

# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Multi Dwelling

Certificate number: 836737M\_05

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 06/10/2017 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

This certificate is a revision of certificate number 836737M lodged with the consent authority or certifier on 15 September 2017 with application 2017.510.1.

It is the responsibility of the applicant to verify with the consent authority that the original, or any revised certificate, complies with the requirements of Schedule 1 Clause 2A, 4A or 6A of the Environmental Planning and Assessment Regulation 2000

Secretary

Date of issue: Wednesday, 19 September 2018

To be valid, this certificate must be lodged within 3 months of the date of issue.



### Project summary

Project name	6816_05
Street address	137 - 139 Jonson Street Byron Bay 2481
Local Government Area	Byron Shire Council
Plan type and plan number	deposited 758207
Lot no.	6
Section no.	51
No. of residential flat buildings	1
No. of units in residential flat buildings	50
No. of multi-dwelling houses	0
No. of single dwelling houses	0

### Project score

Water	✓ 44	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 34	Target 30

### Certificate Prepared by

Name / Company Name: Partners Energy Management

ABN (if applicable): 15418789019

# Description of project

## Project address

Project name	6816_05
Street address	137 - 139 Jonson Street Byron Bay 2481
Local Government Area	Byron Shire Council
Plan type and plan number	deposited 758207
Lot no.	6
Section no.	51

## Project type

No. of residential flat buildings	1
No. of units in residential flat buildings	50
No. of multi-dwelling houses	0
No. of single dwelling houses	0

## Site details

Site area (m <sup>2</sup> )	2834.8
Roof area (m <sup>2</sup> )	1200
Non-residential floor area (m <sup>2</sup> )	1530.0
Residential car spaces	65
Non-residential car spaces	55

## Common area landscape

Common area lawn (m <sup>2</sup> )	200.0
Common area garden (m <sup>2</sup> )	200.0
Area of indigenous or low water use species (m <sup>2</sup> )	0.0

## Assessor details

Assessor number	20039
Certificate number	0003041740
Climate zone	10

## Project score

Water	✓ 44	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 34	Target 30

## Description of project

The tables below describe the dwellings and common areas within the project

### Residential flat buildings - Building1, 50 dwellings, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.1	2	68.7	6.1	0.0	0.0
1.5	1	52.7	0.0	0.0	0.0
1.9	2	81.5	0.0	0.0	0.0
2.4	1	51.1	0.0	0.0	0.0
2.8	1	50.4	0.0	0.0	0.0
3.3	2	76.9	0.0	0.0	0.0
3.7	3	115.4	0.0	0.0	0.0
1.12	2	81.1	0.0	0.0	0.0
2.12	2	81.1	0.0	0.0	0.0
1.14a	1	37.6	0.0	0.0	0.0
1.16a	1	35.9	0.0	0.0	0.0
2.15a	1	35.9	0.0	0.0	0.0
3.10a	1	40.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.2	2	80.4	0.0	0.0	0.0
1.6	2	81.3	0.0	0.0	0.0
2.1	2	68.7	6.1	0.0	0.0
2.5	1	52.7	0.0	0.0	0.0
2.9	2	81.5	0.0	0.0	0.0
3.4	2	77.6	0.0	0.0	0.0
3.8	3	115.3	0.0	0.0	0.0
1.13	2	83.9	0.0	0.0	0.0
2.13	2	83.9	0.0	0.0	0.0
1.14b	1	35.9	0.0	0.0	0.0
1.16b	1	35.1	0.0	0.0	0.0
2.15b	1	35.9	0.0	0.0	0.0
3.10b	1	41.1	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.3	1	59.4	0.0	0.0	0.0
1.7	2	81.3	0.0	0.0	0.0
2.2	2	80.4	0.0	0.0	0.0
2.6	2	81.3	0.0	0.0	0.0
3.1	3	96.6	0.0	0.0	0.0
3.5	2	77.6	0.0	0.0	0.0
1.10	2	85.7	0.0	0.0	0.0
2.10	2	85.7	0.0	0.0	0.0
3.9a	1	46.8	0.0	0.0	0.0
1.15a	1	35.9	0.0	0.0	0.0
2.14a	1	37.6	0.0	0.0	0.0
2.16a	1	35.9	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.4	1	51.1	0.0	0.0	0.0
1.8	1	50.4	0.0	0.0	0.0
2.3	1	59.4	0.0	0.0	0.0
2.7	2	81.3	0.0	0.0	0.0
3.2	2	81.4	0.0	0.0	0.0
3.6	2	95.4	0.0	0.0	0.0
1.11	2	81.1	0.0	0.0	0.0
2.11	2	81.1	0.0	0.0	0.0
3.9b	1	40.0	0.0	0.0	0.0
1.15b	1	35.9	0.0	0.0	0.0
2.14b	1	35.9	0.0	0.0	0.0
2.16b	1	35.1	0.0	0.0	0.0

## Description of project

The tables below describe the dwellings and common areas within the project

### Common areas of unit building - Building1

Common area	Floor area (m²)
Basement 1 - Car park area	2200.0
Lift car (No.2)	-
Basement 1 - Plant Room	30.0
Basement 1 - Firestairs	34.0

Common area	Floor area (m²)
Basement 2 - Car park area	2200.0
Lift car (No.3)	-
Basement 2 - Plant Room	60.0
Basement 2 - Firestairs	24.0

Common area	Floor area (m²)
Lift car (No.1)	-
Lift car (No.4)	-
Grd Floor - Lift lobby area	30.0
Residential Levels - Firestairs	24.0



# Schedule of BASIX commitments

## 1. Commitments for Residential flat buildings - Building1

### (a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

### (b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

## 2. Commitments for multi-dwelling houses

## 3. Commitments for single dwelling houses

## 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

### 1. Commitments for Residential flat buildings - Building1

#### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✓	✓
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	3 star	5 star	5 star	no	3.5 star	4.5 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	<b>Hot water</b>	<b>Bathroom ventilation system</b>		<b>Kitchen ventilation system</b>		<b>Laundry ventilation system</b>	
<b>Dwelling no.</b>	<b>Hot water system</b>	<b>Each bathroom</b>	<b>Operation control</b>	<b>Each kitchen</b>	<b>Operation control</b>	<b>Each laundry</b>	<b>Operation control</b>
1.10, 1.11, 1.12, 1.13, 2.10, 2.11, 2.12, 2.13	central hot water system 3	motorised damper into central duct + VSD	interlocked to light	individual fan, not ducted	manual switch on/off	individual fan into central duct + VSD	interlocked to light

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4	central hot water system 1	motorised damper into central duct + VSD	interlocked to light	individual fan, not ducted	manual switch on/off	individual fan into central duct + VSD	interlocked to light
All other dwellings	central hot water system 2	motorised damper into central duct + VSD	interlocked to light	individual fan, not ducted	manual switch on/off	individual fan into central duct + VSD	interlocked to light

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
1.1	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	1-phase airconditioning EER > 4.0	1-phase airconditioning EER > 4.0	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no
3.7, 3.8	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	-	-	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
3.1, 3.3, 3.6	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	1-phase airconditioning EER > 4.0	1-phase airconditioning EER > 4.0	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
2.11, 2.12, 2.13	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	-	-	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
3.9a, 3.9b, 2.14a, 2.14b, 2.15a, 2.15b, 2.16a, 3.10a, 3.10b	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	-	-	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
1.3, 1.4, 1.5, 1.8, 2.3, 2.4, 2.5, 2.8, 1.14a, 1.14b, 1.15a, 1.15b, 1.16a, 1.16b, 2.16b	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	1-phase airconditioning EER > 4.0	1-phase airconditioning EER > 4.0	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
All other dwellings	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	ceiling fans + 1-phase airconditioning EER 3.5 - 4.0	1-phase airconditioning EER > 4.0	1-phase airconditioning EER > 4.0	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	yes	4 star	3 star	-	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must:  (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
1.1	5.8	34.6
1.2	0.4	20.9
1.4	1.8	29.0
1.5	2.3	35.2
1.6	3.2	21.6
1.7	2.9	21.7
1.8	0.2	23.6
1.9	2.6	24.5
2.1	6.2	32.7
2.2	0.5	20.1
2.4	2.1	27.4
2.5	2.5	33.3
2.6	3.5	20.7
2.7	3.2	20.7
2.8	0.3	22.1
2.9	2.7	23.2
3.1	8.9	38.5
3.2	6.0	31.1
3.3	4.6	29.0
3.4	3.4	25.5
3.5	2.9	25.4
3.6	2.2	22.5
3.7	9.9	36.7
3.8	8.8	43.9
1.10	5.9	26.3
1.11	3.6	26.9
1.12	3.6	27.9



	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in mJ/m <sup>2</sup> /yr)
1.13	1.0	20.1
2.10	8.2	26.5
2.11	3.9	25.8
2.12	4.0	26.2
2.13	1.2	18.6
3.9a	5.2	34.6
3.9b	1.1	36.4
1.14a	2.2	43.5
1.14b	0.9	40.7
1.15a	0.8	41.0
1.16b	2.7	44.2
2.14a	2.4	42.2
2.14b	1.0	40.5
2.15a	0.9	40.5
2.15b	0.9	40.6
2.16a	0.9	40.2
2.16b	2.9	40.9
3.10a	1.6	36.8
3.10b	5.1	40.0
1.3, 2.3	2.5	25.8
All other dwellings	0.8	40.7

**(b) Common areas and central systems/facilities**

<b>(i) Water</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

<b>Common area</b>	<b>Showerheads rating</b>	<b>Toilets rating</b>	<b>Taps rating</b>	<b>Clothes washers rating</b>
All common areas	3 star (> 7.5 but ≤ 9 L/min)	3 star	4 star	no common laundry facility

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Basement 1 - Car park area	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	motion sensors	No
Basement 2 - Car park area	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	motion sensors	No
Lift car (No.1)	-	-	light-emitting diode	none	No
Lift car (No.2)	-	-	light-emitting diode	none	No
Lift car (No.3)	-	-	light-emitting diode	none	No
Lift car (No.4)	-	-	light-emitting diode	none	No
Basement 1 - Plant Room	no mechanical ventilation	-	please select	manual on / manual off	No
Basement 2 - Plant Room	no mechanical ventilation	-	please select	manual on / manual off	No
Grd Floor - Lift lobby area	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	No
Basement 1 - Firestairs	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Basement 2 - Firestairs	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Residential Levels - Firestairs	no mechanical ventilation	-	light-emitting diode	motion sensors	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	solar - electric boosted	Solar collector area (minimum, in square metres): 20.0 Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R0.6 (~25 mm)
Central hot water system (No. 2)	solar - electric boosted	Solar collector area (minimum, in square metres): 20.0 Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R0.6 (~25 mm)
Central hot water system (No. 3)	solar - electric boosted	Solar collector area (minimum, in square metres): 20.0 Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R0.6 (~25 mm)

Central energy systems	Type	Specification
Lift (No. 1)	geared traction with V V A C motor	Number of levels (including basement): 3
Lift (No. 2)	geared traction with V V A C motor	Number of levels (including basement): 3
Lift (No. 3)	geared traction with V V A C motor	Number of levels (including basement): 6
Lift (No. 4)	geared traction with V V A C motor	Number of levels (including basement): 6

#### 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

##### (b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but ≤ 9 L/min)	3 star	4 star	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 20.0 peak kW
Other	Active power factor correction installed?: yes	-

## Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

## Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

## Nationwide House Energy Rating Scheme\* — Multiple-dwelling summary



Certificate number: **0003041740**

Certificate Date: **07 Aug 2018**

★ Average Star rating: **7.0**

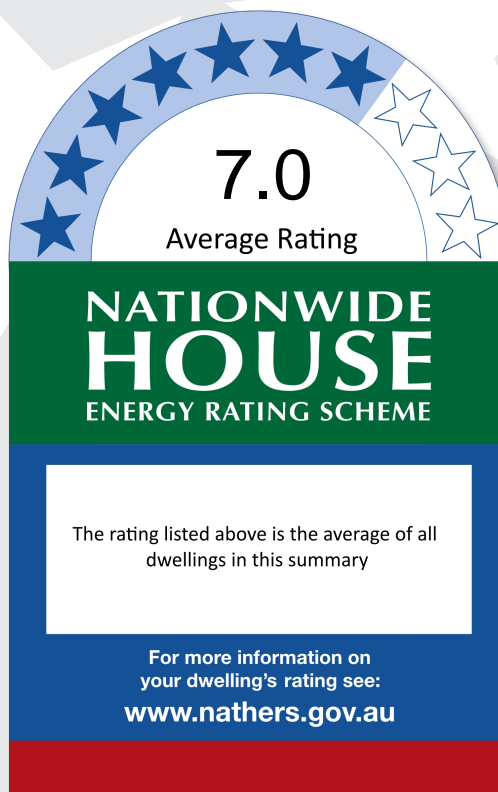
### Assessor details

Accreditation number: **20039**  
Name: **David Howard**  
Organisation: **Partners Energy Management**  
Email: **david@partnersenergy.com.au**  
Phone: **0421381005**  
Declaration of interest: **The Assessor has provided design advice to the Applicant**  
Software: **BERS Pro v4.3.0.2a (3.13)**  
**BERS Pro v4.3.0.2b (3.13)**  
AAO: **ABSA**

### Dwelling details

Street: **137 - 139 Jonson St**  
Suburb: **Byron Bay**  
State: **NSW**  
Postcode: **2481**

Scan to access this certificate online and confirm this is valid.



## Summary of all dwellings

### Certificate Details

Certificate number	Dwelling/Unit number	Heating load	Cooling load	Total load	Star Rating
0001805175-01	U1.1	6.0	35.0	40.0	6.3
0001805167-01	U1.2	0.0	21.0	21.0	8.4
0001805183-01	U1.3	2.0	26.0	28.0	7.7
0001805191-01	U1.4	2.0	29.0	31.0	7.4
0001805225-02	U1.5	2.3	35.2	37.5	6.6
0001805209-01	U1.6	3.0	22.0	25.0	8
0001805217-01	U1.7	3.0	22.0	25.0	8.1
0001805233-01	U1.8	0.0	24.0	24.0	8.2
0001805266-01	U1.9	3.0	24.0	27.0	7.8
0001805373-01	U2.1	6.0	33.0	39.0	6.4
0001805399-01	U2.2	0.0	20.0	21.0	8.6
0001805381-01	U2.3	2.0	26.0	28.0	7.7
0001805415-01	U2.4	2.0	27.0	29.0	7.6
0001805423-02	U2.5	2.5	33.3	35.8	6.8
0001805464-01	U2.6	3.0	21.0	24.0	8.2



# Nationwide House Energy Rating Scheme\* - Multiple Dwelling Summary

Certificate number: **0003041740**

Certificate Date:

**07 Aug 2018**

★ Average Star rating: **7.0**



## Summary of all dwellings continued

### Certificate Details

Certificate number	Dwelling/Unit number	Heating load	Cooling load	Total load	Star Rating
0001805480-01	U2.7	3.0	21.0	24.0	8.2
0001805456-01	U2.8	0.0	22.0	22.0	8.4
0001805449-01	U2.9	3.0	23.0	26.0	7.9
0001805589-01	U3.1	9.0	38.0	47.0	5.6
0001805613-02	U3.2	6.0	31.1	37.1	6.7
0001805639-02	U3.3	4.6	29.0	33.6	7.1
0001805654-01	U3.4	3.0	25.0	29.0	7.7
0001805670-01	U3.5	3.0	25.0	28.0	7.7
0001805647-01	U3.6	2.0	22.0	25.0	8.1
0001805662-01	U3.7	10.0	37.0	47.0	5.7
0001805688-01	U3.8	9.0	44.0	53.0	5.2
0001805704-01	U3.9	5.0	35.0	40.0	6.4
0001805696-01	U3.9b	1.0	36.0	37.0	6.6
0001805274-01	U1.10	5.9	26.3	32.1	7.3
0001805282-01	U1.11	4.0	27.0	30.0	7.4
0001805241-01	U1.12	4.0	28.0	32.0	7.4
0001805258-01	U1.13	1.0	20.0	21.0	8.4
0001805316-01	U1.14a	2.0	44.0	46.0	5.8
0001805332-01	U1.14b	1.0	41.0	42.0	6.2
0001805308-01	U1.15a	1.0	41.0	42.0	6.2
0001805324-01	U1.15b	1.0	41.0	42.0	6.2
0001805340-01	U1.16a	1.0	41.0	41.0	6.2
0001805365-01	U1.16b	3.0	44.0	47.0	5.7
0001805498-01	U2.10	8.2	26.5	34.7	6.9
0001805514-01	U2.11	4.0	26.0	30.0	7.5
0001805506-01	U2.12	4.0	26.0	30.0	7.4
0001805522-01	U2.13	1.0	19.0	20.0	8.7
0001805530-01	U2.14a	2.0	42.0	45.0	5.9
0001805555-01	U2.14b	1.0	40.0	41.0	6.2
0001805571-01	U2.15a	1.0	40.0	41.0	6.2
0001805548-01	U2.15b	1.0	41.0	42.0	6.2
0001805597-01	U2.16a	1.0	40.0	41.0	6.2
0001805621-01	U2.16b	3.0	41.0	44.0	5.9
0001805712-01	U3.10a	2.0	37.0	38.0	6.4
0001805720-01	U3.10b	5.0	40.0	45.0	5.8

## **CLAUSE 4.6 REQUEST TO VARY THE BUILDING HEIGHT DEVELOPMENT STANDARD (6/9/18)**

### **1 CLAUSE 4.6 REQUEST**

Clause 4.6 aims to provide an appropriate degree of flexibility in applying certain development standards, including the control for height of buildings, to achieve better outcomes that are in the public interest.

This request seeks variation to the control for height of buildings.

In accordance with the statutory requirements this Clause 4.6 request:

1. identifies the development standard to be varied (**Section 5.4**)
2. identifies the extent of the variation sought (**Section 5.8**)
3. establishes that compliance with the development standard is unreasonable or unnecessary in the circumstances (**Section 5.10**)
4. demonstrates that there are sufficient environmental planning grounds to justify the variation (**Section 5.14**)
5. demonstrates such that the consent authority can be satisfied that the proposal is in the public interest because it is consistent with the objectives of the standard and the objectives for development within the B2 zone (**Sections 5.5 & 5.14**) and
6. provides an assessment of the matters required to consider before Council grants consent (**Sections 5.5, 5.11 & 5.12**) namely:
  - a. whether the contravention of the development standard raises any matter of significance for State or regional environmental planning and
  - b. the public benefit of maintaining the development standard and
  - c. any other matters required to be taken into consideration by Council before granting consent.

Accordingly, development consent can be granted to the proposal despite the proposed deviation of the development standard because, pursuant to clause 4.6(4)(a), as Council can be satisfied that:

1. this written request has reasonably addressed the matters required to be demonstrated by Clause 4.6(3) and
2. the proposed development will be in the public interest because it is consistent with the objectives of the standard and the objectives for development within the zone and the 11.5m max. building height proposed in the draft Planning Proposal 26.2017.6.1.

This report should be read in conjunction with the DA SEE.

### **2 LAND**

The site the subject of the Development Application (DA) is identified in the table below.

Landowner	Title description	Street address	Area (m2)
GJD Developments Pty Ltd	Lot 21 DP 247289	137 Jonson St Byron Bay NSW 2481	785.8
GJD Developments Pty Ltd	Lot 5 Section 51 DP 758207	139 Jonson St Byron Bay NSW 2481	1,011.0
GJD Developments Pty Ltd	Lot 6 Section 51 DP 758207	3 Browning St	1,038.0

The site has an area of 2,834.8m<sup>2</sup>.

### 3 PROPOSED DEVELOPMENT

The proposed development is for:

1. The demolition of the 4 dwellings, ancillary buildings and removal of vegetation on the land;
2. The erection of 2 buildings either side of a central courtyard / plaza on a 2 level basement car park which comprise;
  - Building No. 1 (north) – a 4 storey building containing:
    - Ground level – café / restaurant (gfa 120m<sup>2</sup>), 2 x retail premises (gfa 617m<sup>2</sup>), managers office (gfa 18m<sup>2</sup>), end of trip & toilet facilities (gfa 29m<sup>2</sup>), storage and internal circulation (stairs & lifts)
    - Level 1 – 9 shop top houses (gfa 604.5m<sup>2</sup>)
    - Level 2 – 9 shop top houses (gfa 604.5m<sup>2</sup>)
    - Level 3 – 6 shop top houses (gfa 503.3m<sup>2</sup>)
  - Building No. 2 (south) – a 4 storey building containing:
    - Ground level – 65 place childcare centre (gfa 372m<sup>2</sup>) & outdoor play (455m<sup>2</sup>) and goods and services loading / unloading area with vehicular access onto Ruskin Ln
    - Level 1 – 10 serviced apartments (gfa 565.5m<sup>2</sup>)
    - Level 2 – 10 serviced apartments (gfa 565.5m<sup>2</sup>)
    - Level 3 – 6 serviced apartments (gfa 391.5m<sup>2</sup>)
  - On-site car parking for 120 cars comprising:
    - Basement No. 1 – 55 car spaces (2 spaces provided for electric car charging, 10 motorcycle bays and bike store and electric bike charging station)
    - Basement No. 2 – 65 car spaces and
3. Provision of ancillary landscaping and infrastructure (the proposed development).

It is intended that the site which presently comprises 3 separate titles will be consolidated into 1 title and boundaries adjusted to provide for the Byron Bay Bypass roundabout. The proposed development upon completion will be strata subdivided, though the configuration of that subdivision is not determined.

The objection is required as the building height of the proposed development will be greater than the maximum 9m above existing ground level permitted by Clause 4.3 (and Map HOB\_003CC) of the Byron Local Environmental Plan 2014 (BLEP 2014) and in part the 11.5m max. building height proposed in the draft Planning Proposal 26.2017.6.1.

#### **Max. building height at 9m**

Development Plan TP3.05 showed in plan and isometric perspective the part of the roof and upper walls of the 3rd level shop top houses and serviced apartments of the development that exceeded 9m from existing ground level (refer to Attachment No. 1 of the DA SEE).

Tables No. 8 & No. 9 of the DA SEE identified the heights of the buildings from existing ground level along the 2 sections shown on Development Plans TP1.12 and TP1.13.

Approx. 630m<sup>2</sup> (53%) of the roof (total area of 1,180m<sup>2</sup>) of Building No. 1 is greater than 9m above existing ground level immediately below. Refer to Development Plan TP3.05.

Approx. 760m<sup>2</sup> (89%) of the roof (total area of 850m<sup>2</sup>) of Building No. 2 is greater than 9m above existing ground level immediately below. Refer to Development Plan TP3.05.

The highest part of the development is the lift over-run at 17.5m(AHD), which is 12.2m above existing ground level immediately below.

Tables No. 1 & No. 2 identify the numerical value of those parts of the buildings within the development as lodged that exceeded 9m from existing ground level immediately below. The heights are taken at the same 4 locations identified in Tables No. 8 & No. 9 of the DA SEE.

**Table No. 1 As lodged building floor levels & heights above 9m – section 01**

<b>Buildings</b>	<b>Existing level m(AHD)</b>	<b>Floor level m(AHD)</b>	<b>Height m</b>	<b>%age variation</b>
<b>Building No. 1 (north)</b>				
<b>Position 1</b>				
Roof	4.8m	16.5m	+11.7m	30.0%
Roof parapet / safety rail	4.8m	17.1m	+12.3m	36.0%
<b>Position 2</b>				
Roof	5.1m	16.5m	+11.4m	26.6%
Roof parapet / safety rail	5.1m	17.1m	+12.0m	33.3%
<b>Building No. 2 (south)</b>				
<b>Position 3</b>				
Roof	5.4m	16.5m	+11.1m	23.2%
Roof parapet / safety rail	5.4m	17.1m	+11.7m	30.0%
<b>Position 4</b>				
Roof	5.3m	16.5m	+11.2m	24.4%
Roof parapet / safety rail	5.3m	17.1m	+11.8m	31.1%

**Table No. 2 As lodged building floor levels & heights above 9m – section 02**

<b>Buildings</b>	<b>Existing level m(AHD)</b>	<b>Floor level m(AHD)</b>	<b>Height m</b>	<b>%age variation</b>
<b>Building No. 1 (north)</b>				
<b>Position 1</b>				
Roof parapet / safety rail	8.0m	17.1m	+9.1m	1.1%
<b>Position 2</b>				
Roof	6.5m	16.5m	+10.0m	11.1%
Roof parapet / safety rail	6.5m	17.1m	+10.6m	17.7%
<b>Building No. 2 (south)</b>				
<b>Position 3</b>				
Roof	5.1m	16.5m	+11.4m	26.6%
Roof parapet / safety rail	5.1m	17.1m	+12.0m	33.3%
<b>Position 4</b>				
Roof	5.1m	16.5m	+11.4m	26.6%
Roof parapet / safety rail	5.1m	17.1m	+12.0m	33.3%

Tables No. 3 & No. 4 identify the numerical value of those parts of the buildings within the development that exceed 9m from existing ground level immediately below following amendment of the DA.

**Table No. 3 Amended building floor levels & heights above 9m – section 01**

Buildings	Existing level m(AHD)	Floor level m(AHD)	Height m	%age variation
<b>Building No. 1 (north)</b>				
<b>Position 1</b>				
Roof	4.8m	16.2m	+11.4m	26.6%
<b>Position 2</b>				
Roof	5.1m	16.5m	+11.4m	26.6%
<b>Building No. 2 (south)</b>				
<b>Position 3</b>				
Roof	5.4m	16.5m	+11.1m	23.3%
<b>Position 4</b>				
Roof	5.3m	16.2m	+10.9m	21.1%

**Table No. 4 Amended building floor levels & heights above 9m – section 02**

Buildings	Existing level m(AHD)	Floor level m(AHD)	Height m	%age variation
<b>Building No. 1 (north)</b>				
<b>Position 1</b>				
Roof	8.0m	16.2m	+8.2m	Below 9m
<b>Position 2</b>				
Roof	6.5m	16.4m	+9.9m	10.0%
<b>Building No. 2 (south)</b>				
<b>Position 3</b>				
Roof	5.1m	16.5m	+11.4m	26.6%
<b>Position 4</b>				
Roof	5.0m	16.3m	+11.3m	25.5%

**Max. building height at 11.5m**

This objection is amended to reflect the 11.5m max. building height proposed in the draft Planning Proposal 26.2017.6.1 provided to Council at its Ordinary Meeting of 23 Nov. 2017 as that reflects the strategic direction of the adopted Byron Bay Town Centre Masterplan (Rev. E 20/7/16) and recommended changes to the height limitations for the amendment to the BLEP 2014.

Amended Development Plan TP3.05-Rev3 shows in plan and isometric perspective the part of the roof and upper walls of the 3rd level shop top houses and serviced apartments of the development that exceeded 11.5m from existing ground level (refer to **Attachment No. 1**).

Approx. 5.7m<sup>2</sup> (0.48%) of the roof (total area of 1,180m<sup>2</sup>) of Building No. 1 is greater than 11.5m above existing ground level immediately below. Refer to Amended Development Plan TP3.05-Rev3.

Approx. 36.4m<sup>2</sup> (4.2%) of the roof (total area of 850m<sup>2</sup>) of Building No. 2 is greater than 11.5m above existing ground level immediately below. Refer to Amended Development Plan TP3.05-Rev3.

Tables No. 5 & No. 6 identify the numerical value of those parts of the buildings within the development that exceed 11.5m from existing ground level immediately below following amendment of the DA. Amended Development Plan TP3.05-Rev3 shows those parts of the building exceeding 11.5m.

**Table No. 5 Amended building floor levels & heights above 11.5m – section 01**

<b>Buildings</b>	<b>Existing level m(AHD)</b>	<b>Floor level m(AHD)</b>	<b>Height m</b>	<b>%age variation</b>
<b>Building No. 1 (north)</b>				
<b>Position 1</b>				
Roof	4.8m	16.2m	+11.4m	Below 11.5m
<b>Position 2</b>				
Roof	5.1m	16.5m	+11.4m	Below 11.5m
<b>Building No. 2 (south)</b>				
<b>Position 3</b>				
Roof	5.4m	16.5m	+11.1m	Below 11.5m
<b>Position 4</b>				
Roof	5.3m	16.2m	+10.9m	Below 11.5m

**Table No. 6 Amended building floor levels & heights above 11.5m – section 02**

<b>Buildings</b>	<b>Existing level m(AHD)</b>	<b>Floor level m(AHD)</b>	<b>Height m</b>	<b>%age variation</b>
<b>Building No. 1 (north)</b>				
<b>Position 1</b>				
Roof	8.0m	16.2m	+8.2m	Below 11.5m
<b>Position 2</b>				
Roof	6.5m	16.4m	+9.9m	Below 11.5m
<b>Building No. 2 (south)</b>				
<b>Position 3</b>				
Roof	5.1m	16.5m	+11.4m	Below 11.5m
<b>Position 4</b>				
Roof	5.0m	16.3m	+11.3m	Below 11.5m

The attached section (SK150-Rev2) shows the heights of the buildings at the 4 locations identified in Tables No. 8 & No. 9 of the DA SEE and Tables No. 5 & No. 6 above.

#### **Max. building height at 13.5m**

The height of the buildings is well below the 13.5m proposed in the draft Planning Proposal 26.2017.6.1 and the facades of the buildings adjoining Jonson St, Browning St & Ruskin Lane, below 11.2m.

## **4 CONTEXT OF THE PROPOSED DEVELOPMENT**

The preparation of the DA as lodged was in response to and had particular regard to The Byron Bay Masterplan (Rev. E 20/7/16).

The amendment of the DA is in response to and has particular regard to The Byron Bay Masterplan (Rev. E 20/7/16), Council's letter in which it sought additional information and amendment of the DA dated 20 Oct. 2017 and the draft Planning Proposal 26.2017.6.1 provided to Council at its Ordinary Meeting of 23 Nov. 2017.

The proposed development is consistent with the key actions of the Masterplan by:

- increasing the town centre's residential offering (particularly permanent residential accommodation) through accommodating a diverse array of dwelling types and where permanent residents can walk to work in the town centre
- providing a child care centre for which there a real and anecdotal demand and

- creating and supporting employment.

The site is identified in the Masterplan in a '3 storey expansion zone'. The Masterplan amongst other recommended actions and initiatives to guide building heights in the town centre seeks 'to encourage the extension of the appropriate 11.5m [3 storey] LEP height to support the newly defined edge of the town centre heart'.

The proposed development is consistent with the key actions and initiatives of the Masterplan to guide building heights, though 4-storeys, it comprises; 2 buildings separated by a walkway and courtyard with active ground floor uses, providing vertical façade treatments and a differing roof treatment.

The buildings are of a high design standard, will define and anchor the southern end of Jonson St and town centre and will create an interesting visual element in the streetscape.

The design measures provided to the building facades visually assist to minimise perception of height, massing and bulk of the buildings.

Council at its Ordinary Meeting of 23 Nov. 2017 considered a report and 2 draft Planning Proposals prepared by its professional town planning staff. The Planning Proposals were the result of a review of planning controls undertaken in response to the Masterplan and proposed changes to:

- the zoning of the land and town centre
- building height and floor space ratio
- restrict certain types of tourist related development and provide incentives to encourage permanent residential accommodation and support services (e.g. child care) and
- to introduce new controls encouraging design excellence and active street frontages in certain locations within the town centre.

Planning Proposal 26.2017.6.1 related to a comprehensive review of planning objectives and development standards on land currently zoned B2 Local Centre under the Byron Local Environmental Plan 2014 (BLEP 2014) within Byron Bay Town Centre.

The Masterplan also recommends floor space ratio is reviewed and amended to ensure development is viable.

The uses within proposed development are consistent with the Masterplan strategy for Jonson St (south) and those proposed in the draft Planning Proposal 26.2017.6.1.

The proposed development provides for the Byron Bay Bypass, up-grading of footpaths along its frontage and additional tree planting consistent with the key projects' of the Masterplan.

The proposed development is mixed use (a preferred land use in the Masterplan) providing; medium density permanent and short to medium term accommodation, a 65 place child care centre and retail premises.

The proposed development has been designed to account for the bypass and roundabout.

Consistent with the short to medium time frame of the Masterplan the DA commences the transformation of the southern end of the Jonson St (south) precinct.

The DA can be lawfully made and BSC can conditionally approve it. An LEP amendment process to modify the maximum height of buildings control has commenced and substantial public consultation was undertaken in the preparation of the Masterplan.

## **5 CONSIDERATIONS**

The following addresses the considerations identified in Appendix No. 3 of the Department of Planning and Infrastructure guidelines titled, '*Varying development standards: A Guide August 2011*' in regard the floor space ratio under the BLEP 2014.

Council staff pursuant to the Dept. of Planning Circular PS08-014 (14 Nov. 2008) can determine a DA if the variation to the development standard is not greater than 10%, otherwise the DA is to be determined by Council.

### **5.1 WHAT IS THE NAME OF THE ENVIRONMENTAL PLANNING INSTRUMENT THAT APPLIES TO THE LAND?**

The local environmental planning instrument applying to the land and proposed development is the Byron Local Environmental Plan 2014 (BLEP 2014).

### **5.2 WHAT IS THE ZONING OF THE LAND?**

The land is zoned B2-Local centre under the BLEP 2014.

The draft Planning Proposal 26.2017.6.1 proposes that the land be zoned B3-Commerical core.

### **5.3 WHAT ARE THE OBJECTIVES OF THE ZONE?**

The objectives of the B2-Local centre zone are:

- *To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.*
- *To encourage employment opportunities in accessible locations.*
- *To maximise public transport patronage and encourage walking and cycling.*
- *To encourage vibrant centres by allowing residential and tourist and visitor accommodation above commercial premises.*

The proposal is entirely consistent with the objectives of the B2 zone as it:

1. provides retail floor space, entertainment (café) and community uses (child care centre)
2. will create employment opportunities (refer to Table No. 16 of the DA SEE)
3. the site is located adjoining a public transport route and is designed to encourage walking and cycling
4. makes provision for permanent housing and short / medium term tourist and visitor accommodation.

The draft Planning Proposal 26.2017.6.1 proposed that the objectives of the B3-Commerical core zone be:

- *To provide a wide range of retail, business, office, entertainment, community and other suitable land uses that serve the needs of the local and wider community.*
- *To encourage appropriate employment opportunities in accessible locations.*
- *To maximise public transport patronage and encourage walking and cycling.*
- *To reduce vehicle trips and demand for car parking within the centre.*
- *To encourage a vibrant centre by permitting residential accommodation, serviced apartments and hotel or motel accommodation above commercial premises and community uses, as part of a mixed use development.*

The proposal is entirely consistent with the proposed objectives of the B3 zone.



#### **5.4 WHAT IS THE DEVELOPMENT STANDARD BEING VARIED?**

The development standard being varied relates to the maximum building height of development in the B2-Local centre zone on land nominated 'area J' on Map HOB\_003CC of the BLEP 2014.

The development standard also being considered and compared with relates to the maximum building height of development in the proposed B3-Commercial core zone on land nominated within Figure 4 of the draft Planning Proposal 26.2017.6.1.

#### **5.5 UNDER WHAT CLAUSE IS THE DEVELOPMENT STANDARD LISTED IN THE ENVIRONMENTAL PLANNING INSTRUMENT?**

The development standard for building height is Clause 4.3 which is further defined in the Dictionary and shown on the HOB Map No. 003CC.

Clause 4.3 states:

- (1) The objectives of this clause are as follows:*
- (a) to achieve building design that does not exceed a specified maximum height from its existing ground level to finished roof or parapet,*
  - (b) to ensure the height of buildings complements the streetscape and character of the area in which the buildings are located, and*
  - (c) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development.*
- (2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.*

Building height (or height of building) is defined in the BLEP 2014 to mean:

- (a) in relation to the height of a building in metres—the vertical distance from ground level (existing) to the highest point of the building, or*
- (b) in relation to the RL of a building—the vertical distance from the Australian Height Datum to the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.*

The HOB Map No. 003CC shows that for the land the maximum building height is 9m.

The HOB Map No. 003CC shows that for land to the west of the site (across Jonson St) the maximum building height is 11.5m.

Objective (1)(a) cannot be achieved as the development exceeds the 9m standard.

The other objectives of the clause are achieved because:

- the height of the development reflects the height of existing commercial and accommodation buildings in Jonson St. (south) and will define the southern edge of the Byron Bay town centre consistent with the streetscape and character developed in the Byron Bay Masterplan
- the height of the development is within 10% of the maximum height limitation of B2 zoned land to the west and
- there is no unreasonably adverse or substantial visual impact, disruption of views, loss of privacy or loss of solar access to adjoining existing development.

The draft Planning Proposal 26.2017.6.1 proposes that Clause 4.3 be modified to the following:

- (1) The objectives of this clause are as follows:*
- (a) to achieve building design that does not exceed a specified maximum height from its existing ground level to finished roof or parapet,*
  - (b) to ensure the height of buildings complements the streetscape and character of the area in which the buildings are located,*
  - (c) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development.*
- (2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.*
- (2A) Despite subclause (2), the height of a building on land at or below the flood planning level within Zone B3 Commercial Core, may exceed the maximum height of buildings up to the height in millimetres required to design the building in accordance with the clause 6.3.*
- (2B) Despite subclause (2), the height of a building frontage facing a street or laneway, is not to exceed the maximum height identified by a heavy line on the Height of Buildings Map.*
- (2C) Development that includes a parapet that causes a building frontage to exceed the height limit set by subclause (2B) may be carried out only if the parapet is not more than 1 metre when measured from a flat surface that is at least 500mm wide from the inside face of the parapet.*
- In this clause **flood planning level** means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metre freeboard.*

All the objectives of the proposed amended clause will be achieved as the buildings are (other than lift over-runs and a small section of roofing (refer to TP3.05) are below 11.5m in height and entirely below the 13.5m height proposed in the draft Planning Proposal 26.2017.6.1.

## **5.6 WHAT ARE THE OBJECTIVES OF DEVELOPMENT STANDARD?**

Refer to Section 5.5.

Clause 4.6 of the BLEP 2014 applies to the development standards of Clause 4.3.

## **5.7 WHAT IS THE NUMERICAL VALUE OF THE DEVELOPMENT STANDARD IN THE ENVIRONMENTAL PLANNING INSTRUMENT?**

The numerical value of the development standard for the maximum building height is 9m above the existing ground level.

The numerical value of the development standard for the maximum building height proposed in the draft Planning Proposal 26.2017.6.1 is 13.5m above the existing ground level and 11.2m maximum building façade height.

Nine metres (9m) is a numerical standard which does not have particular regard to the individual characteristics and circumstances of the site and proposed development which otherwise satisfactorily addresses:

- the Byron Bay Masterplan or the 11.5m and 13.5m heights proposed in the draft Planning Proposal 26.2017.6.1
- principles of design relating to height, bulk, scale and density of buildings (refer to SEPP No. 65 assessment and Attachment No. 1 of the DA SEE) and Attachment No. 3 to the 19 Dec. 2017 response to Councils letter of 20 Oct. 2017

- the relationship of the development to development in the locality and west of the site and
- reasonably achieving other relevant development controls and standards of Council.

#### **5.8 WHAT IS THE PROPOSED NUMERICAL VALUE OF THE DEVELOPMENT STANDARD IN YOUR DEVELOPMENT APPLICATION?**

The roof levels at 4 locations within the footprint of the buildings located along Section 01 of Amended Development Plan TP1.12-Rev2 and Section 02 of Development Plan TP1.13-Rev2 are identified in Tables No. 1 to No. 6 above and shown on the attached plan SK150-Rev2.

#### **5.9 WHAT IS THE PERCENTAGE VARIATION (BETWEEN YOUR PROPOSAL AND THE ENVIRONMENTAL PLANNING INSTRUMENT)?**

Refer to Section 3 and Tables No. 1 to No. 6 above.

#### **5.10 HOW IS STRICT COMPLIANCE WITH THE DEVELOPMENT STANDARD UNREASONABLE OR UNNECESSARY IN THIS PARTICULAR CASE?**

The amended development is justifiable having regard to the merit and circumstances of the site, DA, outcomes of the Masterplan and maximum building heights proposed in the draft Planning Proposal 26.2017.6.1.

Strict compliance with the development standard is unreasonable and unnecessary in this particular case because of the following circumstances and reasons.

1. The DA does not raise any matter of significance for state or regional planning in regard building height.
2. The proposed development is mixed use on land zoned for the intended purposes.
3. There will be no loss of amenity or excessive or unreasonable shadowing of the open space areas onto adjoining lands or onto the adjoining public domain.
4. The development is compatible and consistent with the height, scale, size, character, bulk, mass and use of the buildings to the west.
5. The elevations of the proposed building comprise an interesting and progressive visual transition of heights and floor levels.

It will not be evident to a person either standing in either Jonson or Browning Sts. that the buildings are higher than 9m or within 11.5m.

6. Approval of the development as proposed does not create any apparent adverse impacts on the social, environmental and economic environment in the zone and locality.
7. The relevant objectives of Clause 4.3 are achieved as:
  - the height of the buildings complements the existing and desired future (as expressed in the Masterplan and the draft Planning Proposal 26.2017.6.1) streetscape and character of the area and
  - there is no visual impact, disruption of views, loss of privacy and loss of solar access to existing development on adjoining land or to the public domain.

In summary the height and scale is appropriate to the location, surrounding development and the environmental characteristics of the land and proposed future environmental characteristics of the land and locality. Refer to the amended photomontages with **Attachment No. 1** of the 19 Dec. 2017 response to Councils letter of 20 Oct. 2017.

#### **5.11 HOW WOULD STRICT COMPLIANCE HINDER THE ATTAINMENT OF THE OBJECTS SPECIFIED IN SECTION 5(a)(i) AND (ii) OF THE ACT?**

The DA SEE, the 19 Dec. 2017 response to Councils letter of 20 Oct. 2017 and this amended objection report demonstrates that:

1. Provision of a new innovative development with a diversity of uses permitted in the existing B2 zone and encouraged in the proposed B3 zone requires in this instance some flexibility in the application of numerical development standards.
2. Strict compliance with the development standard for building height if strictly applied to the proposed development would hinder the objectives of the Act as the Landowner would not be able to re-develop the land.
3. The proposed development is an orderly and economic use of developed urban land that has a very high unimproved capital value.

#### **5.12 IS THE DEVELOPMENT STANDARD A PERFORMANCE BASED CONTROL? Give details.**

The development standard for building height is a performance based control as the objectives within BLEP 2014 enable a building with a height greater than 9m provided it:

- complements the streetscape and character of the area and
- minimises visual impact, disruption of views, loss of privacy and loss of solar access to existing development.

Clearly the development does exceed 9m from existing ground level which generates the necessity for the Clause 4.6 request.

Clearly the:

- majority of the amended development is reasonably within the proposed 11.5m maximum building height from existing ground level
  - amended development is within the proposed 13.5m maximum building height from existing ground level and maximum façade heights within 11.2m
- as proposed in the draft Planning Proposal 26.2017.6.1.

#### **Additional matters to address**

There are no additional matters relating to the request to vary compliance with the standards.

#### **5.13 WOULD STRICT COMPLIANCE WITH THE STANDARD, IN YOUR PARTICULAR CASE, WOULD BE UNREASONABLE OR UNNECESSARY? WHY?**

The DA SEE and evidence above demonstrates that strict compliance with the development standard for building height is unreasonable and unnecessary, simply because it would prevent the proposed development without regard to the circumstances and merits of the site, proposal, Masterplan and draft Planning Proposal 26.2017.6.1.

#### **5.14 ARE THERE SUFFICIENT ENVIRONMENTAL PLANNING GROUNDS TO JUSTIFY CONTRAVENING THE DEVELOPMENT STANDARD? Give details**

The above demonstrates that there are sufficient environmental planning grounds, in the circumstances particular to the land and proposed development, to justify departure from the development standard.

In summary the environmental planning grounds justifying the proposed development are:

1. It is consistent with the permissible use of the land and compatible and consistent with the height, scale, size, character, bulk, mass and use of buildings to the west.
2. The land to the west (across Jonson St) has an 11.5m height limitation. The existing development immediately to the west is 11.5m above existing ground level.
3. All necessary public and private infrastructure services are (or can) provided to the site and proposed development and there will be no unreasonable increase in demand on those services.
4. There will be no substantive or adverse impacts on the environment of the land or to the amenity of adjoining lands or the locality (refer to Section 3 of the DA SEE).
5. The result will be a land use that is permissible and consistent with the objectives of the B2 zone (refer to Section 4 of the DA SEE) and B3 zone proposed in the draft Planning Proposal 26.2017.6.1.
6. Other than floor space ratio the proposed development is consistent with all other relevant local environmental planning controls of the BLEP 2014 and State Environmental Planning Policies. The development does not raise any matter of significance for state or regional planning (refer to Section 4 of the DA SEE). The draft Planning Proposal 26.2017.6.1 proposed removal of floor space ratio from the BLEP 2014 as a development control.
7. There is no loss of public amenity (sunlight or views) to the public domain (refer to Development Plans TP3.06, TP3.07 & TP3.08 within Attachment No. 1 of the DA SEE and **Attachment No. 1** of the 19 Dec. 2017 response to Council's letter of 20 Oct. 2017).
8. Approval of the DA as proposed does not create any apparent adverse social, environmental and economic impacts in the zone and on development in the locality.

## 6 NSW LAND AND ENVIRONMENT COURT 'FIVE PART TEST' CONSIDERATIONS

In *Wehbe v Pittwater Council* [2007] NSWLEC 827 (*Wehbe*), Preston CJ of the Court identified five ways in which an applicant might establish that compliance with a development standard is unreasonable **or** unnecessary. It was not suggested that the five ways were the only ways that a development standard could be shown to be unreasonable or unnecessary. Nor does the development need to demonstrate satisfaction of more than one of five ways outlined.

While *Wehbe* related to objections made pursuant to *State Environmental Planning Policy No. 1 – Development Standards* (SEPP 1), the analysis can be of assistance to variations made under clause 4.6 where subclause 4.6(3)(a) uses the same language as clause 6 of SEPP No. 1 (see *Four2Five* at [61] and [62]).

The five ways outlined in *Wehbe* include:

1. The objectives of the standard are achieved notwithstanding non-compliance with the standard (**First Way**).
2. The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary (**Second Way**).
3. The underlying object or purpose would be defeated or thwarted if compliance was required and therefore compliance is unreasonable (**Third Way**).

4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable (**Fourth Way**).

5. The zoning of the particular land is unreasonable or inappropriate so that a development standard appropriate for that zoning is also unreasonable and unnecessary as it applies to the land and compliance with the standard would be unreasonable or unnecessary. That is, the particular parcel of land should not have been included in the particular zone (**Fifth Way**).

This Clause 4.6 variation requests establishes that compliance with the development standard is unreasonable or unnecessary in the circumstances of the proposed development because the objectives of the standard, B2 zone and B3 zone and numerical standard proposed in the draft Planning Proposal 26.2017.6.1 are achieved and accordingly justifies the variation to the height pursuant to the **First, Second, Third and Fifth Ways** outlined in Wehbe.

In the recent judgment in *Randwick City Council v Micaul Holdings Pty Ltd* [2016] NSWLEC 7 the Chief Judge upheld the Commissioner's approval of large variations to height and FSR controls on appeal.

The Chief Judge noted that under Clause 4.6, the consent authority (in that case, the Court) did not have to be directly satisfied that compliance with the development standard was unreasonable or unnecessary but that the Applicant's written request adequately addresses the matters in Clause 4.6(3)(a) that compliance with each development standard is unreasonable or unnecessary.

The following provides an evaluation of the variation to the development standard having regard to the 'five part test' established by the NSW Land and Environment Court.

#### **6.1 The objectives of the standard are achieved notwithstanding non-compliance with the standard.**

The relevant objectives of the development standard for floor height within Clause 4.3 in the BLEP 2014 are identified above.

The height of the development is greater than 9m above existing ground level and is therefore not strictly consistent with Clause 4.3.

The majority of the development is within 11.5m above existing ground level proposed in the Masterplan and the draft Planning Proposal 26.2017.6.1 and is consistent with changes to Clause 4.3.

Flexibility of the development standard for maximum building height allows the Landowners to erect a development that otherwise reasonably complies with other local planning controls.

#### **6.2 The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary.**

The underlying purpose of the development standard for building height is not as relevant as the adopted Masterplan and the draft Planning Proposal 26.2017.6.1 signals change and the development otherwise reasonably achieves and complies with other local and State environmental planning controls.

**6.3 The underlying object of purposes would be defeated or thwarted if compliance was required and therefore compliance is unreasonable.**

The underlying purpose of the proposed development would be defeated if strict compliance with the 9m development standard was required. Therefore in the circumstances compliance is unreasonable.

**6.4 The development standard has been virtually abandoned or destroyed by the council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable.**

This is unknown and for Council's consideration.

**6.5 The compliance with development standard is unreasonable or inappropriate due to existing use of land and current environmental character of the particular parcel of land. That is, the particular parcel of land should not have been included in the zone.**

The land is appropriately zoned and building consistent with the desired future character of the area as expressed in the Masterplan and zoning proposed in the draft Planning Proposal 26.2017.6.1.

## **7 REQUEST FOR VARIATION TO THE DEVELOPMENT STANDARD**

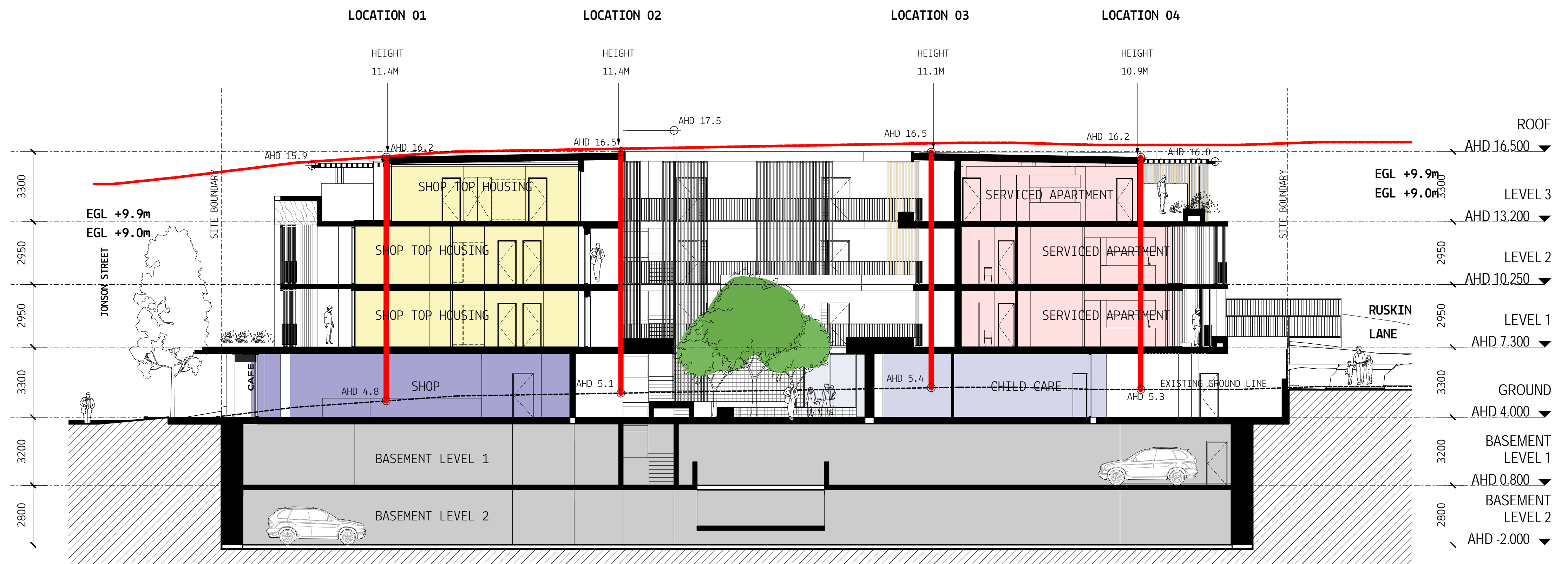
Flexibility in the application of the building height standard is considered to be fully justified and warranted.

Varying the building height standard as proposed in the amended DA, will enable an optimal, landmark, fully integrated development solution for a landmark site in the Jonson St (south) Masterplan Precinct. The proposal maximising the 'return' on a large private investment, generating new and sustaining existing employment and achieving positive social and economic outcomes within sound planning and environmental parameters, is therefore considered to be clearly in the public interest.

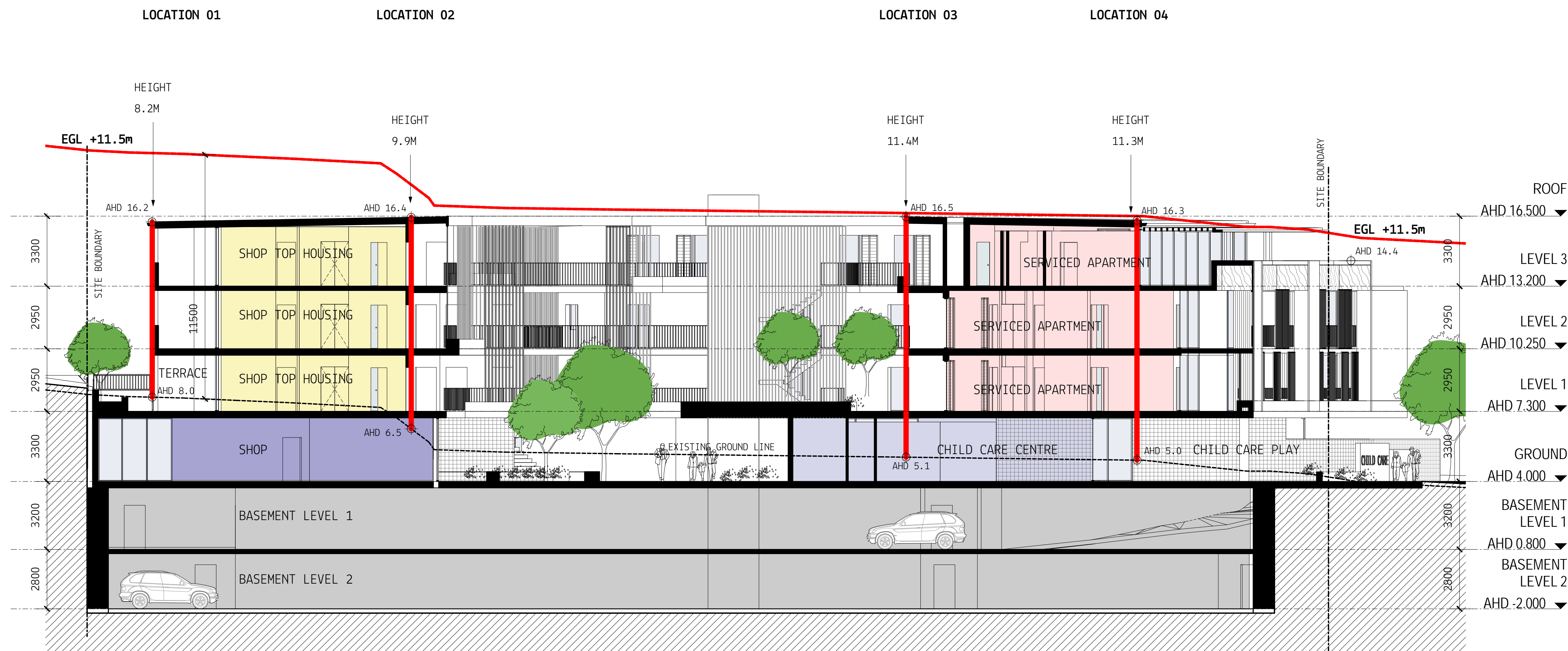
The building height standard for commercial buildings, has largely unchanged since it was a control in Council's LEP prepared in the late 1980's. The Masterplan preparation process and the draft Planning Proposal 26.2017.6.1 highlights that the control together with that for floor space ratio prejudices viable development of land in the town centre.

The rigid application of the standard would prevent a far superior outcome from being achieved, and is considered to be a negligent planning response to this unique, strategic, opportunity. The building height standard fails to adequately allow for the changes recommended in the Masterplan and proposed in the draft Planning Proposal 26.2017.6.1.

Council's consent, pursuant to Clause 4.6 to vary strict compliance with Clause 4.3 of the BLEP 2014 is respectfully requested.



SECTION 01 - HEIGHT LOCATIONS  
SCALE: 1:125



SECTION 02 - HEIGHT LOCATIONS  
SCALE: 1:125

DISCLAIMER:  
MYERS ELLYETT Pty. Ltd. retains all common law, statutory law and other rights including copyright and intellectual property rights in respect of this document.  
The recipient indemnifies MYERS ELLYETT Property Pty. Ltd. against all claims resulting from use of this document for any purpose other than its intended use, unauthorized changes or reuse of the document on other projects without the permission of MYERS ELLYETT Property Pty. Ltd.  
Under no circumstance shall transfer of this document be deemed a sale or constitute a transfer of the license to use this document.

## PRELIMINARY

2	12.12.2017	DA RFI	
1	15.08.2017	DEVELOPMENT APPLICATION	JM
No	Date	Description	By

CLIENT  
JGD DEVELOPMENTS

PROJECT TITLE  
JONSON STREET MIXED USED  
DEVELOPMENT  
137-139 JONSON ST & 3 BROWNING ST, BYRON BAY

DRAWING TITLE  
SECTION REFERENCE LINES

SCALE: @ A1	PROJECT No:
1 : 125	170102
DATE: 09/08/17	ENG No:
DRAWN BY: AUTHOR	SK150
	2

MYERS ELLYETT

21 JONSON ST, PRODUCTION BLD, 2017  
BY JGD DEVELOPMENTS

www.myersellyett.com.au



## **CLAUSE 4.6 REQUEST TO VARY THE FLOOR SPACE RATIO DEVELOPMENT STANDARD (6/9/18)**

### **1 CLAUSE 4.6 REQUEST**

Clause 4.6 aims to provide an appropriate degree of flexibility in applying certain development standards, including the floor space ratio control, to achieve better outcomes that are in the public interest.

This request seeks variation to the floor space ratio control.

In accordance with the statutory requirements this Clause 4.6 request:

1. identifies the development standard to be varied (**Section 5.4**)
2. identifies the extent of the variation sought (**Section 5.8**)
3. establishes that compliance with the development standard is unreasonable or unnecessary in the circumstances (**Section 5.10**)
4. demonstrates that there are sufficient environmental planning grounds to justify the variation (**Section 5.14**)
5. demonstrates such that the consent authority can be satisfied that the proposal is in the public interest because it is consistent with the objectives of the standard and the objectives for development within the B2 zone (**Sections 5.5 & 5.14**) and
6. provides an assessment of the matters required to consider before Council grants consent (**Sections 5.5, 5.11 & 5.12**) namely:
  - a. whether the contravention of the development standard raises any matter of significance for State or regional environmental planning and
  - b. the public benefit of maintaining the development standard and
  - c. any other matters required to be taken into consideration by Council before granting consent.

Accordingly, development consent can be granted to the proposal despite the proposed deviation of the development standard because, pursuant to clause 4.6(4)(a), Council can be satisfied that:

1. this written request has reasonably addressed the matters required to be demonstrated by Clause 4.6(3) and
2. the proposed development will be in the public interest because it is consistent with the objectives of the standard and the objectives for development within the zone.

This report should be read in conjunction with the DA SEE.

### **2 LAND**

The site the subject of the Development Application (DA) is identified in the table below.

Landowner	Title description	Street address	Area (m2)
GJD Developments Pty Ltd	Lot 21 DP 247289	137 Jonson St Byron Bay NSW 2481	785.8
GJD Developments Pty Ltd	Lot 5 Section 51 DP 758207	139 Jonson St Byron Bay NSW 2481	1,011.0
GJD Developments Pty Ltd	Lot 6 Section 51 DP 758207	3 Browning St	1,038.0

The site has an area of 2,834.8m<sup>2</sup>.

### 3 PROPOSED DEVELOPMENT

The proposed development is for:

1. The demolition of the 4 dwellings, ancillary buildings and removal of vegetation on the land;
2. The erection of 2 buildings either side of a central courtyard / plaza on a 2 level basement car park which comprise;
  - Building No. 1 (north) – a 4 storey building containing:
    - Ground level – café / restaurant (gfa 120m<sup>2</sup>), 2 x retail premises (gfa 617m<sup>2</sup>), managers office (gfa 18m<sup>2</sup>), end of trip & toilet facilities (gfa 29m<sup>2</sup>), storage and internal circulation (stairs & lifts)
    - Level 1 – 9 shop top houses (gfa 636.5m<sup>2</sup>)
    - Level 2 – 9 shop top houses (gfa 636m<sup>2</sup>)
    - Level 3 – 6 shop top houses (gfa 518.8m<sup>2</sup>)
  - Building No. 2 (south) – a 4 storey building containing:
    - Ground level – 65 place childcare centre (gfa 372m<sup>2</sup>) & outdoor play (455m<sup>2</sup>) and goods and services loading / unloading area with vehicular access onto Ruskin Ln
    - Level 1 – 10 serviced apartments (gfa 565.5m<sup>2</sup>)
    - Level 2 – 10 serviced apartments (gfa 565.5m<sup>2</sup>)
    - Level 3 – 6 serviced apartments (gfa 391.5m<sup>2</sup>)
  - On-site car parking for 120 cars comprising:
    - Basement No. 1 – 55 car spaces (2 spaces provided for electric car charging, 8 motorcycle bays and bike store and electric bike charging station)
    - Basement No. 2 – 65 car spaces and
3. Provision of ancillary landscaping and infrastructure (the proposed development).

It is intended that the site which presently comprises 3 separate titles will be consolidated into 1 title and boundaries adjusted to provide for the Byron Bay Bypass roundabout. The proposed development upon completion will be strata subdivided, though the configuration of that subdivision is not determined.

#### Floor plan areas

The floor areas of the proposed development have reduced as a consequence of the amendments made 19 Dec. 2017, 6 March 2018 and 8 Aug. 2018.

Tables No. 1 & No. 2 identify the floor plan areas for each level of the buildings. Tables No. 1 & No. 2 amend Tables No. 5 & No. 6 of the DA SEE.

**Table No. 1 Floor plan areas – ground floor**

<b>Buildings</b>	<b>Area (m<sup>2</sup>)</b>
<b>Building No. 1 (north)</b>	
Restaurant or café	120
Business / retail premises	584
Managers office	18
Storage, change rooms, toilets and amenities	36
<b>Sub-total</b>	<b>758</b>
<b>Building No. 2 (south)</b>	
Childcare centre	372
Childcare centre storage	30
<b>Sub-total</b>	<b>402</b>
<b>Total</b>	<b>1,160</b>

Source: Myers Ellyett

**Table No. 2 Floor plan areas – levels 1, 2 & 3**

<b>Buildings</b>	<b>Area (m<sup>2</sup>)</b>
<b>Building No. 1 (north)</b>	
Level 1 - 6 shop top houses	604.5
Level 2 - 16 shop top houses	604.5
Level 3 - 2 shop top houses	503.3
<b>Sub-total</b>	<b>1,712.3</b>
<b>Building No. 2 (south)</b>	
Level 1 - 16 serviced apartments	557.9
Level 2 - 8 serviced apartments	557.9
Level 3 - 2 serviced apartments	391.5
<b>Sub-total</b>	<b>1,507.3</b>
<b>Total</b>	<b>3,219.6</b>

Source: Myers Ellyett

The floor space ratio, i.e. the ratio of the land area (2,834.8m<sup>2</sup>) to the floor plan area of the proposed development (4,379.6m<sup>2</sup>) is, 1.54 : 1.

The objection is required because site has an area of 2,834.8m<sup>2</sup> and the sum of the floor plan areas of the buildings in the development will be 4,379.6m<sup>2</sup> which is a floor space ratio of 1.54 : 1 and 712.6m<sup>2</sup> (16%) greater than the floor space ratio of 1.3 : 1 or 3,685.2m<sup>2</sup> permitted by Clauses 4.4 & 4.5 (and Map FSR\_003CC) of the Byron Local Environmental Plan 2014 (BLEP 2014).

#### **4 CONTEXT OF THE PROPOSED DEVELOPMENT**

The preparation of the DA as lodged was in response to and had particular regard to The Byron Bay Masterplan (Rev. E 20/7/16).

The amendment of the DA was in response to and has particular regard to The Byron Bay Masterplan (Rev. E 20/7/16), Council's letter in which it sought additional information and amendment of the DA dated 20 Oct. 2017 and the draft Planning Proposal 26.2017.6.1 provided to Council at its Ordinary Meeting of 23 Nov. 2017.

The proposed development is consistent with the key actions of the Masterplan by:

- increasing the town centre's residential offering (particularly permanent residential accommodation) through accommodating a diverse array of dwelling types and where permanent residents can walk to work in the town centre
- providing a child care centre for which there a real and anecdotal demand and
- creating and supporting employment.

The site is identified in the Masterplan in a '3 storey expansion zone'. The Masterplan amongst other recommended actions and initiatives to guide building heights in the town centre seeks 'to encourage the extension of the appropriate 11.5m [3 storey] LEP height to support the newly defined edge of the town centre heart'.

The proposed development is consistent with the key actions and initiatives of the Masterplan to guide building heights, though 4-storeys, it comprises; 2 buildings separated by a walkway and courtyard with active ground floor uses, providing vertical façade treatments and a differing roof treatment.

The buildings are of a high design standard, will define and anchor the southern end of Jonson St and town centre and will create an interesting visual element in the streetscape.

The design measures provided to the building facades visually assist to minimise perception of height, massing and bulk of the buildings.

Council at its Ordinary Meeting of 23 Nov. 2017 considered a report and 2 draft Planning Proposals prepared by its professional town planning staff. The Planning Proposals were the result of a review of planning controls undertaken in response to the Masterplan and proposed changes to:

- the zoning of the land and town centre
- building height and floor space ratio
- restrict certain types of tourist related development and provide incentives to encourage permanent residential accommodation and support services (e.g. child care) and
- to introduce new controls encouraging design excellence and active street frontages in certain locations within the town centre.

Draft Planning Proposal 26.2017.6.1 related to a comprehensive review of planning objectives and development standards on land currently zoned B2 Local Centre under the Byron Local Environmental Plan 2014 (BLEP 2014) within Byron Bay Town Centre.

The Masterplan also recommended floor space ratio is reviewed and amended to ensure development is viable. The draft Planning Proposal 26.2017.6.1 recommended there be no floor space controls within Byron Bay Town Centre.

The uses within proposed development are consistent with the Masterplan strategy for Jonson St (south) and those proposed in the draft Planning Proposal 26.2017.6.1.

The proposed development provides for the Byron Bay Bypass, up-grading of footpaths along its frontage and additional tree planting consistent with the key projects' of the Masterplan.

The proposed development is mixed use (a preferred land use in the Masterplan) providing; medium density permanent and short to medium term accommodation, a 65 place child care centre and retail premises.

The proposed development has been designed to account for the bypass and roundabout.

Consistent with the short to medium time frame of the Masterplan the DA commences the transformation of the southern end of the Jonson St (south) precinct.

The Proponent has sought legal advice in regard the calculation of floor space ratio. The advice prepared by McCartney Young Lawyers is Attachment No. 17 to the DA Statement of Environmental Effects [SEE]. McCartney Young Lawyers do not believe either the balconies provided with operable weather screen or internal pedestrian access ways adjoining the courtyard comprise floor plan area for the purposes of calculating floor space ratio.

The DA can be lawfully made and BSC can conditionally supports its approval. An LEP amendment process to modify the maximum height of buildings and remove floor space controls has commenced and substantial public consultation was undertaken in the preparation of the Masterplan.

## 5 CONSIDERATIONS

The following addresses the considerations identified in Appendix No. 3 of the Department of Planning and Infrastructure guidelines titled, '*Varying development standards: A Guide August 2011*' in regard the floor space ratio under the BLEP 2014.

Council staff pursuant to the Dept. of Planning Circular PS08-014 (14 Nov. 2008) can determine a DA if the variation to the development standard is not greater than 10%, otherwise the DA is to be determined by Council.

### 5.1 WHAT IS THE NAME OF THE ENVIRONMENTAL PLANNING INSTRUMENT THAT APPLIES TO THE LAND?

The local environmental planning instrument applying to the land and proposed development is the Byron Local Environmental Plan 2014 (BLEP 2014).

### 5.2 WHAT IS THE ZONING OF THE LAND?

The land is zoned B2-Local centre under the BLEP 2014.

### 5.3 WHAT ARE THE OBJECTIVES OF THE ZONE?

The objectives of the B2-Local centre zone are:

- *To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.*
- *To encourage employment opportunities in accessible locations.*
- *To maximise public transport patronage and encourage walking and cycling.*
- *To encourage vibrant centres by allowing residential and tourist and visitor accommodation above commercial premises.*

The proposal is entirely consistent with the objectives of the B2 zone as it:

1. provides retail floor space, entertainment (café) and community uses (child care centre)
2. will create employment opportunities (refer to Table No. 16 of the DA SEE)
3. the site is located adjoining a public transport route and is designed to encourage walking and cycling
4. makes provision for permanent housing and short / medium term tourist and visitor accommodation.

### 5.4 WHAT IS THE DEVELOPMENT STANDARD BEING VARIED?

The development standard being varied relates to the maximum floor space ratio (gross floor plan area to site area) of a development in the B2-Local centre zone.

### 5.5 UNDER WHAT CLAUSE IS THE DEVELOPMENT STANDARD LISTED IN THE ENVIRONMENTAL PLANNING INSTRUMENT?

The development standard for floor space ratio is expressed in Clauses 4.4 & 4.5 which is further defined in the Dictionary and shown on the FSR Map No. 003CC.

Clause 4.4 & 4.5 state:

#### 4.4 Floor space ratio

(1) *The objectives of this clause are as follows:*

- (a) *to ensure that new buildings are appropriate in relation to the character, amenity and environment of the locality,*
- (b) *to enable a diversity of housing types by encouraging low scale medium density housing in suitable locations,*
- (c) *to provide floor space in the business and industrial zones adequate for the foreseeable future,*

- (d) to regulate density of development and generation of vehicular and pedestrian traffic,
- (e) to set out maximum floor space ratios for dual occupancy in certain areas.
- (2) The maximum floor space ratio for a building on any land is not to exceed the floor space ratio shown for the land on the Floor Space Ratio Map.
- (2A) Despite subclause (2), the maximum floor space ratio for dual occupancies on land in Zone R2 Low Density Residential is 0.5:1.

#### 4.5 Calculation of floor space ratio and site area

##### (1) Objectives

The objectives of this clause are as follows:

- (a) to define floor space ratio,
- (b) to set out rules for the calculation of the site area of development for the purpose of applying permitted floor space ratios, including rules to:
  - (i) prevent the inclusion in the site area of an area that has no significant development being carried out on it, and
  - (ii) prevent the inclusion in the site area of an area that has already been included as part of a site area to maximise floor space area in another building, and
  - (iii) require community land and public places to be dealt with separately.

##### (2) Definition of “floor space ratio”

The floor space ratio of buildings on a site is the ratio of the gross floor area of all buildings within the site to the site area.

##### (3) Site area

In determining the site area of proposed development for the purpose of applying a floor space ratio, the site area is taken to be:

- (a) if the proposed development is to be carried out on only one lot, the area of that lot, or
  - (b) if the proposed development is to be carried out on 2 or more lots, the area of any lot on which the development is proposed to be carried out that has at least one common boundary with another lot on which the development is being carried out.
- In addition, subclauses (4)–(7) apply to the calculation of site area for the purposes of applying a floor space ratio to proposed development.

##### (4) Exclusions from site area

The following land must be excluded from the site area:

- (a) land on which the proposed development is prohibited, whether under this Plan or any other law,
- (b) community land or a public place (except as provided by subclause (7)).

##### (5) Strata subdivisions

The area of a lot that is wholly or partly on top of another or others in a strata subdivision is to be included in the calculation of the site area only to the extent that it does not overlap with another lot already included in the site area calculation.

##### (6) Only significant development to be included

The site area for proposed development must not include a lot additional to a lot or lots on which the development is being carried out unless the proposed development includes significant development on that additional lot.

##### (7) Certain public land to be separately considered

For the purpose of applying a floor space ratio to any proposed development on, above or below community land or a public place, the site area must only include an area that is on, above or below that community land or public place, and is occupied or physically affected by the proposed development, and may not include any other area on which the proposed development is to be carried out.

##### (8) Existing buildings

The gross floor area of any existing or proposed buildings within the vertical projection (above or below ground) of the boundaries of a site is to be included in the

*calculation of the total floor space for the purposes of applying a floor space ratio, whether or not the proposed development relates to all of the buildings.*

*(9) Covenants to prevent “double dipping”*

*When development consent is granted to development on a site comprised of 2 or more lots, a condition of the consent may require a covenant to be registered that prevents the creation of floor area on a lot (the restricted lot) if the consent authority is satisfied that an equivalent quantity of floor area will be created on another lot only because the site included the restricted lot.*

*(10) Covenants affect consolidated sites*

*If:*

*(a) a covenant of the kind referred to in subclause (9) applies to any land (affected land), and*

*(b) proposed development relates to the affected land and other land that together comprise the site of the proposed development, the maximum amount of floor area allowed on the other land by the floor space ratio fixed for the site by this Plan is reduced by the quantity of floor space area the covenant prevents being created on the affected land.*

*(11) Definition*

*In this clause, public place has the same meaning as it has in the Local Government Act 1993.*

Gross floor area is defined as:

*the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:*

*(a) the area of a mezzanine, and*

*(b) habitable rooms in a basement or an attic, and*

*(c) any shop, auditorium, cinema, and the like, in a basement or attic,*

*but excludes:*

*(d) any area for common vertical circulation, such as lifts and stairs, and*

*(e) any basement:*

*(i) storage, and*

*(ii) vehicular access, loading areas, garbage and services, and*

*(f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and*

*(g) car parking to meet any requirements of the consent authority (including access to that car parking), and*

*(h) any space used for the loading or unloading of goods (including access to it), and*

*(i) terraces and balconies with outer walls less than 1.4 metres high, and*

*(j) voids above a floor at the level of a storey or storey above.*

The FSR Map No. 003CC shows that the site is in ‘area Q’ for which the floor space ratio is 1.3 : 1.

The site has an area of 2,834.8m<sup>2</sup>, therefore the permissible gross floor plan area is 3,685.2m<sup>2</sup> (1.3 x 2,834.8m<sup>2</sup>).

The proposed development has a gross floor plan area of 4,379.6m<sup>2</sup> which is a floor space ratio of 1.54 : 1 and 712.6m<sup>2</sup> (16%) greater than the floor space ratio permitted

Development Plans No. TP3.01 Rev 4 (6/8/18) & TP3.02 Rev 3 (6/8/18) (refer to Attachment No. 1 of the information provided to Council 8 Aug. 2018) shows the floor plan areas of the buildings.

The objectives of the clause are achieved because:

- the development reflects the character of existing commercial and accommodation buildings in Jonson St. (south) and will define the southern edge of the Byron Bay town centre consistent with the streetscape and character developed in the Byron Bay Masterplan
- a diversity of housing types are provided
- floor space suitable for retail and business purposes is provided
- the generation of traffic is not beyond the capacity of the road system and
- a community facility, for which there is a high demand for the service, is provided.

Variation from strict compliance with the 1.3 : 1 development standard is requested given the circumstances of the departure as set below.

## **5.6 WHAT ARE THE OBJECTIVES OF DEVELOPMENT STANDARD?**

Refer to Section 5.5.

## **5.7 WHAT IS THE NUMERICAL VALUE OF THE DEVELOPMENT STANDARD IN THE ENVIRONMENTAL PLANNING INSTRUMENT?**

The numerical value of the development standard is 1.3 : 1.

Clause 4.4 is a numerical standard which does not have particular regard to the individual characteristics and circumstances of the site and proposed development which otherwise satisfactorily addresses:

- the Byron Bay Masterplan
- the strategic planning direction of Draft Planning Proposal 26.2017.6.1
- principles of design relating to bulk, scale and density of buildings (refer to SEPP No. 65 assessment and Attachment No. 1 of the DA SEE)
- the relationship of the development to development in the locality and west of the site and
- reasonably achieving other relevant development controls and standards of Council.

## **5.8 WHAT IS THE PROPOSED NUMERICAL VALUE OF THE DEVELOPMENT STANDARD IN YOUR DEVELOPMENT APPLICATION?**

The numerical value of the development standard of the proposed development is 1.54 : 1.

## **5.9 WHAT IS THE PERCENTAGE VARIATION (BETWEEN YOUR PROPOSAL AND THE ENVIRONMENTAL PLANNING INSTRUMENT)?**

The percentage variation is 16% greater than that permitted by Clauses 4.4 & 4.5.

## **5.10 HOW IS STRICT COMPLIANCE WITH THE DEVELOPMENT STANDARD UNREASONABLE OR UNNECESSARY IN THIS PARTICULAR CASE?**

The proposed floor space ratio is justifiable having regard to the merit and circumstances of the site and DA.

Strict compliance with the development standard is unreasonable and unnecessary in this particular case because of the following circumstances and reasons.

1. The DA is consistent with the strategic directions of the Byron Bay Masterplan (refer to Section 5 of the DA SEE).
2. The DA does not raise any matter of significance for State or regional planning (refer to Section 4.1.1 of the DA SEE).



3. The DA removes 4 non-conforming existing uses (dwellings) and replaces those with a mixed use development (retail premises, café, child care centre, shop top houses and serviced apartments) permissible in the B2-Local centre zone (refer to Section 4.1.1.2 of the DA SEE).
4. The floor space ratio sets a theoretical maximum floor plan capacity on the land without having regard to the overall integrated nature and integrity of the design of the buildings and overall development. Providing some flexibility in floor space ratio ensures the merits of a proposal are considered and design integrity is fulfilled (refer to Attachment No.1 of the DA SEE).
5. Exceeding the floor space ratio does not substantially contribute to the buildings; scale, bulk or density. The proposed development is compatible in height, scale, and bulk to those on lands to the west.
6. There will be no unreasonable loss of amenity or excessive or unreasonable shadowing of the open space areas of adjoining lands, within the development or the public domain (refer to Attachment No.1 of the DA SEE).
7. It will not be evident to a person either standing in either Jonson or Browning Sts. that the floor plan area of the development is 16% greater than otherwise permitted.
8. The use of the proposed buildings is similar in nature to buildings on land in the immediate locality.
9. The development will not diminish the existing character of the area. The proposed development is of a high / excellent design and the replacement of the existing buildings on the site will make a positive contribution to the streetscape.
10. Approval of the development as proposed does not create any apparent adverse impacts on the social, environmental and economic environment of land in the zone and locality and is a positive planning outcome (refer to Sections 2.3 & 3.4 of the DA SEE).
11. The relevant objectives of Clause 4.3 are achieved as:
  - the new buildings are appropriate in regard to the existing and future desired character, amenity and environment of the locality
  - the development increases housing supply and diversity of types of commercial uses and medium density permanent and short to medium term accommodation on land zoned in 2014 for that purpose i.e. a suitable location
  - the density of development is satisfactory and the generation of vehicular and pedestrian traffic can be satisfactorily absorbed by the local network.

#### **5.11 HOW WOULD STRICT COMPLIANCE HINDER THE ATTAINMENT OF THE OBJECTS SPECIFIED IN SECTION 5(a)(i) AND (ii) OF THE ACT?**

The DA SEE and this objection report demonstrate that:

1. Provision of a new innovative and diverse product type and a development consistent with a diversity of uses permitted in the zone requires in this instance some flexibility in the application of numerical development standards.
2. Strict compliance with the development standard for floor space ratio if strictly applied to the proposed development would hinder the objectives of the Act as the Landowner would not be able to re-develop the land.
3. The proposed development is an orderly and economic use of developed urban land that has a very high unimproved capital value.

#### **5.12 IS THE DEVELOPMENT STANDARD A PERFORMANCE BASED CONTROL? Give details.**

The development standard for floor space ratio is a performance based control as the objectives within BLEP 2014 enable a development in the B2 zone provided it:

- is appropriate in relation to the character, amenity and environment of the locality and
- the density of the development does not generate excessive vehicular and pedestrian traffic.

The objectives within BLEP 2014 also seek to:

- to enable a diversity of housing types by encouraging low scale medium density housing in suitable locations and
- to provide floor space in the business and industrial zones adequate for the foreseeable future.

The buildings are appropriate and consistent with the existing and desired future character, amenity and environment of the locality and will have a positive impact on the streetscape. Vehicular traffic likely to be generated is not excessive. The development provides a diversity of shop top houses and serviced apartments, in a location recommended in the Byron Bay Masterplan together with providing additional retail floor space in a business zone.

#### **Additional matters to address**

There are no additional matters relating to the request to vary compliance with the standards.

#### **5.13 WOULD STRICT COMPLIANCE WITH THE STANDARD, IN YOUR PARTICULAR CASE, WOULD BE UNREASONABLE OR UNNECESSARY? WHY?**

The DA SEE and evidence above demonstrates that strict compliance with the development standard for floor space ratio is unreasonable and unnecessary, simply because it would prevent the proposed development without regard to the circumstances and merits of the site and proposal.

#### **5.14 ARE THERE SUFFICIENT ENVIRONMENTAL PLANNING GROUNDS TO JUSTIFY CONTRAVENING THE DEVELOPMENT STANDARD? Give details**

The above demonstrates that there are sufficient environmental planning grounds, in the circumstances particular to the site and proposed development, to justify departure from the development standard.

In summary the environmental planning grounds justifying the proposed development are:

1. The proposed use is consistent with the zoning of the site and compatible and consistent with the height, scale, size, character, bulk and mass of buildings on lands to the west and will make a positive contribution to the streetscape.
2. All necessary public and private infrastructure services are or can be provided to the site and development and there will be no unreasonable increase in demand on those services.
3. There will be no substantive or adverse impacts on the environment neither of the land nor to the amenity of adjoining lands or the locality (refer to Section 3 of the DA SEE).
4. The result will be a mix of land uses that are permissible and consistent with the objectives of the B2 zone (refer to Section 4 of the DA SEE).
5. Other than departure from maximum building height the proposed development is consistent with all other relevant local environmental planning controls of the BLEP 2014 and does not raise any matter of significance for state or regional planning (refer to Section 4 of the DA SEE).

6. Approval of the DA as proposed does not create any apparent adverse social, environmental and economic impacts in the zone and on development in the locality.

## **6 NSW LAND AND ENVIRONMENT COURT ‘FIVE PART TEST’ CONSIDERATIONS**

The following provides an evaluation of the variation to the development standard having regard to the ‘five part test’ established by the NSW Land and Environment Court.

### **6.1 The objectives of the standard are achieved notwithstanding non-compliance with the standard.**

The relevant objectives of the development standard for floor space ratio within Clauses 4.4 & 4.5 in the BLEP 2014 are identified above.

The floor space ratio of the proposed development (at 1.54 : 1) is greater than 1.3 : 1 and is therefore not strictly consistent with Clauses 4.4 & 4.5.

Flexibility of the development standard allows the Landowners to re-develop the site in a manner that otherwise reasonably complies with other local and State planning controls.

### **6.2 The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary.**

The underlying purpose of the development standard for floor space ratio is not relevant having regard to the circumstances, draft Planning Proposal 26.2017.6.1 and that the development otherwise reasonably achieves and complies with other local environmental planning controls.

### **6.3 The underlying object of purposes would be defeated or thwarted if compliance was required and therefore compliance is unreasonable.**

The underlying purpose of the proposed development would be defeated if strict compliance with the development standard was required. Therefore in the circumstances compliance is unreasonable.

### **6.4 The development standard has been virtually abandoned or destroyed by the council’s own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable.**

This is unknown and for Council’s consideration.

### **6.5 The compliance with development standard is unreasonable or inappropriate due to existing use of land and current environmental character of the particular parcel of land. That is, the particular parcel of land should not have been included in the zone.**

The NSW Land and Environment Court has established a planning principle in regard use of floor space ratio and the consideration of land use ‘compatibility’ in a suburban context. Refer to *Salanitro-Chafei v Ashfield Council* [2005] NSWLEC 366.

The Court determined consideration of the following tests:

- *Are the proposal’s physical impacts on surrounding development acceptable? The physical impacts include constraints on the development potential of surrounding sites.*
- *Is the proposal’s appearance in harmony with the buildings around it and the character of the street?*

The proposed development is visually compatible with its context and contains elements that make up the character of the surrounding urban environment. The proposed development is compatible with the built form of development on lands to the west.

The land is appropriately zoned and the buildings will have a positive impact on the character of the area. The development provides additional medium density permanent and short to medium term accommodation / housing and a 65 place child care centre in Byron Bay.

There is considerable demand for permanent and short to medium term accommodation / housing and child care services in Byron Bay.

In *Wehbe v Pittwater Council* [2007] NSWLEC 827 (*Wehbe*), Preston CJ of the Court identified five ways in which an applicant might establish that compliance with a development standard is unreasonable **or** unnecessary. It was not suggested that the five ways were the only ways that a development standard could be shown to be unreasonable or unnecessary. Nor does the development need to demonstrate satisfaction of more than one of five ways outlined.

While *Wehbe* related to objections made pursuant to *State Environmental Planning Policy No. 1 – Development Standards* (SEPP 1), the analysis can be of assistance to variations made under clause 4.6 where subclause 4.6(3)(a) uses the same language as clause 6 of SEPP No. 1 (see *Four2Five* at [61] and [62]).

The five ways outlined in *Wehbe* include:

1. The objectives of the standard are achieved notwithstanding non-compliance with the standard (**First Way**).
2. The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary (**Second Way**).
3. The underlying object or purpose would be defeated or thwarted if compliance was required and therefore compliance is unreasonable (**Third Way**).
4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable (**Fourth Way**).
5. The zoning of the particular land is unreasonable or inappropriate so that a development standard appropriate for that zoning is also unreasonable and unnecessary as it applies to the land and compliance with the standard would be unreasonable or unnecessary. That is, the particular parcel of land should not have been included in the particular zone (**Fifth Way**).

This clause 4.6 variation requests establishes that compliance with the development standard is unreasonable or unnecessary in the circumstances of the proposed development because the objectives of the standard are achieved and accordingly this justifies the variation to the floor space ratio control pursuant to the First Way outlined in *Wehbe*.

In the recent judgment in *Randwick City Council v Micaul Holdings Pty Ltd* [2016] NSWLEC 7 the Chief Judge upheld the Commissioner's approval of large variations to height and FSR controls on appeal. The Judge noted that under Clause 4.6, the consent authority (in that case, the Court) did not have to be directly satisfied that compliance with the development standard was unreasonable or unnecessary but that the applicant's written request adequately addresses (*our emphasis*) the matters in clause 4.6(3)(a) that compliance with each development standard is unreasonable or unnecessary.

## **7 REQUEST FOR VARIATION TO THE DEVELOPMENT STANDARD**

Flexibility in the application of the floor space ratio standard is considered to be fully justified and warranted.

Varying the floor space ratio standard as proposed in the DA, will enable an optimal, landmark, fully integrated development solution for a landmark site in the Jonson St (south) Masterplan Precinct. The proposal maximising the 'return' on a large private investment, generating new and sustaining existing employment and achieving positive social and economic outcomes within sound planning and environmental parameters, is therefore considered to be clearly in the public interest.

The floor space ratio standard for commercial floor space, has largely unchanged since it was a control in Council's Development Control Plan prepared in the late 1980's. The Masterplan preparation process highlights that the control prejudices viable development of land in the town centre.

The rigid application of this standard would prevent a far superior outcome from being achieved, and is considered to be a negligent planning response to this unique, strategic, opportunity. The floor space ratio standard fails to adequately allow for the changes recommended in the Masterplan.

Council's consent, pursuant to Clause 4.6 to vary strict compliance with Clauses 4.4 & 4.5 of the BLEP 2014 is respectfully requested.

## MYERS ELLYETT

21 Agars Street  
Paddington Qld 4064  
Phone 07 3876 6040  
www.myersellyett.com.au

### JONSON STREET MIXED USE DEVELOPMENT - SUPPORTING LETTER

12 DECEMBER 2017

PROJECT ADDRESS: 137 & 139 Jonson St & 3 Browning St, Byron Bay.

PREPARED FOR: JDG DEVELOPMENTS

ARCHITECT: MYERS ELLYETT

To Whom It May Concern,

### INTRODUCTION

This letter has been produced to provide further information and clarification around items raised by the Byron Shire Council for the recently submitted Development Application (DA No. 10.2017.510.1).

Following the RFI letter issued by BSC on the 20.10.2017 the building design has been revised to address a number of the points raised. The below gives a summary of these revisions and explains how they relate to the requirements of the SEPP 65 Apartment Design Guide. The letter provides further clarification for other points raised by BSC.

Please read this letter in conjunction with the relevant revised architectural drawings.

### SUMMARY OF DESIGN REVISIONS

Item	Description	Drawing
1. Reduction of building height	Overall building height reduced to be almost entirely under the 11.5m height plane above natural ground. Floor-to-levels have been reduced and the roof has been changed to a low-profile metal roof (no parapet).	TP1.12, TP1.13, TP2.20, TP3.05
2. Northern building setback	Increased building setback to the NW corner of the site. Apartments U1.5, U2.5, U3.3 reduced in area, balconies added to the northern face, inclusive of privacy/sun screening and planting.	TP1.02 - TP1.04, TP1.18
3. Central courtyard apartment windows	Extent of openable windows facing the central courtyard clarified on the drawings.	TP1.02 - TP1.04, TP2.30, TP2.31
4. Central courtyard screens	Extent of full height timber screening within the central courtyard reduced.	TP2.30, TP2.31
5. Areas Update	Minor reduction to the overall GFA and apartments areas	TP3.01, TP3.02
6. Vehicle Ramp Update	Further drawings provided to demonstrate achieved headroom on the vehicle entry ramp.	TP2.32

## REDUCTION OF BUILDING HEIGHT - ARCHITECTURAL RESPONSE

To address concerns relating to overall building height, the building height has been revised to be almost entirely under the 11.5m height plane above natural ground - refer to figures A & B. To achieve this the floor-floor heights have been reduced and the roof type has been changed to a low-profile metal roof and the parapet deleted. Refer to the typical detailed section (drawing TP2.20) which describes the vertical building set-out and ceiling heights achieved.

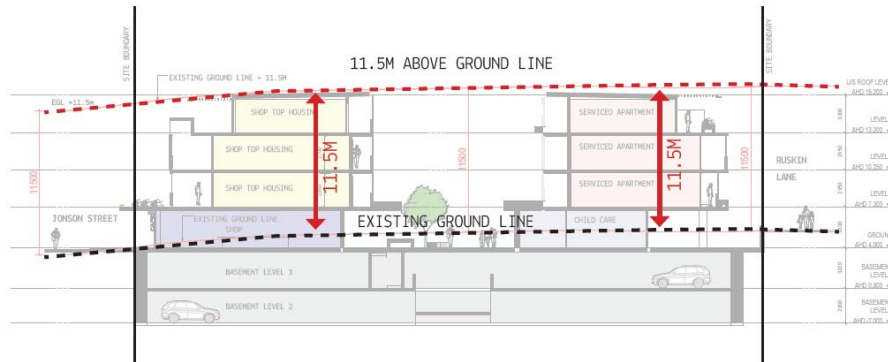


Figure A - Typical section showing building below 11.5m above ground line.

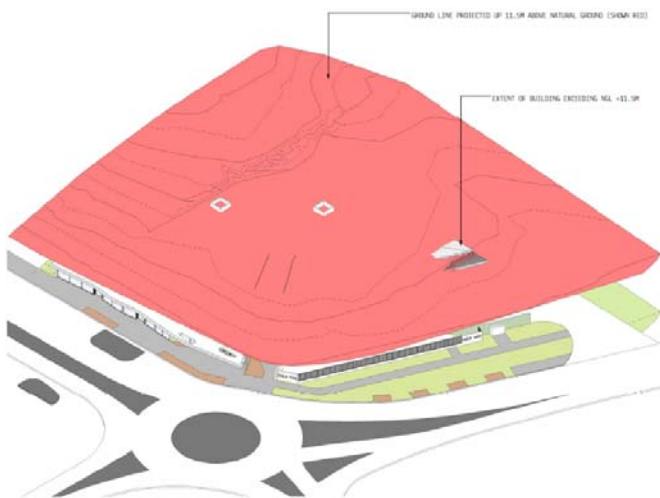


Figure B - 3d diagram showing building element project beyond the 11.5m above ground line.

As per the DA design, building bulk and scale are addressed by the use and the deliberate expression of a base, middle and top. Evident is a clear and distinct ground floor use (businesses, building access, laneway) and 2 levels of highly articulated apartments above. The upmost level of apartments have been deliberately setback to reduce their visual prominence from the street and to allow a lightweight roof-scape to be expressed (Figure C). From key vantage points from around the site, the building appears as a 3 storey, generally 9.5 metres high (Figures D-H).



Figure C - recessed upper level to reduce the visual impact.

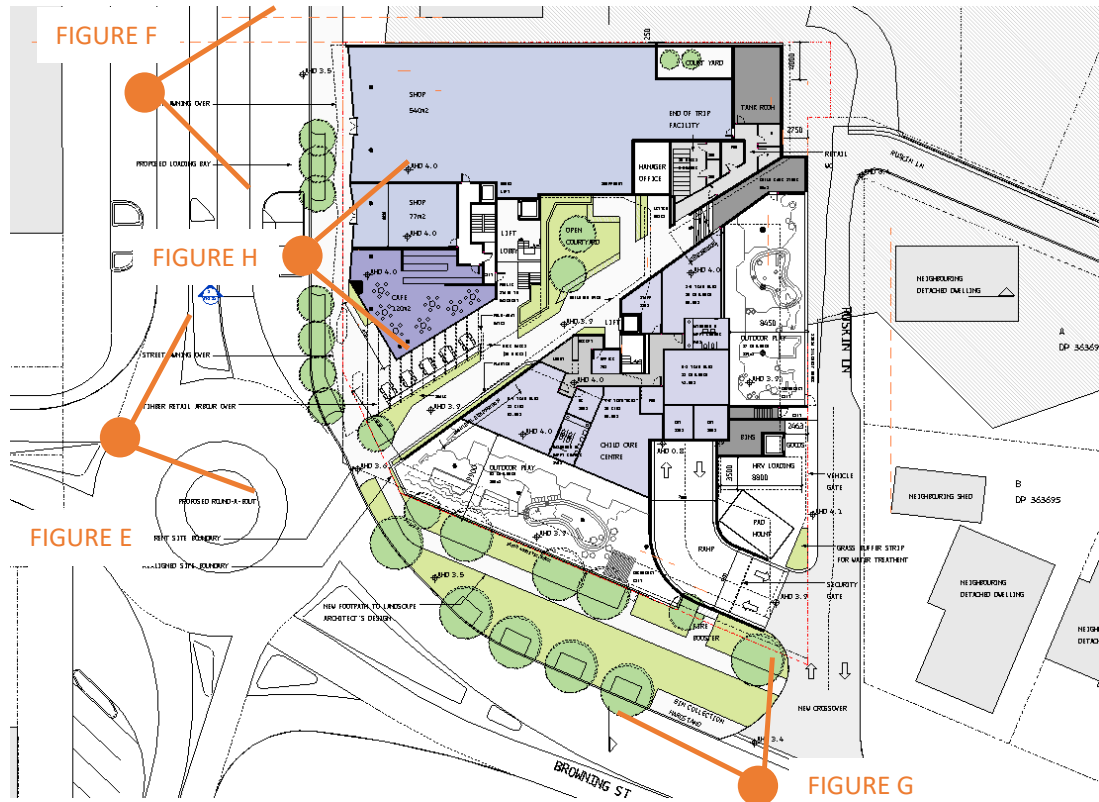


Figure D - approx camera locations for artist perspectives (Figures E - H). The location of Figure H is where the upper storey is no longer perceived.





Figure E – Artists perspective demonstrating minimal visual impact of the upper storey. View from corner of Jonson and Browning Streets.



Figure F – Artists perspective demonstrating minimal visual impact of the upper storey. View from Jonson Street.



Figure G – Artists perspective demonstrating minimal visual impact of the upper storey. View from Browning Street.



Figure H – Artists perspective demonstrating the upper storey no longer perceived. View from Jonson Street.

## REDUCTION OF BUILDING HEIGHT - CEILING HEIGHTS

It is noted the revised design achieves apartment ceiling heights for habitable rooms (living, dining, lounge, bedrooms) of 2.65m and for non-habitable rooms (bathrooms, laundry, corridor) & kitchen of 2.4m.

Although the habitable rooms achieve 50mm less than the height stipulated in the Apartment Design Guide (ADG 4C), we anticipate no perceivable loss of amenity will occur due to the minor height difference. We also note that the ceiling height of 2.650m exceeds the minimum clear height as stipulated in the NCC Building Code of Australia (F3.1), being 2.4m for habitable rooms, 2.1m for non-habitable rooms and kitchens. We also note that the ceiling height can easily accommodate ceiling fans.

Given each apartment typically has full height glazed doors leading directly onto large balconies (and not windows in walls), we believe the internal spaces will be perceived as large and well-proportioned due to visual connection and the 'borrowing' of the balcony space.

Regarding natural light and ventilation, we also see no perceivable loss of performance against the previous design, which far exceed the minimums. Taking Apartments U1.4 & U1.6 as typical examples a summary is made in the below table. This demonstrates the minor departure from the previous design which readily achieved the minimums.

	Total glass area for habitable rooms (4D) (min 10%)		Area of unobstructed window/door opening (4B) (min 5%)	
	DA Design (ceiling 2.7m)	Revised Design (ceiling 2.65m)	DA Design (ceiling 2.7m)	Revised Design (ceiling 2.65m)
U1.4 Living Room (area 15.9m <sup>2</sup> )	Glazing area = 9.3m <sup>2</sup> <b>58.4% of room area</b>	Glazing area = 9.1m <sup>2</sup> <b>57.2% of room area</b>	Openable area = 6.1m <sup>2</sup> <b>38.3% of room area</b>	Openable area = 6.0m <sup>2</sup> <b>37.7% of room area</b>
U1.4 Bedroom (area 13.6m <sup>2</sup> )	Glazing area = 4.0m <sup>2</sup> <b>29.4% of room area</b>	Glazing area = 3.9m <sup>2</sup> <b>28.7% of room area</b>	Openable area = 2.0m <sup>2</sup> <b>14.7% of room area</b>	Openable area = 1.9m <sup>2</sup> <b>13.9% of room area</b>
U1.6 Living Room (area 25.9m <sup>2</sup> )	Glazing area = 10.3m <sup>2</sup> <b>39.7% of room area</b>	Glazing area = 10.1m <sup>2</sup> <b>38.9% of room area</b>	Openable area = 6.6m <sup>2</sup> <b>25.4% of room area</b>	Openable area = 6.5m <sup>2</sup> <b>25.0% of room area</b>
U1.6 Rear Bedroom (area 11.0m <sup>2</sup> )	Glazing area = 2.65m <sup>2</sup> <b>24.0% of room area</b>	Glazing area = 2.6m <sup>2</sup> <b>23.6% of room area</b>	Openable area = 2.65m <sup>2</sup> <b>24.0% of room area</b>	Openable area = 2.6m <sup>2</sup> <b>23.6% of room area</b>

## SUMMARY TABLE AGAINST CHAPTER 4A, 4B & 4C OF THE SEPP 65 APARTMENT DESIGN GUIDE

Amenity	
4A - Solar and daylight access	<p>4A-1: The building has been orientated to maximise apartments to address the northern aspect. The site geometry and building massing result in several apartments with a southerly aspect or reduced access to natural sunlight. Where possible these apartments are proposed as serviced apartments (as SEPP 65 does not apply).</p> <p>For shop top housing uses, 84% of the apartments receive a minimum of 3 hours direct sunlight between 8am and 5pm during mid-winter. 52% of these receive direct sunlight between the hours of 9am and 3pm during mid-winter. 0% of these apartments receive no direct sunlight between the hours of 9am and 3pm during mid-winter. Refer to drawing TP3.09.</p> <p>It is noted that the serviced apartments within the development do not receive the same level of solar access as the shop top uses. It is</p>

	<p>anticipated that the serviced apartments will be for tourist activities only.</p> <p>4A-2: Courtyard high-level windows are used in apartments facing the courtyard where possible. These are restricted to kitchens and bathrooms only. Refer to drawing TP2.30 &amp; TP2.31 which demonstrates the typical design and the floor plans for the extent.</p> <p>4A-3: Northern, Eastern and Western facing apartments are protected by balcony overhangs above and sliding operable vertical timber screens.</p>
4B – Natural Ventilation	<p>4B-1: The building has been orientated to capture the prevailing breezes from the north east. The internal courtyard further facilitates cross ventilation.</p> <p>4B-2: All apartments have narrow depths with the maximum depth being 12.5m. Apartments have full height sliding doors opening onto balconies.</p> <p>4B-3: 100% of the shop top houses achieve cross ventilation and the overall depth of the apartments do not exceed 18m.</p>
4C – Ceiling Heights	<p>4C-1: All shop-top houses have a minimum ceiling height of 2650mm for habitable rooms. Non-habitable rooms and kitchens have a minimum height of 2400mm. The ground floor retail and child care centre typically have a height of 2800mm, with lowered ceiling areas (for services) of 2550mm.</p> <p>4C-2: Ceiling heights within all living areas and bedrooms have a minimum height of 2650mm and lead directly onto balconies via full height glazed doors and thus perceived as large and well-proportioned rooms due to visual connection and the 'borrowing' of the balcony space. Lowered ceilings are reserved for bathrooms, stores, kitchens which are located away from the building façade and thus do not impede on the apartments sense of volume.</p> <p>4C-3: NA</p>

In summary the revised design will provide well-proportioned apartments which have great access to light and ventilation, albeit deviate slightly from the requirements of the Apartment Design Guide.

With regards to non-residential uses (ground floor storey), it is noted that a floor to ceiling height of 2.8m is achieved, with provision for lowered ceiling over back-of-house area such as kitchens, store rooms, bathrooms for larger services such as air conditioning and kitchen exhausting. Refer to drawing TP2.20. We note that the café tenancy has dual aspect containing operable full height shop front glazing, providing an open and light filled space connected to the external seating areas.

We also note that the ceiling height of 2.8m exceeds the minimum clear height as stipulated in the NCC Building Code of Australia (F3.1).

Whilst all attempts have been made to achieve the SEPP 65 ceiling height of 3.3m, a ceiling height of 2.8m provides adequate ceiling height for retail, commercial, child-care and other future uses, including residential and/or home office.

## NORTHERN BOUDARY SETBACK

It is noted that the revised design has increased the building setback to the Northern boundary, namely the apartments located on the North-West Corner - refer to figure I. These apartments have been re-designed to achieve a typical setback to the northern boundary of 5.6m to the face of enclosed space and 3.0m to the face of balconies. The setback achieves approx 5.73m from the neighbouring house to the face of the proposed balconies.

Although the setbacks differ from that outlined in the SEPP 65 Apartment Design Guide, potential overlooking and privacy issues are mitigated by a number of devices as follows (refer to figure J & K).

**Level 1 northern apartments:** 1.8m high solid block and timber fence. Podium planting to filter views.

**Level 2-3 northern apartments:** Northern facing balcony, 1.0m high solid wall on the front of the balcony, full height operable privacy/sun-shading screens on the front of the balcony. Mature trees planted below.



Figure I - Floor plan showing setback of U2.5 and others from the northern boundary



Figure J - Cross sections showing privacy devices proposed for the northern boundary.



Figure K – 3d view showing privacy devices proposed for the northern boundary.



## CENTRAL COURTYARD

The central courtyard is considered a dynamic volume and is unique part of the building featuring a combination of balconies, timbers screens, vertical gardens and podium planting.

The proposed design considers the balance between providing privacy, amenity, light and ventilation.

It is intended that the balconies, whilst function as access to the apartments, be used to provide great casual surveillance and safety to the courtyard in addition to providing space for social encounters.

The extent of timber screens has been revised to gain greater openness, allowing better light, air and casual surveillance to occur. Refer to drawings TP2.30 & TP2.31 which provides further details of the design including extent of timbers screens, balustrades, landscape and apartment windows facing the courtyard for cross ventilation.



Figure L - 3d view showing planting, screens, balconies in the central courtyard.

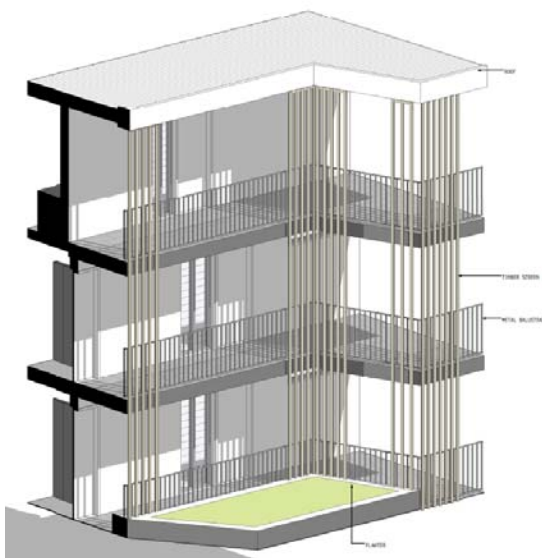


Figure M - 3d view showing typical screens & balconies in the central courtyard.

## UNIVERSAL DESIGN

The current proposal includes the following universal design apartments:

Accessible - 6 (U1.3, U1.10, U2.3, U2.10, U3.10a, U3.10b)

Adaptive - 4 (U1.1, U2.1, U3.6, U3.9)

**Total = 10** (equates to 20%)

For the above the following has been incorporated and/or can readily be incorporated during the detailed stages of the project (Livable Housing Design Guidelines Silver).

1. Accessible path of travel is provided to the front door from either the footpath or basement carpark.
2. Door widths of 820mm clear for all doors as stipulated in the LHDG.
3. Internal corridors of 1000mm clear.
4. Adequate circulation to at least 1 toilet pan with wall reinforcing as stipulated in the LHDG.
5. Hobless showers with wall reinforcement for future handrails.
6. It is noted that 6 x dedicated accessible carparks are provided in the basement for the accessible apartments mentioned above.

## CHILD CARE ACOUSTIC FENCE

The design features acoustic fences to the childcare external play area as recommended in the project acoustic report.

The acoustic fences include a rendered block wall base, with a timber frame, fibro-cement lining (to achieve the required acoustic performance) and recycled timber vertical battens on the outer face. Refer figure N.

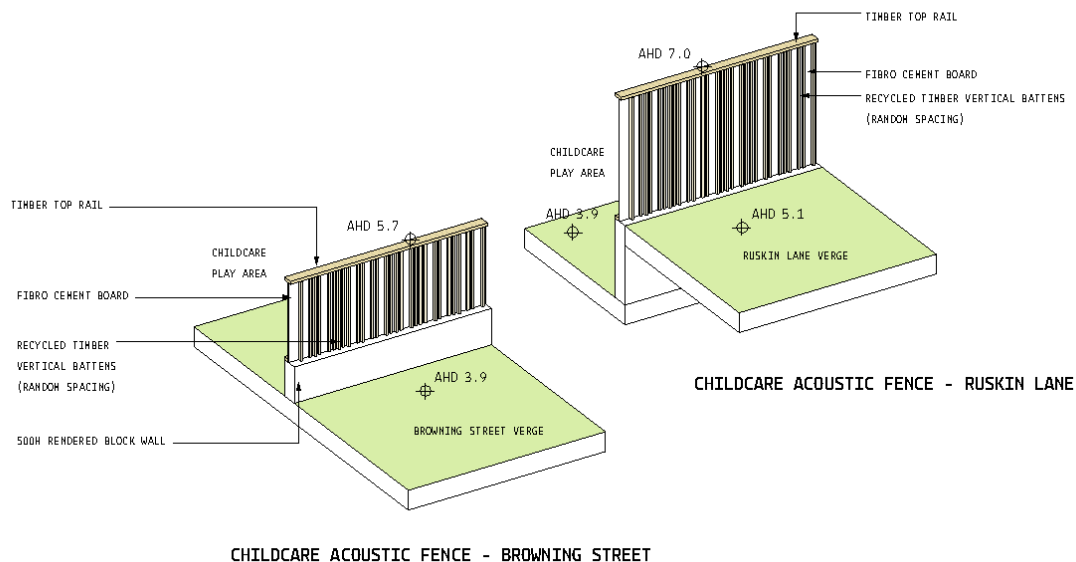


Figure N - 3d view showing typical child care acoustic fences



# Lockhart Interiors

INTERIOR DESIGN

Lockhart Interiors  
21 Agars Street  
Paddington, QLD, 4064

December 12, 2017

PROJECT ADDRESS: 137 & 139 Jonson St & 3 Browning St, Byron Bay.  
PREPARED FOR: JDG DEVELOPMENTS  
ARCHITECT: MYERS ELLYETT

To whom it may concern,

As a professional in the design and building industry for over 10 years, with extensive experience in multi-residential and residential design, I have witnessed the completion of many successful projects. Lockhart Interiors actively collaborates with Myers Ellyett Architects on a number of current projects and has seen several past collaborations with them take shape and prosper.

With relation to the proposed lowered ceiling heights for the project detailed above, I advise that there would be little perceivable negative impact on the interior design, building aesthetic or quality of living as a result. Apartments of a good overall size, with full height glazing can achieve a prodigious and livable design outcome with a ceiling height of 2600mm -2650mm. Reducing the ceiling height from 2700mm to 2600mm in an apartment with full height, operable glazing will have little noticeable effect on the feeling of perceived volume, light transmission or air flow levels within that apartment.

In my experience, where full height glazing in an apartment is designed to open generously onto an external balcony, this greatly enhances the feeling of space and volume, making the room appear larger than it is. As an example, please refer to the following images of a recently completed project in Brisbane where the general ceiling height is 2600mm.





Please do not hesitate to contact me with any queries via phone or email.

Sincerely,



**Olivia Lockhart**  
Owner

**M: 0421 253 226**

**E: [olivia@lockhartinteriors.com.au](mailto:olivia@lockhartinteriors.com.au)**

**DISCLAIMER**

This letter is a professional opinion only and is not related to sales or marketing for the project. The recipient indemnifies Lockhart Interior against all claims resulting from use of this document for any purpose other than its intended use, unauthorized changes or reuse of the document on other projects without the permission of Lockhart Interiors. Under no circumstances shall the transfer of this document be deemed a sale or constitute a transfer of the license to use this document. This document does not give advice on design for property sales or marketable value. Lockhart Interiors is not qualified to and does not provide advice relating to structure, mechanical, architectural, hydraulic, acoustic, or lighting design.

## MYERS ELLYETT

21 Agars Street  
Paddington Qld 4064  
Phone 07 3876 6040  
[www.myersellyett.com.au](http://www.myersellyett.com.au)

### JONSON STREET MIXED USE DEVELOPMENT - SUPPORTING LETTER

05 AUGUST 2018

PROJECT ADDRESS: 137 & 139 Jonson St & 3 Browning St, Byron Bay.  
PREPARED FOR: JDG DEVELOPMENTS  
ARCHITECT: MYERS ELLYETT

To Whom It May Concern,

This letter has been produced to provide further information and clarification around items raised by the Byron Shire Council for the recently submitted Development Application (DA No. 10.2017.510.1).

Myers Ellyett confirms that recent revisions to the building design as submitted for the DA are minor in nature and therefore have little consequence to the overall design integrity.

The recent minor revisions are reflected in the revised architectural drawings issued 06.08.2018 with a brief outline of the changes listed below.

#### List of design changes:

##### BUILDING LOADING AREA:

- The building loading area (located on Ruskin Lane) has been revised to suit the clearances of both MRV & LRV vehicles. Swept paths, including minimum set-out dimensions (L, W, H) have been provided by Planit Consulting and reflect the actual vehicles intended to access the building. It is noted that an MRV waste vehicle can remain entirely within the site boundaries whilst loading waste. Refer to the latest supporting documents provided by Planit Consulting for full details.
- The bin rooms and goods lift adjacent to the loading area have been revised to suit.
- A small portion of the loading area now extends over the main vehicle ramp to achieve minimum clearances. It is noted that headroom to the vehicle ramp is maintained at 2.3m clear high.
- The loading area security gate location has been revised to suit. It now sits approx 3.3m from the site boundary and is proposed to retract into a wall recess.
- To achieve adequate head clearance to the loading area, apartments (U1.10 & U2.10) above have modified to suit. These apartments external wall locations have been modified and the

apartment layouts re-designed to suit. It is noted that this change results in a net reduction of GFA.

- No changes occur to the child care centre.

CARPARK ACCESS, SECURITY & OPERATION:

- As per our previously issued supporting letter, dated 25.06.2018, the basement carpark access, security and operation has been clarified as the following:
  - o The basement carpark of the proposed development are to be secured by a metal security gate located at base of main vehicle ramp.
  - o The security gates located at the base of the ramp allows for approx 29m of queuing up the ramp to the site boundary on Ruskin Lane.
  - o It is proposed that the basement security gates remain open during hours of operation of the commercial and child care uses, being from 7am – 7pm Monday to Friday, and 7am to 1pm Saturday. This will freely allow the carpark to be accessed for those uses and during peak times.
  - o After hours, it is proposed that the basement security gates remain closed but can be opened via a swipe card on the way in and an in-slab pressure sensor on the way out. Swipe cards will be issued to residents, staff & tenants as part of the building management.

GENERAL CHANGES:

- The apartment solar access drawing has been updated to reflect the revised apartments (TP3.09). It is noted the revisions are minor in nature.
- The sun shading diagrams (TP3.06-TP3.08) have been updated to reflect the latest design. It is noted the revisions are minor in nature.
- Area plans (TP3.01 & TP3.02) have been updated to reflect the latest design. It is noted the overall GFA of the building has been reduced. The revised total building GFA is 4379.6 m2.

Should further clarification be sought, please don't hesitate to contact the undersigned.

Yours Sincerely,

Jade Myers & William Ellyett

Directors

Myers Ellyett Pty Ltd

NSW Architects Registration Number 9820

QLD Architects Registration Number 4322

## MYERS ELLYETT

21 Agars Street  
Paddington Qld 4064  
Phone 07 3876 6040  
[www.myersellyett.com.au](http://www.myersellyett.com.au)

### JONSON STREET MIXED USE DEVELOPMENT - SUPPORTING LETTER

05 SEPT 2018

PROJECT ADDRESS: 137 & 139 Jonson St & 3 Browning St, Byron Bay.

PREPARED FOR: JDG DEVELOPMENTS

ARCHITECT: MYERS ELLYETT

To Whom It May Concern,

This letter has been produced to provide further information and clarification around items raised by the Byron Shire Council for the recently submitted Development Application (DA No. 10.2017.510.1) with Reference to the following drawings:

TP3.06	SUNSHADOWING DIAGRAMS	REV 4	05.09.2018
TP3.07	SUNSHADOWING DIAGRAMS	REV 3	06.08.2018
TP3.08	SUNSHADOWING DIAGRAMS	REV 3	06.08.2018

Myers Ellyett confirms that the sun shadowing diagrams contained within these drawings have been generated by our computer software Autodesk Revit Architecture with the following parameters:

Location: Byron Bay, Australia  
Latitude: -28.64 (south)  
Longitude: 153.61 (east)  
Daylight savings: Not included.

We confirm that these sun shading diagrams are accurate to the best of our abilities.

Should further clarification be sought, please don't hesitate to contact the undersigned.

Yours Sincerely,

Jade Myers & William Ellyett

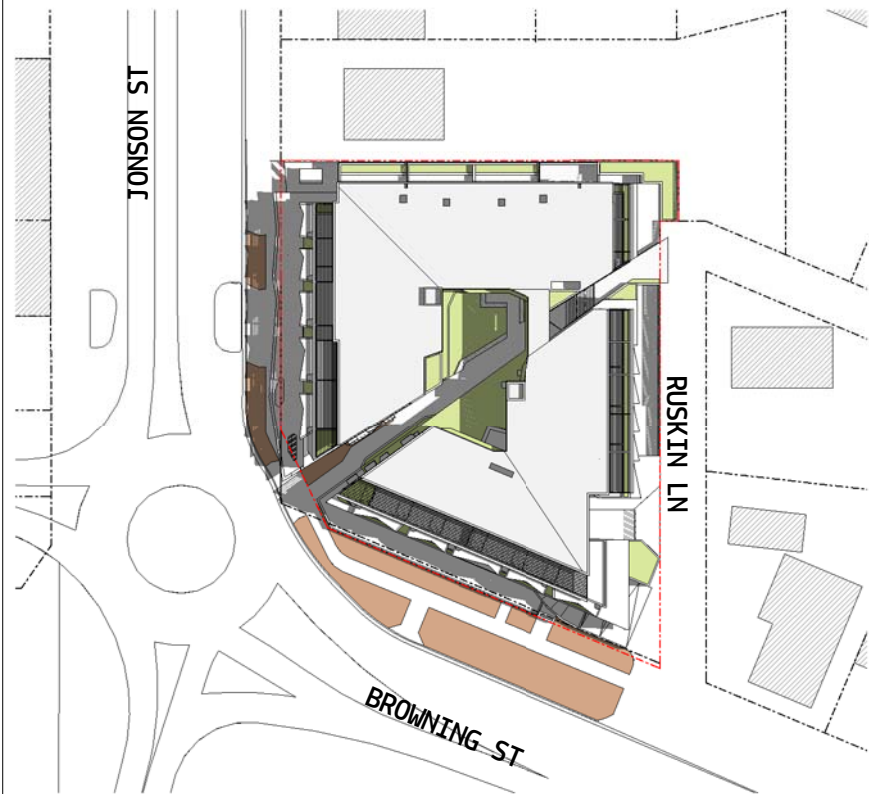
Directors

Myers Ellyett Pty Ltd

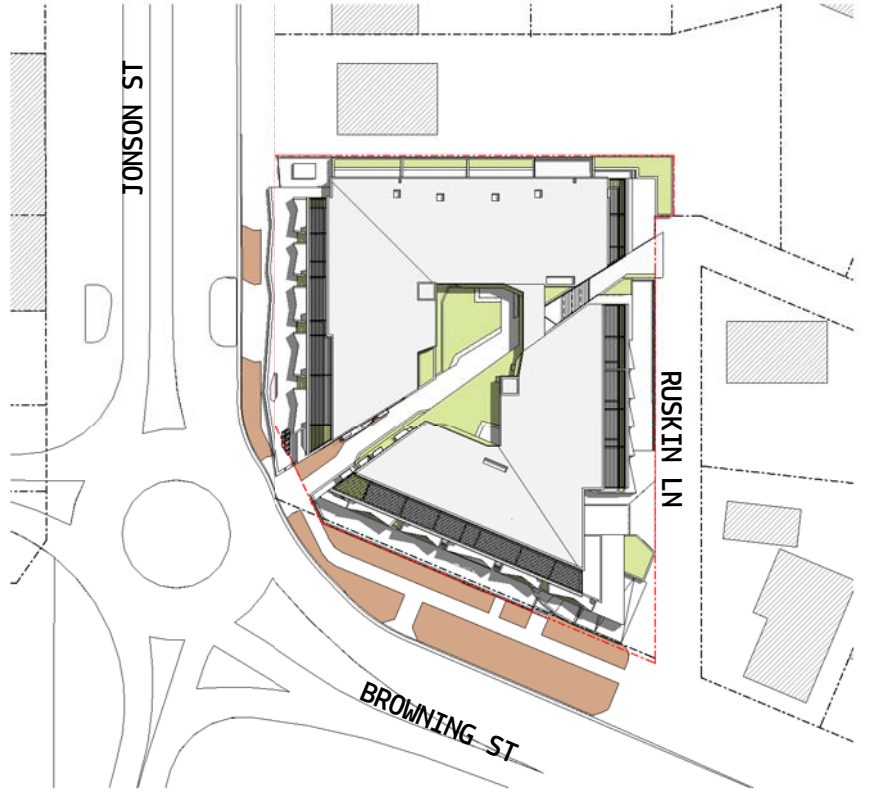
NSW Architects Registration Number 9820

QLD Architects Registration Number 4322

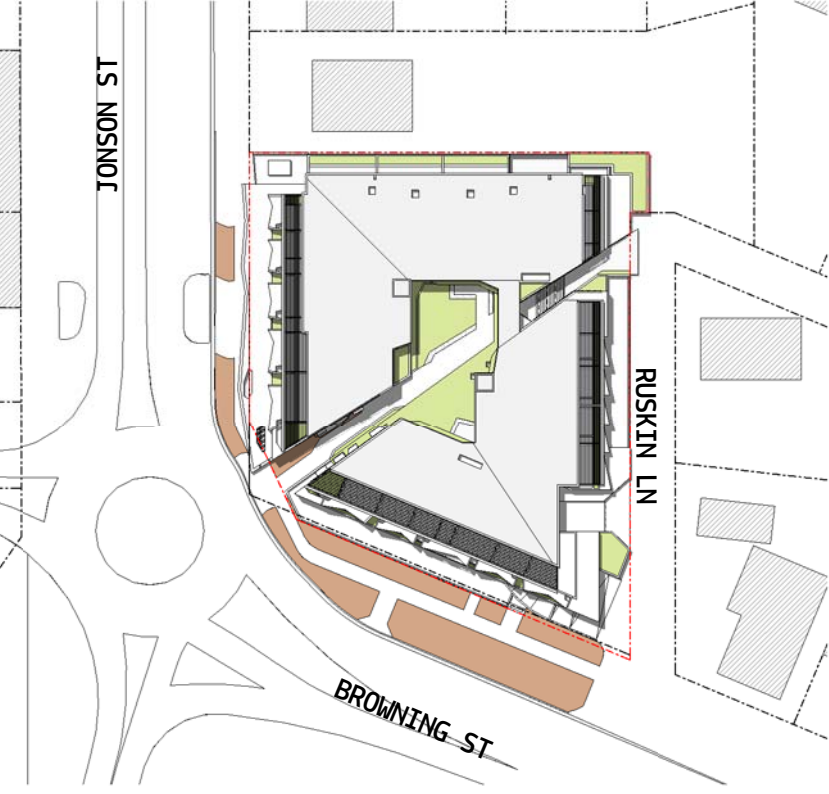




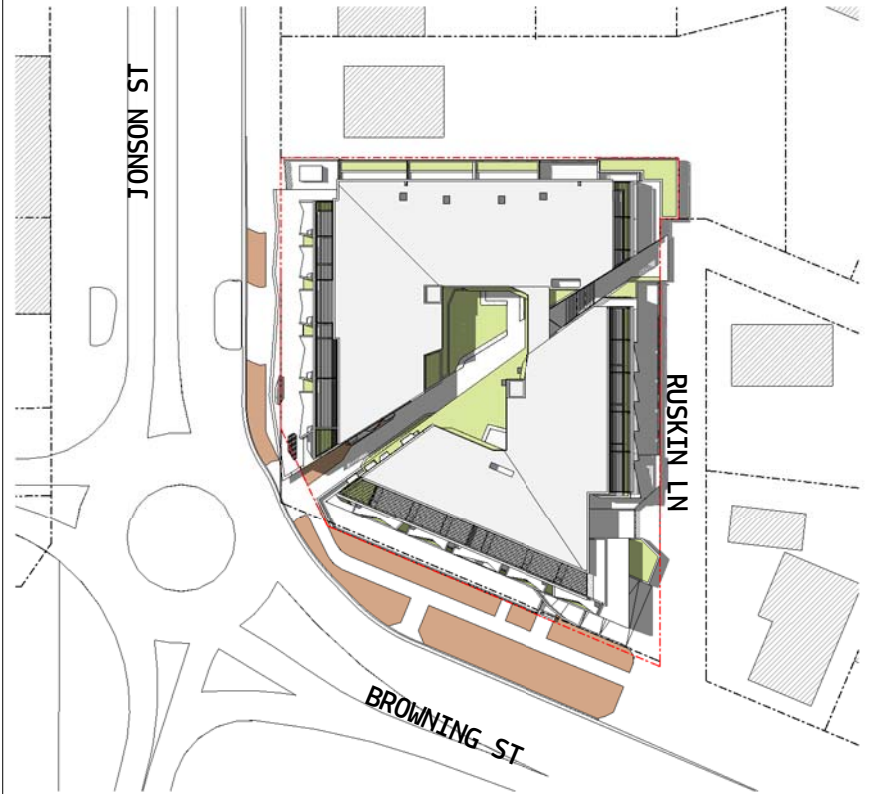
1 SITE SUN STUDY - SUMMER 9AM  
SCALE 1 : 500



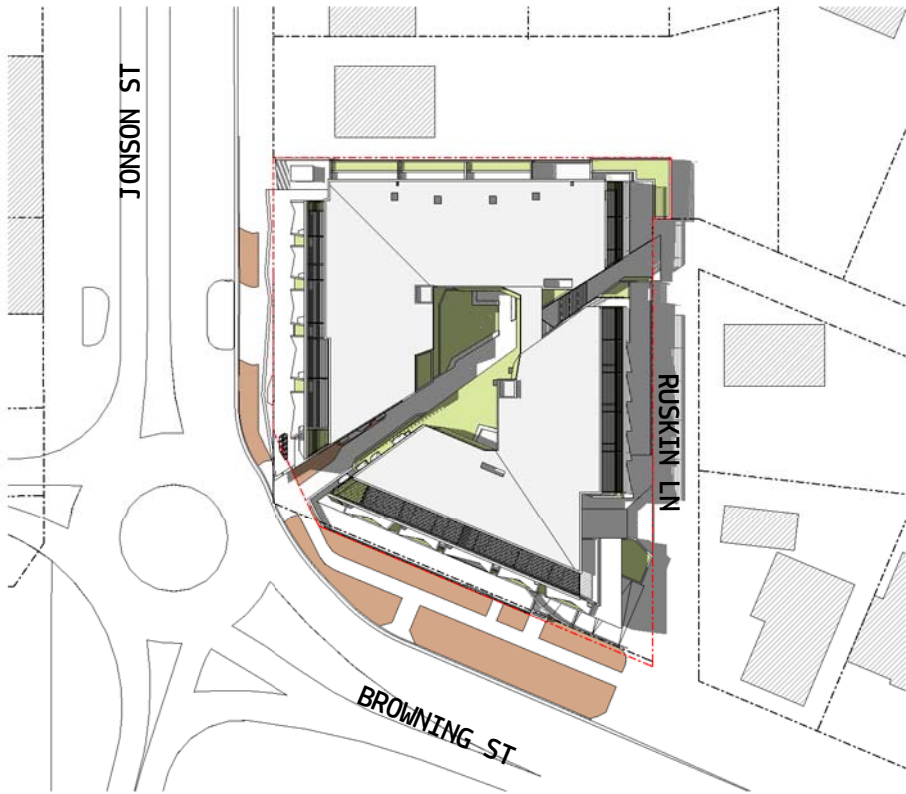
2 SITE SUN STUDY - SUMMER 11AM  
SCALE 1 : 500



3 SITE SUN STUDY - SUMMER 12PM  
SCALE 1 : 500



4 SITE SUN STUDY - SUMMER 1PM  
SCALE 1 : 500



5 SITE SUN STUDY - SUMMER 3PM  
SCALE 1 : 500

DISCLAIMER:  
MYERS ELLYETT Pty. Ltd. retains all common law, statutory law and other rights including copyright and intellectual property rights in respect of this document.  
The recipient indemnifies MYERS ELLYETT Property Pty. Ltd. against all claims resulting from use of this document for any purpose other than its intended use, unauthorized changes or reuse of the document on other projects without the permission of MYERS ELLYETT Property Pty. Ltd.  
Under no circumstance shall transfer of this document be deemed a sale or constitute a transfer of the license to use this document.

PRELIMINARY

3	06.08.2018	DA RF1	JM
2	21.07.2018	DA RF1	JM
1	15.08.2017	DEVELOPMENT APPLICATION	JM

No Date Description By

CLIENT  
JGD DEVELOPMENTS



PROJECT TITLE  
JONSON STREET MIXED USED  
DEVELOPMENT  
137-139 JONSON ST & 3 BROWNING ST, BYRON BAY

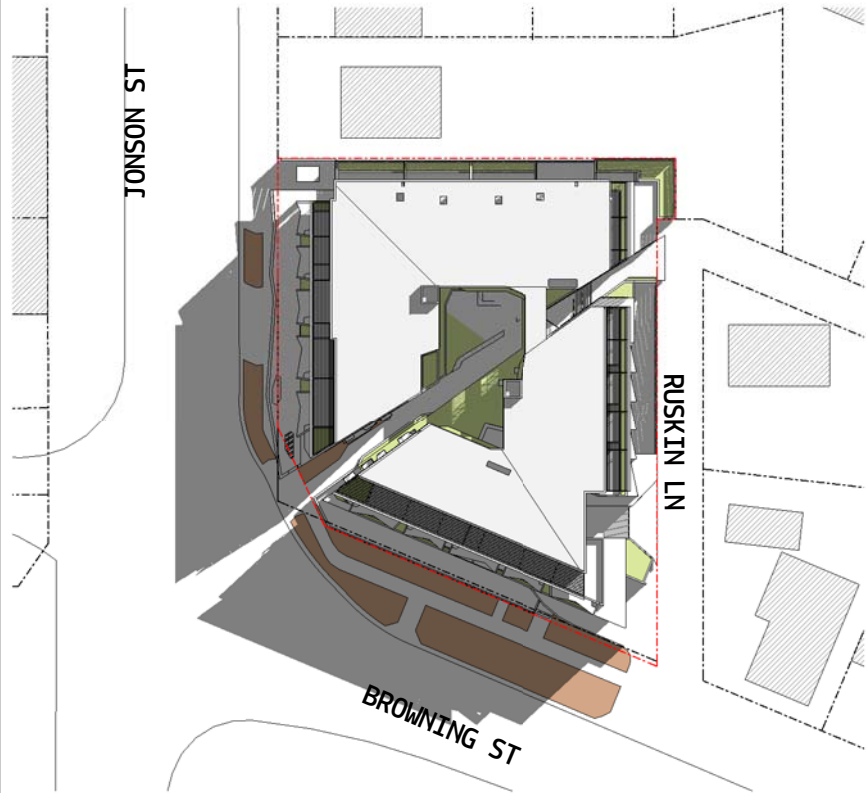
DRAWING TITLE  
SUNSHADING DIAGRAMS

SCALE: @ A1  
1 : 500  
PROJECT No:  
170102

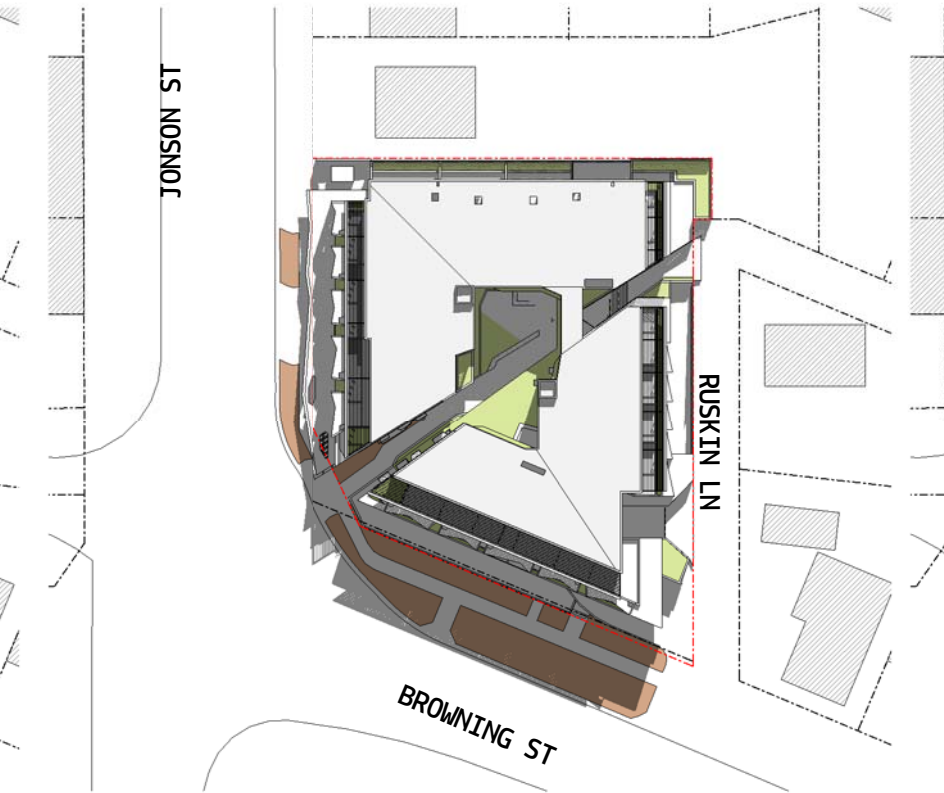
DATE: 2017	DWG No: TP3.07	REV 3
---------------	-------------------	----------

MYERS ELLYETT

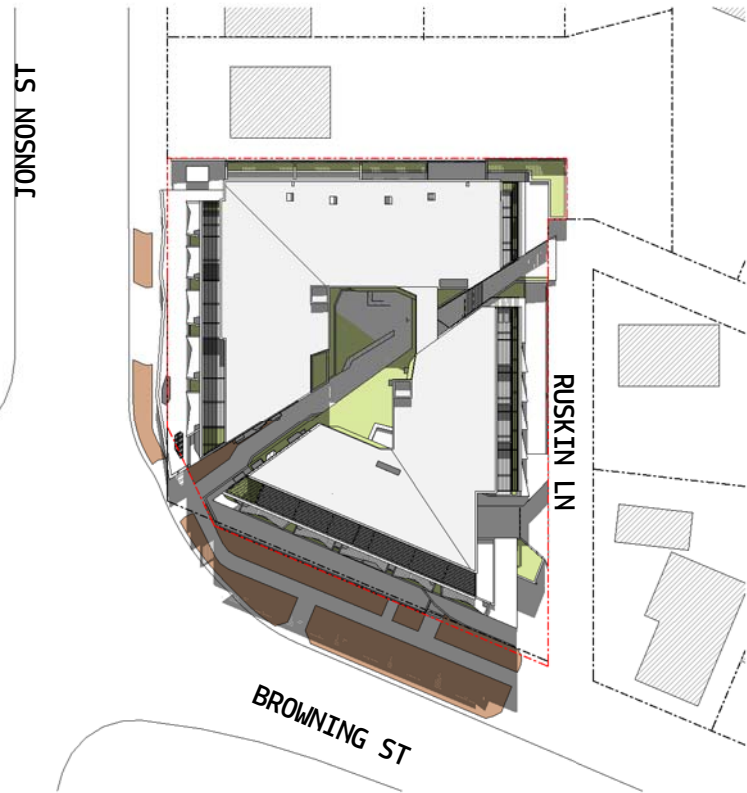
11 JARRO ST POORUNGOON VIC 3045  
17 10TH FLOOR  
www.myersellyett.com.au



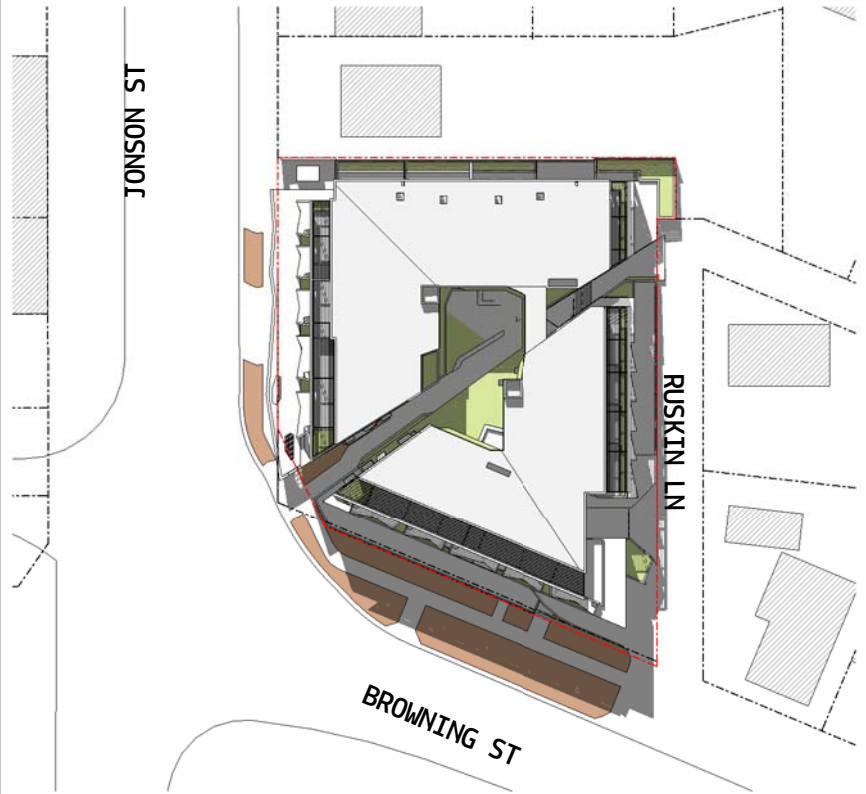
1 SITE SUN STUDY - WINTER 9AM  
SCALE 1 : 500



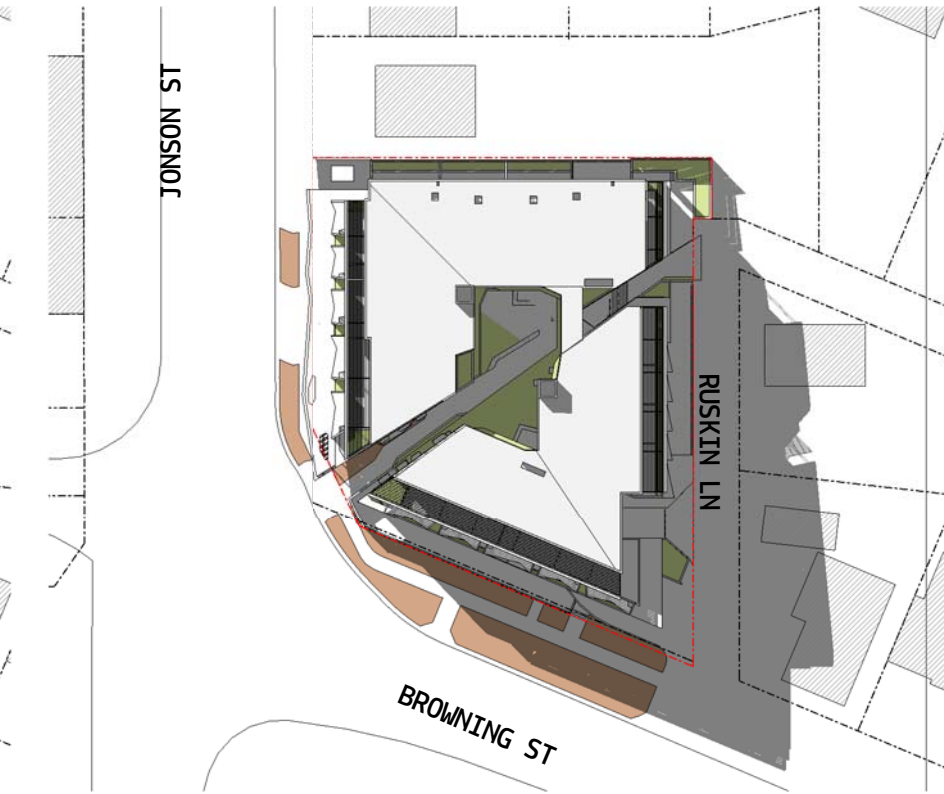
2 SITE SUN STUDY - WINTER 11AM  
SCALE 1 : 500



3 SITE SUN STUDY - WINTER 12PM  
SCALE 1 : 500



4 SITE SUN STUDY - WINTER 1PM  
SCALE 1 : 500



5 SITE SUN STUDY - WINTER 3PM  
SCALE 1 : 500

DISCLAIMER:  
MYERS ELLYETT Pty. Ltd. retains all common law, statutory law and other rights including copyright and intellectual property rights in respect of this document.  
The recipient indemnifies MYERS ELLYETT Property Pty. Ltd. against all claims resulting from use of this document for any purpose other than its intended use, unauthorized changes or reuse of the document on other projects without the permission of MYERS ELLYETT Property Pty. Ltd.  
Under no circumstance shall transfer of this document be deemed a sale or constitute a transfer of the license to use this document.

PRELIMINARY

4	05.09.2018	DA RF1	JM
3	06.08.2018	DA RF1	JM
2	21.07.2018	DA RF1	JM
1	15.08.2017	DEVELOPMENT APPLICATION	JM
No	Date	Description	By

CLIENT  
JGD DEVELOPMENTS



PROJECT TITLE  
JONSON STREET MIXED USED  
DEVELOPMENT  
137-139 JONSON ST & 3 BROWNING ST, BYRON BAY

DRAWING TITLE  
SUNSHADING DIAGRAMS

SCALE: @ A3  
1 : 500  
PROJECT No:  
170102

DATE: 2017	DWG No:	REV
DRAWN BY: ME	TP3.06	4

MYERS ELLYETT

31 JARVIS ST, PARRAMATTA NSW 2150  
31 JARVIS ST, PARRAMATTA NSW 2150  
www.myersellyett.com.au



## Docherty, Patricia

---

**To:** Docherty, Patricia  
**Subject:** FW: Jonson Browning Shadow  
**Importance:** High

**From:** Jade Myers [<mailto:jm@myersellyett.com.au>]  
**Sent:** 25 September, 2018 8:26 AM  
**To:** 'Malcolm Scott'  
**Cc:** 'Graham Dunn . Dunn Real Estate'; 'William Ellyett'  
**Subject:** RE: Jonson Browning

Hi Malcolm,

To clarify, the discrepancy on drawing TP3.06 relates only to the last diagram 'SITE SUN STUDY – WINTER 3PM'.

The previous drawing revision (revision 3) had the time set at 2pm, rather than 3pm.

The latest revision (revision 4) has the correct time set.

Regards

Jade

**Jade Myers**

Director

**MYERS ELLYETT**

21 Agars Street Paddington QLD 4064

0414 631 123

[jm@myersellyett.com.au](mailto:jm@myersellyett.com.au)

[www.myersellyett.com.au](http://www.myersellyett.com.au)

This email and any attachments may be confidential and also privileged. If you are not the intended recipient please notify the sender and delete all copies of this transmission immediately, along with any attachment. You should not copy it or use it for any purpose, nor disclose its contents to any other person.

# MINUTES OF MEETING



## LOCAL TRAFFIC COMMITTEE MEETING

Venue	Meeting Room 1, Station Street, Mullumbimby
Date	Tuesday, 31 October 2017
Time	10.00am
Committee Members	Alan Eichmann – Roads and Maritime Services Snr Constable David Brigg – Police Cr Basil Cameron Tamara Smith MP



# BYRON SHIRE COUNCIL

## LOCAL TRAFFIC COMMITTEE MEETING MINUTES

31 OCTOBER 2017

### REPORT OF THE LOCAL TRAFFIC COMMITTEE MEETING HELD ON TUESDAY, 31 OCTOBER 2017

File No: I2017/1668

MEETING COMMENCED: 10:15am

PRESENT:

Councillor: Cr Basil Cameron

Roads and Maritime Services Representative: Alan Eichmann

Tamara Smith MP

Staff: Evan Elford

Minutes: Stephanie Tucker

APOLOGIES:

There were no apologies.

Not present: Snr Constable David Brigg

DECLARATIONS OF INTEREST

There were no declarations of interest raised.

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

**Committee Recommendation:**

**That the minutes of the Local Traffic Committee Meeting held on 19 September 2017 be confirmed.**

(Cameron/Eichmann)

*The recommendation was put to the vote and declared carried.*

MATTERS ARISING

There were no matters arising.

OUTSTANDING ISSUES/RESOLUTIONS

There were no outstanding issues/resolutions.

REGULATORY MATTERS

**Report No. 6.1**

**Traffic - Bangalow Rd 440 - Regulatory Signage - Road Narrows**

**File No:**

**I2017/955**

**SUMMARY**

Byron Shire Council as part of its 2017/18 Capital Works program is upgrading Bangalow Road to improve road user safety including the installation of new signage and line marking.



### OFFICER RECOMMENDATION

That Council approve the installation of line marking and signs as per the 24.2014.62.1 – Bangalow Rd 440 drawing - Signage, Line marking and Safety Barrier C03 Issue B.

### LINKAGE TO OUR COMMUNITY STRATEGIC PLAN

<b>Theme</b>	Community Infrastructure	Services and infrastructure that sustains, connects and integrates our communities and environment.
<b>Objective</b>	CI2	Provision of essential services
<b>Strategy</b>	CI2.3	Provide roads and drainage infrastructure within the Shire
<b>Measures</b>	CI2.G	Provide road, drainage and transport infrastructure within the Shire

### BACKGROUND

There is an existing section of Bangalow Road between Talofa and the St Helena Road of 300 metre that is has limited width, rainforest on both sides with a poor wearing surface. By carrying out road safety improvements including new line markings and signs road user safety can be improved.

### KEY ISSUES

1. The road width is inadequate and road works are required to improve the width and wearing surface.
2. People are stopping in this area to enjoy the view and encroaching on the travel lanes.

### COUNCIL IMPLICATIONS

- **Budget/Financial**  
This projected is fully funded.
- **Asset Management**  
This projected is fully funded.

**▪ Policy or Regulation**

Delegated to council for authorisation in conjunction with:

- Prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.

- AS 1742.2 (Devices) Clause 4
  - W2-8 (55 km/hr advisory)
  - W1-4 (Reverse Curve)
  - CAMs (Chevron alignment markers)
  - W4-3 (Road Narrows)
  - G9-9 (Reduce Speed)
  - W2-8 (Side Road Intersection)
- RTA Delineation – Section 4 Longitudinal Markings
  - Double barrier white centre line
  - Edge Line Marking
  - Give way Line Marking

**▪ Consultation**

No consultation has been completed at this time.

**▪ Legal and Risk Management**

The installation of Kerb and Channel will remove all parking opportunities in this 300m length of road.

Committee Comments

There were no Committee comments

Management Comments

There were no Management comments

**Committee Recommendation:**

**That Council approve the installation of line marking and signs as per the 24.2014.62.1 – Bangalow Rd 440 drawing - Signage, Line marking and Safety Barrier C03 Issue B.**

(Smith/Cameron)

*The recommendation was put to the vote and declared carried.*

---

**Report No. 6.2**

**Traffic - Station St**

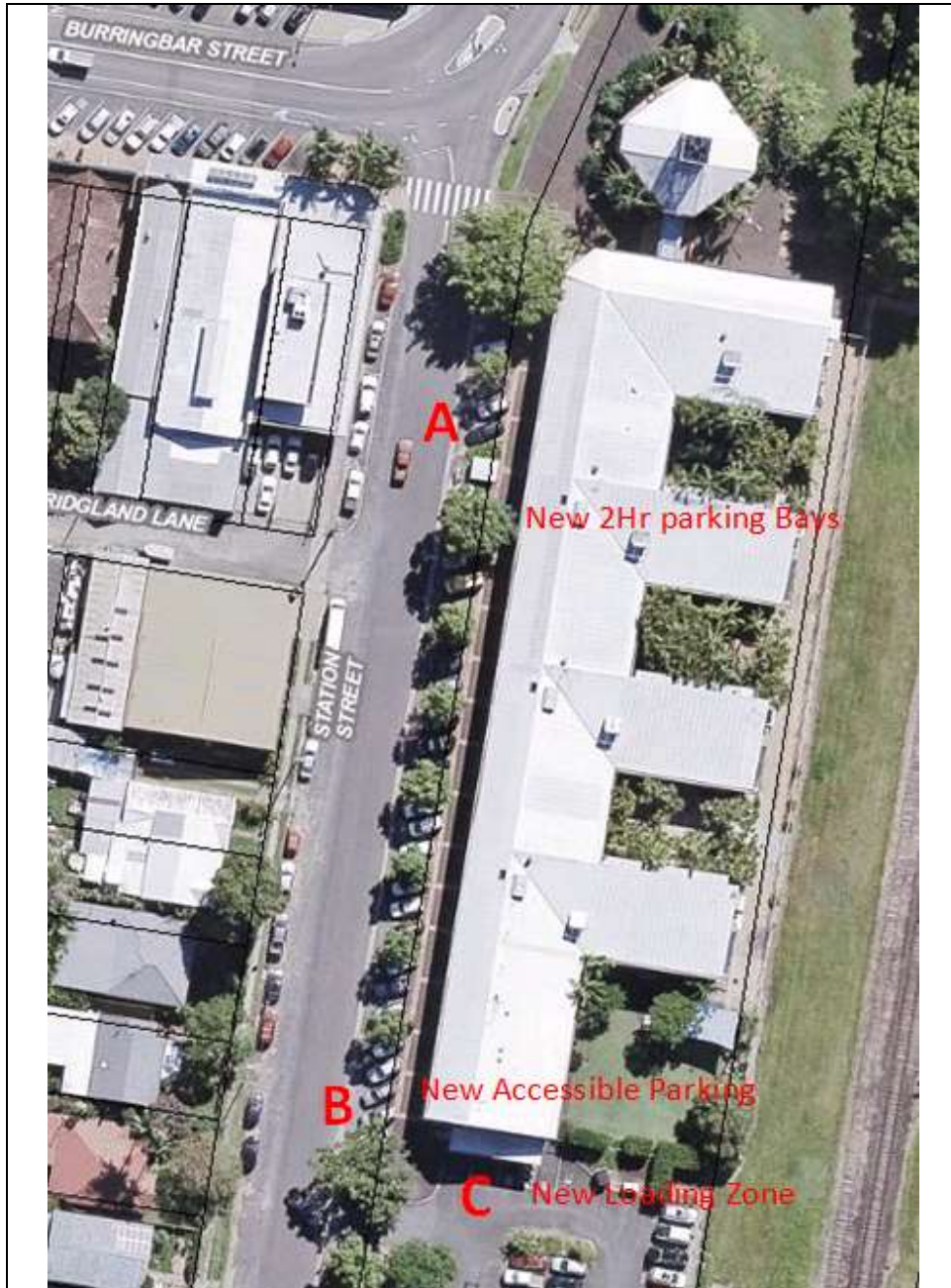
**File No:**

I2017/1357

**SUMMARY**

Byron Shire Council has commenced work on the Customer Service Foyer Upgrade Project which also incorporates external improvement works for customer access, parking and delivery of goods. The proposed modifications and upgrades in Station Street including the installation of new signage and line marking will improve road user safety.

**Figure 1. Proposed works areas in Station Street Mullumbimby**



**OFFICER RECOMMENDATION**

That Council approve the installation of line marking and signs for the relocation of accessible parking, loading zones alterations and extension of 2hr parking zone in Station Street Mullumbimby as shown in Figure 1.

**LINKAGE TO OUR COMMUNITY STRATEGIC PLAN**

<b>Theme</b>	Community Infrastructure	Services and infrastructure that sustains, connects and integrates our communities and environment.
<b>Objective</b>	CI2	Provision of essential services
<b>Strategy</b>	CI2.3	Provide roads and drainage infrastructure within the Shire
<b>Measures</b>	CI2.G	Provide road, drainage and transport infrastructure within the Shire

**BACKGROUND**

Byron Shire Council has commenced work on the Customer Service Foyer Upgrade Project which also incorporates external improvement works for customer access, parking and delivery of goods.

The proposed works are to be carried out in 3 locations as indicated on Figure 1 within Council's carpark and Station Street as described below:

**Works Area A – Station St.**

Remove existing loading zone signage and associated pavement marking. Install new 2Hr parking signs and posts to match existing for new parking bays in the old loading zone area.

**Work Area B – Station St.**

Remove existing standard parking bay lines and signs as necessary and provide 2 new accessible parking bays. Install new access ramps in existing kerb and gutter and all necessary associated signs, line and pavement marking.

**Work Area C – Council Carpark.**

Remove accessible parking bay, signage and linemarking that does not meet current standards and establish new loading zone and associated signage and linemarking

Re-location of accessible parking spaces at the rear of Council's administration office building to Station Street will better cater for the needs of the Mullumbimby Library patrons.

By carrying out road safety improvements including new line markings and signs road user safety can be improved.

**KEY ISSUES**

1. Existing accessible parking areas do not meet current standards.
2. People are stopping in this area to enjoy the view and encroaching on the travel lanes.

**COUNCIL IMPLICATIONS**

- **Budget/Financial**  
This project is fully funded.
- **Asset Management**  
This project is fully funded.
- **Policy or Regulation**  
Delegated to council for authorisation in conjunction with prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.
- **Consultation**  
No consultation has been completed or considered necessary as the proposed work improves road user functionality and safety by replacing existing facilities that do not meet current standards.
- **Legal and Risk Management**  
The installation of new accessible parking bays and loading zone facilities will improve road user safety.



Committee Comments

There were no Committee comments

Management Comments

There were no Management comments

**Committee Recommendation:****That Council**

1. **Retain the existing Loading Zone in Station St.**
2. **Approve signage and line marking to facilitate required changes to provide an accessible parking bay in Station Street, Mullumbimby.**
3. **Council prepare a vehicle movement plan to be provided to delivery drivers outlining new delivery arrangements to be implemented by council**

(Cameron/Smith)

*The recommendation was put to the vote and declared carried.*

---

**Report No. 6.3**                      **Regulatory Signage & Linemarking - Pinegroves Road and Tyagarah Road, Myocum RE: 10.2016.486.1 - Storage Premises**  
**File No:**                              I2017/1447

**SUMMARY**

Council has received a request (Attachment 1) from Ray Darney Town Planning seeking authority from Council in its capacity as delegate of Roads and Maritime Services (RMS) for the installation of prescribed traffic control devices in Pinegroves Road and Tyagarah Road, Myocum.

**OFFICER RECOMMENDATION**

That Council approve the use of the signage and line marking to Pinegroves and Tyagarah Roads in accordance with the signage and line marking plans prepared by Rob Aungle & Associates, numbered H-01, H-02 & H-03 and dated 22.09.17 (Attachment 2).

**BACKGROUND**

On 8 September 2017, the Land and Environment Court, NSW (LEC NSW) granted consent under section 138 of the Roads Act 1993 to “erect a structure or carry out a work in, on or over a public road” in the vicinity of 31 Pinegroves Road, Myocum, in relation to development consents for 31 Pinegroves Road, Myocum – storage premises (10.2016.486.1) and modification of approval for road transport terminal (10.2013.559.4) also granted by LEC NSW at the same time.

Condition 1 of the Roads Act consent states:

1. This consent does not operate unless and until authority from Council in its capacity as delegate of Roads and Maritime Society is obtained for the installation of the prescribed traffic control devices (as defined in the Road Transport Act 2013) as shown in the plans referred to in condition 2.

The signage and line marking plans submitted by Ray Darney Town Planning (Attachment 2) are consistent with the plans approved by LEC NSW (Attachments 3 & 4) referred to in condition 2 of the Roads Act consent, which states:

# BYRON SHIRE COUNCIL

## LOCAL TRAFFIC COMMITTEE MEETING MINUTES

31 OCTOBER 2017

2. Subject to the conditions that follow, the road works the subject of this consent are generally shown in the following concept plans:

Document No.	Document Name	Revision	Prepared by	Dated
P3042 Sheet 1	Intersection line marking plan	Issue 1	Bitzios Consulting Pty Ltd	27 July 2017
P3042 Sheet 1	Driveway Widening	Issue 1	Bitzios Consulting Pty Ltd	28 July 2017

The Roads Act consent also requires upgrade works, such as pavement widening and patching, to facilitate the required line marking.

### KEY ISSUES

1. The Council must refer all traffic related matters to the Local Traffic Committee (LTC) prior to exercising its delegated functions for the Regulation of Traffic.
2. The signage and line marking has been approved by the Land and Environment Court of NSW (LEC NSW) but require authority from Council in its capacity as delegate of Roads & Maritime Services (RMS).

### COUNCIL IMPLICATIONS

- **Budget/Financial**  
Nil
- **Asset Management**  
Council will need to maintain signage and line marking ongoing, including cleaning and replacement (if necessary).
- **Policy or Regulation**  
Delegated to council for authorisation in conjunction with prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.
- **Consultation**  
No consultation is required as the consent has been granted by the Land and Environment Court of NSW for the works under section 138 of the Roads Act 1993.

#### Committee Comments

The committee's recommendation is based on the understanding that these works are being undertaken by the developer at no cost to council.

#### Management Comments

There were no Management comments.

**Committee Recommendation:**

**That Council approve the use of the signage and line marking to Pinegroves and Tyagarah Roads in accordance with the signage and line marking plans prepared by Rob Aungle & Associates, numbered H-01, H-02 & H-03 and dated 22.09.17.**

(Cameron/Eichmann)

*The recommendation was put to the vote and declared carried.*

---

**Report No. 6.4                      Bangalow Town Centre Pay Parking Scheme - Endorsement of  
Council Resolved Time Limits in Bangalow**  
**File No:                                I2017/1525**

Council resolved on 23 February 2017 under Resolution 17-055 to undertake investigation and community consultation regarding the possible implementation of a revised parking management strategy and/or a pay parking scheme in the Bangalow Town Centre.

The initial investigation prepared by Traffic and Parking Systems Group (TPS) considered the current demand and potential alternative arrangements including alternative time restrictions and the potential implications of introducing a pay parking system.

Council staff performed community consultation in combination with the movement and parking review intended to inform the Bangalow Village Plan. Based on the survey and consultation feedback, it is proposed that the majority of the Bangalow community would be supportive of the parking time limits changing in line with the TPS report. It was also noted in the report that the majority of feedback indicated that pay parking would be supported if the revenue generated was reinvested into Bangalow to better the amenity and infrastructure in the town.

Council subsequently resolved 17-356 as follows;

1. *That Council endorse the implementation of the changes to the parking time limits in the Bangalow town centre, as depicted in the proposed parking times in Figure 1, being 1P throughout Byron Street and part of Station Street, with 2P in the remainder of Station Street.*
2. *That Council endorse the introduction of a Bangalow Town Centre Pay Parking Scheme, which is in line with the existing Byron Bay town centre parking scheme.*
3. *That the Bangalow Town Centre Pay Parking Scheme:*
  - *applies a unilateral parking charge of \$4 per hour; and*
  - *incorporates annual exemptions in accordance with Council's approved fees and charges.*
4. *That a pay parking area be endorsed as depicted in Figure 2, which covers:*
  - a) *Byron Street, from the roundabout crossing Granuaille Road to Market Street; and*
  - b) *Station Street, excluding the all day car park to the south.*
5. *That Roads and Maritime Services (RMS) concurrence be sought prior to the implementation of the Bangalow Town Centre Pay Parking Scheme.*
6. *That Council approve a budget of \$75,000 to implement the paid parking scheme and revised parking time limits, from the Pay Parking Reserve.*
7. *That Council receive a report after twelve (12) months of the Bangalow Pay Parking Scheme being in operation, to review:*
  - *operational costs;*

- revenue;
  - effect on the Bangalow Village and locality; and
  - projects funded by the scheme.
8. That Council dedicate all net revenue received from pay parking in Bangalow to infrastructure projects identified by the Bangalow Village Plan Guidance Group and in Council's asset management plan and that those projects be incorporated into the annual Council budgetary process.
  9. That the paid parking scheme commence 1 January 2018 and prior to this commencement Council work alongside Bangalow Guidance Group to identify:
    - a) projects to be funded from revenues raised, including pedestrian, cycling and mobility improvements as priorities identified in the consultation.
    - b) impacts and implications of paid parking on the overall Masterplan of Bangalow including parking outside the town centre.
    - c) design and locations of pay stations that acknowledge the heritage nature of the main street.

Figures 1 and 2 below depict the parking time limit arrangement and pay parking area outlined in the TPS report to be implemented in Bangalow on 1 January 2018.

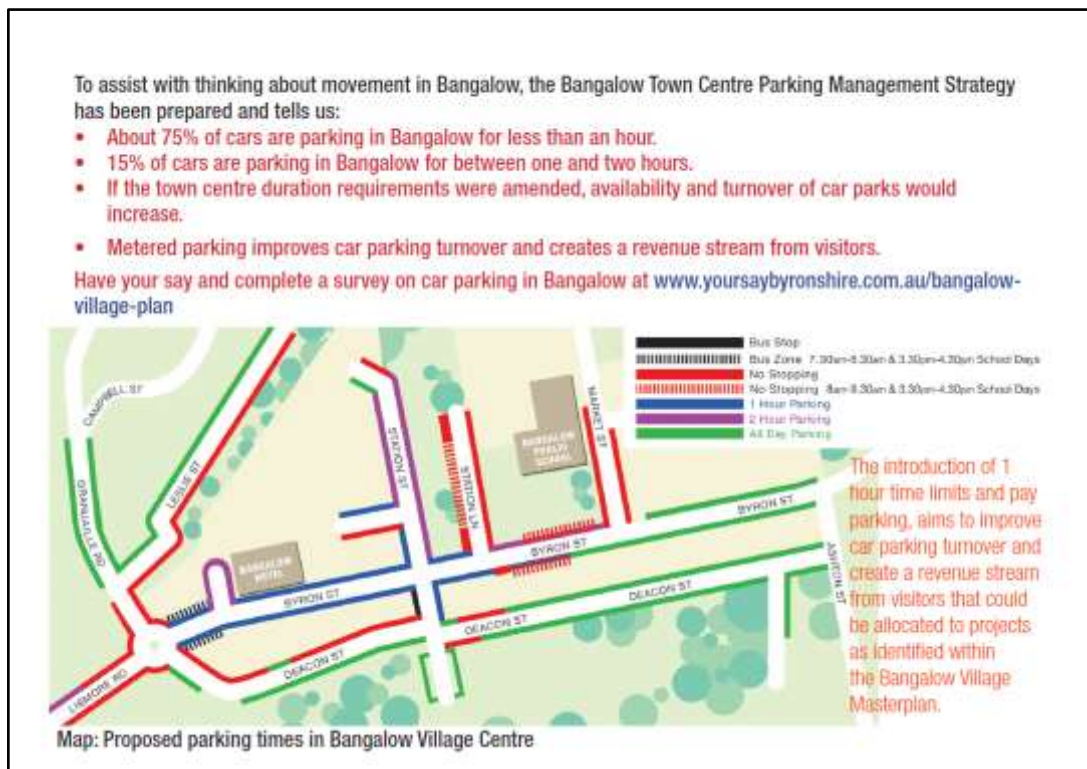


Figure 1 – Bangalow Township Consultation Flyer



**Figure 2 – Bangalow Township Proposed Pay Parking Area**

Committee Comments

There were no Committee comments

Management Comments

There were no Management comments

**Committee Recommendation:**

**That the Local Traffic Committee note the proposal to introduce the Bangalow Town Centre Pay Parking Scheme on 1 January 2018 and have no objection to Council Resolution 17-356 detailed above, providing concurrence for:**

- a) **Item 1, which is to implement the changes to the parking time limits in the Bangalow Town Centre, as depicted in the proposed parking times in Figure 1, being 1P throughout Byron Street and part of Station Street, with 2P in the remainder of Station Street with the extension of the metered scheme to include all of Station St. north.**
- b) **Items 2 and 3, detailing that the pay parking scheme will be in line with the Byron Bay town centre parking scheme, incorporating annual exemptions in the format of a resident and business parking permits in line with Council's approved fees and charges.**

(Cameron/Eichmann)

*The recommendation was put to the vote and declared carried.*

**Report No. 6.5**

**Event Road Closure - Soul Street New Year's Eve and First Sun New Year's Day, Byron Bay**

**File No:**

I2017/1538

"Safe Summer in the Bay" 2016/2017 produced a successful New Year's Eve and New Year's Day (NYD) in Byron Bay. Estimated crowd numbers were up (more than 10,000 estimated in Soul Street NYE), Police reported a very small number of arrests and there were no major incidents

reported by emergency services.

The first meeting of stakeholders for the 2017/18 event was held on the 2 August 2017. The significant outcome from this meeting was advice from NSW Police that this year's event would need to include counter-terrorist measures. These measures are now required for all public events where more than 3,000 people are expected.

### **Counter-Terrorism**

The Commonwealth Government recently released a report titled *Australia's Strategy for Protecting Crowded Places from Terrorism*. Following is an extract from the report:

Crowded places such as stadiums, shopping centres, pedestrian malls, and major events will continue to be attractive targets for terrorists. The current National Terrorism Threat Level in Australia is PROBABLE, as outlined on [www.nationalsecurity.gov.au](http://www.nationalsecurity.gov.au). This reflects the advice of the Australian Security Intelligence Organisation (ASIO) that individuals and groups continue to possess the intent and capability to conduct a terrorist attack in Australia.

Owners and operators of crowded places have the primary responsibility for protecting their sites, including a duty of care to take steps to protect people that work, use or visit their site from a range of foreseeable threats, including terrorism..... The approach taken to protect crowded places should be nationally consistent, proportionate and, to every extent possible, preserve the public's use and enjoyment of these places.

The strategy has a number of supplementary materials including a self-assessment tool, a security audit tool, hostile vehicle mitigation guidelines, chemical weapon guidelines, active armed offender guidelines and improvised explosive device guidelines.

Tweed – Byron Local Area Command have indicated they are required to put into place a Counter-Terrorism Plan for any large gatherings occurring within the Shire, which includes Soul St NYE.

### **Road Barriers**

The key change for traffic management for 2017 New Year's Eve is the introduction of counter-terrorism measures for 'hostile vehicles'. Barriers have been incorporated into the attached traffic control plans for this purpose. Some barriers are fixed (ie concrete) and others are flexible (Council have purchased several of the Modular Physical Barriers as per the attached brochure) to allow emergency and other vehicles access to the event site as required. In order to allow enough time to place the concrete barriers, the road closure has been moved forward to 6am on 31/12/17.

Protection against vehicle borne attack is a key focus area from NSW Police. Road barriers are required to be of sufficient capacity to prevent unauthorised access by a speeding truck.

### **New Year's Eve**

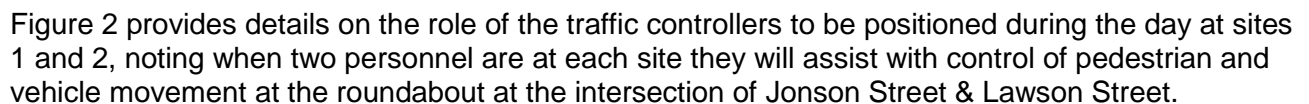
Council last year (2016) held the fourth annual 'Soul Street' NYE event which required a road closure of the main street of Byron Bay, being Jonson Street, between Lawson Street through to the car park entry at Railway Park just north of Marvell Street. The same road closure is now sought for the 2017 NYE event to be held Sunday 31 December 2017 with the closure to take effect from 6 am as noted above. The road closure would then be lifted no later than 7am the following morning (1 January 2018).

Other closures are shown in Figure 1, such as securing of Council owned and operated public car park (Lawson Street south car park) for participants of the event only (e.g. stall holders) and provision of an emergency vehicle access route under guidance of traffic control personnel positioned at sites 2 and 3. Removal of parking from streets (as per dotted red line) from 6am will also occur as will traffic control personnel which include two at each of the sites (1, 2 and 3) as per previous years, but with an additional two personnel located at the roundabout at the intersection

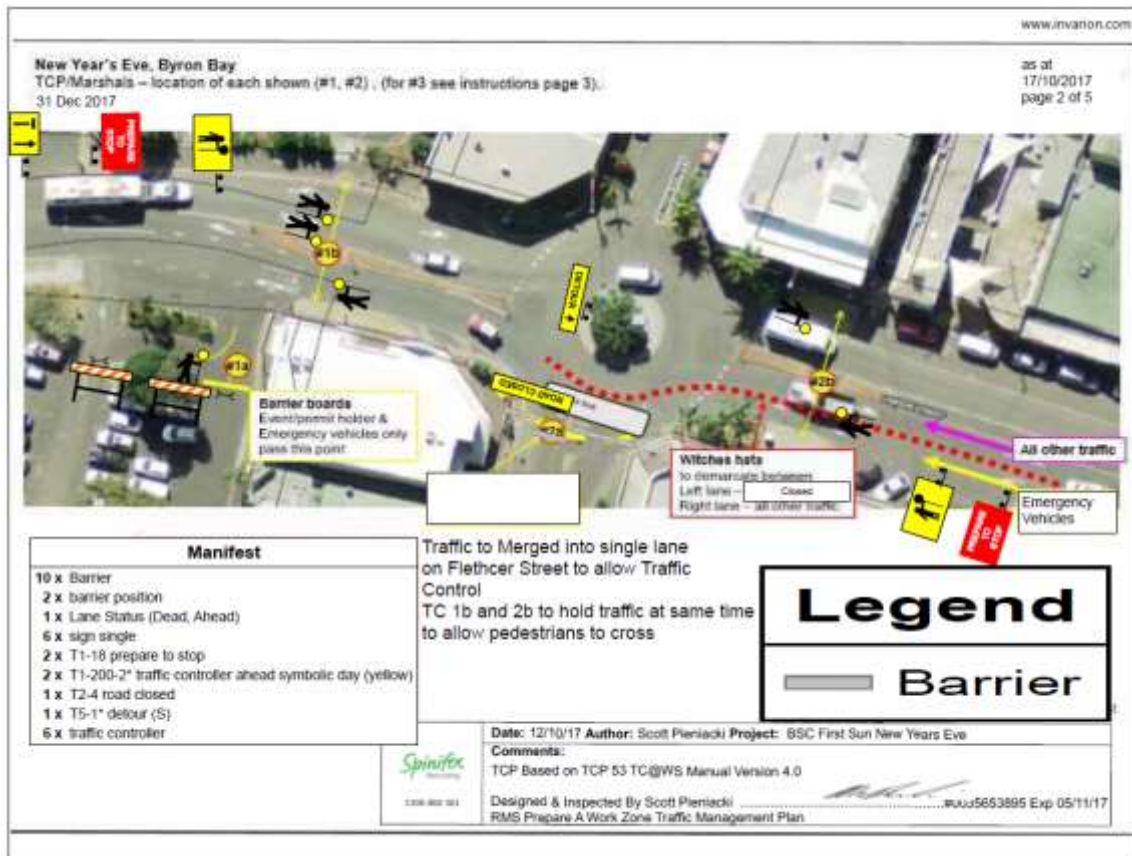


## 31 OCTOBER 2017

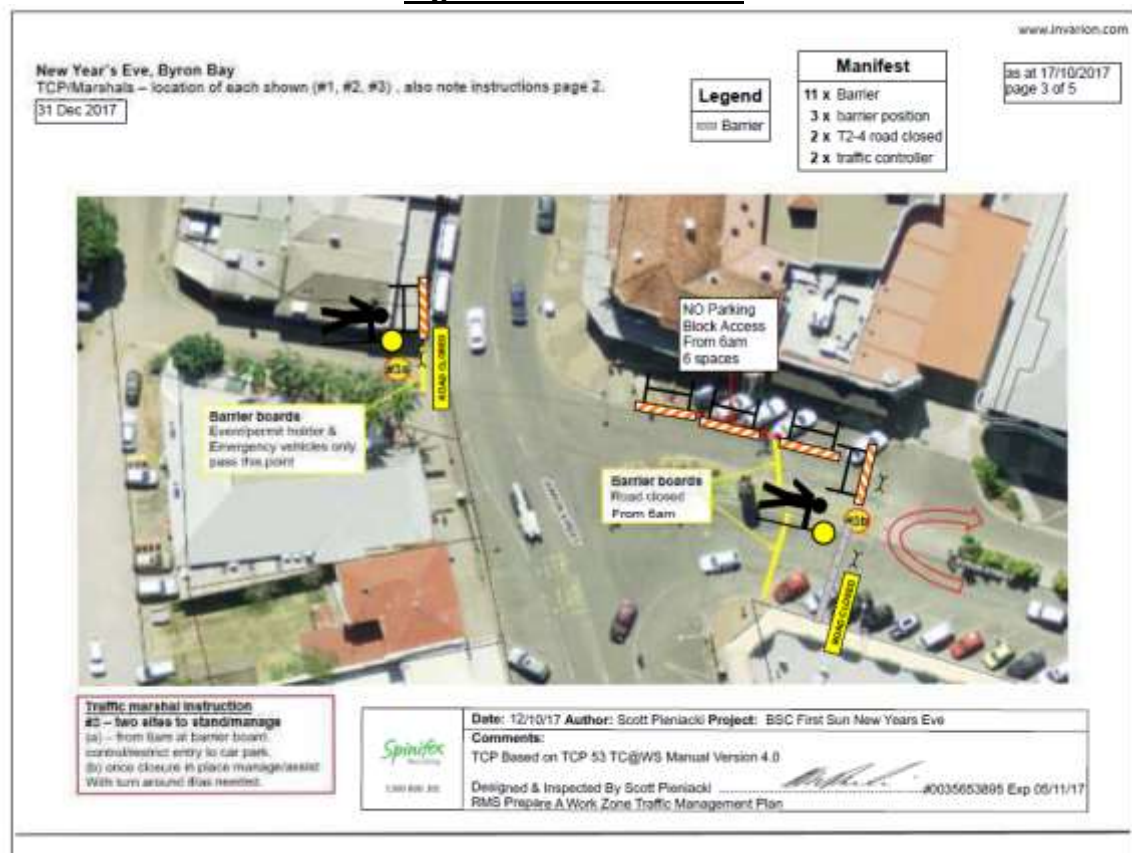
### Figure 1 – Traffic Control Plan concept



**Figure 2 – TCP for Site 1 and Site 2**



**Figure 3 – TCP for Site 3**

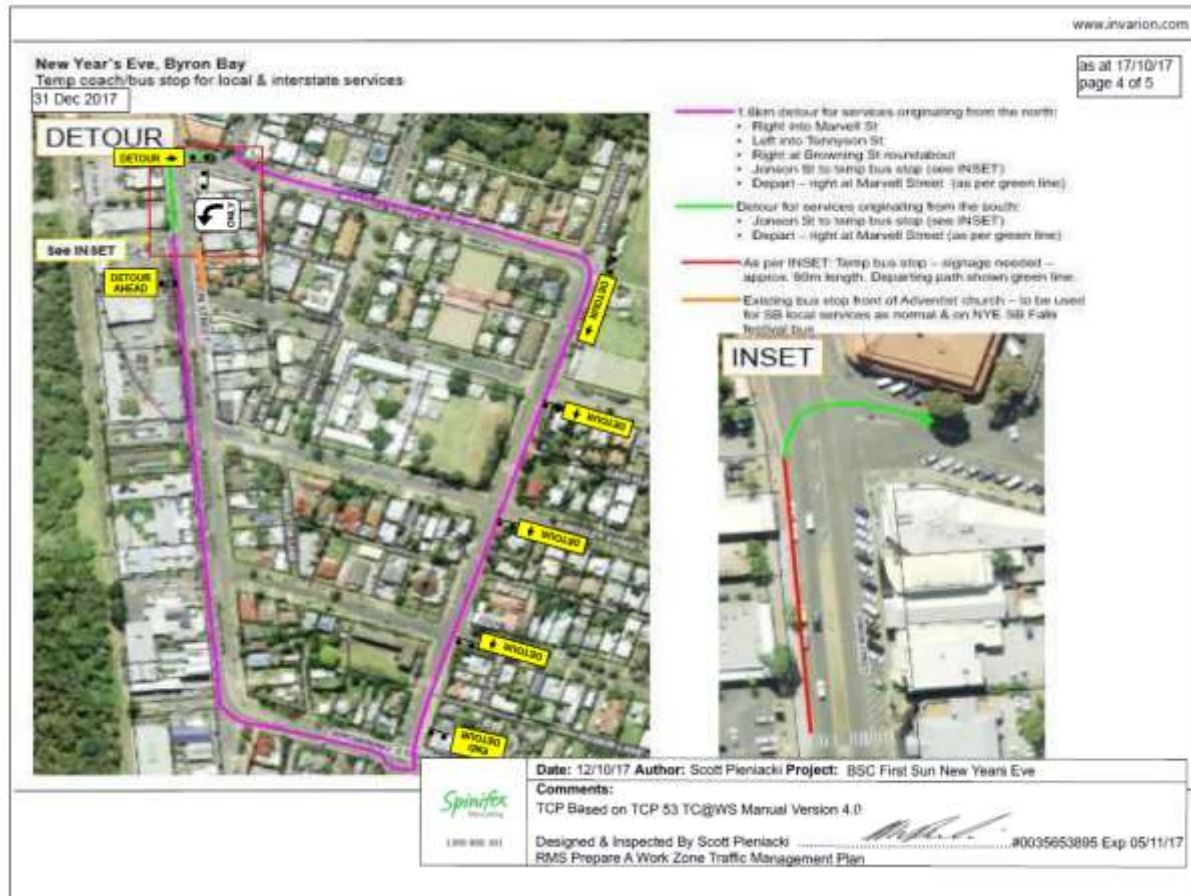


It should be noted the road closure impacts on local taxi and bus operators and interstate coach services. As in the past, these stakeholders will be advised directly and accommodated where



possible, noting this NYE the main bus/coach stop will be for taxi and smaller passenger service vehicles only while the bus/coach and larger vehicles will be provided for south of the main stop so as they avoid the turn-around south end of the road closure and can exit directly via Marvell Street. Both south and north bound vehicles can use this temporary bus/coach stop if they wish by detouring or alternatively (as local services do) use the existing southbound bus stop opposite.

**Figure 4 – TCP for Detour and Temporary Coach/Bus Stop**



### **New Year's Day**

On 1 January 2016, event was held for the second time at the Cape Byron Lighthouse. It has been a very successful event with approximately 1,000 people attending and it is proposed that the same event be held again on Monday 1 January 2018.

During the 2016 event, vehicles parked on both sides of Lighthouse Road leading up to Cape Byron Lighthouse and pedestrians walked in large groups along the road. To minimise the impact on traffic flow, a traffic control plan (Figure 5) was developed for Lighthouse Road for the 2017 event and proved very successful in managing community safety.

www.invarion.com

**Manifest**

- 1 x barrier position
- 2 x light tower
- 1 x R4-12
- 6 x R4-212
- 17 x sign single
- 3 x T1-1B prepare to stop
- 3 x T1-200-2\* traffic controller ahead symbolic day (yellow)
- 3 x T1-5-2 \* workers ahead symbolic day
- 1 x T2-4 road closed
- 1 x T8-2L pedestrians (L)
- 1 x T8-2R pedestrians (R)
- 3 x traffic controller
- 1 x VMS Board (6 panels)

No parking on  
road shoulder  
Lighthouse Road  
Past This Point  
Offenders will be  
fined

**Date:** 12/10/17 **Author:** Scott Pieniacki **Project:** BSC First Sun Lighthouse Walk

**Comments:**

TCP Based on TCP 83 TC@WS Manual Version 4.0

TCP Designed for Pedestrian Safety

Pedestrians to be Directed up the Light house Down Road

Lighthouse Down Road Speed limit to Be reduced to 10 km per hour

Traffic Controllers to hold pedestrian till there is a group before stopping Traffic.

Spinifex  
recycling

1 200 999 301

Designed & Inspected by Scott Pieniacki

RMS Prepare A Work Zone Traffic Management Plan

#0035653895 Exp 05/11/17

## Committee Comments

## Management Comments

**Committee Recommendation:**

- 
- page 17

event prior to implementation and is subject to the following requirements:

- a. traffic control plans are designed and implemented by those with the appropriate NSW (RMS) accreditation;
- b. advertising is undertaken in accordance with the Roads Act, including the publication of a map and explanatory notes in a local newspaper and on Council's website;
- c. the letterbox drop of properties adjacent to and prior of the Jonson Street closure and Bay Street, Marvell Street and Byron Street parking changes; and
- d. all parties involved in Council's NYE events hold, or least covered by, appropriate and relevant levels of insurance and public liability cover as required by Council.
- e. That council should liaise with NSW Police to prepare a confidential counter-terrorism plan for the event and consider alternate additional barriers in strategic locations in consultation with NSW Police.

(Smith/Cameron)

*The recommendation was put to the vote and declared carried.*

**Report No. 6.6**      **DA 10.2017.337.1 - Change of use - Chicken Processing Facility to mixed uses, including agricultural processing warehouse and recreation facility - median and signage on Ewingsdale Road at property entrance**  
**File No:**              I2017/1542

**SUMMARY**

Council has received Development Application 10.2017.337.1 from NSPT Pty Ltd seeking approval to change the use of part of the site and existing buildings for agricultural processing industry, transport depot, recreation facility and warehouse or distribution centre. The land was previously used as a chicken processing facility (Sunnybrand Chickens).

The property is located on the southern side of Ewingsdale Road, near the roundabout accessing the Cavanbah Sporting Fields development.

A Traffic Impact Assessment submitted in support of the Application recommends that the existing site access be altered to a left-in / left-out, with appropriate line-marking at the driveway.

The application was referred to Roads and Maritime Services (RMS) in accordance with SEPP (Infrastructure) 2007 as Traffic Generating Development (Schedule 3, Column 3 – Industrial Development > 5,00m<sup>2</sup>).

RMS have advised Council that, while they support the conclusions of the Traffic Impact Assessment, *“the proposed line marking treatment will not physically prevent right-turns outside of the peak hours. The existing central right-turn bay and medians need to be modified to provide a physical barrier such as a half-seagull raised medial to prevent exiting right-turns”*.

They also recommend minor works and signage at the driveway entrance.

**OFFICER RECOMMENDATION**



That the LTC review the proposed works on Ewingsdale Road at the entrance to the site and provide comments for the consideration of the Planning Team.

**BACKGROUND**

The subject site, 268 Ewingsdale Road, was previously used as a chicken farm and processing centre, from the early 1970s until 2014. Subsequent to the closure of the chicken processing plant, a number of small businesses have been established (without authorisation) in the on-site buildings. The uses include agricultural processing, warehousing and distribution and a gym.

The current development application (10.2017.337.1) seeks development approval to authorise these uses.

Initiatives have also commenced to have the site rezoned to IN2 Light Industrial, and a Gateway Determination (reference PP2016\_Byron\_007\_00) was issued by the Department of Planning and Environment in February 2017. Additional studies are being prepared in support of the rezoning, which is anticipated to be finalised in the first half of 2018.

The current application is therefore an interim measure, pending rezoning of the land and its redevelopment as a 'business park'.

The property is located on Ewingsdale Road between the Cavanbah Sports Centre round-about (to the west) and the Ewingsdale Road/ Bayshore Drive intersection (to the east).



The Traffic Impact Assessment submitted in support of the application indicated peak hour traffic movements associated with the current site of 35 in the AM peak and 28 in the PM peak. Two-way peak hour movements on Ewingsdale Road past the site were indicated to be 1,878 for the AM peak and 1,810 for the PM peak.

The site is accessed by a single driveway onto Ewingsdale Road, as shown below.



The section of Ewingsdale Road fronting the site has a speed limit of 60km/h, and has a single through-traffic lane in each direction. Auxiliary lanes are provided for both the right and left turn entry movements. Their respective lengths, including tapers, are as follows:

- Right = 55m storage + 15m taper = 70m total
- Left = 35m storage + 25m taper = 60m total

The access driveway itself has a sealed width of 5.5m at the site gates, with a corner radii of 15m.

The recommendations of the TIA are:

- Ban the right turn egress movement; and
- Mark a chevron island and shoulder on the egress, to 'square' traffic up to Ewingsdale Rd.

The development application was referred to RMS in accordance with the requirements of SEPP (Infrastructure) 2007. The RMS provided the following comments:

1. Roads and Maritime supports the conclusions of the revised Traffic Impact Assessment (TIA) but not the interim treatment being proposed to restrict exiting right-turning traffic.
2. It has been noted that the proposed 'change of use' is an interim arrangement until the site is rezoned so it can be re-developed for light industrial purposes. At this time there are no guarantees or a time frame for the rezoning and development in order to fully consider various traffic management options.
3. The proposed line marking treatment will not physically prevent right-turns outside of the peak hours. The existing central right-turn bay and medians need to be modified to provide a physical barrier such as a half-seagull raised median to prevent exiting right-turns.
4. The proposed splitter island should be raised and include an "All Traffic Left" sign. The departure taper should be line marked as proposed in accordance AS2890 and include a treatment to discourage vehicles traversing it.
5. Any proposed road works on Ewingsdale Road will require Roads and Maritime's concurrence in accordance with Section 138 of the Roads Act 1993.
6. Regulatory controls need to be referred to Council's Traffic Committee for a recommendation to Council for approval.
7. Future development and associated changes along Ewingsdale Road will further increase



delays for both right-turns in and out of the site. This could require the access being limited to left in and out or provision of a costly solution to achieve a safe and unrestricted access.

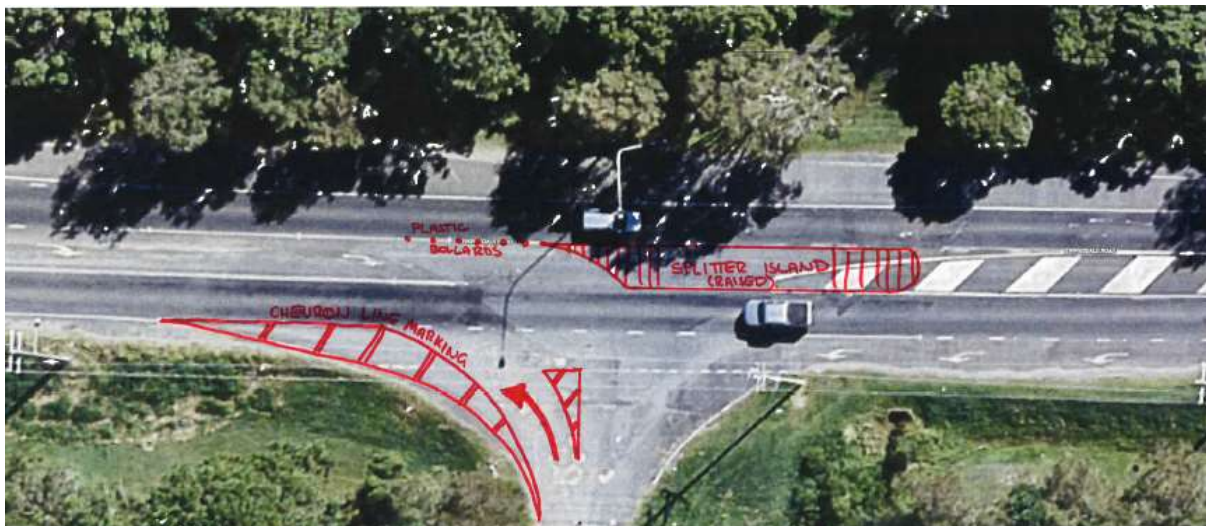
8. A recent development application for Stage 1 of the West Byron subdivision identified an industrial area on the adjoining land to this site. Council may wish to consider a connection between developments to provide efficient and alternative access arrangements to Ewingsdale Road via the proposed Bayshore Drive roundabout.

Approval for development application 10.2017.337.1 would be conditional upon the works required by items 3 & 4 above being undertaken, in accordance with a Roads Act approval as highlighted in item 5 above.

The Roads Act approval would be required to be obtained prior to the issue of a Construction Certificate for the proposed development.

### CONCEPT SPLITTER ISLAND

The figure below represents a potential concept raised splitter island design as per RMS recommendations, combined with the applicants proposed left out chevron design. This figure helps demonstrate the expected type and scope of works required as part of any future road acts approval. In addition, it is expected a "Left Only" sign will form part of the design. Location of signage to be confirmed.



### COUNCIL IMPLICATIONS

- **Budget/Financial**  
Unknown
- **Asset Management**  
Council will need to maintain signage and road and drainage assets within Ewingsdale Road.
- **Policy or Regulation**  
Delegated to council for authorisation in conjunction with prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.
- **Consultation**  
The application has been referred to the RMS for comment.

# BYRON SHIRE COUNCIL

## LOCAL TRAFFIC COMMITTEE MEETING MINUTES

31 OCTOBER 2017

- **Legal and Risk Management**  
Minimal.

### Committee Comments

The committee support the consideration of the concept splitter islands and appropriate signage as shown in figure on page 79 of the agenda.

### Management Comments

There were no Management comments

### Committee Recommendation:

**That the Local Traffic Committee's comments relating to DA 10.2017.337.1 be provided to the Council Planning Team.**

(Smith/Cameron)

*The recommendation was put to the vote and declared carried.*

### DEVELOPMENT APPLICATIONS

<b>Report No. 7.1</b>	<b>DA 10.2017.510.1 - Mixed Use Development, Jonson and Browning Streets - proposed change to Ruskin Lane and potential conflicts with Byron Bypass roundabout</b>
<b>File No:</b>	I2017/1507

### **SUMMARY**

Council has received a Development Application (DA 10.2017.510.1) from Mr M Scott, on behalf of JGD Developments Pty Ltd for a mixed use development comprising commercial premises, café, child care centre, shop top housing and serviced apartments. The development is located on the south-west corner of the Jonson Street/ Browning Street intersection in Byron Bay.

### **OFFICER RECOMMENDATION**

That the LTC review the proposed changes to Ruskin Lane and potential Byron Bay Bypass conflicts and provided comments for the consideration of the Planning Team.

### **BACKGROUND**

#### **Ruskin Lane**

The site which is subject to development application 10.2017.510.1 is located at the corner of Jonson and Browning Streets, Byron Bay, adjacent to the proposed Byron Bypass roundabout. Ruskin Lane, which is currently a sealed two-way lane, adjoins the eastern boundary of the site.



**Fig. 1 - Proposed Site Pre Byron Bay Bypass Roundabout**

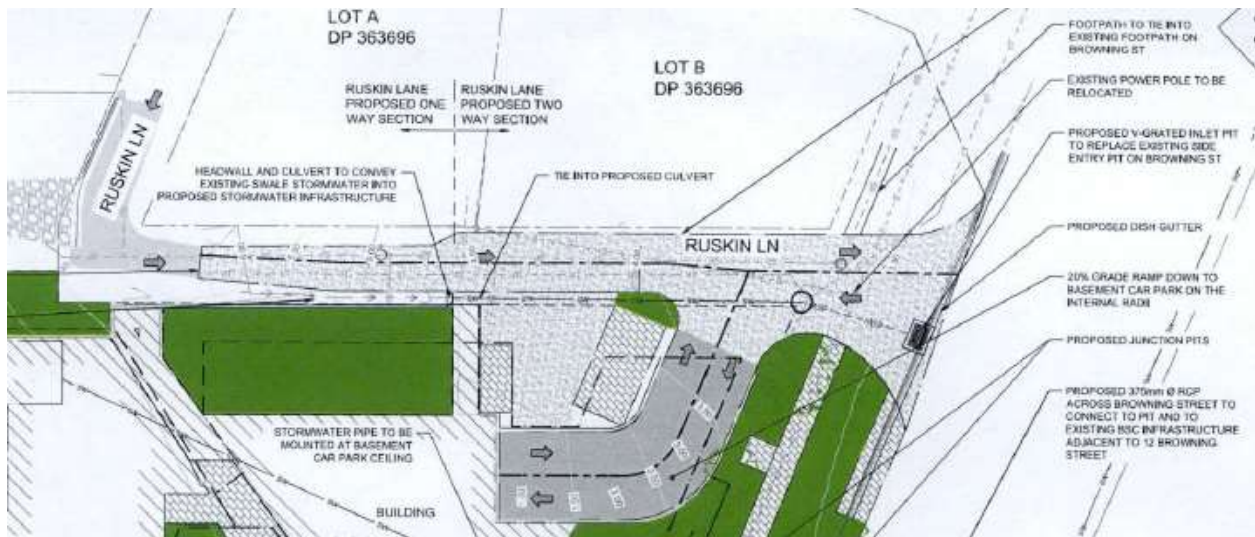
The application proposes to construct a mixed use development involving:

- Two shops and a café at ground level, fronting Jonson Street;
- A child care centre at ground level fronting Browning Street;
- 24 residential apartments in three levels above the shops and café;
- 26 serviced apartments (tourist accommodation) in three levels above the child care centre; and
- Two basement levels of car parking containing a total of 122 car parking spaces as well as bicycle and motorcycle parking, with access off Ruskin Lane.

The Traffic Impact Study that accompanies the Development Application (see Attachment 1) estimates total traffic generation to be approximately 349.7 – 375.7 DVT's and 86.54 – 89.04 PHT's and proposes the following changes to Ruskin Lane:

- Widen Ruskin Lane and Browning St intersection for approximately 35m from Browning Street to cater for two-way traffic and MRV manoeuvring (see Fig. 2);
- MRV loading bay off Ruskin Lane adjacent to basement ramp;
- The remainder of Ruskin Lane (approximately 135m) is proposed to be converted to one-way with entry only from Tennyson Street;
- Ruskin Lane to be restricted to left in / out movements only;
- A convex mirror installed at the Ruskin Lane / Browning St intersection to provide pedestrians with improved sight lines.





**Fig. 2 - Works proposed at Ruskin Lane / Browning St intersection**



**West from Tennyson Intersection**



**North from Browning St Intersection**

**Fig 3 – Ruskin Lane**

### **Bypass Roundabout**

The development has absolute frontage onto the proposed Bypass Roundabout at the intersection of Jonson St / Browning St. Council is in the process of acquiring the SW portion of the subject site for road widening for the roundabout. To compensate a strip of land will be added to the subject property along Browning St (see Fig. 4).

The proposed development introduces challenges relating to construction timing and sequencing. The first plan within Attachment 2 illustrates the current roundabout design that assumes the subject site remains unchanged. The second plan illustrates the proposed ground floor and landscape design. The third plan illustrates the extent of road and drainage works proposed in the road reserve. Together these plans illustrate driveway access to Lots 5 and 6 and footpath alignment are redundant post construction of the development. The third plan illustrates works across the width and length of Browning St.



Fig 4. – Boundary changes

## KEY ISSUES

### Ruskin Lane

1. The Council must refer all traffic related matters to the Local Traffic Committee (LTC) prior to exercising its delegated functions for the Regulation of Traffic.

### Byron Bay Bypass

2. How to manage the sequence of construction if:
  - (i) the proposed DA is constructed first , or
  - (ii) the Bypass Roundabout is constructed first.
3. How the proposed development may impact the Bypass Roundabout design.

## COUNCIL IMPLICATIONS

- **Budget/Financial**

Unknown

- **Asset Management**

Council will need to maintain signage for Ruskin Lane and maintain road and drainage assets within both Ruskin Lane and Browning St..

- **Policy or Regulation**

Delegated to council for authorisation in conjunction with prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.

- **Consultation**

The application has been referred to the RMS for comment.

- **Legal and Risk Management**

# BYRON SHIRE COUNCIL

## LOCAL TRAFFIC COMMITTEE MEETING MINUTES

31 OCTOBER 2017

The development will result in increased pedestrian and vehicular activity at the Ruskin Lane / Browning St intersection and the Bypass Roundabout.

### Committee Comments

The Committee does not have a concept drawing to refer to and does not have enough information to assess the impacts on the surrounding road network with particular regard to links with the Byron Bay bypass and planning for cycleway and pedestrian access linkages in the Bangalow Rd corridor. The committee also requires documentation for trucks swept paths, and where the drop off for the preschool area will be located.

The LTC requests a briefing by both planning and the proponent to provide more documentation in early December 2017.

### Management Comments

There were no Management comments.

### Committee Recommendation:

**That the Local Traffic Committee's comments relating to DA 10.2017.510.1 be provided to the Council Planning Team.**

(Cameron/Smith)

*The recommendation was put to the vote and declared carried.*

---

*There being no further business the meeting concluded at 12:15pm.*

---

# MINUTES OF MEETING



## LOCAL TRAFFIC COMMITTEE MEETING

<b>Venue</b>	<b>Conference Room, Station Street, Mullumbimby</b>
<b>Date</b>	<b>Tuesday, 16 January 2018</b>
<b>Time</b>	<b>10.00am</b>
<b>Committee Members</b>	<b>Linda Makejev – Roads and Maritime Services Snr Constable David Brigg – Police Cr Basil Cameron Tamara Smith MP</b>

---

---

**BYRON SHIRE COUNCIL**

LOCAL TRAFFIC COMMITTEE MEETING MINUTES  
2018

16 JANUARY

**REPORT OF THE LOCAL TRAFFIC COMMITTEE MEETING HELD ON TUESDAY, 16  
JANUARY 2018****File No:** I2018/32MEETING COMMENCED: 10:07amPRESENT:

Councillor: Cr Basil Cameron

Roads and Maritime Services Representative: Ms Linda Makejev

Police: Snr Constable David Brigg, Sgt Michael Stewart

Ms Tamara Smith MP (left the meeting at 11:56am)

Staff: Evan Elford, Tony Nash (left the meeting at 11:30am), Chris Soulsby.

Invitees: Patricia Docherty, BSC Planner; Simon Millichamp, Director Planit; Andrew Pearce,  
BSC Development Engineer and Michiel Kamphorst, engineering consultant joined  
the meeting at 10:55am and left at 11:58am.APOLOGIES:

There were no apologies.

DECLARATIONS OF INTEREST

There were no declarations of interest raised.

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS**Committee Recommendation:****That the minutes of the Local Traffic Committee Meeting held on 31 October 2017 and  
Extraordinary Local Traffic Committee Meeting held on 13 December 2017 be confirmed.**

(Cameron/Brigg)

*The recommendation was put to the vote and declared carried unanimously.*MATTERS ARISING

There were no matters arising.

OUTSTANDING ISSUES/RESOLUTIONS

There were no outstanding issues/resolutions.

REGULATORY MATTERS**Report No. 6.1****File No:****Council resolutions and recommendation processes**

I2017/2008

The purpose of this report is to request the Committee review and provide advice and  
comments in relation to the legislative requirements and procedural processes that need to be

followed to enable the committee to fulfil its roles and obligations and associated interactions with Council through recommendations and associated resolutions.

As a consequence of recent queries raised by Council in relation to procedural processes around LTC advice, recommendations and Council adoption of those recommendations, advice and comments are sought regarding the procedural processes pertaining to, but not limited to;

1. situations where Council has resolved to take certain actions pending future advice or recommendations from LTC and or;
2. Situations where Council has made a resolution that is not in accordance with LTC recommendations.

In preparing such advice, committee members are asked to review meeting procedures including attendance and apologies notifications and provision of comments for agenda items.

#### Committee Comments

A draft constitution based on council's template to be provided to the committee at next meeting to confirm the time, venue, date of meetings.

Constitution to include clear guidelines for the handling of matters before the committee consistent with the delegation.

#### Management Comments

There were no Management comments.

#### **Committee Recommendation:**

That Council note that a draft constitution based on council's template be provided to the committee at next meeting to confirm the time, venue, date of meetings.

Constitution to include clear guidelines for the handling of matters before the committee consistent with the delegation.

(Cameron/Smith)

*The recommendation was put to the vote and declared carried unanimously.*

---

**Report No. 6.2**  
**File No:**

**Ewingsdale Road Roundabouts - Signs and Linemarking**  
**I2017/2009**

This report seeks LTC concurrence and endorsement for the proposed regulatory signs and line marking for two roundabouts on Ewingsdale Road, Byron Bay, being at the intersections with Sunrise Boulevard and Bayshore Drive.

Detailed pavement marking and signage plans have been attached for both roundabouts.

#### Committee Comments

Better documentation needs to be provided to RMS

#### Management Comments

There were no Management comments.

#### **Committee Recommendation:**

- 1. That the Local Traffic Committee be provided with clear documentation showing the Pavement Marking and Signage Plans for the Ewingsdale Road roundabouts as detailed below:**

- a) **Sunrise Boulevard roundabout as per Attachment 1 (E2017/115555)**
  - b) **Bayshore Drive roundabout as per Attachment 2 (E2017/115586)**
2. **That the members provide comments, concurrence or otherwise through the chair within 7 (seven) days.**
  3. **That separate, large format, hard and electronic copy of the plans be provided to the RMS, Police (addressed to Highway Patrol) and members in advance of meetings to allow for proper and detailed consideration.**

(Cameron/Makejev)

*The recommendation was put to the vote and declared carried unanimously.*

**Report No. 6.3                      Byron Bay Pay Parking Time Limit Review - Endorsement of Council Resolved Changes to Time Limits in Byron Bay**  
**File No:                                I2017/2071**

Council resolved on 21 September 2017 under Resolution 17-425 to undertake investigation and community consultation regarding possible revisions to the time limits in various areas of the pay parking area in Byron Bay.

Council staff undertook community consultation regarding the proposed changes. Based on the survey and consultation feedback, it was proposed that the majority of the community were in favour of the changes as detailed.

Council subsequently resolved 17-697 as follows;

1. *That the changes to the parking time limits in the Byron Bay pay parking area as outlined below be endorsed:*
  - a) *Wordsworth Street – modify 2P zone to OP (no limit) zone.*
  - b) *Shirley Street – modify 4P zone to OP (no limit) zone.*
  - c) *Lawson Street North and South Car Parks – modify from OP (no limit) to 4P.*
  - d) *Somerset Street and Butler Street Reserve – modify to free parking zone.*
  - e) *Butler Street – modify 4P zone to OP (no limit) zone.*
  - f) *Byron Street – modify 2P zone to 1P zone.*
  - g) *Fletcher Street – modify eastern side from 4P to 2P.*
  - h) *Jonson Street – modify Carlyle to Kingsley zone from 1P to 2P.*
2. *That a budget of \$15,000 be approved from Pay Parking Operations in Byron Bay to modify the signage.*
3. *That a report be prepared for the Local Traffic Committee for concurrence prior to actioning for items 1a), 1b), 1c), 1e), 1f), 1g) and 1h).*
4. *That the modification in item 1d) for Somerset Street and Butler Street Reserve be implemented as soon as possible.*
5. *That staff provide a report with an analysis of resident and non-resident usage for the different paid parking time zones.*

The following pages detail the endorsed changes and the likely result of each.

**Wordsworth Street**

*Issue Identified* – There is currently a 2P that was most likely implemented when the Byron Hospital was still in operation.

*Proposed Change* – Modify the 2P section to a OP section (no limit).

*Likely Result* – Encourage longer term parking outside the town centre and maintain consistency throughout Wordsworth Street.



### **Shirley Street**

*Issue Identified* – There is currently a 4P that was most likely implemented when the Byron Hospital was still in operation.

*Proposed Change* – Modify the 4P section to a OP section (no limit).

*Likely Result* – Encourage longer term parking outside the town centre and maintain consistency throughout the Shirley Street & Wordsworth Street area.



### **Lawson Street North and South Car Parks**

*Issue Identified* – The Lawson Street north and south car parks currently have OP (no limit) for pay parking. This does not promote long term parking outside the town centre.

*Proposed Change* – Modify the OP (no limit) area to a 4P area.

*Likely Result* – Encourage long term parking outside the town centre.



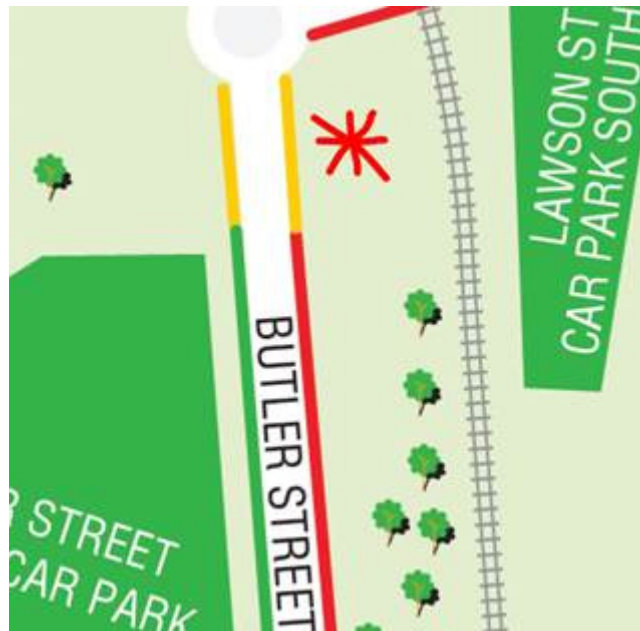


### **Butler Street**

*Issue Identified* – There is currently a 4P pay parking area that is not consistent with Butler Street and the Master Plan intention to promote long term parking outside the town centre.

*Proposed Change* – Modify the 4P area to a OP (no limit) area.

*Likely Result* – Encourage longer term parking outside the town centre and maintain consistency throughout Butler Street.



### **Byron Street**

*Issue Identified* – Byron Street currently has a 2P zone from Jonson Street to Fletcher Street.

*Proposed Change* – Modify the 2P area to a 1P area.

*Likely Result* – Consistently encourage shorter term parking in the town centre.



### **Fletcher Street**

*Issue Identified* – There is currently 4P parking along the full length of Fletcher Street on the eastern side. This does not promote longer term parking outside the town centre and provides an opportunity for employees to utilise this area for parking.

*Proposed Change* – Modify the 4P area to a 2P area.

*Likely Result* – Encourage long term parking outside the town centre.

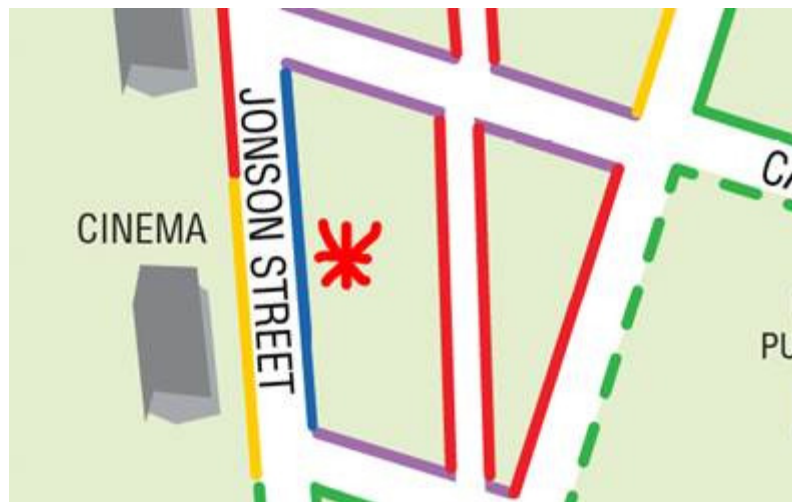


### **Jonson Street**

*Issue Identified* – There is currently 1P parking zone on Jonson Street from Carlyle Street to Kingsley Street. This is not consistent with the gradual increase of time zones from the town centre.

*Proposed Change* – Modify the 1P area to a 2P area.

*Likely Result* – Gradually increase time zones as the distance from the town centre increases.



#### Committee Comments

There were no Committee comments.

#### Management Comments

There were no Management comments.

#### Committee Recommendation:

That the Local Traffic Committee approve the time limits as detailed below:

- a) Wordsworth Street – modify 2P zone to OP (no limit) zone.
- b) Shirley Street – modify 4P zone to OP (no limit) zone.
- c) Lawson Street North and South Car Parks – modify from OP (no limit) to 4P.
- e) Butler Street – modify 4P zone to OP (no limit) zone.
- f) Byron Street – modify 2P zone to 1P zone.
- g) Fletcher Street – modify eastern side from 4P to 2P.
- h) Jonson Street – modify Carlyle to Kingsley zone from 1P to 2P.

(Cameron/Brigg)

*The recommendation was put to the vote and declared carried unanimously.*

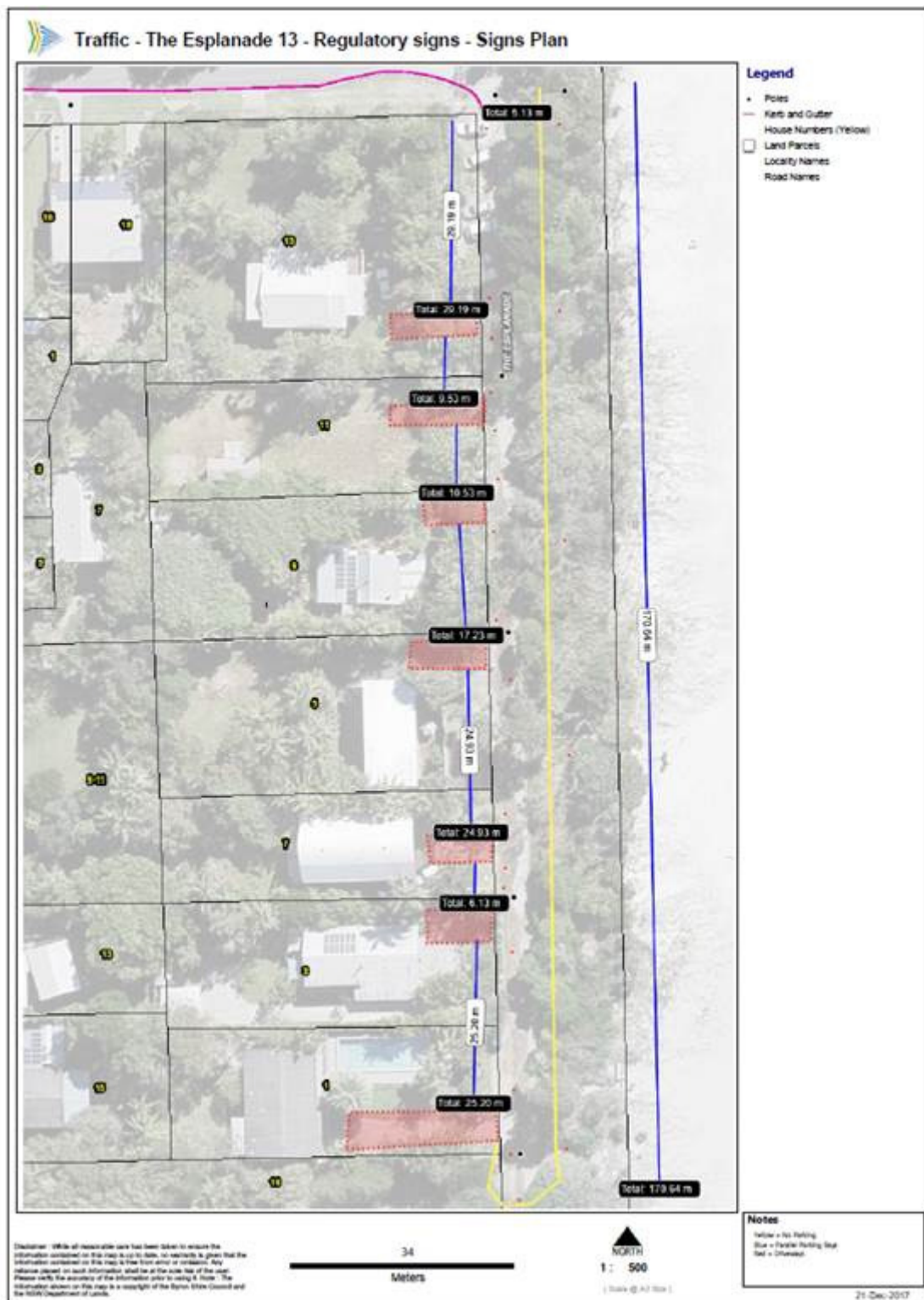
---

**Report No. 6.4**      **Traffic - The Esplanade 13 - Regulatory Signs - Formalise parking in cul-de-sac**

**File No:**              I2017/2081

#### **SUMMARY**

On the 6 December 2017, Evan Elford met with concerned residents of The Esplanade, New Brighton to discuss parking, access and vehicle movement issues. The residents offered support for signage to regulate parking and to assist with vehicular movement management.



## OFFICER RECOMMENDATION

That Council regulate parking in the Southern cul-de-sac end of The Esplanade, New Brighton.

## LINKAGE TO OUR COMMUNITY STRATEGIC PLAN

<b>Theme</b>	Community Infrastructure	Services and infrastructure that sustains, connects and integrates our communities and environment.
<b>Objective</b>	CI2	Provision of essential services

<b>Strategy</b>	CI2.3	Provide roads and drainage infrastructure within the Shire
<b>Measures</b>	CI2.G	Provide road, drainage and transport infrastructure within the Shire

## BACKGROUND

On the 6 December 2017, Evan Elford met with concerned residents of The Esplanade, New Brighton to discuss parking, access and vehicle movement issues. There is currently no regulatory parking signage in this section of the road reserve.

The concept design provided has been developed in consideration of the discussions held on site and identified site constraints providing No Parking on the Eastern side of the Esplanade and the Parallel Parking Areas along the Western edge of the Esplanade. Additional advisory signage at the intersection with Orana Road will be required to advise the road is not suitable for larger RV type vehicles and caravans, noting that garbage collection trucks will still be required to access the street.

Regulating the parking could reduce the current supply to between sixteen and twenty two Parallel Parks for vehicles less than six meters long however it will also assist to maintain clear access for residents and service vehicles..

## KEY ISSUES

1. Vehicles are being parked across driveways.
2. Service vehicle access is being restricted.
3. There is a lack of regulatory parking signage to be able to enforce.

## COUNCIL IMPLICATIONS

### ▪ Budget/Financial

Estimate of \$3,960 for twenty two signs at \$180 per sign. Vacuum excavation is recommended to avoid services in this area.

A further estimate of \$20,000 would be required to complete a full survey, geotechnical investigation and design to formalise the road and parking.

### ▪ Asset Management

Estimate of \$2,200 for 10 signs at \$10.00 per sign/year for an expected life of 10 years. Council will need to maintain signage ongoing, including cleaning and replacement (if necessary).

### ▪ Policy or Regulation

Delegated to council for authorisation in conjunction with:

- Prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.



- R5-41 No Parking - NSW Road Rules 168, \$108 fine.
- No Camping by order Local Government Act 1993 – Section 632, \$80 fine.

#### ▪ **Consultation**

Consultation with residents to be completed once the concept design is finalised.

#### ▪ **Legal and Risk Management**

Travellers and visitors are drawn to the car park adjacent to the beach due to its discreet location. The residents seek to deter over parking in this area so they can access their homes safely and provide safe access for refuse services.

#### Committee Comments

There were no Committee comments.

#### Management Comments

There were no Management comments.

#### **Committee Recommendation:**

**That the Local Traffic Committee recommend to Council to regulate parking in the Southern cul-de-sac end of The Esplanade, New Brighton through the installation of “No Parking” and “Parallel Parking” and other relevant and appropriate signage to improve access for residents and service vehicles.**

(Cameron/Makejev)

*The recommendation was put to the vote and declared carried unanimously.*

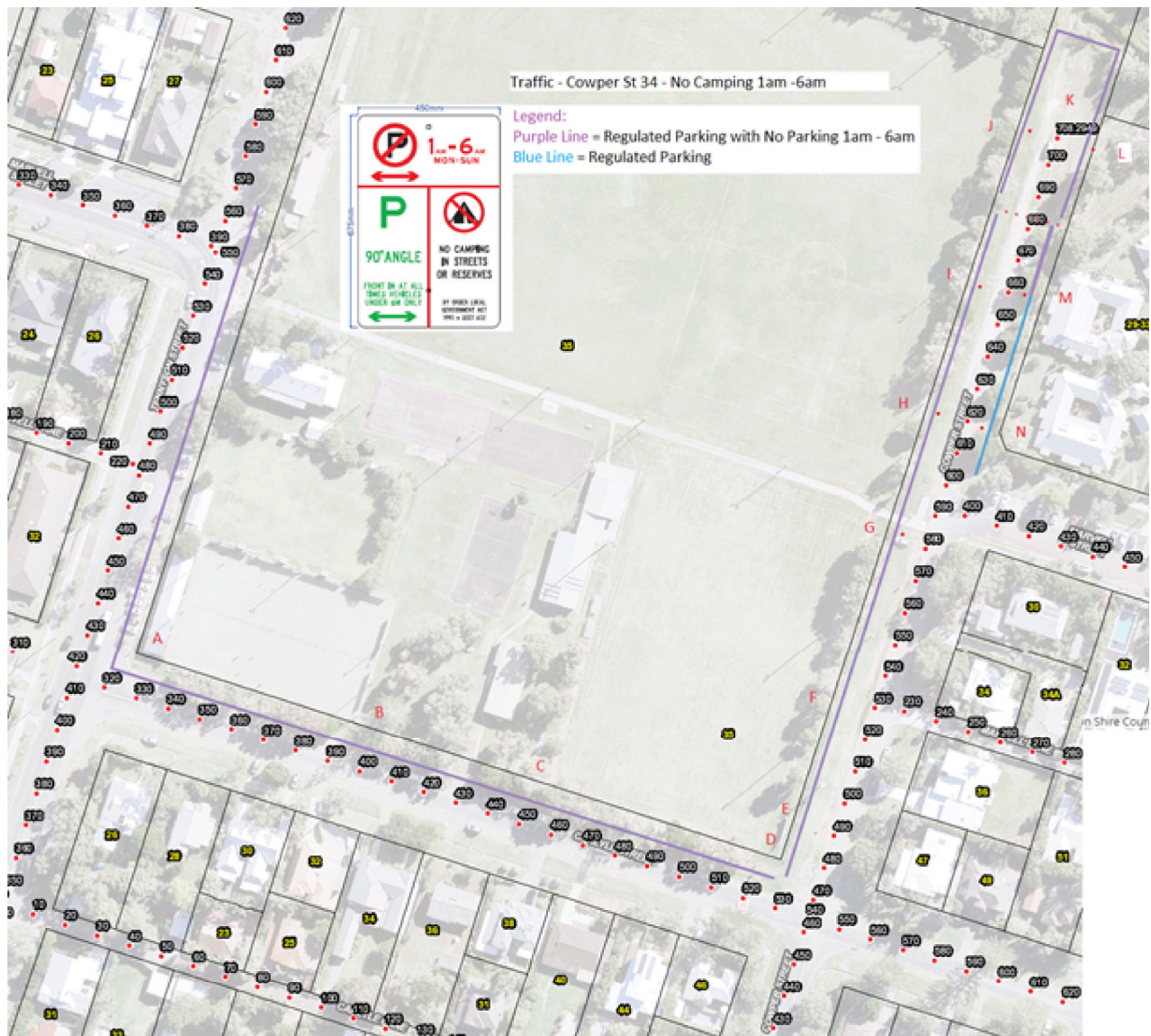
---

**Report No. 6.5**  
**File No:**

**Traffic - Cowper St 34 - Regulatory Signage - No Parking 1am - 6am**  
**I2018/11**

#### **SUMMARY**

Community Enforcement has requested assistance to resolve illegal camping within the road reserve around the Byron Recreation Ground in Carlyle, Cowper and Tennyson Streets, Byron Bay. They have proposed that regulated parking be installed with signs stating ‘No Parking 1am to 6am’.



## OFFICER RECOMMENDATION

That Council regulate parking around the Byron Recreational Ground by installing 'No Parking 1am to 6am' signage to deter illegal camping.

## LINKAGE TO OUR COMMUNITY STRATEGIC PLAN

<b>Theme</b>	Community Infrastructure	Services and infrastructure that sustains, connects and integrates our communities and environment.
<b>Objective</b>	CI2	Provision of essential services
<b>Strategy</b>	CI2.3	Provide roads and drainage infrastructure within the Shire
<b>Measures</b>	CI2.G	Provide road, drainage and transport infrastructure within the Shire

## BACKGROUND

Councils Team Leader Community Enforcement has advised that illegal camping is being carried out around the reserve due to a lack of regulatory parking signage. Community Enforcement would like to close the gravel road section of Cowper Street to deny access to illegal campers.

## **KEY ISSUES**

1. Anti social behaviour is occurring with people camping illegally.
2. There is a lack of regulatory parking signage to be able to enforce illegal camping.

## **COUNCIL IMPLICATIONS**

### **▪ Budget/Financial**

Estimate of \$3,080 includes fourteen new signs.

### **▪ Asset Management**

Estimate of \$980 for 14 signs at \$10.00 per sign/year for an expected life of 7 years. Council will need to maintain signage ongoing, including cleaning and replacement (if necessary).

### **▪ Policy or Regulation**

Delegated to council for authorisation in conjunction with:

- Prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.
- R5-41 No Parking (specified times) - NSW Road Rules 168, \$108 fine.
- No Camping by order Local Government Act 1993 – Section 632, \$80 fine.

### **▪ Consultation**

Consultation to be completed once the design is finalised with the Byron Recreational Grounds and the Feros Care management of the Byron Bay Village.

### **▪ Legal and Risk Management**

Travellers and visitors are drawn to the car park adjacent to the Byron Recreational Ground due to its discreet location and the proximity to water, toilets and undercover facilities. Community Enforcement seek to deter this activity as it has resulted in antisocial behaviour occurring after dark. Limited no camping signs are visible in this area however it is difficult to enforce compliance.

## **Committee Comments**



There were no Committee comments.  
Management Comments  
There were no Management comments.

**Committee Recommendation:**

**That Council regulate parking around the Byron Recreation Ground including Tennyson, Carlyle and Cowper Streets by installing 'No Parking 1am to 6am' signage when funds become available.**

(Cameron/Brigg)

*The recommendation was put to the vote and declared carried unanimously.*

**Report No. 6.6**  
**File No:**

**Traffic Complaints on Clays Road and Coral Ave**  
**I2018/13**

The purpose of this report is to seek the advice of the Local Traffic Committee (LTC) on the intersection treatment of Plover Parkway and Clays Road.

Council has received two complaints about vehicles speeding, dust, safety, and amenity on Clays Road and Coral Avenue since the opening of Plover Parkway. A copy of the complaints is provided in the attachments (E2018/1889 and E2018/2033). The subject length of road is shown in the aerial image below.



The original development application for the subdivision DA 10.2009.314.1 was approved by the NSW Land and Environment Court.

This DA was for the first stage of 29 lots and set out the concept plan for the estate as part of a staged development consent.

This consent did not require the upgrade of Coral Avenue or Clays Road.

A subsequent development consent DA 10.2009.151.1 approved the sports field on Plover Parkway. At the time of the original approvals, due to the proposed staging of the subdivision works, the sports fields were likely to be constructed prior to the construction of the culvert over the creek on Plover Parkway. This meant that the only access to the sports field would be via Clays Road. Condition 11 of the sports field DA required upgrade works for these access roads. The developer's responsibility to seal these sections arose from the need to provide access to the sports field and not because of the traffic generated by the subdivision. This is why the requirement to seal is in the sports field consent and not in the subdivision consent.

**11 Consent required for works within the road reserve –Clays Road and Coral Avenue.**

Consent from Council, and the Crown where applicable, must be obtained for works within the road reserve pursuant to Section 138 of the Roads Act 1993. Three (3) copies of Engineering construction plans must accompany the application for consent for works within the formed road reserves of Clays Road and Coral Avenue.

Such plans are to be in accordance with Council's "Northern Rivers Development Design & Construction Manuals and Standard Drawings."

- Reconstruct the gravel sections of Coral Avenue and Clays Road from the northern site boundary through to the vicinity of Lomandra Lane with a bitumen seal having a nominal width of 6m. with gravel/grassed shoulders and drainage.

This development consent was subsequently amended when the staging of the main subdivision consent was altered and there was potential for the culvert to be built and access provided from the estate rather than via Clays Road. Condition 11 was modified as follows:

**11 Consent required for works within the road reserve –Clays Road and Coral Avenue.**

The Consent was changed with the addition of the following clause.

*This condition does not need to be complied with if the road access to Tuckeroo Ave is completed and dedicated as public road prior to the dedication of the reserves as required by condition 37.*

Traffic calming devices (speed bumps) have been installed on Plover Parkway to discourage through traffic. It is not the developers responsibility to upgrade this section of road at this point in time.

Despite the traffic calming on Plover Parkway there is anecdotal evidence of an increase in vehicles using Clays Road. The travel time and distance for the two routes into town is very similar when taken from the western end of the new estate (refer to google maps extract below).





Council will place traffic counters out on the northern end of Plover Parkway and the Southern end of Tuckeroo Ave to determine the traffic volumes using the two routes. Dependant on the volumes the option to temporarily close Plover Parkway may be further investigated and subsequently reported back to LTC.

In the interim Council is seeking advice from LTC on the appropriate regulatory signage and treatment of the intersection of Plover Parkway and Clays Road. Clays Road is gravel and up until recently was an elbow bend as shown on the aerial image below.



With the opening of Plover Parkway it has now become a T-junction with the predominant movement being a north south through movement.

Options to regulate this intersection are to:

1. Place a Give Way sign on western approach to the T-junction on Clays Road; or
2. Place a Stop sign and line marking on the sealed southern approach of Plover Parkway.

#### Committee Comments

There were no Committee comments.

#### Management Comments

There were no Management comments.

#### **Committee Recommendation:**

**That a Give Way sign not be placed on western approach to the T-junction on Clays Road until traffic counts on Plover Parkway and Southern end of Tuckeroo Ave have been completed.**

(Cameron/Brigg)

*The recommendation was put to the vote and declared carried unanimously.*

#### DEVELOPMENT APPLICATIONS



**Report No. 7.1****DA 10.2017.510.1 - Mixed Use development, Jonson and Browning Streets, Byron Bay****File No:**

I2017/1906

The Committee considered a report on this matter at the meeting of 31 October 2017 and provided the following comments:

*The Committee does not have a concept drawing to refer to and does not have enough information to assess the impacts on the surrounding road network with particular regard to links with the Byron Bypass and planning for cycleway and pedestrian access linkages in the Bangalow Rd corridor. The committee also requires documentation for trucks swept paths, and where the drop off for the preschool area will be located.*

*The LTC requests a briefing by both planning and the proponent to provide more documentation in early December 2017.*

Council staff and the proponent's traffic consultant will attend the LTC meeting to provide the required briefing.

The report from the meeting of 31 October is reproduced below.

## **SUMMARY**

Council has received a Development Application (DA 10.2017.510.1) from Mr M Scott, on behalf of JGD Developments Pty Ltd for a mixed use development comprising commercial premises, café, childcare centre, shop top housing and serviced apartments. The development is located on the south west corner of the Jonson Street/ Browning Street intersection in Byron Bay.

## **OFFICER RECOMMENDATION**

That the LTC review the proposed changes to Ruskin Lane and potential Byron Bay Bypass conflict and provided comments for the consideration of the Planning Team.

## **BACKGROUND**

### **Ruskin Lane**

The site which is subject to development application 10.2017.510.1 is located at the corner of Jonson Street and Browning Streets, Byron Bay, adjacent to the proposed Byron Bypass roundabout. Ruskin Lane, which is currently a sealed two-way lane, adjoins the eastern boundary of the site.



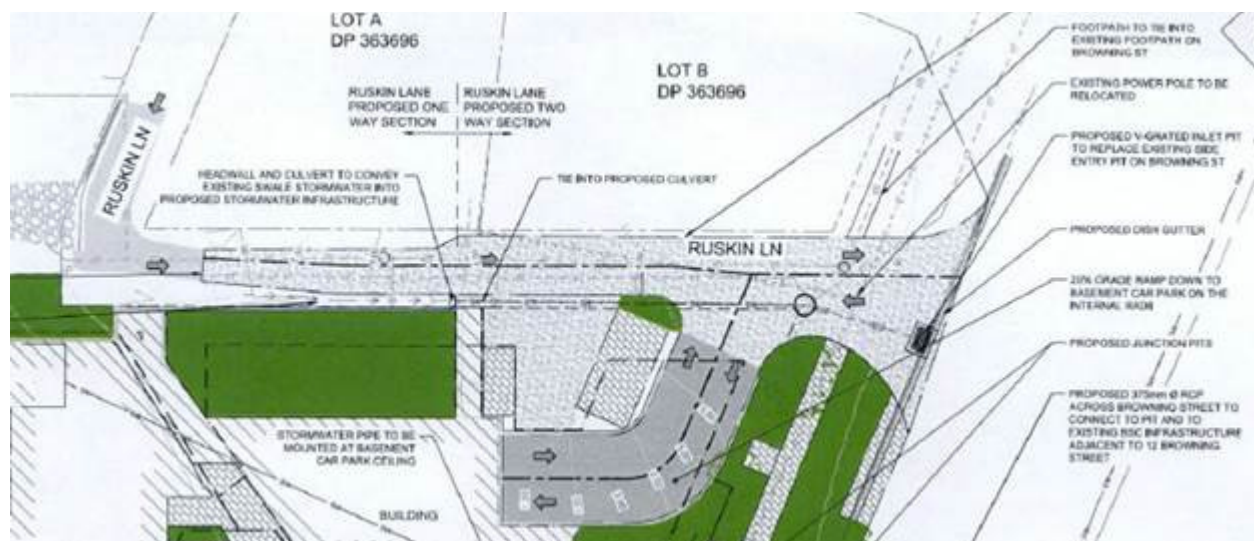
**Fig. 1 - Proposed Site Pre Byron Bay Bypass Roundabout**

The application proposes to construct a mixed use development involving:

- Two shops and a café at ground level, fronting Jonson Street;
- A child care centre at ground level fronting Browning Street;
- 24 residential apartments in three levels above the shops and café;
- 26 serviced apartments (tourist accommodation) in three levels above the child care centre; and
- Two basement levels of car parking containing a total of 122 car parking spaces as well as bicy and motorcycle parking, with access off Ruskin Lane.

The Traffic Impact Study that accompanies the Development Application (see Attachment 1) estim total traffic generation to be approximately 349.7 – 375.7 DVT's and 86.54 – 89.04 PHT's and proposes the following changes to Ruskin Lane:

- Widen Ruskin Lane and Browning St intersection for approximately 35m from Browning Street cater for two-way traffic and MRV manoeuvring (see Fig. 2);
- MRV loading bay off Ruskin Lane adjacent to basement ramp;
- The remainder of Ruskin Lane (approximately 135m) is proposed to be converted to one-way v entry only from Tennyson Street;
- Ruskin Lane to be restricted to left in / out movements only;
- A convex mirror installed at the Ruskin Lane / Browning St intersection to provide pedestrians v improved sight lines.

**Fig. 2 - Works proposed at Ruskin Lane / Browning St intersection****West from Tennyson Intersection****North from Browning St Intersection****Fig 3 – Ruskin Lane**

### Bypass Roundabout

The development has absolute frontage onto the proposed Bypass Roundabout at the intersection Jonson St / Browning St. Council is in the process of acquiring the SW portion of the subject site for road widening for the roundabout. To compensate a strip of land will be added to the subject property along Browning St (see Fig. 4).

The proposed development introduces challenges relating to construction timing and sequencing. The first plan within Attachment 2 illustrates the current roundabout design that assumes the subject site remains unchanged. The second plan illustrates the proposed ground floor and landscape design. The third plan illustrates the extent of road and drainage works proposed in the road reserve. Together these plans illustrate driveway access to Lots 5 and 6 and footpath alignment are redundant post construction of the development. The third plan illustrates works across the width and length of Browning St.

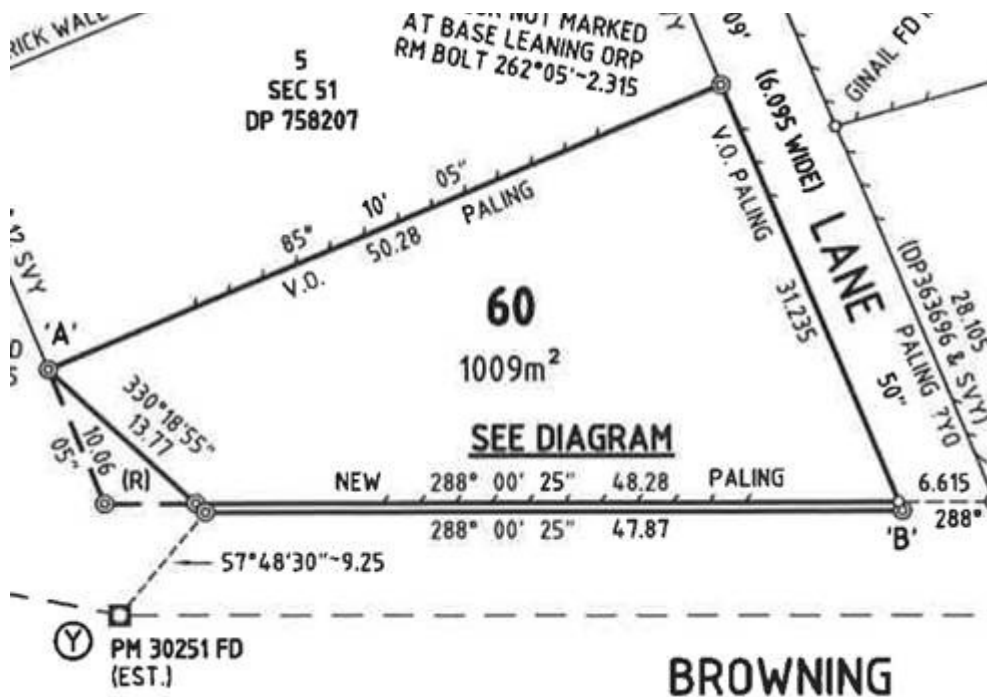


Fig 4. – Boundary changes

### KEY ISSUES

#### Ruskin Lane

1. The Council must refer all traffic related matters to the Local Traffic Committee (LTC) prior to exercising its delegated functions for the Regulation of Traffic.

### Byron Bay Bypass

2. How to manage the sequence of construction if:
  - (i) the proposed DA is constructed first, or
  - (ii) the Bypass Roundabout is constructed first.
3. How the proposed development may impact the Bypass Roundabout design.

### COUNCIL IMPLICATIONS

- **Budget/Financial**  
Unknown
- **Asset Management**

Council will need to maintain signage for Ruskin Lane and maintain road and drainage assets within both Ruskin Lane and Browning St.

- **Policy or Regulation**

Delegated to council for authorisation in conjunction with prescribed traffic control devices - division 1 of Part 4 (Sections 50 to 55) of the Road Transport (Safety and Traffic Management) Act, 1999.

- **Consultation**

The application has been referred to the RMS for comment.

- **Legal and Risk Management**

The development will result in increased pedestrian and vehicular activity at the Ruskin Lane / Browning St intersection and the Bypass Roundabout.

Committee Comments

If the development precedes the roundabout, there is need for a pedestrian barrier to prevent direct access across the intersection. The Committee strongly recommends an extension of the raised median on Browning St for the full length between Jonson St and Bangalow Rd to avoid pedestrian and traffic conflicts.

Management Comments

There were no Management comments.

**Moved:**

**That the Local Traffic Committee's comments relating to DA 10.2017.510.1 be provided to the Council Planning Team.**

(Cameron/B

---

*There being no further business the meeting concluded at 12:21.*

---





File No: NTH17/00147/01  
Your Ref: 10.2017.510.1

The General Manager  
Byron Shire Council  
PO Box 219  
MULLUMBIMBY NSW 2482

Attention: Rob Van Iersel

Dear Sir / Madam,

**Development Application No. 10.2017.510.1 – Mixed Use Development (Commercial, Café, Child Care, Residential Apartments and Car Parking), 137-139 Johnson Street and 3 Browning Street, Byron Bay**

I refer to your letter of 26 September 2017 received in our office on 3 October 2017 regarding the abovementioned application forwarded to Roads and Maritime Services for consideration.

Johnson Street and Browning Street form part of a classified (Regional) road (MR545). Byron Shire Council (Council) is the roads authority for all public roads (other than freeways or Crown roads) in the local government area pursuant to Section 7 of the *Roads Act 1993* (Roads Act). Roads and Maritime is the roads authority for freeways and can exercise roads authority functions for classified roads in accordance with the Roads Act.

Council is responsible for setting standards, determining priorities and carrying out works on Local and Regional roads however Roads and Maritime's concurrence is required prior to Council's approval of works on classified (Regional) roads under Section 138 of the *Roads Act 1993*.

In accordance with Clause 104 of the *State Environmental Planning Policy Infrastructure 2007* (ISEPP), Roads and Maritime is given the opportunity to comment on the subject development application as the proposed development is of a size or capacity listed under Schedule 3.

Roads and Maritime has reviewed the referred information and provides the following comments to assist the consent authority in making a determination;

1. The Consent Authority should be satisfied that the impact of through and turning traffic on the classified (Regional) road has been adequately addressed. Consideration should be given to likely traffic and road safety impacts of the development both prior to construction and following completion of the Byron Bay Bypass Project.
2. All vehicles should enter and leave the site in a forward direction. The site access, car parking manoeuvring and servicing areas should be designed in accordance with AS2890. The design should cater for the turning paths of the largest vehicle requiring access to the site.
3. Traffic impacts during the construction phase of the proposed development should be managed in accordance with the RTA Traffic Control at Worksites Manual.
4. Regulatory signs and devices will require the endorsement of the Local Traffic Committee prior to Council approval.

5. Consideration should be given to connectivity for public transport facilities and active transport modes such as walking and cycling.

Upon determination of the application it would be appreciated if Council could forward a copy of the approval for our records. If you have any further enquiries regarding the above comments please do not hesitate to contact Liz Smith, Manager Land Use Assessment on (02) 6640 1362 or via email at: [development.northern@rms.nsw.gov.au](mailto:development.northern@rms.nsw.gov.au)

Yours faithfully



For Monica Sirol  
Network & Safety Manager, Northern Region  
25/10/2017

## ATTACHMENT 20 SEPP 65 EVALUATION

### Design Quality Principles Schedule 1 of SEPP No. 65:

---

#### Principle 1: Context and neighbourhood character

Proposed development responds to the identified future context – as outlined in the adopted Byron Bay Town Centre Master Plan; more than the current context.

The property is located at the southern end of the Jonson Street South precinct. The short and long term priorities for this precinct are:

*The south of Jonson Street should, over time, gradually transition into a mixed use district that supports medium density living and local business. By achieving this outcome a greater population of residents and workers can be located within walking distance of the village centre and the new Mercato Shopping development. In addition the economic vibrancy of the town centre can be better concentrated in and around the Village Centre ensuring a more compact and walkable town centre environment.*

The proposed development will provide a ‘book-end’ mixed use building at the key (future) intersection of the Byron Bypass/ Jonson/ Browning Streets, and, in this regard, a building of this height, scale and mixed-uses is an appropriate response.

The Masterplan identifies the potential to implement amendments to the maximum building height on this site and other land within Byron Bay Town Centre. It further identified the potential to remove FSR controls to support the built form aspirations for the town centre. The desired future character of Byron Bay is subject to the principles in the Masterplan and strategic planning amendments in the form of a planning proposal to amend the LEP in consultation with the community, industry and other key stakeholders.

Planning Proposal 26.2017.6.1 was reported to the Council meeting of 20 September 2018. This follows an earlier resolution of Council to undertake preliminary (pre-Gateway) community engagement during 2018 to discuss the planning controls under review.

The engagement consisted of:

- Two community workshops run in “world café” style, with four topics explored at each workshop. Building height was one of these topics. The workshops were held on 31 May 2018 (29 attendees) and 4 June 2018 (34 attendees). Attendees included general community members, architects, developers, real estate agents and local business owners.
- A workshop with Byron Bay High School students; and
- One on one meetings with two land owners and one urban designer.

In relation to height, all participants were asked, amongst other things, whether they would support an increase in the maximum height limit for the southern end of Jonson street from the current 9.0m to 11.5m. Council resolved to increase the building height on the south eastern side of Jonson Street from 9 metres to 11.5 metres and to remove the maximum FSR in Byron Bay Town Centre where land is zoned B2 Local Centre.

**RESOLUTION NUMBER:** 18-609

**Resolved** that Council:

1. Forward the Planning Proposal at Attachment 1 (#E2018/72394) to the NSW Department of Planning and Environment for a Gateway Determination, to amend Byron Local Environmental Plan 2014 in relation to various town planning controls applicable to the Byron Bay Town Centre with the following amendments;

- a. *delete and replace Section 2.2 Height of Buildings with the following:*
  - 2.2 Height of Buildings
    1. *Amend the Height of Buildings Map by extending the area within the Byron Bay Town Centre that is subject to a maximum height of 11.5m, to include:*
      - a) *the area bounded by Bay Lane to the north, Lawson Street to the south, Jonson Street to the west and Middleton Street to the east; and*
      - b) *the area bounded by Kingsley Street to the north and Browning Street to the south, Jonson Street to the west and Middleton Lane and unnamed lane to the east.*
  - b. *include backpackers accommodation as a permissible use in the B3 Core Business Zone.*
2. *Agree that staff can proceed to public exhibition of the Planning Proposal and government agency consultation based on the Gateway Determination.*
3. *For the purposes of community engagement, endorse the proposed amendment to Byron Development Control Plan 2014 at Attachment 2 (#E2018/72398), to introduce a new Chapter dealing with the Byron Bay Town Centre, to provide more detailed design and building height controls, together with the appropriate amendments to Part A of the DCP, and exhibit the draft Town Centre Chapter in conjunction with the Planning Proposal.*

*(Spooner/Hunter)*

Planning proposal 26.2017.6.1 was sent to Gateway on 27 September 2018 for determination prior to being exhibited. A draft DCP controls will propose a three-storey limit, in addition to building height and floor to ceiling height. This is in response to a very strong community voice through the master plan indicating that buildings with more than 3 storeys are not considered acceptable in Byron Bay.

The proposed development primarily complies with the future indented height of building controls with most part of the building being below 11.5 metres with the exception of lift over-run arising from site specific conditions including a 4 metre cross fall. The number of storeys varies across and responds to the existing ground level; from 3 storeys above ground on the north building adjoining Ruskin Lane to 4 storeys adjoining Jonson and Browning. The building appears as a three storey building from Jonson Street and Browning Street, with the ground floor of the childcare centre being partly lower than natural ground level.



*Browning Street Elevation*



## Principle 2: Built form and scale

As above, the scale of the building is appropriate to the 'book-end' location, particularly in the context of the Town Centre Master Plan and future bypass. See comments above regarding height; the physical height (metres above ground) is not an issue in the context of proposed amendments to the LEP, but the community have clearly articulated a desire for a maximum of 3 storeys. It is considered that the building does read as a 3 storey building from the street.



*Jonson & Browning St - View Through Pedestrian Entry*

The bulk of the building could be 'distributed', better, particularly along the Browning Street frontage, where it presents a vertical wall, albeit broken up by balcony elements.



*Browning Street - Elevation*

The setbacks to the northern boundary are problematic, in that non-compliance with the apartment guide and the lack of vertical 'breaks' of floors above ground present an imposing bulk for the neighbouring property.

The potential to increase the northern setbacks and first level floor to ceiling heights provides an opportunity to revisit the issues of bulk.



*Jonson Street - Perspective*

### **Principle 3: Density**

The density is considered to be appropriate to the future context of the site, in terms of the Town Centre Master Plan and this 'book-end' location.

Residential use would be preferred in the longer term, over tourist use. Serviced apartments are proposed because of the limitations of the definition of 'shop-top' housing. This is proposed to be remedied thru the town centre master plan implementation. In the meantime, longer term flexibility could be better achieved by designing the serviced apartments in a manner more consistent with the apartment guide. This would allow conversion to residential rather than tourist use in the future. This is further supported by the proposed removal of FSR controls in Byron Bay Town Centre in response to the Masterplan and the subject of Planning Proposal 26.2017.6.1.

### **Principle 4: Sustainability**

The proposed development achieves an average seven (7) star band rating in the Nationwide House Energy Rating Scheme (NatHERs). This is as an average across all apartments with individual apartments reaching up to 8.7 stars.

For apartment design, this is a high standard that is difficult to achieve. The rating depends on:

- the layout
- the construction of roof, walls, windows and floor
- the orientation of windows and shading to the sun's path and local breezes; and
- how well these suit the local climate.

**Note** *Typical ratings - Houses built in 1990 averaged about one star on the NatHERS scale. Before the introduction of national energy efficiency regulations for houses in 2003, less than one per cent of Australian houses achieved six stars. Many well designed houses are now being built that are rated at seven stars or more. ([www.nathers.gov.au](http://www.nathers.gov.au))*

The design provides good sustainability initiatives, particularly the inclusion of solar systems to power building, services etc. and innovative use of planting to increase the cooling effects of vegetation.

#### **Principle 5: Landscape**

Quantitatively, deep soil zone is very limited. The landscape plans provide for a broad range of alternative planting methods and the courtyard style of the building does optimise opportunities for amenity within the site, however it is not clear that the landscaping proposed in podium planters on the northern elevation is appropriate given restricted soil depths of 1-1.2 metres and trees of not more than 4 metres.

#### **Principle 6: Amenity**

Central courtyard, diagonal pedestrian link and podium planting adds to the residential amenity. The size of the central courtyard is not consistent with the apartment design guide when both buildings are considered as a whole, which could limit its useability and amenity value if serviced apartments were converted to residential apartments in future.

#### **Principle 7: Safety**

Other than locations containing 'full height timber screens; along internal apartment access ways, there is good passive surveillance of the internal courtyard and pedestrian areas. The design and layout of access to and from the childcare and parking areas are considered to reduce conflict between pedestrians and vehicles. Resident and patron vehicle access is designed for all traffic to enter and exit the site in a forward direction. Loading and waste collection areas are designed to keep pedestrians separate from essential services and all waste and service traffic will exit the site in a forward direction at all times, utilising the loading area as a reverse in turning bay only.

#### **Principle 8: Housing diversity and social interaction**

See comments above regarding serviced apartments compared residential apartments. There is a good mix of apartment types, which could be improved by redesign of serviced apartments.

#### **Principle 9: Aesthetics**


Acceptable – subject to comments above regarding bulk.

## The Apartment Design Guide - Parts 3 & 4:

### PART 3 – Siting the development

<b>3A Site Analysis</b>	<i>Objective 3A-1 Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	<p>3A-1: The application includes substantial documentation describing and assessing the site and the site context, containing the majority of the information outlined in the Site Analysis Checklist – Appendix A of Guide.</p> <p>There is little information, however, on existing dwelling on the lot immediately to the north of the development site, with no commentary on impacts of the development on the existing dwelling on that lot.</p> <p>That lot is also zoned B2 and within the area covered by the Byron Town Centre Master Plan. The existing two-storey dwelling on the lot is dated and it is reasonable to assume that the site would be redevelopment for a higher density use in the short to medium term.</p> <p>Consideration in relation to set backs – The application did not provide a full assessment how the proposal will maximise deep soil areas and support mature vegetation that optimises amenity and address the potential privacy impacts between neighbouring (future) apartments through the use of deep soil mature planting. Alternatively, the application proposes the use of operable timber screens, green walls, vine screens and some planting in setbacks and podiums to provide privacy and visual amenity.</p>
<b>3B Orientation</b>	<i>Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	<p>3B-1: Orientation to the north is difficult given the frontage of the site to Jonson Street, to the west, and Browning Street, to the south. In this case, responding to these street frontages is the important parameter determining orientation.</p> <p>The ground level of the northern building addresses and opens to the Jonson Street frontage. The apartments above also address the street, with some rear apartments oriented to the north.</p> <p>The southern building addresses Browning Street and Ruskin lane, and is therefore oriented to the south and east. The courtyard and building separation helps to increase northern orientation. The child care at ground level does not directly address the street, but the provision of outdoor play area at this level, with associated screening at the boundary, does add interest to the streetscape.</p> <p>Some serviced apartments on upper levels are oriented to the south, with others to the east.</p>
<b>3B Orientation</b>	<i>Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid winter</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	<p>3B-2: The nature of the site minimises overshadowing of residential properties, given Browning Street to the south and Ruskin Lane to the east.</p> <p>In relation to potential overshadowing of recently installed solar panels on property to the east, the potential overshadowing will be minimal due to the properties at 1 Ruskin Lane and 5 Browning Street having unimpeded northerly aspects and that</p>



	<p>properties are separated by a road reserve (Ruskin Lane). Notwithstanding, Council requested that the applicant's architect review shadow diagrams to fix the time on the modelling that had been incorrectly set at 2 pm rather than 3pm.</p> <p>On 6 September 2018, Council received a revised plan that shows there will be partial shadowing by 3pm mid-winter on part of the of the adjoining dwelling at 5 Browning approved for a bed and breakfast. The proposed development will not cause overshadowing from daybreak to 2.30pm (8+hrs) in mid winter and Council is satisfied that the development will not impact on the general performance of the solar panels or have any significant impact on the private open space of neighbouring dwellings.</p> 
<b>3C Public domain interface</b>	<i>Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	<p>3C-1: Retail and café use join the public domain along Jonson Street frontage, effectively bringing the public domain into the building.</p> <p>The building is closed to direct public access from the public domain along Browning Street and part of Ruskin Lane, as the child care centre is at ground level, although a visually permeable acoustic wall is proposed.</p> <p>This is balanced by providing additional public domain into and through the building by way of the diagonal pedestrian walkway via a courtyard and connecting to Ruskin Lane.</p>
<b>3C Public domain interface</b>	<i>Objective 3C-2 Amenity of the public domain is retained and enhanced</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	<i>3C-2: The development will enhance the public domain through design, materials and landscaping. Refer to Landscaping plan.</i>
<b>3D Communal and public open space</b>	<i>Objective 3D-1 - An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping</i>

<p><b>Design Criteria</b></p>	<p><b>3D-1 Design Criteria:</b></p> <ol style="list-style-type: none"> <li>1. Communal open space has a minimum area equal to 25% of the site</li> <li>2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter)</li> </ol>
<p><b>Evaluation</b> Non compliance with 3D-1. 2.</p>	<p><b>3D-1:</b></p> <p>The communal area is 448m<sup>2</sup>, which is 16% of the whole site (2,834.8m<sup>2</sup>) and more than 30 % of the part of the site used for residential purposes.</p> <p>Due to the orientation of the buildings, 20% of the communal area receives 3 hours of sunlight in the required period.</p> <p>The applicant argues that this shortfall is acceptable in the context of the site, given its located within easy walking distance to open space/ recreation areas.</p> <p>Design guidance acknowledges that some developments may be unable to achieve the criteria such as sites within business zones and these should provide for increased private open space for apartments and be in good proximity to public open space and/or provide contributions towards public open space.</p> <p>The communal open space is not within a deep soil zone.</p> <p>The landscape design utilises a range of innovative planting methods including green roofs and walls, vertical landscapes, large podium planters and integrated water management including rainwater for irrigation and filtration. Deep planting utilising 'dead space' in the basement achieves planter depths.</p> <p>Balconies for residential apartments in the form of shop top housing meet or exceed the required private open space.</p> <div> <p>— — — Minimum deep soil zone  - - - Principal usable part of communal open space area  . . . Site boundary</p> </div> <p>Figure 3D.3 The principal usable part of communal open spaces should be consolidated</p>
<p><b>3D Communal and public open space</b></p>	<p>Objective 3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting</p>

<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	3D-2: The communal open space is proposed as a “rainforest courtyard”. The Landscape plan provides preliminary specifications to describe how this can be achieved given 2 levels of basement car parking below. The space is mainly passive with feature trees, timber seating, podium planter, Vertical trellis with climbers, green walls and some activation in the form of a Street piano - “Play me, I’m yours” project and art structure with vertical greening system. (Refer to Attachment 3 – Landscape Report.)
<b>3D Communal and public open space</b>	<i>Objective 3D-3 Communal open space is designed to maximise safety</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	3D-3: Communal space is overlooked internally by various levels and apartments provide surveillance.
<b>3D Communal and public open space</b>	<i>Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	3D-4: The communal space is reasonably well connected to the street via the internal walkway, which opens to Jonson / Browning Street intersection and to Ruskin Lane. Solar access is provided, although somewhat limited (see above). Recreational opportunities are limited – effectively a passive ‘contemplation’ space.
<b>3E Deep Soil Zones</b>	<i>Objective 3E-1 Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality</i>
<b>Design Criteria</b>	<b>3E-1 Design Criteria:</b> For a site of this area (2,835m <sup>2</sup> ) the deep soil zone should be 7% of the site area (198m <sup>2</sup> ) with a minimum dimension of 6m.
<b>Evaluation</b> <b>Non Compliance with 3E-1</b>	3E-1: The landscape plans indicate only 71m <sup>2</sup> of deep planting within the boundary (2.5%). Existing trees on boundaries are not retained, with limited opportunity to replace except within streetscape. The setback on the side boundary to the north provides minimal space for planting and should be increased to provide more space for tree height, spread and soil volumes to increase planting and improve screening between buildings.

Table 2 Suggested soil volumes on sites with sand, clay, alluvial, transition and disturbed soils

Tree size	Height	Spread	Soil volume
Large trees	13-18m	16m	80m <sup>3</sup>
Medium tree	9-12m	8m	35m <sup>3</sup>
Small tree	6-8m	4m	15m <sup>3</sup>

*Note: On sandy sites with reduced soil volumes, the number of trees planted is proportional to the available soil volume*

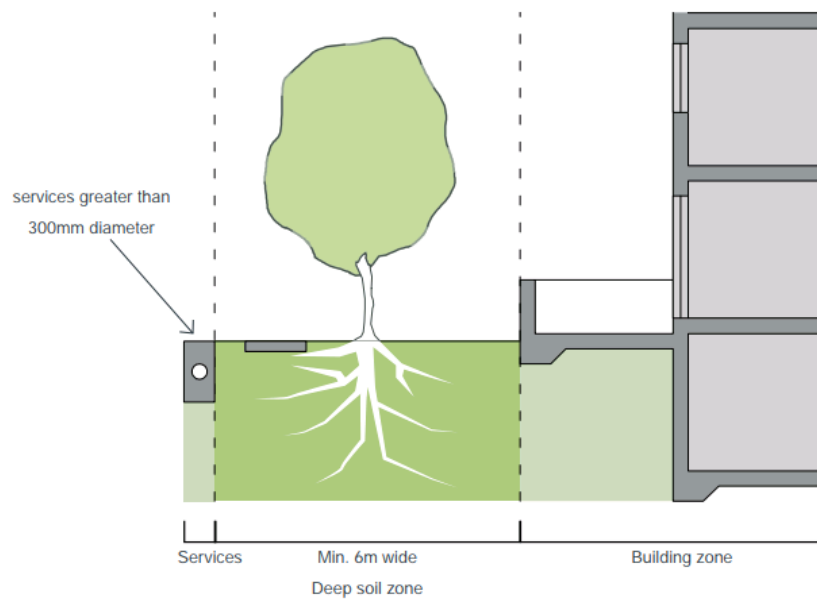


Figure 3E.2 Diagram showing the minimum dimension of deep soil zones for sites greater than 1,500m<sup>2</sup>

The guide provides for alternate forms of planting. The application proposes podium planting of all levels, as well as 'green walls' and significant streetscape planting.

### 3F Visual Privacy

*Objective 3F-1 Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy*

### Design Criteria

#### 3F-1 Design Criteria:

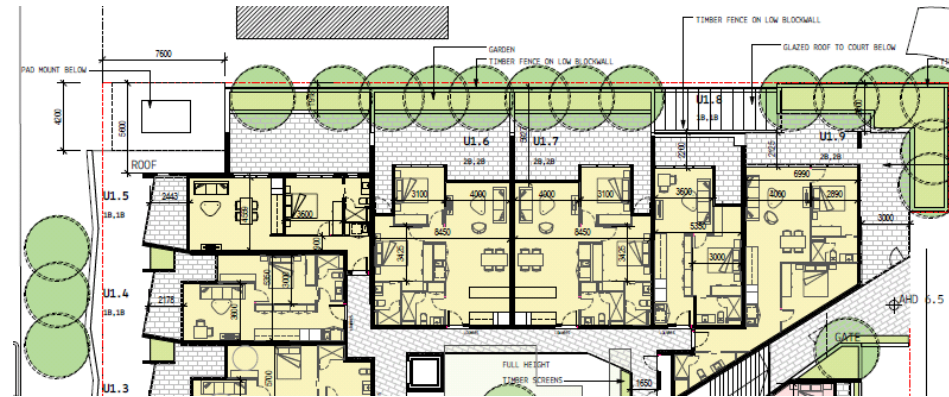
*For a site of this height (up to 12m), the minimum separation distance between windows and balconies is required from buildings to the side and rear boundaries are as follows:*

- 6m for habitable rooms and balconies
- 3m for non-habitable rooms.

**Evaluation**  
Non compliance  
with 3F-1

## North boundary

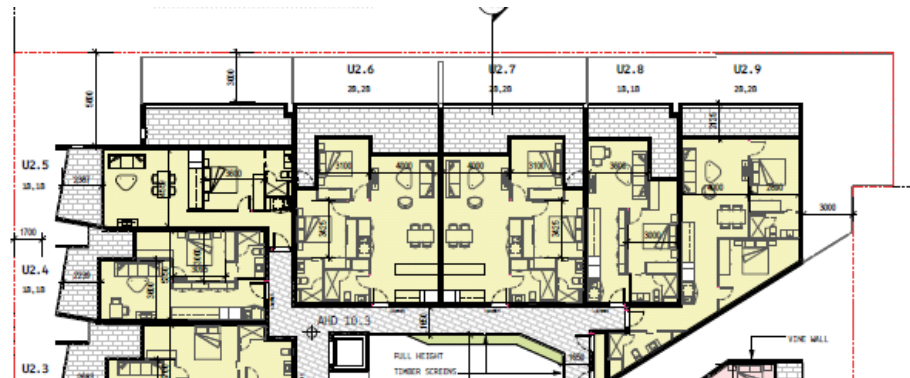
### Level 1:



Level 1 Northern boundary extract from Drawing No TP1.02


- Balconies are set back 1.918 metres with minimal garden planting – podium planters with small trees 4 metres in height.
- Building set back is 5.6 metres to habitable windows in unit 5.
- Building set back is 6 metres to all living area windows and 5.125 metres and 8.2 metres to bedroom windows in units 6 and 7.
- Building set back is 5.125 metres to living area windows and 7.42 metres to bedroom window in unit 8.
- Building set back is 5.125 metres to living area windows and bedroom window in unit 9.

### Level 2:



Level 2 Northern boundary extract from Drawing No TP1.03

- Balconies are set back 3 metres – tree canopy is expected to fill this area up to around 4 metres in height.
- Building 5.6 metres to all habitable windows in unit 5.
- Building set back is 6 metres to all living area windows and 5.125 metres and 8.2 metres to bedroom windows in units 6 and 7.
- Building set back is 5.125 metres to living area windows and 7.42 metres to bedroom window in unit 8.
- Building set back is 5.125 metres to living area windows and bedroom window in unit 9.

	<p>Level 3:</p>  <p><i>Level 3 Northern boundary extract from Drawing No TP1.04</i></p> <ul style="list-style-type: none"> <li>• Balconies are set back 3 metres</li> <li>• Building 5.6 metres to all habitable windows in unit 3.</li> <li>• Building set back is 6.125 metres to all living area windows and 5.125 metres and 8.2 metres to bedroom windows in units 4 and 5.</li> <li>• Building set back is 5.65 metres to living area windows and bedroom window in unit 6.</li> </ul> <p>It is noted that solid balcony balustrades, screening and vegetation is proposed along north elevation.</p> <p>Level 1-3 relationship with balconies and windows affecting the development potential of the adjacent site to the north. Plans will need to be marked to increase the setbacks and condition of consent is required to require more detail on planting and privacy screening details prior to construction.</p>
<b>3F Visual Privacy</b>	<i>Objective 3F-2 Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space.</i>
<b>Design Criteria</b>	<i>No criteria</i>
<b>Evaluation</b>	<p>Private open space and windows are separate from central communal areas, other than small 'juliette' balconies on first units at entrance to diagonal pedestrian pathway.</p> <p>Balconies and private terraces are in front of living areas.</p> <p>Level 1-3 relationship with windows of adjacent site to the north – further planting and privacy screening details are required prior to construction.</p>
<b>3G Pedestrian access and entries</b>	<i>Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain</i>
<b>Design Criteria</b>	<i>No criteria</i>
<b>Evaluation</b>	<p>Entries activate the street, are clearly identifiable, and communal access clearly distinguished from individual shop/ café entries.</p> <p>Multiple entries provided on Jonson Street, but none on Browning Street. Not considered important, given child care use and promotion of Jonson Street as town centre 'main street'.</p>

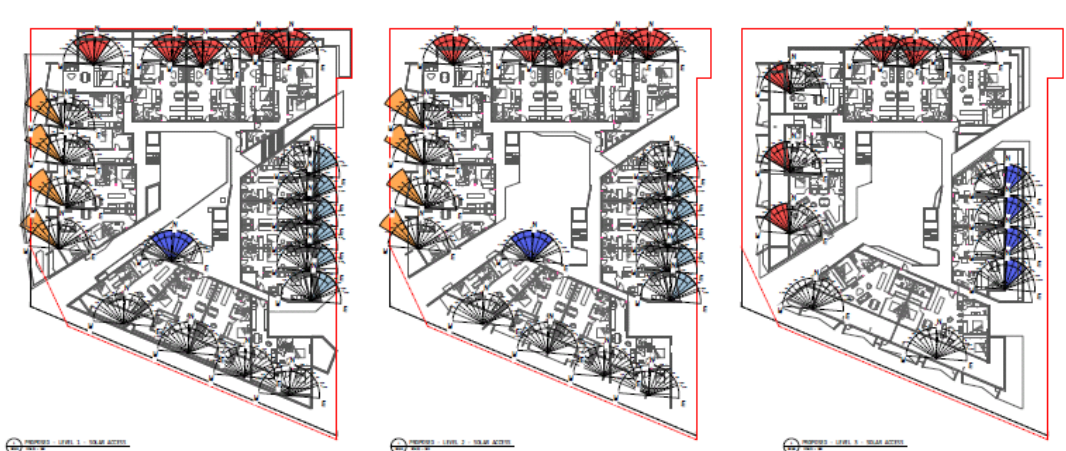


<b>3G Pedestrian access and entries</b>	<i>Objective 3G-2 Access, entries and pathways are accessible and easy to identify</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	Building access areas clearly identifiable.
<b>3G Pedestrian access and entries</b>	<i>Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	Good clear pedestrian links through site, with direct and clear line of site. Entrance points to building within courtyard and on street. Main entrance off Jonson / Browning Streets roundabout well designed to be very clear and 'inviting'.
<b>3H Vehicle Access</b>	<i>Objective 3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	Car park entry is setback from eastern boundary and well located to minimise vehicle and pedestrian conflicts.  The width and number of vehicle access points should be limited to the minimum. Loading area/ garbage collection areas are set back under croft and have good separation of pedestrian and vehicle traffic.
<b>3J Bicycle and car parking</b>	<i>Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas</i>
<b>Design Criteria</b>	<i>The car parking needs for a development must be provided off street.</i> No other criteria– Byron Bay is not a nominated regional centre for other design criteria under 3J1.
<b>Evaluation</b>	All off street parking and is in accordance with DCP 2014. No car share arrangements proposed.
<b>3J Bicycle and car parking</b>	<i>Objective 3J-2 Parking and facilities are provided for other modes of transport</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	Conveniently located and sufficient numbers of parking spaces provided for motorbikes and scooters. Secure undercover bicycle parking provided that is easily accessible from both the public domain and common areas Conveniently located charging stations are provided for electric vehicles.
<b>3J Bicycle and car parking</b>	<i>Objective 3J-3 Car park design and access is safe and secure</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	Safe pedestrian access to lifts / stairs and supporting facilities is good, clearly defined and circulation areas have good lighting, colour, line marking and speed bumps. Residential parking and other parking are clearly separated and designed to reduce conflicts. Gate pressure sensors and one way circulation reduce the likelihood of queuing traffic.
<b>3J Bicycle and car parking</b>	<i>Objective 3J-4 Visual and environmental impacts of underground car parking are minimised</i>
<b>Design Criteria</b>	No criteria
<b>Evaluation</b>	Car park layout and ramp access well organised. Basement level entirely below ground. Minimal natural ventilation.

## PART 4 – Designing the building

The Apartment Design Guide provides consistent planning and design standards for residential apartments across NSW. The design guide does not apply to ‘serviced apartments’ because they are a type of tourist and visitor accommodation and not defined as residential accommodation under the NSW Standard Instrument LEP.

Assessment of the part of the proposal containing serviced apartments in the south building is, however, included below, to provide an understanding if these serviced apartments could be converted to high quality residential apartments in the future.

Criteria	Evaluation	
	Shop-top apartments	Serviced Apartments
<b>4A – Solar and daylight access</b>	<i>Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space</i>	
	<b>4A-1: Design Criteria:</b> <ol style="list-style-type: none"> <li>N/A</li> <li>Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter</li> <li>A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter</li> </ol>	
Minor (3%) non-compliance with 4A-1. 2.		
	67% of apartments comply 33% receive approx. 2.5 hrs direct sunlight between 8am-3pm and more than 3 hours between 8am-5pm. All apartments receive min 3hrs direct sunlight between 8am and 5pm. Refer to Drawing TP3.09	24% of apartments comply 46 % receive min 3hrs direct sunlight between 8am and 5pm. 8 apartments (30%) receive less than this.
	<i>Objective 4A-2 Daylight access is maximised where sunlight is limited</i>	
	4A-2: Higher level windows on courtyard elevations – this is a secondary light source only. Courtyard high-level windows are used in apartments facing the courtyard where possible. These are	4A-2: Higher level windows on courtyard elevations – secondary light source only. For dual-key apartments, high-level window shown only within ensuites. Will restrict both light and ventilation.



Criteria	Evaluation	
	Shop-top apartments	Serviced Apartments
	restricted to kitchens and bathrooms only. Refer to drawing TP2.30 & TP2.31 which demonstrates the typical design and the floor plans for the extent.	
	<i>Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months</i>	
	4A-3: Appropriate shade controls provided, including deep covered walkways. Northern, Eastern and Western facing apartments are protected by balcony overhangs above and sliding operable vertical timber screens.	4A-3: Appropriate shade controls provided, including moveable timber screens on balconies and deep covered walkways.
<b>4B – Natural ventilation</b>	<i>Objective 4B-1 All habitable rooms are naturally ventilated</i>	
	4B-1: The building has been oriented to capture prevailing breezes from the north east. All habitable rooms are naturally ventilated on two sides. The courtyard further enhances ventilation. Apartment plans show louvre windows. Particularly important for west facing apartments – breezes from west limited in hot summer periods.	4B-1: For dual-key apartments, high-level window shown only within ensuites. No louvres on courtyard side; will restrict both light and ventilation.
	<i>Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation</i>	
	4B-2: Apartment depths are limited. All are cross ventilated and all have full height sliding doors opening to balconies.	4B-2: Apartment depths are limited. Not all apartments are cross ventilated.
	<i>Objective 4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents</i>	
	<b>4B-3: Design Criteria:</b> <i>At least 60% of apartments are naturally cross-ventilated</i> <i>Depth of cross-through does not exceed 18m, measured glass line to glass line.</i>	
	All apartments are naturally cross ventilated and all apartments are between 10-12.5 metres depth.	77% are cross ventilated. Maximum apartment depth is 12 metres.
<b>4C – Ceiling heights</b>	<i>Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access</i>	
Non Compliance with 4C 1	4C-1: <u>Design Criteria:</u>  Relevant minimum ceiling height:  <i>Minimum of 2.7m for habitable rooms (floor to ceiling);</i> <i>Minimum of 2.4m non-habitable (floor to ceiling);</i>  <i>If located in mixed use areas – 3.3m for ground and first floor to promote future flexibility of use. <b>Note.</b> The proposed development is located in Zone B2 Local Centre not in the B4 Mixed Use zone.</i>	
	4C-1: ground floor minimum height of 2.8m, with lowered ceiling areas (for services) of 2.55m.	4C-1: ground floor minimum height of 2.8m, with lowered ceiling areas (for services) of 2.55m.

Criteria	Evaluation	
	Shop-top apartments	Serviced Apartments
	<p>2.65m Levels 1-2 habitable rooms 3m top floor habitable rooms 2.4 on level 1-3 non habitable rooms</p> <p>5cm variation is minimal. Refer to architect's/ interior architect's response to ceiling height – Attachments 26- 27.</p>	<p>first and subsequent levels 2.65m in habitable rooms)and 2.4 m in no-habitable</p>
	<p><i>Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well proportioned rooms</i></p>	
	<p>4C-2: As 4C-1 and living areas lead directly onto balconies via full height glazed doors increases perception of large and well-proportioned rooms due to visual connection between living and balcony space. Lowered ceilings are reserved for bathrooms, stores, kitchens which are located away from the building façade and thus do not impede on the apartments sense of volume. All ceiling heights exceed the minimum clear height as stipulated in the NCC Building Code of Australia (F3.1), being 2.4m for habitable rooms, 2.1m for non-habitable rooms and kitchens.</p>	<p>4C-2: As above and all ceiling heights exceed the minimum clear height as stipulated in the NCC Building Code of Australia (F3.1), being 2.4m for habitable rooms, 2.1m for non-habitable rooms and kitchens.</p>
	<p><i>Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building</i></p> <p><i>Design guidance: Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses.</i></p>	
	<p>4C-3: It is considered unlikely that level one apartments would ever be converted to non-residential uses due to the market value of residential land.</p>	<p>4C-3: Flexibility not applicable to serviced apartments and it is considered more likely that the level one apartments could potentially be converted to residential uses.</p>
<p><b>4D – Apartment size and layout</b></p> <p>Non compliance with 4D2.2</p>	<p><i>Objective 4D-1 The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity</i></p>	
	<p><b>4D-1.1: Design Criteria:</b> Minimum internal areas: 1 bedroom: 50m<sup>2</sup> 2 bedroom: 70m<sup>2</sup> 3 bedroom: 90m<sup>2</sup></p>	
	<p>All internal areas comply or exceed the minimum.</p>	<p>All 1 bedroom apartments non-compliant unless combined into 2 bedrooms. 2 &amp; 3 bedrooms comply.</p>
	<p><b>4D-1.2: Design Criteria:</b> <i>Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms.</i></p>	
	<p>All apartments have a window on an external wall that has a glazed area that is at least 10% of the floor area and window visible from any point in a habitable room.</p>	<p>Serviced apartments comply.</p>

Criteria	Evaluation		
	<table border="1"> <tr> <th>Shop-top apartments</th><th>Serviced Apartments</th></tr> </table>	Shop-top apartments	Serviced Apartments
Shop-top apartments	Serviced Apartments		
	<p><b>4D-2: Design Criteria:</b></p> <ol style="list-style-type: none"> <li>Habitable room depths are limited to a maximum of 2.5 x the ceiling height</li> <li>In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.</li> </ol>		
	<p>Figure 4D.3 The depth of a single aspect apartment relative to the ceiling height directly influences the quality of natural ventilation and daylight access. The maximum depth of open plan layouts that combine living, dining and kitchen spaces is 8 metres</p>		
	<p><b>Objective 4D-2 Environmental performance of the apartment is maximised</b></p>		
<p>Other than open plan rooms, habitable room depths don't exceed 6.6 m (2.5 x ceiling 2.65m)</p> <p>All open plan areas comply– except the following exceed 8 metre depths from a window:</p> <p>Level 1: Unit 9 – window is required on south external wall next to kitchen</p> <p>Level 2: Unit 1 and unit 9 – window is required on south external wall next to kitchen</p> <p>Level 3: Units 3 and 6 – louvre window is required above entry door next to kitchen (no other suitable location)</p>	<p>Serviced apartments - Other than open plan rooms, habitable room depths don't exceed 6.6 m (2.5 x ceiling 2.65m). All open plan areas comply– except the following exceed 8 metre depths from a window:</p> <p>Level 1, 2: Dual Key Apartments (x6) Units 14-16 – louvre is required beside or above door (no other suitable location)</p> <p>Level 2 Unit 13 Patio doors required to northern façade.</p>		

Criteria	Evaluation	
	Shop-top apartments	Serviced Apartments
	Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs	
	<b>4D-3: Design Criteria:</b> <ol style="list-style-type: none"> <li>Master bedrooms have a minimum area of 10m<sup>2</sup> and other bedrooms 9m<sup>2</sup> (excluding wardrobe space)</li> <li>Bedrooms have a minimum dimension of 3m (excluding wardrobe space)</li> <li>Living rooms or combined living/ dining rooms have a minimum width of 3.6m for 1 bedroom, and 4m for 2 and 3 bedroom</li> </ol>	
	Complies	Complies – in 1 bedroom units, bedroom combined with living area to achieve this.
<b>4E – Private open space and balconies</b>	Objective 4E-1 Apartments provide appropriately sized private open space and balconies to enhance residential amenity	
	<b>4E-1: Design Criteria:</b> <ol style="list-style-type: none"> <li>Minimum balcony area and depths:: <ul style="list-style-type: none"> <li>1 bedroom – 8m<sup>2</sup> and 2 m deep</li> <li>2 bedroom – 10m<sup>2</sup> and 2 metres deep</li> <li>3+ bedroom – 12m<sup>2</sup> and 2.4 metres deep</li> </ul> </li> <li>For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m<sup>2</sup> and a minimum depth of 3m</li> </ol>	
	Complies with minimum balcony Ground level apartments on northern elevation do not comply with private open space.	1 bedroom units on Levels 1 & 2 do not comply unless combined to create 2 bedroom apartments.
	Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents	
	4E-2: Complies.	Complies – some balconies face south.
	Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building	
	4E-3: Complies.	Complies
	Objective 4E-4 Private open space and balcony design maximises safety	
	4E-4: Complies.	Complies
<b>4F – Common circulation and spaces</b>	Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments	
	<b>4F-1: Design Criteria:</b> <p>The maximum number of apartments off a circulation core on a single level is eight</p>	
	9 apartments off circulation core on levels 1 and 2 Guide allows non-compliance where there is: <ul style="list-style-type: none"> <li>good cross –ventilation in apartments – see above;</li> <li>access to daylight and ventilation in corridors – good access off central courtyard;</li> <li>higher amenity (e.g. articulation, generous widths etc.)</li> </ul>	10 apartments off circulation core on levels 1 and 2 or 7 if dual key apartments are combined.

Criteria	Evaluation	
	Shop-top apartments	Serviced Apartments
	Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments	
	4F-2: Corridors are short, well lit with direct and legible access to vertical circulation and access to courtyard.	Complies
<b>4G – Storage</b>	Objective 4G-1 Adequate, well designed storage is provided in each apartment	
Non compliance with 4G-1 internal storage space	<b>4G-1: Design Criteria:</b> In addition to storage in kitchens, bathrooms and bedrooms, storage required (at least 50% is to be located in apartment): 1 bedroom – 6m <sup>3</sup> 2 bedroom – 8m <sup>3</sup> 3 bedroom – 10m <sup>3</sup>	
	Apart from storage areas in basement 2, no storage areas are provided internally.	Apart from storage areas in basement 2, no storage areas are provided.
	Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments	
	4G-2: Storage in basement 2 complies.	4G-2: Storage in basement 2 complies.
<b>4H – Acoustic privacy</b>	Objective 4H-1 Noise transfer is minimised through the siting of buildings and building layout	
	4H-1: Complies	4H-1: Complies
	Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments	
	4H-2: Double glazing proposed.	4H-2: Double glazing proposed.
<b>4J – Noise and pollution</b>	Objective 4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission	
	Refer to acoustic and air quality reports - Not a significant issue in this location	Refer to acoustic and air quality reports- Not a significant issue in this location
<b>4K – Apartment mix</b>	Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future Objective 4K-2 The apartment mix is distributed to suitable locations within the building	
	Acceptable	Majority of studio apartments (most 'dual-key', which provides flexibility)
<b>4L – Ground floor apartments</b>	Not applicable.	
<b>4M - Facades</b>	Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area Objective 4M-2 Building functions are expressed by the facade  Acceptable.	
<b>4N – Roof design</b>	Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised Objective 4N-3 Roof design incorporates sustainability features  Acceptable.	
<b>4O – Landscape design</b>	Objective 4O-1 Landscape design is viable and sustainable Objective 4O-2 Landscape design contributes to the streetscape and amenity Deep soil zone limited – see comments above	

Criteria	Evaluation																																				
	Shop-top apartments	Serviced Apartments																																			
	Otherwise acceptable.																																				
4P – Planting on structures	<i>Objective 4P-1 Appropriate soil profiles are provided</i> Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces																																				
	Table 5 Minimum soil standards for plant types and sizes																																				
	<table><tr><th>Plant type</th><th>Definition</th><th>Soil volume</th><th>Soil depth</th><th>Soil area</th></tr><tr><td>Large trees</td><td>12-18m high, up to 16m crown spread at maturity</td><td>150m³</td><td>1,200mm</td><td>10m x 10m or equivalent</td></tr><tr><td>Medium trees</td><td>8-12m high, up to 8m crown spread at maturity</td><td>35m³</td><td>1,000mm</td><td>6m x 6m or equivalent</td></tr><tr><td>Small trees</td><td>6-8m high, up to 4m crown spread at maturity</td><td>9m³</td><td>800mm</td><td>3.5m x 3.5m or equivalent</td></tr><tr><td>Shrubs</td><td></td><td></td><td>500-600mm</td><td></td></tr><tr><td>Ground cover</td><td></td><td></td><td>300-450mm</td><td></td></tr><tr><td>Turf</td><td></td><td></td><td>200mm</td><td></td></tr></table>		Plant type	Definition	Soil volume	Soil depth	Soil area	Large trees	12-18m high, up to 16m crown spread at maturity	150m³	1,200mm	10m x 10m or equivalent	Medium trees	8-12m high, up to 8m crown spread at maturity	35m³	1,000mm	6m x 6m or equivalent	Small trees	6-8m high, up to 4m crown spread at maturity	9m³	800mm	3.5m x 3.5m or equivalent	Shrubs			500-600mm		Ground cover			300-450mm		Turf			200mm	
	Plant type	Definition	Soil volume	Soil depth	Soil area																																
Large trees	12-18m high, up to 16m crown spread at maturity	150m³	1,200mm	10m x 10m or equivalent																																	
Medium trees	8-12m high, up to 8m crown spread at maturity	35m³	1,000mm	6m x 6m or equivalent																																	
Small trees	6-8m high, up to 4m crown spread at maturity	9m³	800mm	3.5m x 3.5m or equivalent																																	
Shrubs			500-600mm																																		
Ground cover			300-450mm																																		
Turf			200mm																																		
Note: The above has been calculated assuming fortnightly irrigation. Any sub-surface drainage requirements are in addition to the above minimum soil depths																																					
	Acceptable																																				
4Q – Universal design	<i>Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members</i> <i>Objective 4Q-2 A variety of apartments with adaptable designs are provided</i> <i>Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs</i>																																				
	4Q-1: 2 apartments accessible- U1.3, 2.3; 3 adaptive U1.1, U2.1, U3.6  Therefore 5 of 24 = 20% demonstrate compliance with apartments incorporating Liveable Housing Guideline’s silver level universal design features subject to condition of consent.	4 apartments accessible U1.10, U2.10 U3.9 (plus adaptive), 3.10.  Therefore 4 of 15 = 26 % compliant with 20% of apartments incorporating Livable Housing Guideline’s silver level universal design features subject to condition of consent.  4 of 23 (17%) does not comply if you count dual key apartments separately).																																			
	4Q-2: Council policy: Minimum 10% of units should be accessible/ adaptable – complies (5 out of 24 = 20%) Continuous path of travel in accordance with AS1428 – complies. One disabled space for each adaptable unit – Complies 6 provided in Basement 2	4Q-2: Council policy: Minimum 10% of units should be accessible/ adaptable – (4 out of 23 complies) Continuous path of travel in accordance with AS1428 – complies. One disabled space for each adaptable unit – Does not comply. Only one additional space in the residential parking area. 3 others in the basement 1 level but are required for other uses.																																			
	4Q-3: Complies	4Q-3: Complies																																			
	4R – Adaptive reuse	Not applicable																																			
4S – Mixed use	<i>Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement</i> 4S-1: Mixed use development contributes to the public domain on Jonson Street, with direct entrances to shops and café. There is less contribution to Browning Street, with child care																																				

Criteria	Evaluation	
	Shop-top apartments	Serviced Apartments
	<p>at street level.</p> <p><i>Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents</i></p> <p>4S-2: Residential entries are separated from commercial. Pedestrian access is particularly well provided. Vehicular access to basement car parking well separated from key pedestrian areas. Commercial loading and waste collection below serviced apartment, minimises impact on residential amenity.</p>	
<b>4T – Awnings and signage</b>	<p><i>Objective 4T-1 Awnings are well located and complement and integrate with the building design</i></p> <p>4T-1: Awning provided along Jonson Street frontage, outside of shops &amp; café. Awning does not wrap around to Browning Street along child care frontage, nor does it cover the main pedestrian entrance. Considered acceptable in the circumstances, as lack of awning at entrance allows higher planting and primary visual exposure to this open pedestrian corridor.</p>	
	<p><i>Objective 4T-2 Signage responds to the context and desired streetscape character</i></p> <p>4T-2: Indicative signage proposals are acceptable, and are discrete, yet legible. Signage subject to separate future approval.</p>	
<b>4U – Energy efficiency</b>	<p><i>Objective 4U-1 Development incorporates passive environmental design</i></p> <p><i>Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer</i></p> <p><i>Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation</i></p> <p>4U-1: see above re solar access. No outdoor clothes drying areas.</p> <p>4U-2: Appropriate passive solar elements provided.</p> <p>4U-3: see comments above regarding natural ventilation.</p>	
<b>4V Water management and conservation</b>	<p><i>Objective 4V-1 Potable water use is minimised</i></p> <p><i>Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters</i></p> <p><i>Objective 4V-3 Flood management systems are integrated into site design</i></p> <p>4V-1: Water saving fixtures proposed. All apartments will be required to be individually metered. Integrated water management - Rainwater collected and reused for irrigation and green roofs filtration.</p> <p>4V-2: Stormwater treatment proposed</p> <p>4V-3: Stormwater detention provided. Not required for flood management.</p>	
<b>4W – Waste Management</b>	<p><i>Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents</i></p> <p>4W-1: Waste collection/ storage area provided at ground level, with appropriate chutes at all upper levels. Temporary storage for large bulk items. Waste management plan prepared.</p>	
	<p><i>Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling</i></p> <p>4W-2: There are waste chutes accessible from residential levels.</p> <ul style="list-style-type: none"> <li>Residents will be responsible for depositing waste into their allocated residential storage bins within the storage area. Access from each residential dwelling will be via the service lifts.</li> <li>9 x wheelie bins required in total for organics (compostables) collection. This number of bins satisfies the total calculated waste output for the residential dwellings (2,000 L per week).</li> <li>A total of 4 x 1,000 L trade waste bins will be required for recyclables and general refuse collection. This number of trade waste bin also satisfies the total respective calculated waste outputs for the residential dwellings (4,000 L per week).</li> <li>There is a centralised bin area located in the loading area off Ruskin Lane for the storage of commercial trade waste and wheelie bins.</li> <li>Because the development is mixed use, the commercial bins will be separated from the residential bins within the storage area. Signs will be erected to effectively segregate the separate storage areas.</li> </ul>	



<b>Criteria</b>	<b>Evaluation</b>	
	<b>Shop-top apartments</b>	<b>Serviced Apartments</b>
	<ul style="list-style-type: none"> <li>The retail/commercial/childcare centre occupants will use goods lifts to access the bin storage area for deposition or larger or heavier volumes of waste. They will also be able to walk around to the storage area to deposit smaller/lighter volumes of waste.</li> <li>The wheelie bins and trade waste bins will be transported on a weekly basis by the Site Manager from the commercial storage area to the western end of the loading area for collection by the rear loading MRV (refer to ground floor development plans for location) or on the laneway by HRV (until a MRV becomes available in Byron).</li> </ul>	
<b>4X – Building maintenance:</b>	<p><i>Objective 4X-1 Building design detail provides protection from weathering</i>  4X-1: Refer to materials sample board submitted with the application.  <i>Objective 4X-2 Systems and access enable ease of maintenance.</i>  <i>Objective 4X-3 Material selection reduces ongoing maintenance costs</i>  Acceptable.</p>	

# ATTACHMENT 21

## Child Care Facility Evaluation – National Quality Framework Assessment Checklist

Regulation	Proposed	Complies
<p><b>104. Fencing or barrier that encloses outdoor spaces</b>  <i>Outdoor space that will be used by children will be enclosed by a fence or barrier that is of a height and design that children preschool age or under cannot go through, over or under it. Note: This clause does not apply to a centre-based service primarily for children over preschool age or a family day care residence or venue for over preschool age children.</i></p>	<p>A 1800 mm high acoustic fence identified on architectural plan TP1.01 along the boundary will follow the recommendations highlighted in the Acoustic Engineer's report (page 14, 6.2- <i>Recommended Acoustic Treatments to Control Road Traffic Noise</i>), by ensuring that the walls be built as acoustic barriers. A sample of this fence material and style was also submitted by the applicant. A condition of consent will require that the full specification of the fence materials and style meeting the requirements of Regulation 104 and the acoustic requirements must be submitted to Council for approval prior to issue of construction certificate.</p>	YES
<p><b>106. Laundry and hygiene facilities</b>  <i>The proposed development includes laundry facilities or access to laundry facilities OR explain the other arrangements for dealing with soiled clothing, nappies and linen, including hygienic facilities for storage of soiled clothing, nappies and linen prior to their disposal or laundering. Laundry/hygienic facilities are located where they do not pose a risk to children</i></p>	<p>On site access laundry facilities for the exclusive use of the child care centre is located in the basement. Due to space restrictions, the laundry is proposed in the basement area. This will have a heavy duty washer, dryer and a laundry sink (see Architect Plans TP1.06).  There will be facilities inside the childcare facility to store soiled clothes/nappies safely, prior to washing.</p>	YES
<p><b>107. Unencumbered indoor space</b>  <i>The proposed development includes at least 3.25 square metres of unencumbered indoor space for each child. Refer to regulation 107 of the Education and Care Services National Regulation for further information on calculating indoor space.</i></p>	<p>Number of children: sixty-five (65)  Required area: 211.25 m<sup>2</sup>  Provided Area: 220 m<sup>2</sup></p> <p>0-2 years:  12 children x 3.25 = 39m<sup>2</sup>.  Space Provided 41.5m<sup>2</sup>.</p> <p>2-3 years:  15 children x 3.25 = 48.75m<sup>2</sup>.  Space Provided 50.5m<sup>2</sup>.</p> <p>3-4 years:  18 children x 3.25= 58.5m<sup>2</sup>.  Space Provided 61.5m<sup>2</sup>.</p> <p>4-5 years:  20 children x 3.25= 65m<sup>2</sup>.  Space Provided 66.5m<sup>2</sup>.</p>	YES
<p><b>108. Unencumbered outdoor space</b>  <i>The proposed development includes at least 7.0 square metres of unencumbered outdoor space for each child. Refer to regulation 108</i></p>	<p>Number of children: 65  Required area: 455 m<sup>2</sup>  Provided Area: 455 m<sup>2</sup></p>	YES

<p>of the Education and Care Services National Regulation for further information on calculating outdoor space, and for different requirements for out-of-school-hours care services.</p>	<p>0-3 years outside play space: Maximum 27 children x 7.00 m<sup>2</sup> = 189m<sup>2</sup>.  3-5 years outside play space: maximum of 38 children x 7.00 m<sup>2</sup> = 266 m<sup>2</sup></p>	
<p><b>109. Toilet and hygiene facilities</b> The proposed development includes adequate, developmentally and age appropriate toilet, washing and drying facilities for use by children being educated and cared for by the service. The location and design of the toilet, washing and drying facilities enable safe and convenient use by the children.</p>	<p>The architect plan TP1.01 shows that the service has provided 6 children's toilets and 6 handwashing basins. Furthermore, architect plan TP1.01 also shows that the Early Childhood service has provided a female toilet, as well as one (1) Persons with Disability (PWD) unisex toilet. The PWD facility also contains a shower.</p>	YES
<p><b>110. Ventilation and natural light</b> The proposed development includes indoor spaces to be used by children that • will be well ventilated; and • will have adequate natural light; and • can be maintained at a temperature that ensures the safety and well-being of children.</p>	<p>Plans and elevations show how natural ventilation and lighting is achieved. Double glass sliding doors and windows will be fitted on the wall facing each room outside play space. This will allow adequate natural light and ventilation.  There is a high-level window on the western side of the child care service, which will also provide natural light into the older children's room (see Architect plan TP1.01) Each room will be fitted with air conditioning and ceiling fans to help ventilate each room</p>	YES
<p><b>111. Administrative space</b> The proposed development includes an adequate area or areas for the purposes of conducting the administrative functions of the service; and consulting with parents of children; and conducting private conversations. Note: This space cannot be included in the calculation of unencumbered indoor space – see regulation 107</p>	<p>Architect plans (TP1.01) show that the Early Childhood service has met this requirement by providing a reception desk for receptionist duties, a private director's office for management duties and a staff room where staff can carry out documentation and programming duties.</p>	YES
<p><b>112. Nappy change facilities</b> (To be completed only if the proposed development is for a service that will care for children who wear nappies) The proposed development includes an adequate area for construction of appropriate hygienic facilities for nappy changing including at least one properly constructed nappy changing bench and hand cleansing facilities for adults in the immediate vicinity of the nappy change area. The proposed nappy change facilities can be designed and located in a way that prevents unsupervised access by children.</p>	<p>Architect Plan TP1.01 shows that there will be 2 nappy changing facilities available in the bathroom between the 0-2-year-old room and the 2-3-year-old room.</p>	YES
<p><b>113. Outdoor space—natural environment</b> The proposed development includes outdoor spaces that will allow children to explore and experience the natural environment.</p>	<p>Indicated on landscape plans.  The landscape architects report (0-3 Play Plan and 3-5 Play Plan) show that we are meeting this requirement by providing a range of natural materials, including water, sand, rocks, wooden logs, bark chip, real plants and more. The veranda section of the building is included in the outdoor space ratio. Outdoor landscape renderings for the service can be found on the landscape</p>	YES

	architect plan (refer to 0-3 Play Plan and 3-5 Play Plan)	
<b>114. Outdoor space—shade</b> <i>The proposed development includes adequate shaded areas to protect children from overexposure to ultraviolet radiation from the sun.</i>	The architect plans (TP1.01) and landscape architect plans (0-3 Play Plan and 3-5 Play Plan) show that there is adequate shade protection by utilising the above buildings floors space. The architect statement confirms that 33% solar access has been achieved. Plans indicate that no more than approximately 2/3 of the outdoor space is covered.	YES
<b>115. Premises designed to facilitate supervision</b> <i>The proposed development (including toilets and nappy change facilities) are designed in a way that facilitates supervision of children at all times, having regard to the need to maintain the rights and dignity of the children.</i>	This service has designed the service in the following ways, to ensure this requirement is met.  - indoor play spaces with minimal blind spots. - large glass doors and windows for easy supervision from either outside in or inside out. - windows between the room and bathrooms to allow easy supervision while children are in bathrooms or while staff are nappy changing.  -outdoor play spaces are designed with minimal supervision barriers.  The applicant has advised that when the service commences, a supervision plan will be implemented to ensure that staff are positioned in adequate areas to allow for efficient supervision.	YES

## Other considerations

### **Child care play space- Consultant's response**

In response to the council's concerns over the orientation of the 3-5's play space, we offer the following response.

The concern raised is based on weather related instances (prevailing South-West Winds). All Early Childhood Education (Childcare) Services are required by law to ensure all children in the service are safe and secure at all times. As part of this, *Education and Care Services Regulation 168* requires that all Early Childhood Education (Childcare) Services are to have policies and procedures in place to ensure that all children, staff and visitors of the service are kept safe at all times.

Extreme weather events, such as torrential rain, Gail force winds and extreme heat, are often predictable and as such, once operational the Early Childhood (Childcare) Service, will have procedures in place to remain updated on predictable weather events. Furthermore, once operational, the service will provide the following to ensure that all children, staff and visitors remain safe whilst on the premises:

- Will ensure that all policies and procedures related to children's, staff and visitor's health and safety are followed and reviewed at least annually, as per the Education and Care Regulations.
- Information about suitable clothing choices (summer and winter clothes) will be given to parents upon enrolment.
- Spare clothes will be available at the service for children who don't have any.

- Reverse cycle Air-conditioning and Heating units, as well as ceiling fans, will be installed in each room and will be utilised when it is unsafe or unsuitable to go outside.
- Weather appropriate experiences will be conducted, as part of the educational curriculum.
- Utilise the indoor space during time periods of extreme hot or cold weather.

During the design process, we have discussed the option of retractable, clear, outdoor blinds, which could be installed as a weather barrier, whilst still providing efficient supervision. However, the final decision would be to begin operation and assess, as these can be installed after operation of the service has commenced.

At the time of publishing the original Development Application, the Childcare Planning Guidelines were in Draft phase, which is where Byron Shire Council are making reference towards. The Draft Childcare Planning Guidelines did indicate that certain Leq1hr are required for childcare services in different areas (indoor, outdoor and sleep times).

In August 2017, the Childcare Planning Guidelines were finalised and published, and the finalised Guidelines do not specify a certain Leq1hr requirement. Rather the Childcare Planning Guidelines suggest that an acoustic engineer prepare a report and determine the suitability of a service in relation to neighbouring properties.

The acoustic report prepared for the proposed Early Childhood (Childcare) service recommends the following acoustic treatments to ensure that the proposed childcare is suitable for the proposed site:

- Construction of the acoustic barrier as detailed in Sketch No. 1 in Appendix A adjacent to the childcare play spaces.
- Absorptive ceilings should be constructed above children play space areas (i.e. underside of apartment floor levels / balconies) to achieve an NRC of 0.8.
- Hours of operation for the childcare centre be limited to between 6.30am to 6pm.
- Children activity prior to 7am should be restricted to inside the childcare centre.
- Children at the outdoor play space of the childcare Centre be limited to one classroom at any one time (less than 20 children).
- No elevated play equipment in the outdoor play areas.

(Environmental Noise impact Report, published by CRG Acoustics, July 2017)

The following section will highlight how the service will follow and incorporate the Acoustic Engineers Recommendations.

**Points 1 and 2-** Working with the Architects, it is our professional opinion that points 1 and 2 can be achieved by amending the Architectural Drawings to accommodate the Acoustic Engineers recommendations.

**Point 3-** When applying for approval of Service through the Department of Education, an approved provider is required to nominate the hours of operation. At this time, the service will nominate the hours of operation between the hours of 6:30am and 6:00pm, thus meeting this recommendation.

**Point 4-** As per National Regulations, an Early Childhood (Childcare) Service is required to develop and display a daily routine. At this time, the Early Education (Childcare) Service will ensure that the daily routine indicates that the children will be remain inside prior to 7am.

**Point 5-** The Proposed Early Childhood (Childcare) Service provides 2 play spaces. The 0-3 play space will have a maximum of 27 children, while the 3-5 play space will have a maximum of 35 children. Based on the location of each play space, as well as the ages of children occupying each play space, it is our professional opinion that having 20 children in each play yard at the same, will not produce high levels of noise for any one residential property.

Once operational, the Early Childhood (Childcare) Service will develop and follow procedures that ensures that no more than 20 children will be in each playground, based on the Acoustic Engineer's determination of boisterous play.

It is our professional opinion that if children are engaged in quiet experiences, such as reading, drawing or yoga, then the noise level in the outside space will not be high. Therefore, we will limit large groups of children being in the outdoor spaces, based on the experiences children will be involved in.

Once operational, the daily routine will dictate what groups and how many children will be in any one space at any one time.

**Point 6-**

As per the landscape design, as well as limitations put on the height of children's play equipment, there will be no play equipment higher than the 1.8m acoustic fence. Once operational, the Early Education (Childcare) Service will develop policies for all staff to follow, thus making sure this acoustic recommendation remains met at all times.

**Other matters**

Safe access

There is ample underground car parking available in the Level -1 Basement, with wheelchair and pram accessible parking and safe walk ways leading to an internal staircase, as well as lift access.

Soil assessment

Subclause (d) of regulation 25 requires an assessment of soil at a proposed site, and in some cases, sites already in use for such purposes as part of an application for service approval.

A Stage 1 Preliminary Contamination Assessment prepared by ENV Solutions dated May 2017 provides that all soil results were below the Health Investigation Levels (HIL) in accordance with NEPM (2013) Table 1 A (1) Column A – 'Standard' Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools.

Emergency and Evacuation

An emergency and evacuation plan will need to be written prior to being granted Service Approval by the Department of Education. These will be undertaken prior to the service commencement.

This will be required to consider:

- the mobility of children and how this is to be accommodated during an evacuation
- the location of a safe congregation/assembly point, away from the evacuated building, busy roads and other hazards, and away from evacuation points used by other occupants or tenants of the same building or of surrounding buildings
- how children will be supervised during the evacuation and at the congregation/assembly point, relative to the capacity of the facility and governing child-to-staff ratios.

The service has implemented evacuation gates from the outside play space to outside the service for use of an emergency (refer to Landscape Architect Plan 0-3 Play Plan and 3-5 Play Plan). The services has also committed to ensure that internal locks will be quick release, as to allow quick evacuation from inside the service.

Noise and air pollution

Council has considered an Environmental Noise Impact Report by CRG Acoustics Pty Ltd, dated 07 August 2018 and Preliminary Air Quality Assessment prepared by ENV Solutions, dated January 2018 to satisfy that there are consideration has been given to potential impacts on the health, safety and wellbeing of children, staff and visitors with regard to local environmental or amenity issues such as air or noise pollution and local traffic conditions in the context of a gateway site on a classified road and zoned B2 Local Centre.

Hours of operation are to be limited in accordance with the Noise report, including:

- Construction of the acoustic barrier adjacent to the childcare play spaces.
- Absorptive ceilings should be constructed above children play space areas (i.e. underside of apartment floor levels / balconies) to achieve an NRG of 0.8.
- Hours of operation for the childcare centre be limited to between 6.30am to 6pm.
- Children activity prior to 7am should be restricted to inside the childcare centre.
- Children at the outdoor play space of the childcare centre be limited to one classroom at any one time (less than 20 children).
- No elevated play equipment in the outdoor play areas.

The Preliminary Air Quality Assessment prepared by ENV Solutions, indicates that air quality parameters measured at the subject site do not exceed limits set by National Environment Protection (Ambient Air Quality) Measure (NEPM). No further investigation is warranted in term of ambient air quality the subject site is considered suitable for child care development.

### Storage

It is recommended that a child care facility provide:

- a minimum of 0.3m<sup>3</sup> per child of external storage space
- a minimum of 0.2m<sup>3</sup> per child of internal storage space.

Storage does not need to be in a separate room or screened, and there should be a mixture of safe shelving and storage that children can access independently.

The proposal meets these requirements as follows:

65 children x 0.2 m<sup>3</sup> = 13 m<sup>3</sup>.

65 children x 0.3 m<sup>3</sup> = 19.5 m<sup>3</sup>.

65 children total required storage is 32.5 m<sup>3</sup>.

As per architect drawings (TP1.01), the childcare service has allocated a storage shed with internal access that has 164 m<sup>3</sup> of storage capacity. This is adequate for storage of external resources, as well as the services documentation and files.

Further internal space will be available in each room on wall mounted shelving units and in the staff room.

### **End of child care evaluation report**



## DRAFT CONDITIONS OF CONSENT:

### SCHEDULE 1 CONDITIONS OF CONSENT

#### Parameters of consent

1. **Development is to be in accordance with approved plans**  
The development is to be in accordance with plans listed below:

Plan No.	Description	Prepared by	Dated:
TP0.02 (REV1)	Site Plan – Existing	Myers Elliot Architect	15.08.2017
TP0.03 (REV 1)	Site Plan – Demolition	Myers Elliot Architect	15.08.2017
TP0.04 (REV 2)	Site Plan – Proposed	Myers Elliot Architect	06.08.2018
TP1.01 (REV 5)	Ground Level	Myers Elliot Architect	06.08.2018
TP1.02 (REV 5)	Level 1	Myers Elliot Architect	06.08.2018
TP1.03 (REV 4)	Level 2	Myers Elliot Architect	06.08.2018
TP1.04 (REV 4)	Level 3	Myers Elliot Architect	06.08.2018
TP1.05 (REV 4)	Roof Plan	Myers Elliot Architect	06.08.2018
TP1.06 (REV 6)	Basement 1	Myers Elliot Architect	19.09.2018
TP1.07 (REV 4)	Basement 2	Myers Elliot Architect	06.08.2018
TP1.08 (REV 3)	Elevation – West	Myers Elliot Architect	28.02.2018
TP1.09 (REV 4)	Elevation – East	Myers Elliot Architect	06.08.2018
TP1.10 (REV 5)	Elevation – South	Myers Elliot Architect	06.08.2018
TP1.11 (REV 3)	Elevation – North	Myers Elliot Architect	28.02.2018
TP1.12 (REV 3)	Section 01	Myers Elliot Architect	28.02.2018
TP1.13 (REV 3)	Section 02	Myers Elliot Architect	28.02.2018
0001	Index and Locality Plan	Planit	08/08/2018
0002	General Notes and Legend	Planit	08/08/2018
0004	Site Layout Ground Floor Plan	Planit	08/08/2018
0008	Ramp Sections	Planit	08/08/2018
0009	Ruskin Lane Upgrade Long Section	Planit	08/08/2018
0010	Vehicle Swept Paths – Light Vehicles	Planit	08/08/2018
0011	Vehicle Swept Paths – Heavy Vehicles	Planit	08/08/2018
0013	Basement Car Parks Drainage System Layout Plan	Planit	07/08/2018
TP0.02	Site Plan -Existing	Planit	15.08.2017
TP0.01	Cover Page	Planit	06.08.2018
TP0.02	Site Plan -Existing	Planit	15.08.2017
TP0.03	Site Plan - Demolition	Planit	15.08.2017
TP0.04	Site Plan - Proposed	Planit	06.08.2018
TP1.01	Ground Level	Planit	06.08.2018
TP1.06	Basement 1	Planit	06.08.2018
TP1.07	Basement 2	Planit	06.08.2018
	Stormwater Management Plan	Planit	08/08/2018
	Traffic Impact Study	Planit	09/08/2018
	Environmental Noise Impact Report Crgref:17083 (REV 3)	CRG Acoustics	7th August 2018
	Acid Sulfate Soil Management Plan for Proposed Development at 137 and 139 Jonson Street and 3 Browning Street Byron Bay	ENV Solutions Pty Ltd	June 2017
	Dewatering Management Plan for JGD Developments Pty Ltd at 137 and 139 Jonson Street and 3 Browning Street Byron Bay	ENV Solutions Pty Ltd	June 2017

---

The development is also to be in accordance with any changes shown in red ink on the approved plans or conditions of consent. A description of plans to be amended, are as follows:

1. Plans are to be amended in red pen to minimise impacts of non-compliance with SEPP 65 Apartment Design Guide, design criteria in northern building module:
  - o 3E-1 deep soil zone for planting to increase on Northern Boundary;
  - o 3F-1 Building separation northern boundary setbacks to balconies and habitable windows to increase, windows to be made opaque glazing within 6 metres of boundary and fixed privacy louvres on balconies.
  - o 4D-2.2 - Open plan room depths to be reduced to 8 metres or additional louver windows on internal courtyard walls to increase ventilation.
  - o 4-G1 internal storage spaces to be provided in all shop top housing.
2. Loading area plans (as amended in red pen) to allow Heavy Rigid Vehicle (HRV) waste truck to reverse into the site and leave Ruskin Lane in a forward direction and for a Medium Rigid Vehicle (MRV) waste truck to load skip bins fully within the property boundary.
3. Attachment 3 – Landscape Plan: Hardstand for rubbish in collection on Browning Street to be deleted in the landscape report.

The approved plans and related documents endorsed with the Council stamp and authorised signature must be kept on site at all times while work is being undertaken.

2. **Water NSW General Terms of Approval for work requiring a licence under the *Water Act 1912* for Development Application Number\_ DA\_2017.0510**

**General Conditions (all approvals)**

The purposes of these conditions are to:

- Define certain terms used in other conditions
- Specify the need to obtain a license, permit or authority before commencing any works
- Specify that, in most cases an approval will only be issued to the occupier of the lands where the works are to be located (as required by the Water Act)
- Require existing approvals to be cancelled or let lapse when a license is issued (if applicable)
- Require the safe construction and operation of all works
- Require the use of appropriate soil conservation measures
- Limit vegetation destruction or removal to the minimum necessary
- Require the separate authorisation of clearing under the NYC Act
- Allow conditions to be imposed for management of fuel (petroleum )

In the following conditions relating to an approval under the Water Act 1912;

'the department' means the department administering the Water Act 1912;

'approval' means a license, permit, authority or approval under that Act;

'river ' has the same meaning as in Section 5 of the Water Act 1912;

'work' means any structure, earthwork, plant or equipment authorised under the approval to be granted, as defined in Section 5 and 105 of the Water Act 1912;

'controlled work ' means any earthwork, embankment or levee as defined in Section 165 of the Water Act 1912

Before commencing any works or using any existing works for the purpose of industrial (sand & gravel extraction) an approval under Part V of the Water Act 1912 must be obtained from the department. The application for the approval must contain sufficient information to show that the development is capable of meeting the objectives and outcomes specified in these conditions.

An approval will only be granted to the occupier of the lands where the works are located, unless otherwise allowed under the Water Act 1912.

When the department grants an approval, it may require any existing approvals held by the applicant relating to the land subject to this consent to be surrendered or let lapse.

All works subject to an approval shall be constructed, maintained and operated so as to ensure public safety and prevent possible damage to any public or private property.

All works involving soil or vegetation disturbance shall be undertaken with adequate measures to prevent soil erosion and the entry of sediments into any river, lake, waterbody, wetland or groundwater system.

The destruction of trees or native vegetation shall be restricted to the minimum necessary to complete the works.

All vegetation clearing must be authorised under the Native Vegetation Conservation Act 1997, if applicable.

The approval to be granted may specify any precautions considered necessary to prevent the pollution of surface water or groundwater by petroleum products or other hazardous materials used in the construction or operation of the works.

A license fee calculated in accordance with the Water Act 1912 must be paid before a license can be granted.

**Conditions of water use (including irrigation)**

The purpose of these conditions are to:

- Allow the department to obtain an accurate measure of water use where necessary
- Specify the purpose(s) for which the water may be used

If and when required by the department, suitable devices must be installed to accurately measure the quality and quantity of water extraction or diverted by the works.

All water measuring equipment must be adequately maintained. It must be tested as and when required by the department to ensure its accuracy.

The water extracted under the approval to be granted shall be used for the purpose of industrial (dewatering) and for no other purpose. A proposed change in purpose will require a replacement license to be issued.

**Conditions for bores and wells**

*See also 'general conditions' and 'conditions for water use'*

The purpose of these conditions are to:

- Set a limited period bore construction
- Require the bore to be properly completed and sealed
- Require certain information to be provided on completion of the work, including a location plan
- Allow WaterNSW access for inspection and testing
- Specify procedures if saline or polluted water found
- Specify a volumetric allocation for the works purpose
- Allow NOW to alter the allocation at any time

Works for construction of bore must be completed with such period as specified by the department.

Within two months after the works are completed the department must be provided with an accurate plan of the location of the works and notified on the results of any pumping tests, water analysis and other details as specified in the approval.

Any water extracted by the works must not be discharged into any watercourse or groundwater if it would pollute the water.

The department has the right to vary the volumetric allocation or the rate at which the allocation is taken in order to prevent the overuse of an aquifer.

(1) The licensee must allow authorised officers of the NSW office of Water, and its authorised agents

reasonable access to the works with vehicles and equipment at any time for the purposes of:

- Inspecting the said work
- Taking samples of any water or material in the work and testing the samples

- (2) the licensee shall within 2 weeks of being notified install to the satisfaction of the NSW Office of Water in respect of location, type and construction an appliance(s) to measure the quantity of water extracted from the works. The appliance(s) to consist of either a measuring weir or weirs with automatic recorder, or meter or meter(s) of measurement as may be approved by the NSW Office of Water. The appliance(s) shall be maintained in good working order and condition. A record of all water extracted from the works shall be kept and supplied to the NSW Office of Water upon request. The licensee when requested must supply a test certificate as to the accuracy of the appliance(s) furnished either by the manufacturer or by some person duly qualified.
- (3) the authorised work shall not be used for the discharge of polluted water into a river or lake otherwise than in accordance with the conditions of a licence granted under the protection of the environment operations act 1997. A copy of the licence to discharge is to be provided to the NSW Office of Water.
- (4) the term of this licence shall be one (1) years.
- (5) the volume of groundwater authorised from the work by this licence shall not exceed 15 megalitres per water year.
- (6) the authorised work shall not be used for the discharge of water unless the ph of the water is between 6.5 and 8.5, or the water has been treated to bring the ph to a level between 6.5 and 8.5 prior to discharge, or the water is discharged through the council's sewerage treatment system.
- (7) the licensee shall test the ph of any water extracted from the work prior to the commencement of any discharge and at least twice daily thereafter and record the date, time and result of each test in the site log. A copy of the records of the ph testing is to be returned with the form 'ag'.
- (8) the works shall be managed in accordance with the approved Acid Su fate Soil Management Plan and Dewatering Management Plan of June 2017 prepared by ENV Solutions Pty Ltd.

3. **No Permanent Post Construction Dewatering**

Permanent post construction dewatering of groundwater is not permitted.

4. **Certification – Structural Engineer**

Upon completion of the basement and before the commencement of any other building works the applicant must provide documentation from a registered structural engineer to the Certifying Authority to certify that the basement has been made watertight to prevent any ingress of groundwater.

5. **Support for neighbouring buildings**

If an excavation extends below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation to be made or builder must:

- a) Inform the neighbouring property owner immediately.
- b) Engage a structural engineer to determine any remedial works that may need to be undertaken.
- c) Preserve and protect the adjoining building from damage.
- d) If necessary, underpin and support the building in an approved manner.

**The following conditions are to be complied with prior to issue of a Construction Certificate for building works**

6. **Land to be consolidated**

Boundary adjustment and all separate parcels of land are to be consolidated into one allotment and registered with NSW Land Registry Services.

Prior to the issue of the Construction Certificate, evidence, satisfactory to the Certifying Authority, is to be provided to the Certifying Authority that arrangements have been made for all separate parcels of land are to be consolidated into one allotment and registered with the NSW Land Registry Services.

The consolidated lot boundary alignment is to:

- Be in accordance with the proposed boundary shown on Drawing Title: Site Layout Ground Floor Plan, Drawing No. 0004, Dated: 08/08/2018 and Drawn By: Planit.
- Include a relevant easement at the entrance to the basement ramp to allow public cars to manoeuvre across this area. Refer to Drawing Title: Site Layout Ground Floor Plan, Drawing No. 0004, Dated: 08/08/2018 and Drawn By: Planit.

7. **Compliance required with Building Over Pipelines Policy**

All developments must comply with Policy 4.20. Swimming pools are classed as buildings and are required to comply with this policy.

The use of displacement and screw pile construction methods will require approval by Council.

Any brick / masonry fence crossing a pipeline requires Council approval. The fence must be supported such that it does not cause loading on the pipes zone-of-influence.

8. **Excavation Depth and Dewatering limited**

Excavations and dewatering below the final approved basement level are not permitted without prior approval from council. Such approval must be obtained after the date of this consent.

9. **Fencing materials and design details to be approved by Council**

Full specification of the boundary fence materials and design meeting the requirements of the Education and Care Services National Regulations and that ensures acoustic and visual privacy requirements are met must be submitted to Council for approval prior to issue of construction certificate.

10. **Privacy treatment details apartments to be approved by Council**

Full specification of the privacy screens on the northern and eastern facing balconies must be submitted to Council for approval prior to issue of construction certificate.

11. **Details of acoustic treatments for building construction to be submitted for approval**

The application for a Construction Certificate is to include plans and specifications that demonstrate the inclusion of acoustic treatments for building construction recommended in Section 6.0v of Environmental Noise Impact Report prepared by CRG Acoustics dated 7<sup>th</sup> August 2018. Such plans and specifications must be approved as part of the Construction Certificate for building works.

12. **Plans and specifications for noise barriers must be submitted for approval**

The application for a Construction Certificate is to include plans and specifications for noise barriers recommended in Section 6.0 and Appendix A of Environmental Noise Impact Report prepared by CRG Acoustics dated 7<sup>th</sup> August 2018. Such plans and specifications must be approved as part of the application for a Construction Certificate for building works.

13. **Details of on site mechanical plant design to be submitted for approval**

The application for a Construction Certificate is to include detail of on-site mechanical plant design as recommended in Environmental Noise Impact Report prepared by CRG Acoustics dated 7<sup>th</sup> August 2018. Such plans and specifications must be approved as part of the application for a Construction Certificate for building works.

14. **Detailed Noise Management Plan – Demolition / Construction**

A Detailed Noise Management Plan must be submitted to the Certifying Authority for approval prior to the issue of the construction certificate for building works. The Noise Management Plan must be prepared by a suitably qualified acoustic practitioner and detail the methods that will be implemented for the whole project to minimise demolition and construction noise. Information should include:

- a) identification of nearby residences and other sensitive land uses;
- b) assessment of expected noise impacts;
- c) detailed examination of feasible and reasonable work practices that will be implemented to minimise noise impacts;

- d) strategies to promptly deal with and address noise complaints;
- e) details of performance evaluating procedures (for example, noise monitoring or checking work practices and equipment);
- f) procedures for notifying nearby residents of forthcoming works that are likely to produce noise impacts;
- g) reference to relevant consent conditions; and
- h) name and qualifications of person who prepared the report.

Note to EO: Refer to DECC's 'Interim Construction Noise Guideline' (2009) for more information (see <http://www.environment.nsw.gov.au/noise/constructnoise.htm>)

**15. Dilapidation Report**

The submission of a certified report to the Certifying Authority from suitably qualified and practising geotechnical and structural engineers, certifying that the method of construction will not adversely impact/affect the structural integrity and support of the neighbouring buildings and associated private and public infrastructure within the zone of influence of the construction site. The report is to also address the current structural state of those buildings and infrastructure.

The engineers are to be Corporate Members of the Institution of Engineers Australia.

**16. Vibration Management Plan required**

The application for a Construction Certificate is to include a Vibration Management Plan for any excavation works requiring rock drilling, blasting or breaking on the site. The Vibration Management Plan, to be prepared by a suitably qualified person, must be submitted to the Certifying Authority. The Plan must address, but not be limited to, the following matters:

- a) Identification of the specific activities that will be carried out;
- b) Identification of all potentially affected sensitive receivers;
- c) Determination of appropriate vibration objectives for each identified sensitive receiver;
- d) Vibration monitoring, reporting and response procedures;
- e) Assessment of potential vibration from the proposed construction activities;
- f) Description of specific mitigation treatments, management methods and procedures that will be implemented to control vibration during construction;
- g) Procedures for notifying residents of construction activities that are likely to affect their amenity through vibration, and
- h) Contingency plans to be implemented in the event of non compliance and/or complaints.

**17. Environmental Management Plan**

An Environmental Management Plan (EMP) must be submitted to the Certifying Authority for approval prior to any demolition or construction works commencing. The EMP must be prepared by a suitably qualified professional and contain details of measures to be undertaken to ensure that demolition or construction works do not result in any off-site impacts that could interfere with neighbourhood amenity by reason of noise, vibration, smell, fumes, smoke, dust, wastewater or otherwise.

All works must be in accordance with NSW WorkCover Authority.

**18. Unexpected Findings Protocol - Contamination & Remediation**

An Unexpected Findings Protocol (UFP) shall be prepared and submitted to Certifying Authority /Council for approval prior to the issue of Construction Certificate. The UFP shall be prepared by a suitable qualified person experienced in matters relating to Contamination of Land and Remediation.

**19. Site Waste Minimisation and Management Plan - Construction**

Chapter B8 of Byron Shire Development Control Plan 2014 (DCP 2014) aims to facilitate sustainable waste management in a manner consistent with the principles of Ecologically Sustainable Development. Prior to the issue of a Construction Certificate, a Site Waste Minimisation and Management Plan (SWMMP) must be submitted outlining measures to minimise and manage waste generated during demolition, construction.

The SWMMP must specify the proposed method of recycling or disposal and the waste management service provider.

A template is provided on Council's website to assist in providing this information

20. **Operational Plan of Building Management**

An operational plan of management is to be prepared and submitted to Council that details the ongoing operations and maintenance of the building including but not limited to:

**Carpark Access, Security & Operation:**

- Basement ramp - The location of the basement ramp is considered acceptable after review by independent external traffic consultant provided boom gates and intercoms etc. are appropriately located to ensure not traffic conflicts on Ruskin Lane or Browning St. Basement carpark access, security and operation has been clarified as the following:
  - The basement carparks of the proposed development are to be secured by a metal security gate located at base of main vehicle ramp.
  - The security gates located at the base of the ramp allows for approximately 29m of queuing up the ramp to the site boundary on Ruskin Lane.
  - It is proposed that the basement security gates remain open during hours of operation of the commercial and child care uses, being from 7am – 7pm Monday to Friday, and 7am to 1pm Saturday. This will freely allow the carpark to be accessed for those uses and during peak times.
  - After hours, it is proposed that the basement security gates remain closed but can be opened via a swipe card on the way in and an in-slab pressure sensor on the way out. Swipe cards will be issued to residents, staff & tenants as part of the building management.
  - 2 stacked car spaces in -B1 that are blocked and must only be used as staff car parking.
  - Safe path of travel arrangements for childcare drop-off and communication plan for parents/guardians.

**Traffic Management Plan** provided for deliveries and waste collection into Ruskin Lane to be followed by operators and building manager.

**Site Waste Minimisation and Management Plan:**

Chapter B8 of Byron Shire Development Control Plan 2014 (DCP 2014) aims to facilitate sustainable waste management in a manner consistent with the principles of Ecologically Sustainable Development. Prior to the issue of a Construction Certificate, a Site Waste Minimisation and Management Plan (SWMMP) must be submitted outlining measures to minimise and manage waste generated during the ongoing operation and use of the development. The SWMMP must incorporate the following requirements:

- A site manager who is responsible for waste management and waste collection.
- Specify the proposed method of recycling or disposal and the waste management service provider.
- Submit an assessment from the waste service provider assessing whether the site is able to be adequately serviced given the number and type of waste bins, service area layout, Standard Operating Procedure requirements and parameters, such as: all vehicles must enter and leave Ruskin lane in a forward direction.
- Provide a Standard Operating Procedure within the SWMMP that incorporates the following requirements:
  - Waste collection is to be undertaken on no more than two working days a week and outside of peak hours either 6am-8am or 2pm-4pm.
  - Wheelie bins must be presented in the laneway no more than 30 minutes prior to collection and returned to the bin store immediately following collection. Bins must be presented in a row commencing from the northern point of the loading bay along the property boundary, spaced 750mm apart and 750mm from the property boundary wall/fence.
  - Skip bins are not to be presented in the laneway. All waste collection of skip bins to be undertaken entirely within the curtilage of the site.
  - Clearly state who is responsible for:
    - Managing and running the Standard Operating Procedure.
    - Manoeuvring bins from the waste storage area to the service area for each collection and returning them to the waste storage area immediately following each collection.



- Collecting ground litter resulting from waste collection activities and disposing of it immediately following collection.

A template is provided on Council's website to assist in providing this information [Development Control Plan B8 – Appendix B8.1](#).

**Café operations** including but not limited to operational hours, operational requirements of the *Food Act 2003* and *Food Regulation 2015* (incorporating *Food Standard Code*) food safety, trade waste and other day to day waste management procedures.

**Childcare operations** including and an emergency and evaluation plan that details:

- the mobility of children and how this is to be accommodated during an evacuation
- the location of a safe congregation/assembly point, away from the evacuated building, busy roads and other hazards, and away from evacuation points used by other occupants or tenants of the same building or of surrounding buildings
- how children will be supervised during the evacuation and at the congregation/assembly point, relative to the capacity of the facility and governing child-to-staff ratios

**Serviced apartments operations.**

**Building and landscaping maintenance.**

**Management of noise in accordance with the approved acoustic measures.**

**Management of complaints and any matters of non-compliance.**

21. **NSW Office of Water Licence - Dewatering**

A licence must be obtained from the NSW Office of Water for the dewatering of excavations and any associated groundwater monitoring bores.

22. **Details for construction dewatering management plan required**

The contracting Engineer must demonstrate to the Certifying Authority that the methodology and equipment employed to undertake dewatering conforms to the approved report entitled *Dewatering Management Plan for JGD Developments Pty Ltd at 137 and 139 Jonson Street and 3 Browning Street Byron Bay prepared by ENV Solutions Pty Ltd* dated June 2017. The plan must include the following:

- copy of licence from the NSW Department of NSW Office of Water for the dewatering of excavations and any associated groundwater monitoring bores;
- water quality criteria for waters to be discharged to the stormwater system, to be derived from ANZECC / ARMCANZ (2000) Fresh and Marine Water Quality Guidelines 95% species protection trigger levels for freshwaters, or similar. Parameters to include, but not be limited to, pH, electrical conductivity, dissolved oxygen, total suspended solids, turbidity, ammonia, oxidised nitrogen (NO<sub>x</sub>), Total Nitrogen (TN), Filterable Reactive Phosphorus, Total Phosphorus, Total Petroleum Hydrocarbons, Benzene, toluene, ethyl benzene, xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAHs) and Aluminium;
- details of proposed water treatment prior to discharge to ensure compliance with the above water quality criteria, including those that are manual and automated;
- site plan that demonstrates the location of all dewatering equipment and tanks;
- details of water sampling methodologies and frequencies for each parameter;
- details of disposal methods if water does not comply with above criteria; and
- details of a 24-hour contact person and telephone number for complaints.

Plans and specifications to be approved by Council prior to the issue of a construction certificate for basement construction works.

23. **Soil and Water Management plan required**

The contracting Engineer must demonstrate to Certifying Authority that the methodology and equipment employed to undertake management of acid sulphate soil and water conforms to plan entitled *Acid Sulfate Soil Management Plan for Proposed Development at 137 and 139 Jonson Street and 3 Browning Street Byron Bay prepared by ENV Solutions Pty Ltd* dated June 2017.

The Plan must address (but not be limited to) the following matters:

- i) Implementation of NSW Office of Water licence conditions and recommendations.
- ii) Additional testing for the presence of acid sulfate soils during excavations and the waste classification of all soils destined for off-site disposal.
- iii) Name and address of nominated licenced waste facility for the disposal of contaminated excavated waste material.
- iv) Copy of consignment number transportation tracking required for haulage of excavated materials (see notes below).
- v) Measures for the protection of the surrounding stormwater system and receiving waters, water quality management, litter control, sediment control, potential acid runoff and the prevention of pollution.
- vi) Monitoring of groundwater levels and water quality during the construction phase to confirm predictions and to establish water quality objectives and treatment levels.
- vii) Estimates of flow rates and volumes associated with groundwater extraction and re-infiltration/discharge.
- viii) Only clean and unpolluted water is to be discharged to Council's stormwater drainage system or any watercourse to ensure compliance with the Protection of Environment Operations Act.
- ix) The submission of a report and certification from suitably qualified and practising geotechnical and structural engineers, certifying that the method of construction will not result in the lowering of the water table outside of the proposed excavation, and that the method of construction will not result in any off-site impacts, such as damage to surrounding buildings or infrastructure, as a result of differential sediment compaction and surface settlement during dewatering and in both the short and the long-term.  
  
The engineers are to be Corporate Members of the Institution of Engineers Australia.
- x) The submission of a report and certification from suitably qualified and practising geotechnical and structural engineers, certifying that the method of construction will preclude the need for any type of permanent post-construction dewatering facility or activity.

Plans and specifications to be approved by Certifying Authority prior to the issue of a construction certificate for basement works.

**24. Groundwater Contingency Management Plan required**

Application for a construction certificate is to include a Groundwater Contingency Management Plan. This Plan must take into account the findings any approved Soils and Water Management Plan, Dewatering Management Plans and Acid Sulfate Soils Plan. The Plan must be prepared by a suitably qualified Environmental / Soil Scientist and approved by the Certifying Authority as part of the Construction Certificate application.

**25. Geotechnical Report required – Engineering Works**

A certificate from a professional Engineer experienced in soil mechanics is to be provided to the Certifying Authority, certifying that:

- a. the design of the civil engineering works, including retaining walls and/or cut & fill batters, has been assessed as structurally adequate,
- b. the civil engineering works will not be affected by landslip or subsidence either above or below the works; and
- c. adequate drainage has been provided.

**26. Plans of retaining walls and drainage**

The application for a Construction Certificate is to include plans and specifications that indicate retaining walls or other approved methods of preventing movement of the soil, where any excavation or filled area exceeds 600mm in height. Adequate provision must be made for drainage.

Such plans and specifications must be approved by the Certifying Authority as part of the Construction Certificate.

27. **Sediment and Erosion Control Management Plan required**

The application for a Construction Certificate is to include plans and specifications that indicate the measures to be employed to control erosion and loss of sediment from the site. Control over discharge of stormwater and containment of run-off and pollutants leaving the site/premises must be undertaken through the installation of erosion control devices such as catch drains, energy dissipaters, level spreaders and sediment control devices such as filter fences and sedimentation basins.

Such plans and specifications must be approved by the Certifying Authority as part of the Construction Certificate.

NOTE: The plans must be in compliance with Council's current "**Northern Rivers Local Government Development Design & Construction Manuals and Standard Drawings**".

28. **On-site stormwater detention required**

The application for a Construction Certificate is to include plans and specifications for stormwater drainage in accordance with the relevant Australian Standard. All stormwater drainage for the development must be conveyed via an on-site stormwater detention system by gravity to the kerb inlet pit in Browning Street adjacent to Lot A DP339935 (9 Browning St, Byron Bay).

Such plans and specifications must be approved by the Certifying Authority as part of the Construction Certificate.

All stormwater drainage systems within the lot and the connection to the public drainage system must:

- (a) comply with any requirements for the disposal of stormwater drainage and on-site stormwater detention contained in Council's Development Control Plan, Stormwater Guideline and Local Approvals Policy; and
- (b) unless exempt from obtaining an approval under section 68 of the Local Government Act 1993 by a Local Approvals Policy, an approval must be obtained under that Act prior to issue of a Construction Certificate.

29. **Consent required for works within the road reserve**

Consent from Council must be obtained for works within the road reserve pursuant to Section 138 of the Roads Act 1993. Three (3) copies of engineering construction plans must accompany the application for consent for works within the road reserve.

Such plans must be in compliance with Council's current "Northern Rivers Local Government Development Design & Construction Manuals and Standard Drawings" and are to provide for the following works:

**Ruskin Lane upgrade**      Kerb and gutter, road pavement and associated drainage construction, including any necessary relocation of services, as follows:

1. Extending from, and including, Browning Street intersection and north for approximately 70m to tie in with the east / west alignment of Ruskin Lane;
2. For the full width of Ruskin Lane;
3. Ruskin Lane upgrade must incorporate a kerb inlet pit (or approved equivalent) in the vicinity of the Ruskin Lane / Browning St intersection. This kerb inlet pit must be located to capture Ruskin Lane gutter flow and ensure Ruskin Lane gutter flow does not flow west along Browning St;
4. Ruskin Lane pavement is to be concrete for approximately 15m either side of the loading bay and in front of the loading bay;
5. Appropriate road signage to ensure:
  - a. right turns only out of the basement ramp, and
  - b. left in / left out of Ruskin Lane at Browning St entrance

**Browning St and Jonson St**      Footpath formation, including any necessary relocation of services, as follows:

1. Along the full Browning Street and Jonson Street frontages;
  - a) Alignment of works is to be generally in accordance with Planit

engineering plans, Drawing No. 0004, Drawing Title: Site Layout Plan, Date: 08/08/2018 and to tie in with the latest version of the Byron Bay Bypass engineering plans adopted by Council.

- b) Works are to tie in with elevations adopted within the latest version of the Byron Bay Bypass engineering plans adopted by Council to ensure no localised flooding will occur within the road verge adjacent to the north east corner of the bypass roundabout post construction of the bypass roundabout.
- c) Removal of existing driveway crossings and gutter crossings and replace with kerb and gutter.

**Footpath** 2.5m wide (minimum) footpath/cycleway for the full Browning St and Jonson St frontage of the site at a crossfall of 1 % or 1:100 (maximum 2.5% or 1 in 40). Construct a pedestrian barrier at the south west corner of the development of sufficient length to prevent direct access across the intersection.

**Adjustment of Services** Footpath works are to include the adjustment and/or relocation of services, including power and telecommunications, as necessary to the requirements of the appropriate service authorities and to ensure that the services are constructed flush with the finished surface levels. No services are to be located above ground.

**Streetscape Planting** All proposed streetscape planting to ensure it is generally in accordance with Planit engineering plans, Drawing No. 0004, Drawing Title: Site Layout Plan, Date: 08/08/2018 and to tie in with the latest version of the Byron Bay Bypass engineering plans adopted by Council. Landscape design to be in accordance with Austroads Guide to Road Design Part 6B: Roadside Environment.

**Driveway (residential areas)** A driveway and gutter crossing for 1 Ruskin Lane in accordance with Council's current "Northern Rivers Local Government Development Design & Construction Manuals and Standard Drawings".

30. **Public Safety Management Plan required**

Consent from Council must be obtained for a Public Safety Management Plan for those works within the road reserve pursuant to Section 138 of the Roads Act 1993. This public safety management plan is to include provision for (but not be limited to):

- a) a pedestrian barrier, alternative footpaths and ramps as necessary;
- b) an awning sufficient to prevent any substance from, or in connection with, the work falling into the road reserve;
- c) lighting of the alternative footpath between sunset and sunrise;
- d) the loading and unloading of building materials;
- e) parking space for tradesman's vehicles, where such vehicles must be located near the site due to tools and equipment contain within the vehicle;
- f) Removal of any such hoarding, fence or awning as soon as the particular work has been completed.

31. **Traffic Management Plan**

Consent from Council must be obtained for a Traffic Management Plan pursuant to Section 138 of the Roads Act 1993. The plans and specifications are to include the measures to be employed to control traffic (inclusive of construction vehicles) during construction of the development. The traffic management plan is to be designed in accordance with the requirements of the Roads and Traffic Authority's Manual, Traffic Control at Work Sites Version 2, and the current Australian Standards, Manual of Uniform Traffic Control Devices Part 3, 'Traffic Control Devices for Works on Roads'.

The report must incorporate measures to ensure that motorists using road adjacent to the development, residents and pedestrians in the vicinity of the development are subjected to minimal

time delays due to construction on the site or adjacent to the site.

The traffic management plan must be prepared by a suitably qualified and RTA accredited Work Site Traffic Controller.

**32. Traffic Control Plan**

Consent from Council must be obtained for a Traffic Control Plan pursuant to Section 138 of the Roads Act 1993. The plans and specifications are to include the measures to be employed to control traffic (inclusive of construction vehicles) during construction. The traffic control plan is to be designed in accordance with the requirements of the Roads and Traffic Authority's Manual, Traffic Control at Work Sites Version 2, and the current Australian Standards, Manual of Uniform Traffic Control Devices Part 3, 'Traffic Control Devices for Works on Roads'.

The plan shall incorporate measures to ensure that motorists using road adjacent to the development, residents and pedestrians in the vicinity of the development are subjected to minimal time delays due to construction on the site or adjacent to the site.

The traffic control plan must be prepared by a suitably qualified and RTA accredited Work Site Traffic Controller.

**33. Car parking layout, vehicle circulation and access plans required.**

The application for a Construction Certificate is to include plans and specification that indicate access, parking and manoeuvring details in accordance with the plans approved by this consent.

The access, parking and manoeuvring for the site is to comply with the requirements of AS 2890.1-2004: Parking facilities, Part 1: Off-street car parking and AS 2890.2 – 2010 - Parking facilities, Part 2: Off-street commercial vehicle facilities. Plans are to include, but not be limited to, the following items:

- i. pavement design, comprising an all weather surface, such as asphalt, bitumen seal, concrete, pavers or other similar treatment;
- ii. a minimum of 118 car spaces and 1 loading bay are to be provided and assigned as follows:
  - i) a minimum of 16 car spaces to be dedicated to the child care centre;
  - ii) 1 car space per 1 and 2 bedroom units;
  - iii) 2 car spaces per 3 or more bedroom units;
  - iv) 1 visitor space per 4 units
  - v) A minimum of 38 car spaces assigned to retail, shop and café components
- iii. Boom gates, intercom and associated basement access infrastructure not to be located at the top of the basement ramp;
- iv. site conditions affecting the access;
- v. existing and design levels;
- vi. longitudinal section from the road centreline to the car space(s);
- vii. typical cross sections;
- viii. drainage details;
- ix. turning paths; and
- x. line marking and signage.

The engineering plans and specifications are to be designed by a qualified practising Civil Engineer. The Civil Engineer is to be a corporate member of the Institution of Engineers Australia or is to be eligible to become a corporate member and have appropriate experience and competence in the related field.

Such plans and specifications must be approved by the Certifying Authority as part of the Construction Certificate.

NOTE: The plans must be in compliance with Council's current "Northern Rivers Local Government Development Design & Construction Manuals and Standard Drawings".

**34. Fibre-ready Facilities and Telecommunications Infrastructure**

Prior to the issue of the Construction Certificate in connection with a development, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:

- i. the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose; and
- ii. the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.

(Note real estate development project has the meanings given in section 372Q of the Telecommunications Act).

### 35. **Liveable Housing Guideline's silver level universal design features**

Plans to demonstrate compliance with Liveable Housing Guideline's silver level universal design features for units:

Level 1: U1.1, U1.3, U1.10

Level 2: U2.1, U 2.3, U2.10

Level 3: U3.9, U3.6, U3.10

Such plans and specifications must be approved by the Certifying Authority as part of the Construction Certificate.

### 36. **Landscape Plans**

The plans and specifications to accompany the construction certificate application are to include a detailed landscape plan consistent with the amended approved stamped development plans as marked in red and in accordance with the minimum standards and specifications detailed in the Landscape Report by RPS Group Plc, dated 23 August 2017; indicating the locations, names, mature heights of shrub and tree species to be planted, the location of the three trees to be retained in the front set back of the site, the location of grassed and paved areas, and the location of trees/vegetation to be removed. The landscape plan must not show any waste collection areas on Browning Street or Jonson Street. A temporary interim waste collection area on Ruskin Lane is to be shown on a separate plan with a clear note identifying these arrangements are to be superseded when a medium rigid vehicle becomes available.

The landscape plan must be in accordance with [Byron Shire Development Control Plan 2014 – Chapter B9 – Landscaping](#).

Such plans and specifications must be approved by the certifying authority as part of the Construction Certificate.

### 37. **Public Art Plan**

Prior to application for a Construction Certificate, a Public Art Plan is to be submitted to Council for approval. The Public Art Plan is to make provision of public art to the value of at least 2% of the total development cost (calculated in accordance with the Environmental Planning & Assessment Regulation) up to a maximum of \$25,000, as an integral part of the development.

Details of the nature, form, location and size of the proposed public art must be submitted for approval to Council before it is submitted as part of the construction certificate documentation and must include details indicating that the proposed public art:

- a. Is permanent and durable;
- b. Is in a location that is clearly visible from the public domain; and
- c. Demonstrates that it meets the following Design Selection Criteria:
  - i) relevance and appropriateness of the work in relation to its site;
  - ii) relevance and appropriateness of the work to Byron Shire, including the Shire's Aboriginal heritage, its particular natural environment and its diverse culture;
  - iii) consistency with the Byron Shire Cultural Plan and Public Art Policy;
  - iv) consideration of public safety, including public use of and access to the public art and associated space;
  - v) consideration of maintenance and durability, including potential for vandalism;
  - vi) evidence of funding sources and satisfactory budget, including provision for ongoing maintenance; and
  - vii) evidence of Public Liability Insurance to cover construction and installation of the work

The plans and specifications to be approved by the Certifying Authority and to accompany the construction certificate application are to include the Council approved Public Art Plan.

38. **Building materials and colours to be specified**

The application for a Construction Certificate is to include plans and specifications that indicate the proposed building materials and colours consistent with the materials and colours palette submitted with the development application and is to be in accordance with the provisions of Development Control Plan 2014 – Chapter D2.2.3 - Character and Visual Impact. Please note that colours must be non-reflective earth tone colours and that the use of white and near white colours is not permissible.

Such plans and specifications must be approved by the Certifying Authority as part of the Construction Certificate.

39. **Trade Waste - Section 68 Part C approval required**

An **approval** under Section 68 Part C of the Local Government Act 1993 to discharge trade waste into Council's sewer must be obtained in accordance with NSW Office of Water Liquid Trade Waste Regulations Guidelines 2009, Council's Liquid Trade Waste Policy and Liquid Trade Waste Guidelines.

Commercial, business, trade and industrial activities discharging or proposing to discharge to the sewer are required to notify Council and complete the Trade Waste Registration Form available at the Mullumbimby Office and from Council's website at:

[http://www.byron.nsw.gov.au/files/publications/liquid\\_trade\\_waste\\_application\\_form\\_0.pdf](http://www.byron.nsw.gov.au/files/publications/liquid_trade_waste_application_form_0.pdf)

Trade Waste approval is required prior to gain Section 68 Part B approval to carry out water supply work and sewerage work.

40. **Water and Sewerage - Section 68 Part B approval required**

An **Approval** under Section 68 Part B of the Local Government Act 1993 to carry out water supply work and sewerage work must be obtained.

Each Torrens title lot of land shall have an individual service tapped from the main and extending 300mm inside the lot boundary. Each dwelling/unit/shop capable of being subdivided under the Strata or Community Title Schemes shall have a separate water meter

Any new water service and meter will be at the applicants cost.

41. **Certificate of Compliance – Water Management Act 2000**

A Certificate of Compliance will be issued upon payment of developer charges for water and sewer as calculated in accordance with Byron Shire Council and Rous Water Development Servicing Plans.

Byron Shire Council acts as Rous Water's agent in this matter and will issue a Certificate of Compliance on behalf of Rous Water upon payment of the Rous Water Development Servicing Charge to this Council.

**Note:** Copies of the application forms for Certificates of Compliance are available on Council's website [http://www.byron.nsw.gov.au/files/Forms/Section\\_305\\_Certificate.pdf](http://www.byron.nsw.gov.au/files/Forms/Section_305_Certificate.pdf) or from Council's Administration Office. Copies of Byron Shire Council's Development Servicing Plans are available at Council's Administration Office.

Developer charges will be calculated in accordance with the Development Servicing Plan applicable at the date of payment. A check must be made with Council to ascertain the current rates by contacting Council's Principal Engineer Systems Planning, Water on 02 6626 7081. Applicable charges can be found on Council's website: <http://www.byron.nsw.gov.au/development-contributions-plans-section-94-and-64>

**The contributions payable will be adjusted in accordance with relevant plan and the amount payable will be calculated on the basis of the contribution rates that are applicable at the time of payment.**

**Payment by Personal or Company Cheque will not be Accepted**



42. **Section 94A Levy to be paid**

Prior to the issue of a construction certificate the section 94A levy required by the Byron Developer Contributions Plan 2012 shall be paid to Council.

The levy will be calculated as follows:

**Levy payable = %C x \$C**

Where:

%C is the levy rate applicable as set out in the latest Ministerial Direction issued under section 94E.

\$C is the proposed cost of carrying out the development.

The rate of %C is:

<b>Proposed cost of the development</b>	<b>Maximum percentage of the levy</b>
Up to \$100,000	Nil
\$100,001–\$200,000	0.5 percent
More than \$200,000	1.0 percent

The cost of development shall be calculated in accordance with clause 25J of the regulation. The Cost Summary Report (copy attached) as set out in schedule 2 of the Section 94A contributions plan shall be submitted to Council with the payment. The cost summary report shall be prepared by a quantity surveyor. Copies of Cost Summary Report are available at Council's main office or may be downloaded from <http://www.byron.nsw.gov.au/>

43. **Bond required to guarantee against damage to public land**

A bond of \$50,000 is to be paid to Council as guarantee against damage to surrounding public land and infrastructure during construction of the proposed development. Evidence is to be provided to Council indicating the pre development condition of the surrounding public land and infrastructure. Such evidence must include photographs. The proponent will be held responsible for the repair of any damage to roads, kerb and gutters, footpaths, driveway crossovers or other assets.

Such bond will be held until Council is satisfied that the infrastructure is maintained/repaired to pre development conditions and that no further work is to be carried out that may result in damage to Council's roads, footpaths etc.

44. **Long Service Levy to be paid**

Long Service Levy in accordance with the requirements of the Long Service Corporation is required to be paid prior to issue of the Construction Certificate. This is a State Government Levy and is subject to change.

These payments may be made online at [www.longservice.nsw.gov.au](http://www.longservice.nsw.gov.au) or at Council's Administration Office, Station Street, Mullumbimby. Where paying to Council, cheques are to be made payable to 'Byron Shire Council'.

For further information regarding the Long Service payment please refer to the website above.

45. **Tree Retention**

No trees or vegetation to be cleared or removed until a Construction Certificate has been issued by the Certifying Authority.

**The following conditions are to be complied with prior to any building or construction works commencing**

46. **Erosion and Sediment Control Management Plan required**

Erosion and sedimentation controls are to be in place in accordance with the approved Erosion and Sediment Control Plan.

---

Sediment and erosion control measures in accordance with the approved Erosion and Sedimentation Control plan/s must be maintained at all times until the site has been stabilised by permanent vegetation cover or hard surface.

Any such measures that are deemed to be necessary because of the local conditions must be maintained at all times until the site is made stable (i.e. by permanent vegetation cover or hard surface).

**Note:** Council may impose on-the-spot fines for non-compliance with this condition.

Any such measures that are deemed to be necessary because of the local conditions must be maintained at all times until the site is made stable (i.e. by permanent vegetation cover or hard surface).

47. **Approved Environmental Plans must be implemented**

The works engineer must certify to the Certifying Authority that all requirements contained in the approved plans and reports for environmental management including acid sulfate soils, noise, vibration, odour, waste disposal and public safety have been implemented.

The applicant is required to ensure that the construction management and all construction staff are made aware of their responsibility to abide by the plans. Copies of approved all approved plans must be keep in a prominent location on site where they can be easily accessed by construction and operational personnel.

48. **Public Safety Management Plan**

The approved public safety management plan is to be implemented.

49. **Traffic Management Plan**

The approved traffic management plan is to be implemented.

50. **Dilapidation Reports required**

Prior to the commencement of any excavation works requiring rock drilling, blasting or breaking, a pre-construction Dilapidation Report is to be submitted to Council or Principal Certifying Authority detailing the current condition of all adjoining buildings, infrastructure and roads.

A second Dilapidation Report must be submitted to Council or Principal Certifying Authority, prior to occupation of the building (whole or partial), to ascertain if any structural damage has occurred to any adjoining building, infrastructure or roads.

51. **Vibration Management Plan required**

Prior to the commencement of any excavation works requiring rock drilling, blasting or breaking on the site, measures contained in the approved Vibration Management Plan must be implemented, and continue for the duration of the construction phase.

52. **Tree Protection Management Plan**

Prior to the commencement of any works the tree protection management plan prepared in accordance with *AS 4970-2009 Protection of trees on development sites* is to be implemented prior to demolition and during construction related to the tree protection zones for trees on adjoining land.

53. **Public safety requirements**

All care is to be taken to ensure the safety of the public in general, road users, pedestrians and adjoining property. The public liability insurance cover, for a minimum of \$10 million, is to be maintained for the duration of the construction of the development. Council is to be nominated as an interested party on the policy. Council is not held responsible for any negligence caused by the undertaking of the works.

54. **Site construction sign required**

A sign or signs are to be erected at the frontage to the site that includes:

- The name and address and contact number of the Principal Certifying Authority
- The name and address and contact number of the builder or prime contractor, and
- The words "No unauthorised entry to site".

The sign is to be maintained until all works are completed. No sign is to have an area in excess of one (1) m2.

55. **Toilet facilities**

Toilet facilities are to be provided, at or in the vicinity of the work site at the rate of one toilet for every 20 persons or part of 20 persons employed at the site. Each toilet provided must be a toilet connected to an accredited sewage management system approved by the Council.

56. **Water service to be connected**

A water service must be connected to the property using an approved backflow prevention device. It is the applicant's responsibility to engage a licensed plumber who shall liaise with council during this process.

Any new water service will be at the applicants cost.

**The following conditions are to be complied with during any building or construction works**

57. **Environmental Noise Impact Report**

Building and associated works to be carried out in accordance with the approved Environmental Noise Impact Report Crgref:17083 (rev 3) by CRG Acoustics, dated 7th August 2018.

58. **Signs to be erected on building and demolition sites**

A sign must be erected in a prominent position on the work site:

- a. stating that unauthorised entry to the work site is prohibited, and
- b. showing the name of the person in charge of the work site and a telephone number at which that person may be contacted outside working hours.

Site construction signs are to be maintained at the frontage to the site until all works are completed.

Any such sign is to be removed when the work has been completed.

59. **Approved Environmental Plans must be implemented**

All controls and measures must be maintained in accordance with approved plans and reports for environmental management including acid sulfate soils, noise, vibration, odour, waste disposal and public safety. The applicant is required to ensure that the construction management and all construction staff are made aware of their responsibility to abide by the plans.

Copies of approved all approved plans must be keep in a prominent location on site where they can be easily accessed by construction and operational personnel.

60. **Approved Environmental Plans must be implemented**

All controls and measures must be maintained in accordance with approved plans and reports for environmental management including acid sulfate soils, noise, vibration, odour, waste disposal and public safety. The applicant is required to ensure that the construction management and all construction staff are made aware of their responsibility to abide by the plans.

61. **Demolition / Construction times**

Construction works must not unreasonably interfere with the amenity of the neighbourhood. In particular construction noise, when audible on adjoining residential premises, can only occur:

- a) Monday to Friday, from 7 am to 6 pm.
- b) Saturday, from 8 am to 3 pm.
- c) No construction work to take place on Saturdays and Sundays adjacent to Public Holidays and Public Holidays and the Construction Industry Awarded Rostered Days Off (RDO) adjacent to Public Holidays.

**Note: Council may impose on-the-spot fines for non-compliance with this condition.**

62. **Demolition / Construction Noise**

Construction noise is to be limited as follows:

- a. For construction periods of four (4) weeks and under, the L10 noise level measured over a period of not less than fifteen (15) minutes when the construction site is in operation must not exceed the background level by more than 20 dB(A).
- b. For construction periods greater than four (4) weeks and not exceeding twenty-six (26) weeks, the L10 noise level measured over a period of not less than fifteen (15) minutes when the construction site is in operation must not exceed the background level by more than 10 dB(A)

**Note: Council may impose on-the-spot fines for non-compliance with this condition.**

63. **Tree Protection Management Plan to be implemented**  
The measures in the tree protection management plan prepared in accordance with AS 4970-2009 *Protection of trees on development sites* is to be implemented during demolition and construction.
64. **Certification – Hydraulic Engineer**  
Upon completion of the basement and prior to the issue of an occupation certificate the applicant must provide documentation from a registered hydraulic engineer to certify that permanent on-going dewatering of groundwater is not required.
65. **Acid Sulfate Soil and Water Management Plan**  
Acid sulfate soils must be managed and disposed of in accordance with the approved Acid Sulfate Soil and Water Management Plan. A copy of this report must be kept on the property at all times during construction and made available to any person.
66. **Dewatering of Excavations**  
Dewatering of excavations must be conducted in accordance with the approved dewatering plan and NSW Office of Water licence conditions and recommendations. Only clean and unpolluted water is to be discharged to Council's stormwater drainage system or any watercourse to ensure compliance with the Protection of Environment Operations Act.
67. **WorkCover Authority**  
All works must be undertaken in accordance with the requirements of the WorkCover Authority.
68. **Demolition**  
Any required demolition works must be undertaken in accordance with the relevant requirements of Australian Standard AS 2601–1991: The Demolition of Structures published by Standards Australia, and the WorkCover Authority of NSW.
69. **Builders rubbish to be contained on site**  
All builders rubbish is to be contained on the site in a 'Builders Skips' or an enclosure. Footpaths, road reserves and public reserves are to be maintained clear of rubbish, building materials and all other items.
70. **Demolition, construction and building wastes**  
All wastes, including asbestos and lead-contaminated wastes, associated with these works are to be handled and disposed of in accordance with the requirements of the Work Cover Authority. The applicant/owner is to produce documentary evidence that this condition has been met. Wastes must be disposed of at a Licensed Waste Facility. All wastes removed from the site must be managed and disposed of in accordance with NSW DECC Waste Classification Guidelines (2014)  
[www.environment.nsw.gov.au/resources/waste/08202classifyingwaste.pdf](http://www.environment.nsw.gov.au/resources/waste/08202classifyingwaste.pdf)
71. **All excavated soils to be disposed of off-site**  
All excavated soils to be disposed of off-site and in accordance with NSW DECC Waste Classification Guidelines (2014) and approved environmental management plans.
72. **Support for neighbouring buildings**  
If an excavation extends below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation to be made:
  - a) must preserve and protect the adjoining building from damage;
  - b) if necessary, must underpin and support the building in an approved manner;
  - c) must, at least 7 days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished.

The owner of the adjoining allotment of land, public road or any other public place is not to be held liable for any part of the cost of work carried out, whether carried out on the allotment of land being excavated or on the public road, any other public place or the adjoining allotment of land.
73. **Fill to be retained on the subject land**

Any fill material must not encroach onto any adjoining land.

74. **Sound proofing**

Division walls between attached rooms must be of sound resisting materials constructed with minimum sound transmission loss in accordance with the Building Code of Australia.

75. **Prevention of water pollution**

Only clean and unpolluted water is to be discharged to Council's stormwater drainage system or any watercourse to ensure compliance with the Protection of Environment Operations Act.

**Note: Council may impose on-the-spot fines for non-compliance with this condition.**

76. **Maintenance of sediment and erosion control measures**

Sediment and erosion control measures must be maintained at all times until the site has been stabilised by permanent vegetation cover or hard surface.

77. **Stormwater drainage work**

Stormwater drainage for the development must be constructed in accordance with the approved plans and specification by a suitably qualified person.

**The following conditions are to be complied with prior to issuing of relevant occupation certificate**

78. Prior to issue of occupation certificate for café:

**New South Wales Food Act 2003 and Food Regulation 2015**

The café shall be constructed to comply with the New South Wales Food Act 2003 and Food Regulation 2015.

Requirements of Food Standard Code 3.2.3 and Australian Standard AS4674 – 2004 "Design, construction and fit-out of food premises" to be considered to achieve the necessary construction standards for the food business.

The operator shall obtain a satisfactory inspection from Council's Environmental Health officer prior to commencing the operation of the café.

A minimum of twenty-four hours notice is required prior to inspection. Inspections can be arranged by telephoning 6626 7050 during normal office hours. A fee is levied upon the operator for such inspections.

**Council Inspection required**

The operator of the café shall demonstrate to Council's Environmental Health officers' satisfaction that adequate waste disposal facilities are available on the premises, and that such facilities can be maintained to prevent environmental harm or public nuisance. Provision must be made for cleaning and maintaining waste storage appliances.

**Trade Waste**

An approved trade waste device shall be installed, inspected by Council and maintained to ensure that all relevant environment protection and plumbing code standards are satisfied.

**Exhaust System**

On completion of the kitchen exhaust-hood installation, provide a certificate and system specifications detailing the air flow velocity readings to Council. The certificate should be completed by a suitably qualified professional and shall ensure that the installation satisfies AS1668.2 "Mechanical ventilation for acceptable indoor-air quality"

**Airlock**

An airlock shall be constructed between the toilet facilities and internal workspaces to prevent the transfer of contaminants into the food business and comply with the Building Code of Australia.

Prior to issue of occupation certificate for childcare centre:

---

**New South Wales Food Act 2003 and Food Regulation 2015**

The childcare centre shall be operated to comply with the New South Wales Food Act 2003 and Food Regulation 2015. The following must be provided:

- all surfaces must be smooth, impervious and able to be easily cleaned;
- kitchen areas must have double-bowled sinks and hot water;
- water used for any activities involved in the preparation of food, personal hygiene, cleaning and sanitising must be potable.

Prior to issue of the occupation certificate the operator of the childcare centre shall demonstrate to Councils' Environmental Health officers' satisfaction that adequate waste disposal facilities are available on the premises, and that such facilities can be maintained to prevent environmental harm or public nuisance. Provision must be made for cleaning and maintaining waste storage appliances.

**79. Dilapidation Report**

The submission of another dilapidation report to Council from suitably qualified and practising geotechnical and structural engineers to ascertain if any structural damage has occurred to any adjoining building, infrastructure or roads. The report is to also address what measures are to be implemented, to rectify any identified defects. The engineers are to be Corporate Members of the Institution of Engineers Australia.

The measures are to be completed prior to the issue of any occupation certificate.

**The following conditions are to be complied with prior to issuing of a final occupation certificate****80. Environmental Noise Impact Report**

The Principle Engineer must provide certification in writing to the PCA that all works were carried out in accordance with the approved Environmental Noise Impact Report Crgref:17083 (rev 3) by CRG Acoustics, dated 7th August 2018.

**81. Noise attenuation requirements for plant machinery and building construction design**

A suitably qualified acoustic consultant must certify that attenuation measures for plant machinery and building construction design have been constructed in order to achieve compliance with approved plans. Certification is to be submitted to Council prior to issue of an Occupation Certificate

**82. Acid Sulfate Soil and Water Management Plan**

The works engineer must certify to the Principal Certifying Authority that all works have been carried out in accordance with the approved Acid Sulfate Soils and Water Management Plan.

**83. Certification – Environmental Plans**

The Principle Works Engineer must certify to the Principal Certifying Authority that all works have been carried out in accordance with the approved Environmental Management Plans.

**84. Dilapidation Report**

The submission of another dilapidation report to Council from suitably qualified and practising geotechnical and structural engineers to ascertain if any structural damage has occurred to any adjoining building, infrastructure or roads. The report is to also address what measures are to be implemented, to rectify any identified defects. The engineers are to be Corporate Members of the Institution of Engineers Australia.

The measures are to be completed prior to the issue of a final occupation certificate.

**85. Unexpected Findings Protocol - Contamination & Remediation**

The works engineer must certify to the Principal Certifying Authority that all works have been carried out in accordance with the approved Unexpected Findings Protocol (UFP).

**86. Works to be completed prior to issue of a Final Occupation Certificate**

All of the works indicated on the plans and approved by this consent, including any other consents that are necessary for the completion of this development, are to be completed and approved by the relevant consent authority/s prior to the issue of a Final Occupation Certificate.

Any Security bond paid for this application will be held until Council is satisfied that no further works are to be carried out that may result in damage to Council's road/footpath reserve.

**87. Access and parking areas to be completed.**

The access and parking areas are to be constructed in accordance with the approved plans and Roads Act consent.

**88. On-site Stormwater Detention – Certification of works**

All stormwater drainage works, including on-site stormwater detention works, for the development must be constructed in accordance with the approved plans and specification prior to issue of an occupation certificate. Certificate/s of Compliance and Work-As-Executed (WAE) plans for the stormwater works must be submitted to the Principal Certifying Authority prior to the issue of an occupation certificate.

The certificate/s and WAE plans are to be prepared by a suitably qualified engineer and must be in accordance with Council's [Comprehensive Guidelines for Stormwater Management](#).

**89. External lighting installation**

To maintain safe access for patrons, adequate lighting must be provided between sunset and 12.00PM. All external lighting must be installed in accordance with AS4282-1997: Control of the obtrusive effects of outdoor lighting.

**The following conditions are to be complied with prior to commencing operations**

**90. Ventilation**

Compliance with Building Code of Australia and Australian Standard Mechanical ventilation is required and must comply with Clause F4.12 of the *Building Code of Australia* and *Australian Standard AS 1668 Parts 1 & 2*. Prior to commencing operations the operator must provide a report certified by a mechanical ventilation engineer indicating compliance. In particular, air capture velocities and air exhaust rates must comply.

**The following conditions are to be complied with at all times**

**91. Car Parking spaces are to be available for the approved use**

A minimum of 118 car parking spaces are to be provided and maintained, together with all necessary access driveways and turning areas, to the satisfaction of Council.

Tenants and customers of the development must have unrestricted access to the car parking spaces on a daily basis during business hours of the development.

No car parking spaces are to be reserved (generally or specifically) for any tenant or customer. Only carparking spaces required for the residential component of the development are to be reserved and made available for particular residents.

The 4 car parking spaces in a stacked arrangement in Level B1 must only be used as staff car parking.

**92. Vehicles to enter/leave in a forward direction**

Vehicles using any off-street loading/unloading and/or parking area must enter and leave Ruskin Lane in a forward direction. All driveways, service areas and turning areas must be kept clear of obstructions that prevent compliance with this condition.

**93. Loading and unloading not to occur on the street**

The loading and unloading bay must be available at all times for the loading and unloading of goods for the development. When serviced by MRV and SRV vehicles, including MRV front end loading waste collection vehicles, all loading and unloading is to take place within the curtilage of the premises.

**94. Public Health**

The development must be in accordance with the Public Health Act 2010 and Public Health Regulation 2012 and all other regulatory requirements.



95. **Access must be permitted to Council officer**  
Access must be permitted to any authorised Council officers during normal business hours for the purpose of ensuring compliance with consent conditions.
96. **New South Wales Food Act 2003 and Food Regulation 2015**  
The development must be operated and maintained to ensure that the requirements of the *Food Act* 2003 and *Food Regulation* 2015 (incorporating *Food Standard Code*) are satisfied at all times. Access to the *Food Standard Code* is available at <http://www.foodstandards.gov.au> the operator is required to ensure that the business is registered with the NSW Food Authority. Notification may be carried out or updated when required at <http://www.foodnotify.nsw.gov.au>
97. **Trade Waste**  
All trade waste pre-treatment devices must be serviced and maintained to ensure that all relevant environment protection standards are satisfied.
98. **Hours of operation**  
The development must not unreasonably interfere with the amenity of the neighbourhood. In particular operating noise, when audible on adjoining residential premises, can only occur:
- Café:
- Monday to Friday, from 6.30 am to 10 pm.  
Saturday, from 8 am to 1 pm.  
No operations to take place on Sundays or Public Holidays.
- Child Care Centre:
- Monday to Friday, from 6.30 am to 6pm.  
No operations to take place on Saturday, Sundays or Public Holidays.
- Commercial (Shops):
- Monday to Friday, from 7 am to 6 pm.  
Saturday, from 8 am to 1 pm.  
No operations to take place on Sundays or Public Holidays.
99. **No Interference with Amenity of Neighbourhood**  
The use of the development must not interfere with the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, smoke, dust, wastewater or otherwise. In particular:
- a) Any complaints to Council about 'offensive' noise will be dealt with under the provisions of the Protection of the Environment Operations Act 1997.
  - b) All guests and staff must be made aware that they must keep noise levels down to maintain neighbourhood amenity.
  - c) Only clean and unpolluted water is permitted to be discharged to Councils' stormwater drainage system or any waters.
  - d) All wastes must be contained within appropriate containers fitted with a tight-fitting vermin-proof lid.
  - e) All trade waste pre-treatment devices and other waste storage facilities must be serviced and maintained to ensure that all relevant environment protection standards are satisfied.
  - f) Goods deliveries, fuel deliveries and waste collection must be restricted to daytime operating hours.
100. **Environmental Noise Impact Report**  
At all times the development shall be operated in accordance recommendations contained within approved Environmental Noise Impact Report Crgref:17083 (rev 3) by CRG Acoustics, dated 7th August 2018.
101. **Limited Use**  
The outdoor play area associated with the child care centre must not be used by children before 7am on any day.
102. **Child care capacity**

The proposed child care facility meets the requirements unencumbered indoor/outdoor space per child for up to a total of 65 children. No more than 65 children to use child care at one time.

**103. Emergency and evacuation plan – child care**

The emergency and evacuation plan approved by the Department of Education for the operation of the child care facility is to be kept on the premises at all times.

**104. Work Health and Safety Act 2011**

The operator of the café and child care centre shall comply with the Work Health and Safety Act 2011 statutory requirements. Staff shall be provided with adequate toilet and washing facilities.

**105. NSW Smoke-free Environment Amendment Act 2004**

The café and child care centre shall comply with the provisions of the NSW Smoke-free Environment Amendment Act 2004.

**106. Public Property and Safety**

The activity and any associated structures shall not infringe upon public property without the prior written consent of Council. All activities shall be conducted in a manner that will ensure that public safety is not placed at risk.

## **SCHEDULE 2 PRESCRIBED CONDITIONS**

---

**The prescribed conditions in accordance with Division 8A of the Environmental Planning and Assessment Regulation apply as are of relevance to this application:**

Clause 98 Compliance with Building Code of Australia and insurance requirements under the Home Building Act 1989

Clause 98A Erection of signs

Clause 98B Notification of Home Building Act 1989 requirements

Clause 98D Condition relating to maximum capacity signage

Clause 98E Condition relating to shoring and adequacy of adjoining property

Refer to the NSW State legislation for full text of the clauses under Division 8A of the [Environmental Planning and Assessment Regulation 2000](http://www.legislation.nsw.gov.au). This can be accessed at <http://www.legislation.nsw.gov.au>.

## **SCHEDULE 3 STATEMENT OF REASONS**

---

The proposed development complies with the provisions of Byron Local Environmental Plan 2014.
The proposed development complies with relevant State Environmental Planning Policies subject to amended plans to be prepared prior to construction certificate that address design criteria under the Apartment Design Guide.
The proposed development complies with relevant provisions of Development Control Plan 2014
The proposed development complies with Environmental Planning & Assessment Regulation 2000 considerations.
The proposed development complies with the Coastal Zone Management Plan.
The proposed development will not have significant adverse impact on the natural, built or social environment or economic impacts on the locality.
The proposed development is considered suitable for the proposed site.
The development application was notified/advertised in accordance with Development Control Plan 2014. Issues raised in the submissions have been addressed during assessment of the application.
The proposed development is unlikely to prejudice or compromise the public interest.

## **SCHEDULE 4**

## **HOW COMMUNITY VIEWS WERE ADDRESSED**

---

The DA was advertised in accordance with Development Control Plan 2014. The submissions received were considered on merit and addressed during assessment of the application.

To view the considerations, please contact Council to view a copy of the assessment report relating to this DA.

## **SCHEDULE 5**

## **NOTES**

---

### **Construction Certificate required:**

This development consent is issued under the Environmental Planning and Assessment Act 1979 and does not relate to structural aspects or specifications of the building under the Building Code of Australia. All buildings and alterations require the issue of a Construction Certificate prior to works commencing. Application forms are available from the customer services counter or Council's website [www.byron.nsw.gov.au](http://www.byron.nsw.gov.au)

### **Principal Certifying Authority:**

Work must not commence until the applicant has:-

- a. appointed a Principal Certifying Authority (if the Council is not the PCA); and
- b. given Council at least two days notice of the intention to commence the erection of the building. Notice must be given by using the prescribed 'Form 7'.
- c. notified the Principal Certifying Authority of the Compliance with Part 6 of the Home Building Act 1989.

### **Occupation Certificate required:**

The building must not be occupied until the Principal Certifying Authority has issued an Occupation Certificate.

### **Protection of the Environment Operations Act 1997:**

It is an offence under the provisions of the Protection of the Environment Operations Act 1997 to act in a manner causing, or likely to cause, harm to the environment. Anyone allowing material to enter a waterway or leaving material where it can be washed off-site may be subject to a penalty infringement notice ("on-the-spot fine") or prosecution.

### **Penalties apply for failure to comply with development consents**

Failure to comply with conditions of development consent may lead to an on the spot fine (generally \$600) being issued pursuant to section 127A of the Environmental Planning & Assessment Act 1979 or prosecution pursuant to section 125 of the Environmental Planning & Assessment Act 1979.

### **Plumbing Standards and requirements.**

All Plumbing, Water Supply, Sewerage and Stormwater Works shall be installed in accordance with the Local Government Act 1993, Plumbers Code of Australia and AS/NZS 3500 Parts 0-5, the approved plans (any notations on those plans) and the approved specifications. Any plumbing inspections required under a Section 68 Approval are to occur in accordance with that approval.

### **Dewatering Licence**

As the proposed basement car park will intersect the groundwater table, any dewatering will require a licence under the Water Act 1912. As the Development Application submitted to Council was not nominated as 'Integrated Development' and did not seek a dewatering licence, separate arrangements must be made with the Department of Natural Resources for obtaining such a licence.

### **NSW Environmental Protection Authority**

NSW Environmental Protection Authority advise that the applicant must contact Qld Department of Environment and Heritage Protection <https://www.ehp.qld.gov.au/> to obtain a consignment number for a Waste Transport Certificate which must be emailed to [https://www.hazardouswaste@epa.nsw.gov.au/](mailto:https://www.hazardouswaste@epa.nsw.gov.au/)

### **Enclosed public places (smoke-free environment)**

Environment Act 2000 and the Smoke-Free Environment Regulation 2000 and the guidelines in the Regulation for determining what an enclosed public place is. Enquiries may be directed to the NSW

Department of Health. The legislation may be viewed on:  
<http://www.legislation.nsw.gov.au/maintop/scanact/inforce/NONE/0>

**Water payments under the Water Management Act 2000**

Charges will be calculated based on the additional water and sewerage load that the proposed development generates, shown in Equivalent Tenements (ET) by the following table:

**ADDITIONAL WATER & SEWER LOAD OF DEVELOPMENT**  
**(ET Policy No:13/005)**

Water	25.61 ET
Bulk Water	25.61 ET
Sewer	39.12 ET

NB: Information regarding Development Servicing charges can be found on the Byron Shire Council website (<http://www.byron.nsw.gov.au/development-contributions-plans-section-94-and-64>). These charges will enable you to calculate the total contribution charges payable when you are ready to pay them. Developer charges will be calculated in accordance with the Development Servicing Plan applicable at the date of payment.



# Engineering Assessment

## 137-139 Jonson St & 3 Browning St, Byron Bay

JGD Developments

Planit Consulting

August 2018

Document No: J170-EA01 Revision C



## Document Status

Version	Document type	Reviewed by	Issued by	Date Issued
Revision A - Final Draft for Client review	Report	Niek van Oers	Michiel Kamphorst	28/07/2017
Revision B - Final for Development Application	Report	Michiel Kamphorst	Michiel Kamphorst	16/08/2017
Revision C - Updated Development Application	Report	Simon Millichamp	Matt Plain	8/08/2018

## Project Details

Project Name:	137-139 Jonson St & 3 Browning St, Byron Bay
Client:	JGD Developments
Client Project Manager:	Graham Dunn
Authors:	Giuseppe Fallara
Planit Reference:	J170-EA01

## Copyright

Planit has produced this document in accordance with instructions from JGD Developments for its use only. The concepts and information contained in this document are copyright of Planit.

Use or copying of this document in whole or in part without written permission of Planit constitutes an infringement of copyright.

Planit does not warrant this document is definitive and free from error and does not accept liability for any loss caused, or arising from, reliance upon the information provided herein.

Planit Consulting  
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  
administration@planitconsulting.com.au

# CONTENTS

1. Executive Summary .....	3
2. Civil Site Assessment.....	5
2.1. Site Description .....	5
2.2. Engineering Constraints.....	5
2.2.1 Geotechnical Investigations.....	6
2.2.2 Acid Sulphate Soils.....	6
2.2.3 Contamination Assessment .....	6
2.2.4 Dewatering.....	7
2.2.5 Flooding .....	7
3. Earthworks .....	8
4. Site Access.....	8
5. Traffic and Parking.....	9
6. Stormwater Management.....	9
6.1 Stormwater Quantity.....	10
6.2 Stormwater Quality .....	10
6.3 Erosion and Sediment Control .....	10
7. Services Assessment .....	12
7.1. Potable water.....	12
7.2. Sewer .....	12
7.3. Recycled Water .....	13
7.4. Power.....	14
7.5. Telecommunications .....	14
7.6. Gas.....	14
8. Conclusion .....	15
Appendix A   Civil Engineering Plans.....	16
Appendix B   Dial Before You Dig Results.....	17
Appendix C   Council GIS Information.....	18
Appendix D   Custom HRV Refuse Truck Specification .....	19

## LIST OF FIGURES

Figure 1   Subject Site.....	5
Figure 2  Flooding Areas in the Byron Shire Council Region.....	7

## LIST OF TABLES

Table 1   Parking and Loading Summary.....	3
Table 2   Parking and Loading Summary.....	9
Table 3   Water Calculations .....	12
Table 4   Sewer ET/EP Calculations.....	13
Table 5   Sewer Design Flows.....	13



## 1. EXECUTIVE SUMMARY

The subject site is approximately 2835m<sup>2</sup> in plan and is currently made up of three individual lots, with each containing residential properties. The development proposal comprises of a mixed-use development with residential and commercial areas, including four storeys of above ground residential and commercial space, and two storeys of underground basement carparking. The site's existing highpoint has an approximate RL of 8.4m at the proposed north-eastern property boundary, and the low point has an approximate RL of 4.1m at the Jonson St and Browning St boundaries. Planit was engaged by JGD Developments to prepare an engineering assessment to support the development application (DA) for the proposed development.

An Acid Sulphate Soil Management Plan was prepared by ENV Solutions for the subject site. Soil samples were retrieved from the site at depths varying from ground level to 7.0m. Both Actual Acid Sulphate Soils (AASS) and Potential Acid Sulphate Soils (PASS) were identified. Soil will require lime dosing before being disposed of offsite.

Based on this assessment, no adverse effects from flooding are expected to affect the development.

Proposed earthworks on the subject site would include:

- Excavation for the underground basement car park.
- Minor reshaping to adjust the overland stormwater flow paths.
- Excavation for the installation of services.
- Some excavations on public land may be required.

A new pavement widening along Ruskin Lane adjacent to the proposed development will form part of the upgrade works, as detailed on the Engineering Drawings that are submitted as part of the Development Application.

Car parking requirements are summarised in the table below:

**Table 1** | Parking and Loading Summary

Item	Minimum required
Regular parking spaces (inclusive of small car spaces and electric car charging bays)	100
Dedicated child car parking spaces	17
Accessible parking spaces	3
Bicycle spaces	12
Motorbike spaces	8
Staff parking spaces	0
SRV loading bays	2*
MRV loading bays	1

\*Not required by council as part of this development

Stormwater runoff from roof areas shall be detained using leaky tanks and treated for quality using Ecosol Storm Pit Class 2 units. The total detention volume required for the site is 27m<sup>3</sup> and this will be in the form of two (2) leaky tanks: one 18m<sup>3</sup> tank for the runoff from the northernmost building and one 9m<sup>3</sup> tank for the runoff from the southernmost building. The central walkway has been proposed to be treated via a 10m long vegetated swale and a 10m<sup>2</sup> bioretention basin. The bioretention basin has a pipe outlet that connects to the stormwater infrastructure along Browning Street. 2m<sup>3</sup> of detention is provided in the proposed basin. The runoff from the loading bay off Ruskin Lane has been proposed to be treated via a 3m<sup>2</sup> grass buffer strip.

It is proposed that sediment and erosion control measures in accordance with 'the blue book' are utilised during construction including:

- Filter bags around inlets.
- Stabilised site access.

- Sediment fence around disturbed area.

It is proposed that the existing water meters are removed and replaced with a single bulk water meter servicing the development. It is assumed that this bulk water meter shall connect to the existing main along Jonson Street. It is anticipated that additional demand generated by the development can be fulfilled without augmentation of the existing water infrastructure.

It is proposed to establish a sewer connection near the corner of Ruskin Lane and Browning Street. It is anticipated that additional demand generated by the development can be fulfilled without augmentation of the existing sewer infrastructure.

It is proposed that a recycled water connection is constructed, which would comprise of the construction of a branch off the recycled water main in Tennyson Street to the subject property boundary.

Based on the assessment undertaken, it is believed that the proposed development can readily be serviced in a sustainable manner.

## 2. CIVIL SITE ASSESSMENT

### 2.1. SITE DESCRIPTION

The subject site (Figure 1) is situated within Byron Bay, NSW which forms part of the Byron Shire Council (BSC) local government area. The subject site is located at the corner of Jonson Street and Browning Street on Lots 5 and 6 on DP758207 and Lot 21 on DP247289. A development application (DA) is being prepared to seek approval for the construction of a mixed-use development with residential and commercial areas. The site's existing high point has an approximate RL of 8.4m at the proposed north-eastern property boundary, and the low point has an approximate RL of 4.1m at the Jonson St and Browning St boundaries. The site has a total plan area of 2835m<sup>2</sup>.



Figure 1 | Subject Site

The subject site currently contains three lots with each containing residential properties (two single dwelling lots and one dual occupancy lot). The proposed site layout consists of approximately 3220m<sup>2</sup> of residential GFA and 1160m<sup>2</sup> of commercial GFA and a two-level basement carpark with 120 carparking spaces. There are four levels of proposed above ground commercial and residential space. Shop top housing and serviced apartments (comprising of a total of 50 apartments) are proposed over three (3) levels, and commercial space provided over one (1) level on the ground floor.

Civil plans for the site are included as Appendix A. To obtain indicative locations of existing services, a Dial Before You Dig (DBYD) search was requested within the vicinity of the development area and the results are included as Appendix B. To confirm the location of existing Council assets, GIS data was requested from BSC (refer to Appendix C).

### 2.2. ENGINEERING CONSTRAINTS

All civil works shall be in accordance with the Northern Rivers Local Government (NRLG) standards and council engineering specifications, the development control plan (DCP), construction and design specifications and

standard drawings as well as all codes and standards referenced in these documents. Services locations were obtained from survey plans and were confirmed using DBYD records provided by the asset owners and Council GIS information. Based on preliminary investigations, no issues are expected with regards to connection points for services.

The subject site is located on the corner of Browning Street and Jonson Street. As part of the construction of the proposed Byron Bay Bypass (Bypass), this intersection shall be upgraded to a roundabout with a new Browning Street extension to the west. Planit understands that works for the Bypass are to commence in 2019. It is not anticipated that the new road configuration of Jonson Street shall impact the proposed access to the development. However, a boundary adjustment of 3 Browning Street is proposed to accommodate the proposed new road reserve on Browning Street. Existing and new boundaries are indicated on the Engineering Plans (Appendix A).

#### 2.2.1 Geotechnical Investigations

A geotechnical investigation was undertaken by Australian Soil and Concrete testing (ASCT) and the results varied across the different borehole samples. In summary, the sub-surface profile consists of Silts (ML), Sands (SP) and Gravelly Clays (CI).

The design bearing capacity across the site varies between 100 kPa and 700 kPa. This is considered excellent and more than adequate for the support of normal footings. The design bearing capacity provided is the amount available below the existing surface to the borehole termination depth.

According to AS2870, the site cannot be classified as 'normal' due to non-uniform sub-surface conditions and is classified as 'Class P'. Sites that are classified as Class P require issues to be addressed using a tailored solution provided by a professional engineer.

Due to inconsistencies in soil types, it was assumed that infiltration rates are insufficient to adopt infiltration as a stormwater management measure.

#### 2.2.2 Acid Sulphate Soils

An Acid Sulphate Soil Management Plan was prepared by ENV Solutions for the subject site. Soil samples were retrieved from the site at depths varying from ground level to 7.0m. Both Actual Acid Sulphate Soils (AASS) and Potential Acid Sulphate Soils (PASS) were identified. Based on this report and the geotechnical investigation undertaken by ASCT, soil excavated from below ground level will require a maximum liming rate of 8.1 kg/tonne of fine agricultural lime to neutralise the net acidity found. These rates are to be confirmed prior to construction.

It was concluded that no further sampling and investigation for the chemicals of potential concern is considered necessary. Additional acid sulphate soil (ASS) sampling will be required prior to construction, and an Acid Sulphate Soil Management Plan (ASSMP) should be prepared for the management of ASS soils during the construction phase of the development.

#### 2.2.3 Contamination Assessment

A Preliminary Contamination Assessment was undertaken by ENV Solutions for the proposed development. The results of the assessment were based on a desktop history assessment and site investigation. It was found that three areas or activities of environmental concern required further investigation. Four potential contaminants of concern were identified for the site:

- Organo-chlorine pesticides/herbicides.
- Metals.
- Hydrocarbons.
- Radioactive materials.

Soil sampling at the proposed development was undertaken and a total of 15 samples were collected, with 3 samples being collected for hydrocarbon analysis and the remaining 12 being composited into 3 groups for analysis of the remaining potential contaminants. Two samples returned results above the composite HIL-A lead limit and triggered individual screenings of lead on all samples, however the additional samples returned results below the HIL-A lead limit. The additional potential chemicals of concern passed the testing procedure.



During the site inspection, a Geiger counter was used to assess the presence of detectable radionuclides in soils beneath site. It was determined that all Geiger counter readings were typical of background levels.

#### 2.2.4 Dewatering

A Dewatering Management Plan was developed by ENV Solutions for the proposed construction works that will impact the water table. The works involve excavating the site to approximately -2.0m AHD for a double-storey underground carpark. Subsurface soil and groundwater investigations were undertaken by ENV on 26 May 2017 and groundwater was encountered at approximately 5.5 to 6.0 metres below ground level, or approximately -0.5m to 1.0m AHD. As the proposed excavation will be as deep as -2.0m AHD, basement excavation will intercept the groundwater table by approximately 1.0m to 1.5m. However, the static groundwater level (SWL) in the monitoring well installed at the site was approximately 2.7m below ground level immediately following its installation, suggesting that the shallow aquifer beneath the subject site is semi-confined/confined (e.g. groundwater may be present in fractures within weathered parent rock). Dewatering will be required during construction of the basement.

Groundwater below the site was collected and compared with published Australian criteria for freshwater ecosystems. Additionally, a sample was collected from the proposed discharge (receiving) environment to assist in the development of the discharge criteria. Groundwater quality beneath the subject site has a pH below the minimum allowable, nutrient concentration greater than the published guideline values and metal concentrations less than or equal to the published guideline values. A treatment train for the dewatering process has been proposed that contains pH correction, aeration to increase DO, flocculation assisted precipitation of sediment, and offsite gas treatment for odour if required.

#### 2.2.5 Flooding

Based on the information provided in the 2009 Belongil Creek Flooding Study (as referenced in the Development Control Plan 2014), the subject site is not located in a risk area. Figure 2 shows the areas within Byron Bay that are at risk of flooding during a 100 year ARI event.

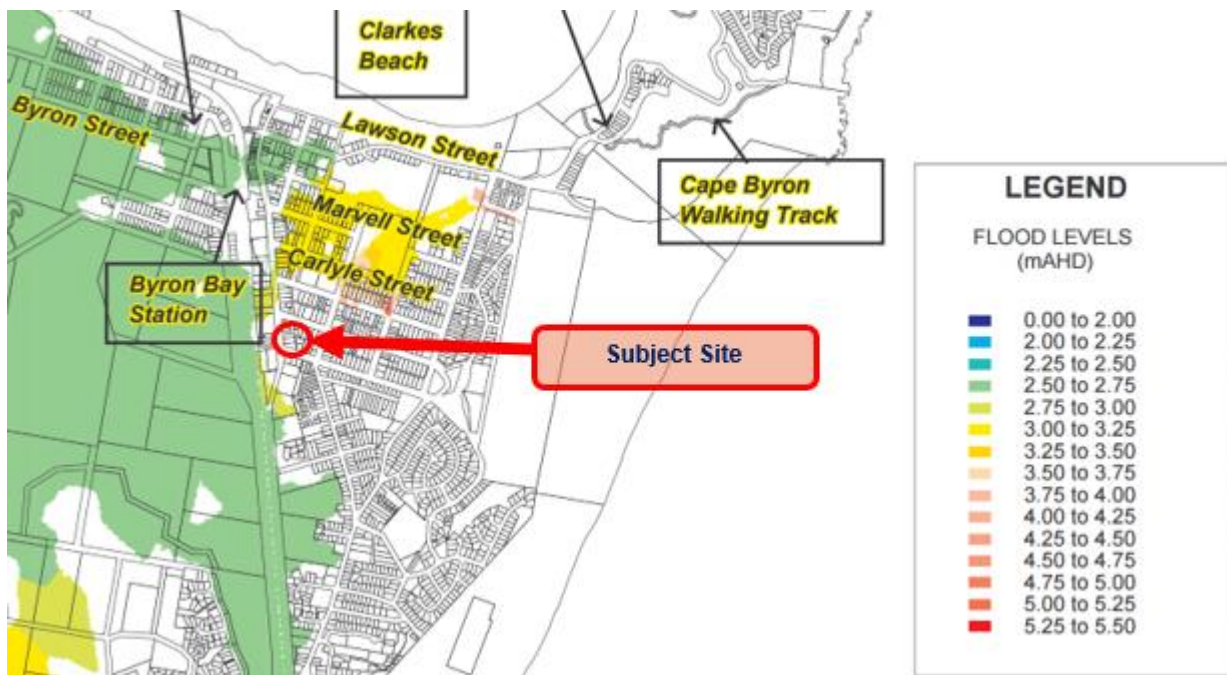


Figure 2 | Flooding Areas in the Byron Shire Council Region

### 3. EARTHWORKS

Currently, as per the 'Existing Conditions and Demolition Plan' (Appendix A, J170 – 0003), the site's high point has an approximate RL of 8.4m at the north-eastern property boundary, and the low point has an approximate RL of 4.1m at the Jonson St and Browning St boundaries. It is proposed to excavate the entire site to RL -2.0m for the two-level basement carpark. It is anticipated that dewatering will be required during the construction stages of the development. Earthworks design shall form part of the scope of detailed design.

All material excavated during the construction works shall be subject to ASS treatment by the principal contractor. As per the Earthworks Cut/Fill Plan, there will be approximately 20,500m<sup>3</sup> of soil excavation required for the proposed development. Soil excavated on site shall be neutralised by lime dosing as per the ASS management plan before being disposed off site.

Based on the significant difference in levels on the ground level surface, retaining walls will be required along the entire northern property boundary and along the eastern property boundary adjacent to the childcare centre. For details of the retaining walls, refer to Myers Ellyett concept design plans. Retaining wall details shall be confirmed by a qualified structural engineer in the detailed design stage.

Proposed earthworks on the subject site would include:

- Excavation for the underground car parking basement.
- Minor reshaping to adjust the overland flow paths.
- Excavation for the installation of services.

### 4. SITE ACCESS

Access to the subject site shall be via a new asphalt seal driveway at the Ruskin Lane / Browning Street intersection. After consultation with council it was agreed to undertake an augmentation of the Ruskin Lane intersection to allow for an MRV turning paths. There is a portion of the proposed developments property that will be utilised as part of the augmentation. This area will need to be turned into an easement to allow public cars to drive over this area. There will be upright kerb and gutter installed along the eastern side of Ruskin Lane and stormwater runoff along Ruskin Lane will sheet flow towards the kerb.

The new vehicular crossover and driveway will have a high point at the site boundary, with all stormwater falling on the driveway within site boundaries grading towards the basement, and all rainwater falling outside the site boundary grading towards the eastern kerb on Ruskin Lane. Based on analysis, it was determined that the maximum and minimum longitudinal grades are achievable within the acceptable limits as per BSC standard drawings and specifications.

## 5. TRAFFIC AND PARKING

It is proposed to construct a two-level basement car park with sufficient capacity to satisfy Council's car parking requirements for the site. The underground carpark access shall be via a vehicular crossover ramp that is accessed from a public road. The access to the site will be via Ruskin Lane. Ruskin Lane will be primarily accessed from the Ruskin Lane / Browning Street intersection for development traffic. It is proposed to widen Ruskin Lane from Browning Street to the recently upgraded portion of the Lane (north eastern corner of the subject site). It shall cater for two-way traffic. It is proposed to allow for the simultaneous entering and existing of cars and service vehicles (standard MRV and custom refuse HRV) at the frontage of the site. The Ruskin Lane splays have been designed for custom refuse HRV swept paths; Specification of the custom refuse HRV included as Appendix D. The arrangement is similar to the approved and adopted arrangements in Bay Lane for the recently renovated backpackers hostel.

Parking and loading requirements are summarised in the table below:

**Table 2 | Parking and Loading Summary**

Item	Amount
Regular parking spaces	100
Dedicated child car parking spaces	17
Accessible parking spaces	3
Bicycle spaces	11
Motorbike spaces	8
Staff parking spaces	0
SRV loading bays	2*
MRV loading bays	1

\*Not required by council as part of this development

All car parks are proposed to be contained within the basement carpark. Based on Table B4.2 of Chapter B4 of the 2014 DCP, a total of two SRV loading bays and one MRV loading bay would be required, however, after consultation with council the SRV loading bays are not required as the MRV loading bay off Ruskin Lane meets council's requirements for this proposed development. The site manager would manage timing deliveries and pickups. The vehicle loading bay is provided off Ruskin Lane which allows for an MRV and for the three point turning movement of a custom refuse HRV.

Our modelling shows that efficient manoeuvring is achievable into and out of the basement car park. Sight distances for the site access, service bay and laneway intersection comply with AS2890.1 and AS2890.2.

As part of the proposed development, upgrades to the public infrastructure will be undertaken to improve drainage, vehicular access and visual amenity. The upgrades of the public infrastructure will include:

- Ruskin Lane pavement upgrade.
- Ruskin Lane drainage upgrade.
- Construction of stormwater infrastructure along Browning Street, consisting of junction pits and concrete stormwater pipes. To tie into the existing stormwater network.

## 6. STORMWATER MANAGEMENT

A stormwater management plan has been prepared by Planit dated August 2018. Refer to this document for a detailed description of the proposed stormwater management on the subject site. A brief summary of the proposed stormwater management strategy is provided in this chapter.

A grass swale currently runs along the western side of Ruskin Lane that conveys flows towards Browning Street. With the construction of the proposed driveway access to the site in Ruskin Lane, the grass swale will be removed and an alternative system to convey water to Browning Street will need to be provided. It is proposed to regrade



the Ruskin Lane pavement and achieve a one-way cross fall toward the east, conveyed along a proposed kerb and gutter and discharging into a gully pit located at the end of this kerb. The water will be piped under the driveway to the Browning Street existing network, east of the site, along the northern side of Browning Street.

Due to the depth of the outlet of the bioretention basin compared to the ground floor level, flows cannot be conveyed from the bioretention basin to the kerb. With the poor infiltration properties at the site and the close proximity of the basement carpark, the outlet of the bioretention basin will need to be connected to the proposed existing infrastructure in Browning Street.

#### 6.1 STORMWATER QUANTITY

Due to the increase of impervious area post-development, onsite detention will be required to reduce flow rates to those of pre-development flows. Based on a DRAINS analysis, it is recommended that leaky tanks with a total volume of 27m<sup>3</sup> are adopted to ensure that post-development flows are reduced to the magnitude of pre-development flows. It is proposed to direct roof flows into two (2) tanks: one 18m<sup>3</sup> tank (Tank A) for the runoff from the northernmost building and one 9m<sup>3</sup> tank (Tank B) for the runoff from the southernmost building. Both tanks will have a height of 1.5m between the top and outlet, with Tank A having a floor area of 12m<sup>2</sup> and Tank B having a floor area of 6m<sup>2</sup>. Refer to the Engineering Plans in Appendix A for an indicative location of the leaky tanks. The exact specifications for the tanks will be confirmed during detailed design.

Both tanks will have a 150mm choke pipe outlet to restrict the outflow. The 150mm outlet pipe from Tank A will be fitted to a 100mm pipe before being discharged into the Ecosol Storm Pit via a larger pipe. Both tanks will have reuse storage in the bottom of the respective tank to allow for rainwater reuse on site if required. This will allow the choke pipe outlet to be located higher in the tank to ensure that flows can be directed from the tank to the proposed Ecosol Storm Pits which have an inlet 810mm above the ground surface. The proposed site layout is presented in Appendix A. All outflows from the Ecosol Storm Pit units will be piped to the kerb on Browning Street. For conservative modelling purposes, it has been assumed that the storage below the outlet is always full and all inflows will result in equivalent outflows.

#### 6.2 STORMWATER QUALITY

Byron Shire Council specifies in the 2014 DCP (Chapter B3: Services) that all stormwater generated on site that flows over impervious areas must be treated to key pollutant quality objectives. For a mixed-use development, the key pollutants that must be addressed are nitrogen, phosphorus and total suspended solids. To meet these objectives, treatment devices have been proposed for the site.

The following treatment train is proposed:

- The northern roof area will discharge into a 18kL tank, then into an Ecosol Storm Pit, which discharges to the proposed Browning Street piped network
- The southern roof area will discharge into a 9kL tank, then into an Ecosol Storm Pit, which discharges to the proposed Browning Street piped network
- The central walkway pavement runoff flows into a 10m long vegetated swale, which discharges into a 10m<sup>2</sup> bioretention area. The bioretention area discharges via gravity to the proposed Browning Street piped network.
- The 56m<sup>2</sup> catchment of the basement ramp will be captured in a pit and discharge to an Ecosol Storm Pit, placed in the basement. This Ecosol Storm Pit discharges into a pump well, from where the basement pump pumps the runoff into the Browning Street piped network.
- The Ruskin Lane loading bay sheet flows into a grass buffer strip with a minimum surface area of 3m<sup>2</sup>, from where it sheet flows onto the Ruskin Lane pavement.

#### 6.3 EROSION AND SEDIMENT CONTROL

It is proposed that appropriate sediment and erosion control measures in accordance with Landcom's 'blue book' (2014) are utilised during construction including:

- Filter bags around stormwater inlets.
- Stabilised site access.
- Sediment fence around disturbed area.



## 7. SERVICES ASSESSMENT

### 7.1. POTABLE WATER

Byron Shire Council provides reticulated water supply to residential customers within the local area and is responsible for all reticulated water supply to the development. Water reticulation is available via an existing water main adjacent to the Jonson Street frontage. It is proposed that the existing water connection to 139 Jonson Street is replaced with a bulk water meter and that the two remaining water meters are removed. Some augmentation may be required to facilitate the increased demand (to be confirmed by BSC), however this is not anticipated.

The location of the water main was not provided by the survey and was estimated through the locations of fittings and through BSC records. Therefore, the shown location is indicative only and detailed service locating is required prior to detailed design.

The maximum peak instantaneous demand that will be generated at the site will be 4.75L/s, a 4.15L/s net increase in comparison to pre-development conditions (Table 3). This flow rate has been based on the calculated 32ET peak demand of the proposed site. The ET rates were calculated based on the Byron Shire Council's 'Water and Sewer Equivalent Tenements Policy' and the proposed development schedule provided by the architect. Peak instantaneous demand was calculated using a rate of 0.15L/s/ET as stated in the Northern Rivers Development Design Specification 'D11: Water Supply'.

The proposed connection point is nominated on the site layout plan in Appendix A.

**Table 3 | Water Calculations**

Land-use	Pre - Quantity	Water Rate	Pre - ET	Post -Quantity	Post - ET
Dwellings	4	1	4	0	0
Shops (m²)	0	0.003	0	617*	1.85
Café (m²)	0	0.01	0	149*	1.49
Offices (m²)	0	0.01	0	18	0.18
Child care (persons)	0	0.06	0	65	3.90
1 bedroom unit	0	0.4	0	6	2.40
2 bedroom unit	0	0.6	0	16	9.6
3 bedroom unit	0	0.8	0	2	1.6
1 bedroom serviced	0	0.33	0	16	5.28
2 bedroom serviced	0	0.5	0	8	4
3 bedroom serviced	0	0.67	0	2	1.34
TOTAL ET	Pre-development		4	Post-development	32
A peak instantaneous flow of 0.15 L/s/ET is adopted					
PEAK FLOW	Pre-development		0.60 L/s	Post-development	4.75 L/s

\* The latest architectural plans have reduced floor areas for the shops and café, therefore the numbers shown in the table are conservative

### 7.2. SEWER

Byron Shire Council provides reticulated sewer to residential customers within the local area and is responsible for all reticulated sewer supply to the development. A sewer gravity main runs adjacent to the Ruskin Lane frontage, with an existing 1100mm diameter maintenance hole adjacent to the sites eastern boundary. The location of the

property connection is to be confirmed prior to detailed design. It is proposed that the sewer connection to the site shall be located near the corner of Browning Street and Ruskin Lane.

The design sewer loading has been calculated for the proposed site using the WSAA water and sewer codes. The design sewer loading for the site has been calculated at 137.3EP and 4.9L/s, a net increase of 124.5EP and 2.737L/s (see Table 4 and Table 5). These values were calculated using WSA02 'Gravity Sewer Code of Australia', Northern Rivers Development Design Specification 'D12: Sewerage System', and the Byron Shire Council's 'Water and Sewer Equivalent Tenements Policy'. It is expected that this increase will have no adverse effect on the downstream sewer network.

It is proposed to utilise the existing sewer connection for 139 Jonson Street for the proposed development. The sewer connection is shown in Appendix A.

**Table 4 | Sewer ET/EP Calculations**

Land-use	Pre - Quantity	Sewer Rate	Pre - ET	Post -Quantity	Post - ET
Dwellings	4	1	4	0	0
Shops (m²)	0	0.003	0	617	1.85
Café (m²)	0	0.01	0	149	1.49
Offices (m²)	0	0.004	0	18	0.07
Child care (persons)	0	0.1	0	65	6.50
1 bedroom unit	0	0.5	0	6	3
2 bedroom unit	0	0.75	0	16	12
3 bedroom unit	0	1	0	2	2
1 bedroom serviced	0	0.5	0	16	8
2 bedroom serviced	0	0.75	0	8	6
3 bedroom serviced	0	1	0	2	2
TOTAL ET	Pre-development		4	Post-development	43
A factor of 3.2 is adopted to convert ET to EP					
TOTAL EP	Pre-development		12.8	Post-development	137.3

\* The latest architectural plans have reduced floor areas for the shops and café, therefore the numbers shown in the table are conservative

**Table 5 | Sewer Design Flows**

	Pre-development		Post-development	
ADWF	0.027	L/s/EP	0.285	L/s/EP
PDWF	0.281	L/s	3.018	L/s
GWI	0.005	L/s	0.005	L/s
RDI	1.872	L/s	1.872	L/s
Design Flow	2.158	L/s	4.895	L/s

### 7.3. RECYCLED WATER

An existing Council owned recycled water main is located in Tennyson Street and Bangalow Road. It is proposed that a connection is constructed to this recycled water main to supply recycled water for the flushing of toilets and irrigation of landscaped areas on the subject site. In accordance with Council's policy, we understand that Council

would construct the branch from the main to the property boundary and that the developer constructs all internal plumbing.

#### 7.4. POWER

Essential Energy is the main service authority for power supply in the region and is responsible for building, operating and maintaining the electricity network within the proximity of the BSC area. Based on the information provided by Essential Energy, it appears that overhead power is available along Browning Street and Jonson Street. No impediment to the provision of power to the site is anticipated.

#### 7.5. TELECOMMUNICATIONS

Historically, Telstra has been the main telecommunications service supplier to the project area. Telstra service is available via the existing network along Browning Street and Jonson Street. The location of existing telecommunication services has been estimated through DBYD plans (Appendix B) and is indicative only. Detailed service location is required prior to detailed design.

NBN infrastructure is being constructed in Byron Bay at the time of writing this report. We understand from the NBNco website that the current estimate is that NBN will be available at the site from January 2018.

#### 7.6. GAS

Elgas is the main provider of reticulated gas in the Byron Shire. No services plans have been received by Elgas. We understand that reticulated gas is not available to the subject site.

## 8. CONCLUSION

The engineering assessment undertaken for this site has identified that the proposed development located at 137-139 Jonson Street and 3 Browning Street can be readily serviced without significant augmentation to existing services for potable water, sewer, power and telecommunications.

## APPENDIX A | CIVIL ENGINEERING PLANS



JGD DEVELOPMENTS PTY LTD  
137-139 JONSON ST, 3 BROWNING ST  
BYRON BAY, 2481




BYRON SHIRE COUNCIL  
ISSUED FOR DEVELOPMENT APPLICATION



LOCALITY PLAN  
NOT TO SCALE

IMAGE SOURCE: NEARMAP 2017

DRAWING NUMBER	TITLE	REVISION
J170 - 0001	INDEX AND LOCALITY PLAN	E
J170 - 0002	GENERAL NOTES AND LEGEND	D
J170 - 0003	EXISTING SITE CONDITIONS AND DEMOLITION PLAN	E
J170 - 0004	SITE LAYOUT GROUND FLOOR PLAN	D
J170 - 0005	EARTHWORKS CUT/FILL PLAN	D
J170 - 0006	STORMWATER CATCHMENT PLAN	E
J170 - 0007	SEWER AND WATER LAYOUT PLAN	E
J170 - 0008	RAMP SECTIONS	D
J170 - 0009	RUSKIN LANE UPGRADE LONG SECTION	C
J170 - 0010	VEHICLE SWEEPED PATHS - LIGHT VEHICLES	E
J170 - 0011	VEHICLE SWEEPED PATHS - HEAVY VEHICLES	A
J170 - 0012	SEDIMENT AND EROSION CONTROL PLAN	C
J170 - 0013	BASEMENT CAR PARKS DRAINAGE SYSTEM LAYOUT PLAN	B

REV		DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED	SCALES:	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.	DRAWN BY: G.FALLARA	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: <a href="mailto:administration@planitconsulting.com.au">administration@planitconsulting.com.au</a>	CLIENT: JGD DEVELOPMENTS PTY LTD PO BOX 558 2481 BYRON BAY - NSW	PROJECT: 137-139 JONSON ST, 3 BROWNING ST				
							DESIGN BY: G.FALLARA				DRAWING TITLE: INDEX AND LOCALITY PLAN							
							APPROVED BY:											
							DATE:											
							THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED											
							DO NOT SCALE FROM DRAWING											
													LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL	ORIGINAL SIZE: A1	PLANIT JOB No.: J170	DRAWING No.: 0001	REV: E	



100mm AT ORIGINAL SIZE

GENERAL

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE FOLLOWING DOCUMENTS:
- OTHER PROVIDED ENGINEERING DRAWINGS;

• TECHNICAL SPECIFICATIONS;

• SUPPLEMENTARY SPECIFICATIONS;

• WRITTEN INSTRUCTIONS.
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL THE RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF BSC STANDARDS AND SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PROVISION OF ANY TEMPORARY BRACING, PROPPING ETC. TO DRAINAGE PIPES DURING CONSTRUCTION. STRUCTURES SHALL BE MAINTAINED IN A STABLE POSITION AND NO PART SHALL BE OVERSTRESSED.
4. ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. DISCREPANCIES SHALL BE REFERRED TO THE SITE SUPERINTENDENT.
5. DO NOT OBTAIN DIMENSIONS FROM SCALING.
6. NATURAL SURFACE LEVELS ON THE DRAWINGS ARE INDICATIVE ONLY.
7. ANY PERMITS AND APPROVALS REQUIRED FOR CONSTRUCTION OF PERMANENT OR TEMPORARY WORKS SHALL BE OBTAINED BY THE CONTRACTOR.
8. BSC AND NRLG STANDARD DETAILS ARE TO BE ADOPTED UNLESS STATED OTHERWISE.

ROADWORKS

1. NOTWITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NRLG STANDARD SPECIFICATIONS AND DRAWINGS.
2. SIDE DRAINS SHALL BE CONSTRUCTED UNDER ALL NEW KERBS AS SPECIFIED WITHIN THESE DRAWINGS AND AS DIRECTED BY THE SUPERINTENDENT. REFER NRLG STANDARD DRAWING.
3. FLUSHING POINTS SHALL BE PROVIDED FOR SIDE DRAINS AT THE REQUIRED SPACING IN ACCORDANCE WITH BSC AND NRLG STANDARD DRAWINGS AND SPECIFICATIONS.
4. GEOTECHNICAL TEST RESULTS ARE TO BE FORWARDED TO THE SUPERINTENDENT PRIOR TO FINAL BOXING. TESTS SHALL INCLUDE SOAKED CBR AND/OR OTHER TESTS AS REQUESTED BY THE SUPERINTENDENT. THESE TESTS SHALL BE USED TO CONFIRM THE PAVEMENT DESIGN SHOW ON THESE DRAWINGS.
5. THE PAVEMENT DESIGN ON THE DRAWINGS IS NOT FOR CONSTRUCTION UNTIL FINAL CBR TESTS ARE REVIEWED AND APPROVED BY THE SITE SUPERINTENDENT. CONSTRUCTION OF THE PAVEMENT TO THE DESIGN SHOWN ON THE DRAWINGS PRIOR TO RECEIPT OF THE FINAL CBR TEST SHALL BE UNDERTAKEN AT THE CONTRACTOR'S OWN RISK.
6. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF ALL SERVICES AND PROTECT THESE SERVICES PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. WORK TO ANY SERVICES SHOULD BE DONE IN CONSULTATION WITH THE APPROPRIATE SERVICE PROVIDER.
8. EXISTING DRIVEWAYS WITHIN THE LIMITS OF THE CONSTRUCTION WORKS SHALL BE PROTECTED FROM DAMAGE. ANY DAMAGE TO DRIVEWAYS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. ENTRY INTO EXISTING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
10. TEMPORARY WARNING SIGNS TO BE ERECTED AS PER NRLG, CURRENT EDITION.
11. SEAL TO BE A.C. SURFACING - AS SPECIFIED.
12. KERB ADAPTERS ARE TO BE INSTALLED FOR ALL LOTS THAT FALL TO THE ROAD.

PAVEMENTS

1. GRANULAR PAVEMENT MATERIAL TO BE IN ACCORDANCE WITH BSC AND NRLG CONSTRUCTION SPECIFICATIONS AND ALL DOCUMENTS REFERENCED WITHIN THESE SPECIFICATIONS.
2. THE PAVEMENT SEAL IS TO BE IN ACCORDANCE WITH BSC AND NRLG CONSTRUCTION SPECIFICATIONS AND ALL DOCUMENTS REFERENCED WITHIN THESE SPECIFICATIONS.
3. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN AT 100m INTERVALS AT MINIMUM AT COMPLETION OF THE BULK EARTHWORKS.
4. SAMPLING SHALL BE CARRIED OUT IN ACCORDANCE WITH BSC AND NRLG GUIDELINES.
5. TRAFFIC NUMBERS ARE BASED ON BSC AND NRLG GUIDELINES.
6. FINAL PAVEMENT DESIGN IS SUBJECT TO RECEIPT OF THE GEOTECHNICAL TEST RESULTS AND MAY RESULT IN AN AMENDMENT TO THE PAVEMENT DESIGN SHOWN ON THIS DRAWING.
7. PAVEMENT DESIGN IS BASED ON BSC AND NRLG GUIDELINES.

SIGNAGE

1. FINAL SIGN LOCATIONS TO BE DETERMINED ON SITE BY THE SUPERINTENDENT.
2. ALL TRAFFIC SIGNS TO BE SIZE 'A' U.N.O.
3. FOR GUIDE POST INSTALLATION AND DETAILS, REFER BSC AND NRLG .
4. FOR TRAFFIC SIGN SUPPORT DETAILS, REFER BSC AND NRLG .
5. ALL SIGN MATERIAL TO BE CLASS 1.
6. ALL SIGNAGE, LINE MARKING & RRPMS ARE TO BE PREPARED IN ACCORDANCE WITH BSC AND NRLG .

DRAINAGE

1. ALL DRAINAGE STRUCTURES ARE TO BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS:
- BSC AND NRLG DRAWINGS AND SPECIFICATIONS;

• ANY MANUFACTURER'S STANDARD DRAWINGS AND SPECIFICATIONS.
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL THE RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF THE STATUTORY AUTHORITIES WHERE APPLICABLE.
3. STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE ASSESSMENT OF CONSTRUCTION LOADS AND PROVISIONS OF ANY TEMPORARY BRACING, PROPPING ETC. REQUIRED DURING CONSTRUCTION. STRUCTURES SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
4. PRECAST REINFORCEMENT CONCRETE PIPES ARE TO BE MANUFACTURED IN ACCORDANCE WITH AS 4058 AND AS 1992.
5. ALL STORMWATER PIPES SHALL BE CLASS '2' RCP. U.N.O.
6. ALL PIPES UP TO AND INCLUDING Ø600 ARE TO BE RUBBER RING JOINTED. ALL PIPES ABOVE Ø600 ARE TO BE FLUSH JOINTED U.N.O.
7. HEADWALL END STRUCTURES TO BE TYPE A, CAST IN SITU CONCRETE WITH CONCRETE APRONS (INCLUDING CUT OFF WALLS) U.N.O. REFER TO BSC AND NRLG STANDARD DRAWINGS FOR DETAILS.
8. PRECAST END STRUCTURES MAY BE USED ON CULVERTS LESS THAN OR EQUAL TO 15° SKEW, SUBJECT TO THE APPROVAL OF THE SUPERINTENDENT. PRECAST END STRUCTURES SHALL BE CONSTRUCTED WITH A REINFORCED CONCRETE CUT OFF WALL AS DETAILED FOR TYPE 3 APRONS BY BSC AND NRLG .
9. EXISTING STORMWATER DRAINAGE PIPES AND MANHOLES WITHIN THE LIMIT OF WORK SHALL BE PROTECTED, REMOVED OR MODIFIED AS SPECIFIED.
10. WHERE A CONNECTION IS MADE TO AN EXISTING DRAINAGE PIPE OR PIT, THE LEVEL OF THAT ELEMENT MUST BE SURVEYED PRIOR TO CONSTRUCTION. THE SURVEYED LEVELS SHALL BE PROVIDED TO THE SITE SUPERINTENDENT TO CONFIRM THE CONNECTION AND LEVELS PRIOR TO CONSTRUCTION.
11. BACKFILL AND BEDDING TO PIPE TO BE IN ACCORDANCE WITH BSC AND NRLG STANDARD DRAWINGS AND SPECIFICATIONS.
12. UNSUITABLE FOUNDING MATERIAL FOR PIPES AND STRUCTURES SHALL BE REMOVED OR IMPROVED IN ACCORDANCE WITHBSC AND NRLG SPECIFICATIONS.
13. ALL TRENCH BACK FILL MATERIAL UNDER THE PAVEMENT SHALL BE CBR 15 OR APPROVED EQUIVALENT.
14. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED. ALL GRATES ARE TO BE CLASS D U.N.O. AND BICYCLE SAFE IN ACCORDANCE WITH AS 3996 U.N.O.
15. GRATE SUPPORT TO BE CONSTRUCTED LEVEL TO ENSURE THAT THE GRATE DOES NOT ROCK AFTER INSTALLATION.
16. ALL LEVELS ARE APPROXIMATE ONLY AND ARE SUBJECT TO FULL DETAIL SURVEY OF THE EXISTING STRUCTURE.
17. THE THICKNESS OF THE RIP-RAP PROTECTION SHALL BE TWICE THE D50 STONE SIZE SPECIFIED ON THE DRAWINGS.
- 17.1. THE STONE SHALL BE REASONABLY WELL GRADED THROUGHOUT THE RIP-RAP LAYER. STONE SIZE SHALL BE DEPENDENT ON THE D50 VALUE SPECIFIED ON THE DRAWINGS. D10 SHALL BE 0.5xD50 AND D90 SHALL BE 1.35xD50. STONES SMALLER THAN THE SPECIFIED D10 ARE NOT TO EXCEED 20% BY WEIGHT OF EACH LOAD.
- 17.2. ROCK IS TO BE HARD, DENSE, DURABLE, RESISTANT TO WEATHERING AND ANGULAR IN SHAPE. IT SHALL BE FREE FROM OVERBURDEN, SPOIL SHALE AND ORGANIC MATTER. ROCK THAT IS LAMINATED, FRACTURED, POROUS OF OTHERWISE PHYSICALLY WEAK SHALL NOT BE USED.
- 17.3. AS AN APPROXIMATE GUIDE TO STONE SHAPE: THE BREADTH OR THICKNESS OF A SINGLE STONE SHOULD NOT BE LESS THAN ONE-THIRD ITS LENGTH. ROUND MATERIAL CAN BE USED AS RIP-RAP, PROVIDED IT IS NOT PLACED ON SLOPES GREATER THAN 1:3.

WATER

1. NOTWITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS, ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH BSC AND NRLG STANDARD SPECIFICATIONS AND DRAWINGS.
2. ALL FITTINGS SHALL BE D.I.C.L. CLASS K9 RUBBER RING JOINTED SPIGOT AND SOCKET TO AS 2280-1986.
3. ANCHOR BLOCKS SHALL BE INSTALLED AT ALL BENDS, JUNCTIONS AND DEAD ENDS.
4. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF ALL SERVICES AND PROTECT THESE SERVICES PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. OFFSET FROM BOUNDARY TO WATER MAIN 1.5m U.N.O.
6. PROVIDE WATER SERVICE TO ALL LOTS TO BSC AND NRLG STANDARD DRAWINGS.
7. ALL TRENCH BACK FILL MATERIAL UNDER ROAD PAVEMENT SHALL BE CBR 15 OR APPROVED EQUIVALENT.
8. ANY WORKS ASSOCIATED WITH LIVE WATER CONNECTIONS MAY BE CARRIED OUT BY THE CONTRACTOR UNDER SUPERVISION BY BSC AND NRLG. FEES & EXPENSES FOR THESE EXPENSES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

SEWERAGE

1. NOTWITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH BSC AND NRLG STANDARD SPECIFICATIONS AND DRAWINGS.
2. ALL PIPES SHALL BE Ø150 uPVC CLASS 'SN8' OR APPROVED EQUIVALENT U.N.O.
3. EACH LOT SHALL BE SERVICED BY A Ø100 HOUSE CONNECTION IN ACCORDANCE WITH BSC AND NRLG STANDARD SPECIFICATIONS AND DRAWINGS. HOUSE CONNECTIONS SHALL BE LOCATED 0.5m UPSTREAM OF ALLOTMENT BOUNDARIES.
4. CONTRACTOR SHALL VERIFY FINISHED SURFACE LEVELS ON SITE BEFORE CONSTRUCTION OF SEWERS AND HOUSE CONNECTION BRANCHES.
5. THE CONTRACTOR SHALL HAVE PROPERTY BOUNDARIES PEGGED AND THE LOCATION OF HOUSE CONNECTIONS CONFIRMED PRIOR TO COMMENCING CONSTRUCTION OF HOUSE CONNECTION BRANCHES.
6. FINISHED SURFACE LEVELS SHOWN ON LONGITUDINAL SECTIONS ARE INDICATIVE ONLY AND MANHOLE LIDS SHALL FINISH TO THE GRADE OF THE FOOTPATH IN ROADWAYS AND 75mm ABOVE THE SURROUNDING LEVELS IN THE ALLOTMENTS.
7. ANY WORK ASSOCIATED WITH LIVE SEWERS AND MANHOLES MAY BE CARRIED OUT BY THE CONTRACTOR UNDER SUPERVISION BY BSC AND NRLG. FEES & EXPENSES FOR THESE EXPENSES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF ALL SERVICES AND PROTECT THESE SERVICES PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR SHALL ADVISE THE SUPERINTENDENT IMMEDIATELY IF MIN. & MAX. DEPTHS AS DEFINED BY BSC AND NRLG ARE EXCEEDED DURING CONSTRUCTION.
10. ALL TRENCH BACK FILL MATERIAL UNDER ROAD PAVEMENT SHALL BE CBR 15 OR APPROVED EQUIVALENT.
11. THE BEDDING MATERIALS USED IN TRENCHS SHALL FOLLOW THE GUIDELINES OF AS2566.2, AND SHOULD BE ONE OF THE FOLLOWING:
- 11.1. SAND OR SOIL, FREE FROM ROCKS GREATER THAN 15MM IN SIZE.
- 11.2. CRUSHED ROCK, GRAVEL, OR GRADED MATERIAL OF EVEN GRADING WITH A MAXIMUM SIZE OF 15MM.
- 11.3. EXCAVATED MATERIAL FREE FROM ROCKS OR ORGANIC MATERIAL OR VEGETABLE MATTER THAT WILL AFFECT EMBEDMENT MATERIAL PERFORMANCE.
- 11.4. CONTROLLED LOW STRENGTH MATERIALS.
12. SEWER HOUSE CONNECTIONS SHALL BE A MAXIMUM DEPTH OF 1.5m MEASURED FROM THE DESIGN SURFACE AT A POINT 1m INSIDE THE ALLOTMENT.
13. THE CONTRACTOR SHALL CHECK ALL HOUSE CONNECTIONS PRIOR TO CONSTRUCTION AND SEEK INSTRUCTIONS FROM THE SUPERINTENDENT FOR ANY HOUSE CONNECTIONS OUTSIDE THE ALLOWABLE DEPTH.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECTIFICATION OF HOUSE CONNECTIONS DEEPER THAN 1.5m IF THE SUPERINTENDENT HAD NOT BEEN CONSULTED PRIOR TO CONSTRUCTION.

CONCRETE

1. COMPLY WITH AS 3600.
2. DESIGN AND CONSTRUCT FORMWORK IN ACCORDANCE WITH AS 3610.
3. PROVIDE QUALITY OF FINISHES OF FORMED SURFACES IN ACCORDANCE WITH AS 3610 AND AS FOLLOWS U.N.O. ON DRAWINGS:
- EXPOSED SURFACES - CLASS 3;

• CONCEALED SURFACES - CLASS 4;

• IN CONTACT WITH GROUND - CLASS 5.
4. THE LISTED SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES. PROVIDE CHAMFERS, FILLETS, REGLETS AND DRIP GROOVES AS SHOWN ON THE STRUCTURAL DRAWINGS.
5. DO NOT MAKE ANY PENETRATIONS OR CHASES OR EMBED ANY ITEMS OTHER THAN THOSE SHOWN IN THE STRUCTURAL DRAWINGS WITHOUT APPROVAL OF THE ENGINEER.
6. FORM CONSTRUCTION JOINTS ONLY WHERE APPROVED BY THE ENGINEER.
7. SUPPORT REINFORCEMENT IN ITS CORRECT POSITION DURING CONCRETING BY APPROVED BAR CHAIRS, SPACERS OR SUPPORT BARS SUITABLE FOR THE EXPOSURE CONDITIONS.
8. LAP MESH REINFORCEMENT BY ONE COMPLETE MESH.
9. DO NOT WELD OR SITE BEND REINFORCEMENT UNLESS SHOWN IN THE DRAWINGS OR OTHERWISE SPECIFIED BY THE ENGINEER.
10. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
11. SAMPLE TEST AND ASSESS CONCRETE COMPLIANCE IN ACCORDANCE WITH PROJECT ASSESSMENT OF STRENGTH GRADE TO SECTION 20 OF AS 3600.
12. THE CONCRETE SHALL BE COMPACTED USING HIGH-FREQUENCY VIBRATORS.
13. ALL SLABS SHALL BE PLACED AT THE SAME TIME AS BEAMS OF WHICH THEY FORM PART.
14. CURING OF ALL CONCRETE SURFACES SHALL COMMENCE IMMEDIATELY AFTER SURFACES ARE FINISHED AS SPECIFIED AND SHALL CONTINUE FOR A MINIMUM OF 7 DAYS.

LEGEND

GENERAL

LOT BOUNDARIES

SITE BOUNDARY

EXISTING CONTOURS (1m INT.)

EXISTING KERB & GUTTER

EXISTING ASPHALT SURFACE

EXISTING CONCRETE SURFACE

EXISTING GRAVEL SURFACE

EXISTING SWALE

FEATURE TO BE REMOVED

EXISTING TREE

EXISTING PARKING LINEMARKING

EXISTING DWELLING AND VERANDA

PROPOSED 900mm DISH DRAIN

PROPOSED CONCRETE PAVEMENT

PROPOSED ASPHALT PAVEMENT

PROPOSED LANDSCAPE/ POROUS SURFACE

PROPOSED RETAINING WALL

PROPOSED PATHWAY

PROPOSED GROUND FLOOR OUTLINE

PROPOSED ROOF OUTLINE

PROPOSED TREE

VEHICLE FLOW DIRECTION

PROPOSED 0.5m CONTOURS

SERVICES AND UTILITIES

EXISTING OVERHEAD ELECTRICAL

INDICATIVE EXISTING TELSTRA FROM DBYD

INDICATIVE EXISTING SEWER FROM DBYD

INDICATIVE EXISTING WATER FROM DBYD

INDICATIVE EXISTING STORM WATER FROM DBYD

PROPOSED WATER HOUSE CONNECTION

PROPOSED RECYCLED WATER CONNECTION

PROPOSED SEWER HOUSE CONNECTION

STORMWATER

PROPOSED STORMWATER LINE

PROPOSED GRATED INLET PIT

PROPOSED JUNCTION PIT

PROPOSED LINTEL AND MAINTENANCE HOLE

PROPOSED HEADWALL

PROPOSED SWALE

CATCHMENT BOUNDARY

OVERLAND FLOWPATH


SEDIMENT AND EROSION CONTROL

FENCE SEDIMENT

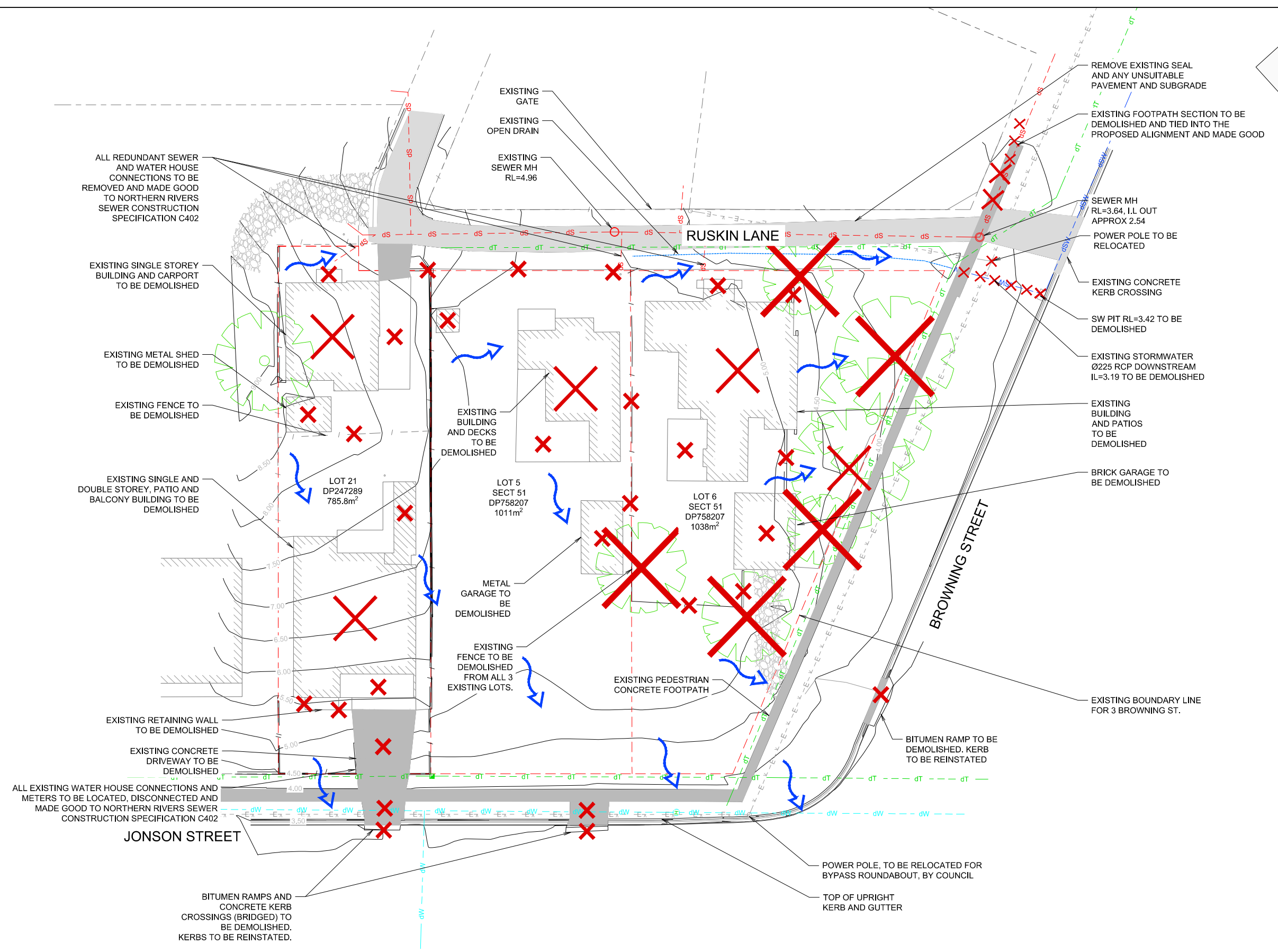
FILTER BAG

SITE STABILISED ACCESS

PRELIMINARY ISSUE  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED	SCALES:	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.	DRAWN BY: G.FALLARA DESIGN BY: G.FALLARA APPROVED BY:	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: JGD DEVELOPMENTS PTY LTD PO BOX 558 2481 BYRON BAY - NSW  LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL	PROJECT: 137-139 JONSON ST, 3 BROWNING ST DRAWING TITLE: GENERAL NOTES AND LEGEND	ORIGINAL SIZE: A1	PLANIT JOB No.: J170	DRAWING No.: 0002	REV: D	
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK	NOT TO SCALE										
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK											
C	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	MP	SM											
D	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM											
							DO NOT SCALE FROM DRAWING										

100mm AT ORIGINAL SIZE



### NOTES:

1. ALL EXISTING TREES ON SUBJECT SITE TO BE REMOVED;
2. ALL BUILDINGS, SHEDS, RETAINING WALLS, FENCES AND STRUCTURES ON SITE TO BE DEMOLISHED;
3. KERB AND ROAD VERGE TO BE REINSTATED AFTER DEMOLITION OF THE EXISTING KERB CROSSINGS;

### WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE BY THE CONTRACTOR. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES BASED ON CANTY'S DETAILED SURVEY DATED 29/09/2016. UNDERGROUND SERVICES ARE TAKEN FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE ONLY.

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	ISSUED FOR COUNCIL RFI RESPONSE	08/02/18	GF	GF	SM	SM
D	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	SM	MP
E	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	SM	MP

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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

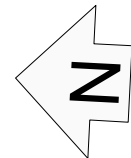
CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT:	137-139 JONSON ST, 3 BROWNING ST			
DRAWING TITLE:	EXISTING CONDITIONS AND DEMOLITION PLAN			
ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:	
A1	J170	0003	E	



100mm AT ORIGINAL SIZE



LOCAL  
TRAFFIC  
ONLY

PROPOSED SIGN ON THE RUSKIN  
LANE/TENNYSON STREET  
INTERSECTION ENTRANCE

PROPOSED VEHICLE  
CROSSOVER

PROPOSED KERB AND  
GUTTER ON EASTERN SIDE  
OF RUSKIN LANE

LOCATION OF PROPOSED TIE  
INTO EXISTING ASPHALT SEAL  
AND KERB (EAST SIDE) ON  
RECENTLY UPGRADED  
PORTION OF RUSKIN LANE

INDICATIVE LOCATION OF PROPOSED  
ECOSOL STORM PITS CLASS 2.

INDICATIVE LOCATION OF PROPOSED  
9kL and 18kL LEAKY TANKS.  
FOR FURTHER DETAIL REFER TO  
DRAWING J170-0006

STORMWATER PIPE TO BE  
MOUNTED ON BASEMENT  
UPPER CAR PARK CEILING

LOT 30  
DP 829895

FOR RETAINING WITHIN  
BUILDINGS REFER TO  
MYERS ELLIOT CONCEPT  
DESIGN PLANS

PROPOSED ELECTRICAL  
SUBSTATION PAD MOUNT  
LOCATION (7X4.2m AREA)

TIE INTO EXISTING  
FOOTPATH

REINSTATE KERB

JONSON STREET

INTERNAL FOOTPATH TO FALL  
TOWARD THE CORNER OF JONSON  
AND BROWNING STREETS AT  
APPROXIMATELY 0.5% GRADE

SWALE

BIO-RETENTION BASIN  
"RAIN GARDEN"

LOT A  
DP 363696

LOT B  
DP 363696

PROPOSED  
GULLY PIT  
PROPOSED EASEMENT TO  
ALLOW PUBLIC CARS TO  
DRIVE OVER AREA  
600mm CENTRAL  
CONCRETE MEDIAN

20% MAX GRADE RAMP DOWN TO BASEMENT  
CAR PARK ON THE INTERNAL RADIUS  
ACCESS DRIVEWAY WIDTH/GEOMETRY IN  
ACCORDANCE WITH NRLG STD DWG R05

PROPOSED  
RIGHT ONLY  
R3-5R SIGN  
BIO-RETENTION BASIN

TIE INTO  
EXISTING  
FOOTPATH

EXISTING STORM WATER PIPE RUNNING FOR  
APPROX. 50m AT AN ASSUMED 1% GRADE  
ALONG BROWNING STREET AND CROSSING  
BEFORE DISCHARGING INTO A 3X3m GRATED PIT  
(SURVEYED IL=1.48), WEST OF 12 BROWNING ST.  
(SERVICE LOCATOR TO CONFIRM - CC STAGE)

PROPOSED STORMWATER INLET PIT  
RELOCATION, MAINTENANCE MANHOLE AND  
PIPES, TO BE CONNECTED TO AND DISCHARGE  
INTO THE EXISTING NETWORK  
RL=3.34 IL=1.98  
(SERVICE LOCATOR TO CONFIRM - CC STAGE)

WIDTH IN ACCORDANCE WITH AS  
2890.2 SEC 3 FOR MRV. WIDTH  
COMPLIANT WITH CUSTOM  
REFUSE HRV - REFER DWG 0011

2m WIDE CONCRETE PATH

PROPOSED BOUNDARY FOR 3 BROWNING ST  
UNDER COUNCIL'S BYRON BAY BYPASS PROJECT

PROPOSED ROUNDABOUT AND  
ROAD ALIGNMENT FOR  
COUNCIL'S BYRON BAY BYPASS

## WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE DETERMINED ON SITE BY THE  
CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL  
EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES  
BASED ON CANTY'S DETAILED SURVEY DATED  
29/09/2016. UNDERGROUND SERVICES ARE TAKEN  
FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE  
ONLY.

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.

DRAWN BY: G.FALLARA

DESIGN BY: G.FALLARA

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:

JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:

BYRON SHIRE COUNCIL

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

PROJECT:

137-139 JONSON ST, 3 BROWNING ST

DRAWING TITLE:

SITE LAYOUT GROUND FLOOR PLAN

ORIGINAL SIZE:

A1

PLANIT JOB No.:

J170

DRAWING No.:

0004

REV:

D

100mm AT ORIGINAL SIZE

CUT/FILL VOLUMES			
NUMBER	COLOUR	LOWER LIMIT (m)	UPPER LIMIT (m)
1		-11.000	-10.000
2		-10.000	-9.000
3		-9.000	-8.000
4		-8.000	-7.000
5		-7.000	-6.000
6		-6.000	-5.000
7		-5.000	-4.000
8		-4.000	-3.000
9		-3.000	-2.000
10		-2.000	-1.000
11		-1.000	0.000
12		0.000	1.000

CUT/FILL VOLUMES	
DESCRIPTION	VOLUME
TOTAL CUT TO FINISHED SURFACE	20900m <sup>3</sup>
TOTAL FILL TO FINISHED SURFACE	500m <sup>3</sup>
NET CUT	20400m <sup>3</sup>

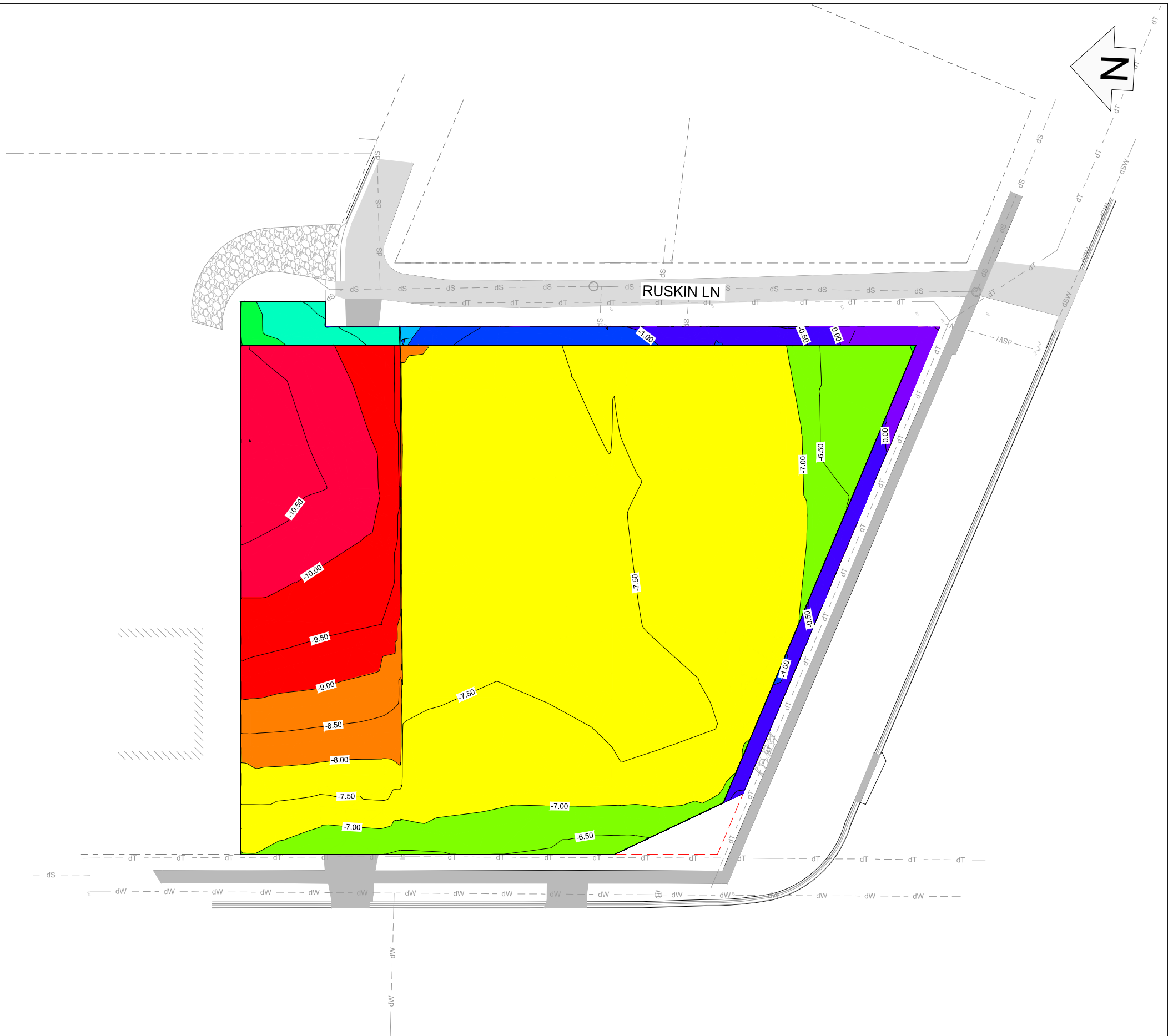
NOTES:  
\*CUT VOLUME BASED ON THE FINISHED SURFACE TO THE BOTTOM OF THE LOWER BASEMENT LEVEL. NO CONSIDERATION HAS BEEN GIVEN TO TRENCHING, BOXING OUT VEHICLE PAVEMENTS, TOP SOIL VOLUMES, AND EARTHWORKS WITHIN COUNCILS ROAD RESERVES. THIS CAN BE UNDERTAKEN DURING CC DESIGN STAGE.

## WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE BY THE CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES BASED ON CANTY'S DETAILED SURVEY DATED 29/09/2016. UNDERGROUND SERVICES ARE TAKEN FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE ONLY.



**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR DEVELOPMENT APPLICATION	26/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	SM	SM
D	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA	APPROVED BY:	
DESIGN BY: G.FALLARA		
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](mailto:administration@planitconsulting.com.au)



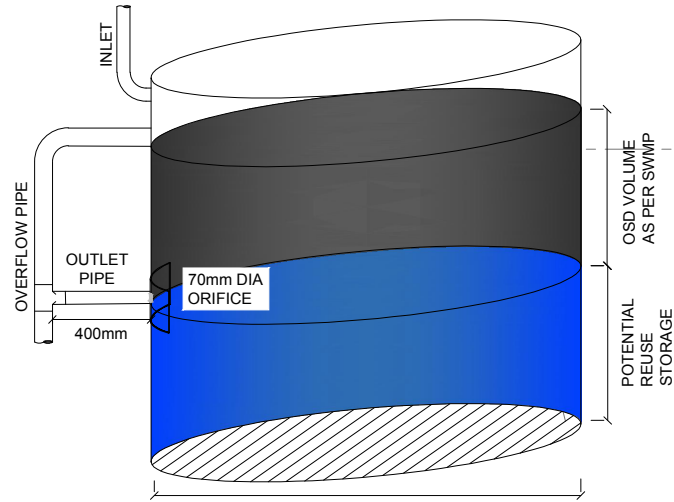
CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT: <b>137-139 JONSON ST, 3 BROWNING ST</b>			
DRAWING TITLE: <b>EARTHWORKS CUT/FILL PLAN</b>			
ORIGINAL SIZE: <b>A1</b>	PLANIT JOB No.: <b>J170</b>	DRAWING No.: <b>0005</b>	REV: <b>D</b>



100mm AT ORIGINAL SIZE



PROPOSED GROUND LEVED  
LEAKY TANK DETAIL  
NOT TO SCALE

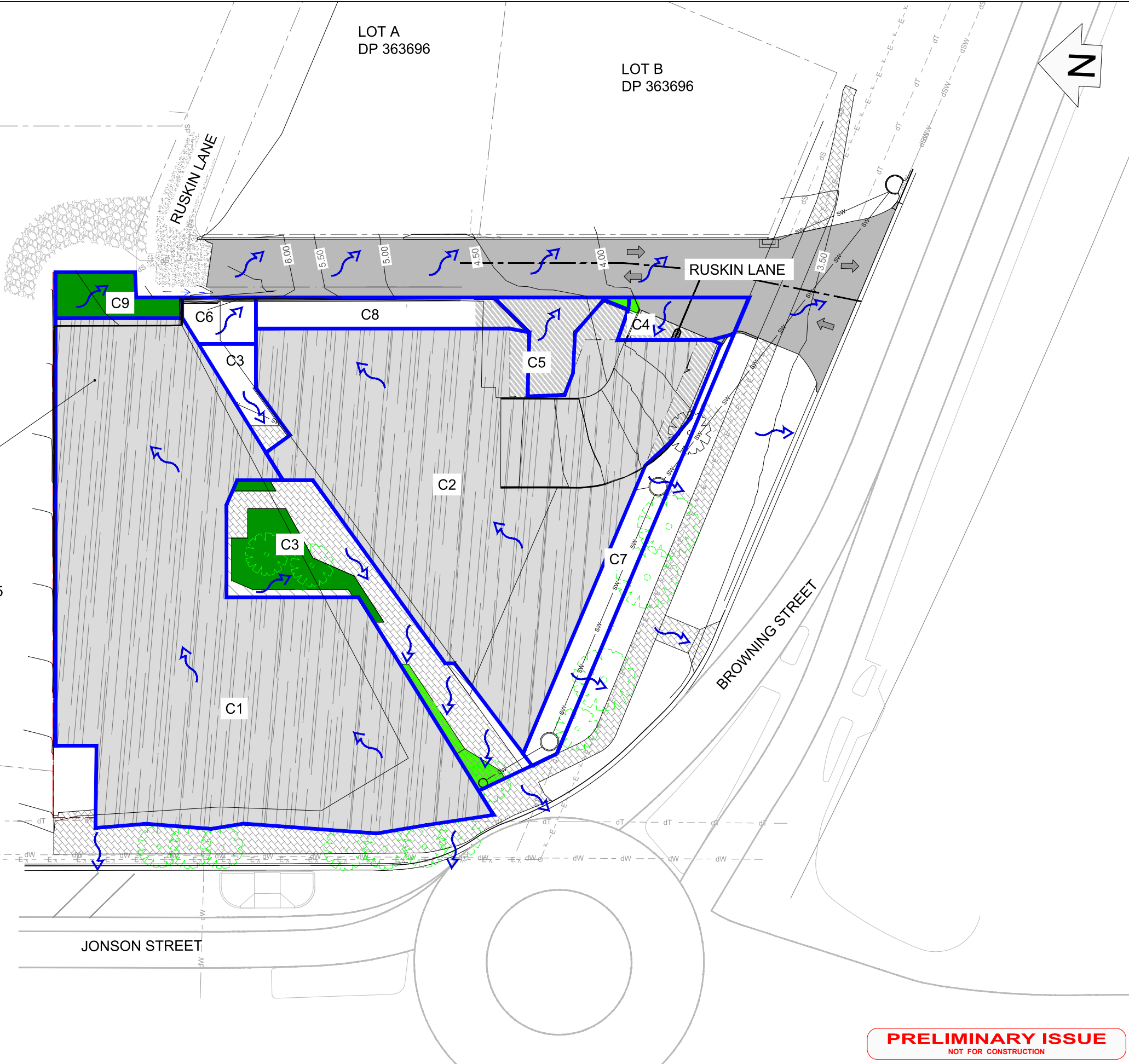
ALL ROOFWATER (C1 AND C2) TO  
BE CONVEYED TO PROPOSED 9kL  
AND 18kL LEAKY TANKS FOR OSD  
AND ECOSOL STORMWATER PITS  
FOR TREATMENT AS PER SWMP

LOT 30  
DP 829895

LOT A  
DP 363696

LOT B  
DP 363696

N



## WARNING

### BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE DETERMINED ON SITE BY THE  
CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL  
EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES  
BASED ON CANTY'S DETAILED SURVEY DATED  
29/09/2016. UNDERGROUND SERVICES ARE TAKEN  
FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE  
ONLY.

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	ISSUED FOR COUNCIL RFI RESPONSE	31/01/18	GF	GF	SM	SM
D	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	MP	SM
E	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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](mailto:administration@planitconsulting.com.au)



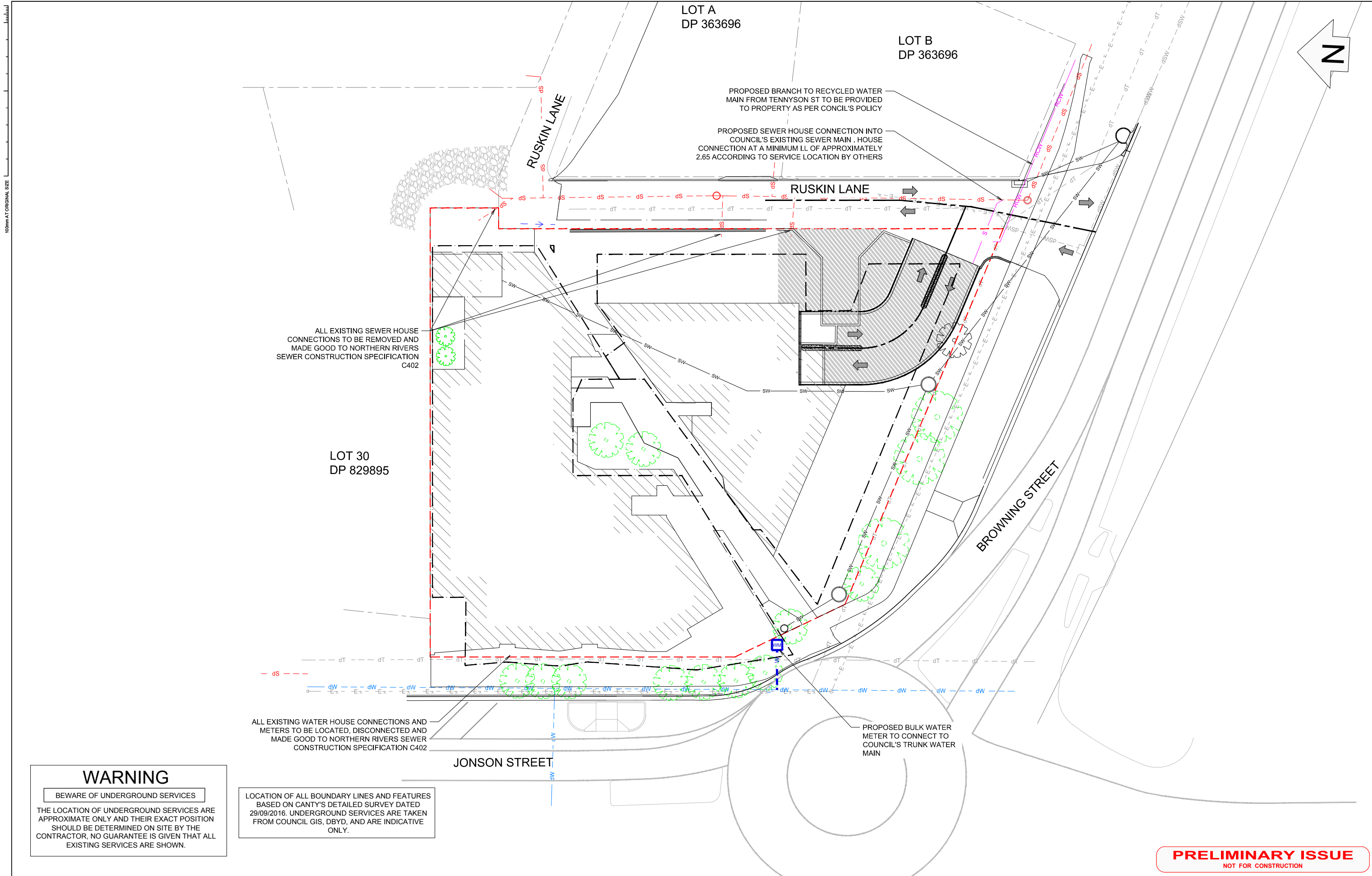
CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

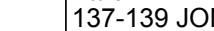
LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT:  
**137-139 JONSON ST, 3 BROWNING ST**  
DRAWING TITLE:  
**STORMWATER CATCHMENT PLAN**

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J170	0006	E

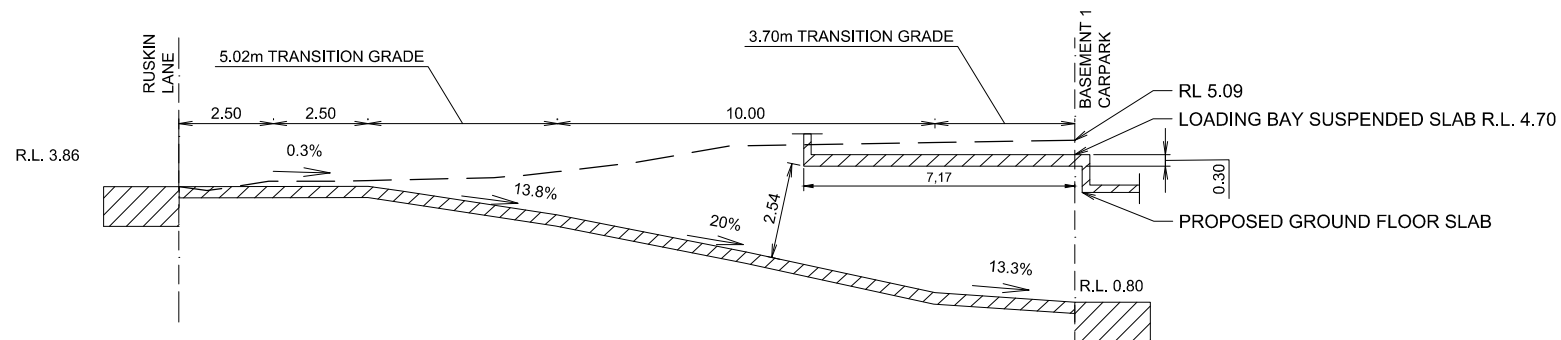
100mm AT ORIGINAL SIZE



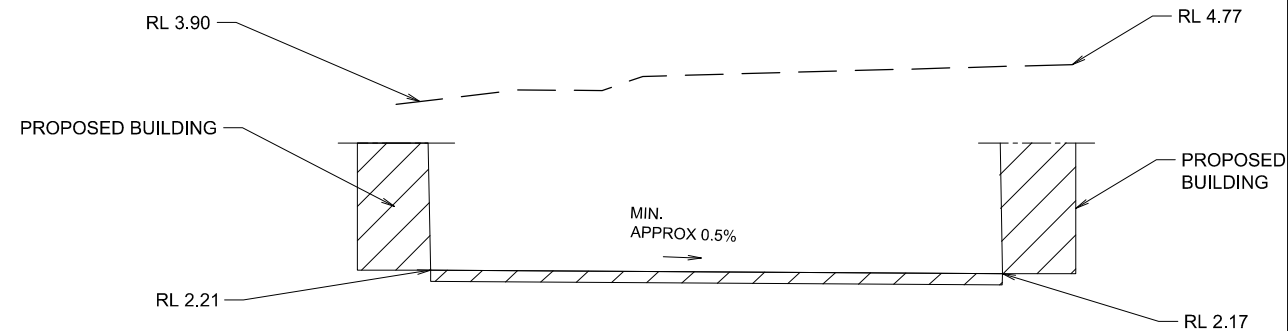
REV		DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED	<div>SCALES:</div> <div><div><div>0</div><div>2</div><div>4</div><div>8</div><div>12</div></div><div>Full Size 1:200 ; Half Size 1:400</div><div>Scale (m)</div></div> <div>DO NOT SCALE FROM DRAWING</div>	<div>Copyright in the drawings, information and 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.</div>	DRAWN BY: G.FALLARA	<div>PLANIT CONSULTING</div> <div>SUITE 9A, 80-84 BALLINA STREET</div> <div>PO BOX 161</div> <div>LENNOX HEAD NSW 2478</div> <div></div> <div>TELEPHONE: 02 6687 4666</div> <div>ABN: 20 099 261 711</div> <div>EMAIL: <a href="mailto:administration@planitconsulting.com.au">administration@planitconsulting.com.au</a></div>	CLIENT:	<div>JGD DEVELOPMENTS PTY LTD</div> <div>PO BOX 558</div> <div>2481 BYRON BAY - NSW</div>	PROJECT:	<div>137-139 JONSON ST, 3 BROWNING ST</div> <div>DRAWING TITLE:</div> <div>SEWER AND WATER LAYOUT PLAN</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</



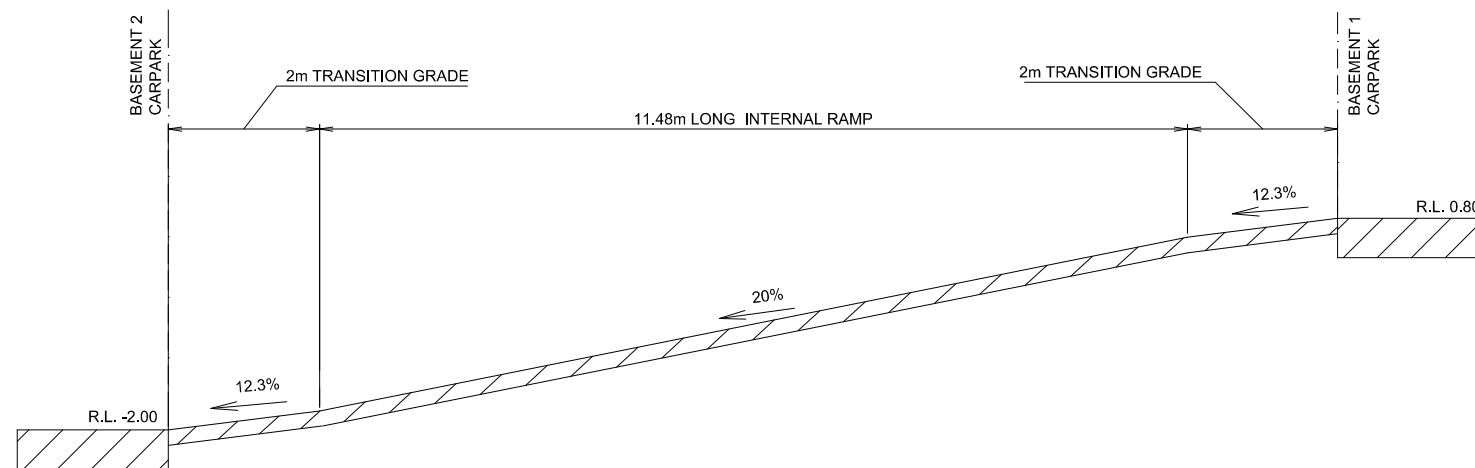
100mm AT ORIGINAL SIZE



**RAMP TO BASEMENT 1 (UPPER) ON RUSKIN LANE**  
**LONG SECTION**  
REPRESENTS INSIDE WHEEL PATH  
SCALE 1:100



**RAMP TO BASEMENT 1 (UPPER) ON RUSKIN LANE**  
**TYPICAL SECTION**  
SCALE 1:50



**INTERNAL RAMP TO BASEMENT 2 (LOWER)**  
**LONG SECTION**  
SCALE 1:50

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

SCALE:
0 1 2 4 6
Full Size 1:100 ; Half Size 1:200
Scale (m)
0 0.5 1 2 3
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.

DRAWN BY: G.FALLARA
DESIGN BY: G.FALLARA
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

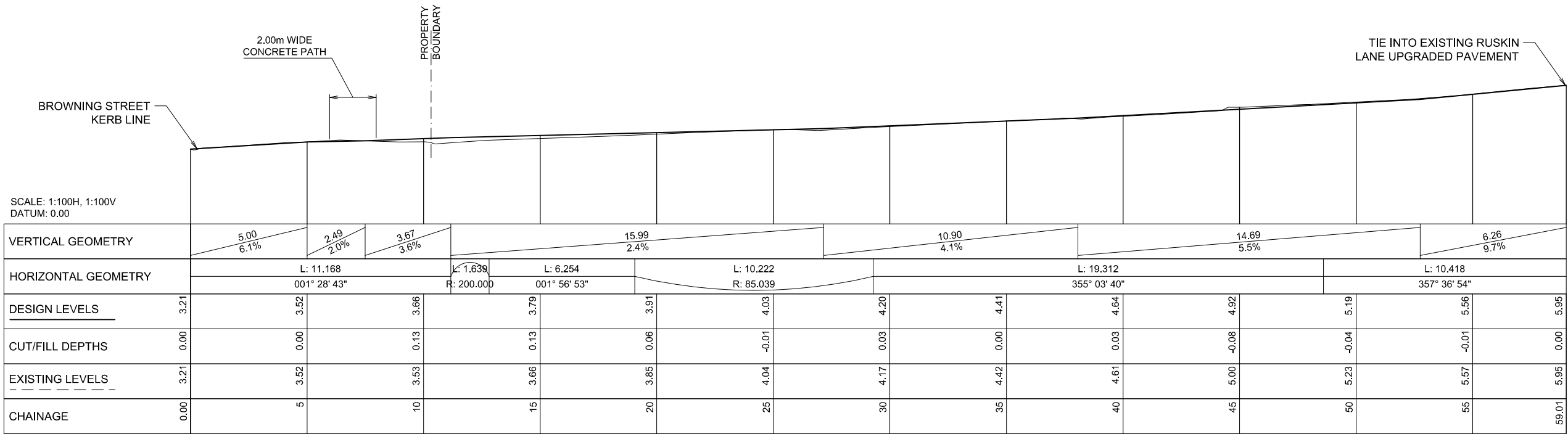
TELEPHONE: 02 6687 4666  
ABN: 20 099 261 711  
EMAIL: [administration@planitconsulting.com.au](mailto:administration@planitconsulting.com.au)



CLIENT: <b>JGD DEVELOPMENTS PTY LTD</b> PO BOX 558 2481 BYRON BAY - NSW
LOCAL GOVERNMENT AUTHORITY: <b>BYRON SHIRE COUNCIL</b>

PROJECT: <b>137-139 JONSON ST, 3 BROWNING ST</b>	ORIGINAL SIZE: <b>A1</b>	PLANIT JOB No.: <b>J170</b>	DRAWING No.: <b>0008</b>	REV: <b>C</b>
DRAWING TITLE: <b>RAMPS SECTIONS</b>				

100mm AT ORIGINAL SIZE



PROPOSED CENTERLINE RUSKIN LANE UPGRADE  
LONG SECTION  
SCALE 1:100

PRELIMINARY ISSUE  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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

PLANIT

CLIENT:  
JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW

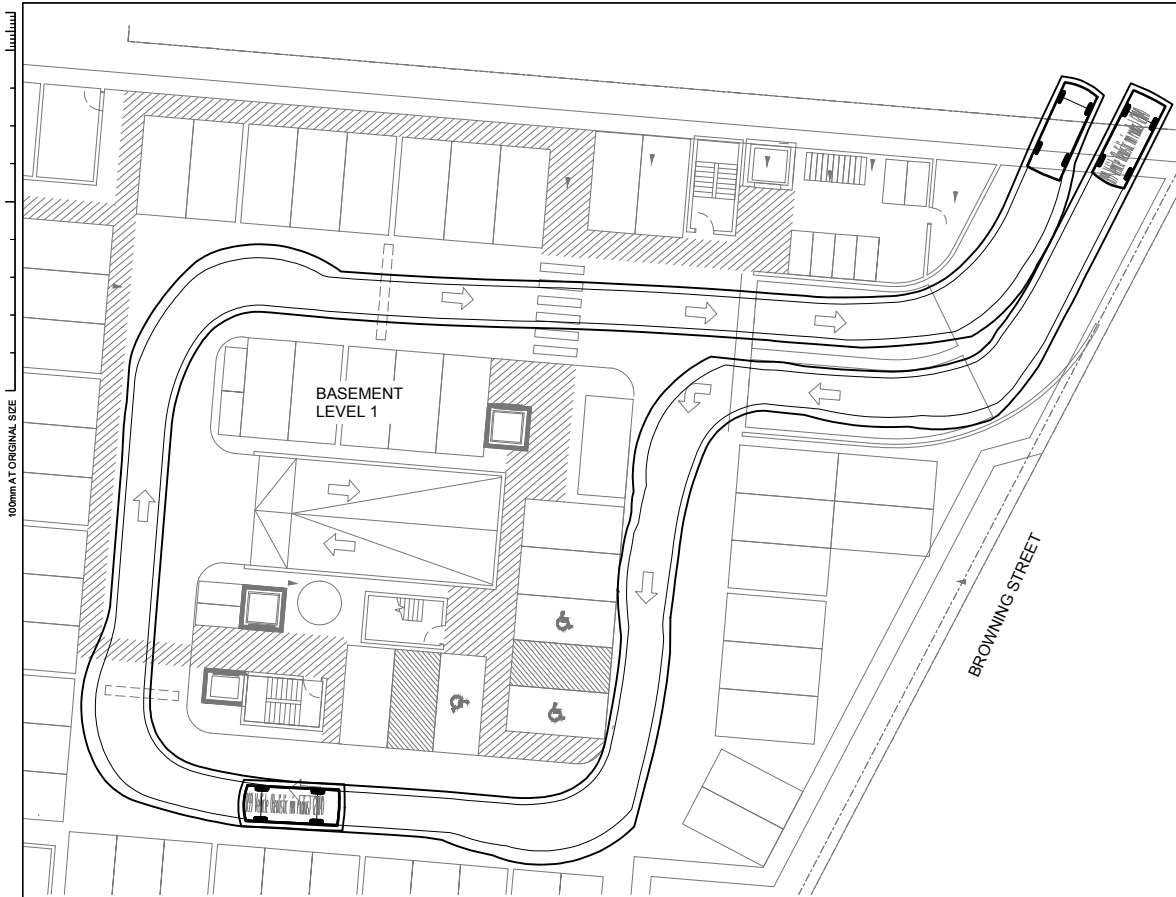
LOCAL GOVERNMENT AUTHORITY:  
BYRON SHIRE COUNCIL

PROJECT:  
137-139 JONSON ST, 3 BROWNING ST

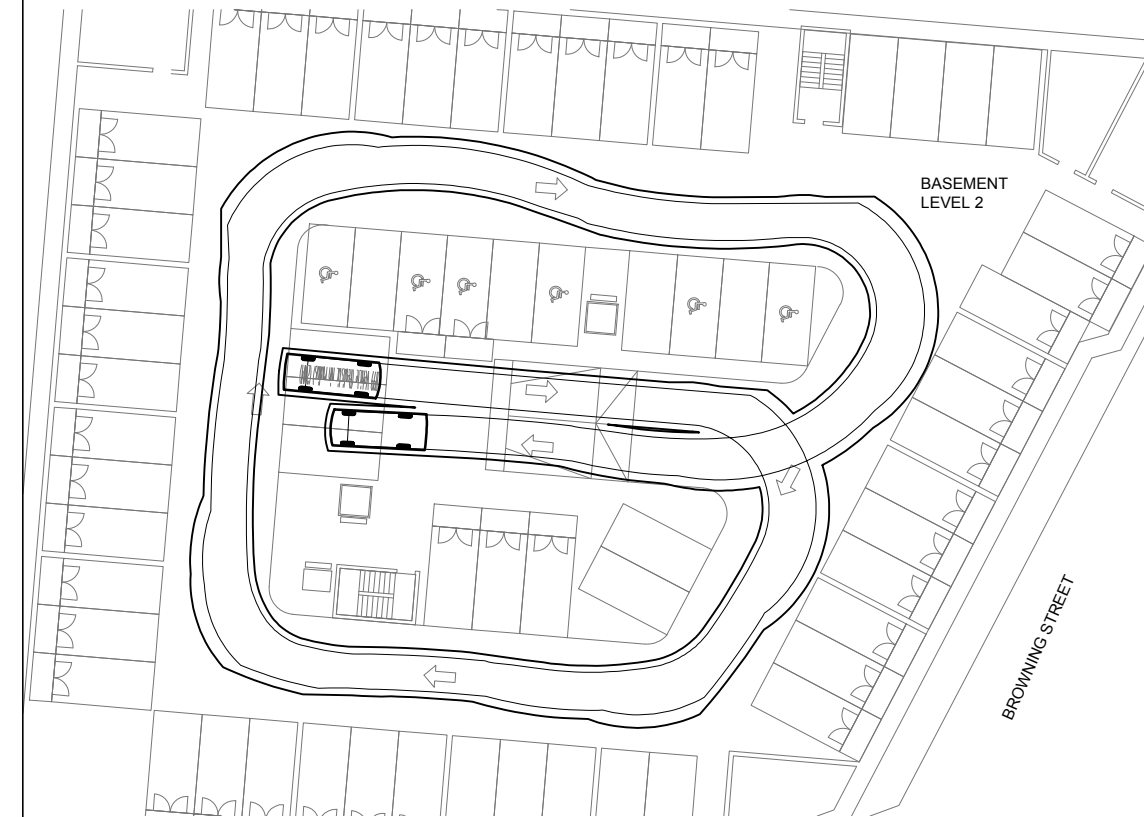
DRAWING TITLE:  
RUSKIN LANE UPGRADE LONG SECTION

ORIGINAL SIZE: A1	PLANIT JOB No.: J170	DRAWING No.: 0009	REV: C
----------------------	-------------------------	----------------------	-----------

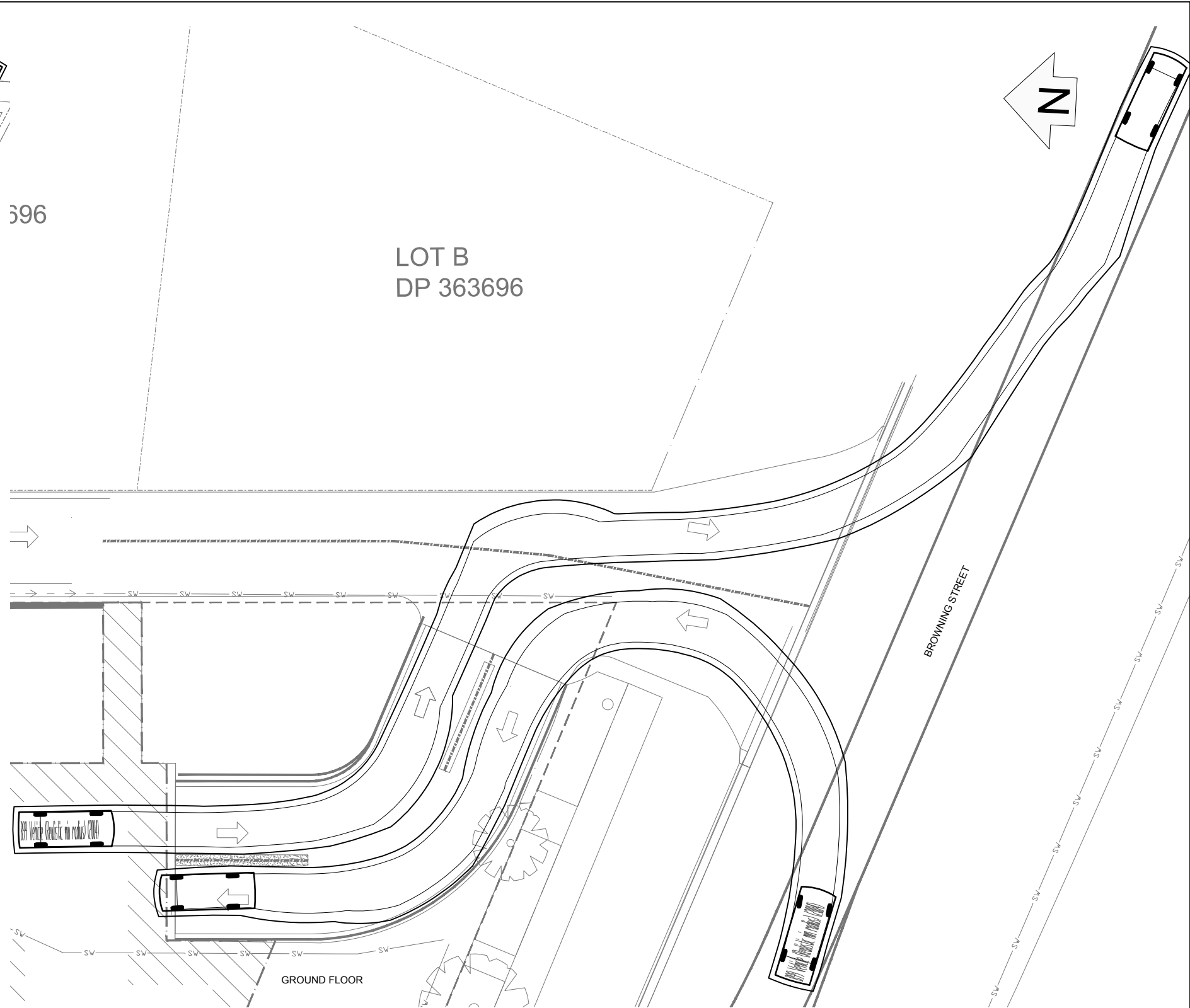
100mm AT ORIGINAL SIZE



BASEMENT LEVEL 1 (UPPER)  
TURNING MOVEMENT PLAN  
NOT TO SCALE



BASEMENT LEVEL 2 (LOWER)  
TURNING MOVEMENT PLAN  
NOT TO SCALE



RAMP ENTRANCE TURNING  
MOVEMENT PLAN  
NOT TO SCALE

NOTE

- TURNING PATHS SHOWN FOR A B99 (AS 2890.1) VEHICLE.
- DEFAULT SPEED OF 5Km/hr AND A FRICTION FACTOR OF 0.4.
- TURNING PATHS GENERATED USING AUTOPATH IN ACCORDANCE WITH B3.1(b)(i) OF AS 2890.1 WITH A MANOEUVERING CLEARANCE OF 300mm EITHER SIDE.
- SOFTWARE: AUTODESK VEHICLE TRACKING 2018.

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	RESPONSE TO COUNCIL RFI	31/01/18	GF	GF	SM	SM
D	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	MP	SM
E	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
APPROVED BY:  
  
DATE:  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

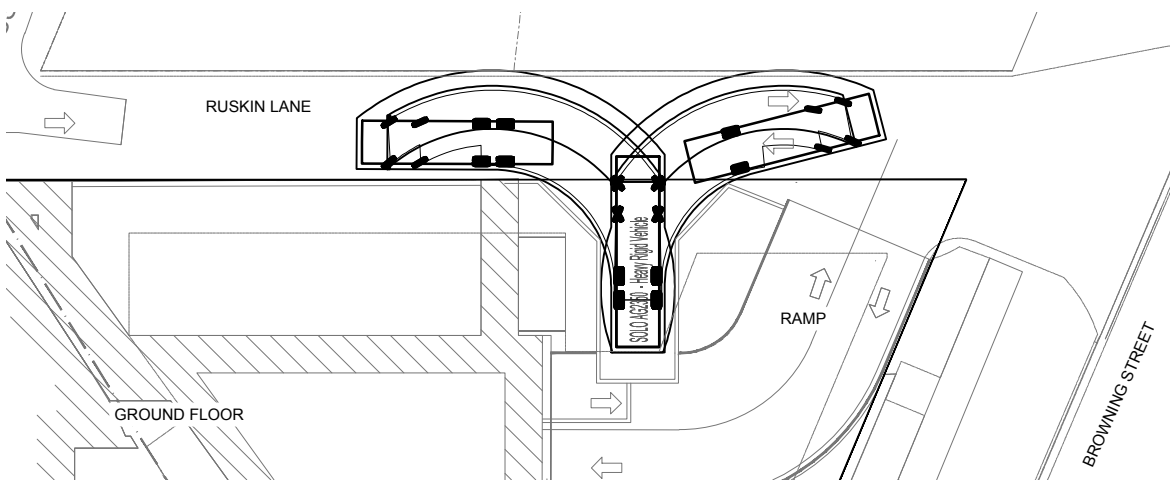
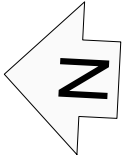
PLANIT CONSULTING  
SUITE 9A, 80-84 BALLINA STREET  
PO BOX 161  
LENNOX HEAD NSW 2478  
  
TELEPHONE: 02 6687 4666  
ABN: 20 099 261 711  
EMAIL: administration@planitconsulting.com.au  


CLIENT:  
JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW  
  
LOCAL GOVERNMENT AUTHORITY:  
BYRON SHIRE COUNCIL

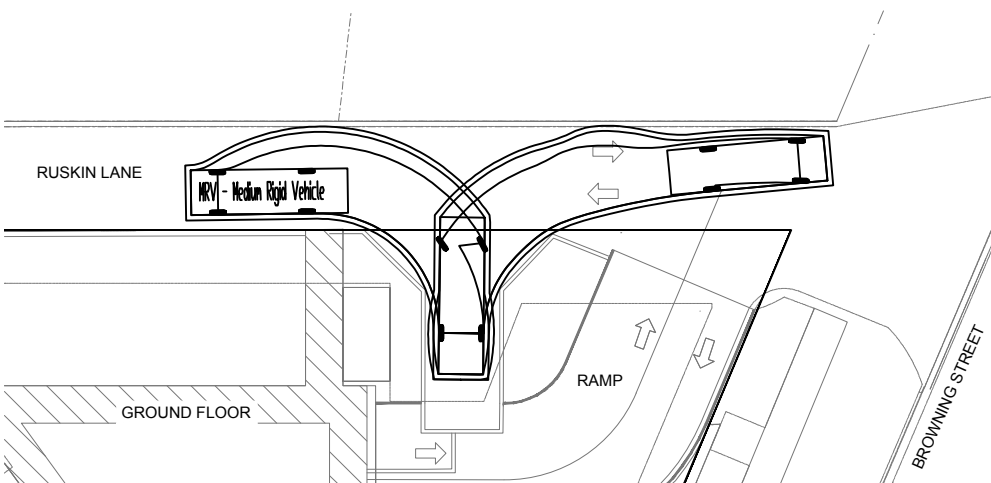
PROJECT:	137-139 JONSON ST, 3 BROWNING ST
DRAWING TITLE:	VEHICLE SWEEP PATHS - LIGHT VEHICLES
ORIGINAL SIZE:	A1
PLANIT JOB No.:	J170
DRAWING No.:	0010
REV:	E

NOTE

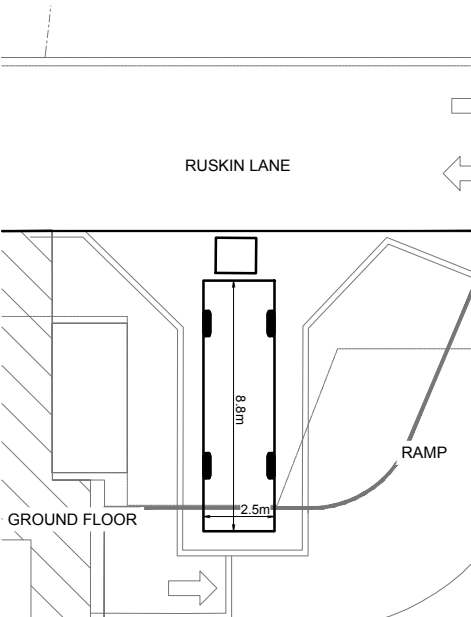
- TURNING PATHS SHOWN FOR A STANDARD MRV (AS 2890.2), AND CUSTOM HRV REFUSE TRUCK IVECO ACCO AG2350 8X4 COMPACTOR VEHICLES.
- DEFAULT SPEED OF 5km/hr AND A FRICTION FACTOR OF 0.4. TURNING PATHS GENERATED USING AUTOPATH IN ACCORDANCE WITH B3.1(b)(i) OF AS 2890.2 WITH A MANOEUVERING CLEARANCE OF 300mm EITHER SIDE.
- SOFTWARE: AUTODESK VEHICLE TRACKING 2018.



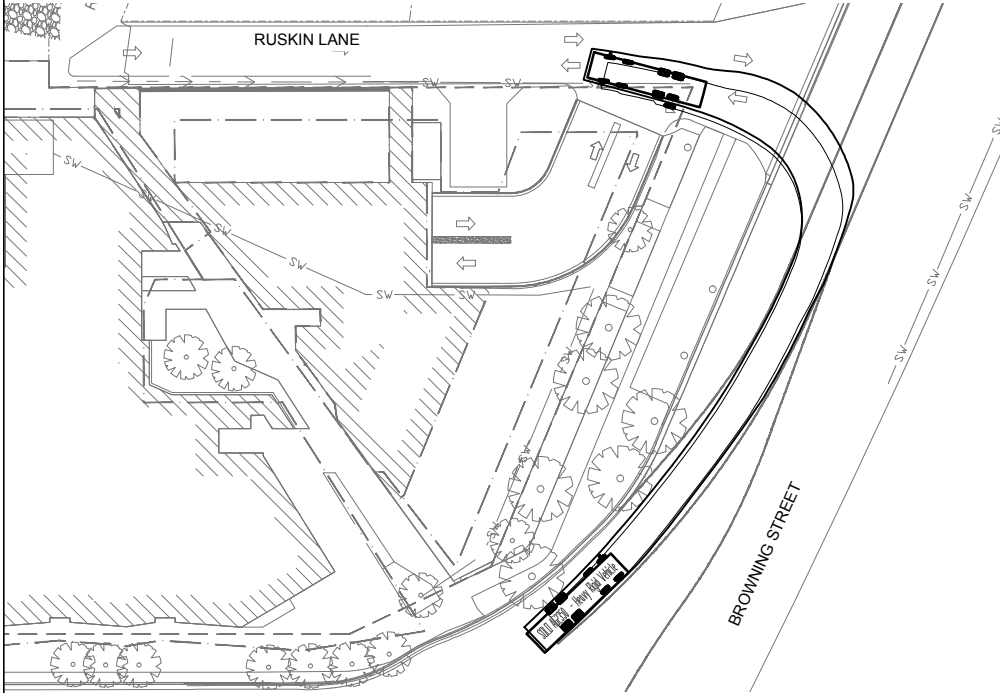
SOLO WASTE CUSTOMISED HRV IVECO ACCO 8x4 AG2350  
REVERSE IN  
LOADING BAY TURNING MOVEMENT PLAN  
NOT TO SCALE



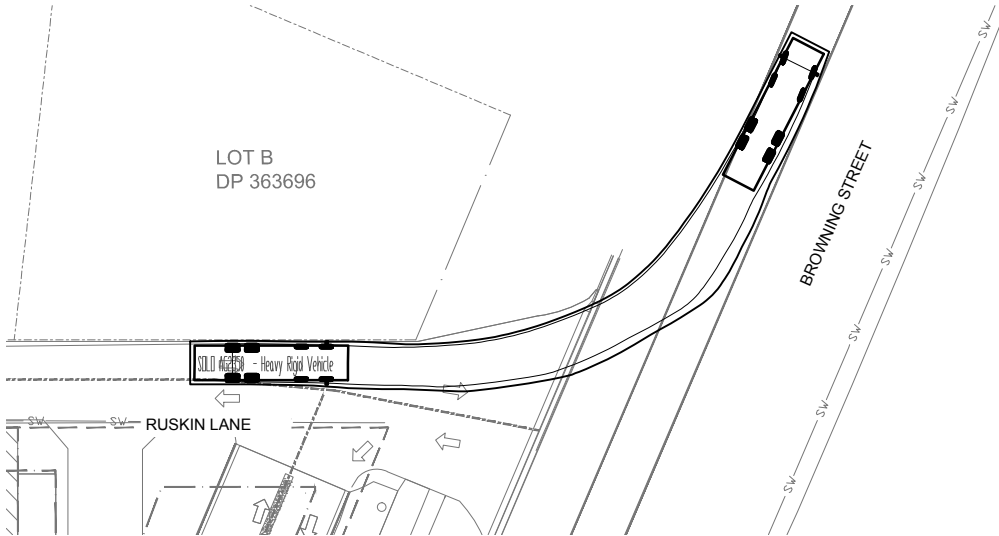
STANDARD MRV - REVERSE IN  
LOADING BAY TURNING MOVEMENT PLAN  
NOT TO SCALE



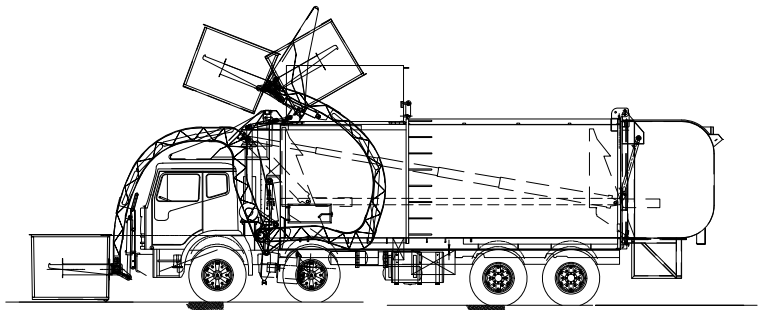
STANDARD MRV AND 1,100 LITRE  
"SKIP" BIN (1.24m x 1.07m)  
FRONT LOADING  
LAYOUT PLAN  
NOT TO SCALE



SOLO WASTE CUSTOMISED HRV IVECO ACCO 8x4 AG2350  
RUSKIN LANE/BROWNING STREET INTERSECTION - ENTERING  
TURNING MOVEMENT PLAN  
NOT TO SCALE



SOLO WASTE CUSTOMISED HRV IVECO ACCO 8x4 AG2350  
RUSKIN LANE/BROWNING STREET INTERSECTION - EXITING  
TURNING MOVEMENT PLAN  
NOT TO SCALE



SOLO WASTE HRV CUSTOMISED IVECO ACCO 8x4 AG2350  
MANUFACTURER SPECIFICATION (23801mm TURNING CIRCLE)  
NOT TO SCALE

PRELIMINARY ISSUE  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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



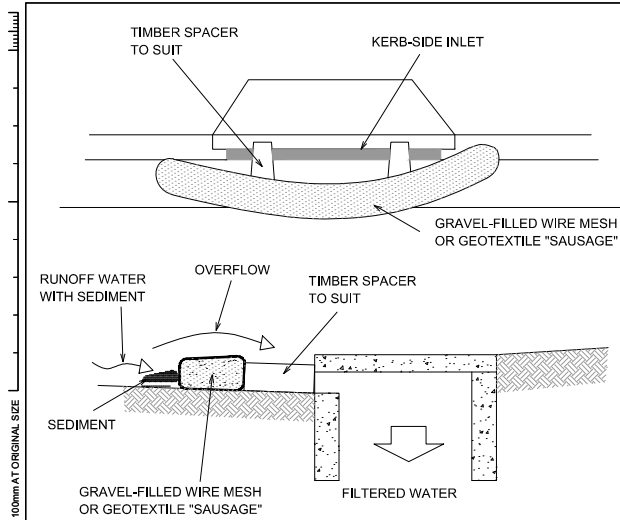
CLIENT:  
JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
BYRON SHIRE COUNCIL

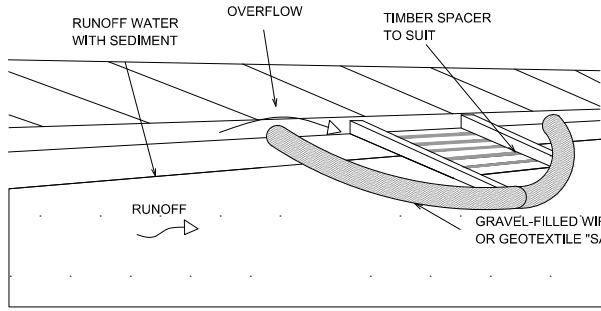
PROJECT:  
137-139 JONSON ST, 3 BROWNING ST  
DRAWING TITLE:  
VEHICLE SWEEP PATHS - HEAVY VEHICLES

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J170	0011	A

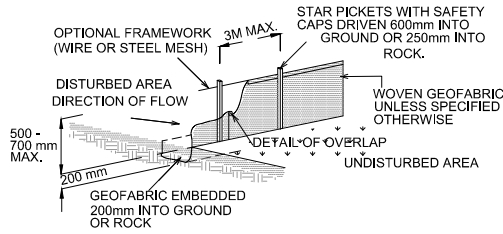




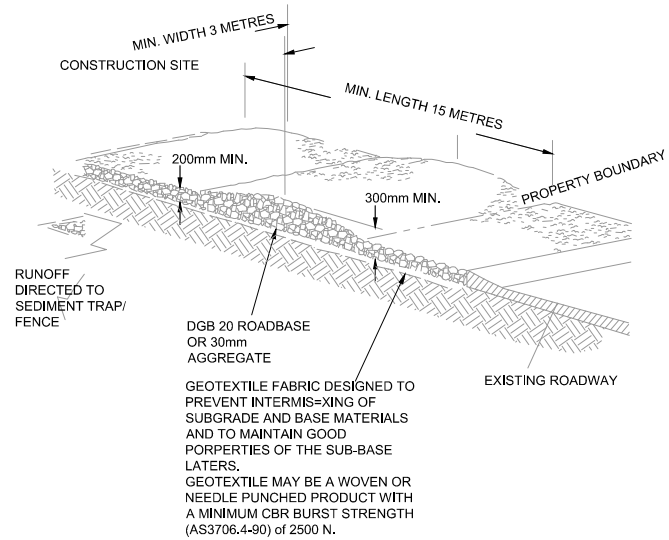
**FILTER BAG TO SAG SIDE ENTRY PIT**  
NOT TO SCALE



**FILTER BAG TO DROP INLET PIT**  
NOT TO SCALE



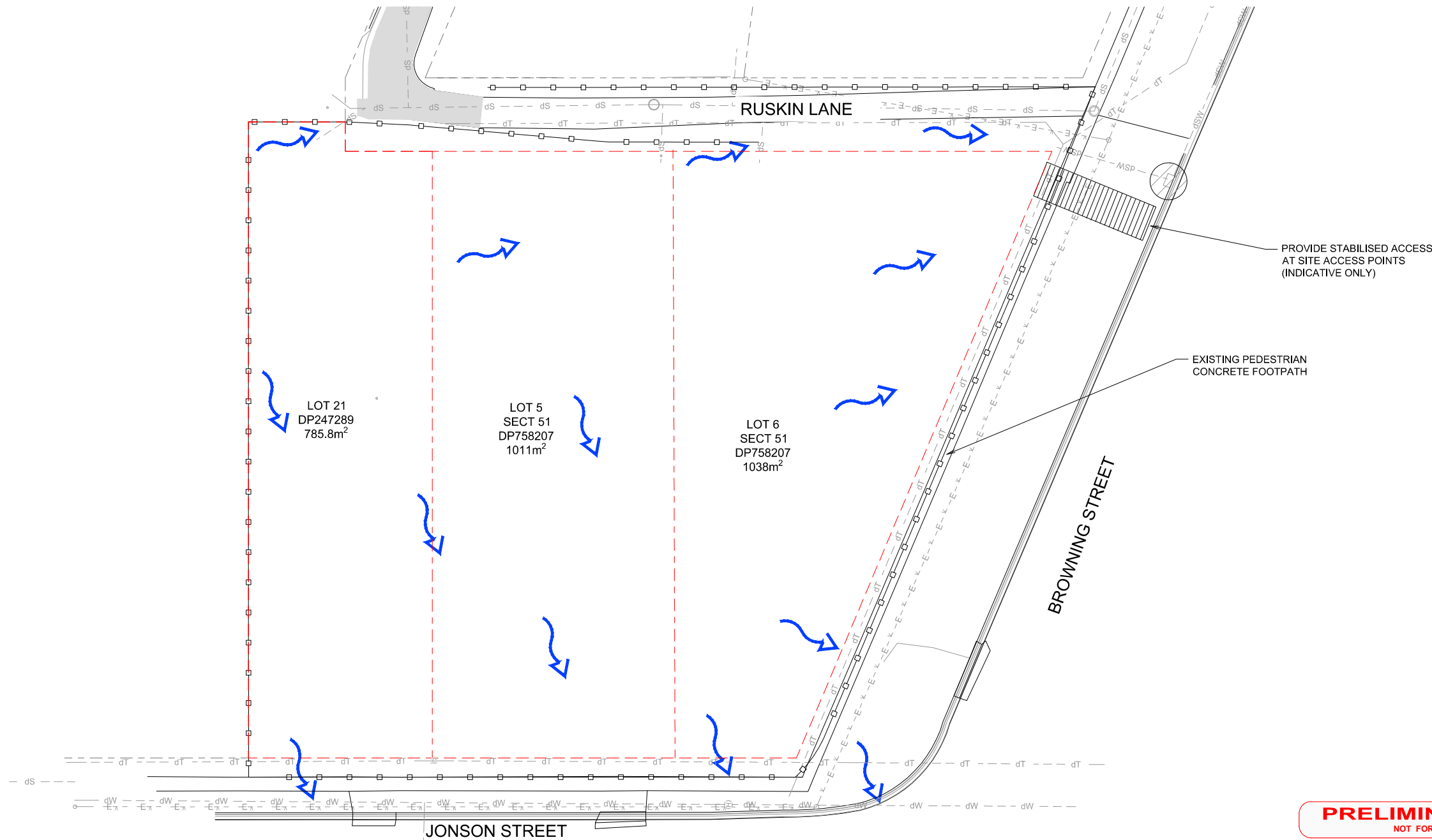
**SEDIMENT FENCE**  
NOT TO SCALE



**STABILISED SITE ACCESS**  
NOT TO SCALE

## CONSTRUCTION NOTES:

1. STRIP TOPSOIL AND LEVEL SITE;
2. COMPACT SUBGRADE;
3. COVER ARE WITH NEEDLE PUNCHED GEOTEXTILE ;
4. CONSTRUCT A 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES;
5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OT OTHER SEDIMENT TRAP;
6. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT;
7. FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL;
8. FROM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE;
9. 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;
10. MAINTAIN THE OPENING WITH SPACER BLOCKS;
11. FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER;
12. FIT TO ALL KERB INLETS AND FIELD INLET PITS AT SAG POINTS.



## WARNING

### BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND SURFACE FEATURES BASED ON THE SURVEY. UNDERGROUND SERVICES ARE BASED ON A COMBINATION OF DBYD INFORMATION, AERIAL MAPPING, AND COUNCIL GIS INFORMATION AND ARE INDICATIVE ONLY.

A DETAILED SURVEY SHOULD BE COMPLETED PRIOR TO COMMENCEMENT OF DETAILED DESIGN

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

### 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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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



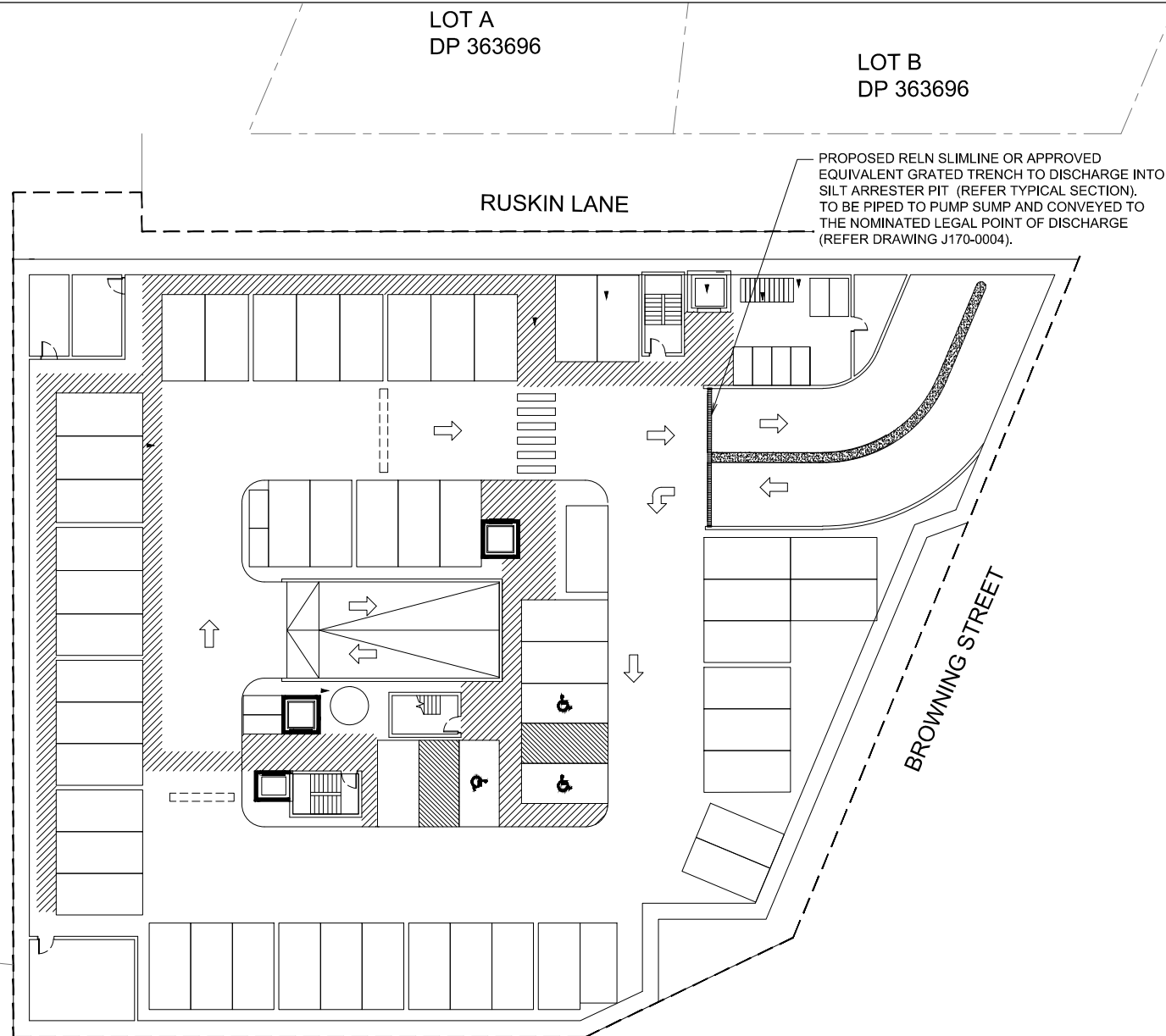
CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT:  
**137-139 JONSON ST, 3 BROWNING ST**  
DRAWING TITLE:  
**EROSION AND SEDIMENT CONTROL PLAN**

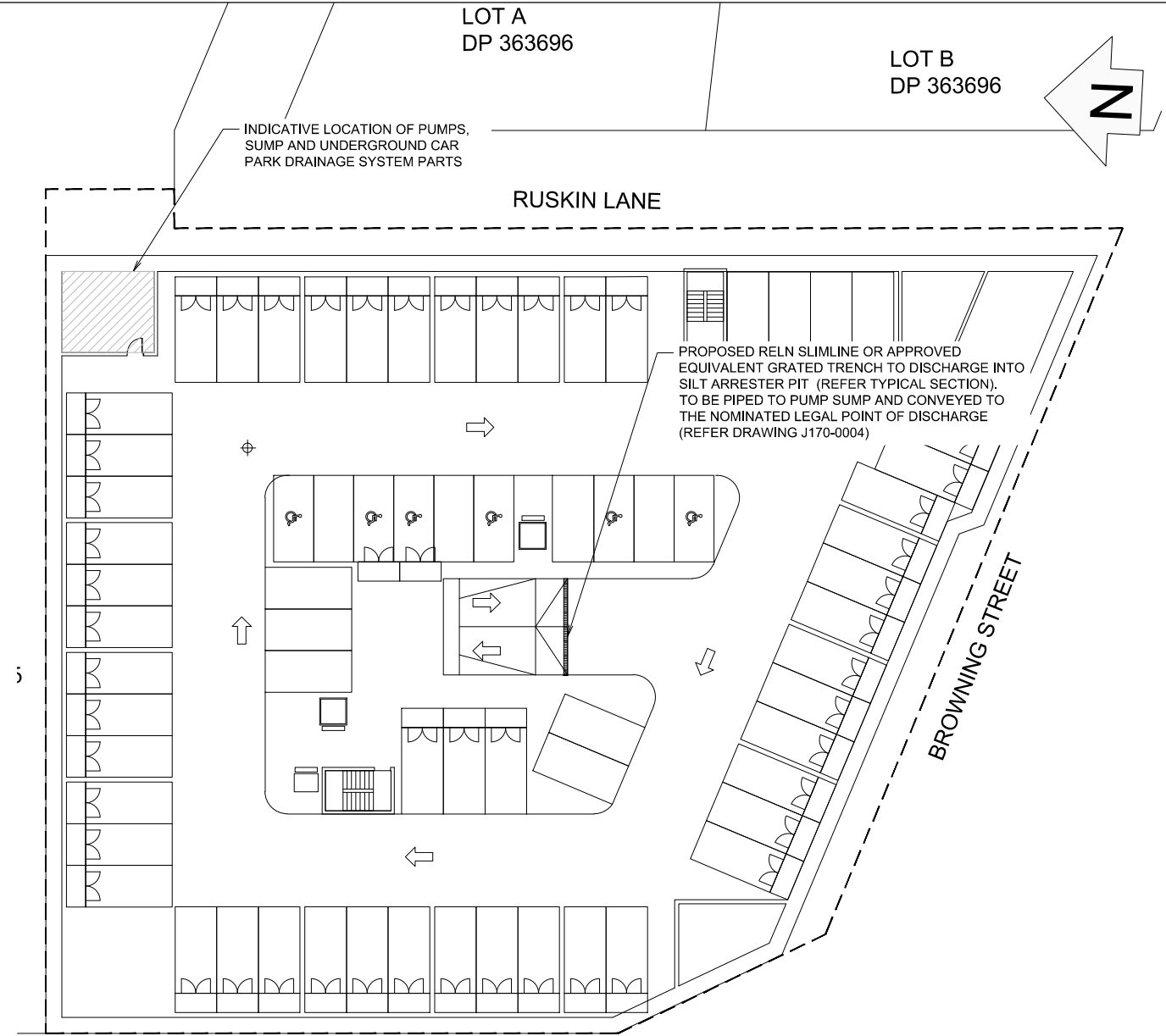
ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J170	0012	C

100mm AT ORIGINAL SIZE



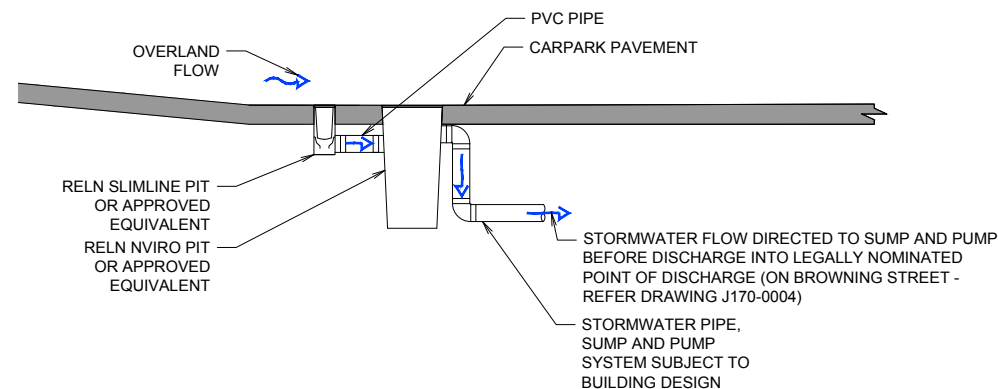
JONSON STREET

**UNDERGROUND BASEMENT  
CAR PARK 1 (UPPER)  
DRAINAGE LAYOUT PLAN**  
SCALE 1:200



JONSON STREET

**UNDERGROUND BASEMENT  
CAR PARK 2 (LOWER)  
DRAINAGE LAYOUT PLAN**  
SCALE 1:200



**STORMWATER GRATED TRENCH  
RAMP TO BASEMENT SILT ARRESTER PIT**  
**TYPICAL SECTION**  
NTS

## WARNING

### BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE BY THE CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES BASED ON CANTY'S DETAILED SURVEY DATED 29/09/2016. UNDERGROUND SERVICES ARE TAKEN FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE ONLY.

## NOTES:

1. SIZE AND LOCATIONS OF SYSTEM COMPONENTS ARE INDICATIVE ONLY AND SHALL BE SUBJECT TO DETAILED DESIGN BY QUALIFIED MECHANICAL ENGINEER;
2. ISOLATION BAY LOCATIONS AND REQUIREMENTS, IF ANY, TO BE CONFIRMED DURING CC DESIGN STAGE.

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	SM	SM
B	UPDATED DEVELOPMENT APPLICATION	07/08/18	GF	GF	MP	SM

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

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW  
LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT: <b>137-139 JONSON ST, 3 BROWNING ST</b>	ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
DRAWING TITLE: <b>BASEMENT CAR PARKS DRAINAGE SYSTEM LAYOUT PLAN</b>	<b>A1</b>	<b>J170</b>	<b>0013</b>	<b>B</b>



## APPENDIX B | DIAL BEFORE YOU DIG RESULTS



## CABLE/PIPE LOCATION

**Assets were found in the search area**

<b>COMPANY NAME:</b>	Planit Engineering
<b>ATTENTION:</b>	Mr Nicholas Sirach
<b>EMAIL:</b>	NickS@planitengineering.com.au
<b>SEARCH LOCATION:</b>	137 Jonson Street Byron Bay NSW 2481
<b>SEQUENCE NO:</b>	60532458
<b>DATE:</b>	Thursday, 20 April 2017

**Provision of Plans:**

Please find enclosed plans depicting approximate locations of **Essential Energy** assets in the search location. **The excavator must not assume that there may not be assets owned by other network operators in the search location.**

Underground assets searched for	Underground assets found
Essential Energy Electrical	<input checked="" type="checkbox"/>
Essential Energy Water & Sewerage	<input type="checkbox"/>

Plans are updated from time to time to record changes to underground assets and may be updated by Essential Energy without notice. In the event that excavation does not commence within 28 days of receipt of a plan, a new plan should be obtained.

The excavator must retain the plans on site for the duration of the works.

The excavator shall report all damage made to Essential Energy assets immediately. Note that damage includes gouges, dents, holes and gas escapes.

**IN CASE OF EMERGENCY OR TO REPORT DAMAGE:  
PHONE 13 20 80**

### DISCLAIMER

Please be aware that plans may **not** reflect alterations to surface levels or the position of roads, buildings, fences etc. **Cable and pipe locations are approximate** and the plans are **not** suitable for scaling purposes. *Essential Energy does not retain plans for privately-owned underground electrical or water & sewerage assets located on private property. Privately-owned underground electrical assets located on private property are the responsibility of the owner.*

The plans have been prepared for Essential Energy's sole use and benefit. **Essential Energy cannot and does not warrant the accuracy or completeness of the plans.** Essential Energy supplies them at no cost with the object of reducing the serious risk of unintentional damage being caused to its cables and pipes. **Essential Energy does not accept any responsibility for any omissions, inaccuracies or errors in the plans, or any reliance place on the material. Any reliance placed on any plan provided in response to your request is at your own risk.**



Essential Energy retains all intellectual and industrial property rights which exists or may exist in or with respect to the plan(s). The material provided is not to be copied or distributed beyond you.

You release Essential Energy from and against all claims, demands, actions and proceedings arising out of or in any way related to the use of the provided material.

#### **Location of Assets on Site:**

The plans indicate only that cables and pipes may exist in the general vicinity – they do not pinpoint the exact location of the cables and pipes.

If it is found that the location of cables or pipes on the plans can be improved, please notify Essential Energy on 13 23 91 (or fax 1800 354 636).

All individuals have a duty of care they must observe when working in the vicinity of underground cables and pipes. It is the **excavator's responsibility to visually expose the underground cables and pipes manually, ie. by using hand-held tools and non-destructive pot-holing techniques prior to any mechanical excavation**. The excavator will be held responsible for all damage caused to the Essential Energy network or cables and pipes, and for the costs associated with the repair of any such damage. The excavator will also be held responsible for all damage caused to any persons.

When digging in the vicinity of underground assets, persons should observe the requirements of the applicable Codes of Practice published by the NSW Work Cover Authority or Safe Work Australia, and any amendments from time to time by the Authorities, including although not limited to:

- Excavation Work
- Managing Electrical Risks in the workplace
- How to manage and control asbestos in the workplace

(Please refer to <https://www.workcover.nsw.gov.au/law-and-policy/legislation-and-codes/codes-of-practice>).

When digging in the vicinity of **electrical assets** persons should observe the requirements of the **Electricity Supply Act 1995**.

Persons excavating near live underground electrical reticulation and/or earthing cables **must exercise extreme caution at all times and adhere to the requirements of Essential Energy's Electrical Safety Rules**. (These are available on our website: <http://www.essentialenergy.com.au/content/safety-community> and include

- **Work near Essential Energy's Underground Assets:**  
<http://www.essentialenergy.com.au/asset/cms/pdf/contestableWorks/CEOP8041.pdf> , and
- **Asbestos Fact Sheet:**  
<http://www.essentialenergy.com.au/asset/cms/pdf/safety/AsbestosFactSheet.pdf>

In some situations these procedures call for work to be performed by authorised staff.

Should there be any doubt as to the exact location of any underground electrical assets, and the potential for conflict with live underground cables caused by excavation at your work site, you should contact

**13 23 91** to arrange for an on-site visit by an Essential Energy representative. No construction or mechanical excavation work is to commence prior to this on-site visit and approval being obtained.

When digging in the vicinity of **water or sewer assets** persons should observe the requirements of the **Water Management Act 2000**.

Should there be any doubt as to the exact location of any underground water and sewer assets, and the potential for conflict with underground water and sewer pipes caused by excavation at your work site, you should contact **13 23 91** to arrange for an on-site visit. No construction or excavation work is to commence prior to this on-site visit and approval being obtained.

#### **Prior Notification:**

Please note that for excavation depths greater than 250mm near power poles and stays you should allow for **advance notice** in your construction program to permit Essential Energy time to allocate the necessary field resources to carry out the inspection at the site a **minimum of fourteen (14) working days prior to work commencing**. This service may incur a fee and this can be negotiated with the local Area Coordinator at the time of making the appointment. Failure to give reasonable notice to the local Area Coordinator may result in disruption to Essential Energy's planned works program in the district and could incur an extra charge over and above the normal rate for this service.

**For further information please call 13 23 91.**



## When working near underground electrical infrastructure

NSW legislation requires people who are planning to do excavation work to obtain copies of underground electricity cable plans through Dial Before you Dig (Phone 1100) and to make sure that the plans are no more than 30 days old when excavation commences.

The aim of the legislation is to ensure that when workers dig or drive items near underground electricity cables, ducting, and pipes, they will establish the exact location of the cables and thus avoid coming into contact with them or damaging them. These items carry vital services such as electricity, water, gas and communications, and establishing their location before digging will help ensure worker safety and prevent damage to the network which may cause disruption of essential services to local communities.

### Excavate safely and protect underground assets

Dial Before You Dig (DBYD) is the first step to excavating safely. You should use DBYD when you will be undertaking (but not restricted to) the following:

- > Any excavation using machinery digging deeper than 150mm. This includes but is not restricted to back hoes, excavators, borers & kangaroo hammers (ploughing or ripping activities)
- > Any excavation using hand tools deeper than 300mm which includes shovels, spades and crow bars
- > Any vertical or horizontal boring.

**Note:** The above examples are general and may not cover all situations in the regulations where a DBYD would be required e.g. driving metal posts in the ground.

Regardless of the size of your project you should lodge an enquiry with DBYD before commencing work. This applies to small tasks like backyard landscaping, driving items into the ground as well as heavy work such as directional boring or directional drilling. DBYD strive to respond to enquiries within two business days.

#### Dial Before You Dig

- > Phone 1100
- > Web [www.1100.com.au](http://www.1100.com.au)
- > Download the DBYD iPhone app



The Essential First Step

When a DBYD has been obtained, contact Essential Energy on **13 23 91** to identify any underground pipes and/or cables in the vicinity of excavation works to be carried out. Allow at least **two weeks or 10 working days advance notice** in your construction program to permit Essential Energy time to allocate the necessary field resources to carry out an onsite inspection if required. This service may incur a fee & should be stated at the time of making the appointment.

In the event the excavation does not commence within 28 days of receipt of a plan, a new plan should be obtained. The excavator **must** retain the plans on site for the duration of the excavation works.

### Your responsibility

All individuals have a duty of care they must observe when working in the vicinity of underground cables, ducts and pipes. Be aware of the requirement set out in the latest WorkCover Codes of Practice 'Work near Underground Assets Guideline' and 'Work near Overhead Powerlines' which can be viewed at [www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au) or you can purchase a copy of the Code of Practice by contacting WorkCover on 1300 799 003.

You should also be familiar with Essential Energy's operational procedures 'Work near Essential Energy's underground assets' CEOP8041 and 'Construction work near electricity network' CEOP1116, which can be found at [essentialenergy.com.au/construction](http://essentialenergy.com.au/construction)

- > **Employers:** If you're an employer or employing someone to excavate, complete construction or drive items into the ground even at home you have a legal obligation to ensure their safety
- > **Excavators:** It is the excavator's responsibility to visually expose the underground pipes and cables manually before any construction begins.

**Note** – when excavating involving high pressure water or compressed air to break up the ground, which is then removed by a powerful vacuum unit to expose critical utilities after they have been electronically located to confirm identity, size, number of services and depth, checks should be carried out to ensure the pressure is acceptable for all cables and other assets which may be found prior to commencing pot holing by this method. Warning: CONSAC cables shouldn't be potholed by this method and must be de-energised before any work carried out near them. It's recommended to only use air/vacuum equipment to pot hole that operates at or less than 13,790Kpa (2000psi).

*Be safe, because they need you*



## No Go Zone for powered excavation

Extract from WorkCover "Work near Underground Assets"

**TABLE 1:** Types of assets and limits of underground approach

Assets	Clearances	No Go Zone for Powered Excavation	Controls	Typical Depths
Low voltage electricity cables – voltages less than or equal to 1000V (1kV)	Close proximity with the use of hand tools	300 mm	Must contact asset owner for specific conditions	450 – 750 mm
Electricity conductors from 11,000V (11kV) up to 33,000V (33 kV)	Close proximity with the use of hand tools	600 mm	Must contact asset owner for specific conditions	900 mm
Underground sub-transmission cables 33,000V up to 132,000V (132 kV)	Must contact asset owner	Must contact asset owner	Must be carried out under the supervision of the asset owner	900 mm
High Voltage Electricity cables – voltages from 1000V (1kV) up to (33 kV)	Close proximity with the use of hand tools	Must contact asset owner	Must contact asset owner for specific conditions	600 – 1000 mm
Extra High Voltage Electricity Transmission cables – voltages above (132 kV) and 330,000V (330 kV)	Must contact asset owner	Must contact asset owner	Work must be carried out under the supervision of the asset owner	800 – 1200 mm

### How to expose cables or pipes

Location plans provide an indication of the presence of underground assets only; they do not pinpoint the exact location. This is why manual exposure is required, which can be done by potholing. Underground assets must first be exposed by pot-holing with non-conductive tools to identify their location. Excavation with hand tools shall be carried out carefully up to, but not closer than, the minimum distances specified in Table 1. Several potholes may need to be dug manually to determine and satisfy yourself of the exact locations of cables or pipes to avoid any mishaps. Manual pot-holing needs to be undertaken with extreme care, common sense and while employing techniques least likely to damage cables. For example, orientate shovel blades and trowels parallel to the cable rather than digging across the cable. Look out for sand, plastic strips or specially marked bricks when excavating, which signal the presence of underground cables.

Only once all underground assets have been located, marked and protected against damage can the excavation proceed with caution.

### No Go Zone for powered excavation

Directional boring is powered excavation and contact with the asset owner must be made before excavation takes place. For directional boring across the line of an asset a minimum clearance of **300 mm** from the asset shall be maintained. When boring across the line of an underground asset, the location of the asset/s shall be positively proven by hand digging (pot-holing) or by another approved method and a safety observer appointed.

Note: Where the risk assessment identifies a potential risk of making contact with either underground assets, safety observer/s would be required. The safety observer's

responsibility is to ensure that approach distances from underground and overhead assets are maintained.

For boring under electricity cables, the only true way of knowing where the directional drill is, is to "see" it. It is necessary to excavate a slit trench at right angles to the approaching drill and 500mm deeper than the asset being protected and beside the cables to confirm the depth of the cables and ensure the drill is not within the minimum approach distance of the cable (specified in Table 1).

For directional boring parallel to the asset and at the level of the asset, a clearance of **500 mm** shall be maintained from the edge of the nearest asset and pot holed at 10m intervals to ensure clearances are maintained with a safety observer appointed.

### The four Ps of safe excavation

- Plan** – Plan your job. Use the Dial Before You Dig service before your job is due to begin to help keep your project safe. Contact Essential Energy on 13 23 91 to identify any underground pipes and/or cables in the vicinity
- Pothole** – Potholing (digging by hand) is a method to assist in establishing the exact location of all underground infrastructure. Only use air/vacuum equipment to pot hole that operates at or less than 13,790Kpa (2000psi)
- Protect** - **Protecting and supporting exposed infrastructure is the excavator's responsibility.** Always erect safety barriers in areas at risk to protect underground networks
- Proceed** – But **ONLY** when you have planned, potholed and put the protective measures in place.

*Be safe, because they need you*





## Digging safely

You cannot be too careful when it comes to safe excavation. Avoiding underground ducting pipe and cable damage is as simple as having the right tools, the right skills and the right information.

- > Study the plans you receive from asset owners thoroughly
- > Check to see if they relate to the area you requested and make sure you understand them. If you are unclear about what the symbols mean or how to proceed, contact the relevant network owner
- > Check the work area for other forms of electrical equipment, including street lights, ground substations, phone boxes or traffic lights – all good indicators that underground cables will be present
- > Remember underground cables can also be present even if overhead powerlines have been identified
- > Never assume the depth or alignment of pipes and cables. Installed networks assets may not have been installed in a straight line
- > Always observe any instructions stated on the plans provided by the asset owner
- > Remember, plans and maps identifying the location of underground cables and depths can alter after road upgrades or developments and underground assets may be as little as a few millimetres below the surface
- > Other service lines (for example gas mains (pipes) and communication cables) can also be present. Shared trenches are frequently used on underground runs to premises
- > New electrical cables are sometimes laid using existing old conduits
- > Various methods of protecting underground cables may be utilised (for example electrical bricks, conduits, concrete or flat PVC barriers) or may be direct buried or installed by under-boring methods which may have no visual disturbance of the ground
- > Ensure overhead & electrical structures aren't undermined during excavation.

## Earth cables

Earth cables are an important part of all electrical installations and have two main purposes:

- > To safeguard against the possibility of danger to life
- > To maintain the good working order of the electrical network.

They can have potentially dangerous electrical current flowing through them. Usually they have a green and yellow covering but could be a bare cable buried directly in the ground.

Even if the map provided does not show underground cables, earth cables may be present. These earth cables are usually associated with electrical equipment located

on the pole such as transformers, switching equipment, permanent earthing points or Padmount / kiosk subs.

It's recommended that if any excavation is to take place within **10m** of a power pole with a cable running down it into the ground, contact is made with Essential Energy on **13 23 91** to have the earthing system located. While an effort is made to install the earthing under the powerline and guy if installed, sometimes circumstances may require a variation to this, so don't assume where they are installed. The distance and configuration that the earthing cable is installed varies due to the soil conditions and system type (e.g. Single wire earth return (SWER)).

Additional earthing electrodes stakes may be installed to ensure the required earthing reading is obtained.

### WARNING:SWER installations

- > Contacting SWER earthing can be deadly
- > Voltage is present on SWER transformer earthing systems either at 12.7 kV or 19.1kV
- > NO excavation is allowed within 10 metres of a SWER transformer pole.

## Excavating around electrical poles

Anyone intending to excavate around any electrical item risks serious injury or death as a result of contact with underground cables or the earthing system.

## Assets around poles

For excavation depths greater than 250mm near power poles and stays you must arrange for an Essential Energy representative to attend the worksite 2 weeks prior to work commencing. Call Essential Energy on **13 23 91**. More information is available in Essential Energy's operational procedure, 'Work near Essential Energy's underground assets: CEOP8041' which can be found at [essentialenergy.com.au/construction](http://essentialenergy.com.au/construction)

Unless otherwise agreed, underground assets and other obstructions around poles are to be kept a minimum distance of 300mm from the periphery of the pole, to allow inspections by the asset owner employees.

No excavation within 10 metres of a SWER transformer pole is to occur without the approval of the local electricity asset owner. It should be noted that the NSW Service and Installation Rules require a sketch of the underground service/consumers mains to be marked inside the switchboard.

The risks are higher for those earthing systems of the SWER constructions as the earthing is utilised as the return path.

*Be safe, because they need you*



Typically any electrical item installed on a pole will have an earth wire running down the pole into the ground, which includes:

- > Transformers in urban and rural situations
- > Isolation, protection and regulation items.

Transformers located on the ground (padmount and kiosk), besides having underground electrical cables, will have an earthing system installed around them.

### Damaged earthing

If an earth cable has been damaged, maintain a clearance of eight (8) meters and contact Essential Energy on **13 23 91**. **DONT ATTEMPT** to re-join the cable - this will place you at serious risk.

### Operating near underground cables and earths

- > Underground cables should never be moved or relocated unless under the express authority of the organisation or person responsible for the powerlines
- > The excavator shall report all damage made to Essential Energy assets immediately. Damage includes: gouges, dents, holes and gas escapes
- > Never undermine poles, cables, earthing cable, pad-mount and kiosk substations.



Above: Poles with become unstable if undermined

### Make sure it can't go wrong

You should ensure that people at work, their equipment (tools and plant) or materials do not come within close proximity to underground powerlines unless:

- > A written risk assessment has been completed and a safe system of work implemented
- > The relevant safety precautions and worker training requirements, including WorkCover Codes of Practice and Essential Energy's requirements, have been implemented and complied with.

If working in close proximity to underground cables is unavoidable and the risk assessment has been completed, the following should be considered to control the risks and ensure work safety:

- > Have the power switched off by Essential Energy
- > Consider all conductors as live unless it is positively known they have been de-energised
- > Where appropriate, provide ground markings to identify location and warn workers of the presence of underground power and other assets.

### Emergency situations

In the event that contact with an underground powerline occurs or cables are exposed or damaged, remembering the following points could help save a life:

- > If the situation is at all life threatening, immediately contact the Emergency Services on 000 (triple zero)
- > Call Essential Energy's 24-hour supply interruptions line – **13 20 80** to switch off the power if required or report damage or exposure cables / conduits
- > If any other underground assets are damaged you should contact the affected asset owners immediately
- > Treat underground cables as alive, even if they appear to be dead
- > Keep everyone at least eight metres away from the incident site, the person or any machinery making contact with underground cable
- > Don't panic or touch the person receiving the electric shock – this could place you at risk
- > Untrained, unequipped persons should not attempt to rescue a person receiving an electric shock. All too often secondary deaths occur when others go to the aid of earlier victims
- > Remain on/inside the machinery until the supply is disconnected
- > If possible, break contact between the machinery and underground cable.



### For more information

Essential Energy's Public Safety team is available to facilitate Electrical Awareness sessions and discuss any questions relating to electrical safety. For more information on electrical safety please call

- > Essential Energy General Enquiries 13 23 91
- > Essential Energy Supply Interruptions 13 20 80
- > WorkCover NSW 13 10 50
- > Dial Before You Dig [www.1100.com.au](http://www.1100.com.au) 1100

- > Follow us  
- > or visit [essentialenergy.com.au/safety](http://essentialenergy.com.au/safety)

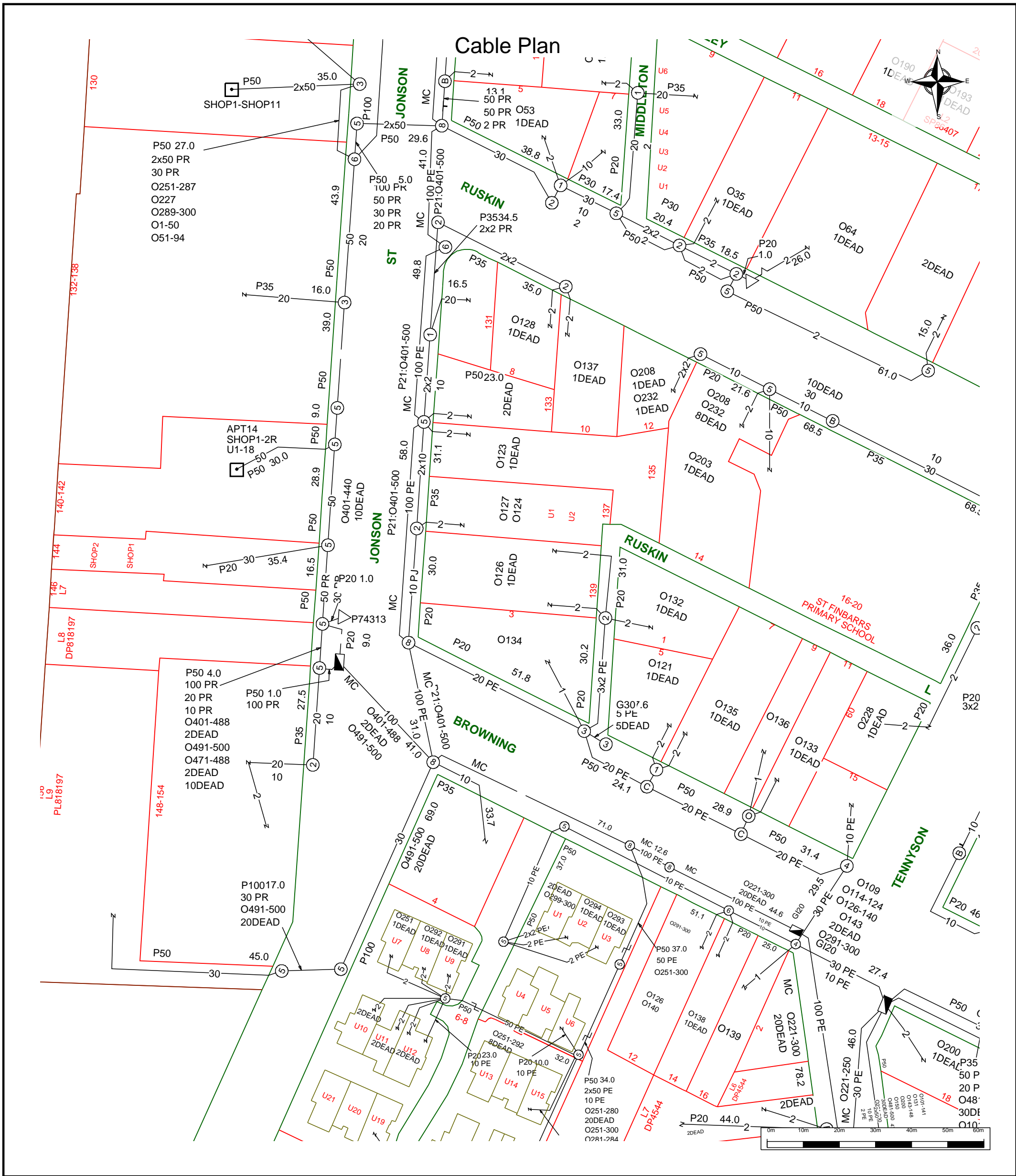
#### Safety first: Before you dig or drive items into the ground

1. Contact DBYD
2. DO NOT attempt to excavate within 10m of any power pole or electrical item
3. Contact Essential Energy on 13 23 91 for assistance to locate cables and earthing
4. Locate asset: Pot-hole
5. Proceed only if you have satisfied yourself it is safe.

*Be safe, because they need you*







For all Telstra DBYD plan enquiries -  
email - [Telstra.Plans@team.telstra.com](mailto:Telstra.Plans@team.telstra.com)  
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

**Generated On 20/04/2017 12:10:33**

Sequence Number: 60532459

**CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.**

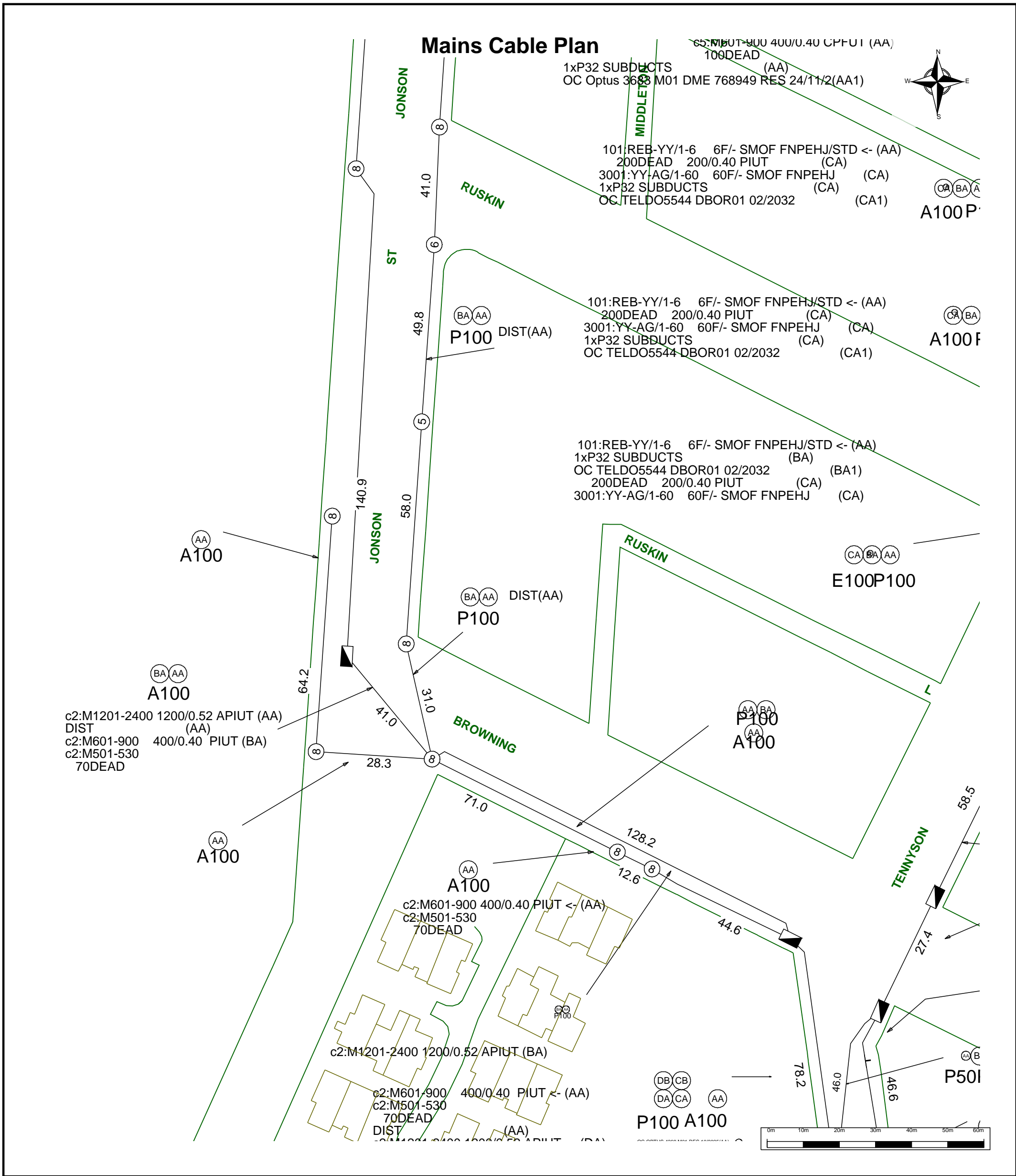
The above plan must be viewed in conjunction with the Mains Cable Plan on the following page


WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



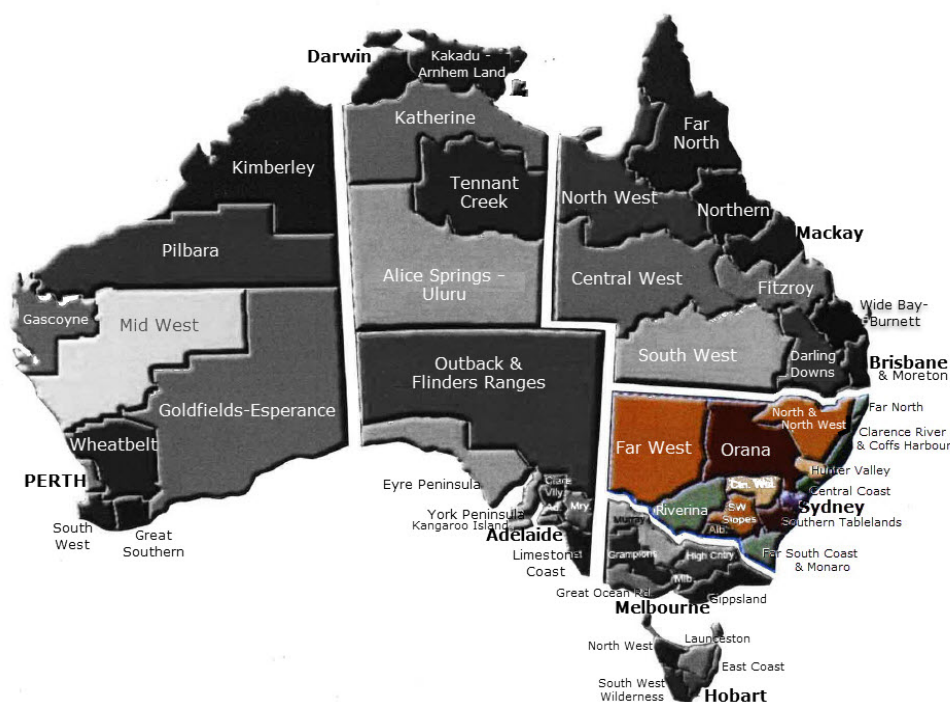
	For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)	Sequence Number: 60532459
	TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	<b>CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.</b>
	Generated On 20/04/2017 12:10:43	

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



# TELSTRA ACCREDITED PLANT LOCATORS – NEW SOUTH WALES. NORTHERN REGION

Regions – NSW North

Telstra plans are intended to be indicative only. A plant location service (Telstra accredited) is required to identify the exact location of the plant and ensure that the asset is protected during construction work. It is your responsibility as part of your “Duty of Care” to engage an Accredited Plant Locator.

**\*Optic fibre cable locations** must be performed by a locator with Telstra optic fibre location accreditation.

Locators with Telstra optic fibre cable location accreditation are indicated by either a ‘yes’ in the ‘Fibre’ column or the DBYD Certified Locator Symbol.















Please contact a Telstra accredited locator from the pages following (fees apply).



# Telstra Accredited Plant Locators – New South Wales. NORTH

## NSW North






Company Name & service areas	*Fibre	Contact	
<b>1 Find Cables</b> Brisbane, Ipswich, Gold Coast & Northern NSW – and surrounding areas		1300 734 772 0410 473 772 07 3041 6471 <a href="mailto:matt@provac.net.au">matt@provac.net.au</a> <a href="http://www.provac.net.au">www.provac.net.au</a>	Phone Mobile Fax Email Web
<b>A1 Vac &amp; Location</b> Port Macquarie, Laurieton, Wauchope, Kempsey	YES	0412 655 130 02 6584 8324 <a href="mailto:midgandp@bigpond.com.au">midgandp@bigpond.com.au</a>	Phone Mobile Fax Email Web
<b>ABC Locators Pty Ltd</b> Darling Downs, Southern Downs, Burnett, Lockyer Valley, Brisbane Valley, South East Qld, Southern Qld, Northern NSW		0421 553 911 0407 423 499 <a href="mailto:abc.locate@gmail.com">abc.locate@gmail.com</a>	Phone Mobile Fax Email Web
<b>Abletech Underground</b> South East Qld, Northern NSW, Rockhampton, Gladstone, Roma, Goondiwindi, Toowoomba, Charleville, Cunnamulla		0418 511 767 <a href="mailto:abletech@bigpond.net">abletech@bigpond.net</a>	Phone Mobile Fax Email Web
<b>Advanced Ground Locations Pty Ltd</b> Newcastle, Hunter Valley, Central Coast		02 4930 3195 0412 497 488 02 4930 3222 <a href="mailto:steve_agl@hotmail.com">steve_agl@hotmail.com</a> <a href="http://www.advancedgroundlocations.com">www.advancedgroundlocations.com</a>	Phone Mobile Fax Email Web
<b>All About Pipes</b> All of NSW		1300 634 200 0408 790 010 02 9606 2325 <a href="mailto:work@allaboutpipes.com.au">work@allaboutpipes.com.au</a> <a href="http://www.allaboutpipes.com.au">www.allaboutpipes.com.au</a>	Phone Mobile Fax Email Web
<b>Alpha Plant Locations</b> Queensland – South-East, South-West, Central & Central-West areas. NSW – North-East & North-West areas. Available to travel further if required.		0429 968 812 07 3818 6595 <a href="mailto:tombraun@bigpond.com">tombraun@bigpond.com</a>	Phone Mobile Fax Email Web
<b>Aquabend Utility Detection</b> Central Coast, Upper Hunter, Hunter Valley, Mid North Coast and surrounding areas		0488 925 432 <a href="mailto:aquabend@hotmail.com">aquabend@hotmail.com</a>	Phone Mobile Fax Email Web
<b>Australian Locating Services Pty Ltd</b> All of ACT & NSW		1300 761 545 0412 227 434 02 9531 2169 <a href="mailto:admin@locating.com.au">admin@locating.com.au</a> <a href="http://www.locating.com.au">www.locating.com.au</a>	Phone Mobile Fax Email Web
<b>Australian Subsurface Pty Ltd</b> All of ACT & NSW		0427 879 600 <a href="mailto:admin@australiansubsurface.com">admin@australiansubsurface.com</a> <a href="http://www.australiansubsurface.com">www.australiansubsurface.com</a>	Phone Mobile Fax Email Web
<b>Brandon Construction Services Pty Ltd</b> Sydney metro and surrounding districts, other country NSW areas on request		0438 044 008 <a href="mailto:liam.bolger@hotmail.com">liam.bolger@hotmail.com</a>	Phone Mobile Fax Email Web
<b>Cable &amp; Pipe Locations Pty Ltd</b> Armidale, Casino, Coffs Harbour, Dorrigo, Glenn Innes, Grafton, Inverell, Kempsey, Lismore, Nambucca, Port Macquarie, Tamworth, Taree, Tenterfield, Yamba		0408 730 430 <a href="mailto:sabuckley@bigpond.com">sabuckley@bigpond.com</a> <a href="http://www.cableandpipelocations.com.au">www.cableandpipelocations.com.au</a>	Phone Mobile Fax Email Web
<b>Cable &amp; Pipe Search</b> Coffs Harbour, Grafton, Yamba, Bellingen, Dorrigo, Armidale, Tamworth, Guyra, Glenn Innes, Inverell, Tenterfield, Kempsey, Port Macquarie, Taree, Macksville and surrounding districts.		0418 660 823 0400 030 314 <a href="mailto:office@cableandpipesearch.com.au">office@cableandpipesearch.com.au</a> <a href="http://www.cableandpipesearch.com.au">www.cableandpipesearch.com.au</a>	Phone Mobile Fax Email Web

















# Telstra Accredited Plant Locators – New South Wales. NORTH

<b>Cablefind (Surepro Pty Ltd)</b> Lismore area. Ocean Shores to Grafton. Ballina to Tenterfield. All areas in the Northern Rivers.		0478 887 073 <a href="mailto:service@surepro.com.au">service@surepro.com.au</a>	Phone Mobile Fax Email Web
<b>Cardno</b> Brisbane, Ipswich, Toowoomba Region, Gold Coast, Sunshine Coast, Mackay and Northern New South Wales		1300 224 664 07 3320 8535 <a href="mailto:cardnoaus@cardno.com.au">cardnoaus@cardno.com.au</a>	Phone Fax Email Web
<b>Chris Bates &amp; Associates</b> Mid North Coast, Newcastle, Hunter Valley and Central Coast		02 4928 1519 0408 427 391 <a href="mailto:chrisbatesandassociates@yahoo.com.au">chrisbatesandassociates@yahoo.com.au</a>	Phone Mobile Fax Email
<b>Down Under Pipeline Surveys Pty Ltd</b> Orangeville and surrounding districts		02 4653 1286 0418 675 374 02 4653 1747 <a href="mailto:office@dups.com.au">office@dups.com.au</a> <a href="http://www.dups.com.au">www.dups.com.au</a>	Phone Mobile Fax Email Web
<b>Downunder Locations (NSW) Pty Ltd</b> South East Qld and Northern New South Wales – Brisbane to Ballina/Tweed Heads		0438 243 856 07 5523 0702 <a href="mailto:downunderlocations@gmail.com">downunderlocations@gmail.com</a>	Phone Mobile Fax Email Web
<b>Dynamic Excavations</b> Brisbane, Gold Coast, Toowoomba, Sunshine Coast, Northern NSW, Ballina, Sydney and surrounding districts		07 5564 8142 0418 596 066 <a href="mailto:marco@dynamicexcavations.com.au">marco@dynamicexcavations.com.au</a> <a href="http://www.dynamicexcavations.com.au">www.dynamicexcavations.com.au</a>	Phone Mobile Email Web
<b>Electrostar Pty Limited</b> NSW North West including Tablelands (Armidale, Glenn Innes) Hunter Valley, Newcastle to Grafton		0429 620 999 0428 658 707 02 6762 0213 <a href="mailto:admin@electrostar.com.au">admin@electrostar.com.au</a> <a href="http://www.electrostar.com.au">www.electrostar.com.au</a>	Phone Mobile Fax Email Web
<b>Epoca Environmental Pty Ltd</b> Sydney Metro, All of NSW & ACT	YES	02 4739 2465 0430 606 948 <a href="mailto:evelyn@epocaenvironmental.com.au">evelyn@epocaenvironmental.com.au</a> <a href="http://www.epocaenvironmental.com.au">www.epocaenvironmental.com.au</a>	Phone Mobile Fax Email Web
<b>Expert Service Locating Pty Ltd</b> Sunshine Coast, South East Qld, Brisbane, Gold Coast & Northern NSW		0420 346 477 <a href="mailto:info@expertservicelocating.com.au">info@expertservicelocating.com.au</a> <a href="http://www.expertservicelocating.com.au">www.expertservicelocating.com.au</a>	Phone Mobile Fax Email Web
<b>Eye Spy Cable &amp; Pipe Pty Ltd</b> South East Qld, Sunshine Coast, Brisbane, Gold Coast and Northern NSW		0419 652 604 07 3818 2764 <a href="mailto:eyespy.location@optusnet.com.au">eyespy.location@optusnet.com.au</a>	Phone Mobile Fax Email Web
<b>Farmer Enterprises &amp; Co Pty Ltd</b> All areas	YES	07 4671 2443 0429 622 897 07 4671 2443 <a href="mailto:digalot1@bigpond.com">digalot1@bigpond.com</a>	Phone Mobile Fax Email Web
<b>G B Geotechnics (Australia) Pty Ltd</b> All areas of New South Wales	NO	02 9890 2122 0403 153 651 <a href="mailto:jamie@gbgoz.com.au">jamie@gbgoz.com.au</a>	Phone Mobile Fax Email Web
<b>G MAC LOCATING</b> Dubbo, Young, Wagga, Yass, Goulburn, Bathurst, Orange, Temora, West Wyalong, Forbes & most NSW country regions		0488 520 482 0408 822 428 <a href="mailto:enquiries@gmaclocating.com.au">enquiries@gmaclocating.com.au</a>	Phone Mobile Fax Email Web
<b>Geotrace Pty Ltd</b> All Areas, Hills District, Sydney, Wollongong, Newcastle, ACT, Sutherland, Bankstown, Richmond, Burwood, Rose Bay, Balmain		02 8824 6654 0417 147 945 02 8824 5637 <a href="mailto:info@geotrace.com.au">info@geotrace.com.au</a> <a href="http://www.geotrace.com.au">www.geotrace.com.au</a>	Phone Mobile Fax Email Web




# Telstra Accredited Plant Locators – New South Wales. NORTH

<b>How Deep Water Leaks Pipe &amp; Cable Location Service</b> Runaway Bay, Gold Coast, Brisbane, The Tweed, Northern Rivers, Murwillumbah, Far North NSW	YES	0412 214 810 <a href="mailto:lex@howdeeplocations.com.au">lex@howdeeplocations.com.au</a> <a href="http://www.howdeeplocations.com.au">www.howdeeplocations.com.au</a>	Phone Mobile Fax Email Web
<b>Hunter Ground Search</b> Central Coast, Newcastle, Hunter Valley, Mid North Coast and west to Tamworth, Liverpool Plains and Dubbo.		02 4953 1244 0418 684 819 02 4953 1233 <a href="mailto:huntergroundsearch@bigpond.com">huntergroundsearch@bigpond.com</a>	Phone Mobile Fax Email Web
<b>Hunter Smith Management Pty Ltd</b> All of NSW & ACT, other regions (e.g. Victoria) as required.		02 8090 2695 0422 224 761 <a href="mailto:huntersmith@iprimus.com.au">huntersmith@iprimus.com.au</a> <a href="http://www.hsmlocating.com.au">www.hsmlocating.com.au</a>	Phone Mobile Fax Email Web
<b>Hydro Digga</b> All of NSW, ACT & South East Qld		0447 774 000 <a href="mailto:locator@hydrodigga.com">locator@hydrodigga.com</a>	Phone Mobile Fax Email Web
<b>Hydrovac Excavations (Aust) Pty Ltd</b> Brisbane, Ipswich, Toowoomba Region, Gold Coast, Sunshine Coast, Gympie Region & Northern New South Wales		07 5433 1811 07 5433 1911 <a href="mailto:enquiries@hydrovac.com.au">enquiries@hydrovac.com.au</a>	Phone Mobile Fax Email Web
<b>JNC Group Australia Pty Ltd</b> Armidale and North West		02 6772 9980 <a href="mailto:jeremyblanch@bigpond.com">jeremyblanch@bigpond.com</a>	Phone Mobile Fax Email Web
<b>John's Cable Location Pty Ltd</b> Lismore area including Murwillumbah to Grafton and Tenterfield to Ballina		0415 458 152 <a href="mailto:johnscablelocation@yahoo.com.au">johnscablelocation@yahoo.com.au</a>	Phone Mobile Fax Email Web
<b>K &amp; K Directional Drilling</b> Tamworth		02 6762 6424 0429 087 657 02 6760 9443 <a href="mailto:kkdrilling@bigpond.com">kkdrilling@bigpond.com</a>	Phone Mobile Fax Email Web
<b>Lambert Locations Pty Ltd</b> South East Qld, Northern New South Wales		1300 150 035 0418 150 035 <a href="mailto:admin@lambertlocations.com.au">admin@lambertlocations.com.au</a> <a href="http://www.lambertlocations.com.au">www.lambertlocations.com.au</a>	Phone Mobile Fax Email Web
<b>Locate And Detection Specialists (LADS)</b> Northern NSW, Gold Coast, Brisbane, Sunshine Coast, Toowoomba and surrounding regions.		0479 115 237 <a href="mailto:admin@ladsqld.com.au">admin@ladsqld.com.au</a> <a href="http://www.ladsqld.com.au">www.ladsqld.com.au</a>	Phone Mobile Fax Email Web
<b>Locating Services Pty Ltd</b> Hawkesbury, Canberra and all of NSW		0403 065 510 <a href="mailto:sam.romano1@outlook.com">sam.romano1@outlook.com</a>	Phone Mobile Fax Email Web
<b>Lyntet Communications (Lynco Pty Ltd)</b> Dubbo depot, covering Forbes, Grenfell, Parkes, Bourke, Bourke North, Nyngan, Coonabarabran, Coonamble, Mudgee, Narromine, Wellington, Orange, Molong, Yeoval, Coolah, Dunedoo, Gilgandra, Mendooran		0409 811 673 <a href="mailto:lyntet@bigpond.com.au">lyntet@bigpond.com.au</a>	Phone Mobile Fax Email Web
<b>Mid North Coast Hydro Digging &amp; Service Locating Pty Ltd</b> From Newcastle to Coffs Harbour and all areas of Mid North Coast and Hinterlands	YES	02 6584 8568 0418 409 465 <a href="mailto:djblack1@bigpond.com">djblack1@bigpond.com</a>	Phone Mobile Fax Email Web
<b>MSG Locating Pty Ltd</b> North and North West NSW		02 6760 7722 0448 674 601 02 6760 7755 <a href="mailto:msglocating@tpcivil.com.au">msglocating@tpcivil.com.au</a>	Phone Mobile Fax Email Web

# Telstra Accredited Plant Locators – New South Wales. NORTH

<b>Network Protection Specialists</b> Tweed Heads, Brisbane, Gold Coast, Northern Rivers and surrounding districts		0418 257 527 <a href="mailto:nps.dean@gmail.com">nps.dean@gmail.com</a>	Phone Mobile Fax Email Web
<b>Newcastle Locating Services</b> Newcastle, Hunter Valley, Upper Hunter Valley, Port Stephens		02 4933 5160 0410 698 599 02 4933 5150 <a href="mailto:afarcas@bigpond.com">afarcas@bigpond.com</a>	Phone Mobile Fax Email Web
<b>On Point Utility Locating Pty Ltd</b> Sydney, Parramatta, Penrith, Wollongong, Central Coast, Highlands, Goulburn, Blue Mountains		1300 ON POINT 0405 149 529 <a href="mailto:info@onpointlocating.com.au">info@onpointlocating.com.au</a> <a href="http://www.onpointlocating.com.au">www.onpointlocating.com.au</a>	Phone Mobile Fax Email Web
<b>Online Pipe &amp; Cable Locating Pty Ltd</b> Sydney, Newcastle, Canberra, Central Coast, Wollongong, Blue Mountains and Port Macquarie		1300 665 384 0418 402 234 02 9676 6127 <a href="mailto:office@onlinepipe.com.au">office@onlinepipe.com.au</a>	Phone Mobile Fax Email Web
<b>Pipe Hawk CCTV Pty Ltd</b> Gold Coast, Beaudesert, Logan, Toowoomba, Brisbane, Sunshine Coast, Tweed Shire, Ballina, Lismore, Byron Bay and all surrounding areas.		0435 558 533 <a href="mailto:admin@pipehawkcctv.com.au">admin@pipehawkcctv.com.au</a> <a href="http://www.pipehawkcctv.com.au">www.pipehawkcctv.com.au</a>	Phone Mobile Fax Email Web
<b>Provac Australia</b> Brisbane, Ipswich, Gold Coast, Northern NSW – and surrounding areas		1300 734 772 0450 268 012 <a href="mailto:enquiries@provac.net.au">enquiries@provac.net.au</a> <a href="http://www.provac.net.au">www.provac.net.au</a>	Phone Mobile Fax Email Web
<b>Riteway Traffic Control Pty Ltd</b> Central Coast – Newcastle/Hunter		0419 212 969 <a href="mailto:kbrowne@ritewaytc.com.au">kbrowne@ritewaytc.com.au</a>	Phone Mobile Fax Email Web
<b>Rubicof Pty Ltd</b> Gosford, Newcastle, Taree		02 4990 5718 0418 683 451 02 4991 2600 <a href="mailto:rubicof@optusnet.com.au">rubicof@optusnet.com.au</a>	Phone Mobile Fax Email Web
<b>Rutherford Electrical Engineering Services</b>		02 4932 7344 02 4932 5219 <a href="mailto:kmurphy@rutherfordlect.com.au">kmurphy@rutherfordlect.com.au</a>	Phone Mobile Fax Email Web
<b>Safe Dig Vacuum Excavation Pty Ltd</b> Mackay to Brisbane and surrounding areas		07 3376 0856 0408 880 262 07 3376 1258 <a href="mailto:admin@safedig.com.au">admin@safedig.com.au</a>	Phone Mobile Fax Email Web
<b>SEEK LOCATIONS (Zane Pye)</b> All areas Queensland and New South Wales		0401 202 515 <a href="mailto:info@utilityid.com.au">info@utilityid.com.au</a> <a href="http://www.utilityid.com.au">www.utilityid.com.au</a>	Phone Mobile Fax Email Web
<b>Service Locate Pty Ltd</b> Foster, Glouster, Taree, Port Macquarie, Karuah, Kempsey.		0407 256 858 <a href="mailto:seek@seeklocations.com.au">seek@seeklocations.com.au</a> <a href="http://www.seeklocations.com.au">www.seeklocations.com.au</a>	Phone Mobile Fax Email Web
<b>SureSearch</b> NSW = Sydney, Penrith, Richmond, Wollongong, Katoomba, Macarthur, Central Coast, Newcastle Maitland, Hunter Valley, Port Macquarie		1300 884 520 0408 221 046 <a href="mailto:info@suresearch.com.au">info@suresearch.com.au</a> <a href="http://www.suresearch.com.au">www.suresearch.com.au</a>	Phone Mobile Fax Email Web
<b>Utility I.D. – Underground Service &amp; Cable Locators</b> All areas Queensland and New South Wales		0401 202 515 <a href="mailto:info@utilityid.com.au">info@utilityid.com.au</a> <a href="http://www.utilityid.com.au">www.utilityid.com.au</a>	Phone Mobile Fax Email Web

# Telstra Accredited Plant Locators – New South Wales. NORTH

<b>Utility Location Services</b> Sydney, Central Coast, Newcastle, Port Macquarie and surrounding areas, Lismore, Coffs Harbour		07 3907 3552 0400 573 752 07 3807 9899 <a href="mailto:ryan@utilitylocationservices.com.au">ryan@utilitylocationservices.com.au</a> <a href="http://www.utilitylocationservices.com.au">www.utilitylocationservices.com.au</a>	Phone Mobile Fax Email Web
<b>Vac Group Operations Pty Ltd t/as Earthspy</b> NSW – Far North, Northern Rivers areas. Available to travel further if required.		1300 822 834 0447 466 331  <a href="http://www.vacgroup.com.au">www.vacgroup.com.au</a>	Phone Mobile Fax Email Web
<b>Vertex Power &amp; Process</b> NSW areas – Broken Hill, Menindee, Wilcannia, Ivanhoe & surrounding areas. SA areas – Eastern Regions of SA including Olary Mingary & Cockburn		08 8088 4301 0428 154 450 08 8087 5729 <a href="mailto:admin@vertexpp.com.au">admin@vertexpp.com.au</a> <a href="http://www.vertexpp.com.au">www.vertexpp.com.au</a>	Phone Mobile Fax Email Web



# DUTY OF CARE

TELSTRA CORPORATON ACN 051 775 556

## IMPORTANT:

When working in the vicinity of telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas then you should not be attempting these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

The 4 essential steps that must be undertaken to prevent damage to Telstra assets are listed below. Construction activities must not commence without first undertaking these 4 steps. If your project is dependent on the position of the underground network then it is recommended you validate the position of the network prior to finalising your design.

*(The following pages contain more detail on each step below and the contact details to seek further advice. AS5488-2013 is the Australian Standard for the Classification of Subsurface Utility Information.)*

## 1 Dial Before You Dig -Telstra Plans :

### *The essential first step in preventing damage -*

You must have current Telstra plans via the DBYD process. Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013. This means the information is indicative only, not a precise location. **The actual location may differ substantially from that shown on the plans** - refer to steps 2 & 3 to determine actual location prior to commencing construction.

## 2 Telstra Accredited Plant Locator :

### *The essential second step in preventing damage -*

To be able to trace and identify individual subsurface cables and ducts requires access to Telstra pits and manholes. Only a Telstra Accredited Plant Locator (TAPL) is authorised to access Telstra network for locating purposes. A TAPL can interpret plans, validate visible assets and access pits and manholes to undertake electronic detection of underground assets prior to further validation. All Telstra assets must be located, validated and protected prior to commencing construction. **If you are not authorised to do so by Telstra, you should not be accessing Telstra network or locating Telstra network.**

## 3 Validation :

### *The essential third step in preventing damage -*

All Telstra assets must be positively identified (i.e. validated), by physically sighting them. For underground assets this can be done by potholing by hand or using non-destructive vacuum extraction methods (Refer to 'validation' as defined in AS5488-2013 QL-A). **Underground assets located by electronic detection alone (step 2), are not deemed to be 'validated' and should not be used for construction purposes.** Some TAPL's can assist with non-destructive potholing for validation purposes. **If you cannot validate the Telstra network you should not proceed with construction.** Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

## 4 Protection :

### *The essential fourth step in preventing damage -*

Telstra assets must be protected to avoid damage from construction activities. Minimum working distances around Telstra network must be maintained. These distances are provided in this document. Telstra can also provide advice and assistance in regards to protection – refer to the following pages.

## STEP 1 – Dial Before You Dig -Telstra Plans:

**The actual location of Telstra assets may differ substantially from that shown on the plans. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for the accuracy shown on the plans. Steps 2 and 3 must also be undertaken to determine actual location of network.**

- Telstra DBYD plans are not suitable for displaying Telstra network within a Telstra exchange site. For advice on Telstra network within a Telstra exchange site contact Telstra Plan Services.
- Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.
- Telstra plans or other details are provided only for the use of the applicant, its servants, agents or Telstra Accredited Plant Locators. The applicant may not give the plans or details to any parties other than these, and may not generate profit from commercialising the plans or details.
- Please contact Telstra Plan Services immediately should you locate Telstra assets not indicated on these plans.
- Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.
- Please ensure Telstra plans and information provided remains on-site at all times throughout the inspection, location and construction phase of any works.
- Telstra plans are valid for 60 days after issue and should be replaced if required after the 60 days.
- **Emergency situations - receiving Telstra plans** Telstra's automated mapping system (TAMS) will provide a fast response for emergency situations (faster than an operator can provide manually via a phone call - see below for fast response requirements). Automated responses are normally available 24/7.

**To receive a fast automated response from Telstra your request must -**

- Be a web request lodged at DBYD ([www.1100.com.au](http://www.1100.com.au)). The request will be then forwarded to Telstra.
- Contain your current email address so you can receive the automated email response.
- Be for the purposes of 'mechanical excavation' or other ground breaking DBYD activity. (Requests with activity types such as conveyancing, planning & design or other non-digging activities may not be responded to until the next business day).
- Be for an area less than 350 metres in size to obtain a PDF map (over 350 metres will default to DWF due to size) this does not include congested CBD areas where only DWF may be supplied.
- Be for an area less than 2500 metres in size to obtain a DWF map (CBD's less)
- **Data Extraction Fees.** In some instances a data extraction fee may be applicable for the supply of Telstra information. Typically a data extraction fee may apply to large projects or requests to be supplied in non-standard formats. For further details contact Telstra Plan Services.
- **Electronic plans - PDF and DWF maps** If you have received Telstra maps via email you will have received the maps as either a PDF file (for smaller areas) or DWF file (for larger area requests). All requests over approximately \*350m or in congested CBD areas can only be supplied in DWF format. There are size limits on what can be provided. (\* actual size depends on geographic location of requested area). If you are unable to launch any one of the softcopy files for viewing and printing, you may need to download and install one or more of the free viewing and printing products such as Adobe Acrobat Reader (for PDF files) or Autodesk Design Review (for DWF files) available from the internet
  - **Pdf files** - PDF is the default softcopy format for all requests for areas up to approx \*350m in length. (\*depends on geographic location of request). The PDF file is nominally formatted to A3 portrait sheet however it can be printed on any size sheet that your printer supports, e.g. either as the full sheet or selected areas to suit needs and legibility. (to print a selected area zoom up and print 'current view') If there are multiple layers of Telstra network you may receive up to 2 sheets in the single PDF file attachment supplied. There are three types or layers of network normally recorded - local network, mains cables or a combined layer of local and mains (usually displayed for rural or semi-rural areas). If mains cable network is present in addition to local cables (i.e. as separate layer in a particular area), the mains will be shown on a separate sheet. The mains cable information should be read in conjunction with the local cable information.
  - **DWF files** – DWF is the default softcopy format for all requests for areas that are over 350m in length. Maximum length for a DWF automated response is approx 2500m - depending on geographic



location of request (manually-processed plans may provide larger coverage). The DWF files differ from PDF in that DWF are vector files made up of layers that can be turned on or off and are not formatted to a specific sheet size. This makes them ideal for larger areas and for transmitting electronically.

- ***How to view Telstra DWF files –***

Telstra DWF files come with all layers turned on. You may need to turn individual layers on or off for viewing and printing clarity. Individual layer names are CC (main cable/conduit), DA (distribution area network) and sometimes a combined layer - CAC. Layer details can be viewed by either picking off the side menu or by selecting 'window' then 'layers' off the top menu bar. Use 'layers' to turn individual layers off or on (double click or right click on layer icon).

- ***How to print Telstra DWF files –***

DWF files can be printed on any size sheet – either their entirety or by selected areas of interest. Some DWF coverage areas are large and are not suited to printing legibly on a single A4 sheet - you may need several prints if you only have an A4 printer. Alternatively, an A3, A1 or larger printer could be used. To print, zoom in or out and then, by changing the 'print range' settings, you can print what is displayed on your screen to suit your paper size. If you only have a small printer, e.g. A4, you may need to zoom until the text is legible for printing (which is why you may need several prints). To print what is displayed on your screen the 'view' setting should be changed from 'full page' to 'current view'. The 'current sheet' setting should also be selected. You may need to print layers separately for clarity and legibility. (Details above on how to turn layers on or off)

- ***How to change the background colour from white to black (when viewing) Telstra DWF files –***

If using Autodesk Design Review the background colour can be changed by selecting 'Tools' then 'options' then 'sheet'. Tick the box 'override published paper colours' and select the colour required using the tab provided.

## STEP 2 - Telstra Accredited Plant Locator (TAPL):

Utilising a TAPL is an essential part of the process to identify network and to trace subsurface network prior to validating. A TAPL can provide plan interpretation, identification and electronic detection. This will assist in determining the position of subsurface assets prior to potholing (validating). Some TAPL's can also assist in validating underground detected network. Electronic detection is only an indication of the existence of underground network and can be subject to interference from other services and local conditions. Electronic detection should not be used solely to determine location for construction purposes. The electronic (indicative) subsurface measurements must be proven by physically sighting the asset (see step 3 - Validation).

- All TAPL's locating Telstra network must be able to produce a current photo ID card issued by Telstra. A list of TAPL's is provided with the Telstra Dial Before You Dig plans.
- Telstra does not permit external parties (non-Telstra) to access or conduct work on our network. Only Telstra staff, Telstra contractors or locators whom are correctly accredited are authorised to work on or access our manholes, pits, ducts, cables etc. This is for safety as well as for legal reasons.

**It is a criminal offence under the *Criminal Code Act 1995 (Cth)* to tamper or interfere with communication facilities owned by a carrier. Heavy penalties may apply for breach of this prohibition, and any damages suffered, or costs incurred by Telstra as a result of any such unauthorised works may be claimed against you.**

- Optic fibre cable locations must be performed by a locator with Telstra optic fibre cable location accreditation. The locators with optic fibre cable location accreditation are indicated by a 'yes' in the column headed 'Fibre' in the lists of locators that are published with the Telstra DBYD plans. Telstra Accredited Plant Locators that are DBYD Certified Locators are also fibre accredited. Inspection of photo ID cards will confirm whether locators are just copper accredited or copper + fibre accredited.
- The details of any contract, agreement or retainer for site assistance to locate telecommunications plant shall be for you to decide and agree with the Telstra Accredited Plant Locator engaged. Telstra is not a party to any contract entered into between you and a Telstra Accredited Plant Locator.
- Payment for the site assistance will be your responsibility and payment details should be agreed before the engagement is confirmed.

- Telstra does not accept any liability or responsibility for the performance of or advice given by a Telstra Accredited Plant Locator. Accreditation is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.
- Neither the Telstra Accredited Plant Locator nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Telstra Accredited Plant Locator or its employees.

• **Electronically derived subsurface measurements (e.g. depths/alignments by locating devices)**

**All locator provided measurements for Telstra assets must have the AS5488-2013 quality level specified - (e.g. QL-A, B, C or D). These quality levels define the accuracy of subsurface information and are critical for determining how the information is later used – for example if suitable for excavation purposes.**

**1) An example of a subsurface measurement with no quality level specified – (i.e. not to be used)**

Telstra cover - **0.9m**

*The measurement above has no AS5488-2013 quality level specified and **should not be provided by a locator or used for design or construction.** This is because it is not known whether the measurement is actual or derived (where 'actual' means validated and 'derived' means assumed and not validated, e.g. electronic or other). Typically damages occur by constructors incorrectly using unvalidated measurements as actual measurements.*

**2) An example of a subsurface measurement with quality level B specified –**

Telstra cover - **0.9m (QL-B)**

Where (QL-B) complies with AS5488-2013 QL-B (for example an electronic location that complies with QL-B)

*(Note QL-B means it has not been validated and should not be used for construction purposes around Telstra network, however it would assist further investigation to determine the actual location)*

**3) An example of a subsurface measurement with the quality level A specified –**

Telstra cover - **0.6m (QL-A)**

Where (QL-A) complies with AS5488-2013 QL-A (and is deemed suitable for excavation purposes). In this example the asset has been electronically located first, (QL-B) and then physically exposed (QL-A).

**Note** -Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers if unvalidated subsurface measurements are used for construction and subsequently result in damage to Telstra assets. Only measurements conforming to AS5488-2013 (QL-A) are deemed by Telstra to be validated measurements.

- **Rural landowners** Where Telstra-owned cable crosses agricultural land, Telstra may provide on-site assistance with cable location. **You must contact Telstra Plan Services to determine eligibility and to request the service.**

Please note the following –

- If eligible, the location assistance must be approved and organised by Telstra. Telstra will not pay for a location that has not been approved and facilitated by Telstra (Telstra is not responsible for payment assistance when a customer engages a locator directly).
- The exact location, including depth of cables, must be validated by potholing, which may not be covered by this service.
- This service is nominally only available to assist private rural land owners.
- This service nominally covers one hour on-site only. Any time required in addition to Telstra-funded time can be purchased directly from the assigned Telstra Accredited Plant Locator.
- This service does not apply to previously located network at the same location (i.e. it is a once off).
- This service does not apply to other carriers' cables (marked as 'OC' on Telstra plans).

## STEP 3 – \*Validation:

After utilising a Telstra Accredited Plant Locator and prior to commencing construction, any electronically detected underground network must be positively identified (validated) by physically sighting it. This can be done by careful hand digging or using non-destructive water jet methods to expose the network.

\*Validation as defined in AS5488-2013 (QL-A).

Manual potholing needs to be undertaken with extreme care and by employing techniques least likely to damage cables. For example, align shovel blades and trowels parallel to the cable rather than digging across the cable. Some Telstra Accredited Plant Locators are able to provide or assist with non-destructive potholing methods to enable validation of underground cables and ducts.

**If you cannot validate the underground network then you should not proceed with construction. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.**

**Important note:** The construction of Telstra's network dates back over many years. Some of Telstra's pits and ducts were manufactured from asbestos-containing cement. You must take care in conducting any works in the vicinity of Telstra's pits and ducts. You must refrain from in any way disturbing or damaging Telstra's network infrastructure when conducting your works. We recommend that before you conduct any works in the vicinity of Telstra infrastructure that you ensure your processes and procedures eliminate any possibility of disturbing, damaging or interfering in any way with Telstra's infrastructure. Your processes and procedures should incorporate appropriate measures having regard to the nature of this risk. For further information -

<http://ucm.in.telstra.com.au/about/media/emergencies-incidents/asbestos/index.htm?ssSourceSiteId=consumer-advice>

## STEP 4 – Protection:

You must maintain the following minimum clearance distances between construction activity and the validated position of Telstra plant.

<b>Jackhammers/Pneumatic Breakers</b>	<i>Not within 1.0m of <b>actual validated location</b>.</i>
<b>Vibrating Plate or Wacker Packer Compactor</b>	<i>Not within 0.5m of <b>actual validated location</b> of Telstra ducts. 300mm compact clearance cover before compactor can be used across Telstra ducts.</i>
<b>Boring Equipment (in-line, horizontal and vertical)</b>	<i>Not within 2.0m of <b>actual validated location</b>. Constructor to hand dig or use non-destructive water jet method (pothole) and expose plant.</i>
<b>Heavy Vehicle Traffic (over 3 tonnes)</b>	<i>Not to be driven across Telstra ducts (or plant) with less than 600mm cover. Constructor to check actual depth via hand digging.</i>
<b>Mechanical Excavators, Farm ploughing and Tree Removal</b>	<i>Not within 1.0m of <b>actual validated location</b>. Constructor to hand dig or use non-destructive water jet method (pot-hole) and expose plant.</i>

- For blasting or controlled fire burning please contact Telstra Plan Services for advice.
- If conducting roadworks all existing Telstra pits and manholes should be a minimum of 1.2m in from the back of kerb after the completion of your work.
- After the completion of any ground work in footways (or under roads), all Telstra conduits must have a depth of cover which is compliant with the current specifications of the road owner e.g. the local council or road

authority. Depth specification will vary across different authorities in different states. For clarification please contact Telstra Network Integrity.

- For clearance distances relating to Telstra pillars, cabinets and RIMs/RCMs please contact Telstra Plan Services.
- If Telstra plant is situated wholly or partly where you plan to work (i.e. in conflict), then Telstra's Network Integrity Group must be contacted to discuss possible engineering solutions.  
Please phone **1800 810 443** or email [NetworkIntegrity@team.telstra.com](mailto:NetworkIntegrity@team.telstra.com)
- You are not permitted to relocate or alter or repair any Telstra assets or network under any circumstances.

**It is a criminal offence under the *Criminal Code Act 1995* (Cth) to tamper or interfere with communication facilities owned by a carrier. Heavy penalties may apply for breach of this prohibition, and any damages suffered, or costs incurred by Telstra as a result of any such unauthorised works may be claimed against you.**

Only Telstra and its contractors may access and conduct works on Telstra's network (including its plant and assets). This requirement is to ensure that Telstra can protect the integrity of its network, avoid disruption to services and ensure that the relocation meets Telstra's requirements.

- If Telstra relocation or protection works are part of the agreed solution, then payment to Telstra for the cost of this work shall be the responsibility of the principal developer, constructor or person for whom the work is performed. The principal developer or constructor will be required to provide Telstra with the details of their proposed work showing how Telstra's plant is to be accommodated and these details must be approved by the Regional Network Integrity Manager prior to the commencement of site works.  
Please phone 1800 810 443 or email [NetworkIntegrity@team.telstra.com](mailto:NetworkIntegrity@team.telstra.com)  
Further information - <https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets>

### **Damage to Telstra's network must be reported immediately -**

<https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment>

- You will be held responsible for all plant damage that occurs or any impacts to Telstra's network as a result of your construction activities. This includes interfering with plant, conducting unauthorised modification works and interfering with Telstra's assets in a way that prevents Telstra from accessing or using its assets in the future.
- Telstra reserves all rights to recover compensation for loss or damage to its cable network or other property including consequential losses.

## **FURTHER INFORMATION:**

### **NATURAL DISASTERS**

Natural Disasters include (amongst other things) earthquakes, cyclones, floods and tsunamis. In the case of such events, urgent requests for plans or information relating to the location of Telstra network can be made directly to Telstra Network Integrity Team Managers as follows:

NSW – John McInerney 0419 485 795

QLD – Glenn Swift 0419 660 147

VIC/TAS - David Povazan 0417 300 947

SA/NT - Mick Weaver 0419 828 703

WA - Angus Beresford-Peirse 0419 123 589

## TELSTRA PLAN SERVICES - for all Telstra Dial Before You Dig related enquiries

Email - [Telstra.Plans@team.telstra.com](mailto:Telstra.Plans@team.telstra.com)

Phone - 1800 653 935 (general enquiries, business hours only)

\*Telstra DBYD plan information - Shalin 07 3455 2997  
Anthony 07 3455 2365

Advice on preventing damage - Glen 07 3455 1011  
Lachlan 07 3455 3132

Accredited plant locator enquiries - Mike 0477 377 036  
Taylor 0477 365 666

Road closures - Megan 07 3455 0834  
Lachlan 07 3455 3132

Telstra easements - Glen 07 3455 1011

*\*Please note - to make a Telstra plan enquiry the plans must be current (within 60 days of issue). If your plans have expired you will need to submit a new request via DBYD prior to contacting Telstra Plan Services.*

### Information for new developments (developers, builders, home owners)

Telstra Smart Communities - <https://www.telstra.com.au/smart-community>

### Asset relocations

Please phone 1800 810 443 or email [NetworkIntegrity@team.telstra.com](mailto:NetworkIntegrity@team.telstra.com)

<https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets>

**Telstra offers free Cable Awareness Presentations**, if you believe you or your company would benefit from this offer please contact Network Integrity on 1800 810 443 or

[NetworkIntegrity@team.telstra.com](mailto:NetworkIntegrity@team.telstra.com)

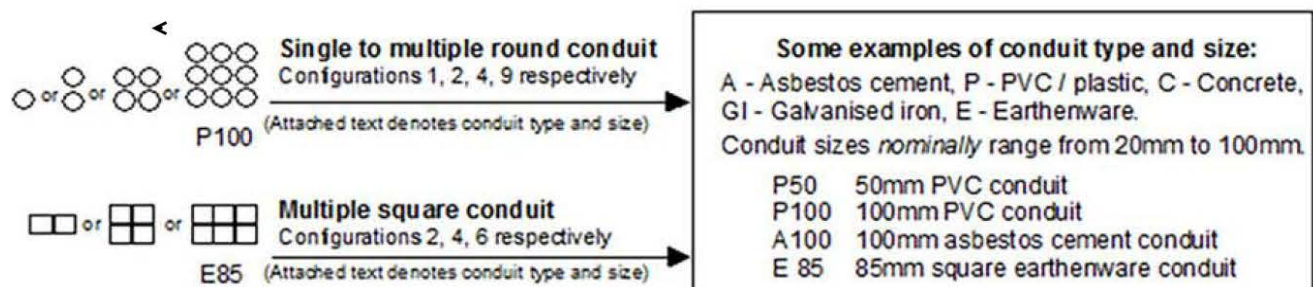
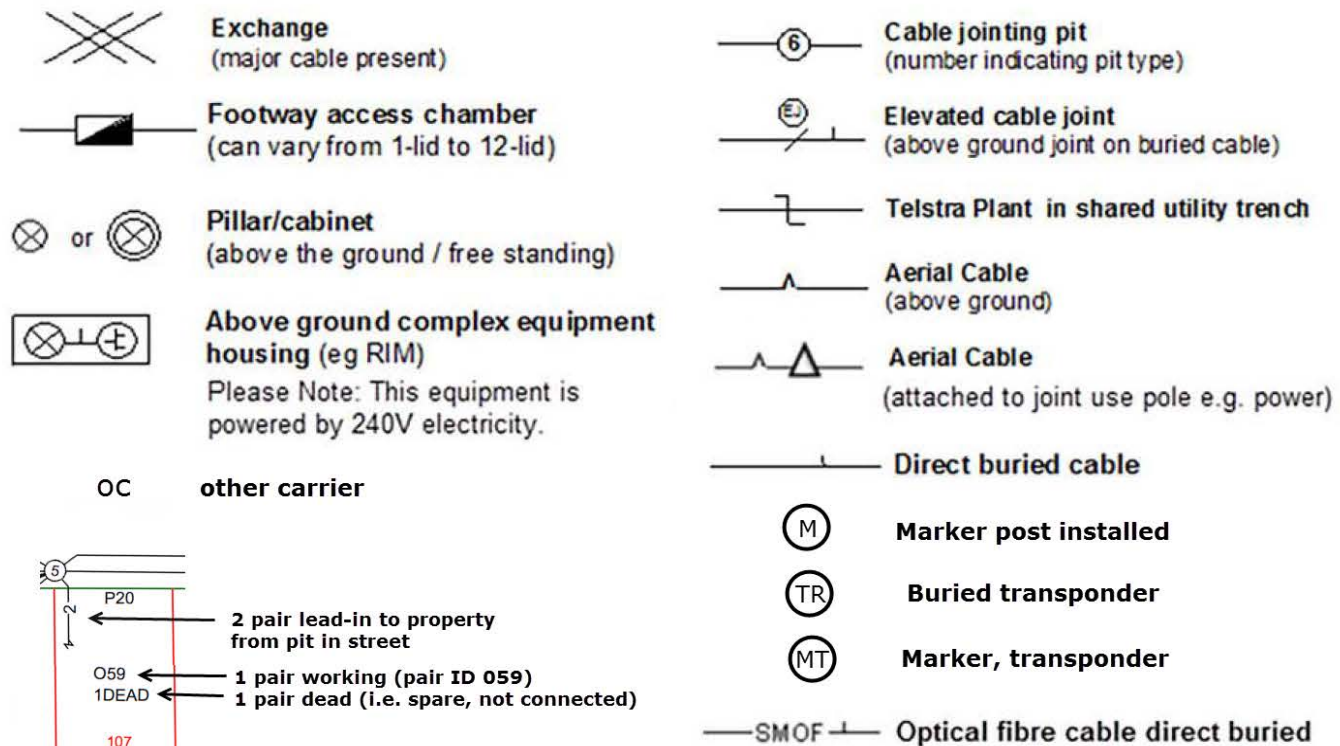
### PRIVACY NOTE

*Your information has been provided to Telstra by DBYD to enable Telstra to respond to your DBYD request. Telstra keeps your information in accordance with its privacy statement entitled "Protecting Your Privacy" which can be obtained from Telstra either by calling 1800 039 059 or visiting our website at [www.telstra.com.au/privacy](http://www.telstra.com.au/privacy)*

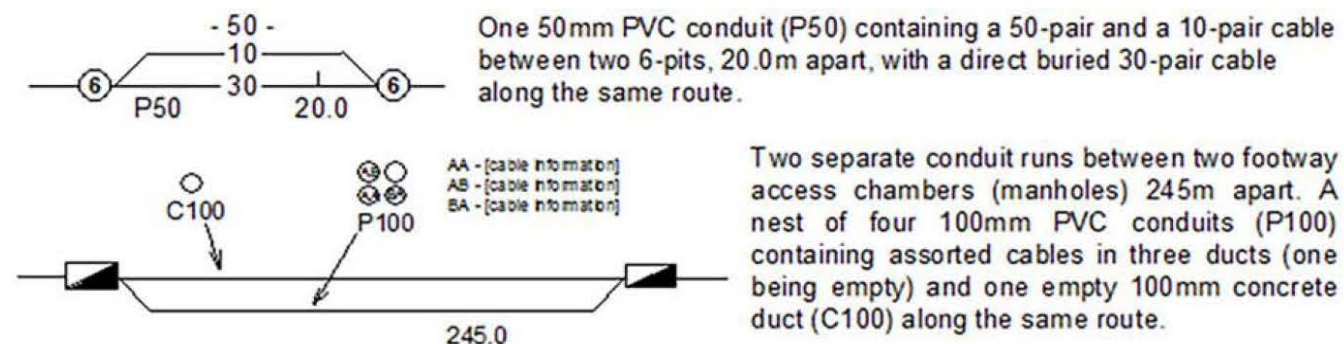




For more info contact a Telstra Accredited Locator or Telstra Plan Services 1800 653 935



## Some examples of how to read Telstra plans:



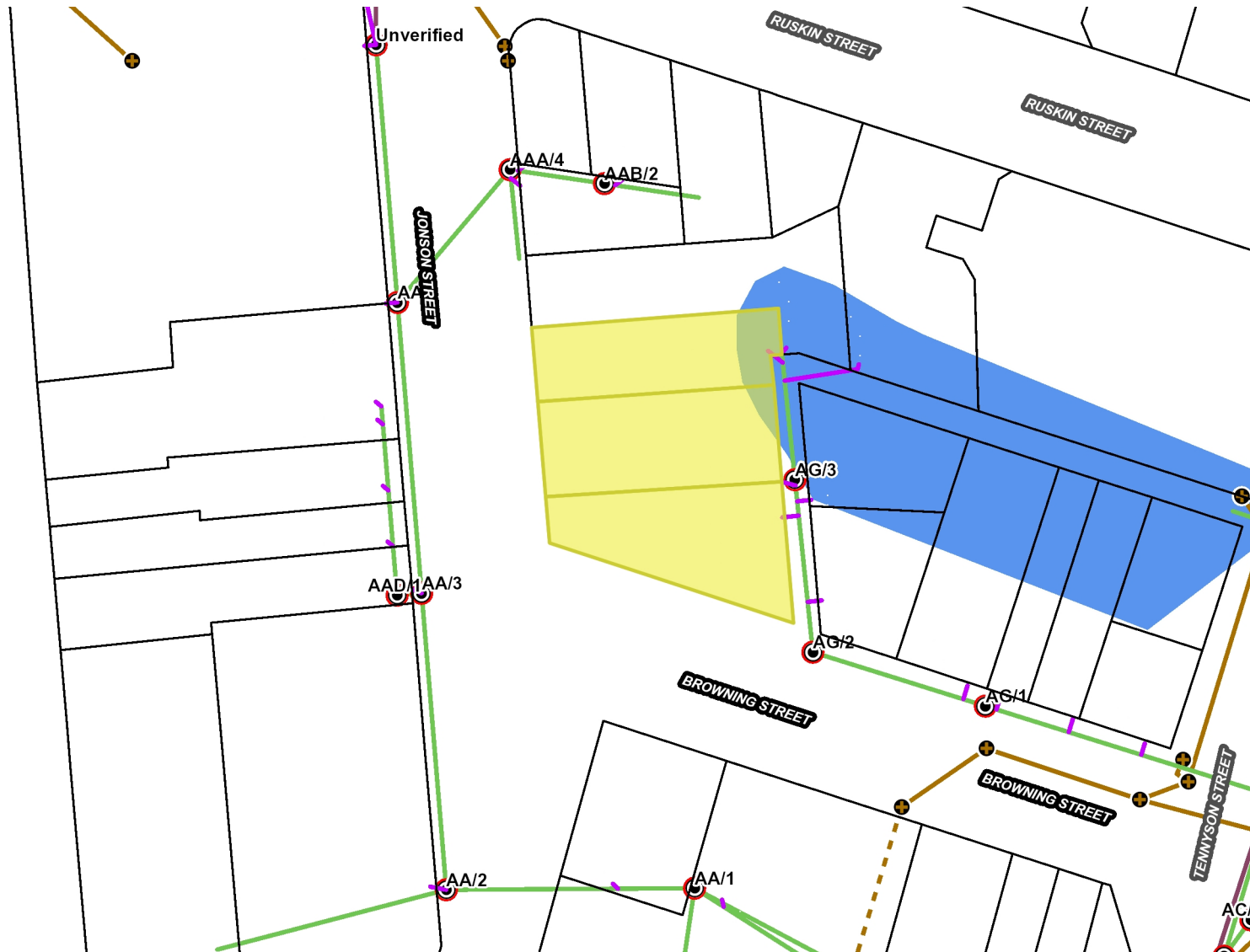
**WARNING:** Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works. The exact position of Telstra assets can only be validated by physically exposing it. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.



## APPENDIX C | COUNCIL GIS INFORMATION



# Map Title



## Legend

- Land Parcels
- Sewer Pump Stations
  - Council Owned
  - Privately Owned
- Sewer Outfall
- Sewer Junctions
- Sewer Manhole IDs
- Sewer Manholes
- Sewer Gravity Valves
- Sewer Gravity Mains
  - Active Gravity Main
  - Abandoned Gravity Main
  - Private Gravity Main
- Sewer Pressure Valves
- Sewer Pressure Boundary Kits
- Sewer Pressure Mains
- Sewer Vacuum Valves
- Sewer Vacuum Pods
- Sewer Vacuum Mains
- Sewer Rising Mains
  - Active Rising Main
  - Abandoned Rising Main
  - Future Rising Main
- STP
- Stormwater Urban Flood Pumps
- Stormwater Urban Floodgates
- Stormwater Urban Junctions
- Stormwater Urban Drains
- Stormwater Urban Levee Banks
- Stormwater Urban Mains
- Stormwater Urban Overland Flowpaths
- Stormwater Urban Flood Problems
- Stormwater Urban Retention Basins

Disclaimer : While all reasonable care has been taken to ensure the information contained on this map is up to date, no warranty is given that the information contained on this map is free from error or omission. Any reliance placed on such information shall be at the sole risk of the user. Please verify the accuracy of the information prior to using it. Note : The information shown on this map is a copyright of the Byron Shire Council and the NSW Department of Lands.

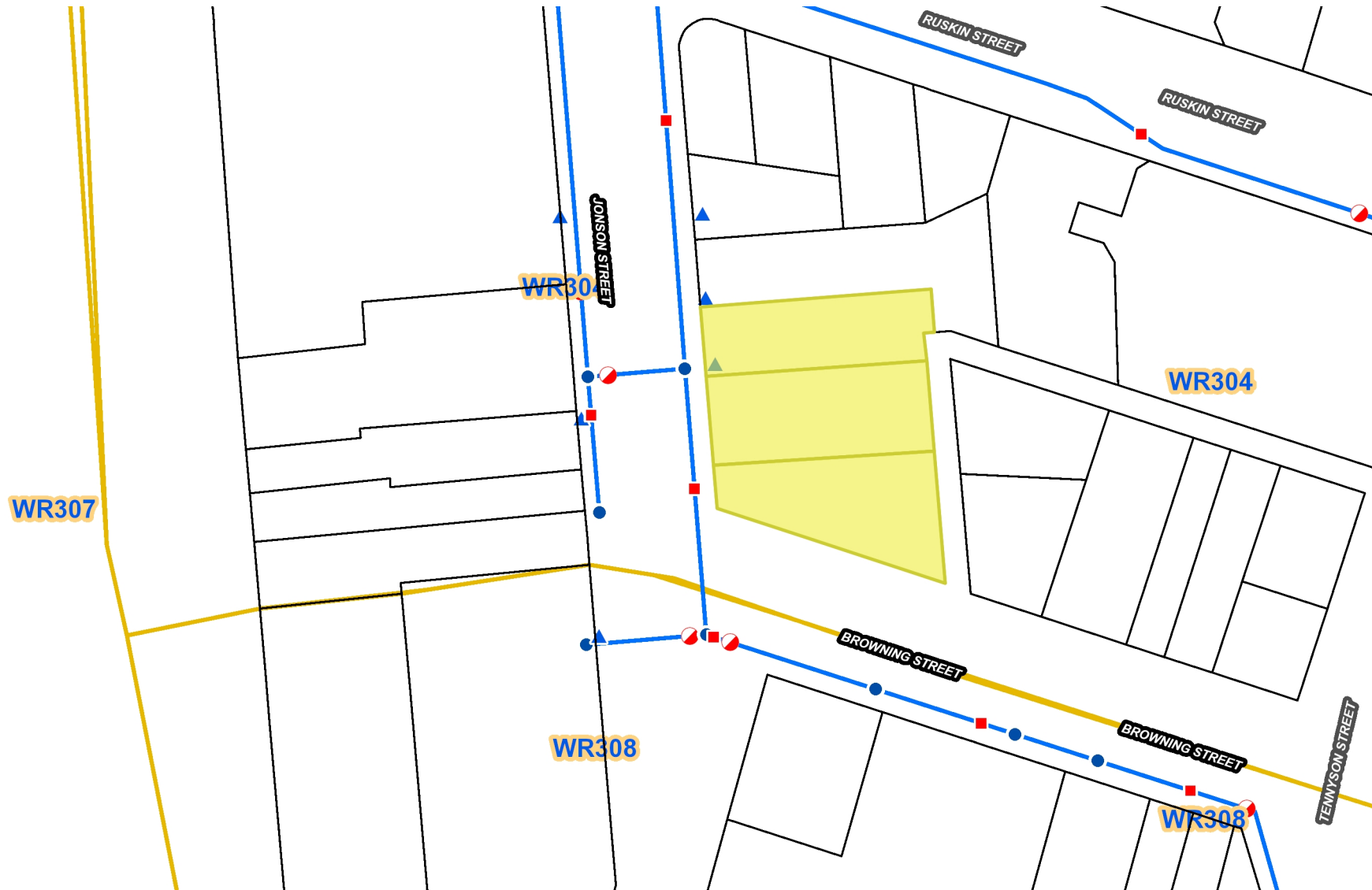
92  
Meters  
( Scale @ A4 Size )

NORTH  
1 : 1,344  
02-May-2017

## Notes



# Map Title



## Legend

- Land Parcels
- Water Pump Stations
- Water Reservoirs
- Water Flowmeters
- Water Hydrants
- Water Metres
- Water Pipenodes
- Water Valves
  - Air Valve
  - Boundary Valve
  - Butterfly Valve
  - Gate Valve
  - Non Return Valve
  - Pressure Reduction Valve
  - Scour Valve
  - Stop Valve
- Watermains
  - Active
  - Abandoned
  - PENDING
- Water Reticulation Areas
  - Rous Watermains
  - Boosted Water Pressure Zones
    - CORKWOOD WPS
    - FLINDERS WPS
    - GARDENIA WPS
    - GRANVILLE WPS
    - PALMER WPS
    - TONGARRA WPS
    - TRISTRAN WPS
    - WARRAMBOOL WPS
    - YAMBLE WPS
  - PRV Zones
    - BALEMO DRIVE
    - CEMETERY VALVE STATION
    - CLIFFORD STREET
    - EWINGSDALE ROAD
    - JUBILEE AVENUE
    - ORANA ROAD
    - SHARA BOULEVARD
- Home Dialysis Properties

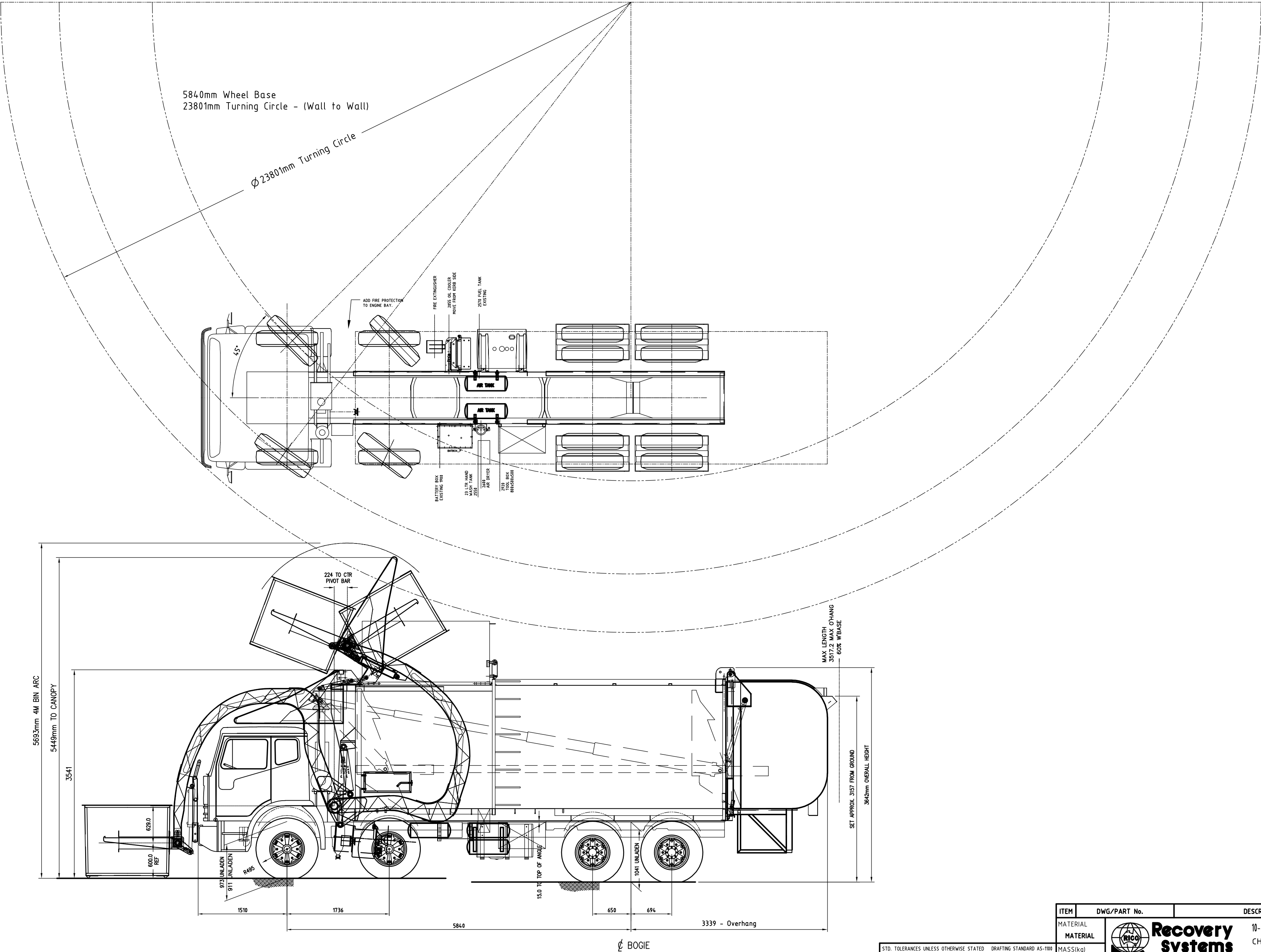
Disclaimer : While all reasonable care has been taken to ensure the information contained on this map is up to date, no warranty is given that the information contained on this map is free from error or omission. Any reliance placed on such information shall be at the sole risk of the user. Please verify the accuracy of the information prior to using it. Note : The information shown on this map is a copyright of the Byron Shire Council and the NSW Department of Lands.

92  
Meters  
( Scale @ A4 Size )

NORTH  
1 : 1,344  
02-May-2017

## Notes

## APPENDIX D | CUSTOM HRV REFUSE TRUCK SPECIFICATION



STD. TOLERANCES UNLESS OTHERWISE STATED DRAFTING STANDARD AS-1100			
FABRICATION	NO DECIMAL	PLACE ±2	✓ R 12.5
MACHINING	1 DECIMAL	PLACE ±0.2	✓ R 3.2
* EXCLUDING STOCK SIZES			
HOLES - Ø Ø14.7 DO NOT SCALE			
Φ	2	Φ	0.2
∠	2	∠	0.2
∥	2	∥	0.2
⊥	2	⊥	0.2
⊥	2	⊥	0.2
⊥	2	⊥	0.2

PROPERTY OF RCO RECOVERY SYSTEMS  
THE INFORMATION ON THIS DRAWING IS  
CONFIDENTIAL & IS NOT AUTHORISED FOR  
TRANSFER TO A THIRD PARTY.

ITEM	DWG/PART No.	DESCRIPTION	MATERIAL	QTY
MATERIAL				
MASS				
DESCRIPTION				
SCALE	NTS	APPROVED		
DRAWN	SIMON.M	DATE	23-07-18	
USED ON	CUSTOMER	PART NO	2400-025	
DRIVING NO				



10-12 CHINDERAH BAY DRIVE  
CHINDERAH N.S.W.  
Ph - (02) 66741306  
Fax - (02) 66741262

E-Mail - SOLORR@SOLO.COM.AU

ACCO FRONT LIFT- 8 x 4 - 5840 WB  
TURNING CIRCLE - 23801mm (Wall to Wall)

SOLO RESOURCE RECOVERY

REV- A





# Stormwater Management Plan

## 137-139 Jonson St & 3 Browning St, Byron Bay

JGD Developments

Planit Consulting

August 2018

Document No: J170-SWMP01 Revision C



## Document Status

Version	Document type	Reviewed by	Issued by	Date Issued
Rev. A - Final Draft for Client Review	Report	Niek van Oers	Michiel Kamphorst	28/07/2017
Rev. B - Final for Development Application	Report	Michiel Kamphorst	Michiel Kamphorst	16/08/2017
Rev. C - Updated Development Application	Report	Simon Millichamp	Matt Plain	08/08/2018

## Project Details

<b>Project Name:</b>	137-139 Jonson St & 3 Browning St, Byron Bay
<b>Client:</b>	JGD Developments
<b>Client Project Manager:</b>	Graham Dunn
<b>Authors:</b>	Giuseppe Fallara
<b>Planit Reference:</b>	J170 – SWMP01

## Copyright

Planit has produced this document in accordance with instructions from JGD Developments for its use only. The concepts and information contained in this document are copyright of Planit.

Use or copying of this document in whole or in part without written permission of Planit constitutes an infringement of copyright.

Planit does not warrant this document is definitive and free from error and does not accept liability for any loss caused, or arising from, reliance upon the information provided herein.

Planit Consulting  
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  
administration@planitconsulting.com.au

# CONTENTS

Executive Summary .....	3
1. Introduction .....	4
1.1 Project Background .....	4
1.2 Scope .....	4
1.3 Description of Subject Site .....	4
2. Stormwater Catchments .....	6
3. Stormwater Quantity .....	7
3.1 Hydrology (DRAINS) Assessment .....	7
3.2 Rainfall Data .....	7
3.3 Onsite Detention .....	7
3.4 Stormwater Logistics .....	9
4. Stormwater Quality .....	10
4.1 MUSIC Modelling Overview .....	10
4.2 MUSIC Modelling Results .....	10
4.3 Basement Carpark Drainage .....	12
4.4 Legal Point of Discharge .....	12
5. Sediment and Erosion Control .....	14
6. Conclusions and Recommendations .....	16
Appendix A   Concept Sediment and Erosion Control Plan .....	17
Appendix B   Erosion and Sediment Control Checklist .....	18

## LIST OF FIGURES

Figure 1   Subject Site Source: Six Maps (2017) .....	5
Figure 2   Catchment Diagram .....	6
Figure 3   Subject Site Rainfall Data, Source: Bureau of Meteorology (2017) .....	7
Figure 4   Roofwater treatment and discharge diagram (elevation view) .....	8
Figure 5   DRAINS Model .....	9
Figure 6   Stormwater Quality Targets, Source: Byron Shire Council DCP 'B3: Services' .....	10
Figure 7   MUSIC Model .....	12
Figure 8   Proposed Stormwater Infrastructure Diagram .....	13

## LIST OF TABLES

Table 1   Site Catchments .....	6
Table 2   Flows Rates for the Worst-Case Storm Events .....	8
Table 3   MUSIC Modelling Results .....	11

## EXECUTIVE SUMMARY

The subject site is approximately 2835m<sup>2</sup> in plan and is currently made up of three individual lots (two single residency lots and one dual occupancy lot) each containing residential dwellings. The proposal comprises of a mixed-use development with residential and commercial uses. The site has a high point with an approximate RL of 8.4m at the proposed north-eastern property boundary, and low points with an approximate RL of 4.1m at the Jonson Street and Browning Street boundaries. Access to the subject site is via Ruskin Lane to the east. Planit was engaged by JGD Developments to prepare a stormwater management plan to support the development application (DA) for the proposed development.

The purpose of this stormwater management plan is to:

- Analyse the site in its developed and undeveloped states.
- Identify locations for stormwater management infrastructure.
- Appropriately assess the need for onsite detention/retention.
- Develop strategies to control stormwater discharge to the receiving networks.
- Meet Water Sensitive Urban Design (WSUD) objectives.
- Propose sediment and erosion control measures for construction.

In this report, Planit has made an assessment in the following areas:

- Stormwater quantity (hydrology & detention sizing) using DRAINS software.
- Stormwater quality using MUSIC software.

A hydrologic analysis was undertaken in order to assess rainfall runoff generated within the site. Drainage catchments were identified for the pre-developed and post-developed site. To minimise the impact on the public drainage network, it is proposed to mitigate post-development flows to ensure they do not exceed pre-development flows. Excess runoff will be temporarily stored on site. The proposed development will require 27m<sup>3</sup> of storage volume which shall be in the form of two (2) leaky tanks: a 18m<sup>2</sup> tank and a 9m<sup>2</sup> tank, both with a height difference of 1.5m between the inlet and outlet. Additionally, 2m<sup>3</sup> of storage will be provided in the bioretention basin in the form of extended detention. Its main aim, however, is to meet quality targets.

The stormwater quality objectives outlined in the Byron Shire Council Development Control Plan 'Chapter B3: Services' identify the requirement for proposed developments to treat discharging stormwater to certain pollutant removal efficiencies. An integrated stormwater management strategy utilising Ecosol Storm Pit Class 2 units, vegetated swales and a bioretention basin will be used to meet these 'best practice' stormwater quality guidelines. MUSIC modelling software has been utilised to determine the stormwater treatment requirements for the site in its proposed developed state.

In accordance with Landcom (2004), sediment and erosion control measures are proposed during construction including:

- Filter bags around stormwater inlets.
- Stabilised site access.
- Sediment fence around disturbed area.

The assessment in this report is limited to stormwater quantity and quality. Flooding falls outside the scope of this stormwater management plan.

# 1. INTRODUCTION

## 1.1 PROJECT BACKGROUND

This stormwater management plan has been prepared to provide an assessment of stormwater quality and quantity mitigation required for the proposed development located at 137-139 Jonson Street and 3 Browning Street, Byron Bay. This report has been prepared to support the development application (DA) for the site.

The purpose of this stormwater management plan is to:

- Analyse the site in its developed and undeveloped states.
- Identify locations for stormwater management infrastructure.
- Appropriately assess the need for onsite detention/retention.
- Develop strategies to control stormwater discharge to the receiving networks.
- Meet Water Sensitive Urban Design (WSUD) objectives.
- Propose sediment and erosion control measures for construction.

## 1.2 SCOPE

Stormwater management is required to demonstrate compliance with the Byron Shire Council's *Comprehensive Guidelines for Stormwater Management* and *Chapter B3* of the 2014 Byron Shire DCP. The preparation of the site's stormwater management plan incorporates:

- Catchment analysis to identify pre- and post-development stormwater catchments and determine the ultimate treatment/detention area required for the catchment.
- Hydrology calculations and determine detention sizing requirements.
- A conceptual stormwater network diagram over the proposed development footprint of the site including indicative locations of trunk pipe systems, open channel flow paths & stormwater detention/retention areas.
- Opportunities for Water Sensitive Urban Design principles to be utilised and options for water quality treatment 'in train' or 'end of line' solutions. These would include opportunity for rainwater harvesting/re-use, bioretention swales and basins.
- Provision of 'MUSIC' software results for the treatment train to determine nutrient removal & suspended solids removal.
- Identify advantages & disadvantages of stormwater management options presented in the report and final recommendations for the preferred stormwater management strategy.
- Report on all findings to demonstrate compliance with Byron Shire Council (BSC) guidelines.
- Sediment and erosion control measures.

Flooding has not been included as part of this assessment. However, as per the engineering assessment it can be seen that the site is not subject to flooding.

## 1.3 DESCRIPTION OF SUBJECT SITE

The subject site is approximately 2835m<sup>2</sup> in plan and is currently made up of three (3) individual lots, with each containing residential properties. The proposal comprises of a mixed-use development with residential and commercial areas. The site has a high point of approximately RL 8.4m at the proposed north-eastern property boundary, and low points of approximately RL 4.1m at the Jonson Street and Browning Street boundaries. Access to the subject site shall be via Ruskin Lane to the east. Planit was engaged by JGD Developments to prepare a stormwater management plan to support the development application (DA) for the proposed development.

The proposed development will increase the impervious area over the pre-development conditions by approximately 1600m<sup>2</sup> (56% of the total subject site). It has been assumed that the detention required to facilitate the increased impervious area can be achieved through directing flows into "leaky tanks". Ecosol Storm Pit Class 2 units have been proposed to treat runoff from roof areas and the basement carpark. A vegetated swale and a bioretention basin have been proposed to treat runoff from the central walkway, and a grass buffer strip will be used to treat runoff from the MRV loading bay area. Refer to the Engineering Plans in Appendix A for the proposed site layout.



Figure 1 | Subject Site Source: Six Maps (2017)



## 2. STORMWATER CATCHMENTS

Analysis of the pre- and post-development layout of the site allowed the identification and definition of the catchments that contribute to the stormwater runoff from the site. Post-development catchments have been based on the proposed architectural layout of the development. Refer to Table 1 for the catchment breakdown and Figure 2 for the proposed catchment diagram.

Table 1 | Site Catchments

Catchment	Roof area (m <sup>2</sup> )	Paved area (m <sup>2</sup> )	Landscape area (m <sup>2</sup> )	Total area (m <sup>2</sup> )
Pre-development				
Total	795	40	2000	2835
Post-development				
Catchment 1	1210	0	0	1210
Catchment 2	955	0	0	955
Catchment 3	0	150	100	250
Catchment 4	0	55	0	55
Catchment 5	0	115	0	115
Catchment 6	0	10	5	15
Catchment 7	0	0	105	105
Catchment 8	0	0	85	85
Catchment 9	0	0	45	45
Total	2165	330	340	2835



Figure 2 | Catchment Diagram



### 3. STORMWATER QUANTITY

#### 3.1 HYDROLOGY (DRAINS) ASSESSMENT

A hydrologic analysis on the site was carried out using DRAINS to estimate flows and, accordingly, the required stormwater detention volume. The model was used to estimate design flows under both pre-developed and post-developed site conditions for the 1 to 100 year ARI events of durations ranging from 5 minutes to 3 hours. The storage volume was designed to reduce peak flows up to and including the 100 year ARI with the assumption that when the outlet storage capacity is reached, overflow will be diverted towards a legal point of discharge with a combined discharge rate less than or equal to the pre-development rate. The critical minor storm event for residential developments in the Byron Shire is the 5 year ARI event. Catchment 4 (basement carpark) was excluded from the DRAINS model as the runoff from this catchment will be stored in a tank and pumped to the kerb. This assessment was undertaken in accordance with the Northern Rivers Local Government (NRLG) Development Guidelines and BSC Design Manual and Handbook of Stormwater Drainage Design.

DRAINS software uses ILSAX hydrology allowing assessment from very small models up to very large models with catchment sizes up to 10km<sup>2</sup>. Working through a number of time steps that occur during the course of a storm event, it simulates the conversion of rainfall patterns to stormwater runoff hydrographs and routes these through various forms of drainage structures.

#### 3.2 RAINFALL DATA

Byron Bay is located in Northern New South Wales, close to the Queensland border, within a sub-tropical climate zone. Rainfall is seasonal and the highest recorded rainfall is traditionally in the summer months. Typical rainfall events in this period are severe thunderstorms with high rainfall intensities. The rainfall intensity, frequency and duration (IFD) data for Byron Bay has been taken from the Bureau of Meteorology (BOM) as it provides up to date rainfall data (Figure 3). This IFD table was created using the IFD page on the BOM website based on the geographical coordinates for the subject site, being:

- 28.649983 S.
- 153.613536 E.

Average Recurrence Interval							
Duration	1 YEAR	2 YEARS	5 YEARS	10 YEARS	20 YEARS	50 YEARS	100 YEARS
5Mins	128	161	196	215	241	275	300
6Mins	120	151	184	202	227	259	283
10Mins	98.3	124	152	167	188	215	235
20Mins	72.0	91.2	112	124	140	161	176
30Mins	58.7	74.4	92.1	102	116	133	146
1Hr	39.8	50.7	63.4	70.5	80.2	92.7	102
2Hrs	26.0	33.2	41.8	46.7	53.4	62.0	68.5
3Hrs	20.0	25.6	32.4	36.3	41.5	48.3	53.4
6Hrs	12.8	16.4	20.9	23.5	26.9	31.4	34.9
12Hrs	8.26	10.6	13.7	15.5	17.8	20.9	23.3
24Hrs	5.44	7.06	9.25	10.6	12.3	14.5	16.3
48Hrs	3.55	4.65	6.25	7.23	8.49	10.2	11.5
72Hrs	2.68	3.52	4.80	5.60	6.60	7.97	9.04

Figure 3 | Subject Site Rainfall Data, Source: Bureau of Meteorology (2017)

#### 3.3 ONSITE DETENTION

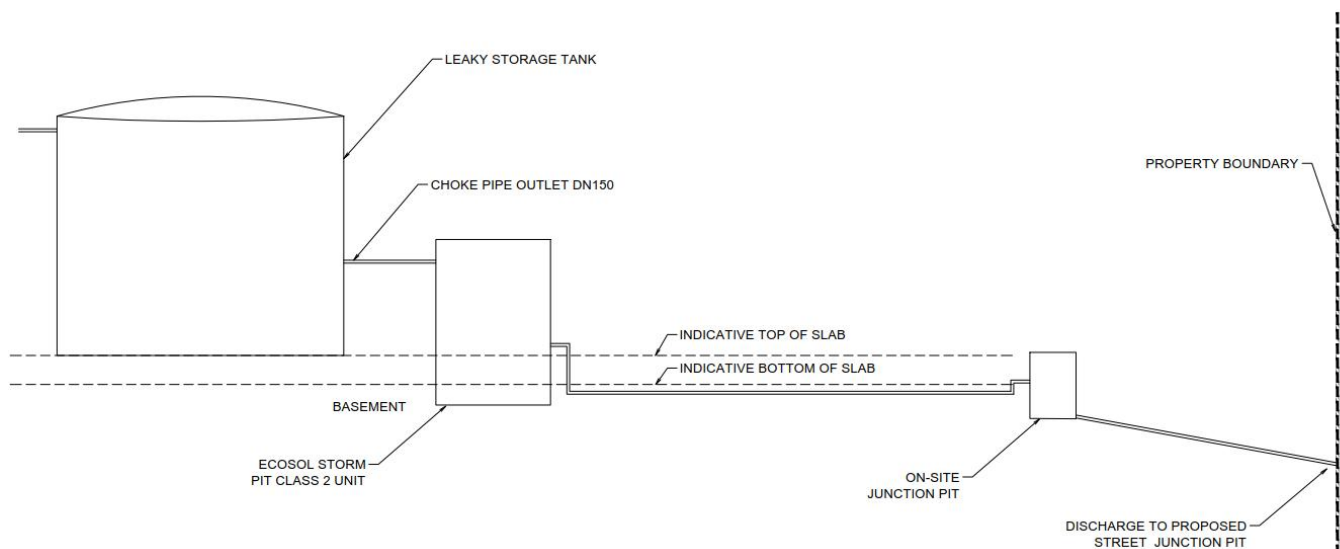
Due to the increase of impervious area post-development, onsite detention will be required to reduce flow rates to those of pre-development flows. Based on the DRAINS analysis, it is recommended that leaky tanks with a total volume of 27m<sup>3</sup> are adopted to ensure that post-development flows are reduced to the magnitude of pre-development flows. It is proposed to direct roof flows into two (2) tanks: one 18m<sup>3</sup> tank (Tank A) for the runoff from the northernmost building and one 9m<sup>3</sup> tank (Tank B) for the runoff from the southernmost building. Both tanks will have a height of 1.5m between the top and outlet, with Tank A having a floor area of 12m<sup>2</sup> and Tank B having a floor area of 6m<sup>2</sup>. Refer to the Engineering Plans in Appendix A for an indicative location of the leaky tanks. The exact specifications for the tanks will be confirmed during detailed design.

Both tanks will have a 150mm choke pipe outlet to restrict the outflow. The 150mm outlet pipe from Tank A will be fitted to a 100mm pipe before being discharged into the Ecosol Storm Pit via a larger pipe. Both tanks will have reuse storage in the bottom of the respective tank to allow for rainwater reuse on site. This will allow the choke pipe outlet to be located higher in the tank to ensure that flows can be directed from the tank to the proposed Ecosol Storm Pits which have an inlet 810mm above the ground surface. A typical configuration of the stormwater setup can be seen in Figure 4. The proposed site layout is presented in Appendix A. All outflows from the Ecosol Storm Pit units will be piped to the kerb. For conservative modelling purposes, it has been assumed that the storage below the outlet is always full and all inflows will result in equivalent outflows.

The DRAINS model indicates that this proposed stormwater layout is sufficient to mitigate flows up to and including the 100 year ARI events of 5 minute to 3 hour durations. Table 2 shows the maximum pre- and post-development discharges for the worst-case storms of a range of different ARI's. The results were obtained using a DRAINS assessment, and it can be seen that with the implementation of 27m<sup>3</sup> of leaky tank storage, the post-development flows can be reduced to that to that of pre-development. Additionally, 2m<sup>3</sup> of storage will be provided in the form of extended detention in the bioretention basin. This requires an extended detention depth of 0.2m. A schematic of the DRAINS model can be seen in Figure 5. The DRAINS model can be provided to Council for further confirmation if requested.

**Table 2** | Flows Rates for the Worst-Case Storm Events

$Q_{MAX}$ (m <sup>3</sup> /s)	1 year	5 year	10 year	20 year	50 year	100 year
Pre-Development	0.077	0.131	0.148	0.169	0.179	0.198
Post-Development Un-Mitigated	0.085	0.141	0.157	0.178	0.189	0.207
Post-Development Mitigated	0.050	0.102	0.122	0.154	0.167	0.184



**Figure 4** | Roofwater treatment and discharge diagram (elevation view)

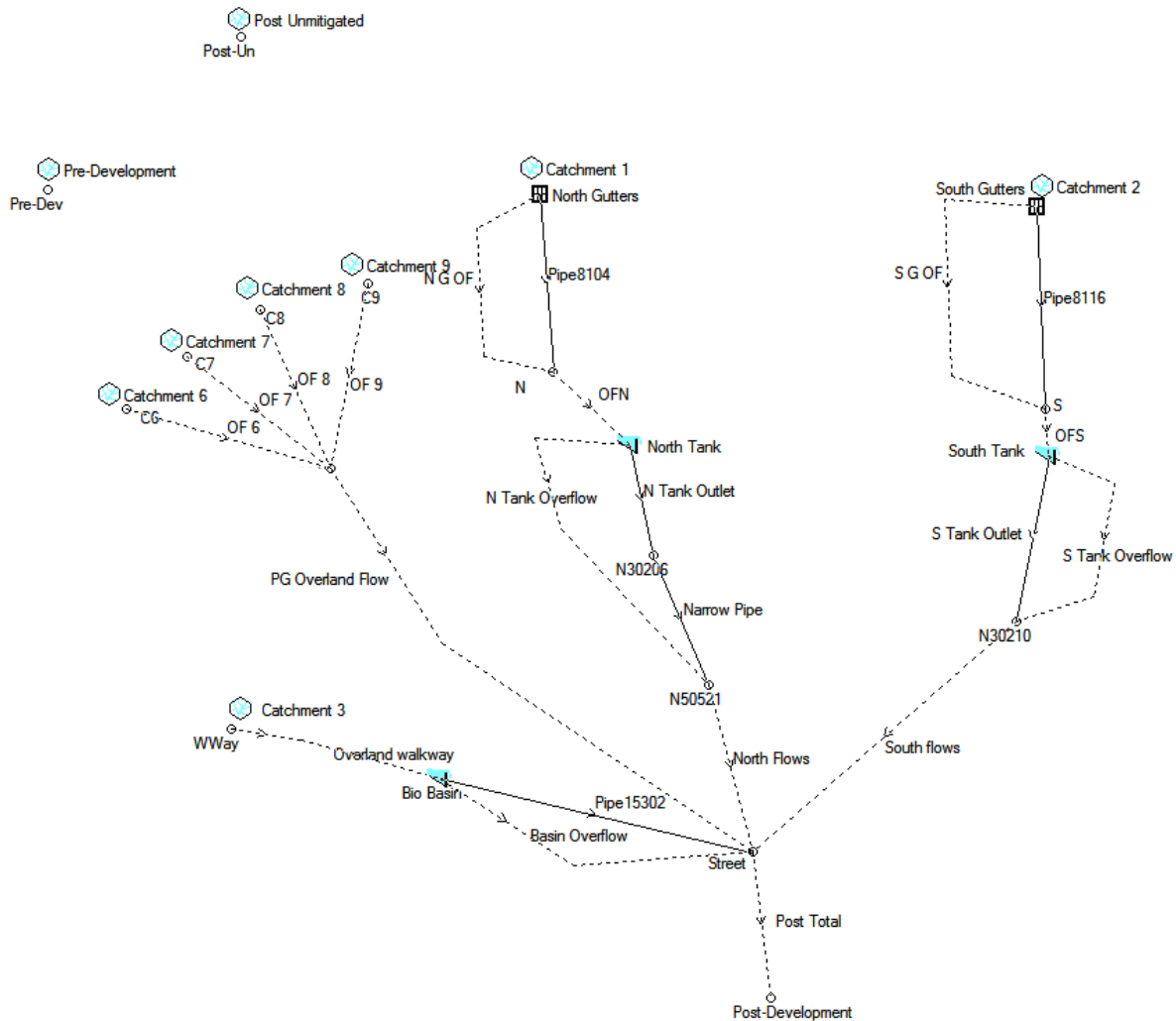


Figure 5 | DRAINS Model

### 3.4 STORMWATER LOGISTICS

Due to the spatial constraints on the subject site, stormwater will need to be conveyed from the roof water tanks to the treatment pits using a charged system. Stormwater pipes will need to travel through the suspended slab and directly below the ceiling of the basement carpark before re-entering the suspended slab at the target location. This ensures that charged pipes can be readily maintained due to the ease of access from the basement carpark. The following systems will need to be charged and contained within the basement carpark:

- Stormwater downpipe network between the southern building and the tank room.
- Choke pipe outlets from both Tank A and Tank B to the inlet of the Ecosol Storm Pits.
- Overflow pipes from both Tank A and Tank B to the inlet of the Ecosol Storm Pits.
- Pipe from the northern courtyard to the kerb at Jonson Street.

The outlet of the Ecosol Storm Pit units will need to be at ground level to ensure that grades can be made between the Ecosol Storm Pit unit and the kerb. To achieve this, the inlet of the units will need to be raised above ground level. Ecosol state that for optimal performance of these units, this system requires a minimum drop from the inlet pipe to the outlet pipe of at least 810mm. To ensure that outflows from the leaky tanks can be conveyed to the inlet of the Ecosol Storm Pit units, the outlet of the leaky tanks must be at a greater invert level than the inlet of the Storm Pit units. This will allow the choke pipe to be located at a higher point in the leaky tank and allow the bottom of the tank to be utilised for reuse if required. If no reuse is required, then the tanks can be placed on a platform that achieves outlet pipe invert levels.

## 4. STORMWATER QUALITY

Byron Shire Council's Development Control Plan (DCP) 'Chapter B3: Services' identifies Water Sensitive Urban Design (WSUD) as being one of the guiding principles for stormwater quality management. The measures required as part of this specification are to treat up to a  $Q_{3\text{month}}$  event and all paved and roof areas must be treated.

Stormwater quality for the proposed development has been analysed using MUSIC software and is based on the following specified water quality objectives as listed in Table B3.2- Pollutants and Retention Criteria (Figure 6), Byron Shire Council DCP 'Chapter B3: Services'.

**Table B3.2 – Pollutants and Retention Criteria**

Pollutant / Issue	Retention Criteria
Litter	70% of average annual load greater than 5mm.
Coarse Sediment	80% of average annual load for particles 0.5mm or less.
Fine Particles	50% of average annual load for particles 0.1mm or less.
Total Phosphorous	45% of average annual load.
Total Nitrogen	45% of average annual load.
Hydrocarbons, motor fuels, oils & grease	90% of average annual load.

**Figure 6** | Stormwater Quality Targets, Source: Byron Shire Council DCP 'B3: Services'

As per Table B3.1 of Byron Shire DCP B3, this development requires an assessment of the following pollutants:

- Litter (gross pollutants).
- Total phosphorus.
- Total nitrogen.
- Total suspended solids (TSS): assumed to be most stringent requirement for 'course sediment' and 'fine particles' (i.e. 80%).

### 4.1 MUSIC MODELLING OVERVIEW

The Model for Urban Stormwater Improvement Conceptualisation (MUSIC) has been utilised as the key water quality modelling tool for this project. MUSIC is a continuous simulation water quality model used to evaluate the short- and long-term performance of stormwater improvement devices that are configured in series or in parallel to form a 'treatment train'. MUSIC enables the end-user to determine if proposed systems can meet specified water quality objectives.

The MUSIC model considers suspended solids, total nitrogen and total phosphorus, which are typical components and key indicators of stormwater runoff. The key MUSIC model inputs are:

- Rainfall and evaporation data (as provided by eWater).
- Catchment area and percentage impervious.
- Soil storage parameters.
- Pollutant event mean concentrations for source nodes (as provided by Byron Shire Council Development Control Plan 'Chapter B3: Services').

All input parameters to the MUSIC model were derived from data supplied by Byron Shire Council or estimated from the Water by Design MUSIC modelling guidelines (2010).

MUSIC model outputs include treatment train effectiveness. These outputs are expressed in terms of pollutant reduction as shown in Table 3.

### 4.2 MUSIC MODELLING RESULTS

The stormwater runoff from Catchment 7, 8 and 9 (Figure 2) will be diverted off site without treatment as these catchments are entirely landscaped. Catchment 7 consists of the outdoor childcare play area adjacent to Browning Street, Catchment 8 consists of the outdoor childcare play area adjacent to Ruskin Lane, and Catchment 9 consists of the landscaped area that ties into the northern corner of Ruskin Lane.

Based on the MUSIC model for the site, we conclude that three (3) Ecosol Storm Pit Class 2 units, a 3m<sup>2</sup> grass buffer strip, a 10m long vegetated swale and a 10m<sup>2</sup> bioretention basin are sufficient to achieve the Council specified stormwater quality targets for the proposed development.

As is depicted in Figure 7, the following treatment train is proposed:

- The northern roof area will discharge into a 18kL tank, then into an Ecosol Storm Pit, which discharges to the proposed Browning Street piped network.
- The northern roof area will discharge into a 9kL tank, then into an Ecosol Storm Pit, which discharges to the proposed Browning Street piped network.
- The walkway pavement runoff flows into a 10m long vegetated swale, which discharges into a 10m<sup>2</sup> bioretention area. The bioretention area discharges to the proposed Browning Street piped network.
- The 56m<sup>2</sup> catchment of the basement ramp will be captured in a pit and discharge to an Ecosol Storm Pit, placed in the basement. This Ecosol Storm Pit discharges into a pump well, from where the basement pump pumps the runoff into the proposed Browning Street piped network.
- The Ruskin Lane loading bay sheet flows into a grass buffer strip with a minimum surface area of 3m<sup>2</sup>, from where it sheet flows onto the Ruskin Lane pavement and discharges to the proposed Browning Street piped network.

Table 3 shows the MUSIC modelling results for the proposed treatment train. The proposed treatment train meets Council's water quality targets.

**Table 3 | MUSIC Modelling Results**

MUSIC Modelling Results							
Pollutant	Sources		Residual Load		% Reduction		
	Pre	Post	Pre	Post	Pre	Post	BSC Objectives
Total Suspended Solids (kg/yr)	405	212	405	39.7	0	80.8	80
Total Phosphorous (kg/yr)	0.839	0.780	0.839	0.208	0	73.4	45
Total Nitrogen (kg/yr)	4.43	8.14	4.43	3.79	0	53.5	45
Gross Pollutants (kg/yr)	37.3	84.8	37.3	0	0	100	90



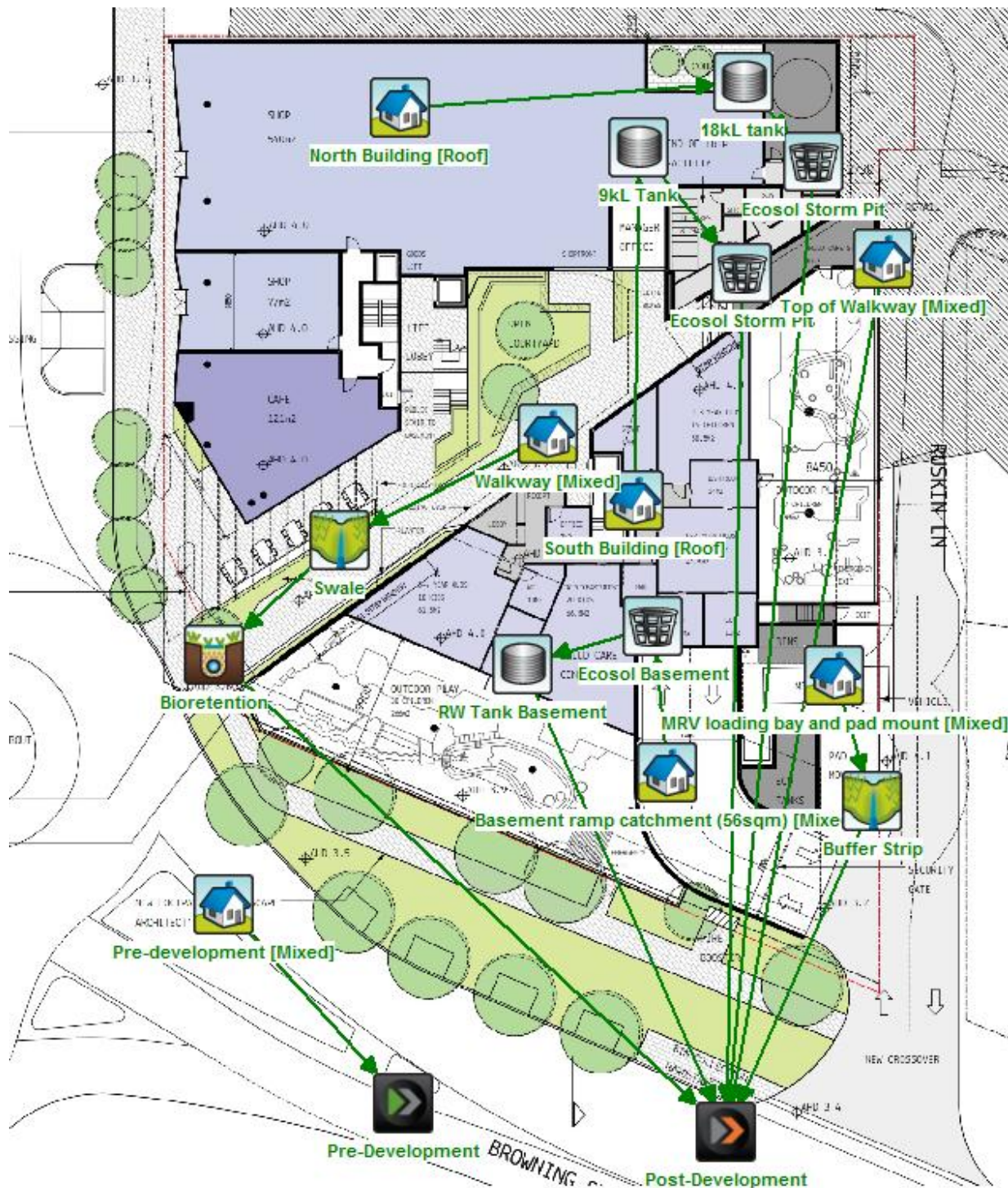


Figure 7 | MUSIC Model

#### 4.3 BASEMENT CARPARK DRAINAGE

Byron Shire Council's *Comprehensive Guidelines for Stormwater Management* states that pump-out systems are allowed for basement car parks where gravity drainage is not possible. This document states that the maximum allowable catchment for runoff into a basement is 60m<sup>2</sup>, and the proposed basement has a catchment of 56m<sup>2</sup>, ensuring compliance with the guidelines. It is proposed to include an Ecosol Storm Pit Class 2 unit to treat the runoff from the basement before discharging into a storage tank and getting pumped out of the basement. This is included in the MUSIC model provided in Figure 7.

#### 4.4 LEGAL POINT OF DISCHARGE

Stormwater runoff currently discharges onto Jonson Street, Browning Street and Ruskin Lane. Approximately two-thirds of stormwater runoff from 137 Jonson Street and 139 Jonson Street discharges to the Jonson Street kerb and travels to the north until discharging into a stormwater pit. The remaining stormwater runoff discharges onto



Ruskin Lane and follows overland flow paths to the Browning Street kerb. A small portion of the stormwater runoff from 3 Browning Street flows to the Jonson Street kerb and towards the north. The majority of the stormwater runoff from 3 Browning Street currently discharges to the Browning Street and Ruskin Lane frontage, ultimately making its way to the Browning Street stormwater infrastructure.

It is proposed to discharge all piped runoff from the site to a new stormwater proposed piped connection with the existing infrastructure along Browning Street (see red in Figure 8 below). The overflow from the bioretention area will sheet flow to the kerb at the corner of Jonson Street and Browning Street.



Figure 8 | Proposed Stormwater Infrastructure Diagram

## 5. SEDIMENT AND EROSION CONTROL

The objective of the proposed sediment and erosion control measures is to ensure that there is no worsening of stormwater quality and no reduction in the environmental values of the downstream receiving waters caused by construction activities on the subject site during the construction and operational phase of the development.

The control of stormwater quality during construction activities shall be achieved through the implementation of Erosion and Sediment Controls in accordance with the requirements of the Landcom 'Soils and Construction Volume 1 – Managing Urban Stormwater: Soils and Construction' (i.e. Blue Book). The measures are to be implemented before the commencement of any construction works and should be inspected regularly and after heavy storm events to ensure they are achieving their desired purpose.

Typical measures to be used on construction sites include:

- 1.8m high hessian fence is to be installed around the proposed property boundaries.
- Minimise the number of site access points and provide stabilised site access.
- Stabilised site access to be provided at access to shake down all vehicles entering and leaving the site, minimising the transport of sediment off-site. All vehicles must use the designated site access to enter or leave the site. (SD6-14).
- Installation of downstream sediment barriers prior to commencement of any works.
- Sediment fences are to be installed downstream of works and exposed soils to ensure contaminated run-off is filtered and sediment is captured before it can make its way into the downstream receiving environment.
- Turf strips (SD6-13).
- Cut-off drains are to be formed at the top of batter slopes:
  - Cut-off drains will allow the discharge of water to be conveyed and directed to the most desirable points of discharge to ensure suitable sediment treatment is achieved.
- External catchment is to be captured and redirected around the area of works and discharged at an appropriate location.
- Stabilise and protect earthwork areas immediately once earthwork profiles are achieved.
- Stockpile materials are to be stored in protected locations away from overland flow paths and protected by sediment fence boundaries:
  - Stockpile locations will be located in an elevated, level area nominally 5m away from any water body or channel. Upslope protection measures (i.e. sandbags or equal) are to be used to divert run-off in the event of rain, and sediment fences are to be installed downstream of any erodible stockpile. At the end of each day or in the event of rain or high winds, stockpiles are to be covered and secured. Appropriate locations of stockpiles are to be determined by the site manager at the time of construction.
- Sediment fence to be used on low side of any areas of soil disturbance (e.g. road formation, house pad, soil stockpiles, etc.) (SD6-8).
- Rock filter dams (SD RFD-03) and gypsum filled bags, flock blocks or equivalent placed on low side of check dam spillway are to be provided in key locations to treat stormwater run-off from the works area.
- Site is to be watered during the construction phase to minimise the generation of dust onsite.
- When wind speeds reach 35km/h, all dust generating construction activities must cease onsite.

Site-specific sediment and erosion control plans would be prepared during detailed design and would need to incorporate any measures listed in the Dewatering Management Plan and Acid Sulfate Management Plan for this site prepared by ENV Solutions.

The following inspection program shall be established by the Site Contractor and monthly Check Sheet (Appendix B) reports are to be submitted to the Supervising Engineer:

- Daily inspection of the site stabilised access point and amendments as necessary.
- Formal weekly inspection of erosion and sediment controls.
- Inspections after 10mm/24h rainfall events.

- Testing of runoff after significant rainfall events to ensure a maximum discharge of 50mg/L of suspended solids.

In addition to the inspection details, the following information will be recorded:

- List frequency and method of removal of material from stabilised access point.
- Volume of material removed from in/around sediment controls.
- Location of the site where the material is disposed.
- Any repairs/additions as appropriate.

During earthworks, there is a potential for increased stormwater pollutants as a result of exposed soils. Some minor importation of foreign soils may be required for the purposes of roadways, driveways and possibly building pads. This imported material is likely to have higher clay content and runoff potential in the short term before any surface finish is applied.

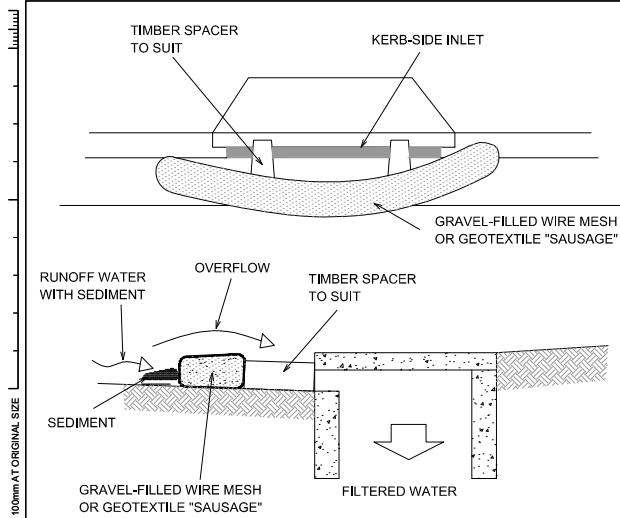
To prevent runoff from the site flowing into the existing stormwater drainage systems, filter bags will be placed around all downstream drainage inlets. During construction, the site is to be fenced off with a sediment fence. A stabilised site access shall be provided to the site.

Refer to Appendix A for the concept Sediment and Erosion Control Plan and Appendix B for the Sediment and Erosion Control Checklist.

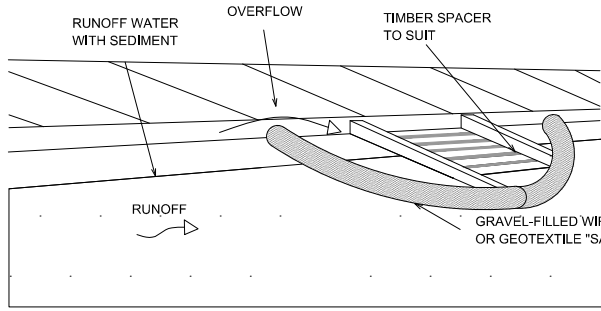
## 6. CONCLUSIONS AND RECOMMENDATIONS

The proposed stormwater management infrastructure meets Council's water quality and quantity targets. Therefore, we recommend this development for approval from a stormwater management perspective.

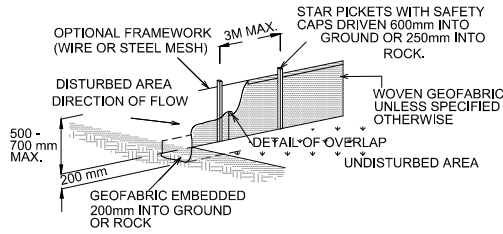
## APPENDIX A | CONCEPT SEDIMENT AND EROSION CONTROL PLAN



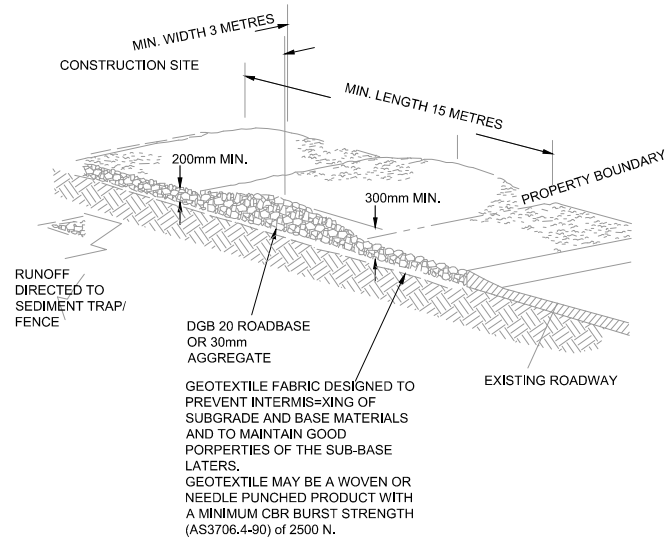
**FILTER BAG TO SAG SIDE ENTRY PIT**  
NOT TO SCALE



**FILTER BAG TO DROP INLET PIT**  
NOT TO SCALE



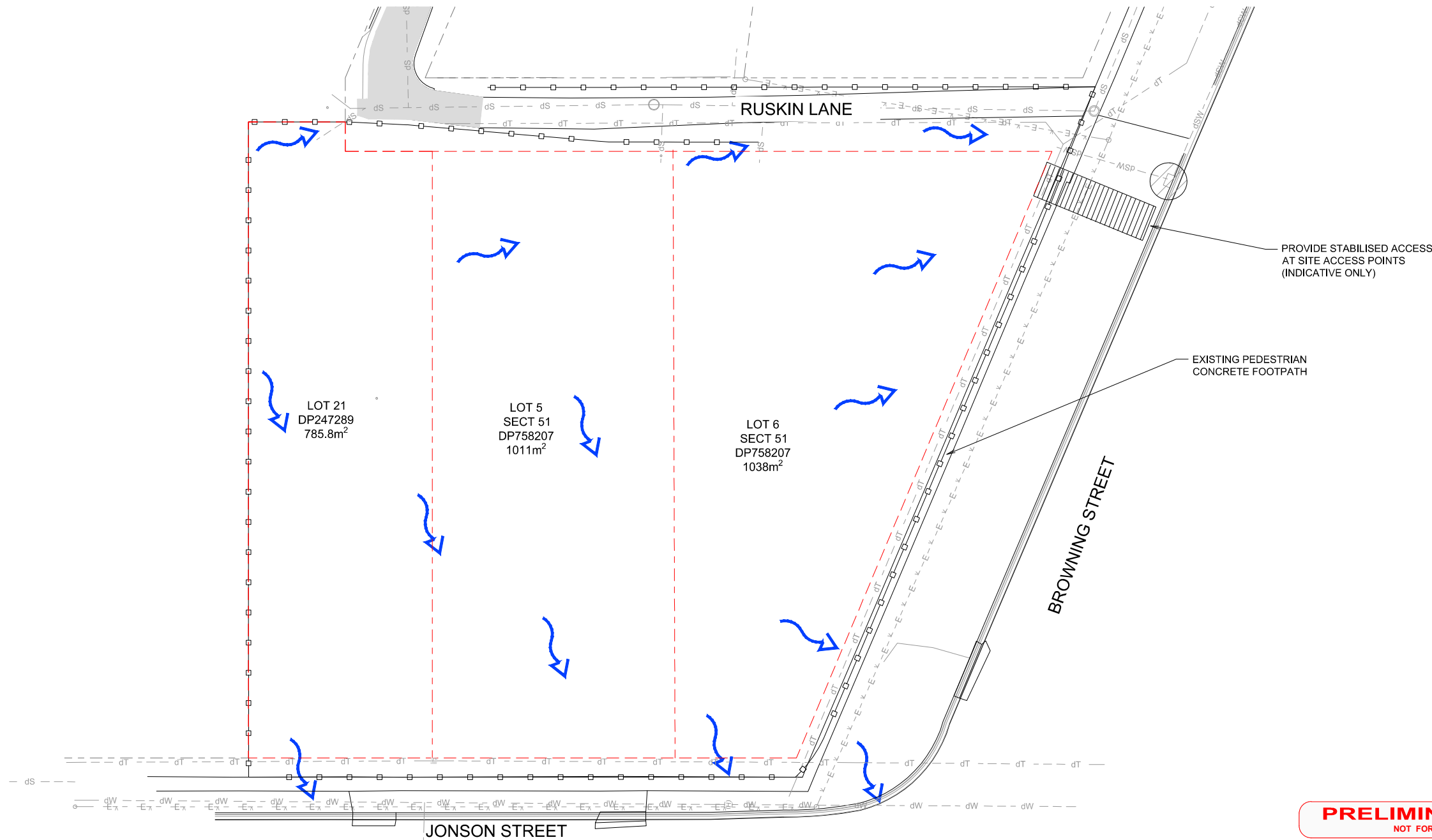
**SEDIMENT FENCE**  
NOT TO SCALE



**STABILISED SITE ACCESS**  
NOT TO SCALE

## CONSTRUCTION NOTES:

1. STRIP TOPSOIL AND LEVEL SITE;
2. COMPACT SUBGRADE;
3. COVER ARE WITH NEEDLE PUNCHED GEOTEXTILE ;
4. CONSTRUCT A 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES;
5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OT OTHER SEDIMENT TRAP;
6. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT;
7. FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL;
8. FROM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE;
9. 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;
10. MAINTAIN THE OPENING WITH SPACER BLOCKS;
11. FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER;
12. FIT TO ALL KERB INLETS AND FIELD INLET PITS AT SAG POINTS.



## WARNING

### BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND SURFACE FEATURES BASED ON THE SURVEY. UNDERGROUND SERVICES ARE BASED ON A COMBINATION OF DBYD INFORMATION, AERIAL MAPPING, AND COUNCIL GIS INFORMATION AND ARE INDICATIVE ONLY.

A DETAILED SURVEY SHOULD BE COMPLETED PRIOR TO COMMENCEMENT OF DETAILED DESIGN

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

### 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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT:  
**137-139 JONSON ST, 3 BROWNING ST**  
DRAWING TITLE:  
**EROSION AND SEDIMENT CONTROL PLAN**

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J170	0012	C



## APPENDIX B | EROSION AND SEDIMENT CONTROL CHECKLIST

## Stormwater, and Erosion Sediment Control Maintenance Checklist

Swale Maintenance			
<b>Inspection frequency:</b>	weekly during construction	<b>Date of visit:</b>	
<b>Location:</b>			
<b>Description:</b>			
<b>Site visit by:</b>			
Inspection Items		Y	N
Debris present within swale?			(Remove by hand and dispose appropriately)
Swale vegetation depleted			(Reseed and maintain until established)
Swale vegetation in excess to grasses only (i.e. Trees, etc)			(Remove excess vegetation and dispose appropriately)
Excess Sediment within Swale?			(Remove by hand and dispose appropriately)
Swale formation compromised?			(Reshape swale and make good)
<b>Comments:</b> Inspection frequency should be adjusted depending upon observations			

Rock Filter Dam			
<b>Inspection frequency:</b>	weekly during construction	<b>Date of visit:</b>	
<b>Location:</b>			
<b>Description:</b>			
<b>Site visit by:</b>			
Inspection Items		Y	N
Debris present ?			(Remove by hand and dispose appropriately)
Rock filter dam formation, filter material and weir compromised?			(repair and make good)
Gypsum filled bag (of flock block damaged or depleted)?			(Replace)
Excess Sediment upstream of Rock filter dam?			(Remove by hand and dispose appropriately)
<b>Comments:</b> Inspection frequency should be adjusted depending upon observations			

Sediment Fence			
<b>Inspection frequency:</b>	weekly during construction	<b>Date of visit:</b>	
<b>Location:</b>			
<b>Description:</b>			
<b>Site visit by:</b>			
Inspection Items		Y	N
Sediment Fence compromised			(Repair or reinstall if necessary)
Excess Sediment within Swale?			(Remove by hand and dispose appropriately)
<b>Comments:</b> Inspection frequency should be adjusted depending upon observations			

Stabilised Site Access			
<b>Inspection frequency:</b>	Daily during construction	<b>Date of visit:</b>	
<b>Location:</b>			
<b>Description:</b>			
<b>Site visit by:</b>			
Inspection Items		Y	N
Excessive Sediment build up?			(Remove sediment)
Stabilised site access in poor repair?			(repair or replace)
Sediment tracking onto road from site?			(inspect stabilised site access and repair, replace, modify as necessary)
<b>Comments:</b> Inspection frequency should be adjusted depending upon observations			



# Traffic Impact Study

## 137-139 Jonson St & 3 Browning St, Byron Bay

JGD Developments

Planit

August 2018

Document No: J170-TIA01 Revision C

QUEENSLAND | NEW SOUTH WALES | VICTORIA | NORTHERN TERRITORY

PROJECT MANAGEMENT | TOWN + ENVIRONMENTAL PLANNING | LANDSCAPE ARCHITECTURE | ENGINEERING

## Document Status

Version	Document type	Reviewed by	Issued by	Date Issued
Revision A - Final Draft for Client Review	Report	Michiel Kamphorst	Michiel Kamphorst	31/07/2017
Revision B - Final for Development Application	Report	Michiel Kamphorst	Michiel Kamphorst	16/08/2017
Revision C - Updated Development Application	Report	Matt Plain	Matt Plain	9/08/2018

## Project Details

<b>Project Name:</b>	137-139 Jonson St & 3 Browning St, Byron Bay
<b>Client:</b>	JDG Developments
<b>Client Project Manager:</b>	Graham Dunn
<b>Authors:</b>	Giuseppe Fallara, <i>MEnvEng</i> Nick Sirach, <i>BEng (Hons)</i>
<b>Planit Reference:</b>	J170-TIS01

## Copyright

Planit has produced this document in accordance with instructions from JDG Developments for its use only. The concepts and information contained in this document are copyright of Planit.

Use or copying of this document in whole or in part without written permission of Planit constitutes an infringement of copyright.

Planit does not warrant this document is definitive and free from error and does not accept liability for any loss caused, or arising from, reliance upon the information provided herein.

Planit Consulting  
 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  
[administration@planitconsulting.com.au](mailto:administration@planitconsulting.com.au)

# CONTENTS

Table of Figures .....	3
Table of Tables .....	3
Executive Summary .....	4
1. Introduction .....	6
1.1. Project Background .....	6
1.2. Scope and Structure of Report.....	6
1.3. Standards, Policies and Guidelines.....	6
1.4. Butler Street Bypass .....	6
1.5. Definitions.....	6
2. Development description.....	9
3. Existing Infrastructure.....	11
3.1. Parking Provisions .....	11
3.2. Public Transport .....	12
3.3. Road Network .....	12
3.4. Peak Hour Traffic Survey .....	12
3.4.1. Turning Movement Survey.....	12
3.4.2. Traffic Survey.....	13
3.4.3. Adopted Peak Hour Traffic Volumes .....	13
3.5. Daily Traffic Survey.....	13
3.6. Peak Period Traffic Characteristics.....	14
3.6.1. 8:00 to 9:00 AM Peak Observations .....	14
3.6.2. 15:10 to 16:10 PM Peak Observations .....	15
3.7. Traffic Volume Trends .....	16
4. Car parking .....	18
4.1. Car Parking Numbers.....	18
4.1.1. Overall Car Parking .....	18
4.1.2. Accessible Car Parking .....	18
4.1.3. Bicycle Parking.....	19
4.1.4. Motorbike Parking.....	19
4.1.5. Staff Parking .....	19
4.1.6. Loading Bays.....	19
4.1.7. Summary of Parking Requirements.....	20
4.2. Geometric Requirements .....	20
4.3. Suitability of Current Design .....	21
5. Trip Generation .....	22
5.1. Trip Generation Rates.....	22
5.2. Daily Trip Calculations .....	25
6. Internal Manoeuvring .....	26
7. Impact on Surrounding Road Network .....	27
7.1. Impact on Road Capacity .....	27
7.2. Impact on the Ruskin Lane Intersections.....	28
7.2.1. Modelling Scenarios .....	28
7.2.2. General Modelling Information.....	28
7.2.3. Modelling Results .....	31
8. Safety Considerations .....	34
8.1. Site Access.....	34

8.2. Road Safety .....	35
9. Cycling Provisions .....	36
10. Strategic Environment .....	37
11. Conclusions and Recommendations .....	38
REFERENCES .....	39
Appendix A   Civil Engineering Plans .....	40

## TABLE OF FIGURES

Figure 1   Subject Site, <i>Source of aerial image: SIX Maps</i> .....	9
Figure 2   Excerpt of Site Plan .....	10
Figure 3   Paid Parking Scheme .....	11
Figure 4   Byron Bay Bypass Overall Layout Plan .....	27
Figure 5   Browning Street & Ruskin Lane Intersection .....	29
Figure 6   Ruskin Lane & Ramp Intersection .....	30
Figure 7   Sight Line to the Right from Ruskin Lane .....	34
Figure 8   Sight Line to the Left from Ruskin Lane .....	34

## TABLE OF TABLES

Table 1   Level of Service .....	7
Table 2   Turning Movement Survey .....	12
Table 3   Browning Street Peak Hour Volumes .....	13
Table 4   Turning Movements .....	13
Table 5   AADT Calculations .....	14
Table 6   Speed Data .....	14
Table 7   BSC Traffic Survey Data Summary .....	16
Table 8   Ewingsdale Road Traffic Growth for Site 054 .....	17
Table 9   Overall Car Parking Calculation Table .....	18
Table 10   Accessible Parking Requirements .....	18
Table 11   Bicycle Space Calculations .....	19
Table 12   Loading Bay Calculations .....	20
Table 13   Summary of Parking Spaces .....	20
Table 14   Geometric Requirements .....	20
Table 15   Trip Generation, data sources .....	22
Table 16   Peak Hour Trip Generation, adopted rates .....	24
Table 17   Development Daily Trip Generation, adopted rates .....	25
Table 18   Peak Hour Vehicle Trips on Surrounding Road Network .....	28
Table 19   Pre-development SIDRA Input Browning Street/Ruskin Lane Intersection .....	30
Table 20   Post-development SIDRA Input Browning Street/Ruskin Lane Intersection .....	30
Table 21   Post-development SIDRA Input Ruskin Lane/Ramp Intersection .....	31
Table 22   Level of Service for Pre-development Scenario's .....	31
Table 23   95 <sup>th</sup> ile Queue Length (m) for Pre-development Scenario's .....	31
Table 24   Control Delay (s) for Pre-development Scenario's .....	32
Table 25   Level of Service for Post-development Scenario's .....	32
Table 26   95 <sup>th</sup> ile Queue Length (m) for Post-development Scenarios .....	32
Table 27   Control Delay (s) for Post-development Scenarios .....	33
Table 28   Section 94 Contribution Costs .....	37



## EXECUTIVE SUMMARY

This Traffic Impact Study has been prepared to provide an assessment on the potential traffic impact the proposed development has on the surrounding road network. The proposed development is located at 137-139 Jonson Street and 3 Browning Street on Lots 5 and 6 on DP758207 and Lot 21 on DP247289. Planit was engaged by JGD Developments Pty Ltd to prepare a Traffic Impact Study to support the development application (DA) for the proposed development.

The subject site currently contains three lots. Two lots contain a single residence and one lot is approved as a dual occupancy. The proposed site layout consists of approximately 3309m<sup>2</sup> of residential GFA and 1151m<sup>2</sup> of commercial GFA. There is a proposed two-level basement carpark on the subject site that is accessed from Ruskin Lane. Above ground, the proposal includes four levels of development, comprising of retail, a cafe, a childcare centre and 42 apartments (shop top housing and serviced apartments, some of which are dual key). The purpose of this report is to inform both the developer and Byron Shire Council (BSC) on opportunities and constraints regarding the proposed Jonson/ Browning Street mixed-use development. In particular, this report aims to address:

- Existing traffic conditions.
- Access and parking for cars, service vehicles, mobility impaired, bicycles and pedestrians.
- Safety associated with the entrance and internal manoeuvring.
- Impact on the surrounding road network.

It is proposed to construct a two-level basement carpark that will service the entire parking capacity of the development. The underground carpark access shall be via a vehicular crossover ramp that is accessed from a public road. The access to the site will be via Ruskin Lane. Site access will be primarily from the Ruskin Lane / Browning Street intersection. Site access from Tennyson Street is discouraged. It is proposed to widen Ruskin Lane from Browning Street to the MRV loading bay to cater for two-way traffic and the simultaneous entering and existing of cars. The Ruskin Lane splays have been designed for HRV swept paths. The arrangement is similar to the approved and adopted arrangements in Bay Lane for the recently renovated backpackers hostel.

A traffic survey was undertaken on the roads adjacent to the subject between 26 June and 3 July 2017, and average annual daily traffic and peak hour traffic volumes were derived from this survey. This data is used as the base traffic volumes for analysis of the road network and the Ruskin Lane and Browning Street intersection. A site inspection was also undertaken to monitor the traffic trends around the subject site and it was found that the general traffic conditions were normal and uninterrupted. It was found that cyclists and pedestrians utilise the existing road network around the site without any noticeable difficulty.

Car parking requirements are summarised in the table below:

Item	Minimum required
Regular parking spaces (inclusive of small car spaces and electric car charging bays)	100
Dedicated child car parking spaces	17
Accessible parking spaces	3
Bicycle spaces	12
Motorbike spaces	8
Staff parking spaces	0
SRV loading bays	2*
MRV loading bays	1

\*Not required by council as part of this development

It is proposed that the bicycle spaces will be located on the ground floor on the development in a secure location. Based on Table B4.2 of Chapter B4 of the 2014 DCP, a total of 2 SRV loading bays and one MRV loading bay would be required, however, after consultation with council the SRV loading bays are not required as the MRV loading bay

off Ruskin Lane meets council's requirements for this proposed development. The site manager would manage timing deliveries and pickups.

Trip generation rates have been retrieved from multiple sources including the RTA's *Guide to Generating Traffic Development* and ITE's *Trip Generation Manual*. This report adopts a merit based assessment for trip generation to ensure that an accurate representation of the proposed site is shown. Based on the architectural layout provided, the proposed development will generate 213 AM peak hour trips, 167 PM peak hour trips, and 1361 daily trips.

Internal manoeuvring has been assessed for the design vehicles for the site, using Civil3D based swept path analysis software. The following design vehicles have been adopted:

- B99 for access ramp (2-way) and basement car park (one-way) manoeuvring.
- Standard MRV and HRV garbage truck for Ruskin Lane.
- Standard MRV and skip bin for MRV loading bay.

It was found that safe and efficient manoeuvring is achievable.

In order to improve safe manoeuvring of both vehicles and pedestrians in the basement car park, the following safety enhancing measures have been incorporated into the design:

- Speed humps.
- Signage.
- Separate pedestrian path along the perimeter of the dedicated child care spaces. This path leads to the lift and stairs.

The proposed Byron Bay Bypass (BBB) will begin at the corner of Jonson Street and Browning Street and connect into the end of Butler Street and continue to the existing roundabout adjacent to the Police Station. It is proposed that a new roundabout will be located at the corner of Jonson Street and Browning Street, changing the dynamics of traffic around the subject site. The BBB will aim to improve the traffic flow along Jonson Street by diverting through traffic around the Byron Bay CBD.

There is currently vehicular access to 137-139 Jonson Street and 3 Browning Street via the Jonson Street frontage. Additionally, there is a second vehicular access point to 3 Browning Street at the Browning Street frontage and a second vehicular access point to 137 Jonson Street at the Ruskin Lane frontage. It is proposed that all vehicular entry and exits to the subject site will be via Ruskin Lane. After consultation with council it was agreed to undertake an augmentation of the Ruskin Lane intersection to allow for an MRV turning paths. There is a portion of the proposed developments property that will be utilised as part of the augmentation. This area will need to be turned into an easement to allow public cars to drive over this area. The sight lines at the Browning Street intersection are uninterrupted to the intersections with Jonson Street and Bangalow Road. From the proposed site access point in Ruskin Lane, uninterrupted sight lines exist and will be maintained towards Browning Street and the corner in Ruskin Lane. Thus, adequate sight lines are achieved.

SIDRA Intersection modelling shows excellent performance of the Ruskin Lane intersections, under the conditions specified in this report.

# 1. INTRODUCTION

## 1.1. PROJECT BACKGROUND

This Traffic Impact Study has been prepared to provide an assessment on the potential impact the proposed development has on the surrounding road network. The proposed development is located at 137-139 Jonson Street and 3 Browning Street on Lots 5 and 6 on DP758207 and Lot 21 on DP247289. Planit was engaged by JGD Developments to prepare a Traffic Impact Study to support the development application (DA) for the proposed development.

The subject site currently contains three lots, of which one is approved as a dual occupancy lot. The proposed site layout consists of approximately 3309m<sup>2</sup> of residential GFA and 1113m<sup>2</sup> of commercial GFA. There is a proposed two-level basement carpark on the subject site with 108 car parking spaces, 3 PWD spaces, 8 motorcycle spaces and 11 bicycle spaces. Above ground, the proposal includes four levels of development, comprising of retail, a cafe, a childcare centre, shop top housing and serviced apartments.

## 1.2. SCOPE AND STRUCTURE OF REPORT

The purpose of this report is to inform both the developer and Byron Shire Council (BSC) on opportunities and constraints regarding the proposed Jonson/ Browning Street mixed-use development. In particular, this report aims to address:

- Existing traffic conditions.
- Access and parking for cars, service vehicles, mobility impaired, bicycles and pedestrians.
- Safety associated with the entrance and internal manoeuvring.
- Impact on the surrounding road network.

In order to achieve the above, the report has been structured such that Chapters 2 and 3 summarise the existing conditions of the subject site. Chapters 4, 5 and 6 identify the parking requirements, trip generation and internal manoeuvring of the proposed development. Chapter 7 assesses the impact the proposed development has on the surrounding road network. Chapter 8 focuses on safety considerations associated with the development. Cycling provisions are addressed in Chapter 9 and tie in to Council's strategic plans is addressed in Chapter 10. Conclusions and recommendations are provided in Chapter 11.

## 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 series.
- Austroads Guide to Road Design.
- Austroads Guide to Traffic Management.
- ITE Trip Generation Manual.
- National construction code – Building Code of Australia – Class 2 to Class 9 Buildings.

## 1.4. BUTLER STREET BYPASS

The subject site is located on the corner of Browning Street and Jonson Street. As part of the construction of the proposed Byron Bay Bypass (BBB), this intersection shall be upgraded and a roundabout shall be provided. Planit understands that works for the BBB are likely to commence in the 2017/2018 financial year. A boundary adjustment of 3 Browning Street has taken place to accommodate the proposed new roundabout on the junction of Browning Street, Jonson Street and the Butler Street Bypass. Existing and new boundaries are indicated on the Engineering Plans (Appendix A).

## 1.5. DEFINITIONS

- 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 number.
- Carriageway 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 AS 2890.2-2004.
- 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 2017 assessment, the design year is AD 2027.
- 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, (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 1.

Table 1 | Level of Service

Level of Service	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 queueing. 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.
---	---	---



## 2. DEVELOPMENT DESCRIPTION

The subject site is approximately 2835m<sup>2</sup> in plan and is currently made up of three (3) residential lots, of which one is approved as a dual occupancy lot. The proposal comprises of the construction of a mixed-use development with residential and commercial areas and a child care centre. The site has a high point at approximately RL 8.4m in the northwestern extremity of the site and low points of approximately RL 4.1m at the Jonson St and Browning St boundaries. Proposed access to the subject site is from Ruskin Lane, in the southeastern corner of the site.

It is proposed to construct a two-level basement car park with sufficient capacity to service the number of car parks required by Council. The underground carpark access shall be via a vehicular crossover ramp that is accessed from a public road. The access to the site will be via Ruskin Lane. Ruskin Lane is primarily accessed from the Ruskin Lane / Browning Street intersection, an arrangement that will be encouraged by site management.

One MRV loading area is proposed on the site via Ruskin Lane, immediately north of the vehicular access ramp to the underground carpark. The proposed carpark is sized such that it can accommodate all of the residents, workers and visitors of the subject site. A site manager will be on site to schedule service vehicle arrivals to ensure smooth operation of service vehicles and avoid site servicing during peak periods.

It is proposed to widen Ruskin Lane from Browning Street to the access road to cater for two-way traffic and the simultaneous entering and existing of cars. The Ruskin Lane splays have been designed for HRV swept paths. The arrangement is similar to the approved and adopted arrangements in Bay Lane for the recently renovated backpackers hostel.



Figure 1 | Subject Site, Source of aerial image: SIX Maps





Figure 2 | Excerpt of Site Plan

### 3. EXISTING INFRASTRUCTURE

#### 3.1. PARKING PROVISIONS

Byron Shire Council introduced a paid parking scheme in December 2015 that extends throughout the Byron Bay CBD, including the entire length of Jonson Street and capturing the majority of side streets (Figure 3). There is available parking that exists for users of 137-139 Jonson Street and 3 Browning Street along the Jonson Street and Browning Street frontages. There are no signalised parking restrictions along the Ruskin Lane frontage as laneways are unsuitable for parking.



Figure 3 | Paid Parking Scheme

The parking available along the Jonson Street frontage is a part of the paid parking scheme employed by Byron Shire Council (Figure 3). The parking along Browning Street is un-metered and currently free to use, however with the introduction of the Byron Bay Bypass and the installation of a major roundabout on the corner of Jonson Street and Browning Street, it is anticipated that the majority of this parking will be removed.

Free parking exists adjacent to Mitre 10, a short walk from the subject site. On-site basement parking is provided for the site's shop and café patrons, as well as residents and the child care centre.

### 3.2. PUBLIC TRANSPORT

Bus services are the only public transport facility available in close proximity to the site and several bus routes pass the proposed development. Northern Rivers Buslines 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 origins/destinations include, but are not limited to, Bangalow, Ballina, Mullumbimby, Lismore, Gold Coast and Brisbane.

Although no official bus stops are shown on the official routes along Browning Street or Jonson Street, Blanch's Bus Company operates these routes on a "hail and ride" policy: the users can be catching Blanch's buses from anywhere along the route as long as the driver considers it safe and legal. Blanch's timetables show that bus routes are passing the subject site on weekdays and weekends, providing opportunity for future users of the proposed development to utilise public transport. These routes connect the site with the Byron Bay bus station, located 600m north of the site on Jonson Street.

### 3.3. ROAD NETWORK

The stretches of Jonson Street and Browning Street adjacent to the subject site are RMS roads. The roads are classified as 'Main Road' and the route is identified as MR545. The total carriageway is approximately 16metres wide, this includes two 5metre wide traffic lanes and two 3metre wide kerbside parking shoulders.

Ruskin Lane is a laneway that is owned and operated by Byron Shire Council. The road is approximately 3metres wide adjacent to the subject site. The road reserve width is approximately 6 metres. It is proposed to widen and reseal the section of Ruskin Lane adjacent to the subject site to improve accessibility and safety to and from the site.

Table D.1.5 of the Northern Rivers Development Design Specification – *Geometric Road Design* states that the maximum traffic volume for distributor roads is 3000+ (vpd). This value has no explicit vehicle limit and does not give a valuable representation of the maximum allowable vehicles on the road network adjacent to the subject site. For the road network adjacent the subject site, network capacity is likely driven by the capacity and traffic volumes on individual intersections.

The SIDRA modelling of the Ruskin Lane and Browning Street intersection will give a more realistic representation of the performance of the road network. Modelling results will be provided in chapter 7 of this report. Additionally, site inspections during peak hour periods will give a good representation of the current operation of the road network.

### 3.4. PEAK HOUR TRAFFIC SURVEY

#### 3.4.1. Turning Movement Survey

Staff from our office carried out an AM peak turning movement survey between 8am and 8:30am on Thursday the 4<sup>th</sup> of May 2017. This turning movement survey was carried out at the intersection of Ruskin Lane and Browning Street. The survey results are provided below:

**Table 2 | Turning Movement Survey**

Approach	Turning movement	Vehicles surveyed in 30 minutes	Adopted AM peak hour volume
Browning Street (eastbound)	Left	2	4
	Straight	172	344
Browning Street (westbound)	Straight	269	538
	Right	0	0
Ruskin Lane	Left	0	0
	Right	0	0

The total volume for the AM peak hour would be 886 vehicles per hour on Browning Street.



### 3.4.2. Traffic Survey

Greg Alderson and Associates (GAA) undertook a traffic survey between 26<sup>th</sup> June 2017 and 3<sup>rd</sup> July 2017 using a classified vehicle counter. Traffic counters were placed along Jonson Street, Browning Street and Ruskin Lane to capture the daily traffic and peak hour traffic surrounding the subject site.

The results obtained were used to determine the AADT on the surrounding road network. Results obtained on July 3-5 were disregarded from the average daily traffic (ADT) calculations as they were the beginning of the school holidays period. Results recorded from June 26 to July 2 were used to determine the average daily traffic (Monday to Sunday) across the period. The ADT was converted into AADT using a seasonal fluctuation factor of 1.05 based on the Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis.

Peak hour traffic flows for the AM and PM across the weekend period were disregarded for the purpose of this report and the proposed development will have its greatest impact on the surrounding road network on weekdays when the child care centre is open. The AM peak period with the largest traffic volumes was 8:00-9:00 and this time period is used for the average AM peak hour. The PM peak period with the largest traffic volumes was 16:30-17:30 and this time period is used to calculate the average PM peak hour volume (Table 3).

**Table 3 | Browning Street Peak Hour Volumes**

Approach	AM Peak Hour Volume	PM Peak Hour Volume
Browning Street (westbound)	624	467
Browning street (eastbound)	393	556

### 3.4.3. Adopted Peak Hour Traffic Volumes

The following traffic volumes have been adopted from the turning movement survey undertaken by Planit and traffic survey undertaken by GAA. The traffic data recorded by GAA will be used for the straight movements as this data set is recorded across the entire week and gives the best representation of the greatest peak hour periods across the entire week. Additionally, the turning movement survey undertaken by Planit was for 30 minutes and requires interpolation for the hourly volume. The movements in to and out of Ruskin Lane recorded during the turning movement survey will be used for modelling as they give the best representation of turning movements.

The results obtained from the turning movement survey and traffic data is multiplied by a seasonality factor of 1.05 to give a better representation of the average peak hour volumes across the entire year. The values obtained from multiplying the results by the seasonality factor will be used as the design year 2017 volumes. The 2027 design year will also be modelled to give an understanding of how the intersection will operate in the future. Based on experience with other developments in this region, an annual compound growth rate of 2.5% is adopted for 10 years leading to the 2027 design year. The volumes used for modelling purposes can be seen in Table 4.

**Table 4 | Turning Movements**

Approach	Turning movement	2017 AM Peak	2017 PM Peak	2027 AM Peak	2027 PM Peak
Browning Street (eastbound)	Left	4	0	0	5
	Straight	412	583	527	747
Browning Street (westbound)	Right	0	0	0	0
	Straight	655	490	838	627
Ruskin Lane	Left	0	0	0	0
	Right	0	0	0	0

### 3.5. DAILY TRAFFIC SURVEY

The above mentioned GAA traffic survey provides daily traffic volumes. The daily traffic from Tuesday 27 June to Monday 3 July was averaged at each location to give a 7-day ADT that is inclusive of weekend traffic. However, an

error occurred with the Browning Street counter on Wednesday 28 June, so the results obtained on this day were replaced with the results obtained on Wednesday 5 July.

The average annual daily traffic (AADT) is a parameter discussed more commonly than ADT in traffic engineering. The AADT gives a better representation of the average traffic on a road network as it accounts for the high and low volume times of the year. For this reason, the results obtained from the GAA survey will be converted to AADT using a seasonality factor to account for the variations in daily traffic throughout the year. A factor of 1.05 (derived from Austroads) will be used to determine the 2017 AADT. An annual compound traffic growth factor of 2.5% will be adopted to calculate traffic volumes up to the 2027 design year. Table 5 shows the AADT calculations.

**Table 5 | AADT Calculations**

	Jonson Street	Browning Street	Ruskin Lane
7-day ADT	11890	11609	10
Seasonal adjustment factor	1.05	1.05	1.05
2017 AADT	12485	12189	10
Annual compound traffic growth factor	2.50%	2.50%	2.50%
2027 AADT	15981	15603	13
% HV	6.10%	4.90%	0%

The traffic data that was recorded from the GAA survey also recorded the speed at which vehicles crossed the pneumatic tubes. Table 6 shows the statistics relating to the speed of vehicles on each road.

**Table 6 | Speed Data**

	Jonson Street	Browning Street	Ruskin Lane
Mean (km/h)	40.3	39.4	17.7
85%-ile (km/h)	46.1	44.3	22
95%-ile (km/h)	49.7	47.5	24.5
Median (km/h)	40.3	39.6	17.3

### 3.6. PEAK PERIOD TRAFFIC CHARACTERISTICS

Two traffic site inspections have been carried out, on Wednesday 28/06/2017, in the surroundings of the subject site. This section aims to discuss their main findings.

#### 3.6.1. 8:00 to 9:00 AM Peak Observations

This section aims to discuss general observations that refer to the AM peak (8:00-9:00 am).

##### *Tennyson/Browning Roundabout:*

- The traffic streams are only slightly restricted and control delays at the boundary intersections are not significant. Minor congestion and queues are observed.
- Cars travelling north on Tennyson Street can enter the “Green Garage” grocery store without queuing.
- The School Zone sign 20m north of the Roundabout is flashing (speed limit lowered to 40km/h).

##### *Corner of Jonson St & Browning St/Mitre 10 Intersection:*

- Trucks are observed to be able to accelerate coming out of the Mitre 10 parking area and entering Jonson Street northbound in a safe manner.
- Cars and trucks can enter the “Mitre 10” area from Jonson Street, queueing along the through lane, without difficulties.
- Customers of the petrol station can safely re-enter the main road infrastructure via a dedicated manoeuvring area to the west of the pumps.
- Two users are observed carrying out illegal U-turn manoeuvres to change their directions of travel while transiting northbound on Browning Street. To do so, they drove through the opening in the traffic island

that allows vehicles travelling southbound to access the Mitre 10 parking area and vehicles travelling northbound to leave the Mitre 10 parking area. This issue will likely be resolved once the new roundabout is constructed.

#### *Ruskin Intersection*

- Only one user is observed coming out of Ruskin Lane. The user had to wait for approximately 15 seconds before being able to turn right.

#### *On-Street Parking*

- Cars are parked on both sides of Browning Street. The carpark strips are both at approximately 40% capacity.

#### *Public Transport*

- Blanch's School Bus Stopped by at 08:01 to pick up students gathered nearby the shop "Spell" on the northern side of the Browning Street/Tennyson Street roundabout.

#### *Pedestrians*

- Pedestrians can generally walk safely and efficiently around the subject site. They share the footpaths with cyclists.
- Pedestrians walking from Bangalow Road to Tennyson Street face difficulties crossing the roundabout due to vehicles having the right of way onto the roundabout.
- Pedestrians walking across the "Mitre 10" intersection/parking area towards the proposed development face the risk of getting hit by vehicles. The main risk for pedestrians is vehicles trying to enter the Mitre 10 carpark when travelling westbound along Browning Street. It appears that drivers wishing to enter the carpark are rushed by tail-gating vehicles as there is no dedicated turning lane.

#### *Cyclists*

- Cyclist can generally ride safely and efficiently around the subject site.
- Cyclists travelling northbound (north side of Browning Street) tend to ride on the traffic lane and not to use the Cyclist path.
- Cyclists travelling on the footpaths from Bangalow Road to Tennyson Street face difficulties during roundabout crossing, just like pedestrians.

### 3.6.2. 15:10 to 16:10 PM Peak Observations

#### *The Tennyson/Browning Roundabout:*

- The traffic streams are more restricted than those observed during the AM session. Control delays and minor queues at the boundary intersections are noticed, this may contribute to lower travel speeds.
- Cars travelling north on Tennyson can enter the "Green Garage" grocery store without queuing.
- The School Zone sign 20m north of the roundabout was flashing.

#### *Jonson-Browning Intersection*

- Cars and trucks entering from Jonson Street can safely queue on the turning lane.
- Cars and medium articulated vehicles can use the intersection in all directions, in conditions of stable flow and without significant queueing events.

#### *Ruskin Intersection*

- No vehicles used the intersection.

#### *On-Street Parking*

- Cars are parked on both sides of Browning Street.
- The southern carpark strip is at 80% capacity.
- The southern carpark strip is at full capacity.

#### *Public Transport*



- Blanch's School Bus stopped by at 16:03 to drop off students on the northern side of Browning Street.
- Blanch's School Bus stopped by at 16:10 to drop off students on the southern Side of Browning Street.

#### Pedestrians

- Similar observations to AM.
- Pedestrians have to wait approximately 20 seconds to cross Browning Street in proximity of the Ruskin Lane intersection due to the passing traffic.

#### Cyclists

- 80% of the cyclists riding southbound use the cycling path on the southern side of Browning Street.
- Cyclists travelling northbound (north side of Browning Street) tended to use the traffic lane and not to use the Cyclist path.

#### Others

- Cars and vans coming out, in reverse, of the near guest houses driveway (7 Browning Street) face collision risks due to parked cars on the northern side of Browning Street that act as obstacles to visibility.

### 3.7. TRAFFIC VOLUME TRENDS

Byron Shire Council have provided us with traffic survey data obtained at locations in the vicinity of the subject site. A summary of these surveys is provided in Table 7. In this Table, we include the average weekday peak hour volume, measured between 8am and 9am. Although in these streets, the actual AM peak hour sometimes occurs later, the likely trip generation peak by the proposed development and in particular the child care facility would be between 8am and 9am. Therefore, the 8am to 9am timeslot has been selected to represent AM peak impact.

**Table 7 | BSC Traffic Survey Data Summary**

Survey code	Location	Survey period	Weekday average daily traffic (excl. public holidays)	7-day average daily traffic (excl. public holidays)	Weekday AM peak hour volume, 8am – 9am	Percentage heavy vehicles
SP0420	Browning Street, 50m west of Tennyson Street	21 December 2009 – 4 January 2010	12,180	12,692	788	3.2%
SP0365	Browning Street, 120m east of Tennyson Street	4 February 2009 – 12 February 2009	441	425	30	3.5%
SP0107	Intersection Browning and Jonson Streets	24 September 2003 – 1 October 2003	12,362	11,857	850	2.5%

The SP0420 survey is located near the Ruskin Lane intersection with Browning Street, which is relevant for this project. It is the most recent data set (2010), however the survey was undertaken over the Christmas holiday period. In calculation of the averages we have excluded the public holidays (Christmas Day, Boxing Day and New Year's Day).

SP036 was undertaken outside school holidays, however this survey was undertaken on a relatively quiet section of Browning Street, to the east of the Bangalow Road intersection, and is therefore not suitable to be used for the purposes of this report.

The SP0107 survey was taken just outside the subject property, on the intersection of Browning Street and Jonson Street. This survey location may be more highly trafficked than SP0420 due to traffic associated with the Mitre10

precinct, which would explain why this survey from 2003 shows roughly the same average daily traffic volumes as the Christmas holiday survey from 2010 in Browning Street.

Council have also provided us with traffic survey data on Ewingsdale Road near the new Byron Hospital. At this location (100metres east of the batching plant) Council carries out regular traffic surveys (every 2 years). This data would assist in gaining an understanding of annual traffic growth in Byron Bay.

**Table 8 | Ewingsdale Road Traffic Growth for Site 054**

Survey period	5-day average daily traffic	7-day average daily traffic	% heavy vehicles
22 September 2010 – 30 September 2010	17,126	16,159	5.6%
16 October 2012 – 24 October 2012	17,102	16,480	5.7%
29 September 2016 – 6 October 2016	20,069	19,642	6.0%

Unfortunately, the 2008 survey set provided was unsuitable for use due to the number of data omissions in the set. The data provided above shows a 3.3% annual compound traffic growth between 2010 and 2016, and a 4.5% annual compound traffic growth between 2012 and 2016. Generally, in this region, a 2.5% annual compound traffic growth value is adopted when detail surveys and traffic forecasts are not available. Although the survey data provided shows annual compound traffic growth rates in excess of 2.5%, these surveys are snapshots over a relatively short period. The amount of data provided is not sufficient to carry out accurate forecast calculations. Therefore, we will adopt a generally accepted 2.5% annual compound traffic growth rate percentage as a basis for the analysis in this report.

## 4. CAR PARKING

It is proposed to provide sufficient onsite parking space to allow all car parking and drop off to occur in the basement car park. All service vehicles, however, will remain at ground level, as described above. Requirements for car parking numbers and geometric requirements are described in this chapter.

### 4.1. CAR PARKING NUMBERS

#### 4.1.1. Overall Car Parking

Overall car parking calculations are carried out in Table 9.

**Table 9 | Overall Car Parking Calculation Table**

Item	Relevant DCP land use definition	Calculation rate	Amount	Number of parking spaces
Serviced apartments	Medium density housing	1 space per 1 or 2 bed unit, 2 spaces per 3 or more bed unit, 1 visitor space per 4 dwellings or part thereof	24x one or two bed units	24
			2x three bed units	4
			Visitor spaces, based on 26 dwellings	6.5
Shop top housing	Medium density housing	1 space per 1 or 2 bed unit, 2 spaces per 3 or more bed unit, 1 visitor space per 4 dwellings or part thereof	22x one or two bed units	22
			2x three bed units	4
			Visitor spaces, based on 24 dwellings	6
Manager's office	Business premises	1 space per 20m <sup>2</sup> GFA	18	0.9
Child care	Child care centre	1 space per 4 children plus drop off/pick up area	65	16.25
Shops	Business premises	1 space per 20m <sup>2</sup> GFA	617	30.85
Retail (café)	Food and drink premises	1 space per 20m <sup>2</sup> GFA	149 (including end of trip and retail WC)	7.45
<b>Total</b>				<b>122</b>

A minimum of 122 car spaces is required for this development, including 17 car parking spaces dedicated to the child care centre. A breakdown of these 122 spaces is provided in the following sections.

#### 4.1.2. Accessible Car Parking

Accessible car parking requirements are specified in Volume 1 of the 2015 National Construction Code and Building Code of Australia. These codes provide several rates for various building classes. The accessible parking calculations are carried out in Table 10.

**Table 10 | Accessible Parking Requirements**

Item	Building class	Calculation rate	Number of parking spaces	Number of accessible spaces
Serviced apartments	2	Nil required		0
Shop top housing	2	Nil required		0
Manager's office	5	1 space for every 100 carparking spaces or part thereof	1	1
Child care	9b	1 space for every 100 carparking spaces or part thereof	65	1
Shops	6	1 space for every 50 carparking spaces or part thereof	38	1
Cafe	6			
Total				3

We recommend that of the 122 parking spaces, at least 3 be configured as a disabled parking space.

#### 4.1.3. Bicycle Parking

Bicycle spaces are calculated in accordance with the requirements of Chapter B4 of the 2014 Byron Shire DCP. A calculation summary is provided in Table 11.

**Table 11 | Bicycle Space Calculations**

Item	Relevant DCP land use definition	Calculation rate	Amount	Number of bicycle spaces
Serviced apartments	Bed and breakfast accommodation	Nil	-	0
Apartments	1 or 2 bed unit (medium density housing)	Nil	-	0
Apartments	3 bed unit (medium density housing)	Nil	-	0
Apartments	Visitor spaces	Nil	-	0
Manager's office	Business premises	2 per 100m <sup>2</sup> or part thereof	18	0
Child care	Child care centre	Nil	65	0
Shops	Business premises	2 per 100m <sup>2</sup> (or part thereof) up to a floor area of 200m <sup>2</sup> and 1 per 200m <sup>2</sup> thereafter	617	6
Cafe	Food and drink premises	1 per 25m <sup>2</sup> of GFA	149	6
<b>Total</b>				<b>12</b>

We recommend at least 12 bicycle spaces are provided on site.

#### 4.1.4. Motorbike Parking

Chapter B4 of the 2014 Byron Shire DCP requires that for commercial developments with a GFA exceeding 1000m<sup>2</sup>, two percent of car parking spaces shall be converted to motorbike spaces at a rate of 4 motor cycle spaces for every space converted.

The commercial component of the development comprises of more than 1000m<sup>2</sup>, therefore the above requirement applies. The commercial component, comprising of the serviced apartments, child care, shops and café, generates the need for 89 parking spaces. We recommend that two of these spaces be converted to a total of 8 motor cycle spaces.

#### 4.1.5. Staff Parking

Staff spaces are calculated in accordance with the requirements of Chapter B4 of the 2014 Byron Shire DCP. For the use definitions in this proposal, no staff parking rates apply.

#### 4.1.6. Loading Bays

Loading bay calculations are carried out in accordance with Chapter B4 of the 2014 Byron Shire DCP and the GTTG, based on development types. The calculations are provided in Table 12.

Table 12 | Loading Bay Calculations

Relevant DCP Table B4.2 development type	Items included	GFA, m <sup>2</sup>	Number of loading bays required by vehicle class
Business premises/office premises	Manager's office	18	1 x SRV
Retail premises, tourist and visitor accommodation (except bed and breakfast accommodation and farmstay accommodation)	Café and shop	766	1 x SRV 1 x MRV
Industry	-	-	-

Based on Table B4.2 of Chapter B4 of the 2014 DCP, a total of two SRV loading bays and one MRV loading bay would be required, however, after consultation with council the SRV loading bays are not required as the MRV loading bay off Ruskin Lane meets council's requirements for this proposed development. The site manager would manage timing deliveries and pickups.

#### 4.1.7. Summary of Parking Requirements

A summary of the required number of parking spaces and types is provided in Table 13.

Table 13 | Summary of Parking Spaces

Item	Minimum required
Regular parking spaces (inclusive of small car spaces and electric car charging bays)	100
Dedicated child car parking spaces	17
Accessible parking spaces	3
Bicycle spaces	12
Motorbike spaces	8
Staff parking spaces	0
SRV loading bays	2*
MRV loading bays	1

\*Not required by council as part of this development

## 4.2. GEOMETRIC REQUIREMENTS

Geometric requirements for the parking spaces and loading bays are determined in accordance with Australian / New Zealand Standard 2890. An overview of the geometric requirements is provided in Table 14.

Table 14 | Geometric Requirements

Item	Minimum amount	Relevant user classes	Dimensions
Regular parking spaces	100	1A, 2, 3	5.4 x 2.6m spaces with 5.8m aisle
Child care spaces	17	3A	5.4 x 2.7m spaces with 6.2m aisle
Accessible parking spaces	2	4	5.4 x 2.5m spaces with 2.4m shared area between 2 spaces
Bicycle spaces	12	-	
Motorbike spaces	8	-	
Staff parking spaces	0	-	-
SRV loading bays	2	-	3.5 x 6.4m bay with 3.5m vertical clearance

MRV loading bays	1	-	3.5 x 8.8m bay with 4.5m vertical clearance
------------------	---	---	--

#### 4.3. SUITABILITY OF CURRENT DESIGN

The proposed architectural design complies with the parking requirements and geometric design requirements outlined in this chapter of the report. The design has been modified to ensure that the required PWD parking spaces, carparking spaces, motorcycle spaces and bicycle spaces are provided. As part of the parking spaces, three small vehicle car parking spaces are provided as well as 2 electrical car charging bays.

Safety measures including pedestrian zones and pedestrian crossings have been provided to ensure that children can be escorted to the lift and staircase with sufficient safety.

Although a minimum of 2 SRV loading bays is recommended based on the DCP, after consultation with council the SRV loading bays are not required as the MRV loading bay off Ruskin Lane meets council's requirements for this proposed development. The site manager would manage timing deliveries and pickups.



## 5. TRIP GENERATION

This section of the report focuses on the traffic generated by the proposed development.

### 5.1. TRIP GENERATION RATES

Trip generation rates have been obtained from multiple sources including the RTA's *Guide to Generating Traffic Development* (GTTGD) and ITE's *Trip Generation Manual*. This report will adopt a merit based assessment for trip generation to ensure that an accurate representation of the proposed site is shown. Based on local knowledge of the local area, the rates that best represent the proposed development will be adopted for this assessment. Table 15 shows a summary of relevant rates provided in the GTTGD and the ITE Trip Generation Manual. The rates provided in this table will be assessed in order to establish rates that will be adopted for this assessment. The adopted rates are provided in Table 16 and Table 17.

**Table 15 | Trip Generation, data sources**

Item	Trip generation parameter	Source	Daily trip generation rate	Peak hour trip generation rate
Shop top housing (apartments) (1 or 2 bedroom)	Number of dwellings	RTA Guide to Generating Traffic Developments	5 per dwelling	0.4-0.5 per dwelling
Shop top housing (apartments) (3 bedroom)	Number of dwellings	RTA Guide to Generating Traffic Developments	6.5 per dwelling	0.5-0.65 per dwelling
Apartments	Number of dwellings	ITE Trip Generation Manual	-	0.35 per dwelling (AM) 0.44 per dwelling (PM)
Serviced Apartments	Number of dwelling units	ITE Trip Generation Manual	6.65 per unit	0.51 (AM) 0.62 (PM)
Manager's Office	m <sup>2</sup> GFA	RTA Guide to Generating Traffic Developments	10 per 100m <sup>2</sup> GFA	2 per 100m <sup>2</sup> GFA
Manager's Office	m <sup>2</sup> GFA	ITE Trip Generation Manual	12.4 per 100m <sup>2</sup> GFA	1.68 per 100m <sup>2</sup> GFA (AM) 1.60 per 100m <sup>2</sup> GFA (PM)
Child care	Children	RTA Guide to Generating Traffic Developments	-	0.8 per child (AM) 0.7 per child (PM)
Child care	Children	ITE Trip Generation Manual	4.38 per child	0.8 per child (AM) 0.81 per child (PM)
Shop – Shopping Centre	m <sup>2</sup> GFA	RTA Guide to Generating Traffic Developments	121 per 100m <sup>2</sup> GFA (0 – 10,000m <sup>2</sup> GFA)	12.5 per 100m <sup>2</sup> GFA
Shop – Variety Store	m <sup>2</sup> GFA	ITE Trip Generation Manual	64.03 per 100m <sup>2</sup> GFA	3.81 per 100m <sup>2</sup> GFA (AM)

				6.99 per 100m <sup>2</sup> GFA (PM)
Shop – Shopping Centre	m <sup>2</sup> GFA	ITE Trip Generation Manual	42.70 per 100m <sup>2</sup> GFA	0.96 per 100m <sup>2</sup> GFA (AM) 3.71 per 100m <sup>2</sup> GFA (PM)
Shop – Specialty Retail Store	m <sup>2</sup> GFA	ITE Trip Generation Manual	44.32 per 100m <sup>2</sup> GFA	6.84 per 100m <sup>2</sup> GFA (AM) 5.02 per 100m <sup>2</sup> GFA (PM)
Shop – Home Improvement Store	m <sup>2</sup> GFA	ITE Trip Generation Manual	30.74 per 100m <sup>2</sup> GFA	1.49 per 100m <sup>2</sup> GFA (AM) 2.33 per 100m <sup>2</sup> GFA (PM)
Shop – Apparel Store	m <sup>2</sup> GFA	ITE Trip Generation Manual	-	3.83 per 100m <sup>2</sup> GFA (PM)
Shop – Pharmacy	m <sup>2</sup> GFA	ITE Trip Generation Manual	90 per 100m <sup>2</sup> GFA	2.94 per 100m <sup>2</sup> GFA (AM) 8.40 per 100m <sup>2</sup> GFA (PM)
Shop – Furniture Store	m <sup>2</sup> GFA	ITE Trip Generation Manual	5.06 per 100m <sup>2</sup> GFA	0.17 per 100m <sup>2</sup> GFA (AM) 0.45 per 100m <sup>2</sup> GFA (PM)
Shop – Hair Salon	m <sup>2</sup> GFA	ITE Trip Generation Manual	-	1.21 per 100m <sup>2</sup> GFA (AM) 1.93 per 100m <sup>2</sup> GFA (PM)
Restaurant	m <sup>2</sup> GFA	RTA Guide to Generating Traffic Developments	60 per 100m <sup>2</sup> GFA	5 per 100m <sup>2</sup> GFA
Coffee/Donut Shop without drive-through window	m <sup>2</sup> GFA	ITE Trip Generation Manual	180 per 100m <sup>2</sup> GFA [(AM + PM)*2]	64.21 per 100m <sup>2</sup> GFA (AM) 25.81 per 100m <sup>2</sup> GFA (PM)

The proposed shop on the ground floor level of the development has a significant GFA footprint and will constitute a large percentage of trip generation to the development. The GTTGD provides daily trip and peak hour rates for shopping centres, however does not provide data of shop uses that would likely reflect the proposed development. For this reason, data from the ITE Trip Generation Manual has been sourced to provide a better understanding of the trip generation at the development.

Clause 3.6.1 of the GTTGD suggests that a 25% discount rate can be applied to the shopping centre rates for new shops in existing shopping centres (<10,000m<sup>2</sup> GFA). This reduces the daily trip generation to 91 trips per 100m<sup>2</sup> GFA, and the peak hour trip generation to 9.3 trips per 100m<sup>2</sup> GFA. When comparing this data to the ITE data, it can be seen that the adopted rates are in the same order of magnitude of rates provided for several shop types, but generally the calculated rate is on the high side. The adopted rates are similar to the rates provided for a pharmacy, and it is assumed that this is a potential shop for the development. For modelling purposes, the discounted GTTGD rates will be used as they are conservative trip generation rates for the potential development use. This can be adjusted in the future if more information regarding the use of the shop is known.

The adopted peak hour trip generation rates are summarised in Table 16.

**Table 16 | Peak Hour Trip Generation, adopted rates**

Item	Trip Generation Parameter	Source	AM Peak Hour Trip Generation Rate	PM Peak Hour Trip Generation Rate	Number of items	AM peak hour trip generation	PM peak hour trip generation
Shop top housing (1 or 2 bedroom)	Number of dwellings	RTA Guide to Generating Traffic Developments	0.5 per dwelling	0.5 per dwelling	22	11	11
Shop top housing (3 bedroom)	Number of dwellings	RTA Guide to Generating Traffic Developments	0.65 per dwelling	0.65 per dwelling	4	2.6	2.6
Serviced apartment	Number of dwellings	ITE Trip Generation Manual	0.51 per dwelling	0.62 per dwelling	28	14.28	17.36
Manager's office	m <sup>2</sup> GFA	RTA Guide to Generating Traffic Developments	2 per 100m <sup>2</sup> GFA	2 per 100m <sup>2</sup> GFA	18	0.36	0.36
Child care	Children	RTA Guide to Generating Traffic Developments & ITE Trip Generation Manual	0.81 per child	0.76 per child (averaged)	65	52.65	49.4
Shops*	m <sup>2</sup> GFA	RTA Guide to Generating Traffic Developments	9.3 per 100m <sup>2</sup> GFA	9.3 per 100m <sup>2</sup> GFA	617	57.38	57.38
Café (incl end of trip and WC)*	m <sup>2</sup> GFA	RTA Guide to Generating Traffic Developments	64.21 per 100m <sup>2</sup> GFA	25.81 per 100m <sup>2</sup> GFA	149	95.67	38.46
<b>TOTAL</b>						<b>233.94</b>	<b>176.56</b>

\* The latest architectural plans have reduced floor areas for the shops and café, therefore the numbers shown in the table are conservative

The existing site comprises of 3 low density residential lots, of which one is an approved dual occupancy lot. The existing trip generation can be calculated based on the 2013 RMS supplement to the GTTGD. It provides a weekday average morning peak hour trip of 0.71 per dwelling and a weekday average evening peak hour trip of 0.78 per dwelling. Based on 4 existing dwellings, the existing trip generation would be:

- 2.84 trips per hour (AM peak).
- 3.12 trips per hour (PM peak).

The net trip generation of the proposed development would be:

- 231 trips per hour (AM peak).
- 174 trips per hour (PM peak).

## 5.2. DAILY TRIP CALCULATIONS

The existing site comprises of 3 low density residential lots, of which one is an approved dual occupancy lot. The existing trip generation can be calculated based on the 2013 RMS supplement to the GTTGD. It provides an average trip generation rate of 7.4 trips per day per dwelling in regional areas. Based on 4 existing dwellings, the existing site trip generation would be 29.6 trips per day.

Adopted daily development trip generation calculations are provided in Table 17.

**Table 17** | Development Daily Trip Generation, adopted rates

Item	Trip generation parameter	Daily trip generation rate	Amount	Trip generation
Shop top housing (1 or 2 bedroom)	Number of dwellings	5 per dwelling	22	110
Shop top housing (2 bedroom)	Number of dwellings	6.5 per dwelling	4	26
Serviced Apartments	Number of units	6.65 per apartment	28	186.2
Manager's office	m <sup>2</sup> GFA	10 per 100m <sup>2</sup> GFA	18	1.8
Child care	Children	4.38 per child	65	284.7
Shops*	m <sup>2</sup> GFA	91 per 100m <sup>2</sup> GFA	617	561.5
Café*	m <sup>2</sup> GFA	180 trips per 100m <sup>2</sup> GFA (assumed, based on peak trip generation rates)	149	268.2
<b>TOTAL</b>				<b>1438.4</b>

\* The latest architectural plans have reduced floor areas for the shops and café, therefore the numbers shown in the table are conservative

Based on the parameters above, the development will generate 1438 daily trips. This results in a net daily trip generation of 1408 vehicle trips per day.

## 6. INTERNAL MANOEUVRING

Internal manoeuvring has been assessed for the design vehicles for the site, using Civil3D based swept path analysis software. The following design vehicles have been adopted:

- B99 for access ramp (2-way) and basement car park (one-way) manoeuvring.
- Standard MRV and HRV garbage truck for Ruskin Lane.
- Standard MRV and skip bin for MRV loading bay.

The swept path analysis outcomes have been recorded in the civil drawings. It shows that safe and efficient manoeuvring is feasible based on the current architectural design.

SIDRA modelling shows minimal delays for vehicles exiting the site and turning left from Ruskin Lane onto Browning Street. Thus, it has been shown that the intersections will not result in queues for traffic exiting the site.

The basement car park has been design complies with the parameters set out in AS2890.1 and summarised in section 4.2 of this report.

In order to improve safe manoeuvring of both vehicles and pedestrians in the basement car park, the following safety enhancing measures have been incorporated into the design:

- Speed humps.
- Signage.
- Separate pedestrian path along the perimeter of the dedicated child care spaces. This path leads to the lift and stairs.



## 7. IMPACT ON SURROUNDING ROAD NETWORK

### 7.1. IMPACT ON ROAD CAPACITY

The sections of Jonson Street and Browning Street adjacent to the subject site is currently used to enter and exit the Byron Bay CBD from the Suffolk Park direction.

The proposed Byron Bay Bypass will begin at the corner of Jonson Street and Browning Street and connect into the end of Butler Street and continue to the existing roundabout adjacent to the Police Station. The proposed overall layout can be seen in Figure 4. It is proposed that a new roundabout will be located at the corner of Jonson Street and Browning Street, changing the dynamics of traffic around the subject site.

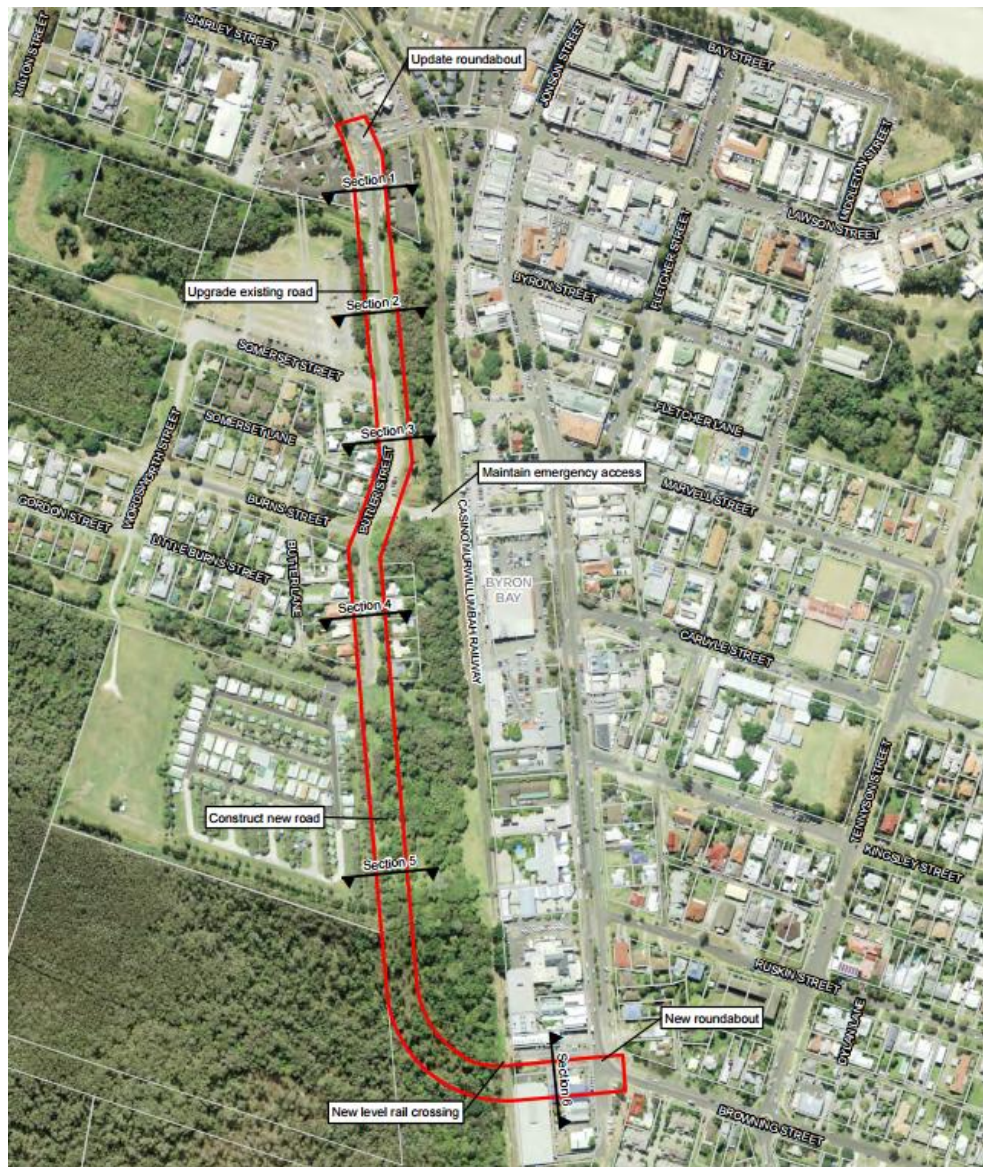


Figure 4 | Byron Bay Bypass Overall Layout Plan

The Byron Bay Bypass will aim to improve the traffic flow along Jonson Street by diverting through traffic around the Byron Bay CBD. It is anticipated that the traffic volumes along Jonson Street will decrease and the traffic volumes along Browning Street will remain the same as a result of the bypass. Although traffic volumes along Browning Street will remain the same, the dynamic of the road will change as the flow of traffic will no longer be constant due to the installation of a roundabout at the Jonson Street and Browning Street intersection. The true dynamics of the road network will not be understood until the roundabout is installed, and this is not within the scope of this report.



Table 5.1 of the *Guide to Traffic Management Part 3: Traffic Studies and Analysis* shows that the peak hour capacity of an urban road with interrupted flow is 900 veh/h.

The average peak hour traffic volumes for Jonson and Browning Street can be seen in Table 18 below (please refer to next section for calculation methodology). These values are inclusive of the 1.05 seasonality factor. From this table, it can be seen that the peak hour capacity of the street remains within the 900 veh/h limit (allowing for some flexibility in calculating the 901 veh/h value for Browning Street westbound). These numbers do not take into account changes in traffic volumes due to the Byron Bay Bypass. The percentage increase in traffic volume varies between 4.3% and 7.5%, depending on street and direction. This increase would be noticeable, but together with the roadways remaining within capacity, no road upgrades are required to support the predicted traffic volume increase on the surrounding roads.

**Table 18 | Peak Hour Vehicle Trips on Surrounding Road Network**

		Jonson Southbound	Browning Eastbound	Browning Westbound
2017 pre-development	AM Peak (veh/h)	430	416	656
	PM Peak (veh/h)	584	584	491
2027 pre-development	AM Peak (veh/h)	550	532	839
	PM Peak (veh/h)	748	748	632
2027 post-development	AM Peak (veh/h)	591	573	907
	PM Peak (veh/h)	782	782	679
Percentage increase (between 2027 pre- and post-development)	AM Peak (veh/h)	7.49%	7.74%	8.14%
	PM Peak (veh/h)	4.52%	4.52%	7.47%

## 7.2. IMPACT ON THE RUSKIN LANE INTERSECTIONS

### 7.2.1. Modelling Scenarios

Establishment of the relevant modelling scenario's is based on the following questions:

- How does the intersection perform now and in the 2027 design year, adopting an assumed 2.5% annual compound traffic growth rate, with no development traffic included?
- How does the intersection perform in 2027 when development traffic is added?
- Are any intersection upgrades required?

Eight intersection modelling scenarios have been setup to capture the content of the above questions. The pre-development modelling scenarios will be based on the Browning Street/Ruskin Lane intersection. For the post-development scenarios, two intersections are connected and modelled simultaneously as a network. The two intersections modelled are the Browning Street/Ruskin Lane intersection and the Ruskin Lane/Proposed development (ramp) intersection. The modelled scenarios are as follows:

- Current conditions 2017 AM Peak.
- Current conditions 2017 PM Peak.
- Pre-development 2027 AM Peak.
- Pre-development 2027 PM Peak.
- Post-development 2017 AM Peak.
- Post-development 2017 PM Peak.
- Post-development 2027 AM Peak.
- Post-development 2027 PM Peak.

### 7.2.2. General Modelling Information

SIDRA Intersection 7.0 PLUS is used to carry out intersection modelling. Although general site-specific modelling input is described in the corresponding sections, detailed SIDRA modelling data can be provided upon request.

For traffic on Browning Street, an approach speed limit of 50km/h is used. At the Ruskin Lane intersection, an approach operating speed of 40km/h will be assumed and used in modelling. In the post-development scenarios, a vehicle movement speed of 5km/h will be used for movements into and out of the ramp.

The following generic key performance indicators are adopted when deciding whether a modelling scenario is a pass or a fail:

- Worst Level of Service on an intersection or roundabout: LOS C.
- Worst Level of Service on a through road: LOS D.

The geometry of the SIDRA models are depicted in Figure 5 and Figure 6.

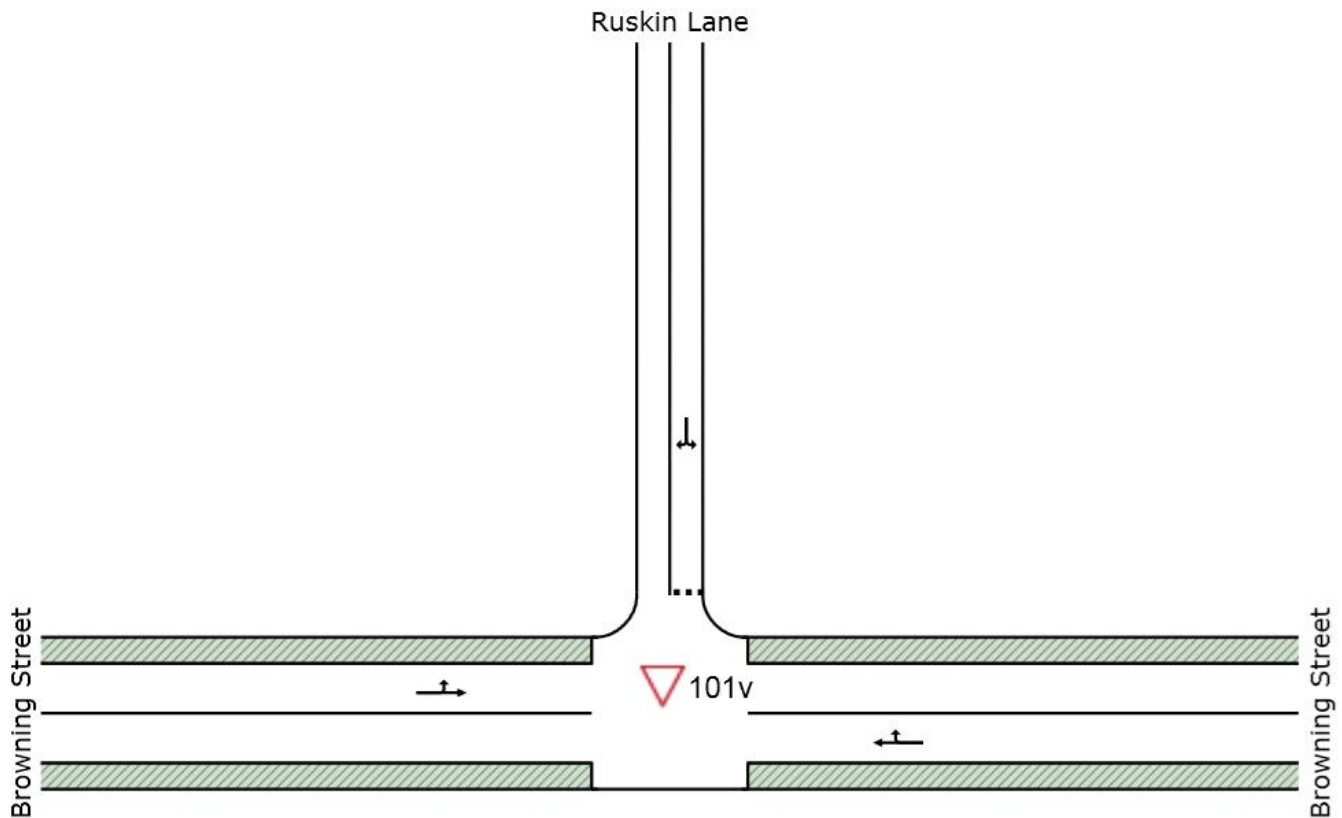
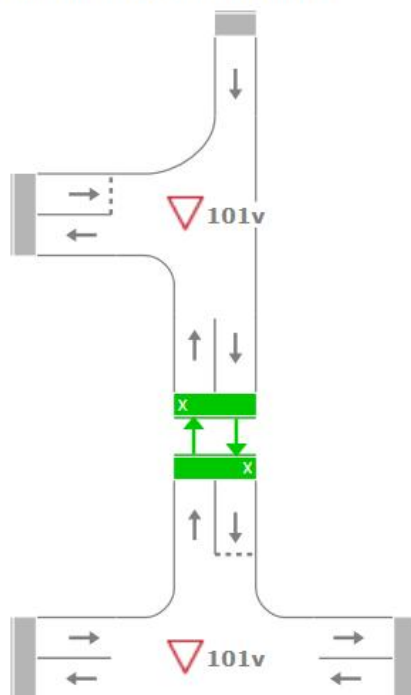


Figure 5 | Browning Street & Ruskin Lane Intersection

**NETWORK CONFIGURATION****Figure 6 | Ruskin Lane & Ramp Intersection**

The pre-development turning movements were obtained from the GAA survey and Planit survey. The GAA survey data is used for straight movements along Jonson and Browning Street, and the Planit survey is used for the movements into and out of Ruskin Lane.

The following assumptions were made for determining the traffic volumes:

- 2.5% per annum compound traffic growth on background traffic.
- Development traffic trip distribution proportional with existing directional distribution on Browning Street traffic lanes.
- Ruskin Lane residents don't turn right into Ruskin Lane for post-development scenario's.
- Ruskin Lane left turn out only for post-development scenarios.

Table 19 shows the traffic data used for the SIDRA inputs for the pre-development modelling scenarios.

**Table 19 | Pre-development SIDRA Input Browning Street/Ruskin Lane Intersection**

Approach	Turning movement	2017 AM Peak	2017 PM Peak	2027 AM Peak	2027 PM Peak
Browning Street (eastbound)	Left	4	1	5	1
	Straight	412	583	527	747
Browning Street (westbound)	Right	1	4	1	5
	Straight	655	490	838	627
Ruskin Lane	Left	4	1	5	1
	Right	1	1	1	1

**Table 20 | Post-development SIDRA Input Browning Street/Ruskin Lane Intersection**

Approach	Turning movement	2017 AM Peak	2017 PM Peak	2027 AM Peak	2027 PM Peak
----------	------------------	--------------	--------------	--------------	--------------

Browning Street (eastbound)	Left	46	35	46	35
	Straight	412	583	527	747
Browning Street (westbound)	Right	69	52	69	52
	Straight	655	490	838	627
Ruskin Lane	Left	120	88	121	88
	Right	1	1	1	1
TOTAL		1303	1249	1602	1550

Table 21 | Post-development SIDRA Input Ruskin Lane/Ramp Intersection

Approach	Turning movement	2017 AM Peak	2017 PM Peak	2027 AM Peak	2027 PM Peak
Ruskin In	Left	115.5	87	115.5	87
Development Out	Right	115.5	87	115.5	87
Ruskin South	Straight	4	1	5	1
	Right	1	1	1	1
TOTAL		236	176	237	176

### 7.2.3. Modelling Results

Modelling results for Level of Service, 95th%-ile queue length (m) and controlled delay (s) are depicted in Table 22 through Table 27. The modelling shows that the intersections are currently operating at Level of Service A for every movement. It is expected that if right turn movements out of Ruskin Lane are allowed post-development, the intersection would perform significantly worse. For this reason, it is proposed that Ruskin Lane will become left out only onto Browning Street. Northbound traffic can use the nearby Tennyson Street roundabout to adjust their direction of travel. Additionally, with the construction of a roundabout at the corner of Jonson Street and Browning Street, it is expected that queueing would occur along Browning Street leading into the roundabout. This queueing would create issues with vehicles making a right turn out of Ruskin Lane.

The modelling results show excellent performance of both intersections for pre- and post-development scenarios. It is unlikely that there is any queuing of traffic leaving the site which in turn ensures that development traffic can travel into the basement car park unimpeded.

Table 22 | Level of Service for Pre-development Scenario's

	2017 Pre AM	2017 Pre PM	2027 Pre AM	2027 Pre PM
Straight (eastbound)	A	A	A	A
Left in (eastbound)	A	A	A	A
Straight (westbound)	A	A	A	A
Right in (westbound)	A	A	A	A
Left out	A	A	A	A
Right out	A	A	A	A

Table 23 | 95<sup>th</sup>%ile Queue Length (m) for Pre-development Scenario's

	2017 Pre AM	2017 Pre PM	2027 Pre AM	2027 Pre PM
--	-------------	-------------	-------------	-------------

Straight (eastbound)	0	0	0	0
Left in (eastbound)	0	0	0	0
Straight (westbound)	0	1	0	1
Right in (westbound)	0	1	0	1
Left out	0	0	0	0
Right out	0	0	0	0

Table 24 | Control Delay (s) for Pre-development Scenario's

	2017 Pre AM	2017 Pre PM	2027 Pre AM	2027 Pre PM
Straight (eastbound)	0	0	0	0
Left in (eastbound)	4.3	4.3	4.3	4.3
Straight (westbound)	6.3	0.1	0	0.1
Right in (westbound)	7.2	8.5	9	11.4
Left out	3.4	4.1	3.9	5.1
Right out	8.4	8.2	14	13.2

Table 25 | Level of Service for Post-development Scenario's

	2017 Post AM	2017 Post PM	2027 Post AM	2027 Post PM
Browning Street/Ruskin Lane Intersection				
Straight (eastbound Browning)	A	A	A	A
Left in (eastbound Browning)	A	A	A	A
Straight (westbound Browning)	A	A	A	A
Right in (westbound Browning)	A	A	A	A
Left Out (Ruskin)	A	A	A	A
Right out (Ruskin)	A	A	A	A
Ruskin Lane/Proposed Ramp Intersection				
Left in to ramp	A	A	A	A
Right out of ramp	A	A	A	A
Straight (southbound Ruskin)	A	A	A	A
Right in (southbound Ruskin)	A	A	A	A

Table 26 | 95<sup>th</sup>ile Queue Length (m) for Post-development Scenarios

	2017 Post AM	2017 Post PM	2027 Post AM	2027 Post PM
Browning Street/Ruskin Lane Intersection				

Straight (eastbound Browning)	0	0	0	0
Left in (eastbound Browning)	0	0	0	0
Straight (westbound Browning)	0	0	0	0
Right in (westbound Browning)	0	0	0	0
Left Out (Ruskin)	3	2	3	3
Right out (Ruskin)	3	2	3	3
Ruskin Lane/Proposed Ramp Intersection				
Left in to ramp	0	0	0	0
Right out of ramp	3	2	3	2
Straight (southbound Ruskin)	0	0	0	0
Right in (southbound Ruskin)	0	0	0	0

Table 27 | Control Delay (s) for Post-development Scenarios

	2017 Post AM	2017 Post PM	2027 Post AM	2027 Post PM
Browning Street/Ruskin Lane Intersection				
Straight (eastbound Browning)	0	0	0	0
Left in (eastbound Browning)	4.3	4.3	4.3	4.3
Straight (westbound Browning)	0.7	0.9	0.9	1.7
Right in (westbound Browning)	7.9	9.1	10.2	12.6
Left Out (Ruskin)	3.6	4.4	4.1	5.5
Right out (Ruskin)	10.9	9.9	19	16.4
Ruskin Lane/Proposed Ramp Intersection				
Left in to ramp	4.2	4.2	4.2	4.2
Right out of ramp	0.3	0.2	0.3	0.2
Straight (southbound Ruskin)	0.7	2.5	0.5	2.5
Right in (southbound Ruskin)	10.8	9.2	10.9	9.2



## 8. SAFETY CONSIDERATIONS

### 8.1. SITE ACCESS

There are currently two vehicular access to 137-139 Jonson Street and 3 Browning Street via the Jonson Street frontage. Additionally, there is a vehicular access point to 3 Browning Street at the Browning Street frontage. It is proposed that all vehicular entry and exits to the subject site will be via Ruskin Lane. After consultation with council it was agreed to undertake an augmentation of the Ruskin Lane intersection to allow for an MRV turning paths. The augmentation of the intersection complies with the minimum width requirements outlined in Table 3.1 of AS2890.2. There is a portion of the proposed developments property that will be utilised as part of the augmentation. This area will need to be turned into an easement to allow public cars to drive over this area.

The sight lines at the Browning Street intersection are uninterrupted to the intersections with Jonson Street and Bangalow Road. From the proposed site access point in Ruskin Lane, uninterrupted sight lines exist and will be maintained towards Browning Street and the corner in Ruskin Lane. Thus, adequate sight lines are achieved. Sight lines from Ruskin Lane to the right and to the left are depicted in Figure 7 and Figure 8.



Figure 7 | Sight Line to the Right from Ruskin Lane



Figure 8 | Sight Line to the Left from Ruskin Lane

## 8.2. ROAD SAFETY

A pedestrian safety issue currently exists along the Ruskin Lane and Browning Street intersection when vehicles are exiting Ruskin Lane. When exiting Ruskin Lane, there is a pedestrian footpath along the road where pedestrians have right of way over vehicles. There is poor visibility towards the left and the right, with a timber fence inhibiting vision to the left and a tall hedge inhibiting vision to the right. The proposed development will improve vision to the right by removing the hedge and including an area free of structures or shrubs, however the vision to the left will not be altered. It is proposed that right of way arrangements will be altered in such a way that vehicular traffic will have right of way over pedestrians. We recommend a convex mirror is installed to improve the sight lines for the pedestrians with respect to vehicles exiting Ruskin Lane.

In addition to the aforementioned pedestrian safety issues, it was noticed during a site inspection on 28/06/2017 that pedestrians face difficulties at the roundabout crossing when walking from Bangalow Road to Tennyson Street. This is due to vehicles having right of way. It was also noticed that Pedestrians walking across the "Mitre 10" intersection/parking area towards the proposed development face the risk of getting hit by vehicles. The main risk for pedestrians is vehicles trying to enter the Mitre 10 carpark when travelling westbound along Browning Street. It appears that drivers wishing to enter the carpark are rushed by tail-gating vehicles as there is no dedicated turning lane. It is assumed that this situation will be improved due to the Byron Bay Bypass works.

The trip generation calculations show that the proposed development would not result in a significant change in road conditions, and that the laneway capacity is not exceeded on the surrounding road network.

## 9. CYCLING PROVISIONS

There is currently a cycle way that exists throughout the Byron Bay CBD to promote the use of bicycles in the area. According to the Byron Bay Town Centre Bypass Environmental Impact Statement, there will be a 2m wide shoulder/bicycle lane in each direction along the bypass. Butler Street currently has a designated cycle way and it is anticipated that the bypass will tie into cycle way.

The Byron Shire Bike Strategy and Action Plan promotes the transitioning of the Byron Shire into a cycle friendly road space. It is proposed that 11 bicycle parks are provided at the development to promote the use of bicycles as a means of transport to and from the site. The bicycle storage will be provided on the ground level of the building and will be within a designated enclosed room. This ensures that the bicycles are not within vision of the general public and are free from environmental conditions such as rain and UV degradation. The storage area will include two showers for bicycle users to ensure that they can manage their hygiene after a lengthy trip to site.

Thus, the development adequately addresses the requirements of the Byron Shire Bike Strategy and Action Plan.

## 10. 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 Shire aims to reduce the use of non-renewable energy and improve sustainability, amenity and opportunities for environmental health. Council have 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 2008* 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 cycle ways and pedestrian footpaths combined 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.

Section 94 plans and contributions

Shire Wide Bikeways & Footpaths: \$75.20 per SDU.

Bikeways and Footpaths: \$1280.71 per SDU.

- 3 bedroom unit = 1 SDU.
- 2 bedroom unit = 0.75 SDU.
- 1 bedroom unit = 0.5 SDU.

**Table 28** | Section 94 Contribution Costs

Dwelling type	Number of SDU	Number of dwellings	Cost per SDU	Contribution
Single bedroom	0.5	22	\$1,281	\$14,091
Double bedroom	0.75	24	\$1,281	\$23,058
Triple bedroom	1	4	\$1,281	\$5,124
TOTAL				\$42,273

## 11. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings in this report, the following conclusions are made:

- The proposed development will increase 2027 traffic volumes on the surrounding road network by up to 12%, but this does not result in exceedance of roadway capacity. Intersection modelling shows excellent intersection performance for the Ruskin Lane intersections.
- The development adequately incorporates the recommendations of the Byron Shire Bike Strategy and Action Plan.
- The proposed development as described in this report is unlikely to create safety hazards to road users.

Based on the findings in this report, the following recommendations are proposed:

- Ruskin Lane is restricted to left out movements only.
- A convex mirror is installed at the Ruskin Lane exit to provide pedestrians with sight lines to vehicles along Ruskin Lane.

## REFERENCES

*Guide to Traffic Generating Developments*, Roads and Traffic Authority, Version 2.2, October 2002.

Australian Standard 2890 *Parking Facilities Part 2: Off-street commercial vehicle facilities*, Council of Standards Australia, Sydney, 10<sup>th</sup> October 2002.

*Austroads Design Vehicles and Turning Path Templates Guide*, Austroads Ltd, 3<sup>rd</sup> ed., Sydney, 2013.

*Austroads Guide to Traffic Management Part 3 – Traffic Studies and Analysis*, Austroads Ltd, 2<sup>nd</sup> ed., Sydney 2013.

*Austroads Guide to Road Design Part 4A: Unsignalised and signalised intersections*, Austroads Ltd, 2<sup>nd</sup> ed., Sydney 2010.

*Driveway Access to Property – Design Specification*, The Tweed Shire Council, Version 1.4, Murwillumbah, 18 July 2013.

*Northern Rivers Local Government Development Design – D1 – Specification Geometric Road Design (Urban and Rural)*, Northern Rivers Local Government, January 2006.

*Trip Generation Manual*, Institute of Transportation Engineers, 9<sup>th</sup> ed.



## APPENDIX A | CIVIL ENGINEERING PLANS

JGD DEVELOPMENTS PTY LTD  
137-139 JONSON ST, 3 BROWNING ST  
BYRON BAY, 2481



BYRON SHIRE COUNCIL  
ISSUED FOR DEVELOPMENT APPLICATION


DRAWING NUMBER	TITLE	REVISION
J170 - 0001	INDEX AND LOCALITY PLAN	E
J170 - 0002	GENERAL NOTES AND LEGEND	D
J170 - 0003	EXISTING SITE CONDITIONS AND DEMOLITION PLAN	E
J170 - 0004	SITE LAYOUT GROUND FLOOR PLAN	D
J170 - 0005	EARTHWORKS CUT/FILL PLAN	D
J170 - 0006	STORMWATER CATCHMENT PLAN	E
J170 - 0007	SEWER AND WATER LAYOUT PLAN	E
J170 - 0008	RAMP SECTIONS	D
J170 - 0009	RUSKIN LANE UPGRADE LONG SECTION	C
J170 - 0010	VEHICLE SWEEPED PATHS - LIGHT VEHICLES	E
J170 - 0011	VEHICLE SWEEPED PATHS - HEAVY VEHICLES	A
J170 - 0012	SEDIMENT AND EROSION CONTROL PLAN	C
J170 - 0013	BASEMENT CAR PARKS DRAINAGE SYSTEM LAYOUT PLAN	B



LOCALITY PLAN  
NOT TO SCALE

IMAGE SOURCE: NEARMAP 2017

PRELIMINARY ISSUE  
NOT FOR CONSTRUCTION

REV		DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED	SCALES:	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.	DRAWN BY: G.FALLARA	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: <a href="mailto:administration@planitconsulting.com.au">administration@planitconsulting.com.au</a>	CLIENT: JGD DEVELOPMENTS PTY LTD PO BOX 558 2481 BYRON BAY - NSW	PROJECT: 137-139 JONSON ST, 3 BROWNING ST			
											DESIGN BY: G.FALLARA		DRAWING TITLE: INDEX AND LOCALITY PLAN				
											APPROVED BY:						
											DATE:						
											THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED						
								DO NOT SCALE FROM DRAWING					LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL	ORIGINAL SIZE: A1	PLANIT JOB No.: J170	DRAWING No.: 0001	REV: E



100mm AT ORIGINAL SIZE

GENERAL

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE FOLLOWING DOCUMENTS:
- OTHER PROVIDED ENGINEERING DRAWINGS;

• TECHNICAL SPECIFICATIONS;

• SUPPLEMENTARY SPECIFICATIONS;

• WRITTEN INSTRUCTIONS.
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL THE RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF BSC STANDARDS AND SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PROVISION OF ANY TEMPORARY BRACING, PROPPING ETC. TO DRAINAGE PIPES DURING CONSTRUCTION. STRUCTURES SHALL BE MAINTAINED IN A STABLE POSITION AND NO PART SHALL BE OVERSTRESSED.
4. ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. DISCREPANCIES SHALL BE REFERRED TO THE SITE SUPERINTENDENT.
5. DO NOT OBTAIN DIMENSIONS FROM SCALING.
6. NATURAL SURFACE LEVELS ON THE DRAWINGS ARE INDICATIVE ONLY.
7. ANY PERMITS AND APPROVALS REQUIRED FOR CONSTRUCTION OF PERMANENT OR TEMPORARY WORKS SHALL BE OBTAINED BY THE CONTRACTOR.
8. BSC AND NRLG STANDARD DETAILS ARE TO BE ADOPTED UNLESS STATED OTHERWISE.

ROADWORKS

1. NOTWITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NRLG STANDARD SPECIFICATIONS AND DRAWINGS.
2. SIDE DRAINS SHALL BE CONSTRUCTED UNDER ALL NEW KERBS AS SPECIFIED WITHIN THESE DRAWINGS AND AS DIRECTED BY THE SUPERINTENDENT. REFER NRLG STANDARD DRAWING.
3. FLUSHING POINTS SHALL BE PROVIDED FOR SIDE DRAINS AT THE REQUIRED SPACING IN ACCORDANCE WITH BSC AND NRLG STANDARD DRAWINGS AND SPECIFICATIONS.
4. GEOTECHNICAL TEST RESULTS ARE TO BE FORWARDED TO THE SUPERINTENDENT PRIOR TO FINAL BOXING. TESTS SHALL INCLUDE SOAKED CBR AND/OR OTHER TESTS AS REQUESTED BY THE SUPERINTENDENT. THESE TESTS SHALL BE USED TO CONFIRM THE PAVEMENT DESIGN SHOW ON THESE DRAWINGS.
5. THE PAVEMENT DESIGN ON THE DRAWINGS IS NOT FOR CONSTRUCTION UNTIL FINAL CBR TESTS ARE REVIEWED AND APPROVED BY THE SITE SUPERINTENDENT. CONSTRUCTION OF THE PAVEMENT TO THE DESIGN SHOWN ON THE DRAWINGS PRIOR TO RECEIPT OF THE FINAL CBR TEST SHALL BE UNDERTAKEN AT THE CONTRACTOR'S OWN RISK.
6. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF ALL SERVICES AND PROTECT THESE SERVICES PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. WORK TO ANY SERVICES SHOULD BE DONE IN CONSULTATION WITH THE APPROPRIATE SERVICE PROVIDER.
8. EXISTING DRIVEWAYS WITHIN THE LIMITS OF THE CONSTRUCTION WORKS SHALL BE PROTECTED FROM DAMAGE. ANY DAMAGE TO DRIVEWAYS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. ENTRY INTO EXISTING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
10. TEMPORARY WARNING SIGNS TO BE ERECTED AS PER NRLG, CURRENT EDITION.
11. SEAL TO BE A.C. SURFACING - AS SPECIFIED.
12. KERB ADAPTERS ARE TO BE INSTALLED FOR ALL LOTS THAT FALL TO THE ROAD.

PAVEMENTS

1. GRANULAR PAVEMENT MATERIAL TO BE IN ACCORDANCE WITH BSC AND NRLG CONSTRUCTION SPECIFICATIONS AND ALL DOCUMENTS REFERENCED WITHIN THESE SPECIFICATIONS.
2. THE PAVEMENT SEAL IS TO BE IN ACCORDANCE WITH BSC AND NRLG CONSTRUCTION SPECIFICATIONS AND ALL DOCUMENTS REFERENCED WITHIN THESE SPECIFICATIONS.
3. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN AT 100m INTERVALS AT MINIMUM AT COMPLETION OF THE BULK EARTHWORKS.
4. SAMPLING SHALL BE CARRIED OUT IN ACCORDANCE WITH BSC AND NRLG GUIDELINES.
5. TRAFFIC NUMBERS ARE BASED ON BSC AND NRLG GUIDELINES.
6. FINAL PAVEMENT DESIGN IS SUBJECT TO RECEIPT OF THE GEOTECHNICAL TEST RESULTS AND MAY RESULT IN AN AMENDMENT TO THE PAVEMENT DESIGN SHOWN ON THIS DRAWING.
7. PAVEMENT DESIGN IS BASED ON BSC AND NRLG GUIDELINES.

SIGNAGE

1. FINAL SIGN LOCATIONS TO BE DETERMINED ON SITE BY THE SUPERINTENDENT.
2. ALL TRAFFIC SIGNS TO BE SIZE 'A' U.N.O.
3. FOR GUIDE POST INSTALLATION AND DETAILS, REFER BSC AND NRLG .
4. FOR TRAFFIC SIGN SUPPORT DETAILS, REFER BSC AND NRLG .
5. ALL SIGN MATERIAL TO BE CLASS 1.
6. ALL SIGNAGE, LINE MARKING & RRPMS ARE TO BE PREPARED IN ACCORDANCE WITH BSC AND NRLG .

DRAINAGE

1. ALL DRAINAGE STRUCTURES ARE TO BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS:
- BSC AND NRLG DRAWINGS AND SPECIFICATIONS;

• ANY MANUFACTURER'S STANDARD DRAWINGS AND SPECIFICATIONS.
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL THE RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF THE STATUTORY AUTHORITIES WHERE APPLICABLE.
3. STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE ASSESSMENT OF CONSTRUCTION LOADS AND PROVISIONS OF ANY TEMPORARY BRACING, PROPPING ETC. REQUIRED DURING CONSTRUCTION. STRUCTURES SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
4. PRECAST REINFORCEMENT CONCRETE PIPES ARE TO BE MANUFACTURED IN ACCORDANCE WITH AS 4058 AND AS 1992.
5. ALL STORMWATER PIPES SHALL BE CLASS '2' RCP. U.N.O.
6. ALL PIPES UP TO AND INCLUDING Ø600 ARE TO BE RUBBER RING JOINTED. ALL PIPES ABOVE Ø600 ARE TO BE FLUSH JOINTED U.N.O.
7. HEADWALL END STRUCTURES TO BE TYPE A, CAST IN SITU CONCRETE WITH CONCRETE APRONS (INCLUDING CUT OFF WALLS) U.N.O. REFER TO BSC AND NRLG STANDARD DRAWINGS FOR DETAILS.
8. PRECAST END STRUCTURES MAY BE USED ON CULVERTS LESS THAN OR EQUAL TO 15° SKEW, SUBJECT TO THE APPROVAL OF THE SUPERINTENDENT. PRECAST END STRUCTURES SHALL BE CONSTRUCTED WITH A REINFORCED CONCRETE CUT OFF WALL AS DETAILED FOR TYPE 3 APRONS BY BSC AND NRLG .
9. EXISTING STORMWATER DRAINAGE PIPES AND MANHOLES WITHIN THE LIMIT OF WORK SHALL BE PROTECTED, REMOVED OR MODIFIED AS SPECIFIED.
10. WHERE A CONNECTION IS MADE TO AN EXISTING DRAINAGE PIPE OR PIT, THE LEVEL OF THAT ELEMENT MUST BE SURVEYED PRIOR TO CONSTRUCTION. THE SURVEYED LEVELS SHALL BE PROVIDED TO THE SITE SUPERINTENDENT TO CONFIRM THE CONNECTION AND LEVELS PRIOR TO CONSTRUCTION.
11. BACKFILL AND BEDDING TO PIPE TO BE IN ACCORDANCE WITH BSC AND NRLG STANDARD DRAWINGS AND SPECIFICATIONS.
12. UNSUITABLE FOUNDING MATERIAL FOR PIPES AND STRUCTURES SHALL BE REMOVED OR IMPROVED IN ACCORDANCE WITHBSC AND NRLG SPECIFICATIONS.
13. ALL TRENCH BACK FILL MATERIAL UNDER THE PAVEMENT SHALL BE CBR 15 OR APPROVED EQUIVALENT.
14. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED. ALL GRATES ARE TO BE CLASS D U.N.O. AND BICYCLE SAFE IN ACCORDANCE WITH AS 3996 U.N.O.
15. GRATE SUPPORT TO BE CONSTRUCTED LEVEL TO ENSURE THAT THE GRATE DOES NOT ROCK AFTER INSTALLATION.
16. ALL LEVELS ARE APPROXIMATE ONLY AND ARE SUBJECT TO FULL DETAIL SURVEY OF THE EXISTING STRUCTURE.
17. THE THICKNESS OF THE RIP-RAP PROTECTION SHALL BE TWICE THE D50 STONE SIZE SPECIFIED ON THE DRAWINGS.
- 17.1. THE STONE SHALL BE REASONABLY WELL GRADED THROUGHOUT THE RIP-RAP LAYER. STONE SIZE SHALL BE DEPENDENT ON THE D50 VALUE SPECIFIED ON THE DRAWINGS. D10 SHALL BE 0.5xD50 AND D90 SHALL BE 1.35xD50. STONES SMALLER THAN THE SPECIFIED D10 ARE NOT TO EXCEED 20% BY WEIGHT OF EACH LOAD.
- 17.2. ROCK IS TO BE HARD, DENSE, DURABLE, RESISTANT TO WEATHERING AND ANGULAR IN SHAPE. IT SHALL BE FREE FROM OVERBURDEN, SPOIL SHALE AND ORGANIC MATTER. ROCK THAT IS LAMINATED, FRACTURED, POROUS OF OTHERWISE PHYSICALLY WEAK SHALL NOT BE USED.
- 17.3. AS AN APPROXIMATE GUIDE TO STONE SHAPE: THE BREADTH OR THICKNESS OF A SINGLE STONE SHOULD NOT BE LESS THAN ONE-THIRD ITS LENGTH. ROUND MATERIAL CAN BE USED AS RIP-RAP, PROVIDED IT IS NOT PLACED ON SLOPES GREATER THAN 1:3.

WATER

1. NOTWITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS, ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH BSC AND NRLG STANDARD SPECIFICATIONS AND DRAWINGS.
2. ALL FITTINGS SHALL BE D.I.C.L. CLASS K9 RUBBER RING JOINTED SPIGOT AND SOCKET TO AS 2280-1986.
3. ANCHOR BLOCKS SHALL BE INSTALLED AT ALL BENDS, JUNCTIONS AND DEAD ENDS.
4. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF ALL SERVICES AND PROTECT THESE SERVICES PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. OFFSET FROM BOUNDARY TO WATER MAIN 1.5m U.N.O.
6. PROVIDE WATER SERVICE TO ALL LOTS TO BSC AND NRLG STANDARD DRAWINGS.
7. ALL TRENCH BACK FILL MATERIAL UNDER ROAD PAVEMENT SHALL BE CBR 15 OR APPROVED EQUIVALENT.
8. ANY WORKS ASSOCIATED WITH LIVE WATER CONNECTIONS MAY BE CARRIED OUT BY THE CONTRACTOR UNDER SUPERVISION BY BSC AND NRLG. FEES & EXPENSES FOR THESE EXPENSES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

SEWERAGE

1. NOTWITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH BSC AND NRLG STANDARD SPECIFICATIONS AND DRAWINGS.
2. ALL PIPES SHALL BE Ø150 uPVC CLASS 'SN8' OR APPROVED EQUIVALENT U.N.O.
3. EACH LOT SHALL BE SERVICED BY A Ø100 HOUSE CONNECTION IN ACCORDANCE WITH BSC AND NRLG STANDARD SPECIFICATIONS AND DRAWINGS. HOUSE CONNECTIONS SHALL BE LOCATED 0.5m UPSTREAM OF ALLOTMENT BOUNDARIES.
4. CONTRACTOR SHALL VERIFY FINISHED SURFACE LEVELS ON SITE BEFORE CONSTRUCTION OF SEWERS AND HOUSE CONNECTION BRANCHES.
5. THE CONTRACTOR SHALL HAVE PROPERTY BOUNDARIES PEGGED AND THE LOCATION OF HOUSE CONNECTIONS CONFIRMED PRIOR TO COMMENCING CONSTRUCTION OF HOUSE CONNECTION BRANCHES.
6. FINISHED SURFACE LEVELS SHOWN ON LONGITUDINAL SECTIONS ARE INDICATIVE ONLY AND MANHOLE LIDS SHALL FINISH TO THE GRADE OF THE FOOTPATH IN ROADWAYS AND 75mm ABOVE THE SURROUNDING LEVELS IN THE ALLOTMENTS.
7. ANY WORK ASSOCIATED WITH LIVE SEWERS AND MANHOLES MAY BE CARRIED OUT BY THE CONTRACTOR UNDER SUPERVISION BY BSC AND NRLG. FEES & EXPENSES FOR THESE EXPENSES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF ALL SERVICES AND PROTECT THESE SERVICES PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR SHALL ADVISE THE SUPERINTENDENT IMMEDIATELY IF MIN. & MAX. DEPTHS AS DEFINED BY BSC AND NRLG ARE EXCEEDED DURING CONSTRUCTION.
10. ALL TRENCH BACK FILL MATERIAL UNDER ROAD PAVEMENT SHALL BE CBR 15 OR APPROVED EQUIVALENT.
11. THE BEDDING MATERIALS USED IN TRENCHS SHALL FOLLOW THE GUIDELINES OF AS2566.2, AND SHOULD BE ONE OF THE FOLLOWING:
- 11.1. SAND OR SOIL, FREE FROM ROCKS GREATER THAN 15MM IN SIZE.
- 11.2. CRUSHED ROCK, GRAVEL, OR GRADED MATERIAL OF EVEN GRADING WITH A MAXIMUM SIZE OF 15MM.
- 11.3. EXCAVATED MATERIAL FREE FROM ROCKS OR ORGANIC MATERIAL OR VEGETABLE MATTER THAT WILL AFFECT EMBEDMENT MATERIAL PERFORMANCE.
- 11.4. CONTROLLED LOW STRENGTH MATERIALS.
12. SEWER HOUSE CONNECTIONS SHALL BE A MAXIMUM DEPTH OF 1.5m MEASURED FROM THE DESIGN SURFACE AT A POINT 1m INSIDE THE ALLOTMENT.
13. THE CONTRACTOR SHALL CHECK ALL HOUSE CONNECTIONS PRIOR TO CONSTRUCTION AND SEEK INSTRUCTIONS FROM THE SUPERINTENDENT FOR ANY HOUSE CONNECTIONS OUTSIDE THE ALLOWABLE DEPTH.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECTIFICATION OF HOUSE CONNECTIONS DEEPER THAN 1.5m IF THE SUPERINTENDENT HAD NOT BEEN CONSULTED PRIOR TO CONSTRUCTION.

CONCRETE

1. COMPLY WITH AS 3600.
2. DESIGN AND CONSTRUCT FORMWORK IN ACCORDANCE WITH AS 3610.
3. PROVIDE QUALITY OF FINISHES OF FORMED SURFACES IN ACCORDANCE WITH AS 3610 AND AS FOLLOWS U.N.O. ON DRAWINGS:
- EXPOSED SURFACES - CLASS 3;

• CONCEALED SURFACES - CLASS 4;

• IN CONTACT WITH GROUND - CLASS 5.
4. THE LISTED SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES. PROVIDE CHAMFERS, FILLETS, REGLETS AND DRIP GROOVES AS SHOWN ON THE STRUCTURAL DRAWINGS.
5. DO NOT MAKE ANY PENETRATIONS OR CHASES OR EMBED ANY ITEMS OTHER THAN THOSE SHOWN IN THE STRUCTURAL DRAWINGS WITHOUT APPROVAL OF THE ENGINEER.
6. FORM CONSTRUCTION JOINTS ONLY WHERE APPROVED BY THE ENGINEER.
7. SUPPORT REINFORCEMENT IN ITS CORRECT POSITION DURING CONCRETING BY APPROVED BAR CHAIRS, SPACERS OR SUPPORT BARS SUITABLE FOR THE EXPOSURE CONDITIONS.
8. LAP MESH REINFORCEMENT BY ONE COMPLETE MESH.
9. DO NOT WELD OR SITE BEND REINFORCEMENT UNLESS SHOWN IN THE DRAWINGS OR OTHERWISE SPECIFIED BY THE ENGINEER.
10. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
11. SAMPLE TEST AND ASSESS CONCRETE COMPLIANCE IN ACCORDANCE WITH PROJECT ASSESSMENT OF STRENGTH GRADE TO SECTION 20 OF AS 3600.
12. THE CONCRETE SHALL BE COMPACTED USING HIGH-FREQUENCY VIBRATORS.
13. ALL SLABS SHALL BE PLACED AT THE SAME TIME AS BEAMS OF WHICH THEY FORM PART.
14. CURING OF ALL CONCRETE SURFACES SHALL COMMENCE IMMEDIATELY AFTER SURFACES ARE FINISHED AS SPECIFIED AND SHALL CONTINUE FOR A MINIMUM OF 7 DAYS.

LEGEND

GENERAL

LOT BOUNDARIES	
SITE BOUNDARY	
EXISTING CONTOURS (1m INT.)	
EXISTING KERB & GUTTER	
EXISTING ASPHALT SURFACE	
EXISTING CONCRETE SURFACE	
EXISTING GRAVEL SURFACE	
EXISTING SWALE	
FEATURE TO BE REMOVED	
EXISTING TREE	
EXISTING PARKING LINEMARKING	
EXISTING DWELLING AND VERANDA	
PROPOSED 900mm DISH DRAIN	
PROPOSED CONCRETE PAVEMENT	
PROPOSED ASPHALT PAVEMENT	
PROPOSED LANDSCAPE/ POROUS SURFACE	
PROPOSED RETAINING WALL	
PROPOSED PATHWAY	
PROPOSED GROUND FLOOR OUTLINE	
PROPOSED ROOF OUTLINE	
PROPOSED TREE	
VEHICLE FLOW DIRECTION	
PROPOSED 0.5m CONTOURS	

SERVICES AND UTILITIES

EXISTING OVERHEAD ELECTRICAL	
INDICATIVE EXISTING TELSTRA FROM DBYD	
INDICATIVE EXISTING SEWER FROM DBYD	
INDICATIVE EXISTING WATER FROM DBYD	
INDICATIVE EXISTING STORM WATER FROM DBYD	
PROPOSED WATER HOUSE CONNECTION	
PROPOSED RECYCLED WATER CONNECTION	
PROPOSED SEWER HOUSE CONNECTION	

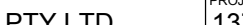
STORMWATER

PROPOSED STORMWATER LINE	
PROPOSED GRATED INLET PIT	
PROPOSED JUNCTION PIT	
PROPOSED LINTEL AND MAINTENANCE HOLE	
PROPOSED HEADWALL	
PROPOSED SWALE	
CATCHMENT BOUNDARY	
OVERLAND FLOWPATH	

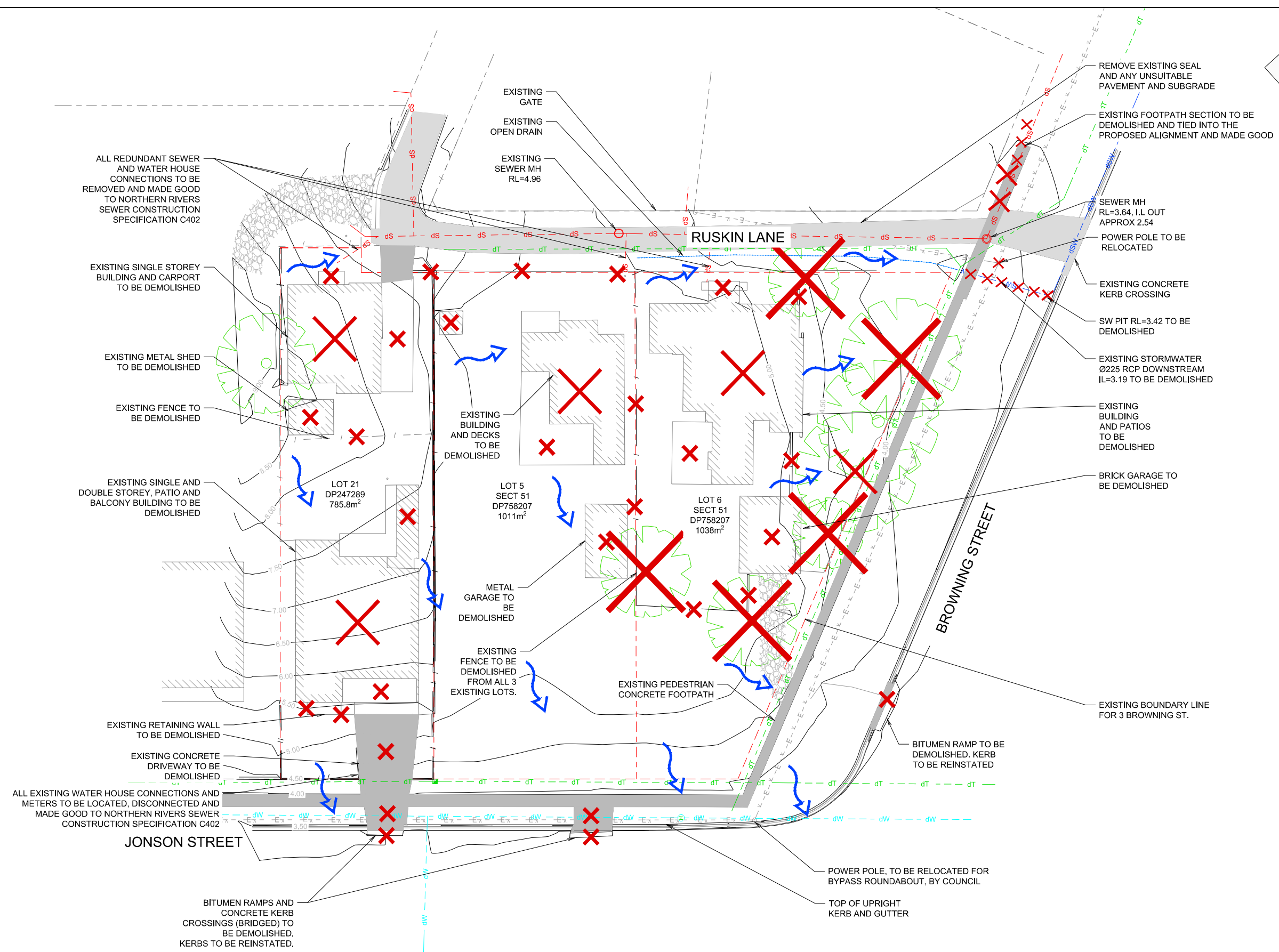
SEDIMENT AND EROSION CONTROL

FENCE SEDIMENT	
FILTER BAG	
SITE STABILISED ACCESS	

PRELIMINARY ISSUE  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED	SCALES:	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.	DRAWN BY: G.FALLARA DESIGN BY: G.FALLARA APPROVED BY:	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: JGD DEVELOPMENTS PTY LTD PO BOX 558 2481 BYRON BAY - NSW  LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL	PROJECT: 137-139 JONSON ST, 3 BROWNING ST DRAWING TITLE: GENERAL NOTES AND LEGEND	ORIGINAL SIZE: A1	PLANIT JOB No.: J170	DRAWING No.: 0002	REV: D	
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK	NOT TO SCALE										
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK											
C	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	MP	SM											
D	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM											
							DO NOT SCALE FROM DRAWING										

100mm AT ORIGINAL SIZE



## NOTES:

1. ALL EXISTING TREES ON SUBJECT SITE TO BE REMOVED;
2. ALL BUILDINGS, SHEDS, RETAINING WALLS, FENCES AND STRUCTURES ON SITE TO BE DEMOLISHED;
3. KERB AND ROAD VERGE TO BE REINSTATED AFTER DEMOLITION OF THE EXISTING KERB CROSSINGS;

## WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE BY THE CONTRACTOR. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES BASED ON CANTY'S DETAILED SURVEY DATED 29/09/2016. UNDERGROUND SERVICES ARE TAKEN FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE ONLY.

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	ISSUED FOR COUNCIL RFI RESPONSE	08/02/18	GF	GF	SM	SM
D	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	SM	MP
E	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	SM	MP

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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

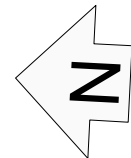


CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW  
  
LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT: <b>137-139 JONSON ST, 3 BROWNING ST</b>	ORIGINAL SIZE: <b>A1</b>	PLANIT JOB No.: <b>J170</b>	DRAWING No.: <b>0003</b>	REV: <b>E</b>
DRAWING TITLE: <b>EXISTING CONDITIONS AND DEMOLITION PLAN</b>				



100mm AT ORIGINAL SIZE



LOCAL  
TRAFFIC  
ONLY

PROPOSED SIGN ON THE RUSKIN  
LANE/TENNYSON STREET  
INTERSECTION ENTRANCE

PROPOSED VEHICLE  
CROSSOVER

PROPOSED KERB AND  
GUTTER ON EASTERN SIDE  
OF RUSKIN LANE

LOCATION OF PROPOSED TIE  
INTO EXISTING ASPHALT SEAL  
AND KERB (EAST SIDE) ON  
RECENTLY UPGRADED  
PORTION OF RUSKIN LANE

INDICATIVE LOCATION OF PROPOSED  
ECOSOL STORM PITS CLASS 2.

INDICATIVE LOCATION OF PROPOSED  
9kL and 18kL LEAKY TANKS.  
FOR FURTHER DETAIL REFER TO  
DRAWING J170-0006

STORMWATER PIPE TO BE  
MOUNTED ON BASEMENT  
UPPER CAR PARK CEILING

LOT 30  
DP 829895

FOR RETAINING WITHIN  
BUILDINGS REFER TO  
MYERS ELLIOT CONCEPT  
DESIGN PLANS

PROPOSED ELECTRICAL  
SUBSTATION PAD MOUNT  
LOCATION (7X4.2m AREA)

TIE INTO EXISTING  
FOOTPATH

REINSTATE KERB

JONSON STREET

INTERNAL FOOTPATH TO FALL  
TOWARD THE CORNER OF JONSON  
AND BROWNING STREETS AT  
APPROXIMATELY 0.5% GRADE

SWALE

BIO-RETENTION BASIN  
"RAIN GARDEN"

LOT A  
DP 363696

LOT B  
DP 363696

PROPOSED  
GULLY PIT  
PROPOSED EASEMENT TO  
ALLOW PUBLIC CARS TO  
DRIVE OVER AREA  
600mm CENTRAL  
CONCRETE MEDIAN

20% MAX GRADE RAMP DOWN TO BASEMENT  
CAR PARK ON THE INTERNAL RADIUS  
ACCESS DRIVEWAY WIDTH/GEOMETRY IN  
ACCORDANCE WITH NRLG STD DWG R05

PROPOSED  
RIGHT ONLY  
R3-5R SIGN  
BIO-RETENTION BASIN

TIE INTO  
EXISTING  
FOOTPATH

EXISTING STORM WATER PIPE RUNNING FOR  
APPROX. 50m AT AN ASSUMED 1% GRADE  
ALONG BROWNING STREET AND CROSSING  
BEFORE DISCHARGING INTO A 3X3m GRATED PIT  
(SURVEYED IL=1.48), WEST OF 12 BROWNING ST.  
(SERVICE LOCATOR TO CONFIRM - CC STAGE)

PROPOSED STORMWATER INLET PIT  
RELOCATION, MAINTENANCE MANHOLE AND  
PIPES, TO BE CONNECTED TO AND DISCHARGE  
INTO THE EXISTING NETWORK  
RL=3.34 IL=1.98  
(SERVICE LOCATOR TO CONFIRM - CC STAGE)

WIDTH IN ACCORDANCE WITH AS  
2890.2 SEC 3 FOR MRV. WIDTH  
COMPLIANT WITH CUSTOM  
REFUSE HRV - REFER DWG 0011

2m WIDE CONCRETE PATH

PROPOSED BOUNDARY FOR 3 BROWNING ST  
UNDER COUNCIL'S BYRON BAY BYPASS PROJECT

PROPOSED ROUNDABOUT AND  
ROAD ALIGNMENT FOR  
COUNCIL'S BYRON BAY BYPASS

## WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE DETERMINED ON SITE BY THE  
CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL  
EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES  
BASED ON CANTY'S DETAILED SURVEY DATED  
29/09/2016. UNDERGROUND SERVICES ARE TAKEN  
FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE  
ONLY.

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.

DRAWN BY: G.FALLARA

DESIGN BY: G.FALLARA

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:

JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:

BYRON SHIRE COUNCIL

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

PROJECT:

137-139 JONSON ST, 3 BROWNING ST

DRAWING TITLE:

SITE LAYOUT GROUND FLOOR PLAN

ORIGINAL SIZE:

A1

PLANIT JOB No.:

J170

DRAWING No.:

0004

REV:

D

100mm AT ORIGINAL SIZE

CUT/FILL VOLUMES			
NUMBER	COLOUR	LOWER LIMIT (m)	UPPER LIMIT (m)
1		-11.000	-10.000
2		-10.000	-9.000
3		-9.000	-8.000
4		-8.000	-7.000
5		-7.000	-6.000
6		-6.000	-5.000
7		-5.000	-4.000
8		-4.000	-3.000
9		-3.000	-2.000
10		-2.000	-1.000
11		-1.000	0.000
12		0.000	1.000

CUT/FILL VOLUMES	
DESCRIPTION	VOLUME
TOTAL CUT TO FINISHED SURFACE	20900m <sup>3</sup>
TOTAL FILL TO FINISHED SURFACE	500m <sup>3</sup>
NET CUT	20400m <sup>3</sup>

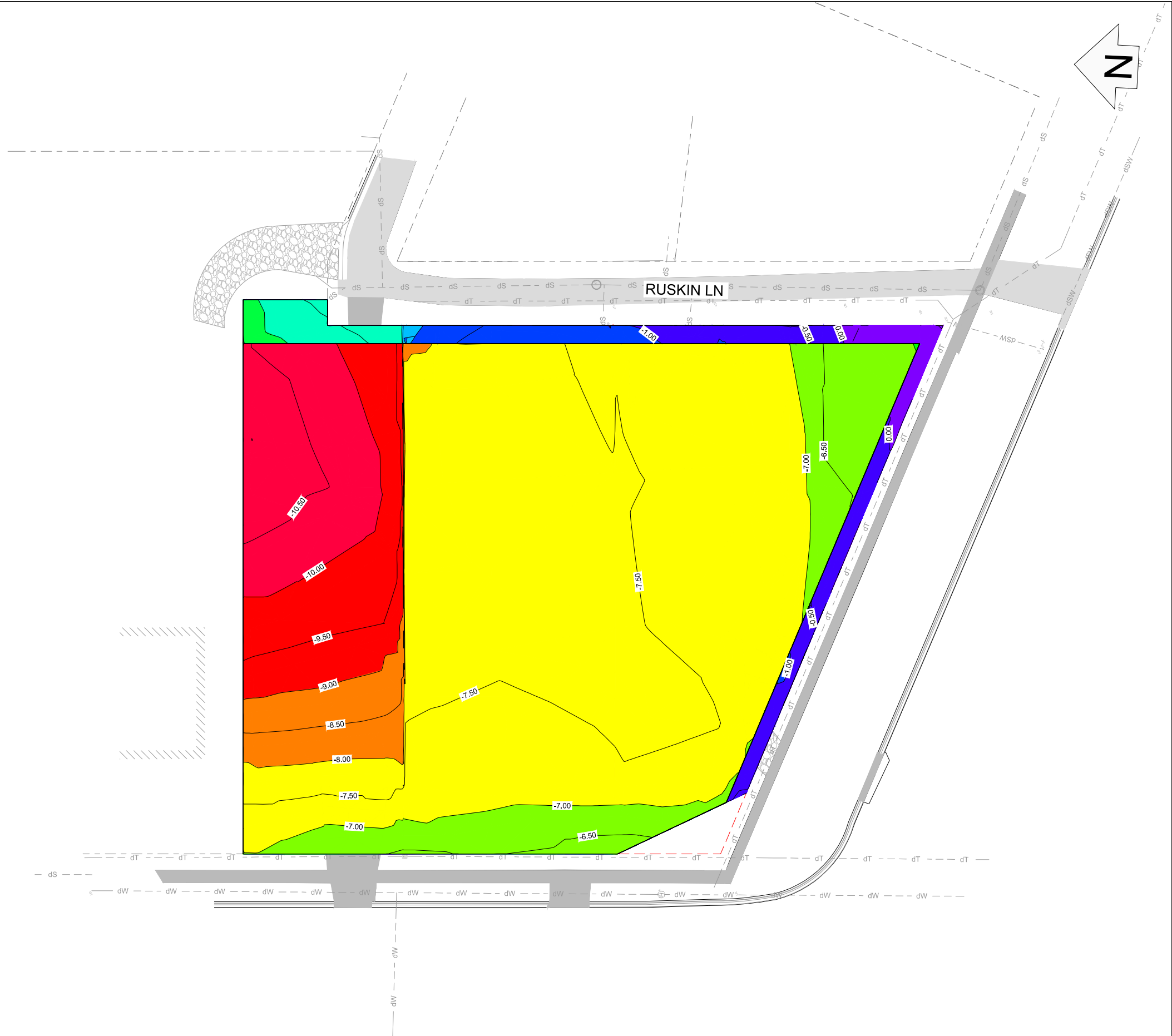
NOTES:  
\*CUT VOLUME BASED ON THE FINISHED SURFACE TO THE BOTTOM OF THE LOWER BASEMENT LEVEL. NO CONSIDERATION HAS BEEN GIVEN TO TRENCHING, BOXING OUT VEHICLE PAVEMENTS, TOP SOIL VOLUMES, AND EARTHWORKS WITHIN COUNCILS ROAD RESERVES. THIS CAN BE UNDERTAKEN DURING CC DESIGN STAGE.

## WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE BY THE CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES BASED ON CANTY'S DETAILED SURVEY DATED 29/09/2016. UNDERGROUND SERVICES ARE TAKEN FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE ONLY.



**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR DEVELOPMENT APPLICATION	26/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	SM	SM
D	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA	APPROVED BY:	
DESIGN BY: G.FALLARA		
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](mailto:administration@planitconsulting.com.au)

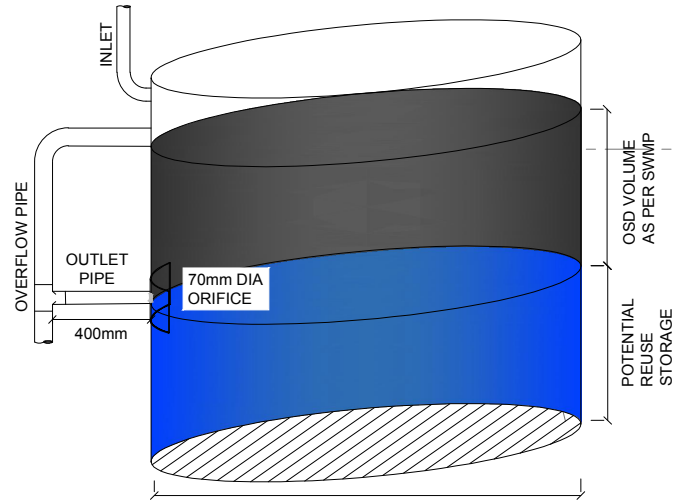


CLIENT: <b>JGD DEVELOPMENTS PTY LTD</b> PO BOX 558 2481 BYRON BAY - NSW
LOCAL GOVERNMENT AUTHORITY: <b>BYRON SHIRE COUNCIL</b>

PROJECT: <b>137-139 JONSON ST, 3 BROWNING ST</b>	DRAWING TITLE: <b>EARTHWORKS CUT/FILL PLAN</b>			
ORIGINAL SIZE: <b>A1</b>	PLANIT JOB No.: <b>J170</b>	DRAWING No.: <b>0005</b>	REV: <b>D</b>	



100mm AT ORIGINAL SIZE



PROPOSED GROUND LEVED  
LEAKY TANK DETAIL  
NOT TO SCALE

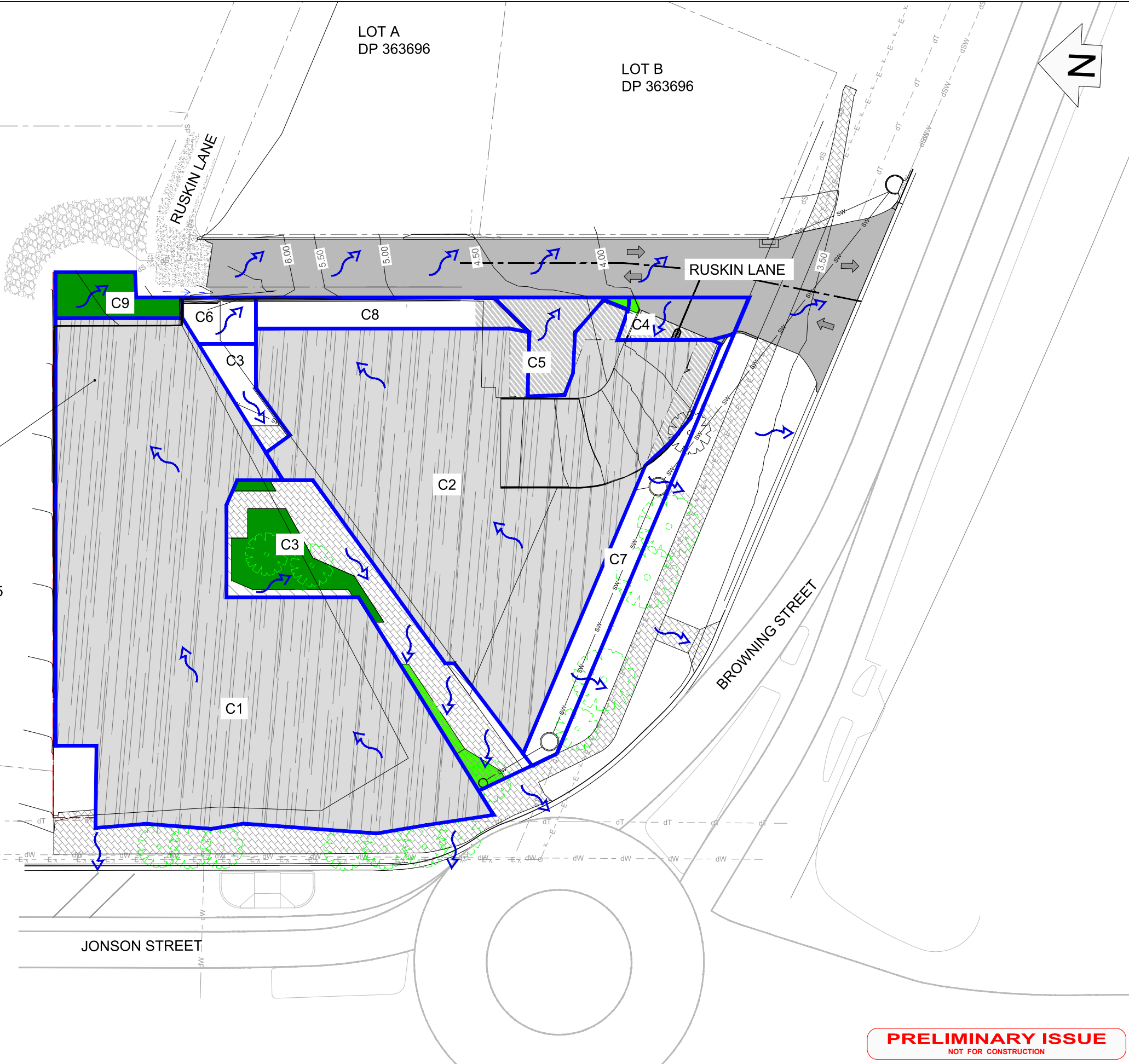
ALL ROOFWATER (C1 AND C2) TO  
BE CONVEYED TO PROPOSED 9kL  
AND 18kL LEAKY TANKS FOR OSD  
AND ECOSOL STORMWATER PITS  
FOR TREATMENT AS PER SWMP

LOT 30  
DP 829895

LOT A  
DP 363696

LOT B  
DP 363696

N



## WARNING

### BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE DETERMINED ON SITE BY THE  
CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL  
EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES  
BASED ON CANTY'S DETAILED SURVEY DATED  
29/09/2016. UNDERGROUND SERVICES ARE TAKEN  
FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE  
ONLY.

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	ISSUED FOR COUNCIL RFI RESPONSE	31/01/18	GF	GF	SM	SM
D	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	MP	SM
E	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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



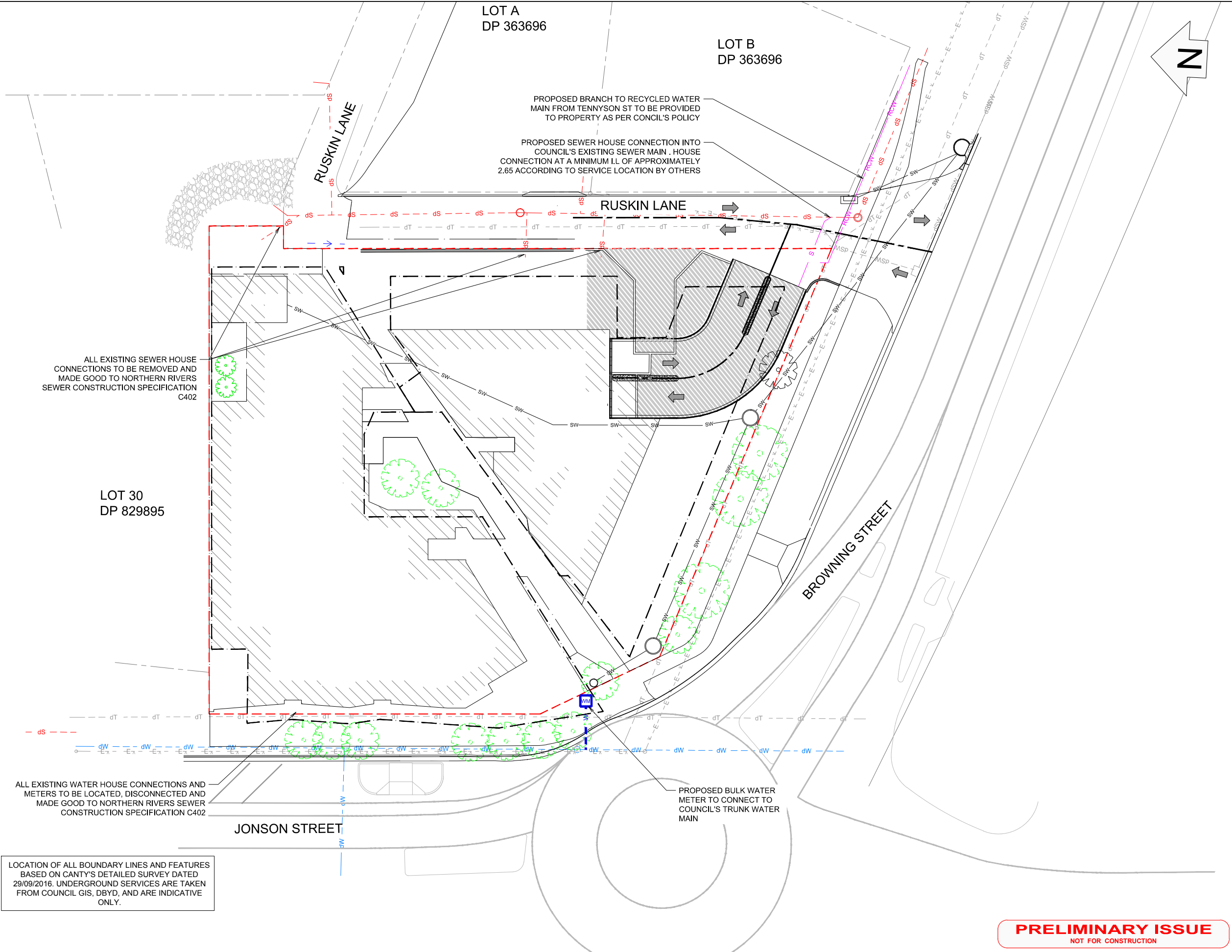
CLIENT:  
JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
BYRON SHIRE COUNCIL

PROJECT:  
137-139 JONSON ST, 3 BROWNING ST  
DRAWING TITLE:  
STORMWATER CATCHMENT PLAN

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J170	0006	E

100mm AT ORIGINAL SIZE



REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	ISSUED FOR COUNCIL RFI RESPONSE	05/02/18	GF	GF	SM	SM
D	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	MP	SM
E	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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

**PLANIT**

CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

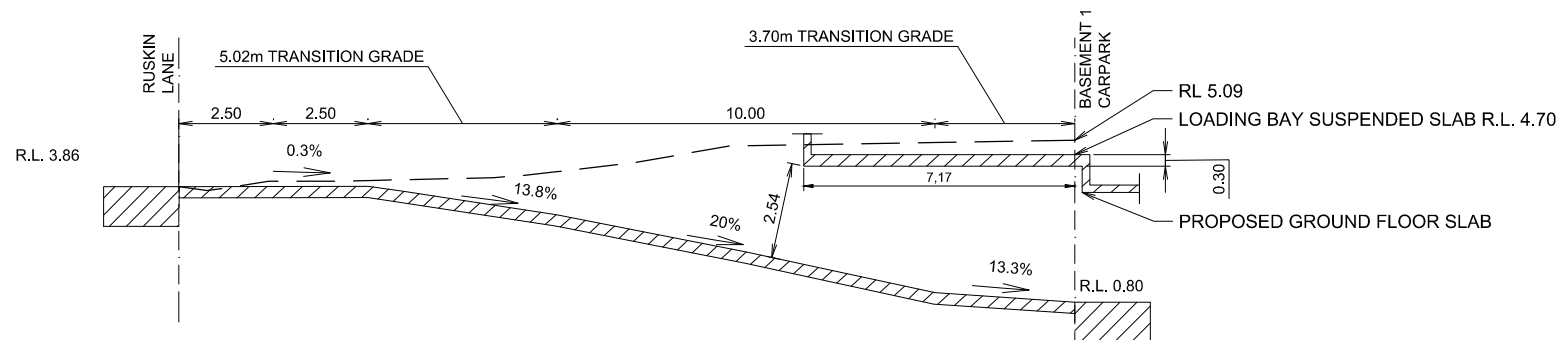
LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT:  
**137-139 JONSON ST, 3 BROWNING ST**

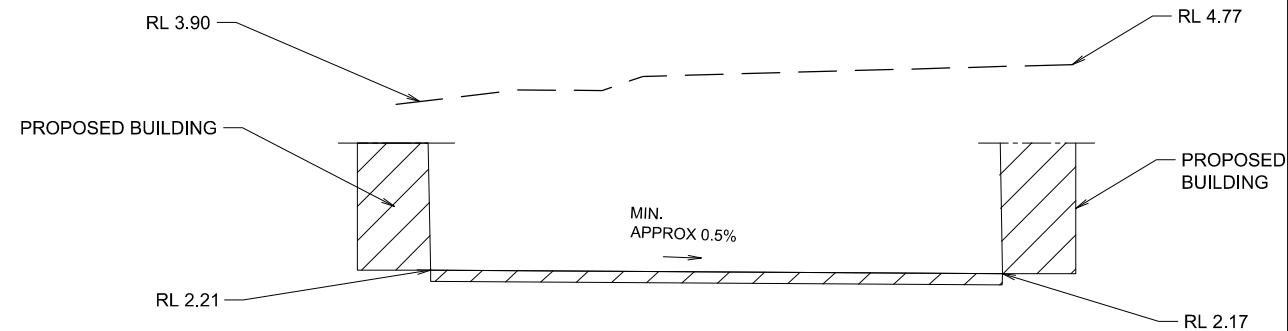
DRAWING TITLE:  
**SEWER AND WATER LAYOUT PLAN**

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J170	0007	E

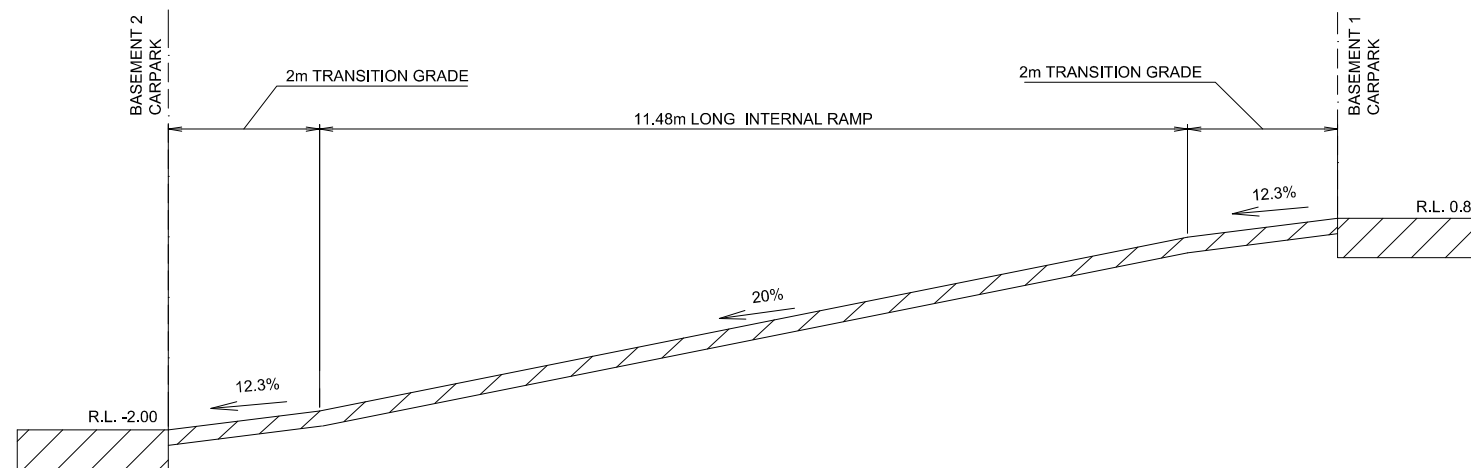
100mm AT ORIGINAL SIZE



**RAMP TO BASEMENT 1 (UPPER) ON RUSKIN LANE**  
**LONG SECTION**  
REPRESENTS INSIDE WHEEL PATH  
SCALE 1:100



**RAMP TO BASEMENT 1 (UPPER) ON RUSKIN LANE**  
**TYPICAL SECTION**  
SCALE 1:50



**INTERNAL RAMP TO BASEMENT 2 (LOWER)**  
**LONG SECTION**  
SCALE 1:50

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

SCALE:
0 1 2 4 6
Full Size 1:100 ; Half Size 1:200
Scale (m)
0 0.5 1 2 3
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.

DRAWN BY: G.FALLARA
DESIGN BY: G.FALLARA
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

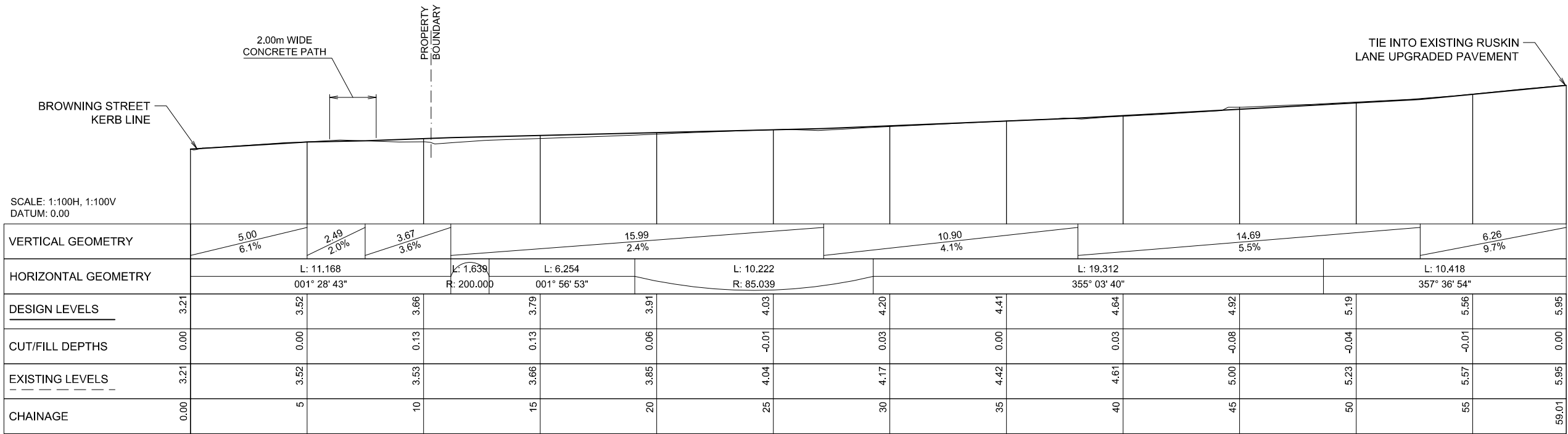


CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT: <b>137-139 JONSON ST, 3 BROWNING ST</b>	ORIGINAL SIZE: <b>A1</b>	PLANIT JOB No.: <b>J170</b>	DRAWING No.: <b>0008</b>	REV: <b>C</b>
DRAWING TITLE: <b>RAMPS SECTIONS</b>				

100mm AT ORIGINAL SIZE



PROPOSED CENTERLINE RUSKIN LANE UPGRADE  
LONG SECTION  
SCALE 1:100

PRELIMINARY ISSUE  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
APPROVED BY:  
  
DATE:  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

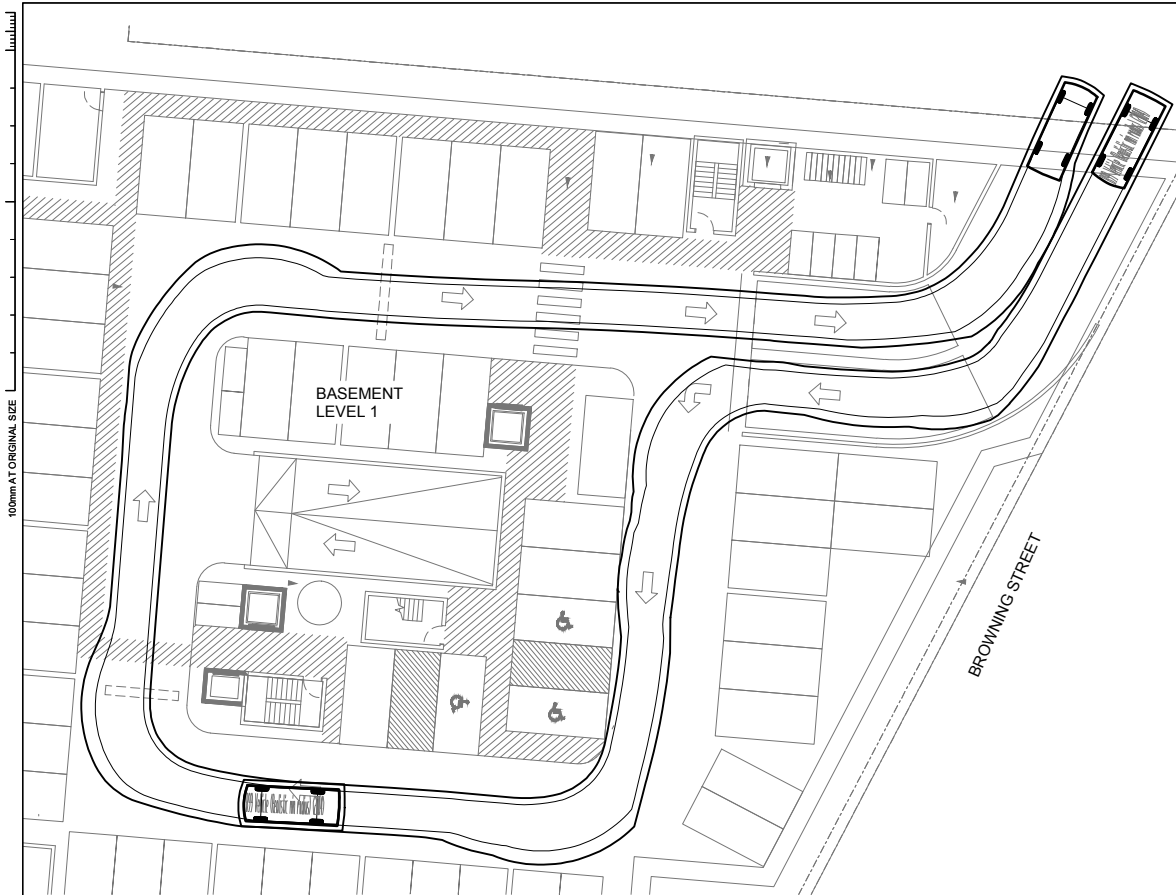
PLANIT CONSULTING  
SUITE 9A, 80-84 BALLINA STREET  
PO BOX 161  
LENNOX HEAD NSW 2478  
  
TELEPHONE: 02 6687 4666  
ABN: 20 099 261 711  
EMAIL: administration@planitconsulting.com.au  


CLIENT:  
JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW  
  
LOCAL GOVERNMENT AUTHORITY:  
BYRON SHIRE COUNCIL

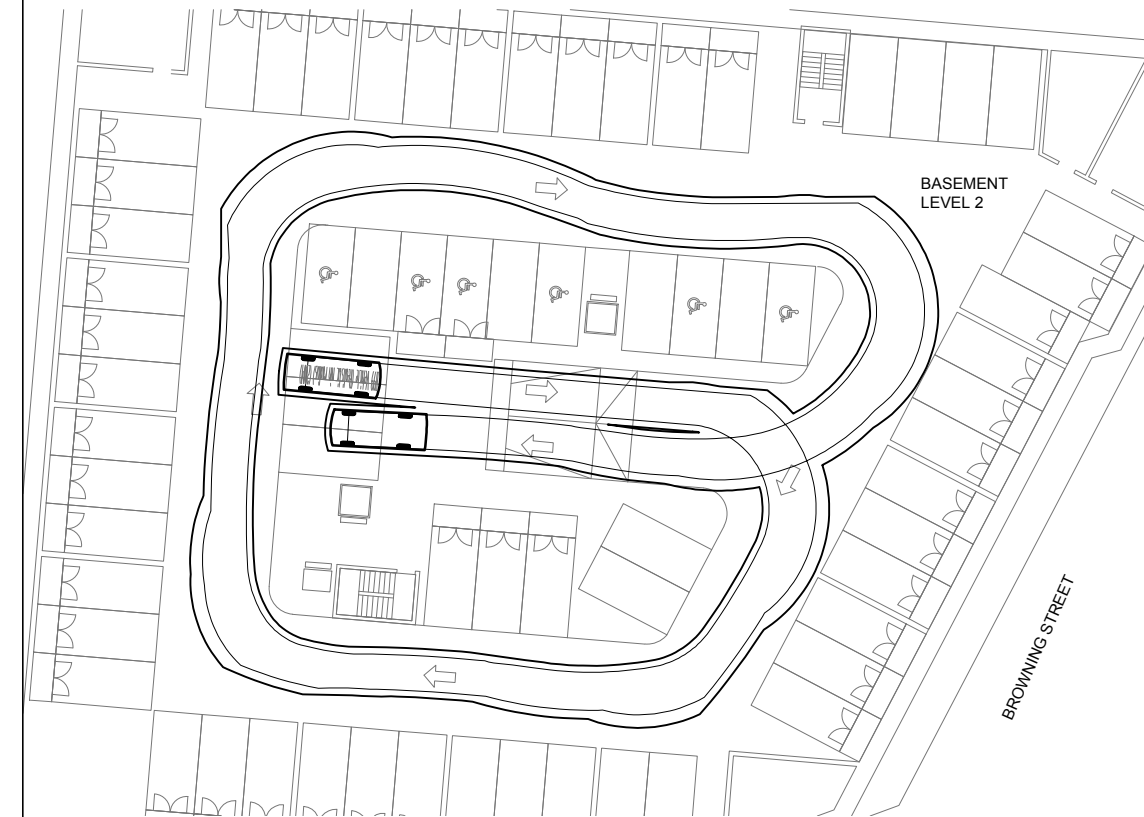
PROJECT:  
137-139 JONSON ST, 3 BROWNING ST  
DRAWING TITLE:  
RUSKIN LANE UPGRADE LONG SECTION  
  
ORIGINAL SIZE: A1  
PLANIT JOB No.: J170  
DRAWING No.: 0009  
REV: C



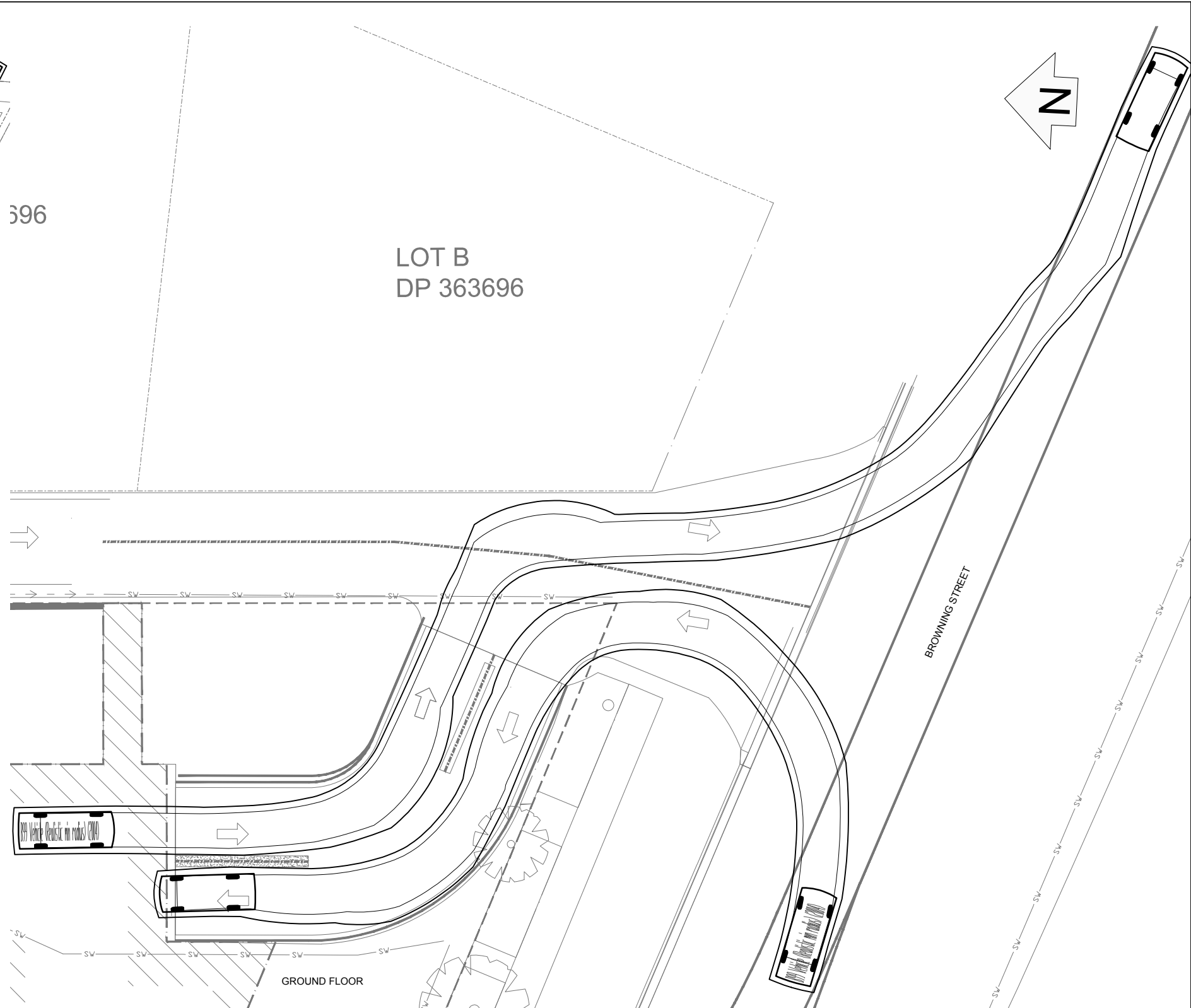
100mm AT ORIGINAL SIZE



BASEMENT LEVEL 1 (UPPER)  
TURNING MOVEMENT PLAN  
NOT TO SCALE



BASEMENT LEVEL 2 (LOWER)  
TURNING MOVEMENT PLAN  
NOT TO SCALE



RAMP ENTRANCE TURNING  
MOVEMENT PLAN  
NOT TO SCALE

NOTE

- TURNING PATHS SHOWN FOR A B99 (AS 2890.1) VEHICLE.
- DEFAULT SPEED OF 5Km/hr AND A FRICTION FACTOR OF 0.4.
- TURNING PATHS GENERATED USING AUTOPATH IN ACCORDANCE WITH B3.1(b)(i) OF AS 2890.1 WITH A MANOEUVERING CLEARANCE OF 300mm EITHER SIDE.
- SOFTWARE: AUTODESK VEHICLE TRACKING 2018.

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	RESPONSE TO COUNCIL RFI	31/01/18	GF	GF	SM	SM
D	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	MP	SM
E	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
APPROVED BY:  
  
DATE:  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

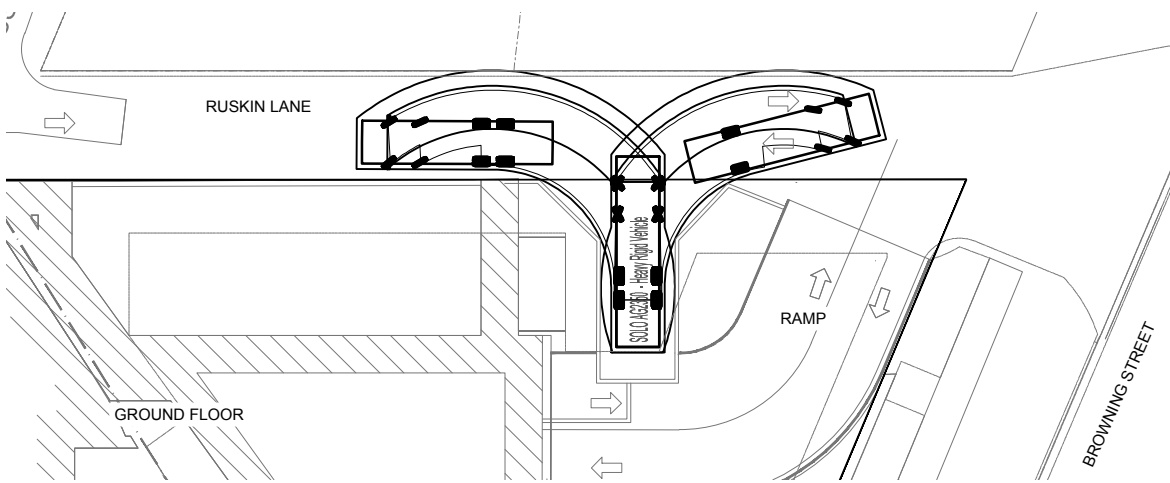
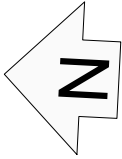
PLANIT CONSULTING  
SUITE 9A, 80-84 BALLINA STREET  
PO BOX 161  
LENNOX HEAD NSW 2478  
  
TELEPHONE: 02 6687 4666  
ABN: 20 099 261 711  
EMAIL: administration@planitconsulting.com.au  


CLIENT:  
JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW  
  
LOCAL GOVERNMENT AUTHORITY:  
BYRON SHIRE COUNCIL

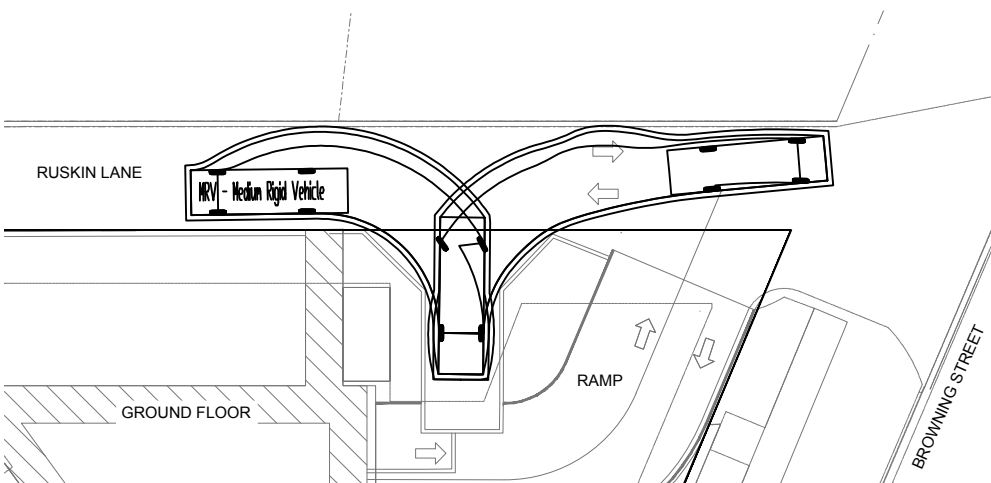
PROJECT:  
137-139 JONSON ST, 3 BROWNING ST  
DRAWING TITLE:  
VEHICLE SWEEP PATHS - LIGHT VEHICLES  
  
ORIGINAL SIZE: A1  
PLANIT JOB No.: J170  
DRAWING No.: 0010  
REV: E

NOTE

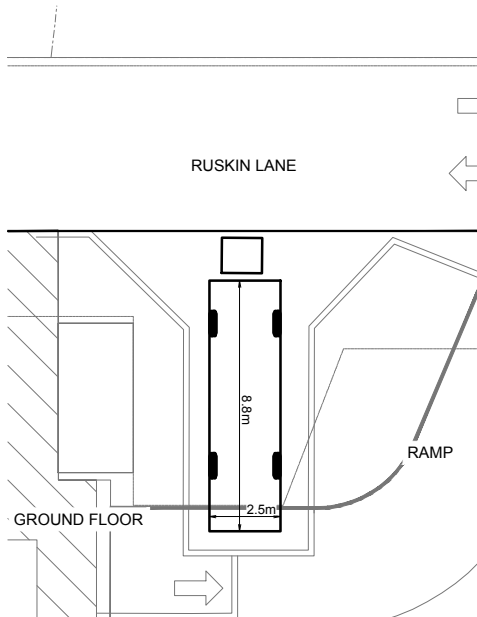
- TURNING PATHS SHOWN FOR A STANDARD MRV (AS 2890.2), AND CUSTOM HRV REFUSE TRUCK IVECO ACCO AG2350 8X4 COMPACTOR VEHICLES.
- DEFAULT SPEED OF 5km/hr AND A FRICTION FACTOR OF 0.4. TURNING PATHS GENERATED USING AUTOPATH IN ACCORDANCE WITH B3.1(b)(i) OF AS 2890.2 WITH A MANOEUVERING CLEARANCE OF 300mm EITHER SIDE.
- SOFTWARE: AUTODESK VEHICLE TRACKING 2018.



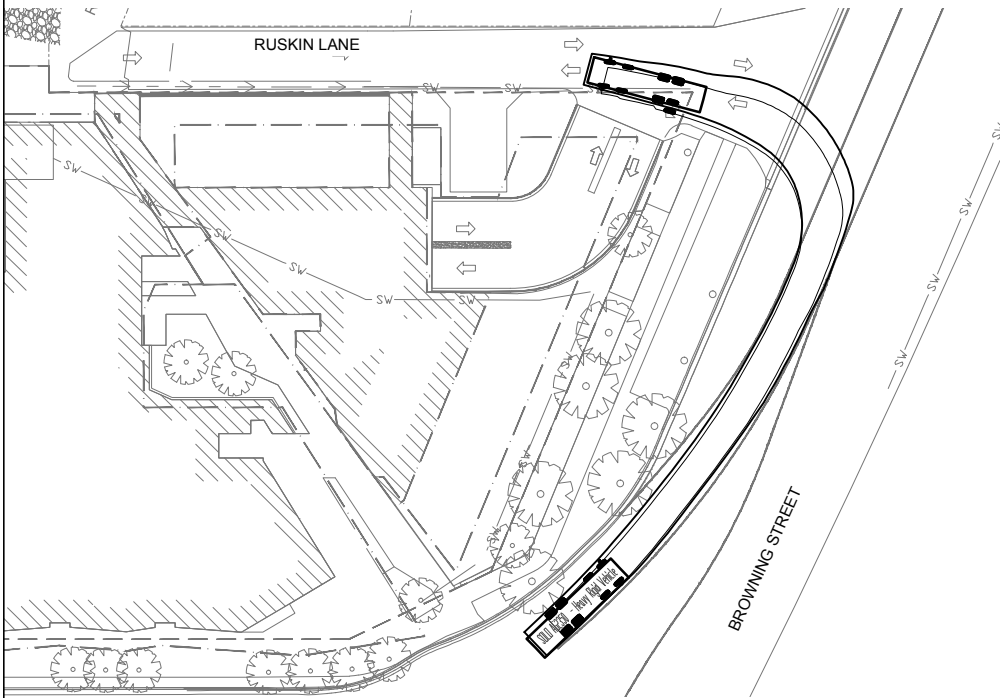
SOLO WASTE CUSTOMISED HRV IVECO ACCO 8x4 AG2350  
REVERSE IN  
LOADING BAY TURNING MOVEMENT PLAN  
NOT TO SCALE



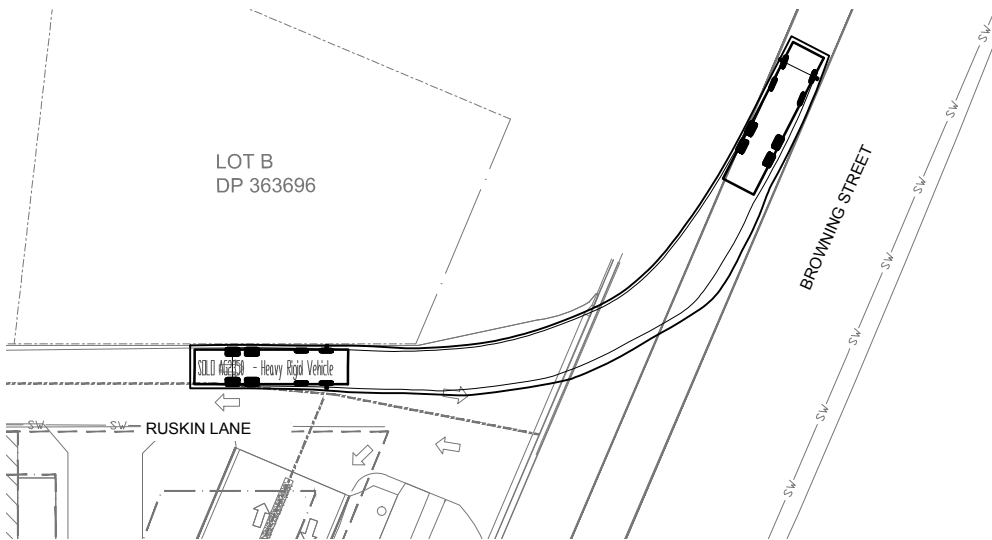
STANDARD MRV - REVERSE IN  
LOADING BAY TURNING MOVEMENT PLAN  
NOT TO SCALE



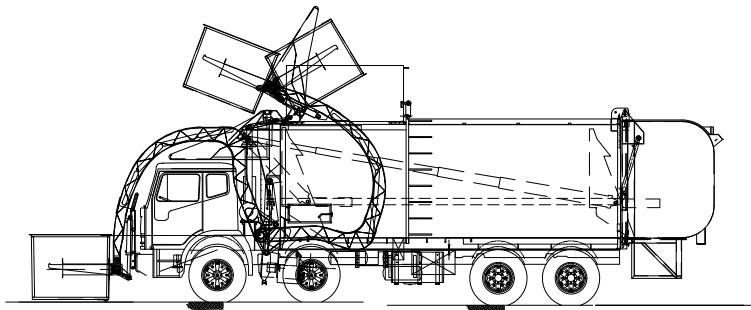
STANDARD MRV AND 1,100 LITRE  
"SKIP" BIN (1.24m x 1.07m)  
FRONT LOADING  
LAYOUT PLAN  
NOT TO SCALE



SOLO WASTE CUSTOMISED HRV IVECO ACCO 8x4 AG2350  
RUSKIN LANE/BROWNING STREET INTERSECTION - ENTERING  
TURNING MOVEMENT PLAN  
NOT TO SCALE



SOLO WASTE CUSTOMISED HRV IVECO ACCO 8x4 AG2350  
RUSKIN LANE/BROWNING STREET INTERSECTION - EXITING  
TURNING MOVEMENT PLAN  
NOT TO SCALE



SOLO WASTE HRV CUSTOMISED IVECO ACCO 8x4 AG2350  
MANUFACTURER SPECIFICATION (23801mm TURNING CIRCLE)  
NOT TO SCALE

PRELIMINARY ISSUE  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
APPROVED BY:  
DATE:  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

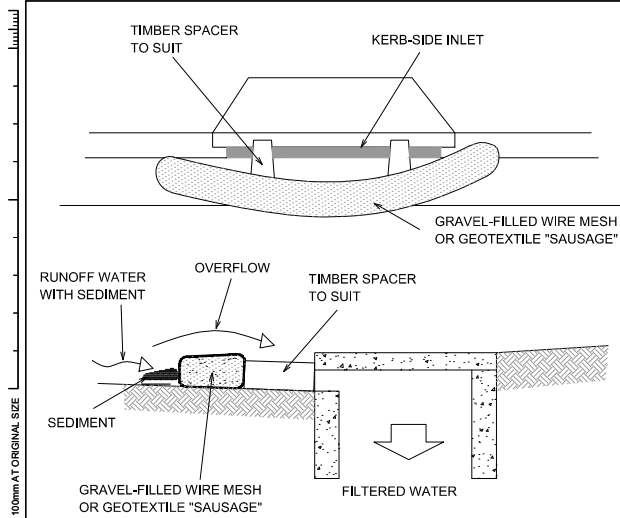
PLANIT CONSULTING  
SUITE 9A, 80-84 BALLINA STREET  
PO BOX 161  
LENNOX HEAD NSW 2478  
TELEPHONE: 02 6687 4666  
ABN: 20 099 261 711  
EMAIL: administration@planitconsulting.com.au



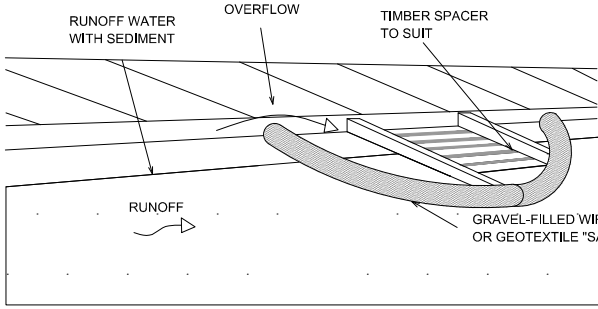
CLIENT:  
JGD DEVELOPMENTS PTY LTD  
PO BOX 558  
2481 BYRON BAY - NSW  
LOCAL GOVERNMENT AUTHORITY:  
BYRON SHIRE COUNCIL

PROJECT:  
137-139 JONSON ST, 3 BROWNING ST  
DRAWING TITLE:  
VEHICLE SWEEP PATHS - HEAVY VEHICLES  
ORIGINAL SIZE: A1  
PLANIT JOB No.: J170  
DRAWING No.: 0011  
REV: A

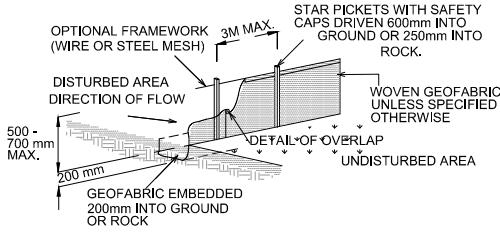




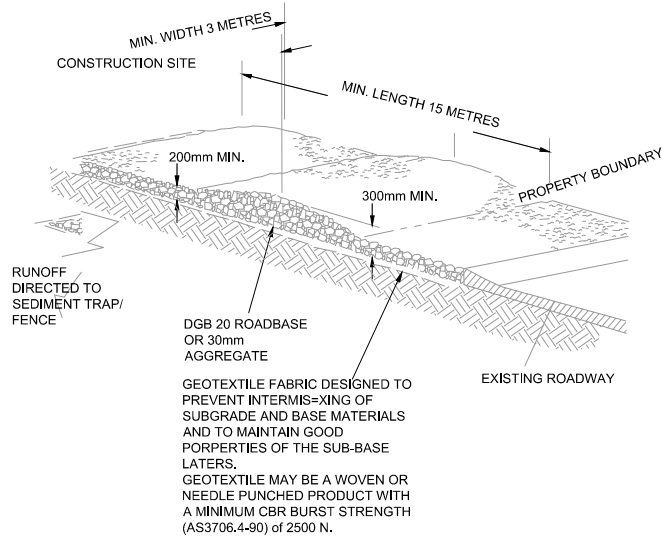
**FILTER BAG TO SAG SIDE ENTRY PIT**  
NOT TO SCALE



**FILTER BAG TO DROP INLET PIT**  
NOT TO SCALE



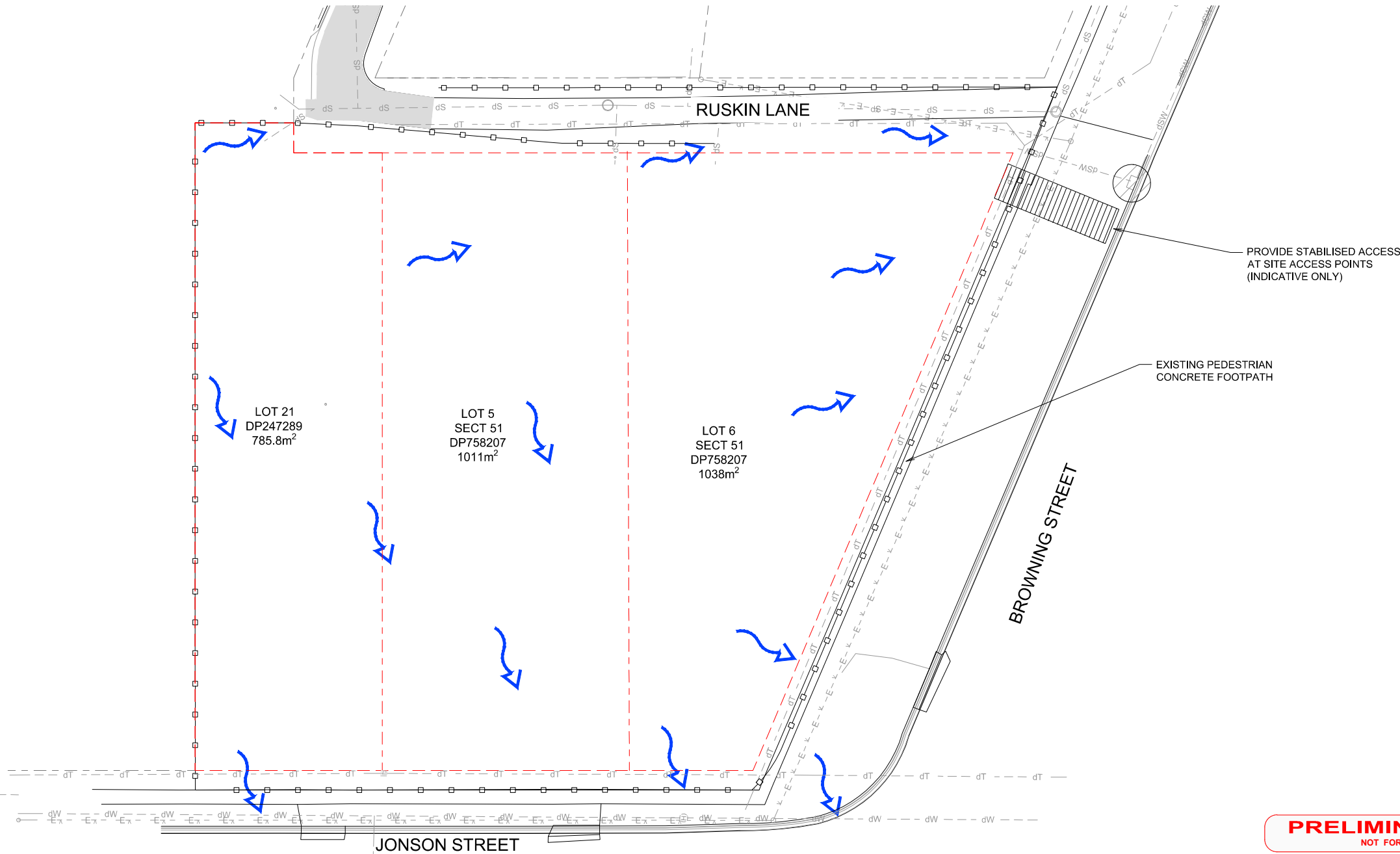
**SEDIMENT FENCE**  
NOT TO SCALE



**STABILISED SITE ACCESS**  
NOT TO SCALE

**CONSTRUCTION NOTES:**

1. STRIP TOPSOIL AND LEVEL SITE;
2. COMPACT SUBGRADE;
3. COVER ARE WITH NEEDLE PUNCHED GEOTEXTILE ;
4. CONSTRUCT A 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES;
5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OT OTHER SEDIMENT TRAP;
6. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT;
7. FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL;
8. FROM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE;
9. 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;
10. MAINTAIN THE OPENING WITH SPACER BLOCKS;
11. FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER;
12. FIT TO ALL KERB INLETS AND FIELD INLET PITS AT SAG POINTS.



**WARNING**

**BEWARE OF UNDERGROUND SERVICES**

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND SURFACE FEATURES BASED ON THE SURVEY. UNDERGROUND SERVICES ARE BASED ON A COMBINATION OF DBYD INFORMATION, AERIAL MAPPING, AND COUNCIL GIS INFORMATION AND ARE INDICATIVE ONLY.

A DETAILED SURVEY SHOULD BE COMPLETED PRIOR TO COMMENCEMENT OF DETAILED DESIGN

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	FINAL DRAFT FOR CLIENT REVIEW	31/07/17	GF	GF	RW	MK
B	ISSUED FOR DEVELOPMENT APPLICATION	09/08/17	GF	GF	RW	MK
C	UPDATED DEVELOPMENT APPLICATION	08/08/18	GF	GF	MP	SM

**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.

DRAWN BY: G.FALLARA  
DESIGN BY: G.FALLARA  
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



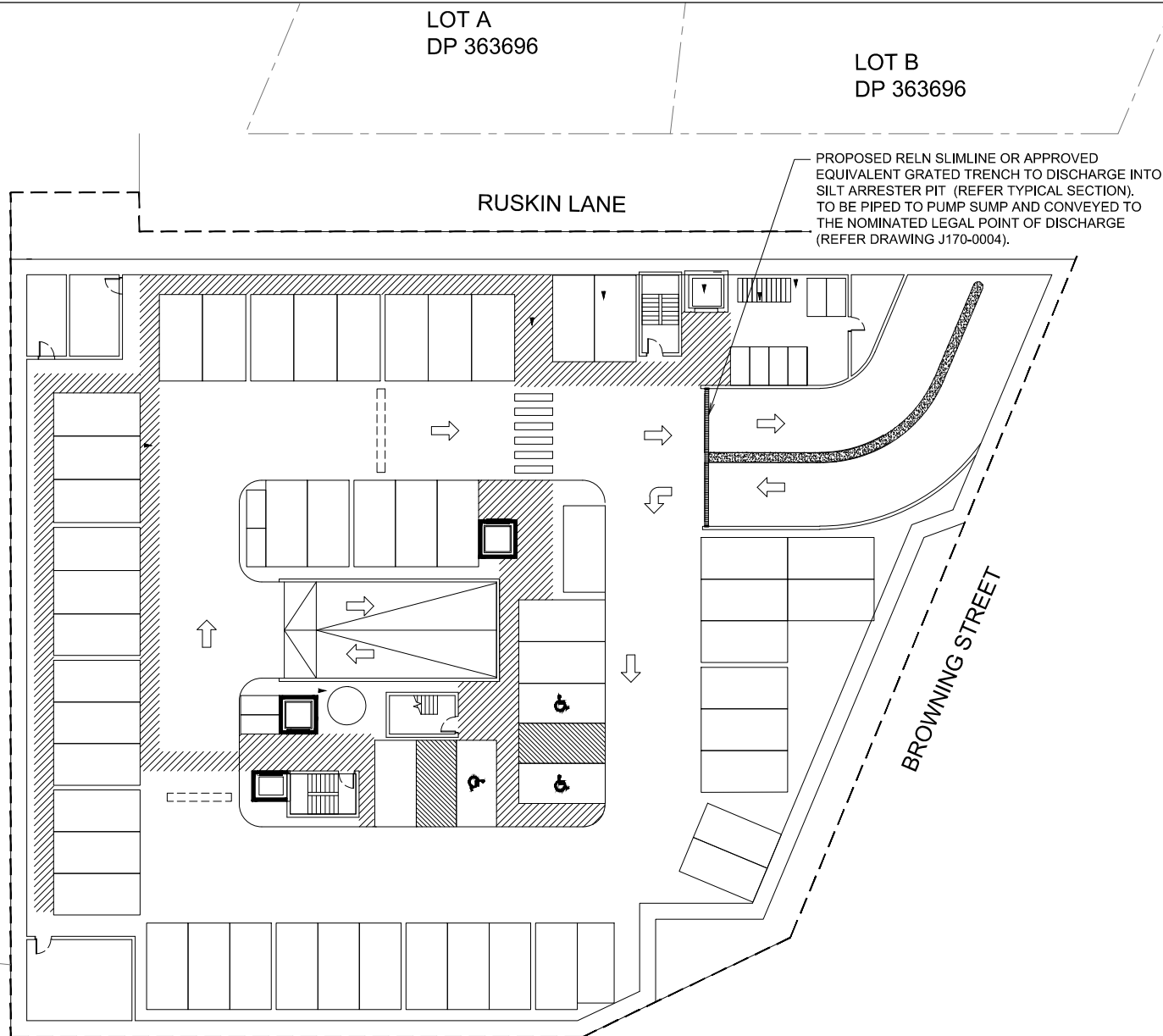
CLIENT:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW

LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT:  
**137-139 JONSON ST, 3 BROWNING ST**  
DRAWING TITLE:  
**EROSION AND SEDIMENT CONTROL PLAN**

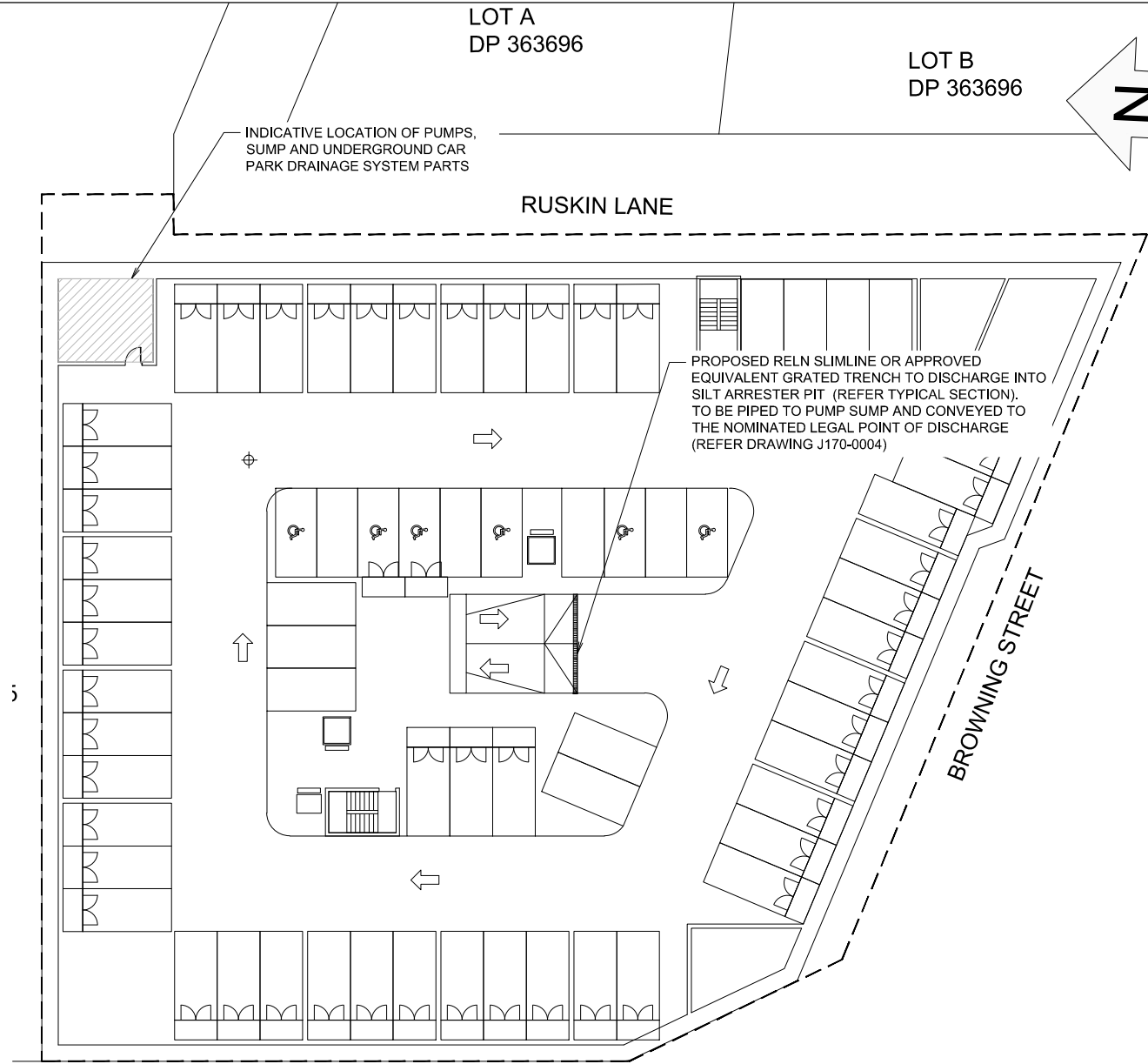
ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J170	0012	C

100mm AT ORIGINAL SIZE



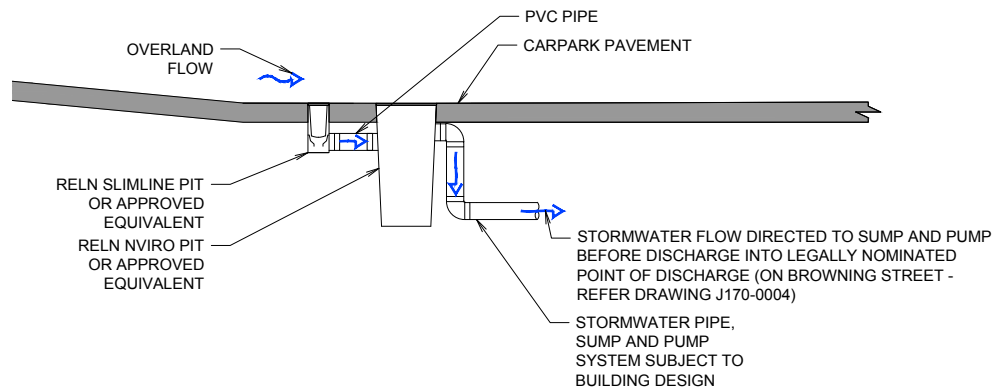
JONSON STREET

**UNDERGROUND BASEMENT  
CAR PARK 1 (UPPER)  
DRAINAGE LAYOUT PLAN**  
SCALE 1:200



JONSON STREET

**UNDERGROUND BASEMENT  
CAR PARK 2 (LOWER)  
DRAINAGE LAYOUT PLAN**  
SCALE 1:200



**STORMWATER GRATED TRENCH  
RAMP TO BASEMENT SILT ARRESTER PIT**  
**TYPICAL SECTION**  
NTS

## WARNING

### BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE BY THE CONTRACTOR, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

LOCATION OF ALL BOUNDARY LINES AND FEATURES BASED ON CANTY'S DETAILED SURVEY DATED 29/09/2016. UNDERGROUND SERVICES ARE TAKEN FROM COUNCIL GIS, DBYD, AND ARE INDICATIVE ONLY.

## NOTES:

1. SIZE AND LOCATIONS OF SYSTEM COMPONENTS ARE INDICATIVE ONLY AND SHALL BE SUBJECT TO DETAILED DESIGN BY QUALIFIED MECHANICAL ENGINEER;
2. ISOLATION BAY LOCATIONS AND REQUIREMENTS, IF ANY, TO BE CONFIRMED DURING CC DESIGN STAGE.

**PRELIMINARY ISSUE**  
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	ISSUED FOR COUNCIL RFI RESPONSE	28/02/18	GF	GF	SM	SM
B	UPDATED DEVELOPMENT APPLICATION	07/08/18	GF	GF	MP	SM

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

DRAWN BY: G.FALLARA DESIGN BY: G.FALLARA 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:  
**JGD DEVELOPMENTS PTY LTD**  
PO BOX 558  
2481 BYRON BAY - NSW  
  
LOCAL GOVERNMENT AUTHORITY:  
**BYRON SHIRE COUNCIL**

PROJECT: <b>137-139 JONSON ST, 3 BROWNING ST</b>	ORIGINAL SIZE: PLANIT JOB No.: <b>A1</b>	DRAWING No.: <b>J170</b>	REV: <b>0013</b>	REV: <b>B</b>
---	---	-----------------------------	---------------------	------------------