the local streets. There is available free and paid parking along Jonson, Ruskin, and Kingsley Street directly north and south of the subject site. Refer to Figure 4 for Byron Bays paid parking scheme map.



Figure 4: BSC Paid Parking Scheme (Source: Byron Shire Council 2022)

The parking conditions along Jonson, Ruskin, and Kingsley Street is available in the form of parallel, 45-degree, 90-degree formal and unformal parks. It is noted, free parking exists adjacent to Mitre 10, a short walk from the subject site.

2.3 Public Transport (PT)

Bus services are the main form of public transport (PT) available within the vicinity of the site. Several bus routes pass near the proposed development. Northern Rivers Bus lines group (Routes 610 and 635), Blanch’s Bus Company (Routes 637, 640 and 641) and Greyhound (Routes Red and Green) are the main providers of bus services in the Byron Shire. The scheduled routes to and from Byron Bay operate 7 days a week. Byron Bay bus origin/destinations include but are not limited to, Bangalow, Ballina, Mullumbimby, Lismore, Gold Coast and Brisbane.

Although no official bus stops are displayed on the official routes along Jonson, Kingsley, Ruskin Street, Blanch’s Bus Company operates these routes on a ‘hail and ride’ policy. The closest bus stop is approximately 180m north of the subject site. Blanch’s timetables show that bus routes are passing the subject site on weekdays and weekends. This allows staff and visitors to use public transport to the development as per the intent of Council’s strategic transport policy sub strategies 02 – Parking Out! People in! and sub strategies 03: An Integrated Transport Hub.

The primary bus routes and frequencies are detailed in Figure 5.

	ROUTE	PLACES	DAYS	OPERATOR	PHONE	TIMETABLE
 Bus & Coach	640X/641X	Byron Bay > Lennox Head > Ballina > Lismore	Mon-Fri	Blanch's	02 6686 2144	Timetable
	637	Byron Bay > Sunrise Beach Arts & Industry Estate	Mon-Sa	Blanch's	02 6686 2144	Timetable
	637	Byron Bay > Suffolk Pk > Byron Hills > Baywood Chase	Mon-Sa	Blanch's	02 6686 2144	Timetable
	610/635	Mullumbimby > Brunswick Heads > Byron Bay > Bangalow > Goonengerry > Federal > Eureka > Eltham > Lismore	Mon-Fri	Ballina Buslines	02 6686 3666	Timetable
	640	Ballina Airport > Ballina > Lennox Head > Suffolk Park > Byron Bay > Mullumbimby	Mon-Sun	Blanch's	02 6686 2144	Timetable
	641	Ballina > Ballina Heights > Newrybar > Bangalow > Ewingsdale > Byron Bay	Mon-Fri	Blanch's	02 6686 2144	Timetable
	645	Mullumbimby > Brunswick Heads > Ocean Shores > Shopping Centre > New Brighton > South Golden Beach > Billinudgel	Mon-Sat	Brunswick Valley Coaches	02 6680 1566	Timetable
		Coorabell > Byron Bay	School days	Campbell	02 6684 1593	
		Sydney > Brisbane	Mon-Sun	Greyhound	1300 473 946	Website
		Coach connection to Sydney rail service	Mon-Sun	NSW TrainLink	13 22 32	Website
		Sydney > Brisbane	Mon-Sun	Premier Motor Services	13 34 10	Website
		Lismore > Brisbane (via Byron Bay)	Mon-Sun	Premier Motor Services	13 34 10	Website

Figure 5: Bus Operational Hours Surrounding the Subject Site (Source: <https://goingplaces.org.au/regions/byron-shire/byron-bay/>)

Additionally, there is several alternative vehicle services currently operating in the town and surrounding areas. The following alternative vehicles include but are not limited to:

- Uber drivers.
- Taxis.
- Electric Bikes.
- Solar Train.
- Bat Bus.
- Go Byron.
- Shared car scheme.
- Community transport.

Refer to Figure 6, 7 and 8 for existing PT services, pop car – car sharing scheme and the Solar train Timetable, respectively.

	SERVICE	PHONE	MORE INFORMATION
 Services	Byron Shire Transport Guide		Download
	Tweed Byron Ballina Community Transport	1300 875 895	Website
	BAT Bus	02 6685 8771	Website
	Brisbane 2 Byron	1800 626 222	Website
	Byron Bay Taxis & Limousines	02 6685 5008	Website
	Byron easyBus	02 6685 7447	Website
	Byron Bay to Brisbane greyhound Express	1300 473 946	Website

Figure 6: Alternative PT Services (Source: <https://goingplaces.org.au/regions/byron-shire/byron-bay/>)

S O L A R T R A I N T I M E T A B L E								
WEDNESDAY JAN 3 – SATURDAY JAN 20 (NO SERVICE SUNDAY JAN 7, 14 + 21)								
NORTH BEACH DEPART	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00
BYRON BEACH ARRIVE	10.10	11.10	12.10	13.10	14.10	15.10	16.10	17.10
BYRON BEACH DEPART	10.15	11.15	12.15	13.15	14.15	15.15	16.15	17.15
NORTH BEACH ARRIVE	10.25	11.25	12.25	13.25	14.25	15.25	16.25	17.25

Figure 7: Solar Train Timetable (Source: https://byronbaytrain.com.au/wpcontent/uploads/2018/02/Newsletter_January4-1.pdf)

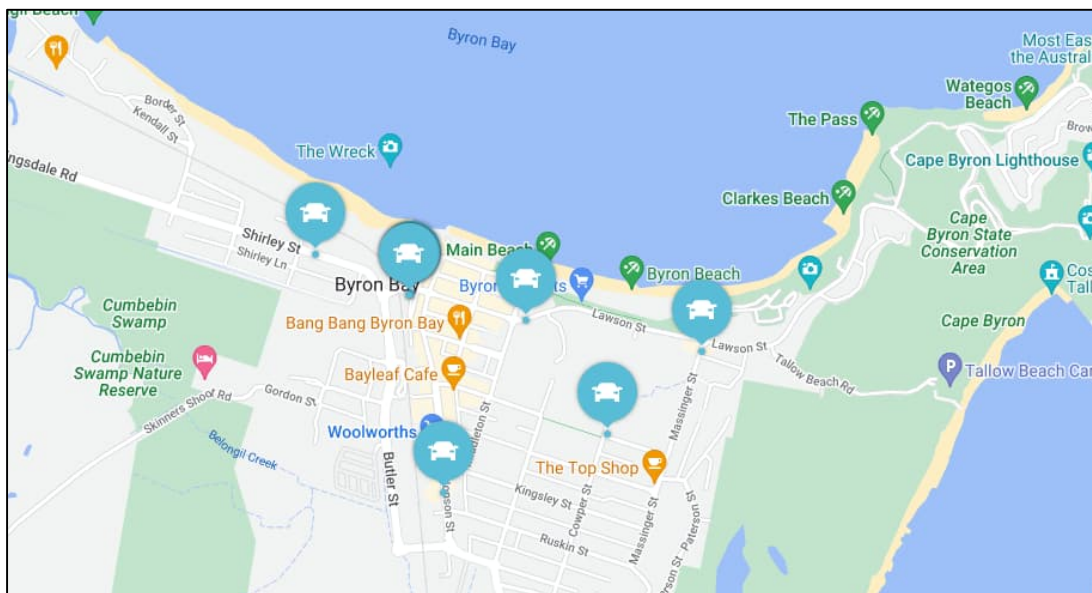


Figure 8: Pop Car Sharing Scheme Locations (Source: <https://popcar.com.au/cars-and-locations/>)

It is evident that the project site has a multitude of PT services surrounding the site. Patrons are expected to utilize the existing PT infrastructure to get to and from the subject site. The General manager shall be responsible for facilitating these sustainable means of travel.

2.4 Pedestrian and Cycling Provisions

There currently is an extensive cycle way network that leads throughout the Byron Bay CBD that promotes sustainable forms of travel. the use of bicycles in the area.

The Byron Shire Bike Plan and the 2019 Draft PAMP promotes the transitioning of the Byron Shire into a cycle friendly road space. As part of the proposed development, it is proposed to provide 8 x bicycle parking spaces as per Council DCP requirements to encourage and promote sustainable means of travel to and from the site. End of trip facilities (e.g., showers) shall be provided to individuals utilising the alternative modes of travel to the site (e.g., cycling and walking etc).

Refer to Figure 9 for the existing path network in Byron Bay.

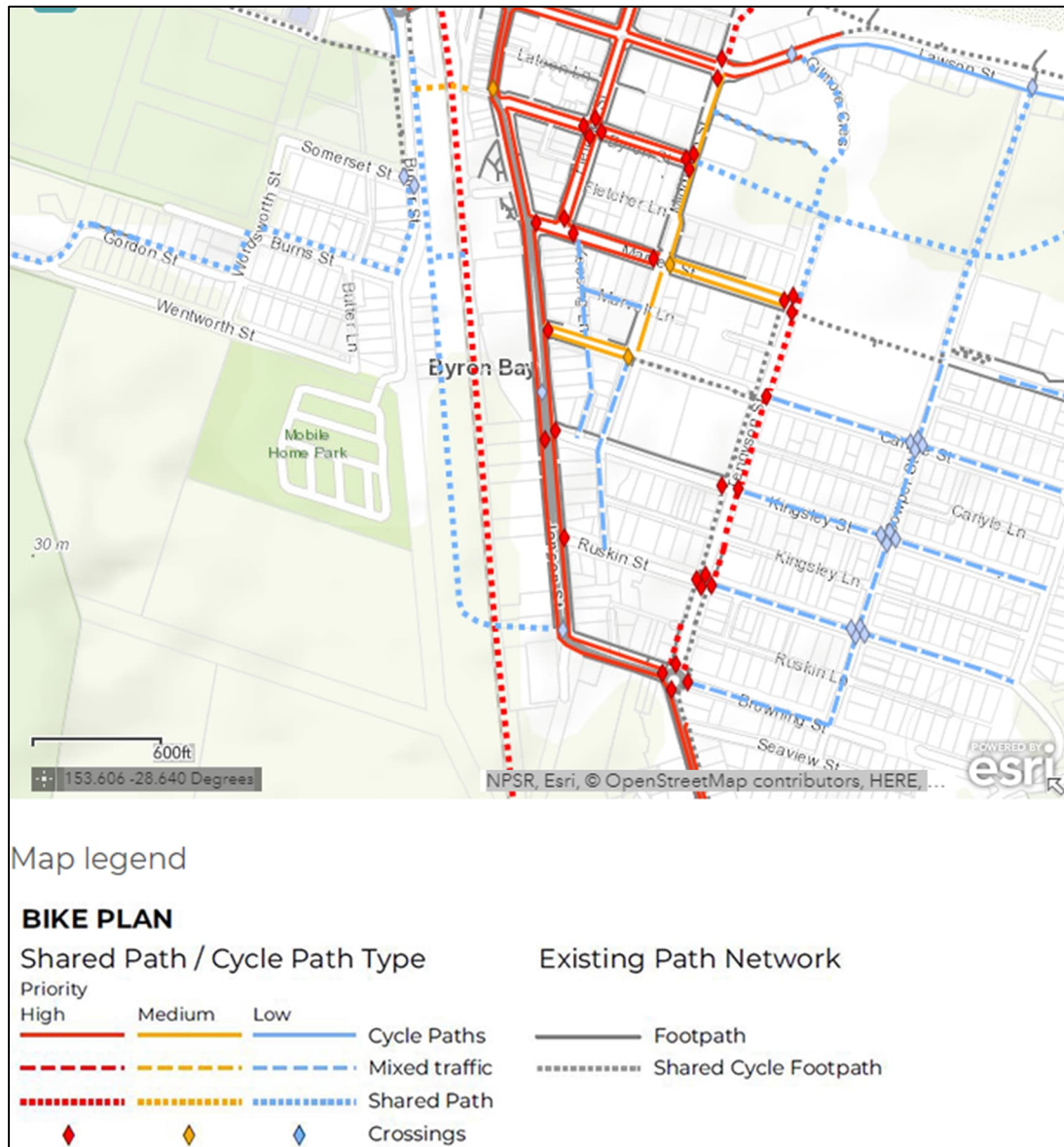


Figure 9: Existing Byron Bay Path Network (Source: BSC)

Pedestrian access (Figure 10) to the site is provided as follows:

- From Kingsley Street (East of the site):
 - Pedestrian will typically approach the site from the east via the footpath on the eastern end of Kingsley Street and enter the site via the existing footpath pedestrian ramps.
- From Butler Street (west of the site):
 - Pedestrian will typically approach the site from the west via the footpath on the southern end of Butler Street, turn onto the north of Jonson Street and enter the site via existing median with pedestrian refuge.
- From Jonson Street (north of the site)
 - Pedestrian will typically approach the site from the north via the existing footpath on Jonson Street, cross the road at Kingsley Street using the existing pedestrian ramps and enter the site.
- From Browning Street (South of the site)
 - Pedestrian will typically approach the site from the south via the existing footpath on Browning Street, continue north on Jonson Street enter the site.



Figure 10: Pedestrian Routes to The Site (Source: Nearmaps)

2.5 Peak Hour Traffic Survey

TDC have collected onsite traffic count data for the intersections at Kingsley Street/Middleton Ln and Ruskin Street/Middleton Ln, respectively. The traffic data was recorded for a 7-day period from Thursday (2022/09/15) to Tuesday (2022/09/20) and Wednesday (2022/10/12). The Kingsley Street, Middleton Street, Ruskin street and Middleton Lane (Ln) had all vehicle movements recorded in 15-minute increments for all vehicle classifications (e.g., Light vehicles (LV), Heavy Vehicles (HV), Bicycles, and pedestrians). The key survey time periods are:

- Weekdays (Monday to Friday) – 6:30am to 9:30am and from 3:00pm to 6:00pm.
- Weekends (Saturday and Sunday) – 10:00am to 2:00pm.

Refer to Figure 11 for the VCR traffic count location.



Figure 11: VCR Traffic Count Location (Source: TDC)

Data from the traffic survey has been summarised to present the average and maximum peak periods for AM and PM. Refer to Table 3 and 4.

Table 3: TDC Traffic Count Summary – Kingsley Street and Middleton Street Intersection – AM Peak Period

Kingsley St & Middleton St Intersection – AM Peak Period (15/09/22 – 20/09/22 & 12/10/22)						
Count	Date		AM Peak	HV	HV (%)	Peak Period
1	Thursday	15-Sep-22	249	16	6	8:30-9:30am
2	Friday	16-Sep-22	272	14	5	8:30-9:30am
3	Saturday	17-Sep-22	218	0	0	10:45-11:45pm
4	Sunday	18-Sep-22	145	0	0	10:30-11:30am
5	Monday	19-Sep-22	303	15	5	8:30-9:30am
6	Tuesday	20-Sep-22	279	13	5	8:30-9:30am
7	Wednesday	12-Oct-22	292	15	5	8:30-9:30am
	Average		251	10	4	
	Maximum		303	16	6	

Table 4: TDC Traffic Count Summary - Kingsley Street and Middleton Street Intersection- PM Peak Period

Kingsley St & Middleton St Intersection – PM Peak Period (15/09/22 – 20/09/22 & 12/10/22)						
Count	Date		AM Peak	HV	HV (%)	Peak Period
1	Thursday	15-Sep-22	311	13	4	3:00-4:00pm
2	Friday	16-Sep-22	281	13	5	3:00-4:00pm
3	Saturday	17-Sep-22	218	0	0	10:45-11:45pm
4	Sunday	18-Sep-22	160	0	0	1:00-2:00pm
5	Monday	19-Sep-22	300	10	3	3:15 - 4:15pm
6	Tuesday	20-Sep-22	365	16	4	3:00-4:00pm
7	Wednesday	12-Oct-22	339	19	6	3:00-4:00pm
Average			282	10	4	
Maximum			365	19	6	

Furthermore, the maximum value for both AM/PM peak has been accounted for and has been utilised for SIDRA modelling. This peak value has been adjusted for future population growth (10-year future horizon) as per Section 2.3 of this report. It is noted that the trip distribution for each intersection turning movement is based on existing turning movements and is summarised in Table 5.

Table 5: Traffic Survey Summary

Intersection	Peak Hour Traffic			
	AM Peak Period		PM Peak Period	
	2022	2032	2022	2032
Kingsley St/Middleton St/Middleton Ln Intersection	303 Trips/h	388 Trips/h	365 Trips/h	467 Trip/hr

3 Development Site Access

3.1 Vehicular Access

The development proposes to construct an underground basement carpark that will provide carparking spaces for the development. It is proposed that this basement access be provided off Middleton Ln as this is noted as the preferred access location for Basement access ramps (DCP Chapter B4).

Refer to Figure 12 for the location of the basement carpark access ramp, in addition, refer to Appendix B for civil plans prepared for the site showing swept path maneuverers.

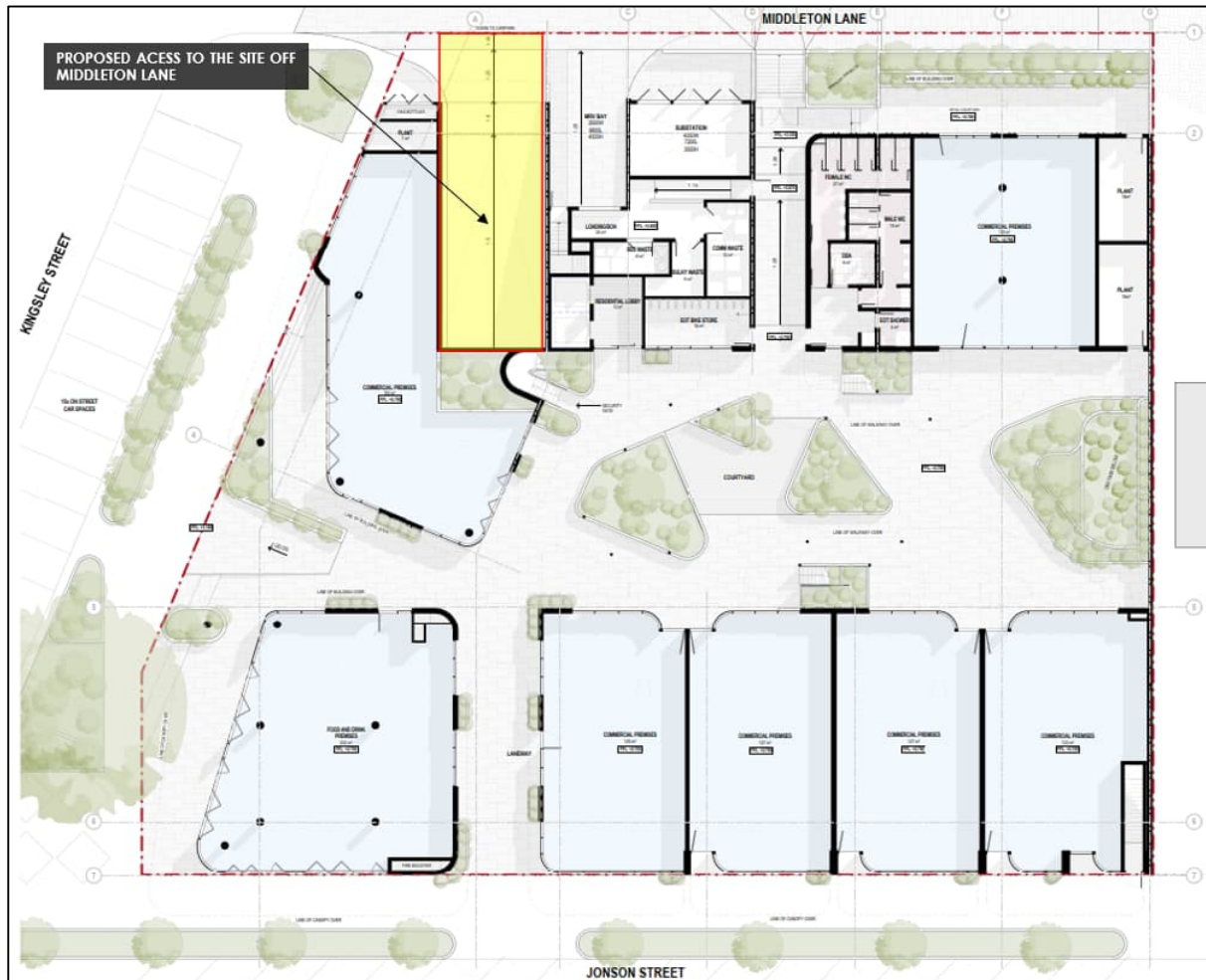


Figure 12: Site Access to The Subject Site

3.2 Service Vehicle Access

It is proposed that access for commercial vehicles shall be via Middleton Ln. Refer to Figure 13 for the location of the proposed MRV service bay.



Figure 13: Proposed MRV Service Bay Location

Proposed vehicular movement to and from this service bay have been assessed utilising swept path software. The envelope created as a result of these swept paths have been included on the civil plan set presented within Appendix B.

3.3 Middleton Lane Upgrade

Middleton Ln currently has a narrow sealed road lane with an open drain. As part of this development, it is proposed to upgrade Middleton Ln for the extent from Kingsley St to Kingsley Ln. The proposed upgrades extent including the site access and formalisation of Kingsley St street parking is shown in Figure 14 and 15 below.

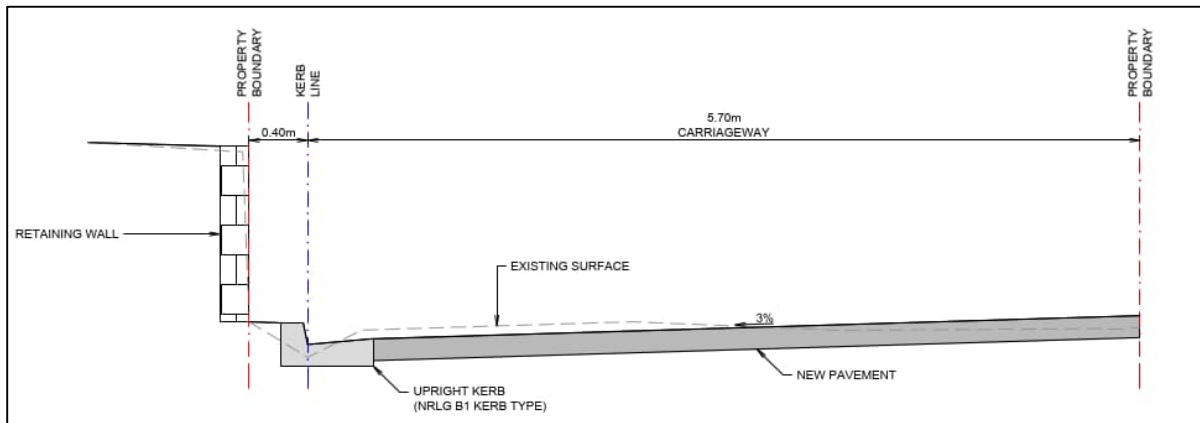


Figure 14: Middleton Ln Road Upgrade – Typical Section

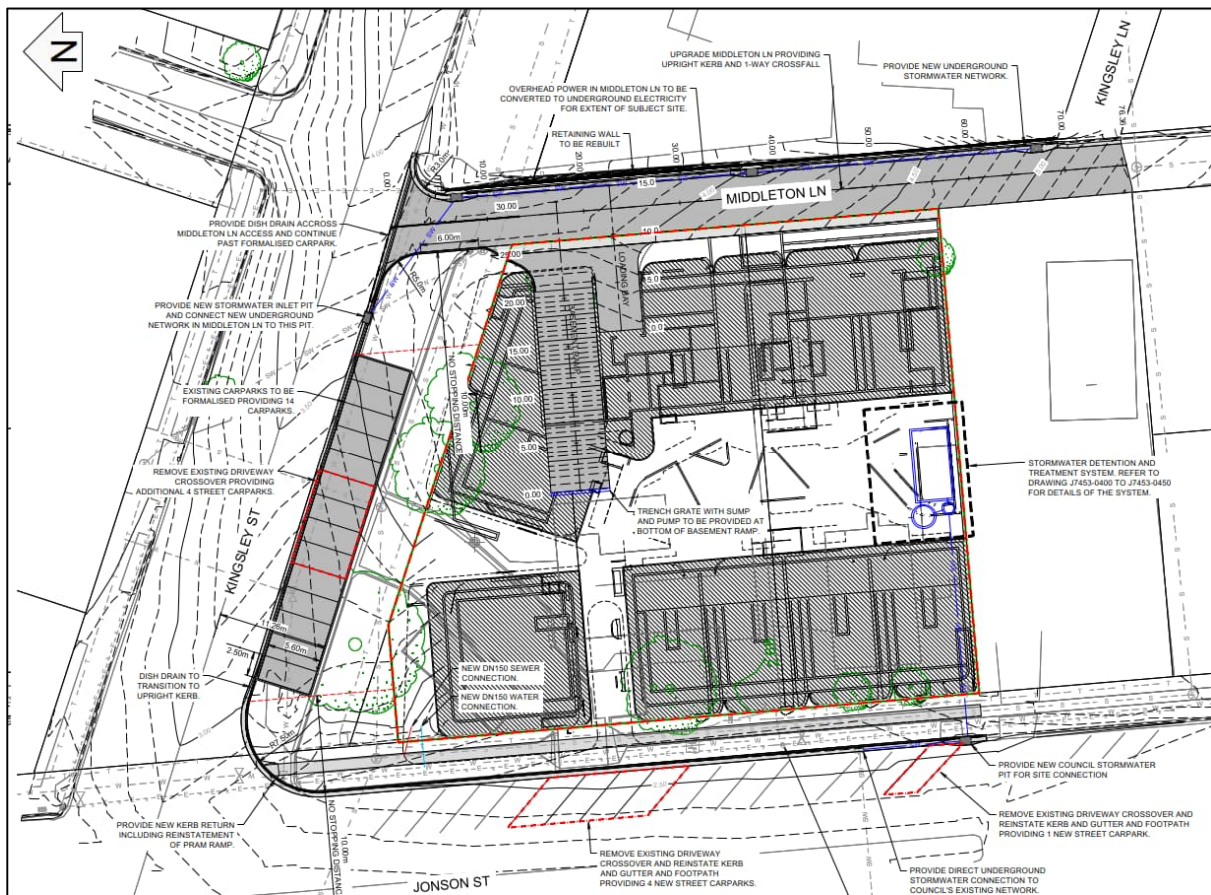


Figure 15: Proposed Road Upgrades located on Middleton Lane
 Additional refer to Appendix B for the Concept Civil Plans.

4 Carparking

4.1 Carparking Provisions

4.1.1 Overall Car Parking

Car parking requirements are outlined in accordance with BSC'S DCP 2014 Chapter B4 'Traffic Planning, Vehicle Parking, Circulation and Access' and the 2002 RTA 'Guide to Traffic generating Developments'. As part of the development, it is proposed to formalise the existing carparks surrounding the site on Jonson and Kingsley Street and to provide a basement level carpark to ensure sufficient onsite car, motorcycle, and bicycle parking spaces are to be provided. Table 6 below summarises the number of carparks required for this development.

Table 6: Overall Car-Parking Calculation In Accordance with BSC Parking Rates

Relevant DCP Land use Definition	Calculation Rate	Total Footprint (m ²)/Number of units	Number of Parking Spaces (DCP)
Commercial	1 space per 20m ² GFA	1028m ²	51
2-Bedroom units	1 space per 1 or 2 bed unit	6	6
3-Bedroom units	2 spaces per 3 or more bed	12	24
4-Bedroom units	2 spaces per 3 or more bed	4	8
Visitor Parks	1 visitor space per 4 dwellings	22	6
Total Number of Carparks Required			95

A minimum of 95 car spaces are required for the proposed development in accordance with BSC DCP 2014 Chapter B4 'Traffic Planning, Vehicle Parking, Circulation and Access'. To meet the minimum required carparking spaces, the development proposes the following:

- 87 total carparks:
 - Provision of 78 carparks within the proposed basement.
 - Formalisation of 9 street parks due to the removal of existing driveway crossovers. Refer to Appendix B for the location of these proposed carparks.
- 10 Carpark reductions:
 - Provision of 8 x motorcycle parks for a reduction of 2 carparks.
 - 25% increase in carparking on Kingsley St due to formalisation of 14 x carparks. allowing for 4 carpark reductions. Refer to Appendix B for the location of these proposed carparks.
 - 1 x Shared carparks allowing reduction of 2 carparks.

Based on the above, the total number of carparks required is 85 with the development proposing 85 carparks. Therefore, appropriate number of parks has been provided.

4.1.2 Accessible Car Parking

Accessible car parking requirements are specified in Byron Shire DCP 2014 – Chapter B4. Accordingly, the following parks have been provided:

- 2 x retail accessible parks (1 per every 50 Spaces).
- 3 x residential Park (1 per each accessible unit).

4.1.3 Bicycle Parking

Bicycle spaces are calculated in accordance with the requirements of Chapter B4 of the 2014 Byron Shire DCP. It is calculated that a minimum of 8 x bicycle spaces are to be provided onsite. A calculation summary is provided in Table 7.

Table 7: Bicycle Space Calculations

Item	Relevant DCP land use definition	Calculation Rate	Total Footprint	Number of Bicycle spaces
Commercial	Business premises	2 per 100m ² (or part thereof) for the floor area of 200m ² and 1 per 200m ² Thereafter	826m ²	8
Food and Drink	Food and Drink Premises	1 per 25m ² of GFA	200m ²	8
Total				16

Dimensions for bicycle spaces shall be in accordance with section 4.2 of this report.

4.1.4 Motorbike Parking

As stated in the BSC DCP, large commercial developments with a GFA exceeding 1,000m² shall make provision for a minimum of two percent of car parking spaces to be converted to motorbike spaces (at a rate of 4 motorcycle spaces for every space converted).

The proposed development exceeds the GFA 1,000m² threshold and therefore, the above requirement applies. It is recommended that 2% of the carparks are to be converted to motor-cycle spaces. Therefore, the development is proposing to provide 8 x motorcycle spaces reducing carparking requirements by 2 spaces.

4.1.5 Loading Bays

Loading bay calculations are carried out in accordance with Chapter B4 of the 2014 Byron Shire DCP. The loading bay calculations are provided in Table 8.

Table 8: Loading Bay Calculations

Relevant DCP land use definition	GFA (m ²)	Number of loading bays required by vehicle class
Retail premises, tourist, and visitor accommodation	1028m ²	1 x SRV (Small Rigid Vehicle) 1 x MRV (Medium Rigid Vehicle)

It should be noted that it is proposed to provide a single MRV service bay for the site and is to be used for both SRV and MRV as this bay will be for occasional use only.

4.2 Geometric Requirements

4.2.1 Basement Carpark Requirements

Geometric requirements for the parking spaces and loading bays are determined in accordance with AS2890.1 to AS2890.6. The proposed basement carpark is proposing 90-degree parking spaces. Table 9 below summarises the required parking dimensions.

Table 9: Parking Design Requirements

Type of Parking Bay	Design Aspect	Minimum Australian Standard
Carparks (Class 1,1A,3)	Parking Space Length	5.4m
	Parking Space Width	2.4m (residential), 2.6m (retail)
	Aisle Width	5.8m
	Maximum Gradient	1:20 (5%)
Motor-Cycle Bay	Parking Space Length	2.5m
	Parking Space Width	1.2m
PWD Bay	Parking Space Length	5.4m
	Parking Space Width	2.4m
	Aisle Width	5.8m
	Maximum Gradient	1:40 (2.5%)
MRV Service Bay	Parking Space Length	8.8m
	Parking Space Width	3.5m
	Vertical Clearance	4.5m
	Maximum Gradient	1:25 (4%)

4.2.2 Basement Ramp Requirements

The minimum width for two-way ramps is 5.5m between kerbs and the critical design requirements is for two design vehicles (1x B85 vehicle and 1x B99 vehicle) to safely pass each other. It is noted that a further 300mm of width is to be provided where swept path templates approach an obstruction (e.g., kerb or retaining walls). Refer to the civil design plans in appendix B for details of the proposed basement ramp.

5 Trip Generation

This section presents an estimate of the traffic generated by the proposed development. Trip generation rates have been obtained from 'Guide to Traffic Generating Development' (GTTGD) and ITE's 'Trip Generation Manual'. Relevant traffic generation rates based on existing and proposed uses of the site are presented in Table 10.

Table 10: Trip Generation Rates

Item	Source	Trip generation Parameter	Daily trip generation rate	Peak Hour Trip Generation Rate(weekday)
Shop – Specialty Retail Store	ITE's Trip Generation Manual	m ² GFA	44.32 per 100m ² GFA	6.84 per 100m ² GFA (AM) 5.02 per 100m ² GFA (PM)
Shop top housing (apartments) (1 or 2 bedroom)	RTA Guide to Generating Traffic Developments	Number of dwellings	5 per dwelling	0.4-0.5 per dwelling
Shop top housing (apartments) (3 bedroom)	RTA Guide to Generating Traffic Developments	Number of dwellings	6.5 per dwelling	0.5-0.65 per dwelling

The adopted peak hour trip generation rates are summarised in Table 11.

Table 11: Peak Hour Trip Generation Estimate

Item	Trip Generation Parameter	Trip Generation Parameter	AM Peak Hour Trip Generation Rate	PM Peak Hour Trip Generation Rate	AM Peak Hour Trip Generation	PM Peak Hour Trip Generation
Shop – Specialty Retail Store	m ² GFA	1005m ²	6.84 per 100m ² GFA	5.02 per 100m ² GFA	69	50
Shop top housing (apartments) (1 or 2 bedroom)	Number of dwellings	6	0.5 per dwelling	0.5 per dwelling	3	3
Shop top housing (apartments) (3 bedroom)	Number of dwellings	16	0.65 per dwelling	0.65 per dwelling	10	10
Subtotal					82	63

The net trip generation of the proposed development is calculated to be:

- 82 trips per hour (AM peak); and
- 63 trips per hour (PM peak).

Trip calculation results presented in this section of the report formed the input for traffic modelling. The modelling results are presented in Section 11 of this report.

6 Impact on Surrounding Road Network

6.1 Modelling Scenarios

The relevant modelling scenarios are based on the following questions and assumptions:

- How does the intersection perform with existing conditions at the assumed time of occupation of the proposed development (2022), and in the t+10th (2032) design year, adopting an assumed 2.5% annual compound traffic growth rate?
- How does the intersection perform in 2022 and 2032 with post development traffic added?
- Are there any additional intersection upgrades required?

6.2 Modelling Information

SIDRA Intersection 9.0 PLUS was used to carry out intersection modelling. Although general site-specific modelling inputs and outputs are described in the corresponding sections, the SIDRA modelling files can be provided upon request.

For traffic on Jonson, Kingsley, Middleton Street and Middleton Lane, an approach speed limit of 50km/h was used. The following generic key performance indicators were adopted when deciding whether a modelling scenario is a pass or fail:

- Level of Service (LOS).
- Degree of Saturation (DOS).
- Average Delay time.
- Queue Length.

6.3 Trip Distribution

The peak hour trips are anticipated to occur at the following times:

- AM Peak – 8:30 – 9:30am.
- PM Peak – 3:00 – 4:00pm.
- Weekend Peak – 1:00 – 2:00pm.

Based on the proposed development and peak hour trips, the following distribution has been assumed for the AM, PM and Weekend Peaks;

- 50% of trips generated from the proposed development will egress utilising Middleton Lane. It is anticipated out of the 50% generated from the proposed development 60% will turn left, 10% will go straight and 30% will turn right;
- 50% of the trips generated from the proposed development will be proportionally distributed to each approach based on the existing traffic proportions.

It is noted that 'proportional' distribution is defined in relation to the movements observed as part of the traffic study. Refer to Figure 16 for a SIDRA modelled output of the trip distribution.

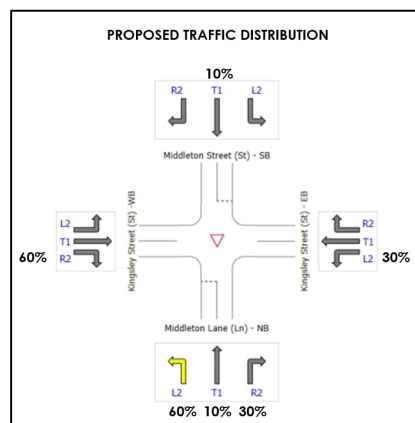


Figure 16: Proposed Traffic Distribution

Based on the above trip generation rates, trip distribution and the existing traffic movements, Table 12-19 below provides the input parameters for the SIDRA assessment.

Table 12: SIDRA Modelling Inputs (2022 Pre-Development Scenario – AM Peak)

Approach	Turning movement	Movements
Kingsley Street – EB	Left	18
	Straight	72
	Right	7
Middleton Lane (Ln) – NB	Left	2
	Straight	1
	Right	1
Kingsley Street – WB	Left	2
	Straight	69
	Right	75
Middleton Street (St) – SB	Left	42
	Straight	1
	Right	14
Sub-total		304

Table 13: SIDRA Modelling Inputs (2032 Pre-Development Scenario – AM Peak)

Approach	Turning movement	Movements
Kingsley Street – EB	Left	23
	Straight	92
	Right	9
Middleton Lane (Ln) – NB	Left	3
	Straight	1
	Right	1
Kingsley Street – WB	Left	3
	Straight	88
	Right	96
Middleton Street (St) – SB	Left	54
	Straight	1
	Right	18
Sub-total		389

Table 14: SIDRA Modelling Inputs (2022 Pre-Development Scenario – PM Peak)

Approach	Turning movement	Movements
Kingsley Street - EB	Left	48
	Straight	69
	Right	8
Middleton Lane (Ln) - NB	Left	1
	Straight	1
	Right	1
Kingsley Street - EB	Left	1
	Straight	83
	Right	44
Middleton Street (St) - SB	Left	68
	Straight	1
	Right	44
Sub-total		369

Table 15: SIDRA Modelling Inputs (2032 Pre-Development Scenario – PM Peak)

Approach	Turning movement	Movements
Kingsley Street - EB	Left	61
	Straight	88
	Right	10
Middleton Lane (Ln) - NB	Left	1
	Straight	1
	Right	1
Kingsley Street - EB	Left	1
	Straight	106
	Right	56
Middleton Street (St) - SB	Left	87
	Straight	1
	Right	56
Sub-total		472

Table 16: SIDRA Modelling Inputs (2022 Post-Development Scenario – AM Peak)

Approach	Turning movement	Movements
Kingsley Street - EB	Left	18
	Straight	72
	Right	37
Middleton Lane (Ln) - NB	Left	32
	Straight	6
	Right	16
Kingsley Street - WB	Left	17
	Straight	69
	Right	75
Middleton Street (St) - SB	Left	42
	Straight	6
	Right	14
Sub-total		403

Table 17: SIDRA Modelling Inputs (2032 Post-Development Scenario – AM Peak)

Approach	Turning movement	Movements
Kingsley Street - EB	Left	23
	Straight	92
	Right	47
Middleton Lane (Ln) - NB	Left	41
	Straight	8
	Right	20
Kingsley Street - WB	Left	22
	Straight	88
	Right	96
Middleton Street (St) - SB	Left	54
	Straight	8
	Right	18
Sub-total		516

Table 18: SIDRA Modelling Inputs (2022 Post-Development Scenario – PM Peak)

Approach	Turning movement	LV
Kingsley Street - EB	Left	48
	Straight	69
	Right	38
Middleton Lane (Ln) - NB	Left	31
	Straight	6
	Right	16
Kingsley Street - EB	Left	16
	Straight	83
	Right	44
Middleton Street (St) - SB	Left	68
	Straight	6
	Right	44
Sub-total		468

Table 19: SIDRA Modelling Inputs (2032 Post-Development Scenario – PM Peak)

Approach	Turning movement	Movements
Kingsley Street - EB	Left	61
	Straight	88
	Right	48
Middleton Lane (Ln) - NB	Left	39
	Straight	8
	Right	20
Kingsley Street - EB	Left	20
	Straight	106
	Right	56
Middleton Street (St) - SB	Left	87
	Straight	8
	Right	56
Sub-total		599

6.4 SIDRA Results

SIDRA 9.0 Intersection Modelling results for the 2022 and 2032 pre-and post-development AM and PM peak scenarios are presented in Appendix A showing that an LOS of 'A' is achieved for all scenarios.

7 Conclusions and Recommendations

The assessment outlines the constraints of the site and the proposed access and traffic strategy for to the proposed development. Accordingly, the following was concluded:

- Site access is proposed of Middleton Ln in the form of a basement carpark entry/exit.
- Service vehicle access is proposed off Middleton Ln.
- It is proposed to upgrade Middleton Ln as part of this development.
- The number of carparks provided complies with BSC DCP.
- LOS of 'A' was observed at the Kingsley St/Middleton Ln intersection.

Based on the above observations, the site can provide appropriate traffic management for the proposed development.

Appendix A

SIDRA Results

LANE SUMMARY

Site: 101 [2022- Pre-Development - AM Peak (Site Folder: PRE-Kingsley/Middleton St/Middleton Ln)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn vic	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h	HV] %						[Veh	Dist] m				
South: Middleton Lane (Ln) - NB													
Lane 1	4	6.0	1117	0.004	100	5.1	LOS A	0.0	0.1	Full	70	0.0	0.0
Approach	4	6.0		0.004		5.1	LOS A	0.0	0.1				
East: Kingsley Street (St) - WB													
Lane 1	154	6.0	1703	0.090	100	3.2	LOS A	0.4	3.0	Full	195	0.0	0.0
Approach	154	6.0		0.090		3.2	NA	0.4	3.0				
North: Middleton Street (St) - SB													
Lane 1	60	6.0	1239	0.048	100	6.1	LOS A	0.2	1.3	Full	120	0.0	0.0
Approach	60	6.0		0.048		6.1	LOS A	0.2	1.3				
West: Kingsley Street (St) - EB													
Lane 1	102	6.0	1833	0.056	100	1.2	LOS A	0.1	0.5	Full	65	0.0	0.0
Approach	102	6.0		0.056		1.2	NA	0.1	0.5				
Intersection	320	6.0		0.090		3.1	NA	0.4	3.0				

LANE SUMMARY

Site: 101 [2032 -Pre-Development - AM Peak - Copy (2) (Site Folder: PRE-Kingsley/Middleton St/Middleton Ln)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn vic	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h	HV] %						[Veh	Dist] m				
South: Middleton Lane (Ln) - NB													
Lane 1	5	6.0	1113	0.005	100	5.3	LOS A	0.0	0.1	Full	70	0.0	0.0
Approach	5	6.0		0.005		5.3	LOS A	0.0	0.1				
East: Kingsley Street (St) - WB													
Lane 1	197	6.0	1680	0.117	100	3.3	LOS A	0.5	4.0	Full	195	0.0	0.0
Approach	197	6.0		0.117		3.3	NA	0.5	4.0				
North: Middleton Street (St) - SB													
Lane 1	77	6.0	1188	0.065	100	6.3	LOS A	0.2	1.8	Full	120	0.0	0.0
Approach	77	6.0		0.065		6.3	LOS A	0.2	1.8				
West: Kingsley Street (St) - EB													
Lane 1	131	6.0	1830	0.071	100	1.2	LOS A	0.1	0.6	Full	65	0.0	0.0
Approach	131	6.0		0.071		1.2	NA	0.1	0.6				
Intersection	409	6.0		0.117		3.2	NA	0.5	4.0				

LANE SUMMARY

Site: 101 [2022 - Post-Development - AM Peak (Site Folder: Post-Kingsley/Middleton St/Middleton Ln)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn vic	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h	HV] %						[Veh	Dist] m				
South: Middleton Lane (Ln) - NB													
Lane 1	57	6.0	1111	0.051	100	5.4	LOS A	0.2	1.4	Full	70	0.0	0.0
Approach	57	6.0		0.051		5.4	LOS A	0.2	1.4				
East: Kingsley Street (St) - EB													
Lane 1	169	6.0	1712	0.099	100	3.4	LOS A	0.4	3.3	Full	195	0.0	0.0
Approach	169	6.0		0.099		3.4	NA	0.4	3.3				
North: Middleton Street (St) - SB													
Lane 1	65	6.0	1179	0.055	100	6.1	LOS A	0.2	1.5	Full	120	0.0	0.0
Approach	65	6.0		0.055		6.1	LOS A	0.2	1.5				
West: Kingsley Street (St) -WB													
Lane 1	134	6.0	1762	0.076	100	2.1	LOS A	0.3	1.9	Full	65	0.0	0.0
Approach	134	6.0		0.076		2.1	NA	0.3	1.9				
Intersection	425	6.0		0.099		3.7	NA	0.4	3.3				

LANE SUMMARY

Site: 101 [2032 - Post-Development - AM Peak (Site Folder: Post-Kingsley/Middleton St/Middleton Ln)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn vic	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h	HV] %						[Veh	Dist] m				
South: Middleton Lane (Ln) - NB													
Lane 1	73	6.0	1040	0.070	100	5.7	LOS A	0.3	1.9	Full	70	0.0	0.0
Approach	73	6.0		0.070		5.7	LOS A	0.3	1.9				
East: Kingsley Street (St) - WB													
Lane 1	217	6.0	1690	0.128	100	3.6	LOS A	0.6	4.4	Full	195	0.0	0.0
Approach	217	6.0		0.128		3.6	NA	0.6	4.4				
North: Middleton Street (St) - SB													
Lane 1	84	6.0	1111	0.076	100	6.4	LOS A	0.3	2.1	Full	120	0.0	0.0
Approach	84	6.0		0.076		6.4	LOS A	0.3	2.1				
West: Kingsley Street (St) - EB													
Lane 1	171	6.0	1749	0.098	100	2.2	LOS A	0.3	2.6	Full	65	0.0	0.0
Approach	171	6.0		0.098		2.2	NA	0.3	2.6				
Intersection	544	6.0		0.128		3.9	NA	0.6	4.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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 lanes.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix B

Concept Civil Plans

JD PROPERTY GROUP PTY LTD

119-123 JONSON ST BYRON BAY, NSW

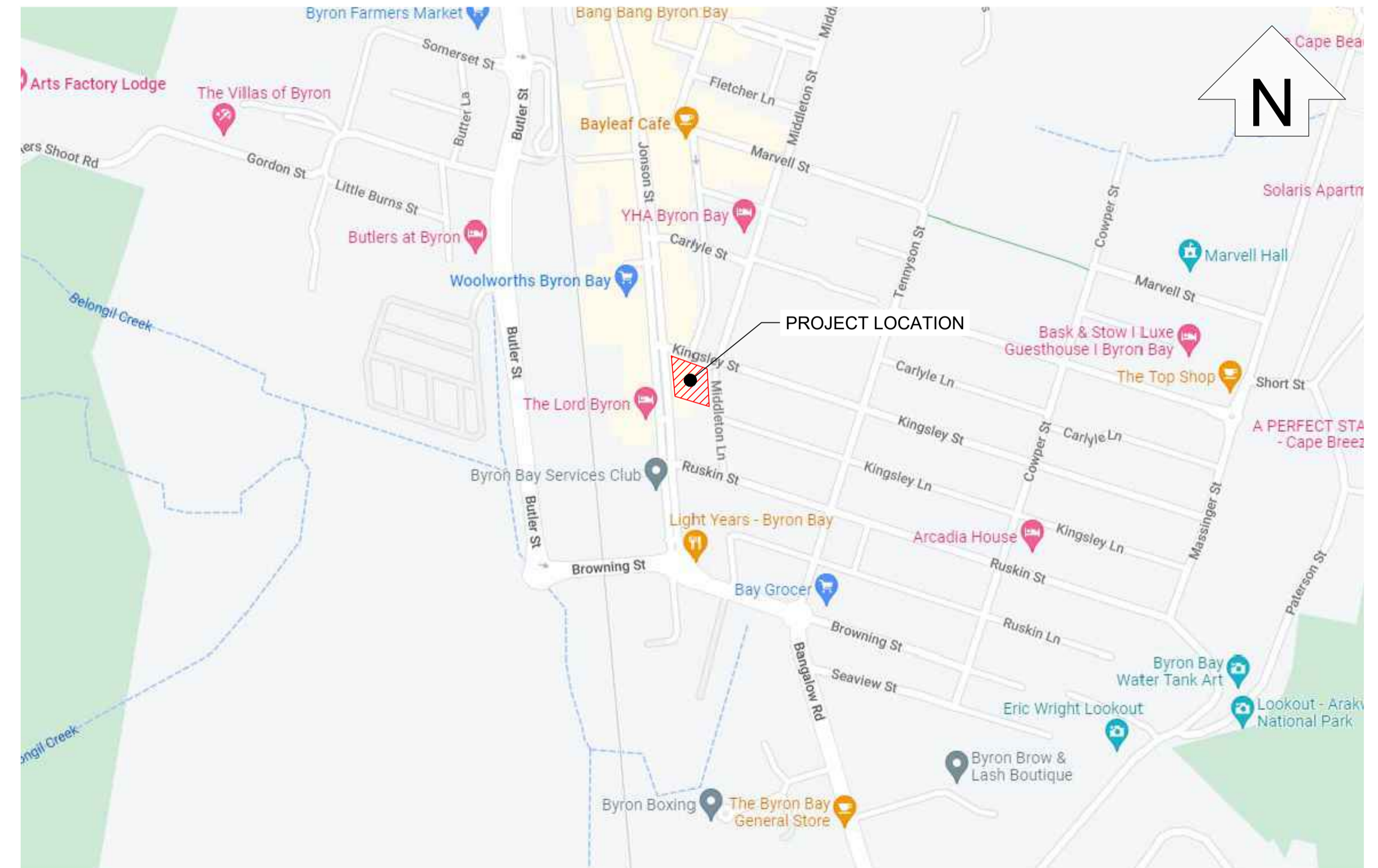
CONCEPT CIVIL DESIGN PLANS



DRAWING REGISTER		
DRAWING NUMBER	DRAWING TITLE	DRAWING REVISION
0001	COVER PAGE	B
0100	EROSION AND SEDIMENT CONTROL PLAN	A
0110	EROSION AND SEDIMENT CONTROL DETAILS	A
0200	BULK EARTHWORKS CUT & FILL PLAN	B
0210	BULK EARTHWORKS SECTIONS	A
0300	CIVIL WORKS PLAN	B
0310	TYPICAL SECTIONS	B
0320	ROAD LONGSECTIONS	A
0330	SWEPT PATH PLAN SHEET 1 OF 2	B
0331	SWEPT PATH PLAN SHEET 2 OF 2	B
0400	STORMWATER CATCHMENT PLAN	B
0410	STORMWATER LAYOUT PLAN	B
0450	STORMWATER SYSTEM DETAILS	A

NOTES:

1. THIS DRAWING SET SHOULD BE READ IN CONJUNCTION WITH PLANIT'S ENGINEERING ASSESSMENT (J7453-119-123-JONSON_ST-EA01), PLANIT'S STORMWATER MANAGEMENT PLAN (J7453-119-123-JONSON_ST-SWMP01), AND PLANIT'S TRAFFIC IMPACT ASSESSMENT (J7453-119-123-JONSON_ST-TIA01).
2. THIS DESIGN IS CONCEPT ONLY AND SUBJECT TO CHANGE UPON DETAILED DESIGN.
3. ALL MEASUREMENTS ARE IN METRES UNO.
4. THIS PLAN HAS BEEN BASED ON SURVEY PROVIDED TO PLANIT BY BENNET AND BENNET AND ARCHITECTURAL PLANS PROVIDED TO PLANIT BY BALEYWARD ARCHITECTURE.

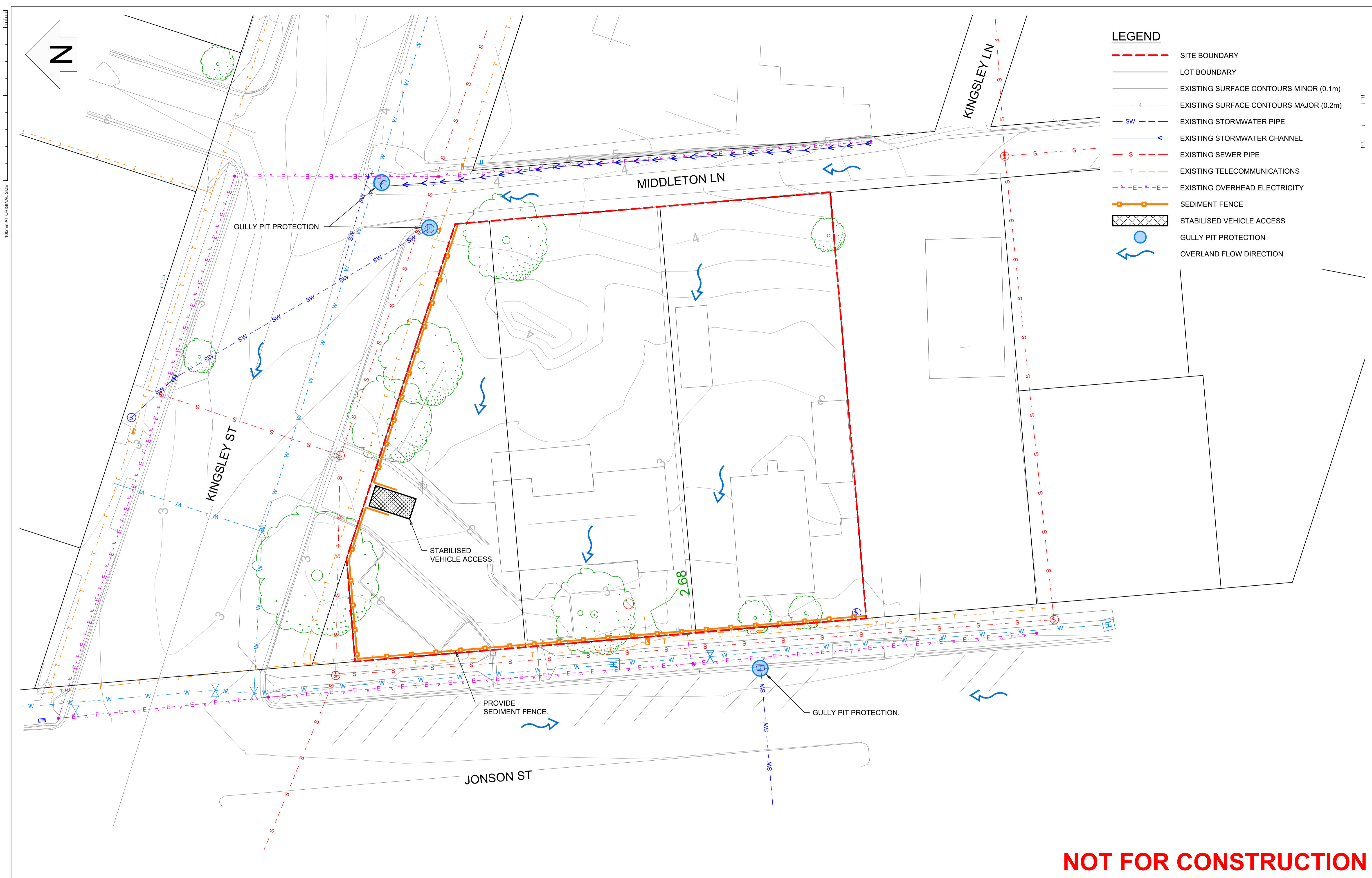


LOCALITY PLAN
NOT TO SCALE

IMAGE SOURCE: GOOGLE MAPS 2022

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED	SCALES:	APPROVED BY:	CLIENT:	PROJECT:
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB	NOT TO SCALE	Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.	JD PROPERTY GROUP PTY LTD	119-123 JONSON STREET
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB				COVER PAGE
							DO NOT SCALE FROM DRAWING	DATE:	BYRON SHIRE COUNCIL	ORIGINAL SIZE: A1
								THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED	PLANIT CONSULTING SUITE 9A, 80-84 BALLINA STREET PO BOX 161 LENNOX HEAD NSW 2478 TELEPHONE: 02 6687 4666 ABN: 20 099 261 711 EMAIL: administration@planitconsulting.com.au	PLANIT JOB No.: J7453
										DRAWING No.: 0001
										REV: B



- LEGEND**
- SITE BOUNDARY
 - LOT BOUNDARY
 - EXISTING SURFACE CONTOURS MINOR (0.1m)
 - 4 --- EXISTING SURFACE CONTOURS MAJOR (0.2m)
 - SW --- EXISTING STORMWATER PIPE
 - EXISTING STORMWATER CHANNEL
 - S --- EXISTING SEWER PIPE
 - T --- EXISTING TELECOMMUNICATIONS
 - E --- EXISTING OVERHEAD ELECTRICITY
 - SEDIMENT FENCE
 - STABILISED VEHICLE ACCESS
 - GULLY PIT PROTECTION
 - ↪ OVERLAND FLOW DIRECTION

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB

SCALES:
 0 2 4 8 12
 Full Size 1:200; Half Size 1:400
 Scale (m)

DO NOT SCALE FROM DRAWING

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY:

DATE:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478



TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

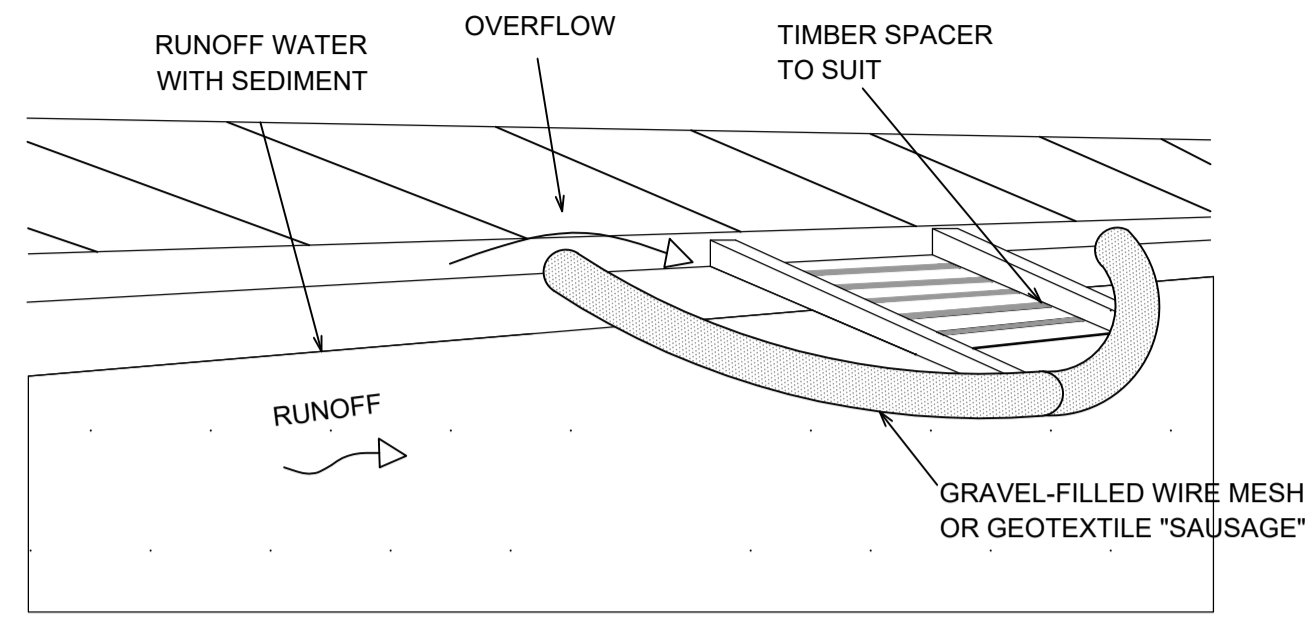
CLIENT:

JD PROPERTY GROUP PTY LTD

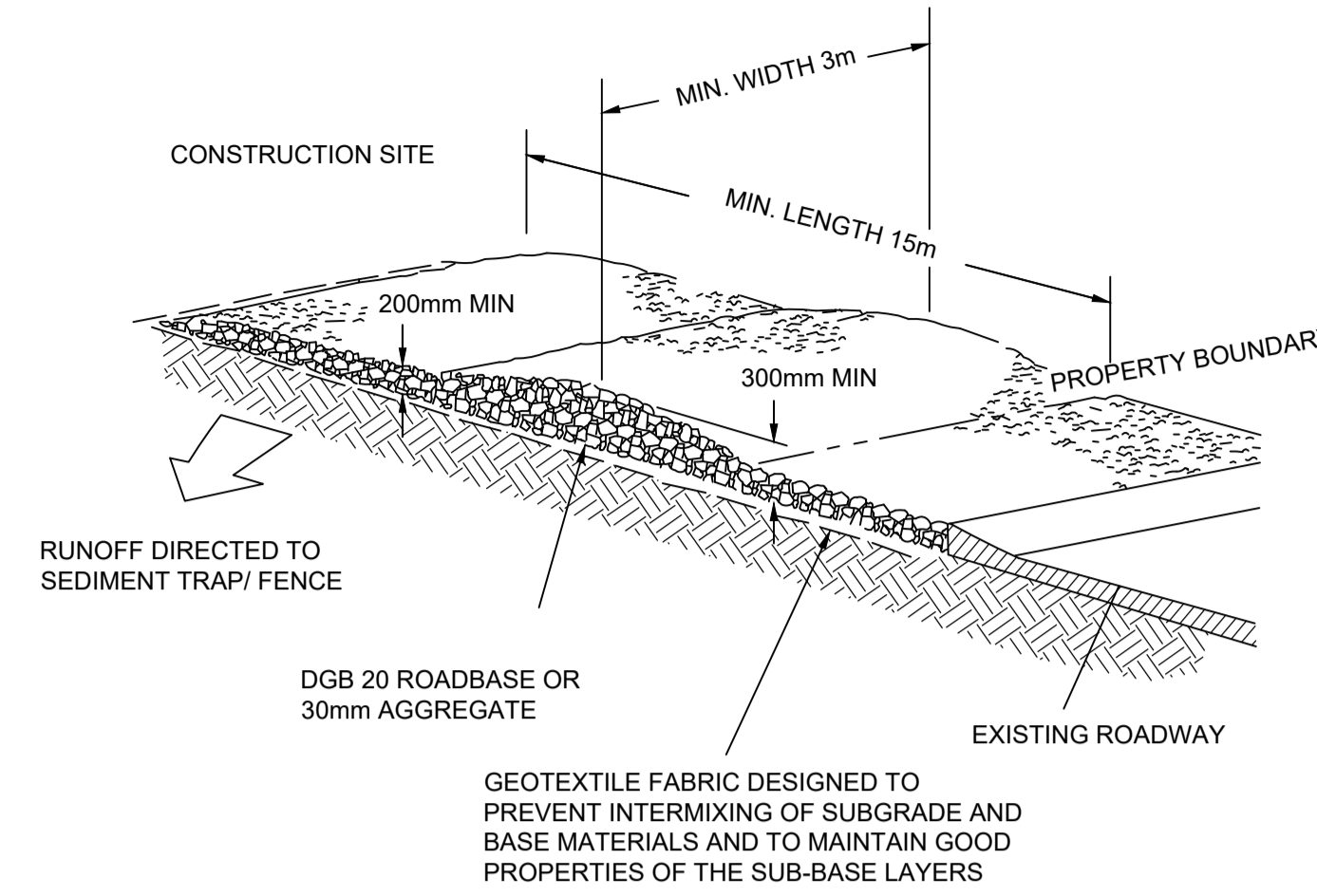
LOCAL GOVERNMENT AUTHORITY:

BYRON SHIRE COUNCIL

PROJECT:			
119-123 JONSON STREET			
DRAWING TITLE:			
EROSION AND SEDIMENT CONTROL PLAN			
ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J7453	0100	A



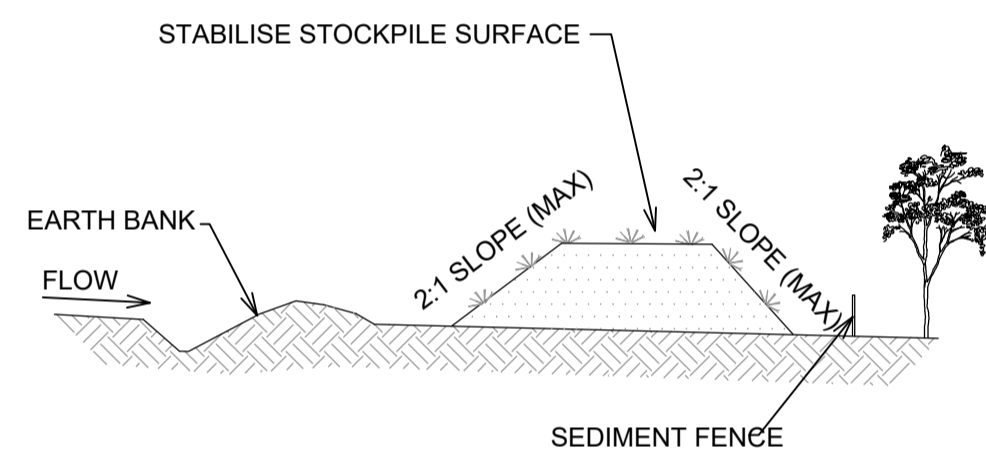
FILTER BAG TO DROP INLET PIT
NOT TO SCALE



STABILISED SITE ACCESS
NOT TO SCALE

CONSTRUCTION NOTES

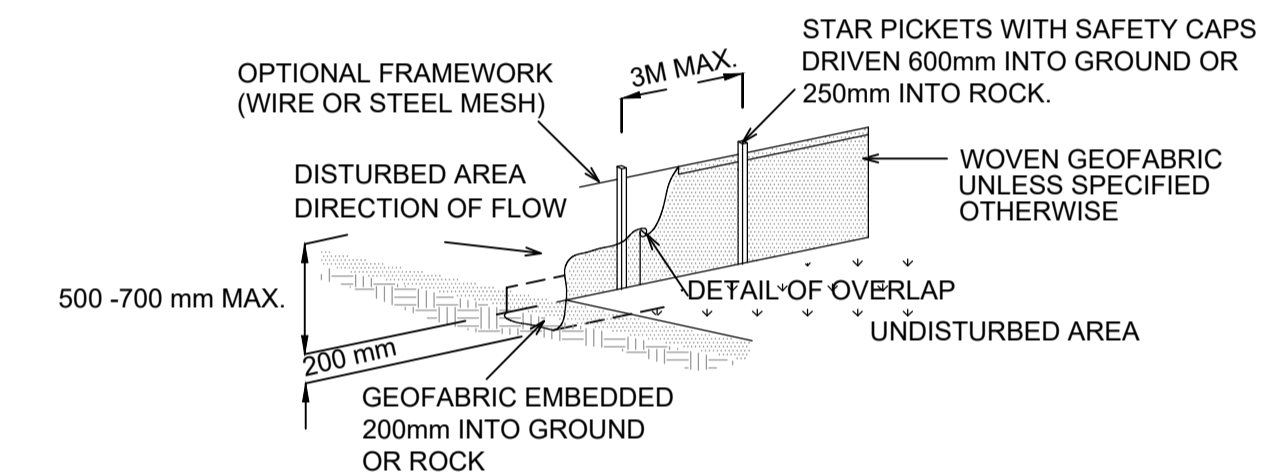
1. STRIP TOPSOIL AND LEVEL SITE.
2. COMPACT SUBGRADE.
3. COVER AREA WITH NEEDLE PUNCHED GEOTEXTILE.
4. CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE. MINIMUM LENGTH 15m OR BUILDING ALIGNMENT. MINIMUM WIDTH 3m.
5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE/TRAP.



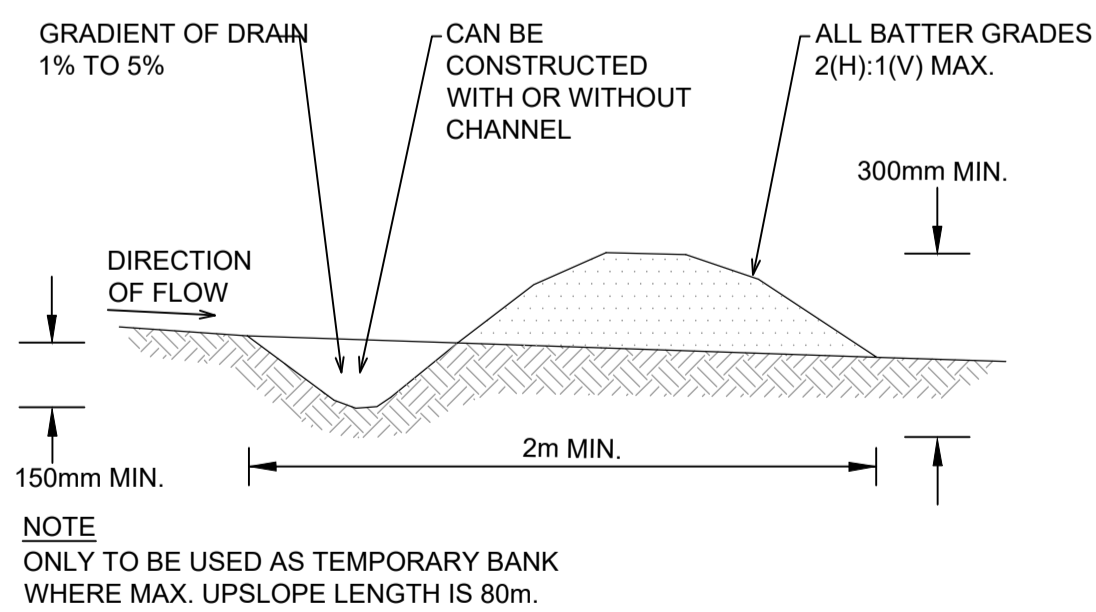
TOPSOIL STOCKPILE
NOT TO SCALE

CONSTRUCTION NOTES

1. WHERE POSSIBLE LOCATE STOCKPILE AT LEAST 5m FROM EXISTING VEGETATION, CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS A LOW, FLAT, ELONGATED MOUND.
3. WHERE THERE IS SUFFICIENT AREA TOPSOIL STOCKPILE SHALL BE LESS THAN 2m IN HEIGHT.
4. REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
5. CONSTRUCT EARTH BANK (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT RUNOFF AROUND THE STOCKPILE AND A SEDIMENT FENCE (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE OF STOCKPILE.



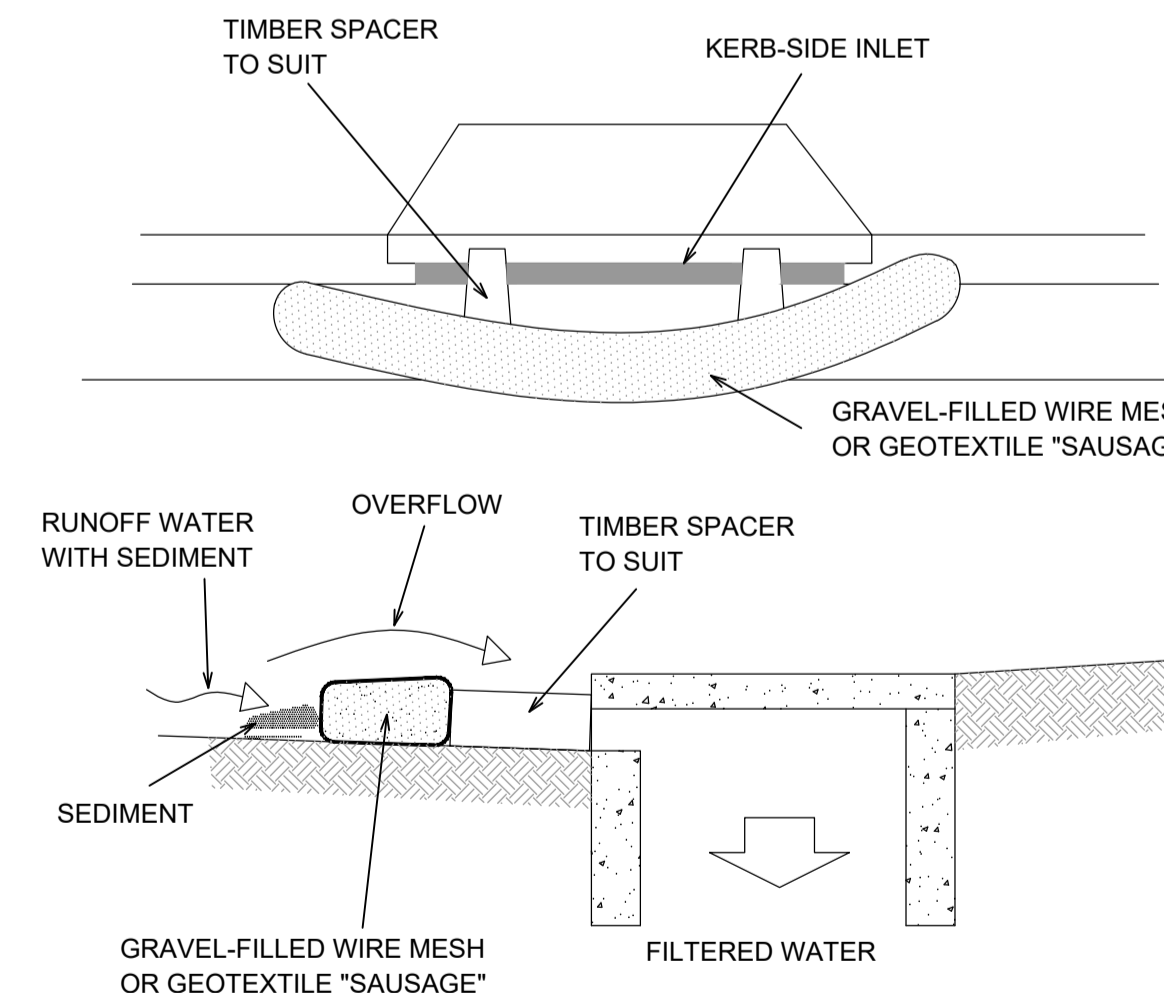
SEDIMENT FENCE
NOT TO SCALE



EARTH BANK (LOW FLOW)
NOT TO SCALE

CONSTRUCTION NOTES

1. CONSTRUCT WITH GRADIENT OF 1% TO 5%.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE.
3. DRAINS TO BE CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. PERMANENT OR TEMPORARY STABILISATION OF THE EARTH BANK TO BE COMPLETED WITHIN 10 DAYS OF CONSTRUCTION.
6. ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO A SEDIMENT BASIN OR SIMILAR.
7. DISCHARGE RUNOFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILISED OR AN UNDISTURBED DISPOSAL SITE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
8. COMPACT BANK WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
9. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.



FILTER BAG TO SAG SIDE ENTRY PIT
NOT TO SCALE

CONSTRUCTION NOTES

1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT.
2. FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL.
3. FROM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING OF THE KERB INLET OR FIELD INLET LEAVING A 100mm GAP AT THE TOP TO ACT AS AN EMERGENCY SPILLWAY.
5. MAINTAIN THE OPENING WITH SPACER BLOCKS.
6. FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER.
7. FIT TO ALL KERB INLETS AND FIELD INLET PITS AT SAG POINTS.

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB

SCALES:
NOT TO SCALE

DO NOT SCALE FROM DRAWING

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY:

DATE:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
SUITE 9A, 80-84 BALLINA STREET
PO BOX 161
LENNOX HEAD NSW 2478

PLANIT

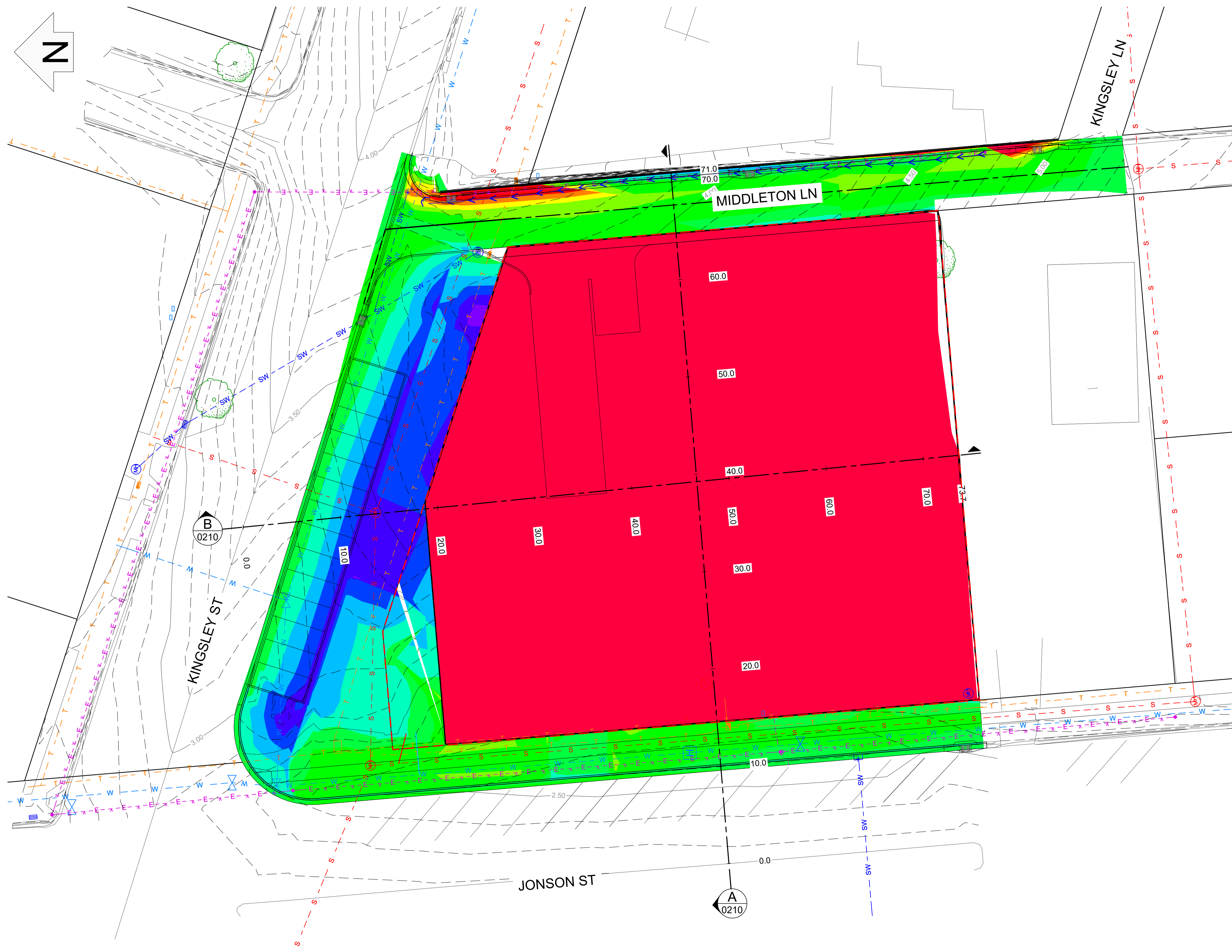
TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT:
JD PROPERTY GROUP PTY LTD

LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: EROSION AND SEDIMENT CONTROL DETAILS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0110	REV: A

100mm AT ORIGINAL SIZE



LEGEND

- SITE BOUNDARY
- LOT BOUNDARY
- EXISTING SURFACE CONTOURS MINOR (0.1m)
- EXISTING SURFACE CONTOURS MAJOR (0.2m)
- SW --- EXISTING STORMWATER PIPE
- EXISTING STORMWATER CHANNEL
- S --- EXISTING SEWER PIPE
- T --- EXISTING TELECOMMUNICATIONS
- X-E-X-E --- EXISTING OVERHEAD ELECTRICITY

EARTHWORKS CUT/FILL TABLE			
Number	COLOUR	MINIMUM ELEVATION (m)	MAXIMUM ELEVATION (m)
1		-5.000	-0.500
2		-0.500	-0.400
3		-0.400	-0.300
4		-0.300	-0.200
5		-0.200	-0.100
6		-0.100	0.000
7		0.000	0.100
8		0.100	0.200
9		0.200	0.300
10		0.300	0.400
11		0.400	0.500
12		0.500	5.000

- NOTES:**
- THE CUT AND FILL EXTENTS SHOWN ARE CALCULATED FROM THE SURVEYED EXISTING SURFACE TO THE BULK EARTHWORK SURFACE WITH NO ALLOWANCE FOR TOPSOIL STRIP OR ROAD AND BUILDING BOX OUT.
 - EARTHWORKS CUT AND FILL VOLUMES ARE ESTIMATED AS:
 - CUT VOLUME = 9,674m³
 - FILL VOLUME = 9,977m³
 - BALANCE = 9,477m³ (EXPORT)

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB

SCALE:
 0 2 4 8 12
 Full Size 1:200; Half Size 1:400
 Scale (m)
 DO NOT SCALE FROM DRAWING

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY:

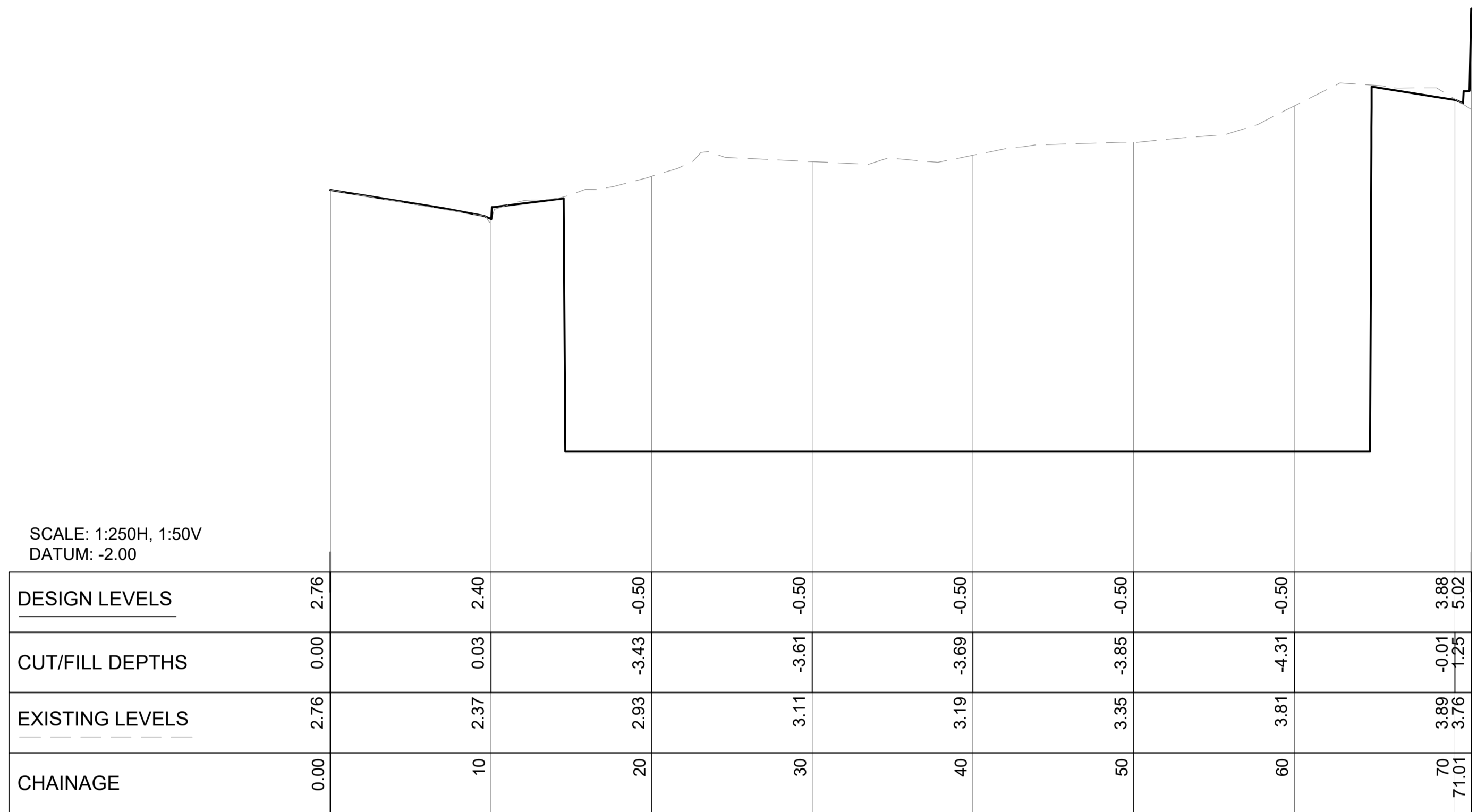
 DATE:
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478
 TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

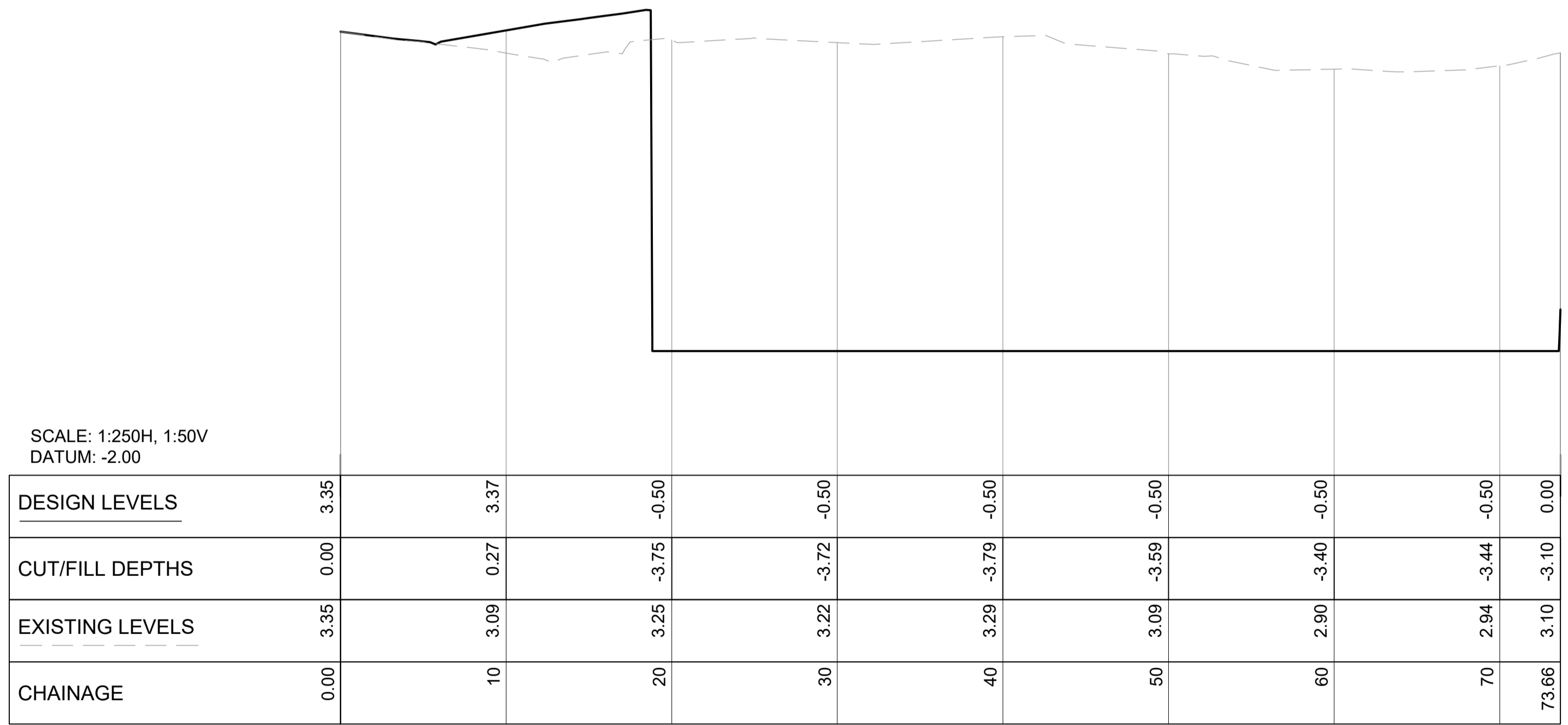
CLIENT:
 JD PROPERTY GROUP PTY LTD
 LOCAL GOVERNMENT AUTHORITY:
 BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: BULK EARTHWORKS CUT & FILL PLAN			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0200	REV.: B

100mm AT ORIGINAL SIZE



EARTHWORKS SECTION A LONG SECTION



EARTHWORKS SECTION B LONG SECTION

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB

SCALES:

 Full Size 1:250 ; Half Size 1:500
 Scale (m)

 Full Size 1:50 ; Half Size 1:100
 Scale (m)

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY:
 DATE:
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478

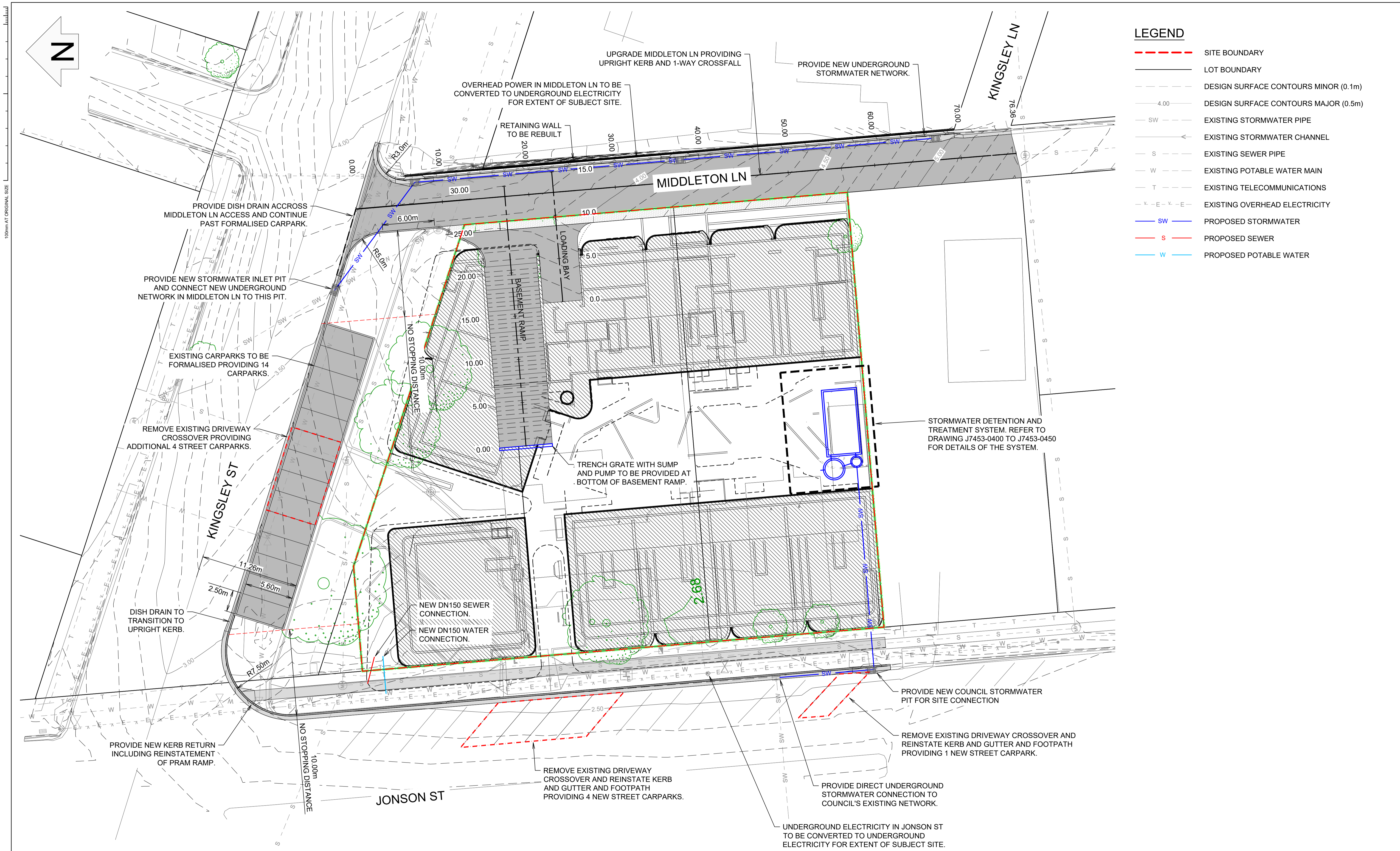


TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

CLIENT:
JD PROPERTY GROUP PTY LTD

LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: BULK EARTHWORKS SECTIONS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0210	REV: A



LEGEND

- SITE BOUNDARY
- LOT BOUNDARY
- DESIGN SURFACE CONTOURS MINOR (0.1m)
- 4.00 DESIGN SURFACE CONTOURS MAJOR (0.5m)
- SW EXISTING STORMWATER PIPE
- EXISTING STORMWATER CHANNEL
- S EXISTING SEWER PIPE
- W EXISTING POTABLE WATER MAIN
- T EXISTING TELECOMMUNICATIONS
- X-E-X-E EXISTING OVERHEAD ELECTRICITY
- SW PROPOSED STORMWATER
- S PROPOSED SEWER
- W PROPOSED POTABLE WATER

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB

SCALES:
 0 2 4 8 12
 Full Size 1:200; Half Size 1:400
 Scale (m)
 DO NOT SCALE FROM DRAWING

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

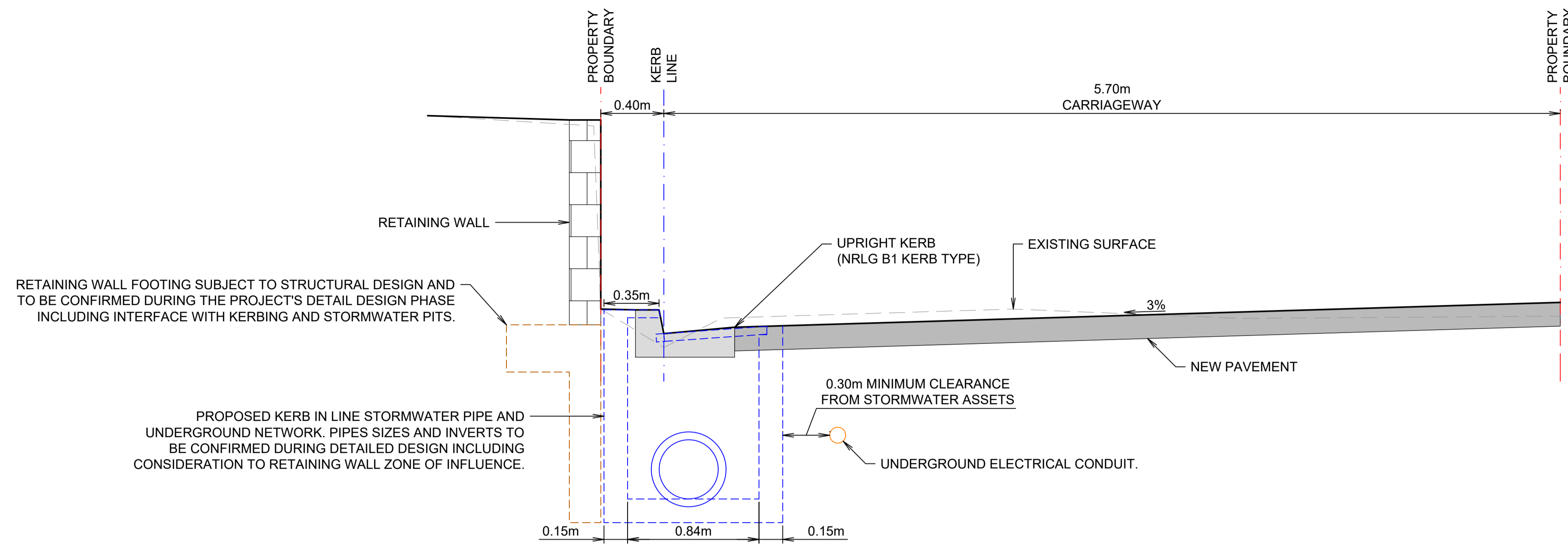
APPROVED BY:
 DATE:
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478
 TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

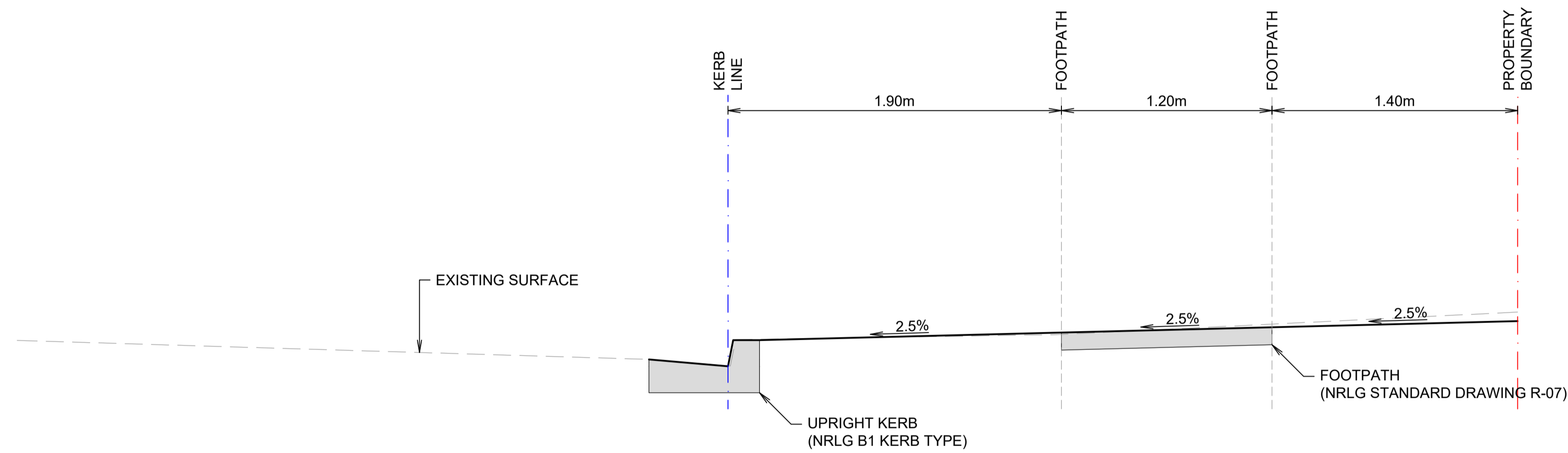
CLIENT:
JD PROPERTY GROUP PTY LTD
 LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: CIVIL WORKS PLAN			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0300	REV: B

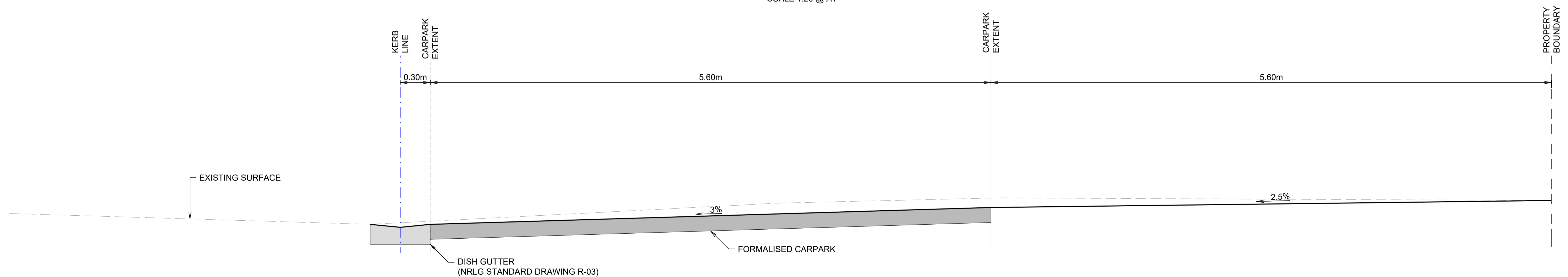
100mm AT ORIGINAL SIZE



MIDDLETON LN ROAD UPGRADE
SCALE 1:20 @ A1



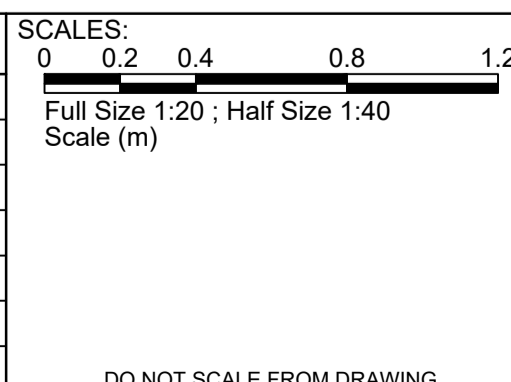
JONSON ST KERB AND FOOTPATH REINSTATEMENT
SCALE 1:20 @ A1



KINGSLEY ST CARPARK FORMALISATION
SCALE 1:20 @ A1

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB



Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY: _____
DATE: _____
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
SUITE 9A, 80-84 BALLINA STREET
PO BOX 161
LENNOX HEAD NSW 2478



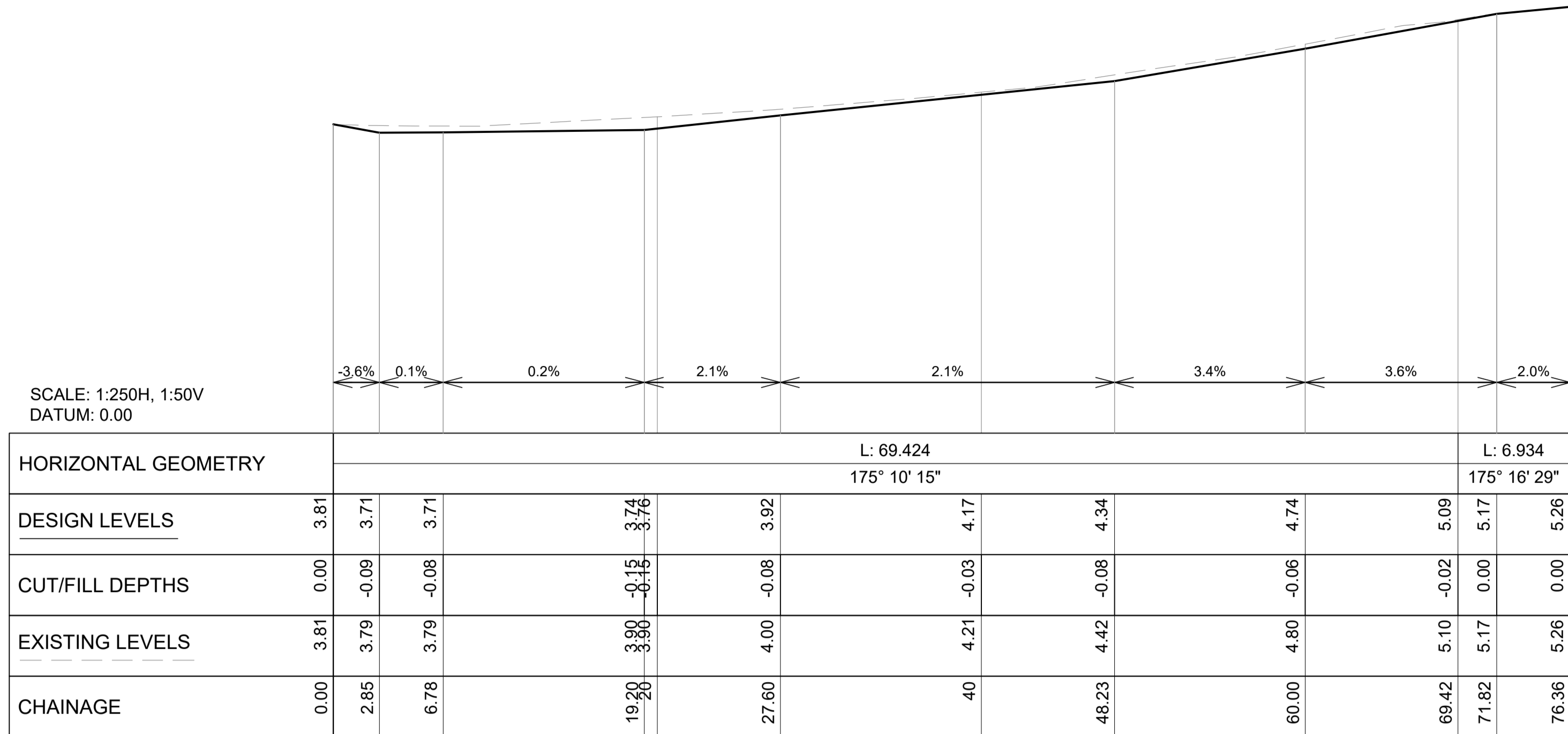
TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT:
JD PROPERTY GROUP PTY LTD

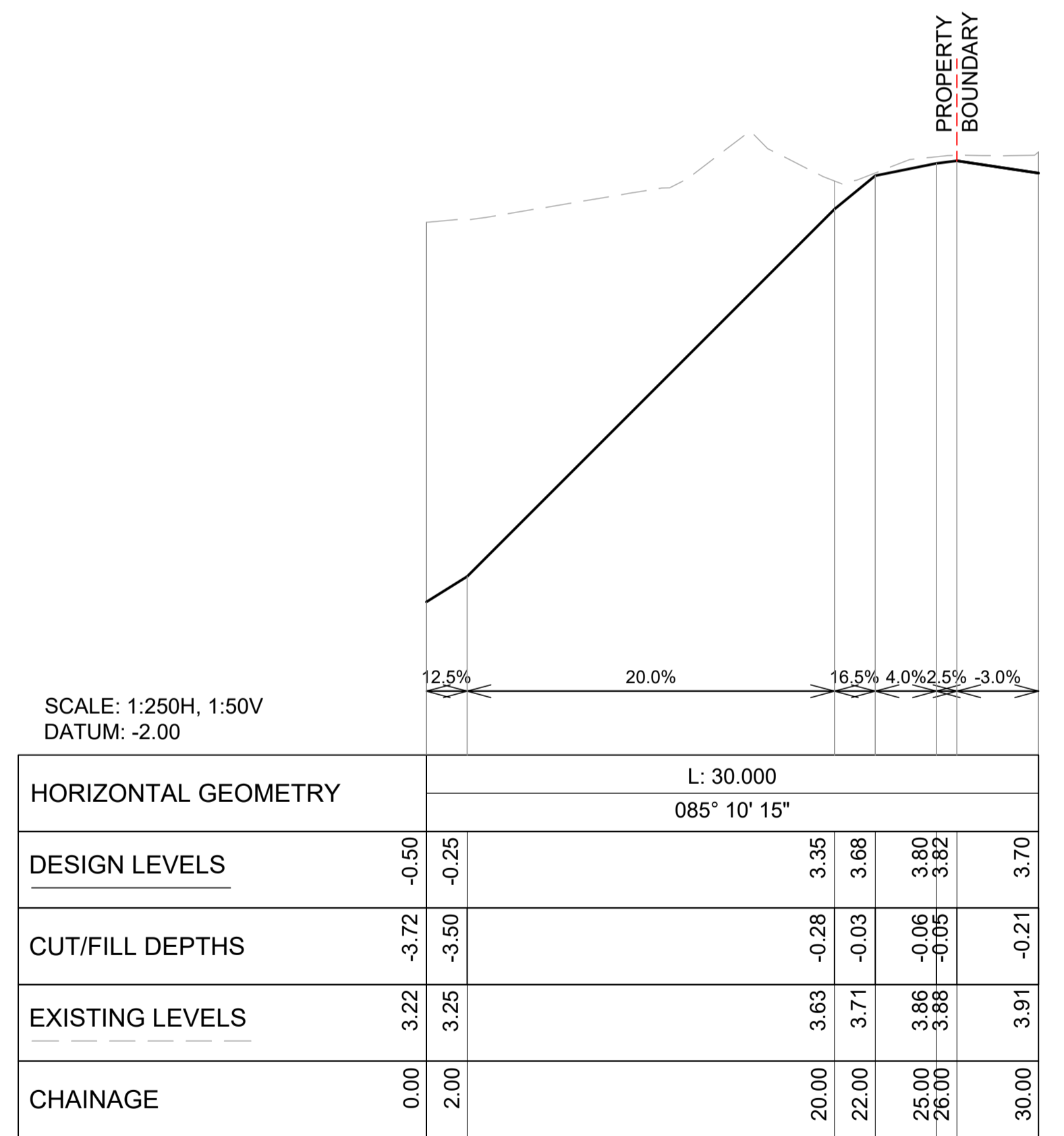
LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: TYPICAL SECTIONS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0310	REV: B

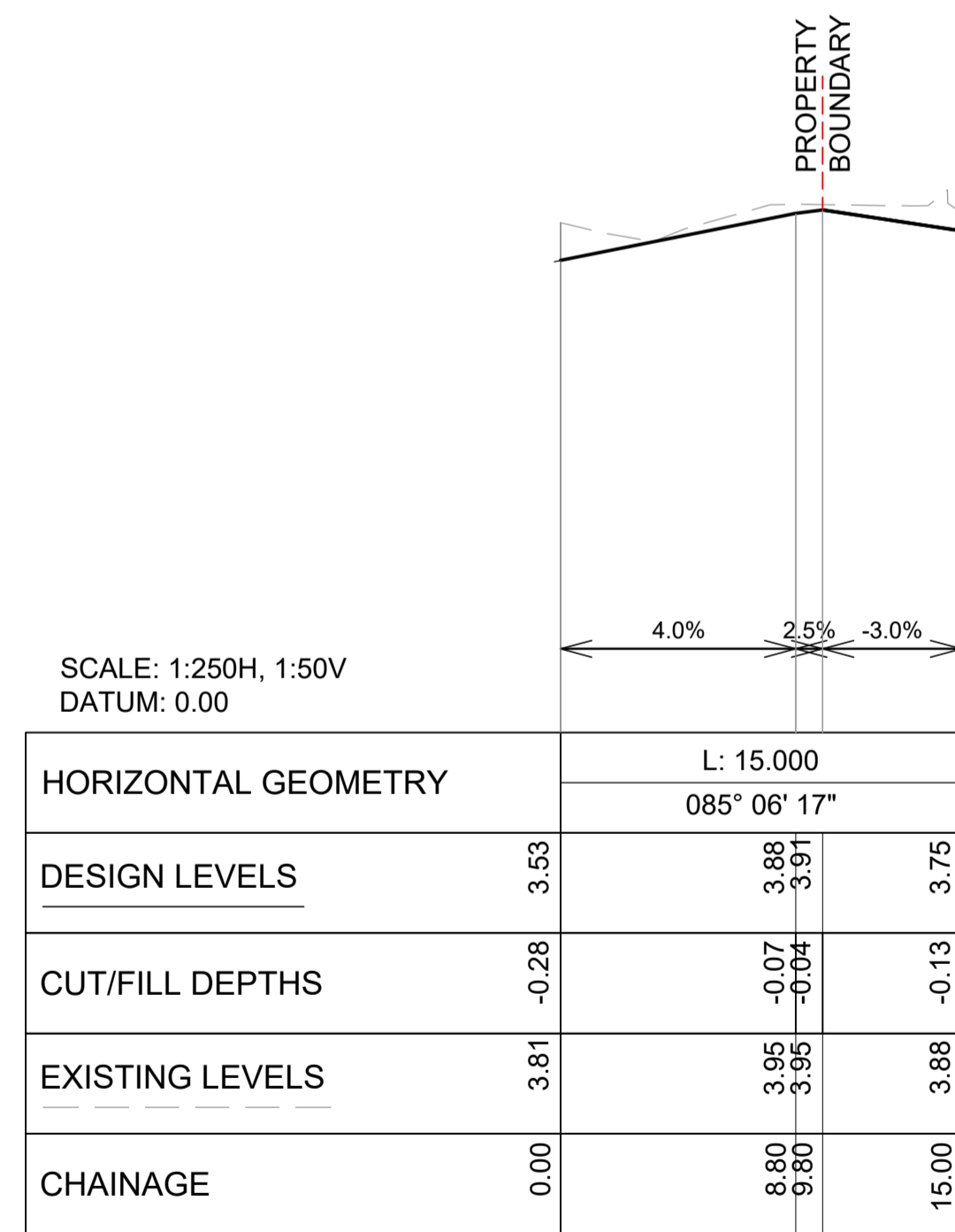
100mm AT ORIGINAL SIZE



MIDDLETON LN LONG SECTION



BASEMENT RAMP LONG SECTION



LOADING BAY LONG SECTION

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB

SCALES:

 Full Size 1:250 ; Half Size 1:500
 Scale (m)

 Full Size 1:50 ; Half Size 1:100
 Scale (m)
 DO NOT SCALE FROM DRAWING

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY:
 DATE:
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

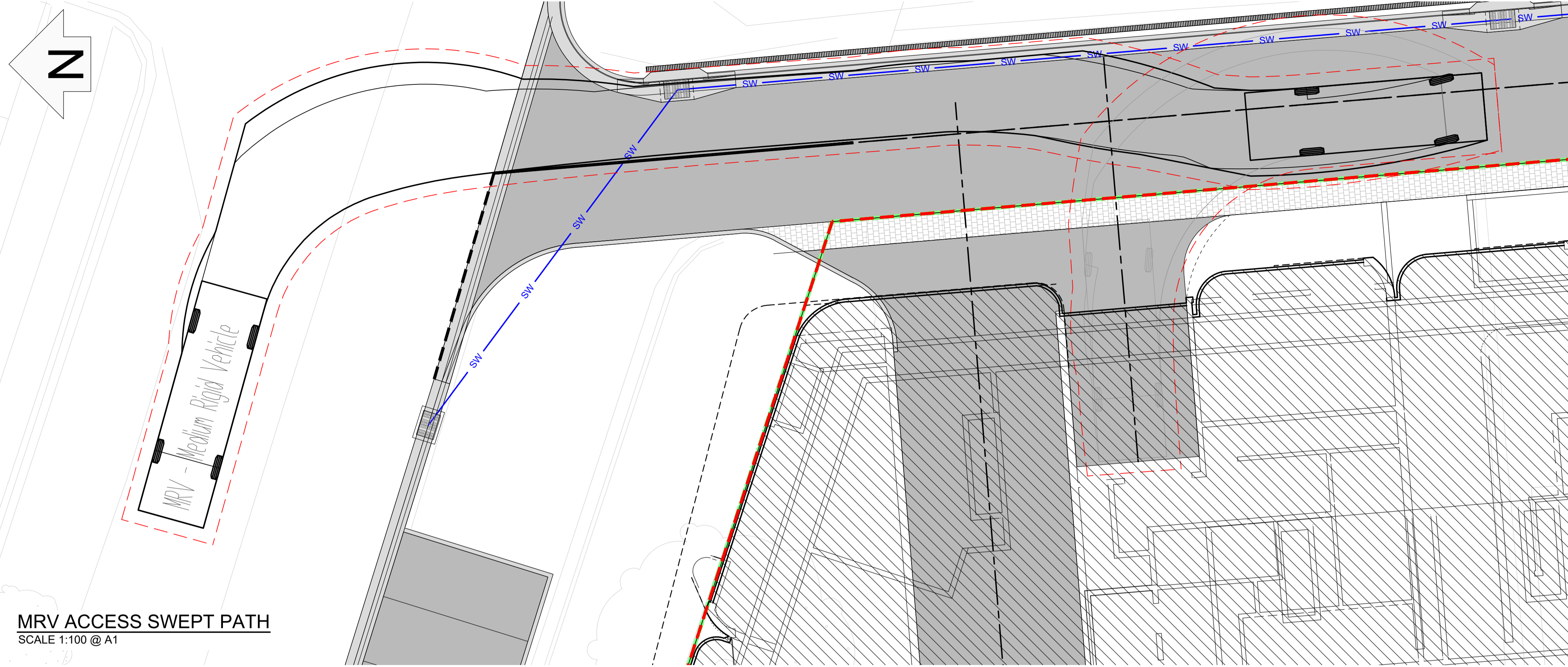
PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478

 TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

CLIENT:
JD PROPERTY GROUP PTY LTD
 LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: ROAD LONGSECTIONS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0320	REV: A

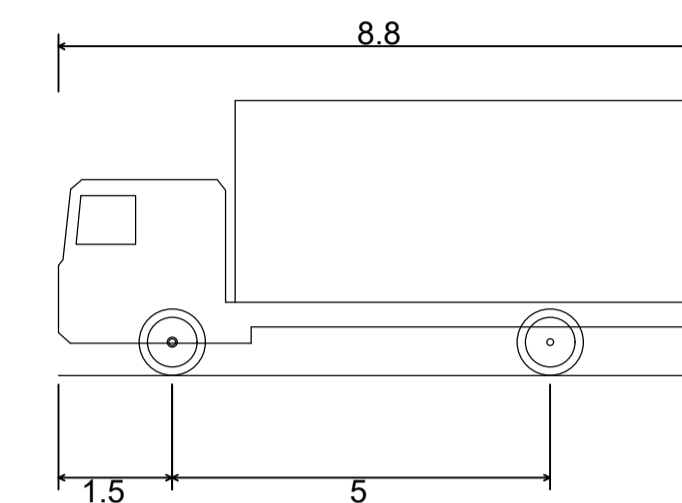
100mm AT ORIGINAL SIZE



MRV ACCESS SWEEP PATH
SCALE 1:100 @ A1

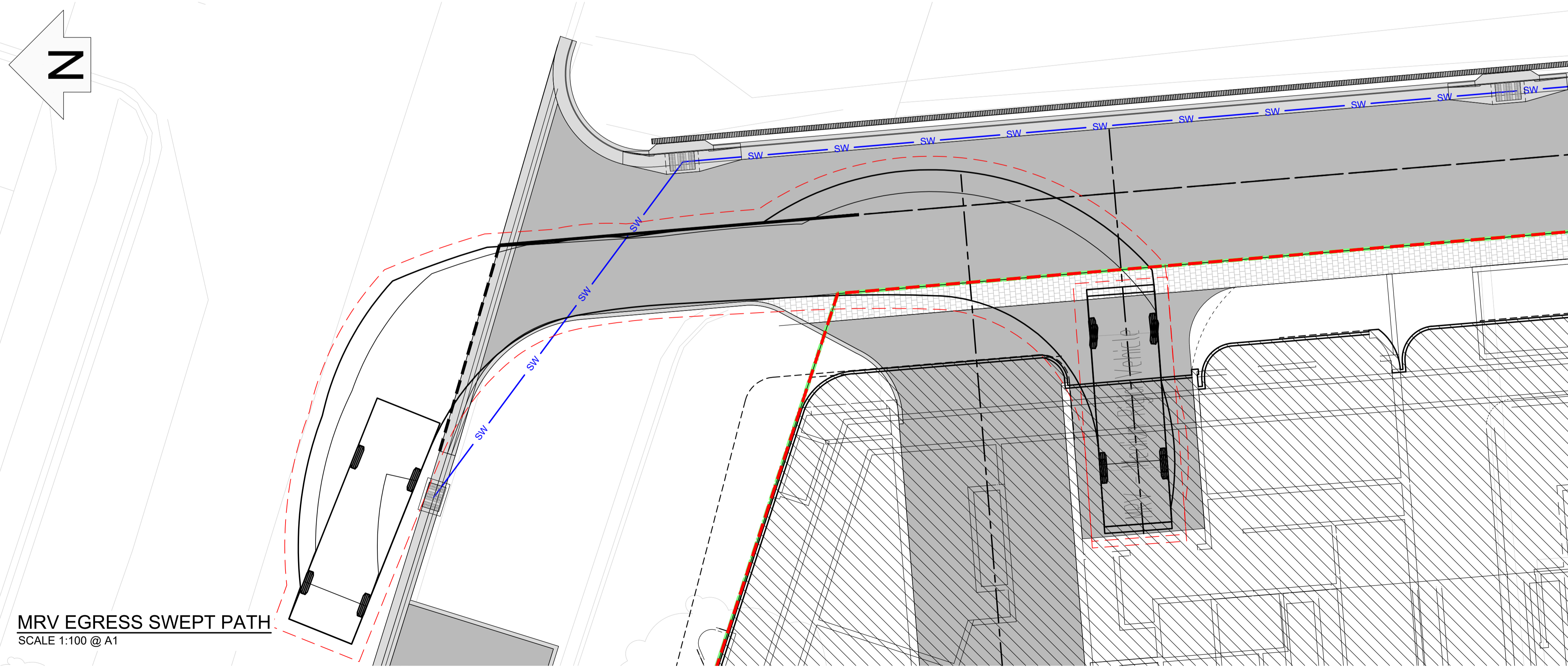
LEGEND

- VEHICLE WHEEL SWEEP PATH
- VEHICLE BODY SWEEP PATH
- 500mm CLEARANCE OFF BODY SWEEP PATH



- MRV - Medium Rigid Vehicle**
- Overall Length 8.800m
 - Overall Width 2.500m
 - Overall Body Height 3.633m
 - Min Body Ground Clearance 0.428m
 - Track Width 2.500m
 - Lock-to-lock time 4.00s
 - Curb to Curb Turning Radius 10.000m

MRV SWEEP PATH TEMPLATE DIMENSIONS
SCALE 1:100 @ A1



MRV EGRESS SWEEP PATH
SCALE 1:100 @ A1

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB

SCALES:
 0 1 2 4 6
 Full Size 1:100; Half Size 1:200
 Scale (m)

DO NOT SCALE FROM DRAWING

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY: _____

DATE: _____

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478

TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

CLIENT:

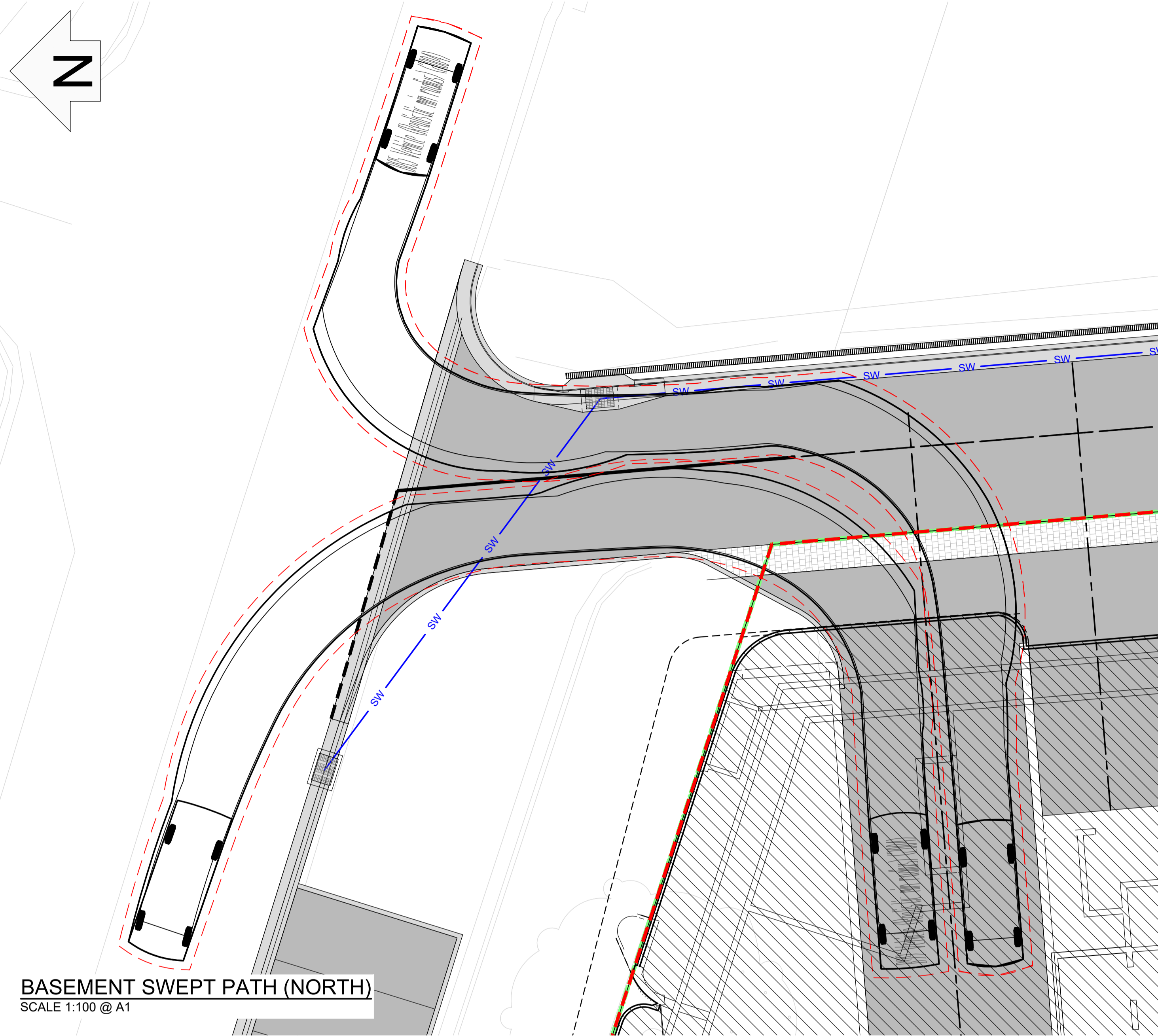
JD PROPERTY GROUP PTY LTD

LOCAL GOVERNMENT AUTHORITY:

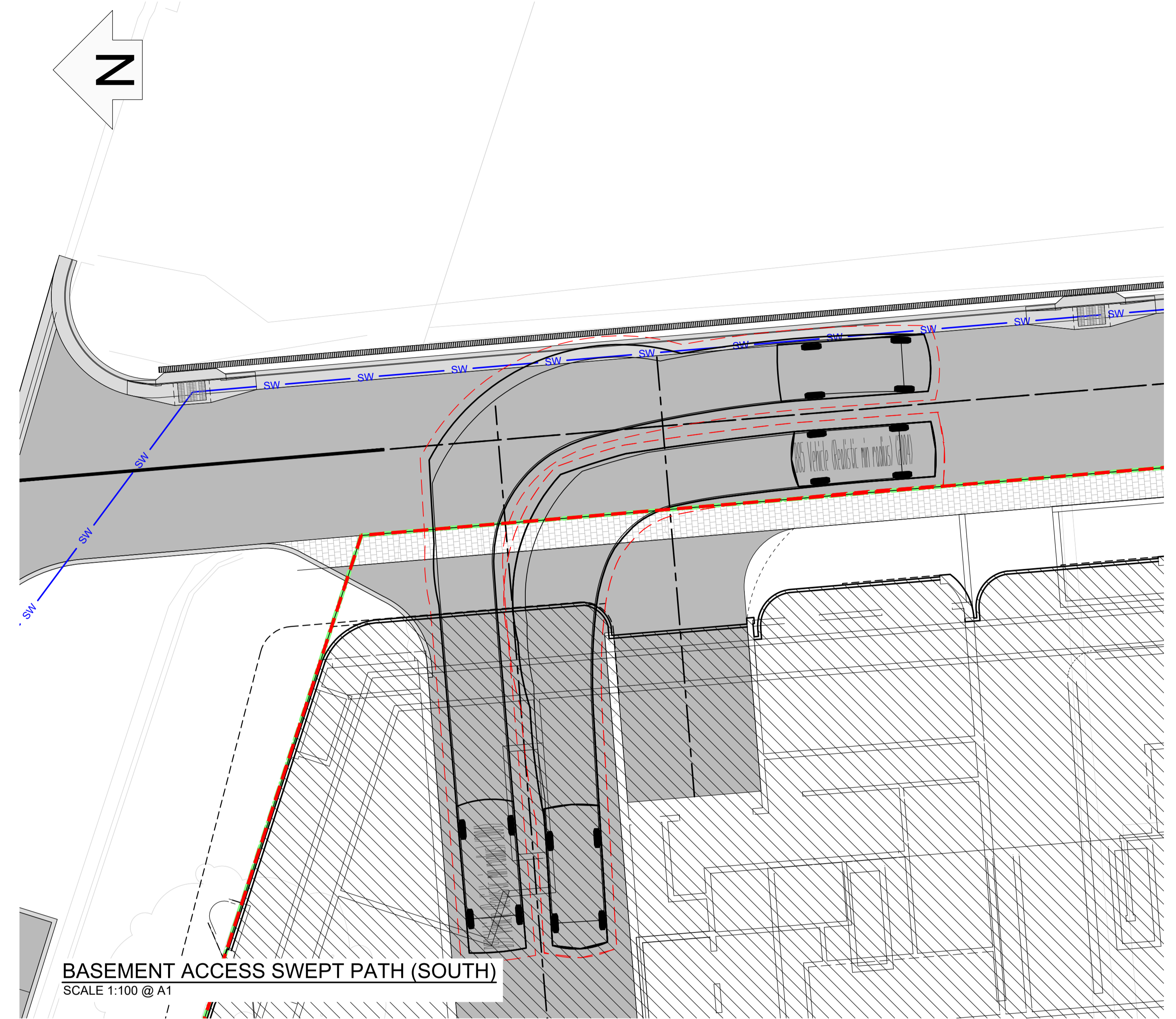
BYRON SHIRE COUNCIL

PROJECT:			
119-123 JONSON STREET			
DRAWING TITLE:			
SWEEP PATH PLAN SHEET 1 OF 2			
MRV ACCESS & EGRESS			
ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV.:
A1	J7453	0330	B

100mm AT ORIGINAL SIZE



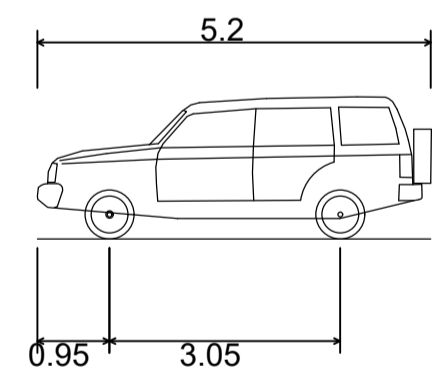
BASEMENT SWEEP PATH (NORTH)
SCALE 1:100 @ A1



BASEMENT ACCESS SWEEP PATH (SOUTH)
SCALE 1:100 @ A1

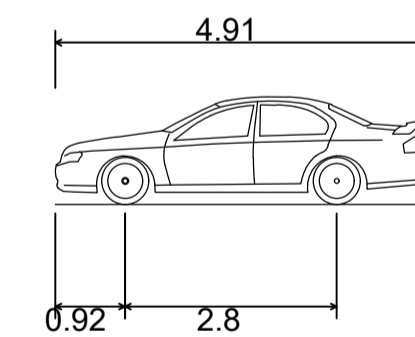
LEGEND

- VEHICLE WHEEL SWEEP PATH
- VEHICLE BODY SWEEP PATH
- - - 300mm CLEARANCE OFF BODY SWEEP PATH



B99 Vehicle (2004)
 Overall Length 5.200m
 Overall Width 1.940m
 Overall Body Height 1.878m
 Min Body Ground Clearance 0.272m
 Track Width 1.840m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6.250m

B99 SWEEP PATH TEMPLATE DIMENSIONS
SCALE 1:100 @ A1

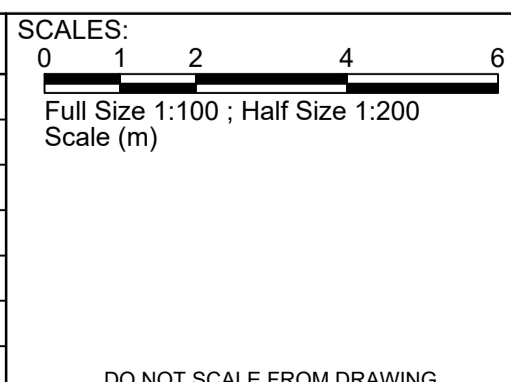


B85 Vehicle (2004)
 Overall Length 4.910m
 Overall Width 1.870m
 Overall Body Height 1.421m
 Min Body Ground Clearance 0.159m
 Track Width 1.770m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.750m

B85 SWEEP PATH TEMPLATE DIMENSIONS
SCALE 1:100 @ A1

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB



Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY: _____

DATE: _____

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

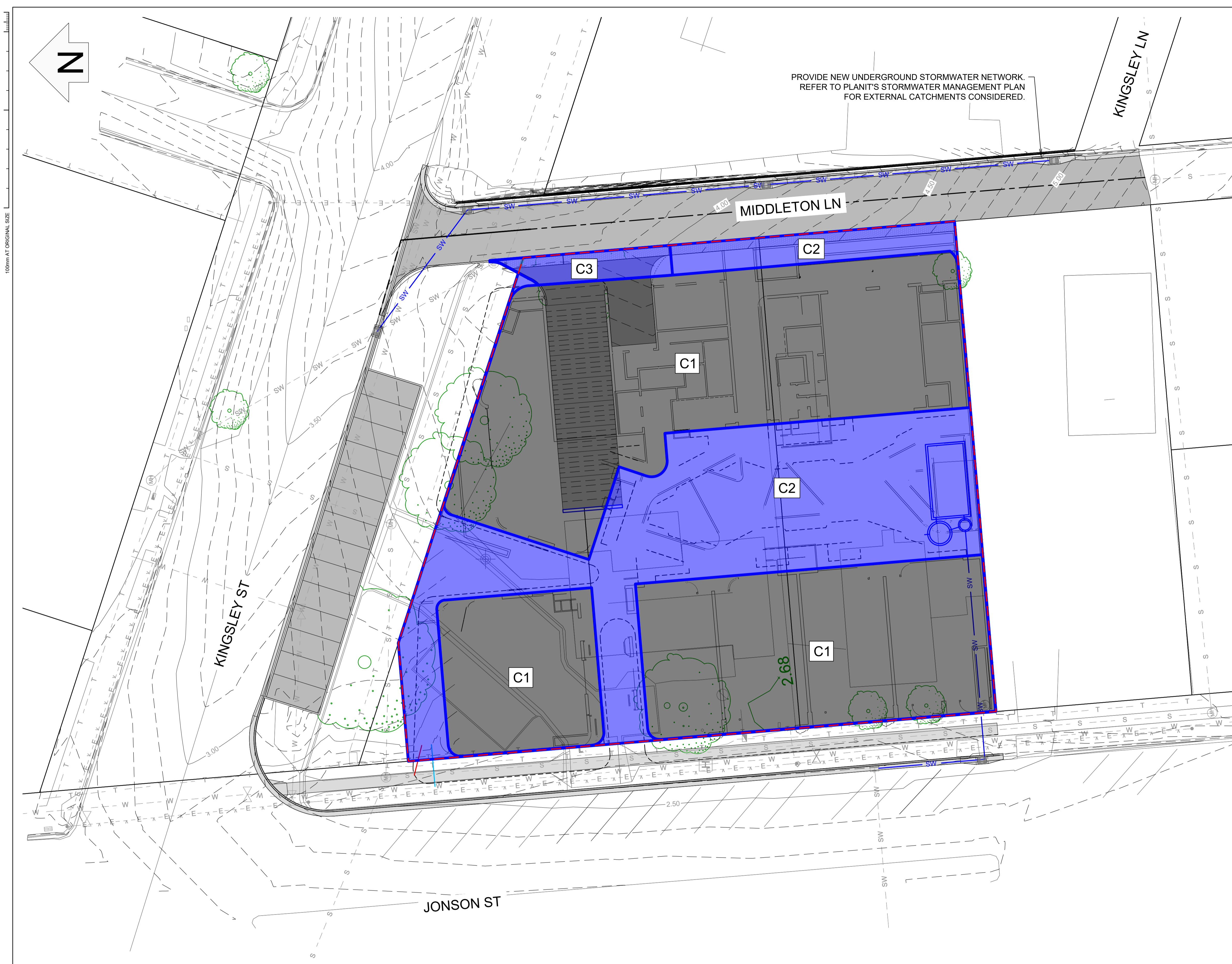
PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478

TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

CLIENT:
JD PROPERTY GROUP PTY LTD

LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: SWEEP PATH PLAN SHEET 2 OF 2 BASEMENT ACCESS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0331	REV: B



LEGEND

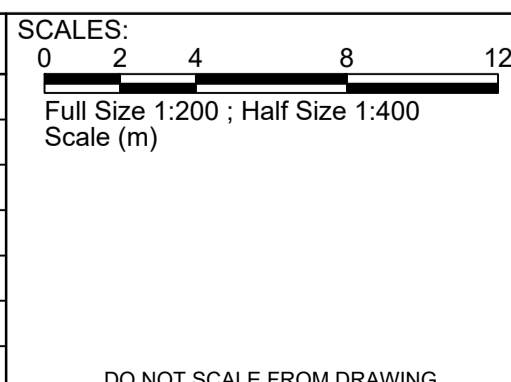
- SITE BOUNDARY
- LOT BOUNDARY
- DESIGN SURFACE CONTOURS MINOR (0.1m)
- 4.00 --- DESIGN SURFACE CONTOURS MAJOR (0.5m)
- SW --- EXISTING STORMWATER PIPE
- EXISTING STORMWATER CHANNEL
- S --- EXISTING SEWER PIPE
- W --- EXISTING POTABLE WATER MAIN
- T --- EXISTING TELECOMMUNICATIONS
- X-E-X-E --- EXISTING OVERHEAD ELECTRICITY
- SW --- PROPOSED STORMWATER
- S --- PROPOSED SEWER
- W --- PROPOSED POTABLE WATER
- CATCHMENT BOUNDARY
- ROOF CATCHMENT
- GROUND CATCHMENT

CATCHMENT BREAKDOWN

CATCHMENT NAME	CATCHMENT DESCRIPTION	CATCHMENT AREA	CATCHMENT IMPERVIOUS %
C1	ROOF	0.1785	100
C2	GROUND	0.0895	77
C3	BASEMENT	0.0050	100
	TOTAL	0.2730	92

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB



Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY: _____

DATE: _____

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

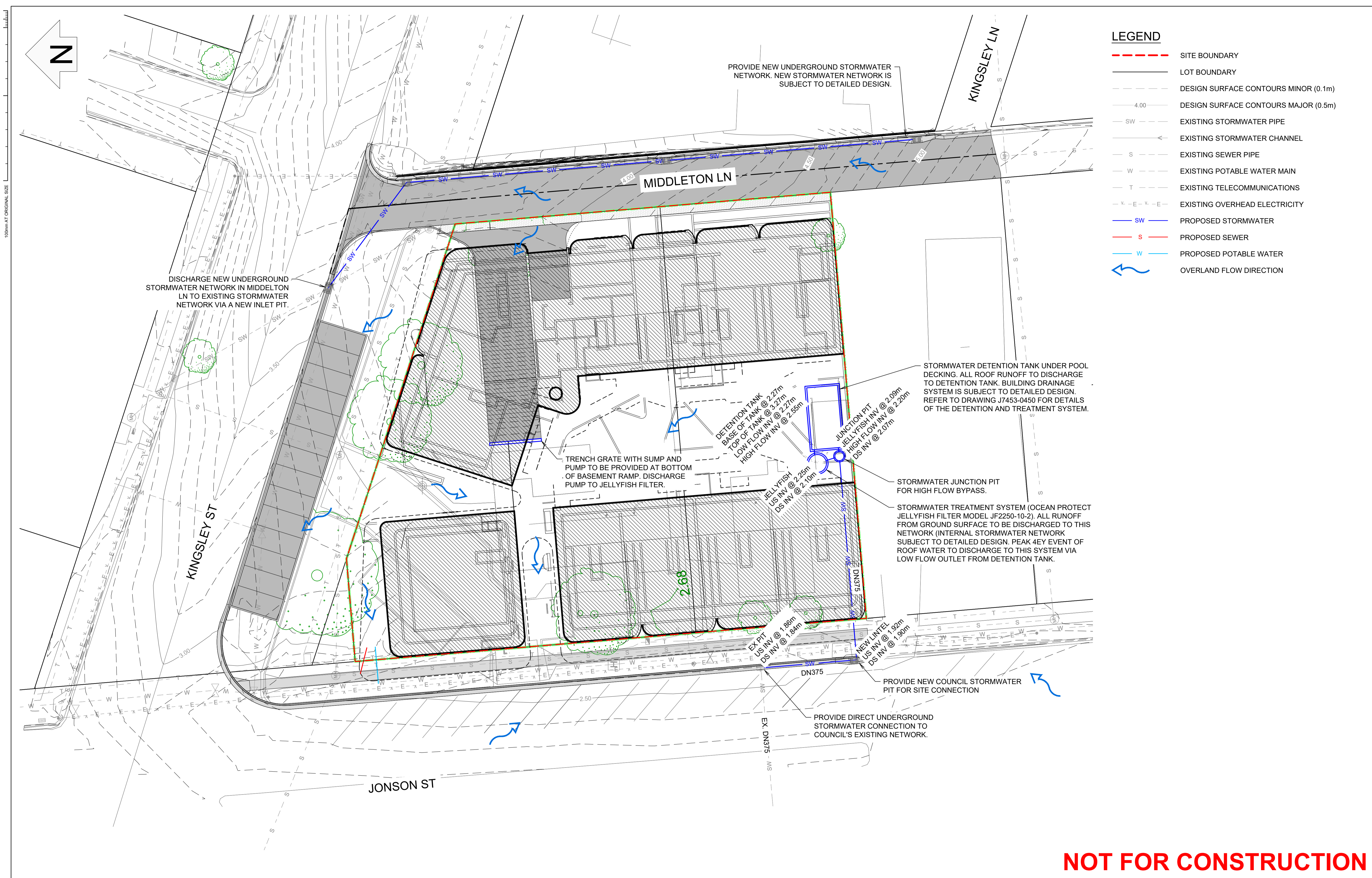
PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478

TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

CLIENT:
JD PROPERTY GROUP PTY LTD

LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: STORMWATER CATCHMENT PLAN			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0400	REV.: B



LEGEND

	SITE BOUNDARY
	LOT BOUNDARY
	DESIGN SURFACE CONTOURS MINOR (0.1m)
	DESIGN SURFACE CONTOURS MAJOR (0.5m)
	EXISTING STORMWATER PIPE
	EXISTING STORMWATER CHANNEL
	EXISTING SEWER PIPE
	EXISTING POTABLE WATER MAIN
	EXISTING TELECOMMUNICATIONS
	EXISTING OVERHEAD ELECTRICITY
	PROPOSED STORMWATER
	PROPOSED SEWER
	PROPOSED POTABLE WATER
	OVERLAND FLOW DIRECTION

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB
B	ISSUED FOR APPROVAL	01.11.23	CW	JB	JB	JB

SCALES:

Full Size 1:200; Half Size 1:400
Scale (m)

DO NOT SCALE FROM DRAWING

Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY:

DATE:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
 SUITE 9A, 80-84 BALLINA STREET
 PO BOX 161
 LENNOX HEAD NSW 2478

TELEPHONE: 02 6687 4666
 ABN: 20 099 261 711
 EMAIL: administration@planitconsulting.com.au

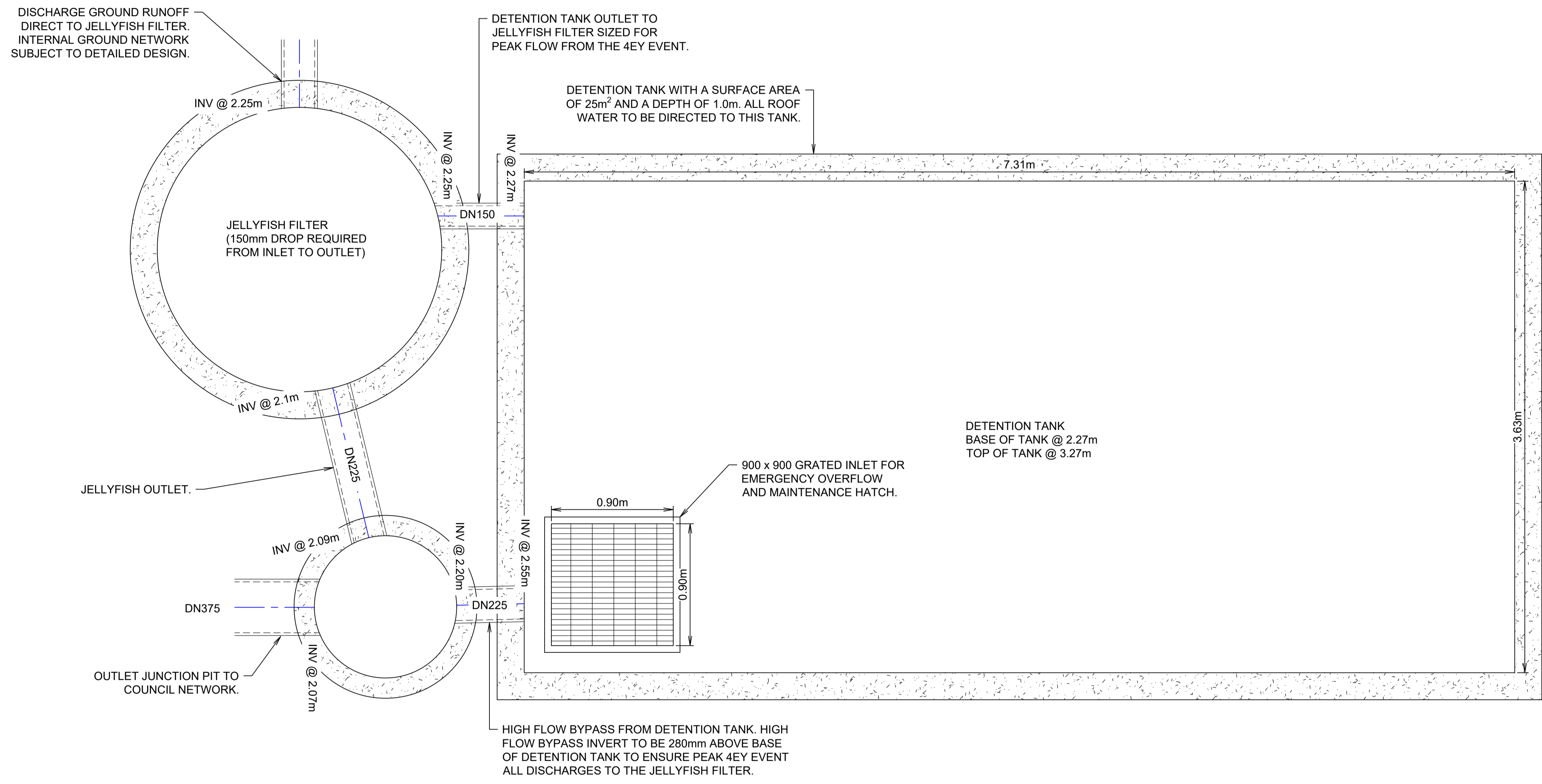
CLIENT:

JD PROPERTY GROUP PTY LTD

LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: STORMWATER LAYOUT PLAN			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0410	REV: B

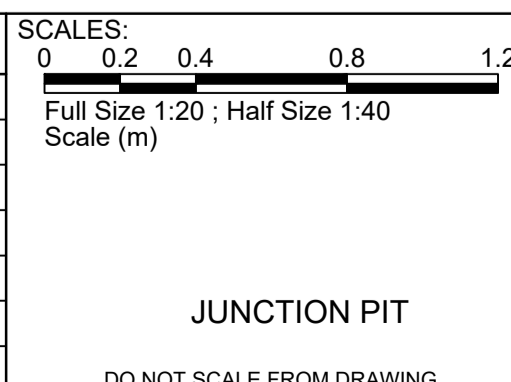
100mm AT ORIGINAL SIZE



STORMWATER DETENTION TANK AND JELLYFISH FILTER ARRANGEMENT
SCALE 1:20 @ A1

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR APPROVAL	12.05.23	CW	JB	JB	JB



Copyright in the drawings, information and data recorded in this document ("the information") is the property of Planit Consulting. 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 Planit Consulting. Planit Consulting 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.

APPROVED BY: _____
DATE: _____
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
SUITE 9A, 80-84 BALLINA STREET
PO BOX 161
LENNOX HEAD NSW 2478

TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT:
JD PROPERTY GROUP PTY LTD

LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

PROJECT: 119-123 JONSON STREET			
DRAWING TITLE: STORMWATER SYSTEM DETAILS			
ORIGINAL SIZE: A1	PLANIT JOB No.: J7453	DRAWING No.: 0450	REV: A