



# Application for Planning Approval

## ***Land Use Planning and Approvals Act 1993***

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APPLICATION NO.

**DA2023/053**

LOCATION OF AFFECTED AREA

**647 BASKERVILLE ROAD, OLD BEACH**

DESCRIPTION OF DEVELOPMENT PROPOSAL

**WORKER ACCOMMODATION**

A COPY OF THE DEVELOPMENT APPLICATION MAY BE VIEWED AT [www.brighton.tas.gov.au](http://www.brighton.tas.gov.au) AND AT THE COUNCIL OFFICES, 1 TIVOLI ROAD, OLD BEACH, BETWEEN 8:15 A.M. AND 4:45 P.M., MONDAY TO FRIDAY OR VIA THE QR CODE BELOW. ANY PERSON MAY MAKE WRITTEN REPRESENTATIONS CONCERNING AN APPLICATION UNTIL 4:45 P.M. ON **24/10/2023**. ADDRESSED TO THE GENERAL MANAGER AT 1 TIVOLI ROAD, OLD BEACH, 7017 OR BY EMAIL AT [development@brighton.tas.gov.au](mailto:development@brighton.tas.gov.au).

REPRESENTATIONS SHOULD INCLUDE A DAYTIME TELEPHONE NUMBER TO ALLOW COUNCIL OFFICERS TO DISCUSS, IF NECESSARY, ANY MATTERS RAISED.

**JAMES DRYBURGH**  
**General Manager**



**Brighton**  
going places



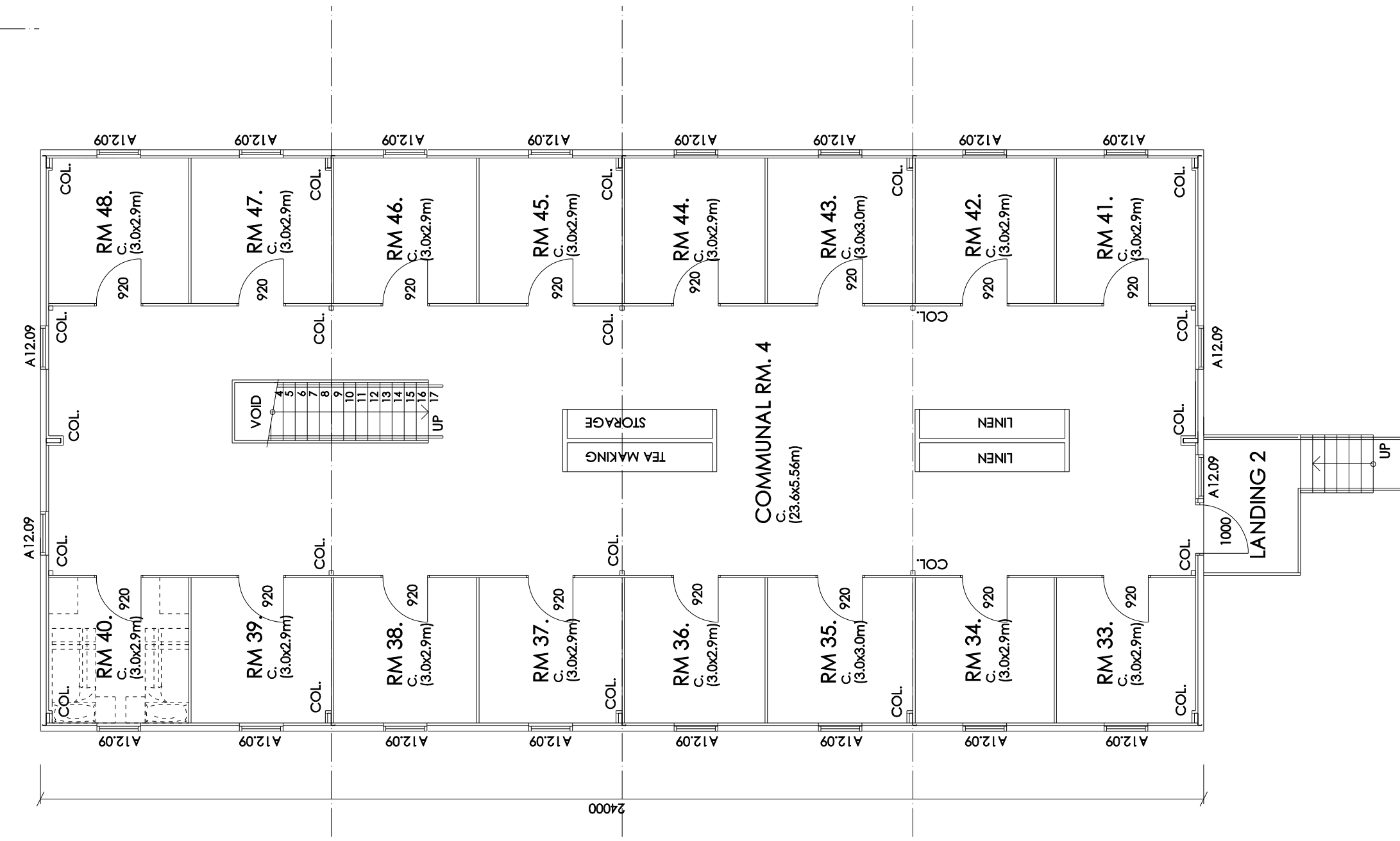
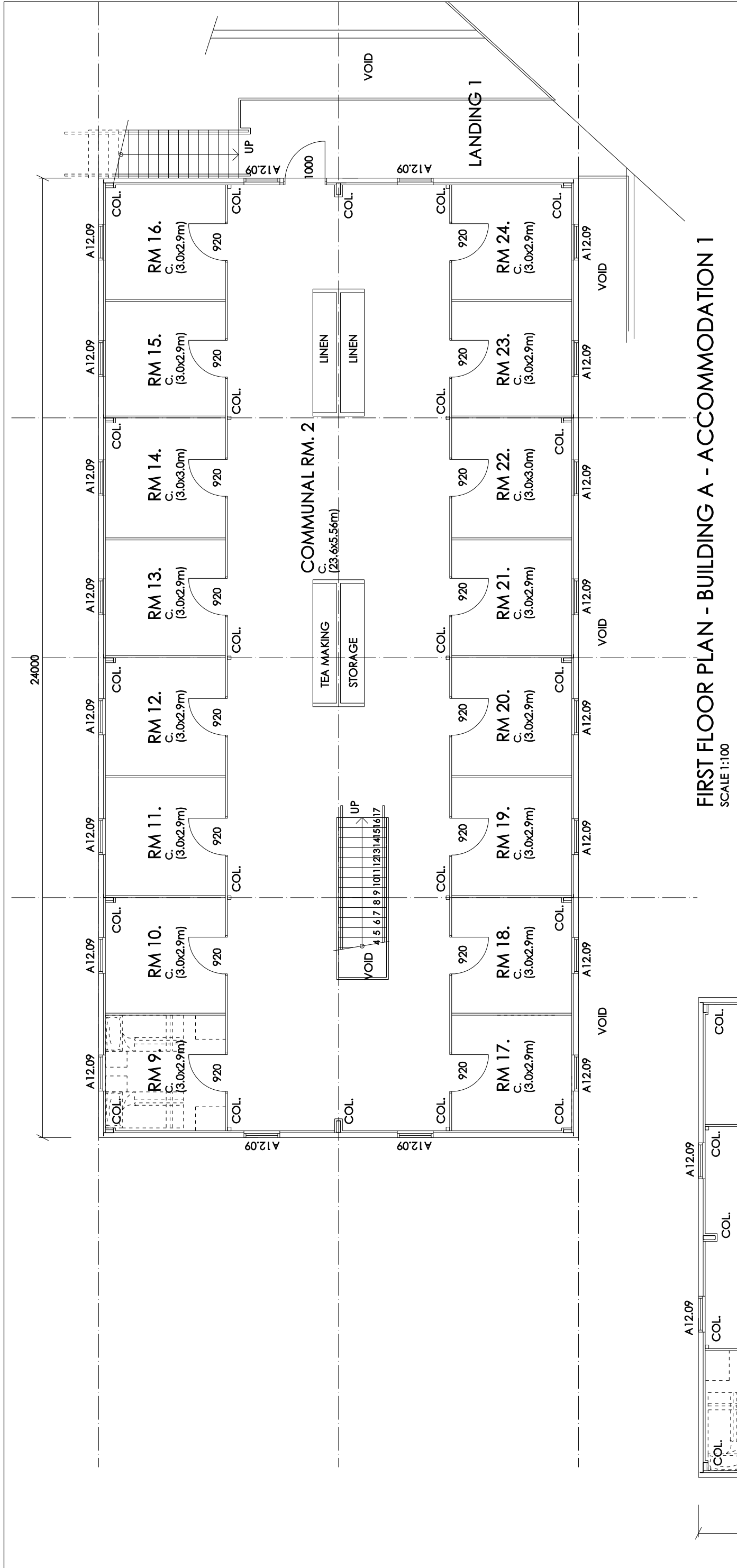
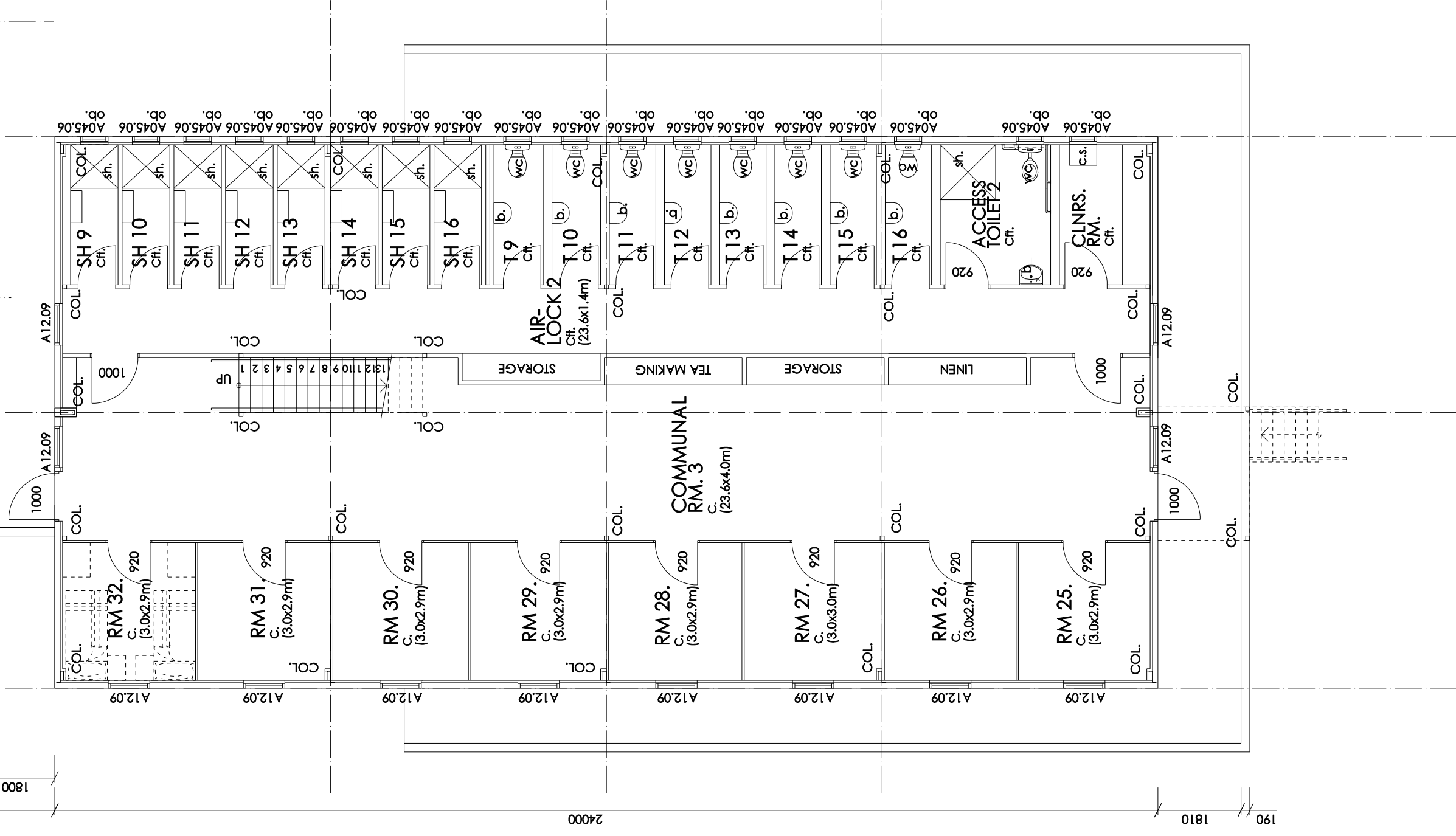
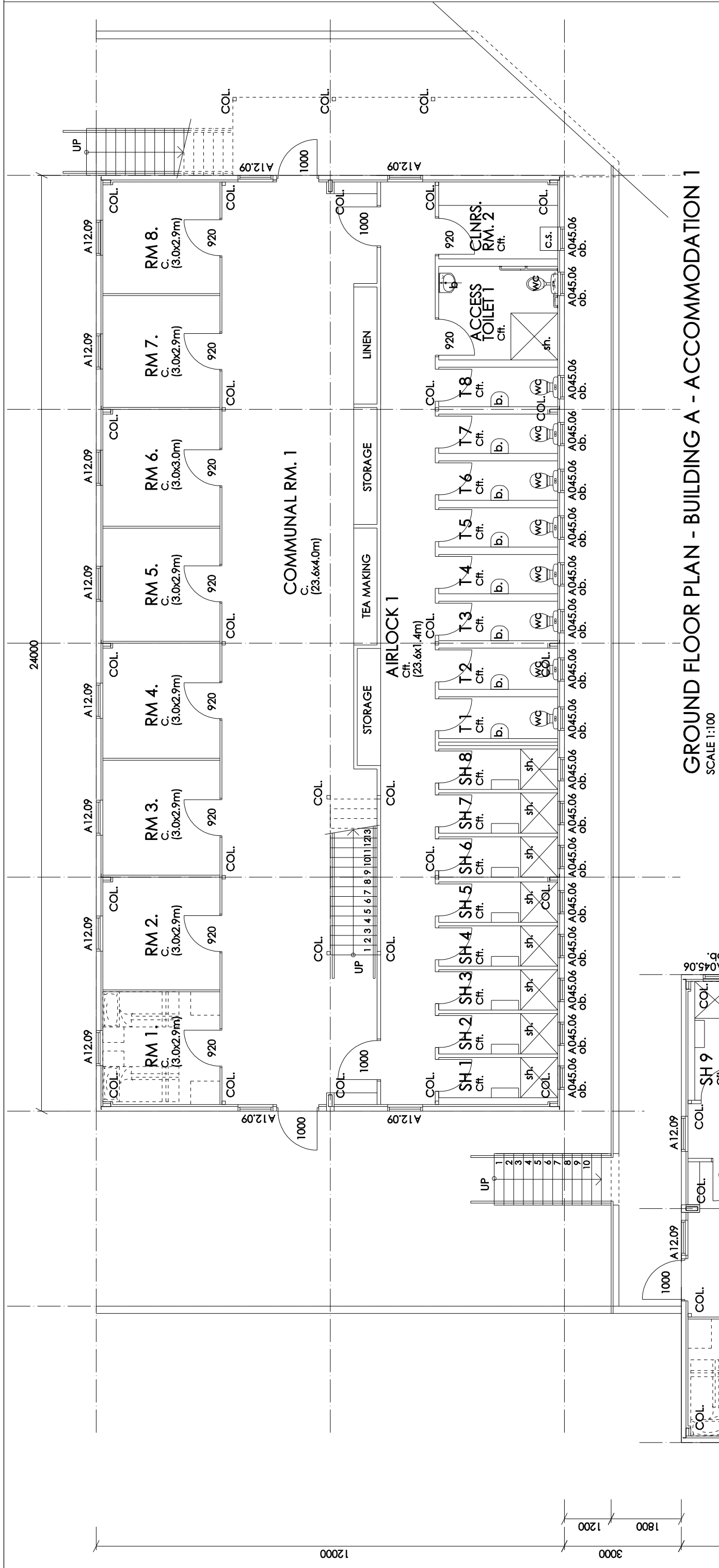












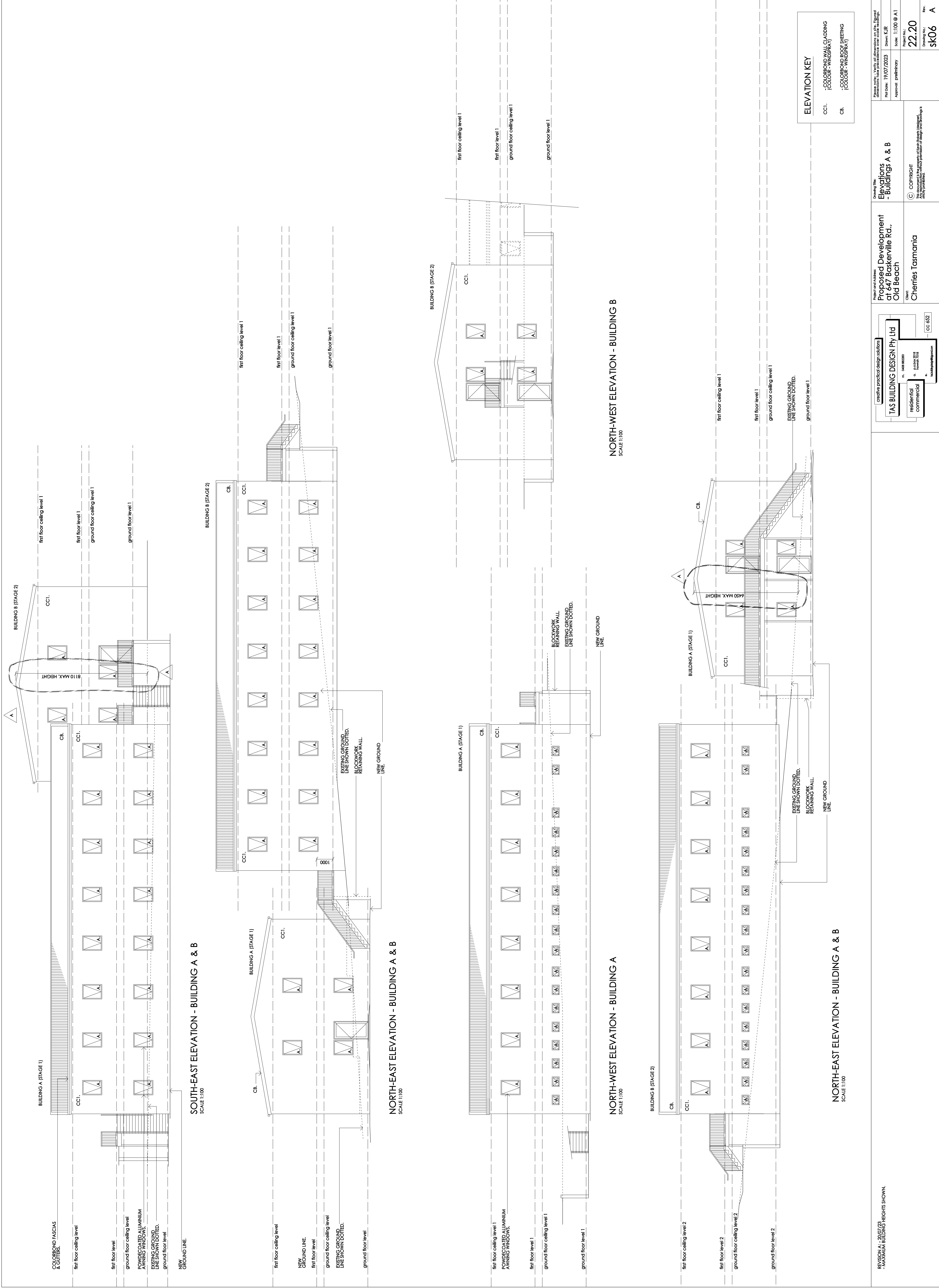
FLOOR PLAN LEGEND	
=====	EXTERNAL WALLS
=====	INTERNAL WALLS
=====	FORM STD. WALLS
=====	50mm WALLS
=====	90mm. 100. STD. WALLS
C.	CARPET
Ch.	CERAMIC FLOOR TILES
Conc.	CONCRETE FLOOR FINISH.
COL	COLUMN

AREA:	
BUILDING A	572 sq.m.
BUILDING B	572 sq.m.
TOTAL:	1144 sq.m.

[illegible]









# Planning Submission

Proposed Accommodation  
Development

at

647 Baskerville Road  
Old Beach, Tasmania

for

Cherries Tasmania

Tas Building Design Pty. Ltd.  
P.O.Box 2018  
Howrah 7018  
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March 2023

Proposed Accommodation Development at  
647 Baskerville Road, Old Beach – Planning Submission

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- sk01 – Location Plan/Part Site Plan
- sk02 – Part Site Drainage Plan
- sk03 – Part Site Landscape Plan
- sk04 – Soil and Water Management Plan
- sk05 – Buildings A & B – Floor Plans
- sk06 – Buildings A & B – Elevations
- sk07 – Buildings C,D,E F – Floor Plans, Elevations

## **consultant reports**

- Geo-Environmental Assessment - GES
- Traffic Impact Assessment – Hubble Traffic

Proposed Accommodation Development at  
647 Baskerville Road, Old Beach – Planning Submission



## 1. - site location/background

The existing Cherry Tasmania orchard is located at 647 Baskerville Road, Old Beach. The proposed development location fronts onto Briggs Road, approximately 200 metres south of the Baskerville Road intersection. The site falls gradually to the south-east and has proposed entrances to the west fronting Briggs Road.

Nic Hansen of Cherries Tasmania has operated the business since 2003. The orchard site covers over 68 hectares of Cherry varieties.

## 2.- environmental impact/design statement

The existing orchard site is currently zoned Rural and is operated by the current owner Nic Hansen as a Cherry farm. Seasonal workers are required at various times of the picking season and the proposed development allows vital accommodation on site.

The location of the Proposed Accommodation development is positioned fronting Briggs Road and is partly hidden the existing pine trees along the front boundary limiting visual impact. The accommodation project will require bus access for pick-up and drop-off. Apart from the bus access, there will be minimal traffic movements, mainly food deliveries and Cherry Tasmania staff.

The surrounding properties vary from existing Rural Residential dwellings, Rural zoned open properties and Baskerville Raceway. The site is an ideal location to provide accommodation on site for seasonal workers for the existing Cherry farm operations.

The design consists of various grouped shed type buildings with 'Windspray' colour. The buildings will be partly excavated lowering the overall height of the two-storey accommodation buildings. All other buildings are single storey.

Proposed Accommodation Development at  
647 Baskerville Road, Old Beach – Planning Submission

An open space area will be utilized for camping (no caravans) which have their own bathroom facilities.

The accommodation buildings are both located outside of the attenuation zone of Baskerville raceway.

In reference to Tas Planning Scheme (Brighton) 20.3.1 Discretionary Use:

- a) The accommodation is required for the operation of the Cherry farm business providing for seasonal workers on site.
- b) There is no adverse impact, confirm or restraint of uses regarding any neighbouring property.
- c) Being purposely built for the cherry farms operations, the development is compatible with the agricultural use.
- d) The accommodation development does not compromise on the function of the surrounding settlements and is appropriate and functional for the cherry farm.

### 3. – development information

#### a. – car-parking/bus/truck movements

The proposed development provides for 36 onsite parking spaces, dedicated delivery loading bay and waste collections area. An overflow car parking area will be allowed for extra parking. A new entry and exit provides a safe and open driveway area for bus, truck and vehicle access. The entry/exit solution allows for bus turning in a loop design rather than one access point and turning on site.

Refer to attached Hubble Traffic report covering all vehicle movements, hours etc.

#### b. – number of staff

A maximum of 2 employees (cleaning) staff per day. The accommodation building will house 144 seasonal workers for both buildings (72 per building) who will do all their own cooking.



c. – operating hours

The seasonal workers generally operate between 7.30am and 3.30pm. The cleaning staff would operate between the day period.

d. – equipment

External heat pump heating units are to be installed however will be virtually silent. Freezers room units will be located on the opposite side of the Meals building – away from the accommodation buildings. Generally cooking will be domestic ovens, cooktops etc.

e. – waste production and disposal

Waste production will be limited to waste bins for general waste from the Kitchen and accommodation units. The waste removal will be provided from a private waste firm accessing the site once a week.

f. – signage

Minor signage will be installed for entry and exit points along with 'Give Way' signage for exit point.

g. – colours-

Refer to the elevations for colours. Predominately colours will be 'Windspray' but will have secondary colours for screening, planting, etc.

h. landscaping/fencing/lighting

The proposed site is surrounded by a green orchard barrier. The existing extensive landscaping provides an enjoyable space to reside. Refer to the Part Site Landscape Plan.

The site will provide low level flood lighting for the car parking and pathway areas between buildings. The extension of lighting and security will continue around the proposed accommodation units.

i – drainage

Refer to GES report for the sewer design. Refer to the Part Site Drainage Plan for stormwater and water design. Engineering design and final stormwater design/calculations will be prepared for the construction drawings.

Stormwater exiting development area (owner description)

Storm water from the development site is to be directed into the adjacent 110MGL dam.

The dam is a completely bunded water holding area.

No outside run-off water enters this dam from the water catchment area. 3 years ago Cherries Tasmania spent \$130K constructing a by-pass channel for the water course to travel around the dam. Reason being the quality of water from the catchment area including the Braeview Road subdivision area is of very poor quality. During rain fall the water flowing has extremely high levels of silt and makes for very poor irrigation water for the orchard.



Photo above showing example of this.



Water by-passing the dam during a very heavy rain-fall event

So based on this water levels within the dam are 100% controllable by what water we allow into the dam from the irrigation scheme we access water from.

Cherries Tasmania irrigation season finishes in late April (+/- weather conditions). From this point on we then fill the dam. It is our intention to short fill the dam by some 10MGL to enable room for stormwater run-off from the development site to enter and be stored in the dam for irrigation use during the summer months.

#### j – staging

The project will be split into 2 stages. Stage 1 being Building A accommodation building, Meals, Laundry, covered areas and camping buildings. Stage 2 will be Building B accommodation.

## 4. owner statement

Cherries Tasmania Orchards is wishing to construct a seasonal employee accommodation site in line with the submitted documents and plans.

We see this development as an extremely critical part of our long term sustainability as a cherry orchard. As we move forward with our orchard development we will reach in January 2027 a forecasted 900-1000 tonnes of cherries harvested that will require hand picking and packing. Labour is a major part of this.

Of the 280-300 people required, history shows that we can source 35-50% of this required amount of people locally. The remaining people will have to come to us via seasonal worker programs and travelling back packers. Between December and early February there is chronic shortage of any type of accommodation in Southern Tasmania. For Cherries Tasmania to ensure its sustainable long-term future we must construct and operate our own seasonal accommodation thereby ensuring a critical factor is met.

## 5. conclusion

The proposed accommodation development for Cherries Tasmania will provide vital accommodation on site for seasonal workers. The development will provide jobs, growth and valuable investment for the Brighton Council area.





# **SEASONAL EMPLOYEE ACCOMMODATION, OLD BEACH**

## **TRAFFIC IMPACT ASSESSMENT**

**Hubble Traffic**

Updated September 2023

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Version	Date	Reason for Issue
<b>Draft</b>	March 2023	Draft issued for client feedback
<b>Final</b>	17 March 2023	Final issued.
<b>Updated</b>	29 September 2023	Camping location changed -updated parking layout

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## 1. Introduction

Kevin Roberts of Tas Building Design has engaged Hubble Traffic to prepare an independent Traffic Impact Assessment, to consider the traffic impacts from the development of seasonal employee accommodation, for Cherries Tasmania Orchards at Old Beach.

This assessment has considered the functional requirements of the proposed development, including the surrounding road network, safe and efficient access arrangements to accommodate light and medium vehicles, and adequate on-site car parking.

This report has been prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019, and referred to the following information and resources:

- Tasmanian Planning Scheme (Brighton Council)
- Road Traffic Authority NSW (RTA) Guide to Traffic Generating Developments
- Australian Standards AS2890 parts 1, 2 and 6
- Austroads series of Traffic Management and Road Design
  - Part 4: Intersection and crossings, General
  - Part 4a: Unsignalised and Signalised Intersections
  - Part 12: Traffic Impacts of Development
- Autoturn Online vehicle turning software
- LIST Land Information Database
- Department of State Growth crash database

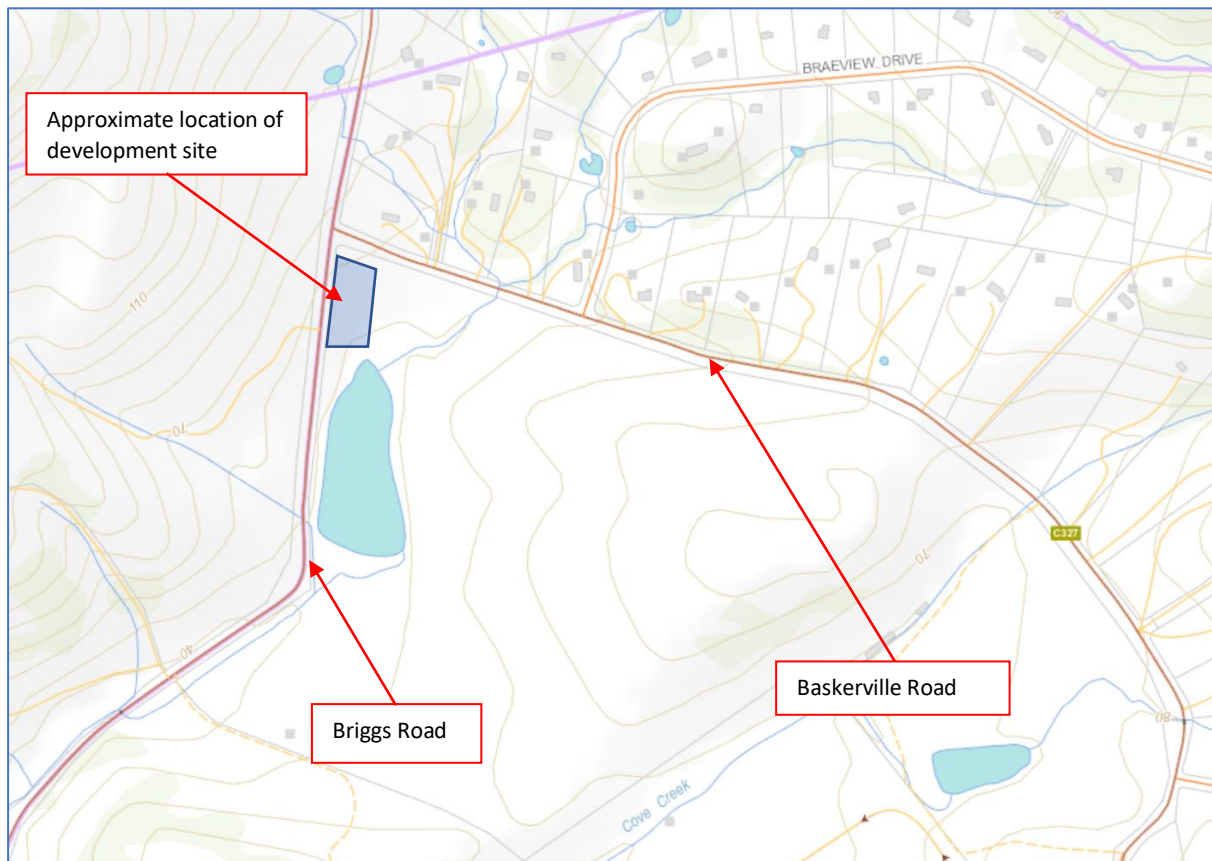


## 2. Site Description

The development site is a small area of a larger parcel of land, owned and operated by Cherries Tasmania Orchards. It is located at the junction between Briggs Road and Baskerville Road, and in close proximity to an existing dam.

The site is zoned as Rural Use, which encompasses the orchards land-use along the south of Baskerville Road, while the north side is an established Rural Living land-use.

Diagram 2.0 – Extract from LIST land information database

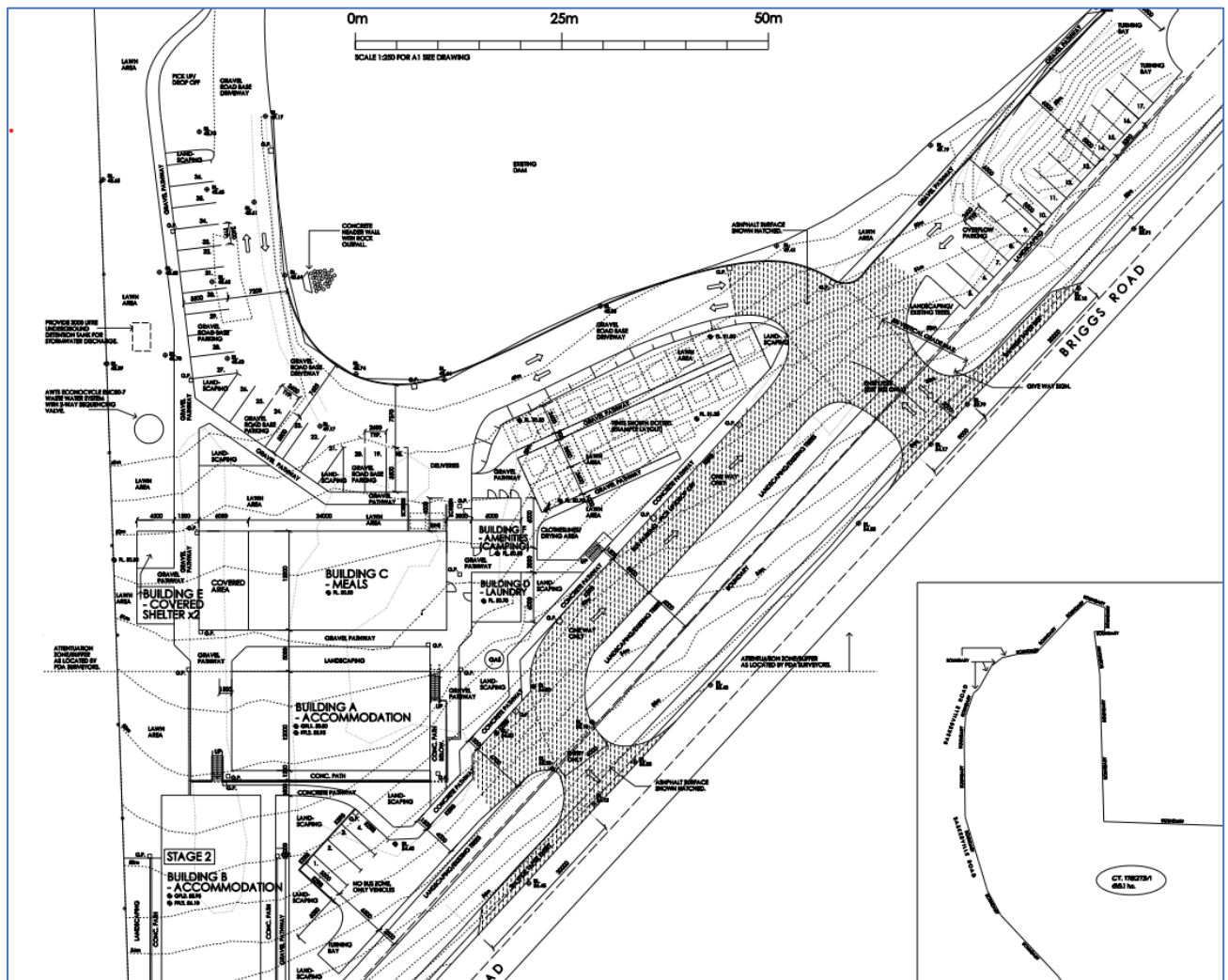


### 3. Development proposal

As advised by the developer the proposed development will include:

- Two accommodation buildings, with each building to accommodate 72 seasonal employees, meals building, BBQ shelters, and laundry facilities.
- A small camping ground area, suitable to accommodate 23 camping sites (sites suitable for a tent and vehicle, or a campervan).
- 36 on-site car parking spaces, dedicated delivery loading bay, and waste collection area.

Diagram 3.0 – Proposed development layout



## 4. Trip generation by this development

A trip in this report is defined as a one way vehicular movement from one point to another, excluding the return journey. Therefore, a return trip to and from a land use is counted as two trips.

The developer has advised that an on-site bus service will be provided, to pick up and drop off harvest employees around different areas of the orchard. The developer also provided information on the number of employees on-site, and site capacity of the camping ground in order to calculate the number of trips.

### 4.1. Seasonal employees

It is expected that all the seasonal employees will be non-local residents, with the majority expected to be international tourists or backpackers. These employees are unlikely to have their own private transport and are expected to be relying on a bus transport service run by the development. Employees housed in the seasonal accommodation building will be mainly utilised within the Cherries Tasmania Baskerville cherry orchard operation especially between early December and early February, the peak cherry harvest period.

This assessment will be based on all employees using the on-site bus transport. The developer has indicated that they have two buses, a 56 seater and a 30 seater, which will be used to transport the employees. With the accommodation providing for 144 employees, each bus could be required to make two trips, to drop off and pick up the employees during the morning and afternoon periods.

The developer has indicated that the employees will generally be working between the hours of 7:30am to 3:30pm. As a worst case scenario, this assessment will assume that the bus service will run during the peak periods and each bus will make two trips during each period.

### 4.2. Commercial vehicles

The seasonal employees will be required to arrange their own food and supplies and are likely to use the local supermarkets online delivery system, which will generate delivery trips to the site. As a worst case scenario, this assessment will assume that these deliveries will occur twice a day, outside of the peak periods.

A private waste collection service will be engaged by the developer to collect waste from the site. As a worst case scenario, this assessment will assume that a waste collection vehicle will collect rubbish twice per day, outside of the peak periods.

#### 4.3. Other employees

The developer has advised that two cleaners will be employed to clean the accommodation once a day. As a worst case scenario, this assessment will assume that both cleaning employees commute separately in a private vehicle, and arrive during the morning peak to undertake cleaning while the accommodation is vacant.

#### 4.4. Camping ground trips

The camping ground sites are suitable for a tent and vehicle, or campervan, with the trips generated likely to be infrequent and irregular. For the purpose of this assessment, vehicle trips are likely to be generated as the vehicles arrive and leave, with these occurring outside of the peak periods. The number of intermediate trips is expected to be low and also occur outside of the peak periods. As a worst case scenario, it is assumed that the camping grounds could generate ten vehicles entering and leaving the site per day.

#### 4.5. Total trips generated

From the information provided by the developer, when the development is operating at 100 percent capacity, this assessment predicts the development could generate 48 daily trips, with ten trips occurring during the morning peak hour and eight trips during the evening peak hour.

Table 4.5 – Trips generated by the development

<b>Trip generator</b>	<b>Number and type of vehicles</b>	<b>Daily trips</b>	<b>Morning peak hour</b>	<b>Evening peak hour</b>	<b>Outside peak periods</b>
Seasonal employees	2x buses	16	8	8	0
Deliveries	2x Trucks	4	0	0	4
Waste collection	2x Waste collection	4	0	0	4
Employees	2x cars	4	2	0	2
Camping ground	10x cars	20	0	0	20
<b>Total</b>		<b>48</b>	<b>10</b>	<b>8</b>	<b>30</b>

## 5. Existing road network

Briggs and Baskerville Roads are rural roads maintained by the Brighton Council. Both roads would act as collector roads within the surrounding road network, with Briggs Road having a slightly higher road function priority than Baskerville Road.

### 5.1. Briggs Road characteristics

Briggs Road runs in a south to north orientation, is built to a rural standard, capable of carrying a significant amount of traffic movements. The road has a sealed bitumen surface, grass verges, with the horizontal alignment being relatively straight, while the vertical alignment is undulating. At the development site, the road consists of a three-metre-wide traffic lane in each direction, marked centreline supported with guideposts, and steep road verge along the development that falls away from the road surface. The road is posted with 80 km/h speed limit signs.

Photograph 5.1 – Typical standard of Briggs Road adjacent to the development site





## 5.2. Baskerville Road characteristics

Baskerville Road primarily runs in a east to west orientation, and connects between Briggs Road and the East Derwent Highway. The road is built to a typical rural standard, with a sealed bitumen surface (suitable width to accommodate two-way traffic movements), grass verges, and guide posts. Opposite the development site, there is a table drain running parallel to the road.

The surrounding land-use along Baskerville Road is rural residential, with residential properties on the northern side of the road, and the cherry orchards on the southern side. Baskerville Road has a posted speed limit of 70 km/h.

Photograph 5.2 – Typical standard of Baskerville Road



## 5.3. Traffic flow on the surrounding roads

To evaluate the traffic impact from the development, it is important to understand the current traffic flow on the surrounding roads. A recent manual traffic survey was undertaken at the junction of Briggs and Baskerville Roads, during the morning and evening peak periods.

From the 90-minute survey, the peak hour period can be extracted, which will be used within this assessment. Overall, the traffic flow generated by Briggs Road was reasonably low.

Table 5.3A – Manual traffic flow for the morning period

Time AM	Briggs Road				Baskerville Road	
	Straight towards Honeywood	Right into Baskerville Road	Straight towards Gagebrook	Left into Baskerville Road	Left onto Briggs Road	Right onto Briggs Road
7:30 – 7:45	11	1	51	5	6	5
7:45 – 8:00	18	6	46	6	3	4
8:00 – 8:15	15	1	40	4	4	8
8:15 – 8:30	16	5	23	6	1	6
8:30 – 8:45	17	3	20	3	1	6
8:45 – 9:00	12	4	17	2	1	1
<b>Total</b>	<b>89</b>	<b>20</b>	<b>197</b>	<b>26</b>	<b>16</b>	<b>30</b>

Table 5.3B – Manual traffic flow for the evening period

Time PM	Briggs Road				Baskerville Road	
	Straight towards Honeywood	Right into Baskerville Road	Straight towards Gagebrook	Left into Baskerville Road	Left onto Briggs Road	Right onto Briggs Road
4:00 – 4:15	36	3	13	7	1	6
4:15 – 4:30	26	3	10	5	2	12
4:30 – 4:45	31	3	11	9	3	7
4:45 – 5:00	37	2	14	1	1	5
5:00 – 5:15	27	7	9	3	0	7
5:15 – 5:30	24	2	15	3	1	10
<b>Total</b>	<b>181</b>	<b>20</b>	<b>72</b>	<b>28</b>	<b>8</b>	<b>47</b>

From the manual survey data, the following observations have been made:

- During the morning peak hour (7:30am – 8:30am) Briggs Road generated a total of 291 two-way vehicle movements. Of the 291 vehicle movements 76 percent continued straight along Briggs Road.
- During the evening peak hour (4:00pm – 5:00pm) Briggs Road generated a total of 248 two-way vehicle movements. Of the 248 vehicle movements 72 percent continued straight along Briggs Road.

Diagram 5.4A – Morning peak hour traffic movements

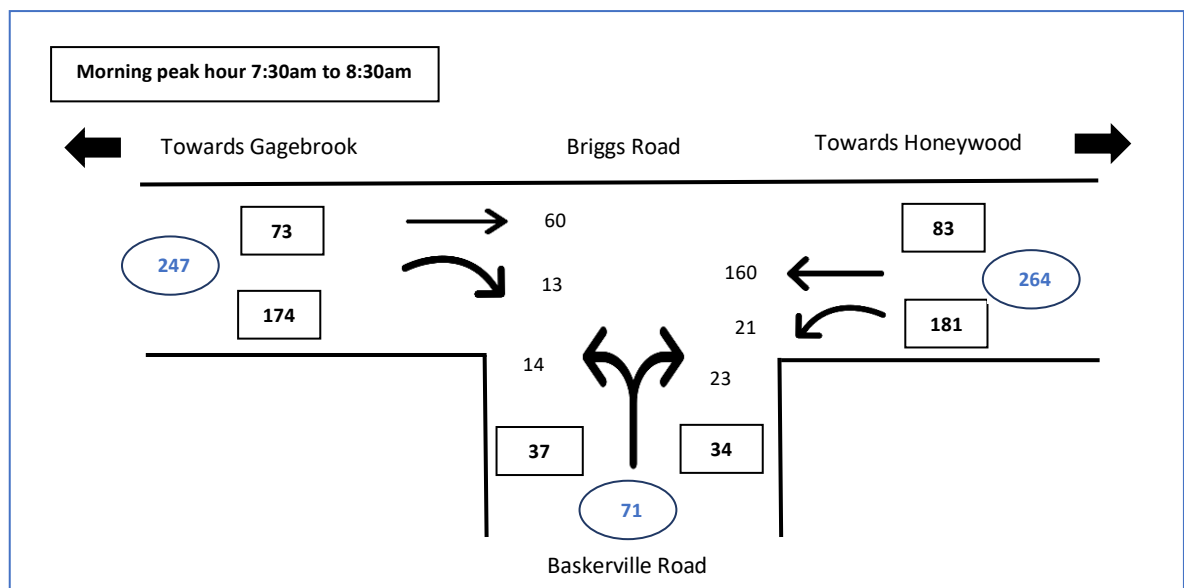
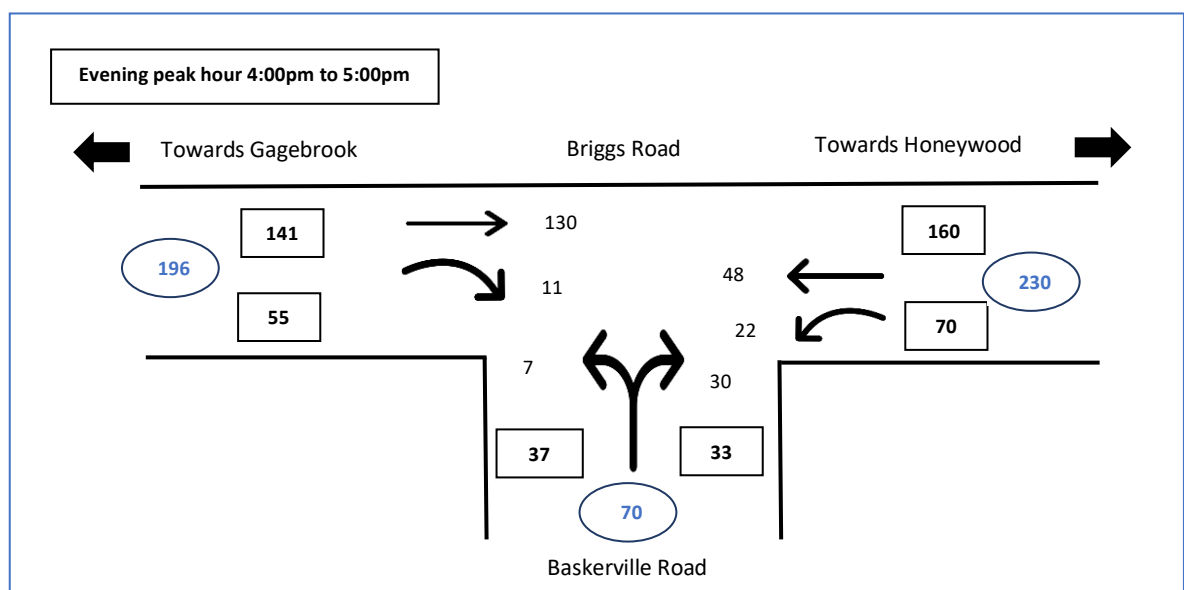


Diagram 5.4B – Evening peak hour traffic movements



#### 5.4. Road safety of surrounding road network

The Department of State Growth maintains a database of reported road crashes, a check of this database for the last five years, found no crashes reported on Briggs Road adjacent to the development site.

## 6. Impact from traffic generated by this development

As indicated in section 4 of this report, the development is predicted to generate 48 daily trips, and of these trips ten are expected to occur during the morning peak hour and eight during the evening peak hour. The majority of the vehicles generated by the development are likely to be medium or heavy vehicles.

### 6.1. Level of service for Briggs Road users

In evaluating the impact of additional vehicle movements on Briggs Road, it is important to understand the Level of Service (LOS) motorists are currently receiving. The RTA Guide provides guidance for rural roads, based on peak hour directional traffic flows and percent of heavy vehicles. For the purpose of this assessment, Briggs Road has a rolling terrain and has an approximate five percent of heavy vehicles.

With the recent traffic survey revealing the maximum one-way directional peak hour flow of 160 vehicles per hour during the morning peak hour, the RTA Guide indicates motorists are currently receiving the highest level of service possible. This means that the traffic flow is stable, motorists have freedom to select their own operating speed, and there should be sufficient gaps in the traffic stream to enable vehicles to enter and leave, without causing any adverse impacts.

This development is expected to generate an additional ten traffic movements in the morning peak hour and eight in the evening peak, which will not cause any deterioration in the current level of service motorists are receiving.

Diagram 6.1 – Extract from the RTA Guide

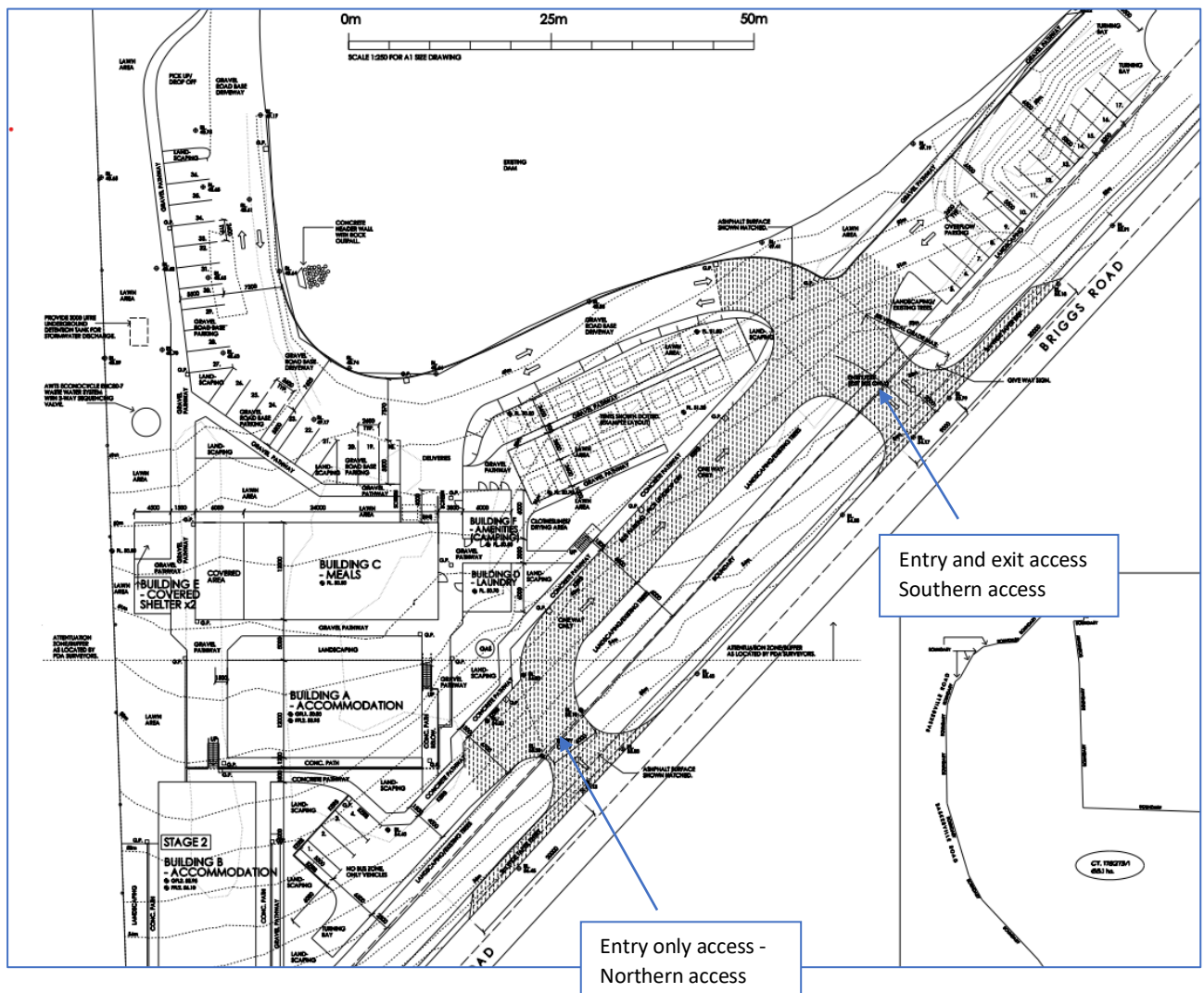
<b>Table 4.5</b> <b>peak hour flow on two-lane rural roads (veh/hr)</b> <b>(Design speed of 100km/hr)</b>					
Terrain	Level of Service	Percent of Heavy Vehicles			
		0	5	10	15
Level	B	630	590	560	530
	C	1030	970	920	870
	D	1630	1550	1480	1410
	E	2630	2500	2390	2290
Rolling	B	500	420	360	310
	C	920	760	650	570
	D	1370	1140	970	700
	E	2420	2000	1720	1510
Mountainous	B	340	230	180	150
	C	600	410	320	260
	D	1050	680	500	400
	E	2160	1400	1040	820

## 7. Access arrangement to and from the development site

The internal driveway layout has been designed to locate the bus collection point on the left hand side, so employees can access the bus without crossing the internal driveway. This will require buses to arrive at a northern access and leave from a southern access, requiring the creation of two new accesses onto Briggs Road. The northern access will be entry only, with the southern access to be the main access to cater for two-way vehicle movements, including light vehicles, delivery vehicles, and vehicles accessing the camping grounds. The internal driveway connecting the northern and southern accesses will have a one-way flow (north to south) and will be six metres wide to accommodate the bus collection point and one traffic lane.

Both accesses will be designed to accommodate the swept path of a 12.5 metre tourist coach, and medium rigid vehicles.

Diagram 7.0 – Access into and out of development site





## 7.1. Sight distance for drivers leaving the development site

Safe Intersection Sight Distance (SISD) is based on the operating speed of approaching vehicles and the gradient of the approaching road, with the proposed main access located within an 80 km/h speed limit, with a road gradient of 12 percent. The Austroads Guide to Road Design part 4a: Unsignalised and signalised intersections table 3.2 specifies that the required SISD for these traffic conditions to be 181 metres, based on a driver reaction time of two seconds.

An on-site inspection found that there was at least 180 metres of sight distance in each direction, based on the driver being 1.05 metres above the access surface and the approaching vehicle being 1.2 metres high. This assessment found there is suitable sight distance in both directions at the access with Briggs Road, allowing motorists to leave the development site in a safe and efficient manner, without impacting other road users.

Photograph 7.1A – View for driver leaving the development site to the right



Photograph 7.1B – View for driver leaving the development site to the left





## 7.2. Any alternate road access

The main access to the cherry orchard is located off Baskerville Road, while an unused gate off Baskerville Road (shown in figure 7.2), is within 50 metres of Briggs Road, and in close proximity to the development site. However, both are considered unsuitable as there is substantial volume of established infrastructure within the cherry orchard, preventing the construction of a suitable internal connection to the development site.

It is acknowledged that a new access should be created on a road lower in the road hierarchy than Briggs Road, which in this case would be Baskerville Road. Notwithstanding, this assessment considers a new access onto Briggs Road can be achieved, providing all users with safe and efficient traffic outcomes, without compromising existing road users. As the difference in the road function is very minor, and the volume of traffic predicted to be generated from the development is low.

To quantify the traffic impact of creating a new access on to Briggs Road, traffic modelling software has been used, which quantifies the Degree of Saturation, Level of Service, worst traffic delays and queues, based on traffic flow and volume of vehicles using the proposed access. A traffic modelling of the proposed access onto Briggs Road was developed within the modelling software for both the morning and evening peak hour, based on traffic flows collected by the recent manual surveys.

To ensure the modelling represents the worst case scenario, the volumes of vehicles using the access has been double (20 in the morning and 16 in the evening). Fifty percent of vehicle movements are undertaken by heavy vehicles, with the traffic modelling considering the worst 30 minute period.

The traffic modelling predicts the access will operate at the highest level of performance (LOS A) for a give way situation. The access is predicted to operate at less than ten percent of the traffic capacity, with vehicles turning in and out not expected to generate any traffic queues, as there are ample gaps within the traffic stream for vehicles to enter and leave efficiently.

Overall, the access is not predicted to cause any adverse impact to the existing Briggs Road users, and there is ample traffic capacity along Briggs Road to accommodate future traffic growth, without causing any deterioration in traffic performance.

Table 7.2 – Traffic modelling for new access onto Briggs Road

Period	Total vehicles	DOS	Worst Delay	LOS	Max Queue
Morning	292	0.098	7.6 Seconds	A	0.8 metre
Evening	223	0.081	7.2 Seconds	A	0.2 metre

Traffic modelling results is available appendix A.

Photograph 7.2 – Existing access with Baskerville Road



## 8. On-site parking and internal road layout

### 8.1. Number of car parking spaces

The planning scheme table C2.1 prescribes the number of on-site parking spaces required, based on the type of land use. For Visitor Accommodation, the requirement is one space per self-contained accommodation unit, or one space per allocated tent or caravan space, or one space per four beds, whichever is greater.

To meet the requirements of the planning scheme, the development site will need to provide 36 on-site car parking spaces, based on the number of beds provided for accommodation.

Table 8.1 – Planning scheme car parking requirements

Activity	Use	Planning scheme requirements	Number of beds	Number of parking spaces
Accommodation	Visitor Accommodation	One space per self-contained accommodation unit, one space per allocated tent or caravan space, or one space per four beds, whichever is greater	144	36
<b>Total</b>				<b>36</b>

Dedicated car parking spaces will not be required for the camping grounds, as there will be sufficient space at each of the camping sites to allow for one vehicle parking space per site. This meets the planning scheme requirement of one space per allocated tent or caravan space.

### 8.2. Layout of on-site parking spaces

The car parking spaces have been designed to comply with the planning scheme parking dimensions in table C2.3, where ninety-degree parking spaces will be 2.6 metres wide, 5.4 metres long, and supported with a minimum 6.4 metre manoeuvring area or access aisle. Complying with the planning scheme parking dimensions will ensure vehicles enter and leave the parking spaces in a single turn efficiently.

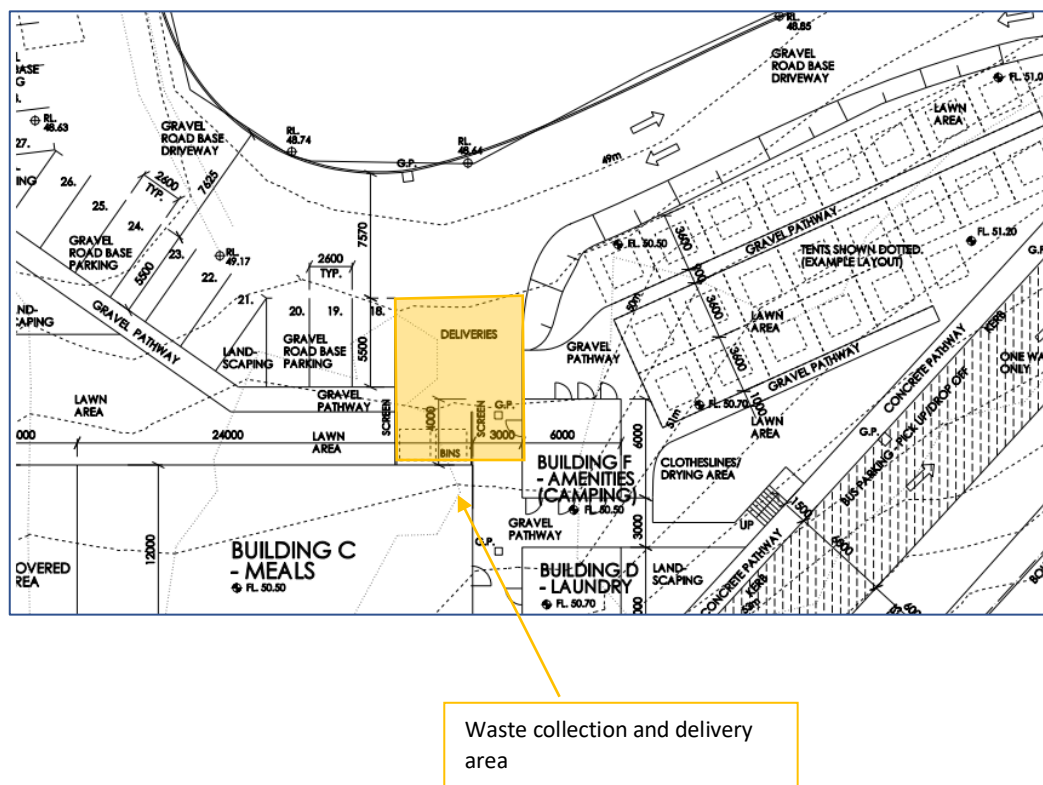
All car parking spaces have been designed to be situated on a gradient less than five percent, in both longitudinal and transverse directions. The parking spaces will be supplemented with wheel stops and delineated with line markings.

### 8.3. Delivery areas for commercial vehicles

Within the development site, designated loading areas will provide for delivery and waste collection vehicles, with both areas designed to accommodate a medium rigid vehicle (8.8 metres in length). It is expected that online supermarket orders will be delivered by small rigid vehicles (6.4 metres in length), which is the most common vehicle used for supermarket deliveries.

A private waste collection service will need to be engaged to collect waste on a regular basis. As a standard waste collection vehicle is slightly smaller than a medium rigid vehicle, the waste collection area is expected to be sufficient for vehicles to enter and leave in a forward-driving direction.

Diagram 8.3 – Waste collection and loading area



#### 8.4. Bus collection area

The development will operate buses to transport the seasonal employees, picking them up from the accommodation and transporting them around the cherry orchards. Once the employees have finished for the day, the bus service will pick them up and drop them back at the accommodation, this minimises the number of vehicle movements generated by the development.

As discussed previously, the internal bus collection point has been designed so that buses collect and drop-off users from the left hand side, so users do not need to cross the internal driveway. Furthermore, the bus collection point is connected to the accommodation and amenity buildings, with dedicated pathways to provide safe and convenient pedestrian access.

To achieve this outcome, buses must enter the site from a point north of the collection point, and leave south of the collection point, requiring the creation of two accesses. This also enables buses to enter when turning left or right from Briggs Road.

Autoturn vehicle swept-path software has been used to verify that a standard coach bus (12.5 metres in length) can enter from Briggs Road at the northern access point, turning right at minimum speed of 10 kilometres per hour, to arrive at the collection point in a single efficient turn. To ensure this turn operates efficiently, a short left hand taper will be included in the access design to accommodate a left turning vehicle off Briggs Road.

Similarly, a standard coach bus can leave the collection point, wait at the holding point at the southern access, before entering Briggs Road in an efficient manner as the design incorporates a left hand taper. There will be sufficient width at this southern access to accommodate two-way vehicle movements.

Swept path for a standard coach bus entering and leaving the development site is available in appendix A.

## 8.5. Gradients within the internal driveway and accesses

With the development operating buses on a daily basis, the grades of the internal driveways will be designed to comply with the Australian Standards AS 2890 part 2: Off street commercial facilities. This will include the accesses onto Briggs Road, to ensure buses can enter and leave the development in a safe and efficient manner. Overall the maximum gradient will be less than 15.4 percent, with changes in grade not to exceed 6.25 percent, and gradient at the southern access across the road verge to be as flat as possible.

## 8.6. Access widths

The design of the two accesses onto Briggs Road will be based on the swept path of a standard 12.5 metre long coach bus (design vehicle), to ensure the design vehicle can enter and leave in a safe and efficient manner, without adversely impacting other users. The southern access will have sufficient width to accommodate two-way traffic movements, the left hand taper along Briggs Road ensures the design vehicle can turn out, without encroaching across the road centreline.

## 8.7. Internal road layout

The design incorporates a one-way internal bus driveway running parallel with Briggs Road, to enable buses to enter, and be aligned so users are collected on the left-hand side. This driveway and the two accesses onto Briggs Road will have an asphalt surface, with appropriate thickness that is designed to cater for vehicle loadings, and accommodate for the turning forces generated by the design vehicle.

Beyond this bus driveway, the internal road surface leading to the other facilities including the camping sites will be an all-weather gravel surface. The width of the one-way bus driveway will be six metres wide to allow for buses to be parked next to the footpath, while allowing for other vehicles to pass. The width of the access to the delivery areas and camping sites will be a minimum 5.5 metres wide to facilitate two-way vehicle movements.

## 8.8. Internal pedestrian pathways

The development will include dedicated pathways so that pedestrians can move within the site in a safe and convenient manner, with the pathway separated from the driveways by a barrier kerb where possible.



## 8.9. Other parking requirements

The planning scheme table C2.1 prescribes the number of on-site bicycle parking spaces required, based on the type of land use. For Visitor Accommodation, there is no requirement to provide dedicated bicycle parking spaces.

The planning scheme table C2.4 prescribes the number of on-site motorcycle parking spaces required, based on the number of car parking spaces provided, with one motorcycle space required for every 20 car parking spaces, after the first 20 spaces provided. The development will provide one motorcycle space, in addition to the 36 car parking spaces being provided.

## 9. Planning scheme

### 9.1. C2.0 Parking and Sustainable Transport Code

#### C2.5.1 Car parking numbers

The development will provide 36 on-site car parking spaces, which complies with the acceptable solution under the planning scheme table C2.1 for the visitor accommodation facilities.

In addition, each camping site will have sufficient space to allow for a vehicle to park at the camping site, complying with the acceptable solution.

#### C2.5.2 Bicycle parking numbers

Under the planning scheme table C2.1, visitor accommodation land-use does not require bicycle parking, meeting the acceptable solution.

#### C2.5.3 Motorcycle parking numbers

Planning scheme table C2.4 requires one motorcycle parking space for 20-40 car parking spaces. One dedicated motorcycle parking space will be provided to comply with the planning scheme acceptable solution A1.

#### C2.5.4 Loading bays

The development is providing a dedicated loading bay, complying with the acceptable solution A1.

#### C2.6. Development standards

C2.6.1 Construction of parking areas.	The bus driveway will be constructed with asphalt, while the remaining driveways and car parking areas will be all-weather hard wearing gravel surface. All trafficable surfaces will be supported with kerbing to collect and direct surface water to an approved drainage system. This design complies with the acceptable solution A1.
C2.6.2 Design and layout of parking areas.	The car parking spaces have been designed to comply with the dimensions specified in the planning scheme table C2.3, and vehicles will be able to enter and leave the spaces in an efficient manner. The width of the southern access will comply with the planning scheme and be a minimum 5.5 metres wide to accommodate two-way traffic movements. The width of the

	northern access will be designed to accommodate a 12.5 metre bus turning into the site. The car parking spaces will be situated on a gradient of less than five percent and all parking spaces will be supported with wheel stops. Both the car parking layout and the loading area will have sufficient manoeuvring area, to ensure all vehicles will enter and leave the development site in a forward-driving direction. The proposed parking and loading areas comply with the acceptable solution.
C2.6.3 Number of accesses for vehicles.	The development site will create two new accesses and will need to be assessed against the performance criteria, which is provided on the next page of this report.
C2.6.4 Lighting of parking areas within the general business zone and central business zone	The development site will be provided with suitable lighting covering the car parking, loading areas, and circulating carriageway, to ensure vehicles and pedestrians can enter, manoeuvre, and leave in a safe manner, complying with the acceptable solution.
C2.6.5 Pedestrian access.	A minimum one metre wide concrete footpath will be provided connecting the bus collection area with the amenity buildings, separated from the driveway by a barrier kerb where possible. A minimum one metre wide gravel footpath will be provided connecting the car parking area to the amenity buildings. There will be sufficient separation of vehicles and pedestrians to comply with the acceptable solution.
C2.6.6 Loading bays.	The loading area will be designed and constructed in accordance with the Australian Standard AS 2890.2-2002, parking facilities, part 2: Offstreet commercial vehicle facilities, which will comply with the acceptable solution.
C2.6.7 Bicycle parking and storage facilities	Not required for visitor accommodation land-use.
C2.6.8 Siting of parking and turning areas.	Not applicable for this development.

C2.6.3 Number of accesses for vehicles

The development site will create two new vehicle accesses onto Briggs Road, to allow for safe and efficient bus accesses, and will need to be assessed under the performance criteria P1.

Performance criteria	Assessment
The number of accesses for each frontage must be minimised, having regard to:	
a) Any loss of on-street parking; and	The development site is located on Briggs Road, which is a rural road, built to a rural standard where on-street parking is not expected. There will be no loss of on-street parking by the creation of the two new accesses onto Briggs Road.
b) Pedestrian safety and amenity;	With the rural location, pedestrians are not expected to arrive or leave the development site, and there are no formal pedestrian facilities on the surrounding road network. The proposed access arrangement provides bus users with a safe and convenient access to the amenities within the development site. Two accesses onto Briggs Road are not expected to cause any adverse impact to pedestrian safety or amenity.
c) Traffic safety;	Briggs Road is lightly trafficked, the volume of traffic generated by the development is considered low; there will be sufficient Safe Intersection Sight Distance, and the accesses will be designed so that vehicles can enter and leave in a safe and efficient manner, without causing adverse impact to existing users.
d) Residential amenity on adjoining land; and	The surrounding land is zoned as rural residential, with rural residential properties not within close proximity to the development site, and no adverse impact to residential amenity is expected.
e) The impact on the streetscape.	The proposed access arrangement is not expected to cause any adverse impact to the streetscape.

## 9.2. C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

The development requires the creation of new accesses, and need to be assessed against the performance criteria P1, to ensure the accesses are safe and efficient.

Performance criteria	Assessment
Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:	
a) Any increase in traffic caused by the use;	This assessment predicts that the development is likely to generate 48 daily movements, with ten of these movements likely to occur during the morning peak hour and eight during the evening peak hour.
b) The nature of the traffic generated by the use;	The development will generate both light and heavy vehicles. Light vehicles (less than 5.5 metres) will be generated by employees traveling to and from the site, as well as campers using the camping grounds. Heavy vehicles including buses, waste collection vehicles, and small rigid vehicles, will be generated to transport employees, collect waste, and deliver food and supplies. These vehicle types are compatible with the existing traffic on the surrounding road network.
c) The nature of the road	Briggs Road is a collector road within the surrounding road network, built to a rural standard capable of carrying significant traffic movements. The road is suitable to cater for the number and type of vehicles generated by the development without causing adverse traffic impact to the current users.
d) The speed limit and traffic flow of the road	Briggs Road has a posted speed limit of 80 km/h. A recent manual survey found that Briggs Road generated 291 two-way traffic movements during the morning peak hour and 248 two-way traffic movements during the evening peak. This assessment determined motorists are receiving the highest level of traffic efficiency for this type of rural road, and there is sufficient spare traffic capacity to absorb the increase in traffic movements predicted to be generated by the development, without causing any deterioration in traffic flow. Traffic modelling of the new access arrangement predicts they can operate safely and efficiently, as there are ample gaps in the traffic stream for vehicles to enter and leave without causing any disruption in the traffic flow.
e) Any alternative access to a road	Although the development site has direct access to Baskerville Road, there is substantial established infrastructure within the cherry orchard to prevent a suitable connection to the development site from Baskerville Road.
f) The need for the use	The accommodation facility supports the local farming community, to provide fresh produce.
g) Any traffic impact assessment	A traffic impact assessment has found no reason for this development not to proceed.



h) Any advice received from the rail or road authority	Aware of none.
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## 10. Conclusion

The provision of a visitor accommodation is an ancillary use to the properties primary land-use, and is considered essential for the sustainability and long term viability of the Cherries Tasmania Baskerville cherry orchard property.

The provision of a visitor accommodation is an ancillary use to the properties primary land-use, and is considered essential for the growth of the industry.

From a traffic engineering and road safety perspective, additional traffic generated from this development is not expected to create any adverse safety, amenity, or traffic efficiency problems, as:

- traffic generated is considered to be low and there is sufficient capacity within the current road network to absorb the extra traffic movements,
- new accesses can be created without causing any safety or traffic efficiency issues to the public road network, or create unnecessary traffic conflicts with Briggs Road users,
- sufficient parking spaces will be provided to meet the requirements, and
- commercial vehicles will be able to unload within the development site, causing no adverse impact to the public road network.

This Traffic Impact Assessment found no reason for this development not to proceed.

## 11. Appendix A – Traffic modelling printout

### MOVEMENT SUMMARY

▽ Site: 101 [Cherry Orchards with Briggs Road - am peak]

New Site  
Site Category: (None)  
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Cherry Orchards								
1	L2	11	50.0	0.024	7.0	LOS A	0.1	0.8
3	R2	11	50.0	0.024	7.6	LOS A	0.1	0.8
Approach		21	50.0	0.024	7.3	LOS A	0.1	0.8
East: Briggs Road (From Brighton)								
4	L2	5	50.0	0.098	6.1	LOS A	0.0	0.0
5	T1	183	0.0	0.098	0.0	LOS A	0.0	0.0
Approach		188	1.4	0.098	0.2	NA	0.0	0.0
West: Briggs Road (old Beach)								
11	T1	77	0.0	0.045	0.1	LOS A	0.1	0.4
12	R2	5	50.0	0.045	7.0	LOS A	0.1	0.4
Approach		82	3.2	0.045	0.5	NA	0.1	0.4
All Vehicles		292	5.4	0.098	0.8	NA	0.1	0.8

### MOVEMENT SUMMARY

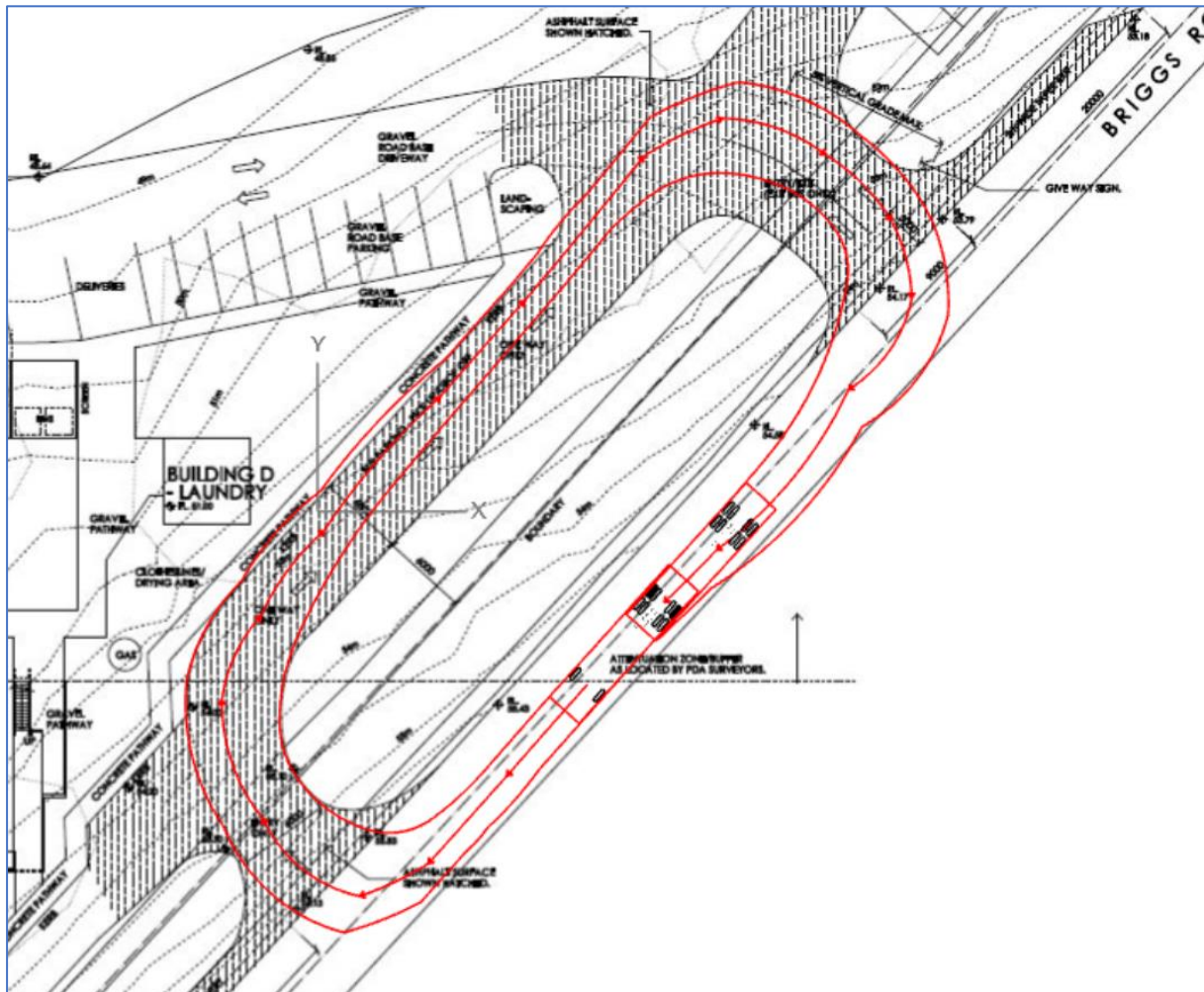
▽ Site: 101 [Cherry Orchards with Briggs Road - PM peak]

New Site  
Site Category: (None)  
Giveaway / Yield (Two-Way)

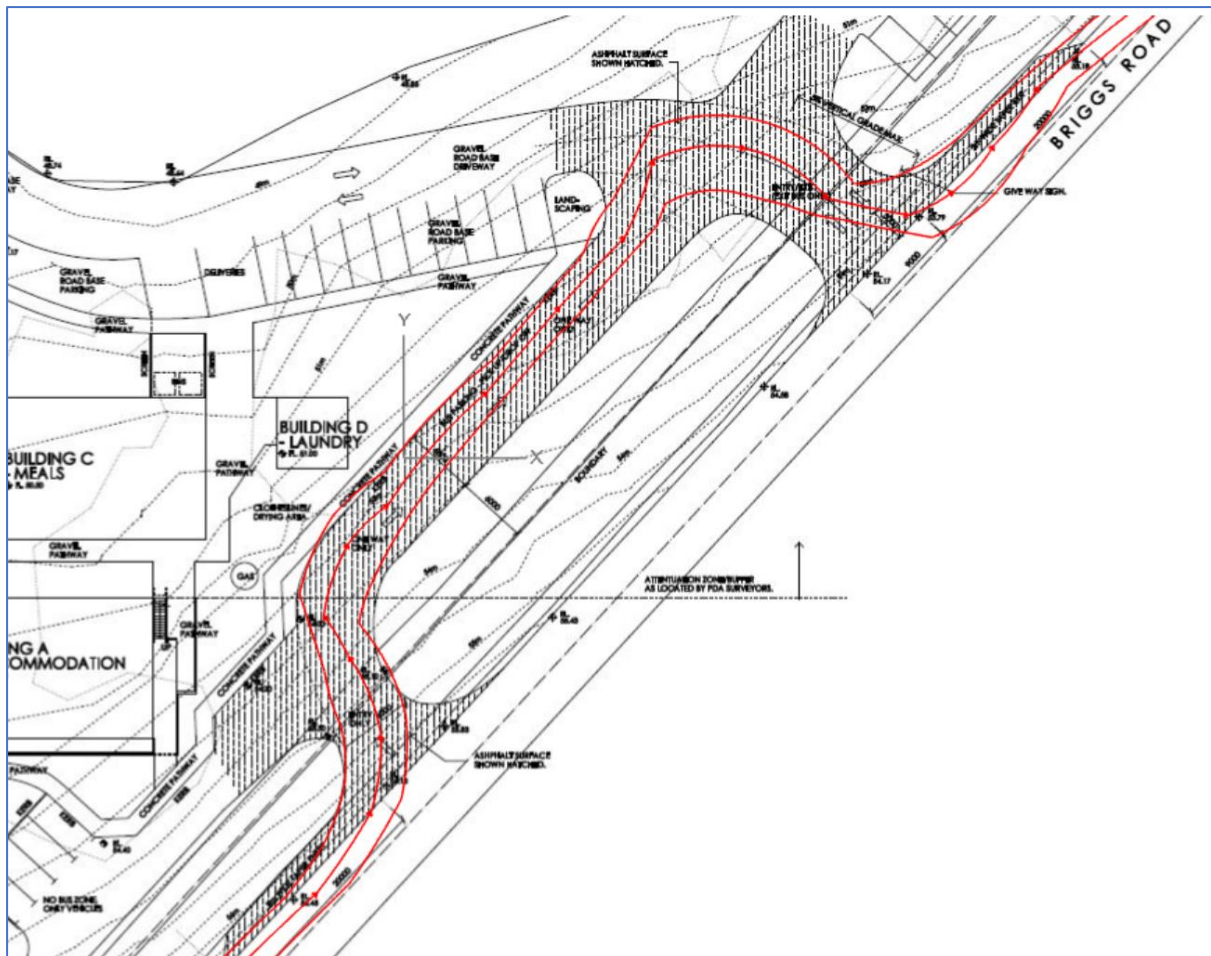
Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Cherry Orchards								
1	L2	3	50.0	0.006	6.4	LOS A	0.0	0.2
3	R2	3	50.0	0.006	7.2	LOS A	0.0	0.2
Approach		6	50.0	0.006	6.8	LOS A	0.0	0.2
East: Briggs Road (From Brighton)								
4	L2	5	50.0	0.034	6.1	LOS A	0.0	0.0
5	T1	58	0.0	0.034	0.0	LOS A	0.0	0.0
Approach		63	4.2	0.034	0.5	NA	0.0	0.0
West: Briggs Road (old Beach)								
11	T1	148	0.0	0.081	0.0	LOS A	0.0	0.3
12	R2	5	50.0	0.081	6.4	LOS A	0.0	0.3
Approach		154	1.7	0.081	0.2	NA	0.0	0.3
All Vehicles		223	3.8	0.081	0.5	NA	0.0	0.3

## 12. Appendix B – swept paths of standard coach bus

Standard coach turning right into and right out of the development site



Standard coach bus turning left in and left out of the development site





**Our Ref:** 51411MD  
51411MD - SW Report 2023.07.05.docx

05 July 2023

The Senior Planner  
Brighton Council  
1 Tivoli Road  
Old Beach TAS 7017

Attention: Jo Blackwell

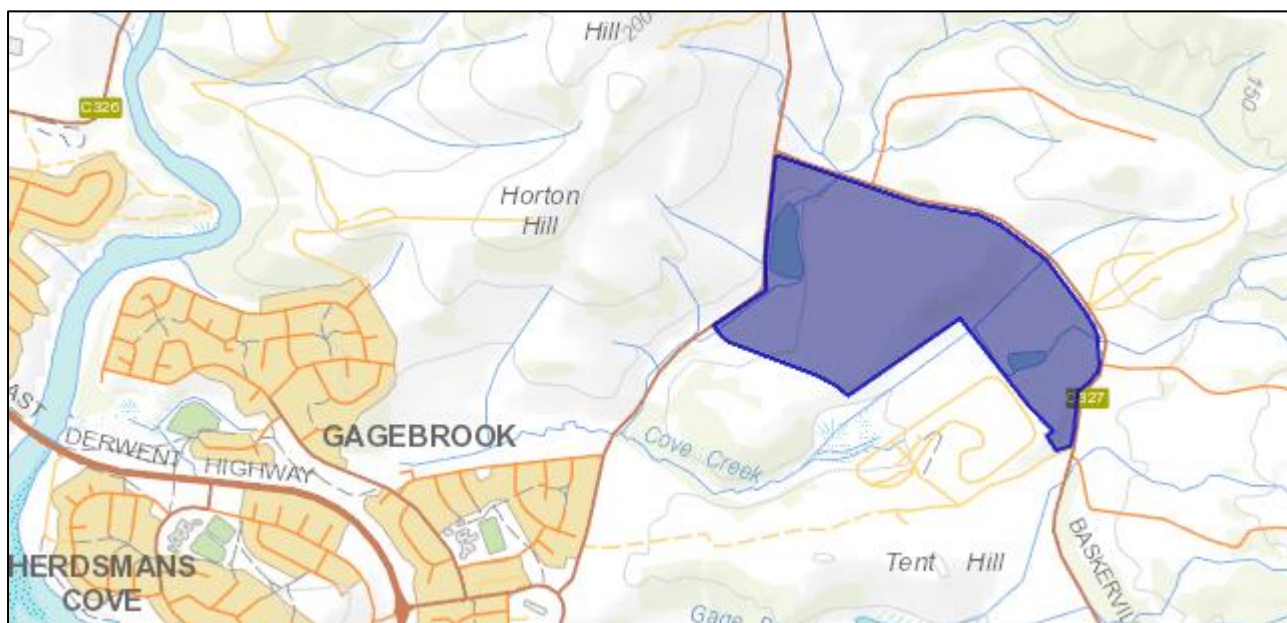
## DA 2023/00053: Worker Accommodation, 647 Baskerville Road, Old Beach Stormwater Report

Cherries Tasmania has submitted a development application to develop worker accommodation at their orchards at 647 Baskerville Road. Council responded with an RFI dated 14 April 2023. This letter addresses Item 5 of the RFI, which relates to stormwater management.

*Item 5: Please provide stormwater modelling for the waterway, together with anticipated finished surface levels for at risk areas.*

### 1.0 Introduction

Figure 1 shows the site location as per The List and an aerial view of the site is given in Figure 2. In Figure 3 is reproduced the proposed building development layout.



**Figure 1 - Site location**

#### OFFICES ALSO AT:

**KINGSTON**  
6 Freeman St,  
Kingston, TAS 7050  
(03) 6229 2131

**HUONVILLE**  
10/16 Main Rd,  
Huonville, TAS 7109  
(03) 6264 1277

**LAUNCESTON**  
3/23 Brisbane St,  
Launceston, TAS 7250  
(03) 6331 4099

**DELORAIN**  
16 Emu Bay Rd,  
Deloraine, TAS 7304  
(03) 6362 2993

**BURNIE**  
6 Queen St,  
Burnie, TAS 7320  
(03) 6431 4400

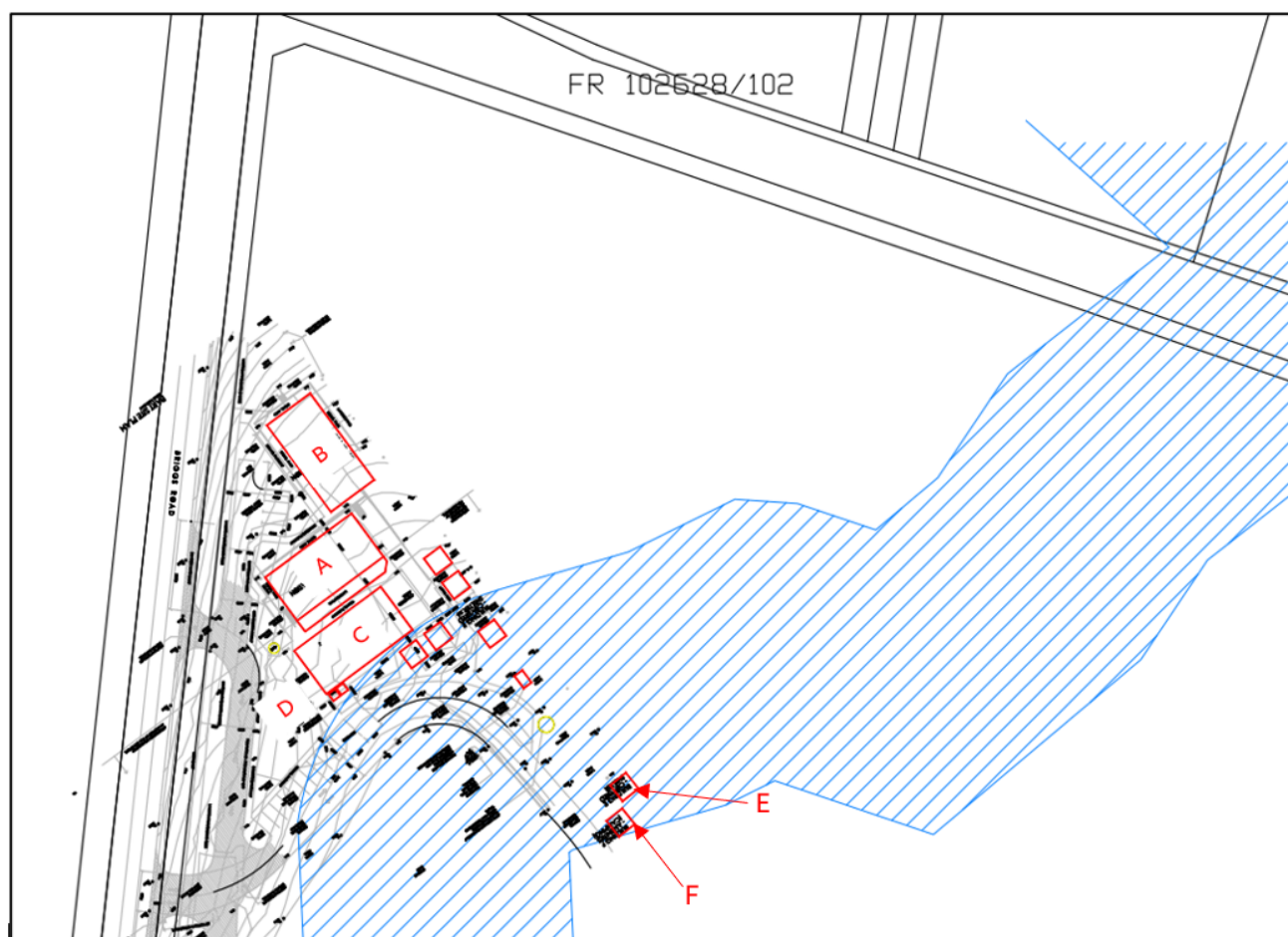
**DEVONPORT**  
77 Gunn St,  
Devonport, TAS 7310  
(03) 6423 6875

**SWANSEA**  
3 Franklin St,  
Swansea, TAS 7190  
(03) 6130 9099





Of concern to Council is the Waterway and Coastal Protection Area overlay. See Figure 4.



**Figure 4 - Waterway and Coastal Protection Area overlay superimposed on development footprint**

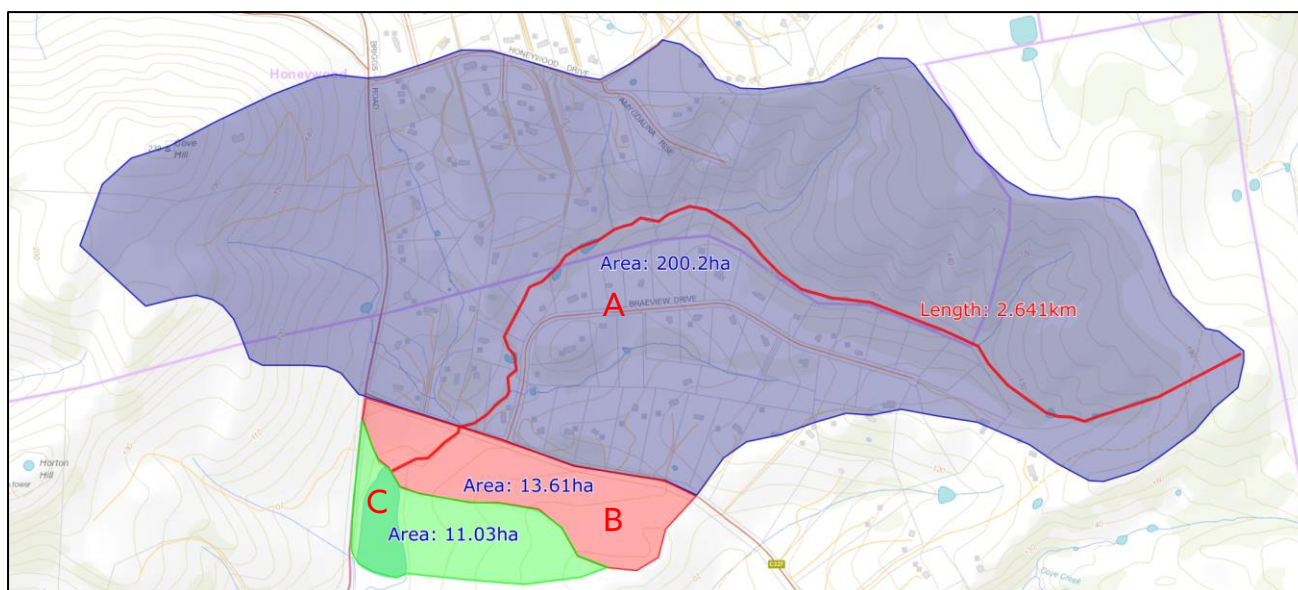
Buildings A, B, C, & D are outside the overlay and will have well elevated floor levels, but Buildings E1, E2 & F are within the overlay. Buildings E1, E2 & F will be used as camping facilities and will be the subject of a separate flood risk management report by others. The present report discusses buildings A through D in terms of clause C12.0 Flood-Prone Areas Hazard Code of the Tasmanian Planning Scheme.

## **2.0 Upstream catchment**

The upstream catchments are shown in Figure 5 and the characteristics are summarized in Table 1

**Table 1**– Characteristics of upstream catchments

<b>Catchment</b>	<b>Area</b>	<b>Description</b>
A	200.2 ha	Undeveloped and low-density residential. Taken as 5% impervious. Outlet of catchment is the DN1050 Baskerville Road Culvert.
B	13.6 ha	Mostly cherry orchard. From DN1050 culvert to irrigation dam.
C	11.0 ha	Mostly cherry orchard and irrigation dam.



**Figure 5 - Upstream catchments**

## 2.0 Flow estimation by hydrological methods

The peak 1% AEP flows were estimated using several methods, with results tabulated below (Table 2). The time of concentration was estimated by means of the Bransby-Williams' method using the average slope.

**Table 2 - 1% AEP flow estimations**

Method	Q <sub>A</sub>	Q <sub>A+B</sub>	Comment
RFFE <sup>1</sup>	2.39 m <sup>3</sup> /s	2.55 m <sup>3</sup> /s	Using ARR online software
Rational	5.15 m <sup>3</sup> /s	5.21 m <sup>3</sup> /s	C = 0.3; tc = 60 min & 65 min. I = 30.9 mm/h & 29.2 mm/h.
IL-CL <sup>2</sup>	9.83 m <sup>3</sup> /s	9.98 m <sup>3</sup> /s	tc = 60 min and 65 min; IL = 26 mm; CL = 4.3 mm/h; Using Drains software

1. Regional Flood Frequency Estimation Model

2. Initial loss- continuing loss

## 3.0 Flow estimation from observed flows

The Client took video footage of stormwater flows that occurred on 06 May 2022. On that day, 85 mm of rainfall was recorded at the Ellerslie Road weather station in Hobart. The video footage seems to indicate that the DN1050 Baskerville Road culvert almost flowing full. So, an upper estimate of the flow through the culvert at the time of the video would be the unpressurized capacity of the culvert (with slope of 1:48), which is 4.24 m<sup>3</sup>/s.

It is not easy to relate this flow to a return period (or exceedance probability) based only on the knowledge that 85 mm fell in a 24-hour period. However, we can make some simplifying assumptions:

- Since some rain fell on both the 5<sup>th</sup> and 7<sup>th</sup> of May, we will assume that rain fell throughout the day on the 6<sup>th</sup> and therefore we can relate the return period to the IFD tables (from BOM) for a 24-hour storm. This would then place the rain event between a 10% (77.5 mm) and a 5% (90.2 mm) annual exceedance probability.
- We will also assume that the Client took the footage at the peak of the flood through the culvert.

Now the Drains package used for the IL-CL model can analyse many storm patterns, return periods and storm durations. So, we ran the model for several AEPs, durations up to 24 hours and ten storm patterns per duration, to obtain the following median results.

**Table 3** – IL-CL flow estimates different AEPs

AEP	Q <sub>A</sub> (Baskerville Road culvert)	Q <sub>A+B</sub> (Upstream of dam)
10% (1:10 year)	3.85 m <sup>3</sup> /s	4.01 m <sup>3</sup> /s
5% (1:20 year)	4.80 m <sup>3</sup> /s	5.04 m <sup>3</sup> /s
2% (1:50 year)	8.26 m <sup>3</sup> /s	8.44 m <sup>3</sup> /s
1% (1:100 year)	9.83 m <sup>3</sup> /s	9.98 m <sup>3</sup> /s

The flow of 4.24 m<sup>3</sup>/s through the culvert estimated from the observed flow on 06 May 2022 falls between the 10% and 5% AEP flows in Table 3. This gives us some degree of confidence in the IL-CL flows. We will therefore consider the 1% AEP flow at the upstream end of the dam, i.e., near the proposed development, to be 10 m<sup>3</sup>/s (rounded up from 9.98 m<sup>3</sup>/s in Table 3).

## 4.0 Flood levels

### 4.1 Downstream channel

The channel slope is about 0.2% and has a varying cross-section. The capacity was roughly estimated by considering a cross-section along the middle of its length. The cross-section was simplified as a trapezoidal section 2 m wide, 1.1 m deep with 1:1 side slopes and a Manning's n-value of 0.03. The approximated capacity is 4.1 m<sup>3</sup>/s. The footage however suggests that the capacity is a bit more than this, as seen in the images below.



**Figure 6** – Downstream channel in flood (6 May 2022)



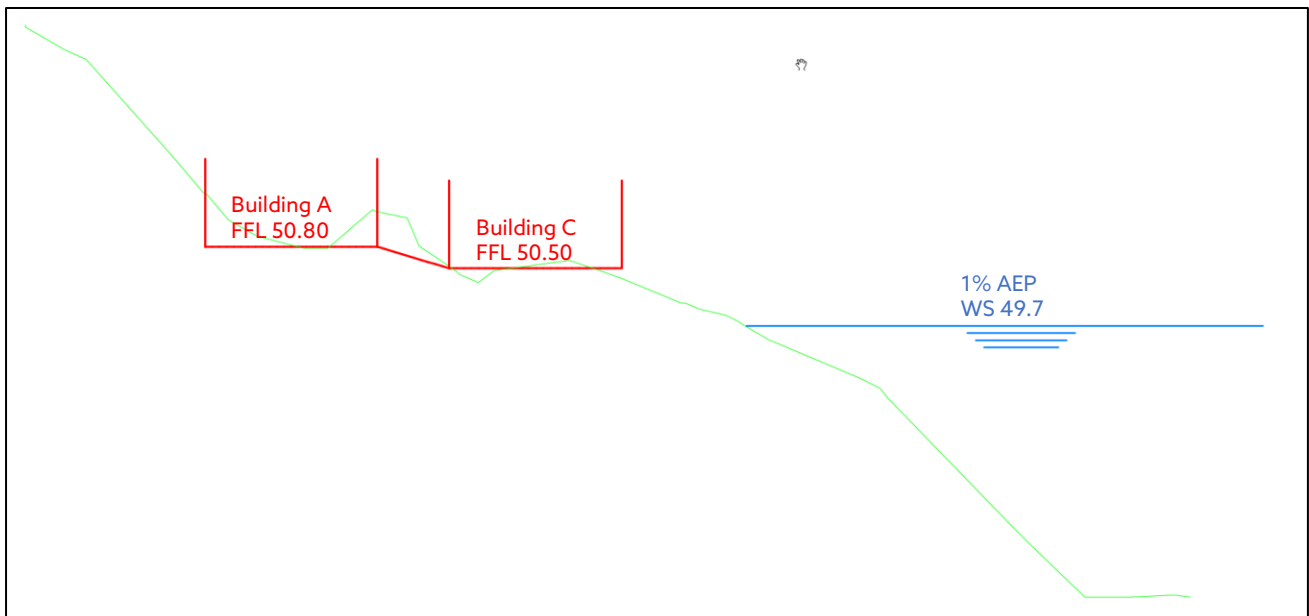
## 4.2 Observed flooding at accommodation site

Below we can see the flooding in the observed storm next to the accommodation site. If the level rises above the wall level of the irrigation dam, then the water will flow into the dam. In the case of such overtopping, the water level will be affected by the weir capacity of the dam wall. The dam wall is long, but considering only 50 m of dam wall and 200 mm of overtopping, the weir capacity would be 7 m<sup>3</sup>/s. Therefore, the downstream channel and dam wall will easily accommodate the 1% AEP flow (10 m<sup>3</sup>/s) such that the flood level will conservatively raise no more than 200 mm above the top of dam.



**Figure 7 - Flooding at accommodation site during observed storm**

The surveyed level of the dam wall is 49.5 m AHD. A conservative flood level would therefore be 49.7 m. The finished floor level of Building C is 50.50. Figure 7 shows a cross-section through the site with the building and conservatively estimated flood level indicated.



**Figure 8 - Cross-section through development showing building and water levels**



## **5.0 Detention storage capacity of irrigation dam**

The irrigation dam level is controlled by a riser pipe located outside the dam, to keep the dry weather water level below 48.8 m AHD. There will therefore be a freeboard of 700 mm between the water level and the dam wall. The 48.8 m contour includes an area of 23 116 m<sup>2</sup>, so that the available storage capacity up to the dam wall is at least 16 000 m<sup>3</sup>. Water which overflows into the dam during a low probability storm event will be attenuated by the dam and increased impervious surface of the proposed building development will be easily compensated for.

## **7.0 Discussion in terms of Clause C12.0 of Tasmanian Planning Scheme**

### **(a) Provide details of, and be signed by, the person who prepared or verified the report**

This report has been prepared by Roderick Parsons and signed and verified by Dean Panton as per the accompanying Form 55.

### **(b) Confirmation that the person has the appropriate qualifications and expertise**

The accompanying form 55 confirms that Dean Panton has the appropriate qualifications and expertise.

### **(c) Confirmation that the report has been prepared in accordance with any methodology specified by a State Authority**

We confirm that the report has been prepared in accordance with the ARR 2019.

### **(d) Conclusions based in consideration of the proposed development**

#### **i. As to whether the use or development is likely to cause or contribute to the occurrence of flood in the site or on adjacent land**

Due to the detention storage provided by the dam, the occurrence of flood on the subject land or on adjacent land is likely to be reduced.

#### **ii. As to whether the use or development can achieve and maintain a tolerable risk for the intended life of the use or development, having regard to:**

##### **a. The nature, intensity and duration of use**

The buildings will likely only be used during harvesting season, but the flood risk to the buildings will be tolerable throughout the year. Regarding the camping areas located within the overlay and below the 1% AEP flood level, these will need to be the subject of a flood risk management report. It is understood that the camping areas will be raised above the flood level.

##### **b. The type, form and duration of the development**

Buildings A to D are situated outside the Council overlay and have floor levels adequately raised above the 1% AEP flood levels.

##### **c. The likely change in the level of risk across the intended life of the use or development**

Climate is likely to increase the severity of rainfall events over the life of the development. However, the location and floor levels of Buildings A to D are sufficiently outside of the flood path and levels such that the risk will be tolerable. Regarding the camping areas, these will need to be the subject of a flood risk management report.

##### **d. The ability to adapt to a change in the level of risk**

The developer is innovative and able to adapt adequately to changes in risk.

##### **e. The ability to maintain access to utilities and services**

A new access will be constructed from Briggs Road.

f. The need for flood reduction or protection measures beyond the boundary of the site

We believe that flood volumes will not be increased, given the storage capacity provided by the dam.

g. Any flood management plan in place for the site and/or adjacent land

A flood risk report will be required to address the camping areas, to ensure evacuations under heavy rainfall conditions.

h. Any advice relating to the ongoing management of the development

This report does not deal with the engineering of the irrigation dam. However, the Developer must ensure that long term integrity of the dam is ensured.

iii. Any matter specifically required by the Performance Criteria of this code

Performance Criterion P1.2(a) requires the achievement of a tolerable risk from a 1% AEP exceedance probability event. This is satisfied by this report.

Yours faithfully,

**PDA Surveyors, Engineers & Planners**

Per:



Roderick Parsons  
CIVIL ENGINEER