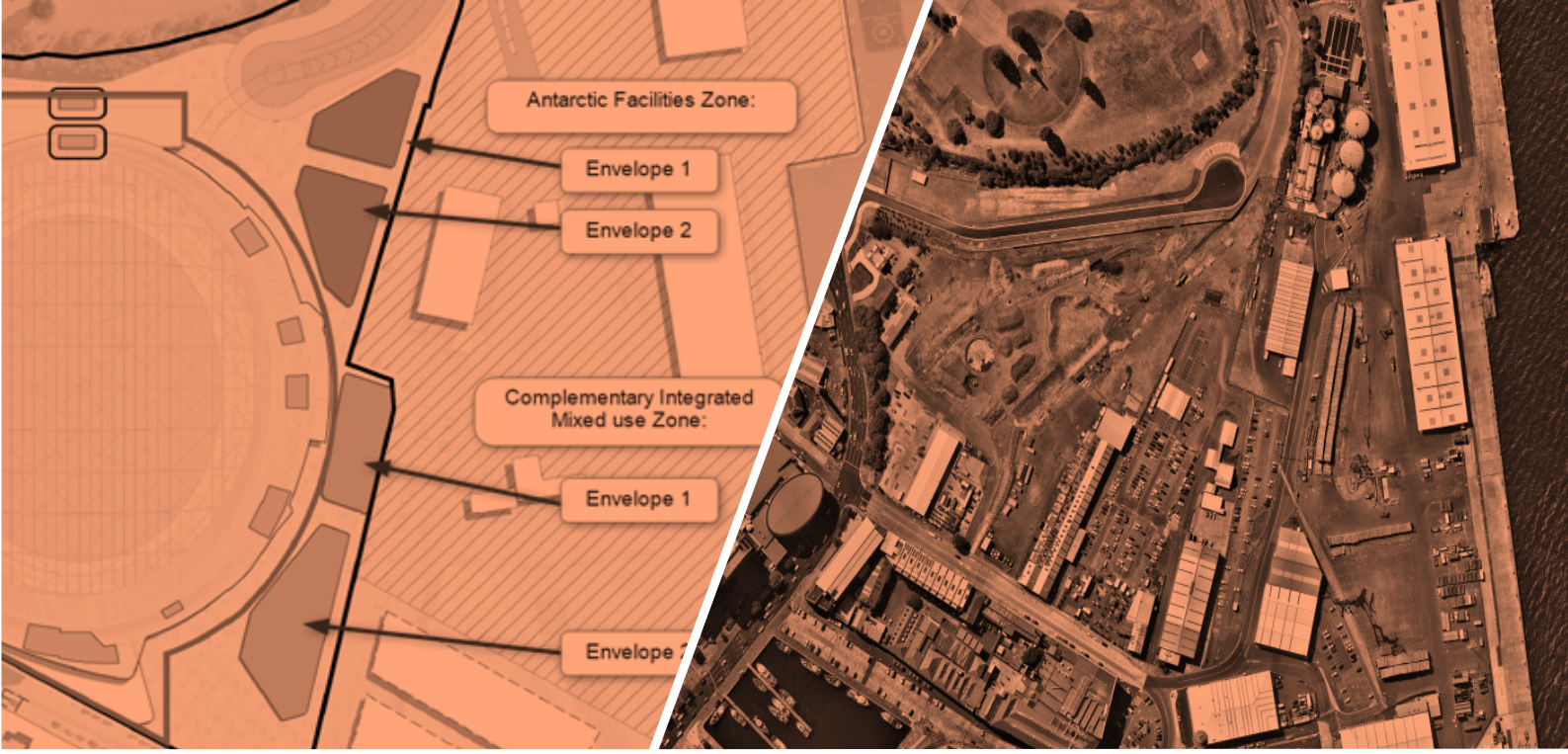


CAR PARKING & ACCESS REVIEW

MACQUARIE POINT, HOBART

TRAFFIC ENGINEERING REPORT

CAR PARKING & ACCESS REVIEW MACQUARIE POINT, HOBART

Client: **Macquarie Point Development Corporation**

Report Reference: **22241REP002**

File Path: Y:\2022\22241T - The District, Macquarie Point, TAS\08 Reports\22241TREP002F02.docx

Wednesday, September 04,2024

Document Control

Version:	Prepared By:	Position:	Date:	Reviewed By:	Position:	Date:	Authorised By:	Position:	Date:
F02	M. Duffy	Senior Associate	04.09.24	J. Wicks	Director	04.09.24	J. Wicks	Director	04.09.24

MELBOURNE
Level 3, 51 Queen St Melbourne VIC 3000
T: +61 3 9020 4225
SYDNEY
Level 6, 201 Kent St Sydney NSW 2000
T: +61 2 9068 7995
HOBART
Level 4, 116 Bathurst St Hobart TAS 7000
T: +61 400 535 634
CANBERRA
Level 2, 28 Ainslie Pl Canberra ACT 2601
T: +61 2 9068 7995
ADELAIDE
Level 21, 25 Grenfell St Adelaide SA 5000
T: +61 8 8484 2331
DARWIN
Level 1 Suite 2A, 82 Smith St Darwin City NT 0800
T: +61 8 8484 2331

CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

SALT has been engaged by *Macquarie Point Development Corporation (MPDC)* to review the car parking and access provisions to a proposed mixed-use development at the east of the Macquarie Point Precinct.

SALT has had previous involvement with the precinct, having provided traffic engineering advice to MPDC regarding a former scheme to provide a mixed-use development across the wider site in accordance with the Macquarie Point Master Development Plan.

Since that time, the Australian Football League (AFL) has entered into an agreement with the Crown in Right of Tasmania to establish a new football team in Tasmania, which is to have a new roofed stadium constructed in Macquarie Point that is intended to be available for use in 2029.

Preliminary architectural plans have been prepared for the precinct by Cox Architecture, which indicate the stadium will occupy most of the former Development Plan area.

A new access road is to be constructed into the precinct from McVilly Drive, which will extend around the eastern side of the Regatta Grounds and terminate to the northwest of the stadium.

These proposed works have reduced the area that can be developed by MPDC from that which was originally considered in the Master Development Plan. Accordingly, four (4) buildings are now being considered to the east of the stadium, comprising:

- Two (2) buildings to the northeast of the stadium known as the 'Antarctic Facilities Zone'.

  These buildings are expected to accommodate a mix of office, laboratory and retail facilities.
- Two (2) buildings to the southeast of the stadium known as the 'Mixed Use Zone'.

  These buildings are expected to accommodate a hotel, retail and allied health facilities.

A multi-level basement car park is proposed beneath the Antarctic Facilities Zone buildings to support the proposed land uses. Vehicular access to the car park is to be provided via a ramped connection from the new access road.

To the north of the basement access, a second T-intersection is proposed to provide a new point of vehicular access into the TasPorts land to the east of the Development Plan area.

SALT has been engaged by MPDC to review the amended architectural scheme and provide advice regarding the following matters:

1. The quantum of car parking that should be provided to support the revised develpoment yield;
2. The design of the vehicular access to the basement car park from the new access road; and
3. The most appropriate prioritisation and layout of the T-intersection to the TasPorts land from the new access road.

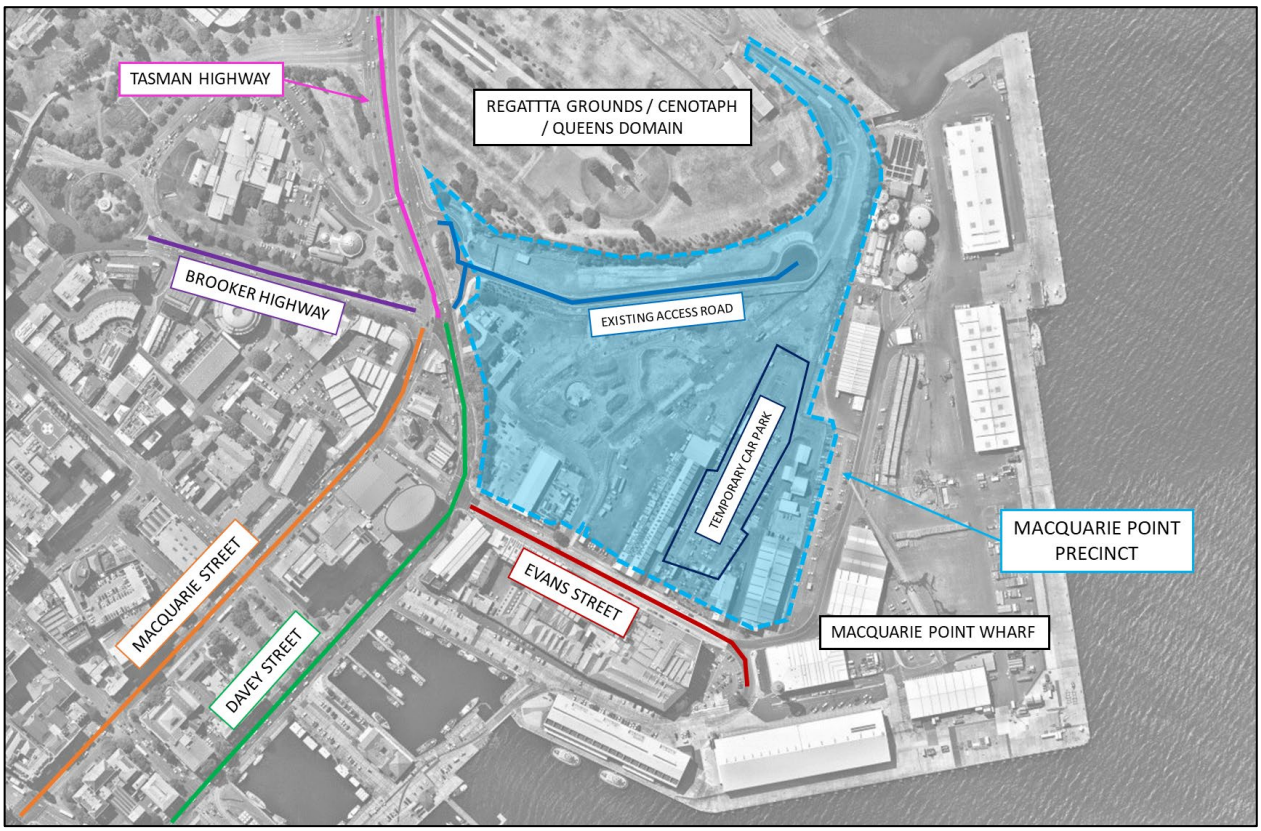
2 EXISTING AND PROPOSED SITE CONDITIONS

2.1 MACQUARIE POINT PRECINCT

The Macquarie Point precinct has an area of 9.3 hectares and is located on the eastern side of Tasman Highway / Davey Street, to the north of Evans Street and south of the Regatta Grounds, The Cenotaph and Queens Domain, in Hobart.

The Macquarie Point Wharf is located to the immediate west of the precinct, as shown in the aerial image at Figure 1, below.

Figure 1 Site Locality Plan



Several buildings are located at the south of the site fronting Evans Street, including The Goods Shed Exhibition Space and Hobart Brewing Co.

A temporary public car parking area is located to the rear of an outdoor space between the latter two buildings and provides in the order of 300 line-marked car parking spaces.

A small commercial building is located towards the northwest corner of the site that accommodates a management consultancy and a legal practice operates from the Royal Engineers Building opposite the Brooker Avenue intersection.

An east-west public road has been constructed through the northern portion of the site, extending from Tasman Highway at its western end to a large cul-de-sac treatment near the eastern site boundary.

The site is located to the immediate east of the Hobart City Centre and is conveniently located to the retail, commercial, recreational and public transport services that it provides.

2.2 SURROUNDING ROAD NETWORK

Tasman Highway

Tasman Highway is a State Roads declared arterial route that provides a link between the Eastern Shore and Hobart CBD.

Tasman Highway to the north of Brooker Highway generally extends in a north-south alignment and comprises dual carriageways separated by a central median that varies between approximately 2 and 10 metres width.

Davey Street & Macquarie Street

Davey Street and Macquarie Street form a couplet of State Roads declared arterial corridors that form the southward extension of the Tasman Highway through the Hobart City Centre beyond the Brooker Highway intersection.

Davey Street forms the one-way south-westbound extension of the southbound Tasman Highway carriageway, and Macquarie Street is a one-way north-eastbound route that extends through the Hobart City Centre then forms the northbound Tasman Highway carriageway to the north of Brooker Highway.

Evans Street

Evans Street extends in an approximately northeast-southwest alignment from Macquarie Street at its western end towards Franklin Wharf at its eastern end, where it provides vehicular access to Hunter Street and Franklin Wharf.

Evans Street currently serves as the only point of vehicular access into the TasPorts Land (Macquarie Wharf) to the east of the Development Plan area.

McVilly Drive

McVilly Drive is a single two-way roadway that extends eastward from Tasman Highway approximately 300 metres to the north of the precinct.

It provides localised access to the Domain Slipyard, Hobart Quays and terminates at the Regatta Grounds car park, where it provides a turnaround treatment for vehicles to return back towards Tasman Highway.

Tasman Highway / McVilly Drive / Davies Avenue Interchange

McVilly Drive and Davies Avenue form a modified partial cloverleaf interchange with Tasman Highway approximately 300 metres north of the precinct as shown at Figure 2, below.

Figure 2 Tasman Highway / McVilly Drive / Davies Avenue Interchange

The northbound carriageway of Tasman Highway provides a slip lane exit and zip merge entry from Davies Avenue.

The southbound carriageway of Tasman Highway provides a slip lane exit and give-way controlled entry from a short ramp terminal link to McVilly Drive.

The ramp terminals form the minor leg of a give-way controlled intersection with McVilly Drive to the east of the Highway, and McVilly Drive intersects Davies Street as the minor leg of a give-way controlled intersection west of the highway.

2.3 PROPOSED STADIUM DEVELOPMENT

2.3.1 STADIUM FOOTPRINT & SUBJECT SITE

Preliminary architectural plans have been prepared for the precinct by Cox Architecture, which indicate the existing east-west public road and many of the existing buildings within the site will be removed to allow for the stadium footprint, which is to occupy most of the former Development Plan area.

The small commercial building and Royal Engineers building at the northwest of the precinct will be retained.

A new access road is to be constructed into the precinct from McVilly Drive, which will extend around the eastern side of the Regatta Grounds and terminate to the northwest of the stadium.

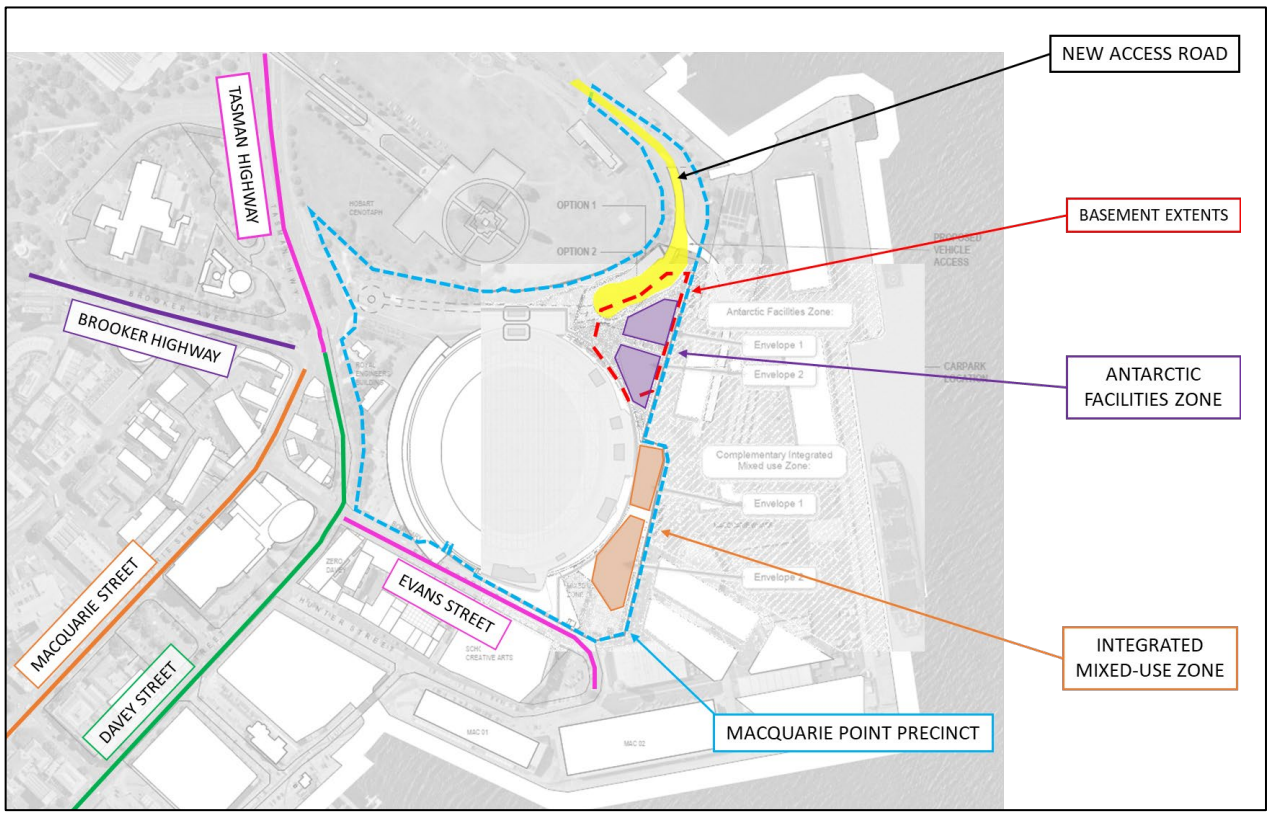
Accordingly, residual land to the northeast and southeast of the stadium is now intended to form the subject site upon which MPDC is proposing to construct four (4) buildings:

- Two (2) buildings to the northeast of the stadium known as the 'Antarctic Facilities Zone'.
  These buildings are expected to accommodate a mix of office, laboratory and retail facilities; and
- Two (2) buildings to the southeast of the stadium known as the 'Mixed Use Zone'.
  These buildings are expected to accommodate a hotel, retail and allied health facilities.

A multi-level basement car park is proposed beneath the Antarctic Facilities Zone buildings to support the proposed land uses. Vehicular access to the car park is to be provided via a ramped connection from the new access road to be constructed into the precinct from McVilly Drive.

Figure 3 shows the location of the site and basement footprint relative to the proposed stadium develpoment.

Figure 3 Subject Site Location



2.3.2 NEW ACCESS ROAD

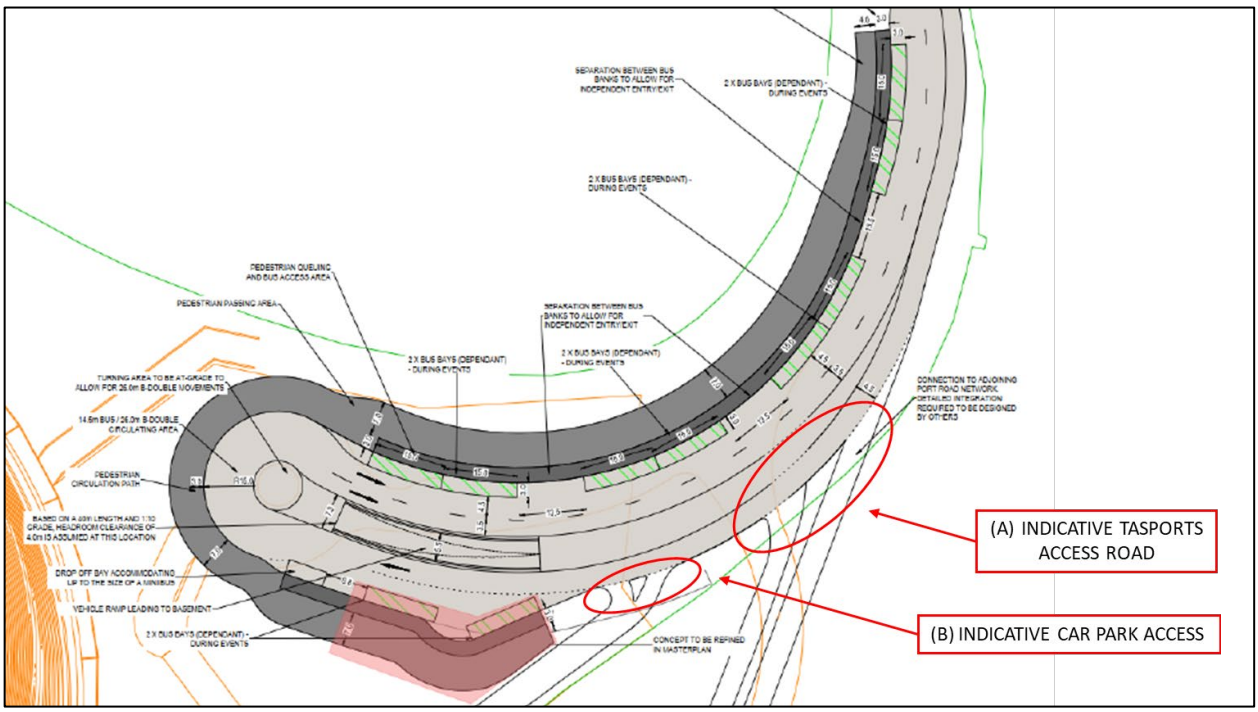
The new access road (hereafter referred to as the 'Northern Access Road') is intended to service an 'Event Bus Plaza' at its western end and provide vehicular access to both the TasPorts land at the east of the precinct and the multi-level basement car park beneath the subject site.

The *Macquarie Point Multipurpose Stadium Transport Study (2024)* prepared by WSP indicates the following:

> *"The event bus plaza is an essential element to the overall transport solution. The location of the event bus plaza has been driven by areas of available space and suitable vehicle access away from large crowds. The northeast corner of the site is the most suitable as pedestrian volumes are proposed to be relatively low in the Regatta Point are, the area is less constrained by the stadium, roads and buildings, and access is supported from the northern access road. Therefore, the northern access road is possible the most essential supporting project for the multipurpose stadium transport solution....*
>
> *Design requirements include:*
>
> - *Starting the event plaza from the proposed turning circle and extending it northeast towards Regatta Point.*
> - *As much permeability for pedestrian purposes on a typical day as possible, including width between the bus stops and cliff for shared path purposes and becoming part of the AAA cycle network.*
> - *Bus stops that can revert to car parking bays on a typical day.*
> - *Lane widths at 3.5m minimum. Lane widths greater than this have been provided to accommodate swept paths on the curve.*
> - *One inbound lane that dives down under the plaza for the stadium service road access.*
> - *Three outbound lanes, including the bus parking lane (3.0m) bus manoeuvring lane (3.5m) and through lane (3.5m)*
> - *At least 9.5m of shared path pedestrian width for buys stand queueing, pedestrian pathways to bus stands further along towards Regatta Point and access to the Regatta Point ferry wharf*
> - *Integration to the Port Road with detailed design and integration of the Port Road to be designed by others* (A)
> - *Access to a new proposed car park access* (B)
> - *One mobility bay drop off with straight kerbs*
> - *10 x 14.5m bus bays*
> - *Turnaround opportunity for a 26m B-Double*
> - *Consideration required to be given to the following items:*
>   - *Embankment of trees and cliff edge along the west side of the bus mall*
>   - *Opportunity for development along he south and southeast of the proposed bus mall*

The proposed layout of the New Access Road / Event Bus Plaza as presented in the *Macquarie Point Multipurpose Stadium Transport Study* is illustrated at Figure 4, below, with the indicative layouts of the Port Road access (A) and Car Park Access to the subject site (B) highlighted.

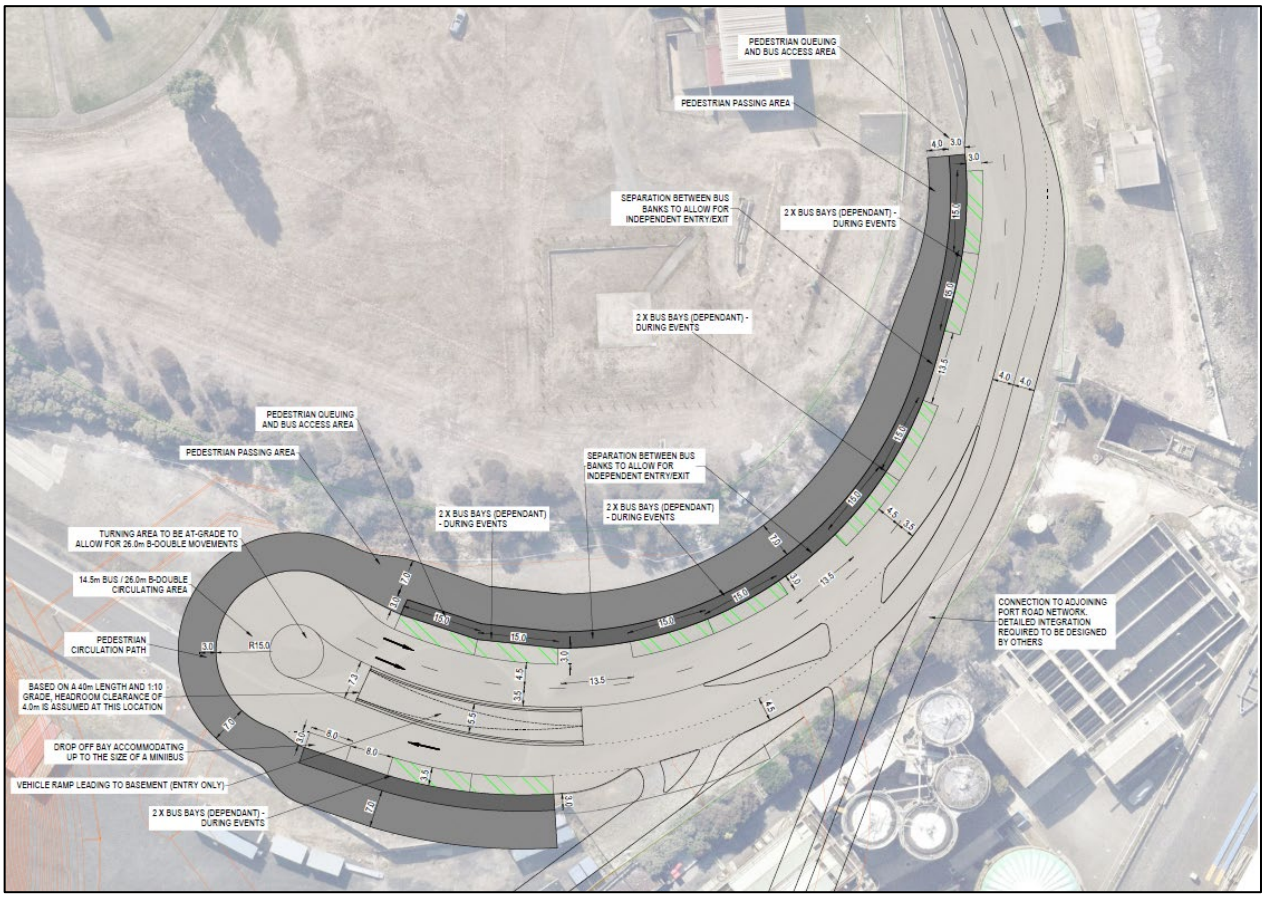
Figure 4 Proposed New Access Road / Event Bus Plaza (Macquarie Point Stadium Transport Study)



This concept layout has since been incorporated into a wider concept plan prepared for the precinct by Burberry Engineering, which illustrates the following:

- Additional detail at the proposed TasPorts intersection, including the provision of traffic islands and a left-turn slip lane for inbound vehicle movements; and
- Modifications to the bus parking alignment on the southern side of the turnaround treatment.

Figure 5 Proposed New Access Road / Event Bus Plaza (Burberry Concept Layout Plan)



The wider set of Burberry plans also indicate that changes are being considered to the Tasman Highway / McVilly Drive / Davies Avenue Interchange to accommodate the swept paths of larger vehicles.

2.4 SUSTAINABLE TRANSPORT

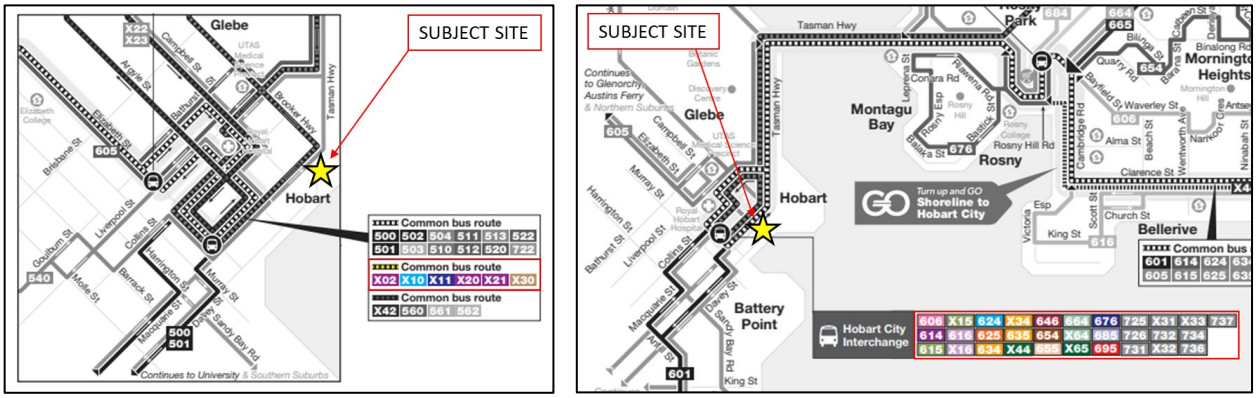
2.4.1 PUBLIC TRANSPORT

There are currently no direct bus services into Macquarie Point.

Public bus services do however currently operate along Tasman Highway, Brooker Avenue, Davey Street and Macquarie Street in the immediate vicinity of the site, and several bus stops are located within a convenient walking distance.

The northern suburbs (L) and eastern shore (R) bus routes that pass along the frontage of the site are illustrated at Figure 6, below.

Figure 6 Proximate Bus Routes



In addition, Route #601 from the Hobart South network passes along the Davey Street frontage of the site.

The Hobart City Interchange on Elizabeth Street, which services most bus services on the network, is located approximately 700 metres walk from the site, though many of the above bus services stop in kerbside locations closer to the site.

2.4.2 WALKABILITY

The location of the site adjacent to the Hobart City Centre is well situated to take advantage of public transport, commercial, retail and recreational uses within convenient walking distance, such as the bus connections centred around the Hobart City Interchange, the services and facilities within the Hobart City Centre and the recreational facilities centred around the Regatta Grounds and Cenotaph to the immediate north.

The proximity of tourist and attraction facilities to the site, such as the hotels, restaurants, exhibition spaces and galleries along Hunter Street, Davey Street and Macquarie Street and the cruise ship operations that take place at Macquarie Point, will also have a nexus with the proposed development of event spaces and a hotel upon the site.

In the area surrounding the subject site, pedestrians are primarily accommodated by paved or asphalt footpaths within the road reserve.

2.4.3 BICYCLE NETWORK

The site is located adjacent to the Intercity Cycleway, which extends along the eastern side of Tasman Highway and Davey Street at the western boundary of the site.

In the city centre to the west of the site, there are several routes with wider kerbside lanes, sealed shoulders or gentler hills which are recommended for use by cyclists. These all provide connection to/from the Intercity Cycleway at the western site boundary.

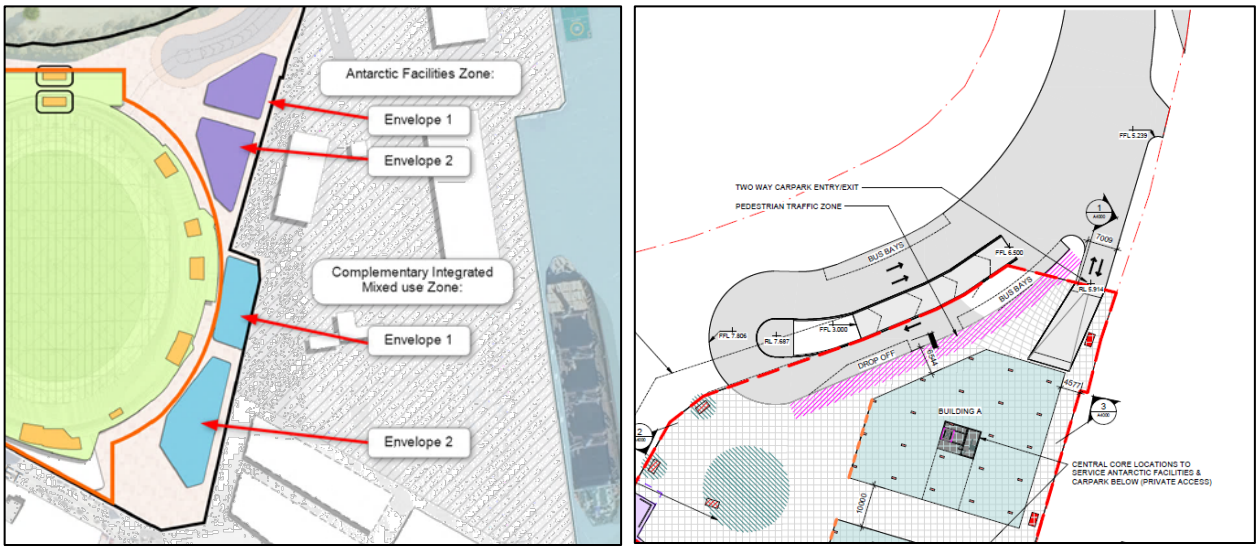
3 SUBJECT PROPOSAL

MPDC has identified potential for four (4) multi-storey buildings upon the subject site, which are intended to provide a commercial gross floor area of approximately 24,356m^2.

A multi-level basement car park is proposed to be constructed beneath the northern two buildings (Antarctic Facilities Zone) to support the develpoment.

The proposed layout of the site is shown at Figure 7 (left) and the proposed access arrangements from the new access road at the north of the site are shown at Figure 7 (right).

Figure 7 Architectural Plan Excerpts



The approximate split of land uses is summarised at Table 1, below.

Table 1 Approximate Split of Land Uses

Land Use	Approximate Split	Area
Antarctic Facilities Zone		*(9,459m^2)*
Office	75%	7,094 m^2
Retail	25%	2,365 m^2
Integrated Mixed-Use Zone		*(14,897m^2)*
Hotel	50%	7,449 m^2
Retail	25%	3,724 m^2
Allied Health	25%	3,724m^2

The preliminary architectural plans indicate that 532 car parking spaces can be provided in the basement car park.

The car park is intended to primarily cater to the businesses proposed at Macquarie Point however will be made available to the general public.

It is understood that 70 of these car parking spaces are to be made available for team parking on game days.

4 CAR PARKING CONSIDERATIONS

4.1 PARKING POLICIES

4.1.1 STATUTORY CAR PARKING REQUIREMENT (SULLIVANS COVE PLANNING SCHEME)

The subject site is located in an area of Hobart that is subject to the planning provisions outlined in the *Sullivans Cove Planning Scheme 1997*. Within the cove, the site is located in an area known as *'Activity Area 3.0 – Sullivans Cove 'Gateway'*.

The *Sullivans Cove Planning Scheme 1997* outlines car parking requirement rates for some areas within the Sullivans Cove boundaries, however it does not outline statutory car parking requirement rates for land uses within the Macquarie Point Development Plan area.

Further, it states that:

> *"It is recognised that requiring car parking to be provided for activities in the Cove is likely to be detrimental to the Cove's urban character and heritage. Consequently, in general, car parking will not be required to be provided on-site for any use or development"*

On this basis, there is no minimum number of car parking spaces that needs to be provided to allow development of the site.

Further, Part F of the *Sullivans Cove Planning Scheme 1997* sets out the "Macquarie Point Site Development Plan" which identifies an objective that "traffic movements associated with car parking use are to be accommodated safely within the surrounding road network" for which it sets out the 'deemed to comply' solution as follows:

> *"The total number of car parking spaces in Activity Area 3.0, excluding Area A shown on Figure 32.4, must not exceed 350 spaces."*

However, it is understood that the application will be assessed through a Project of State Significance (POSS) process and the above assessment criteria are no longer strictly applicable to the develpoment of the site.

4.1.2 ADJACENT CAR PARKING REQUIREMENTS (HOBART PLANNING SCHEME)

The subject site is located in a city fringe location which once developed, will effectively form an extension of the Hobart CBD.

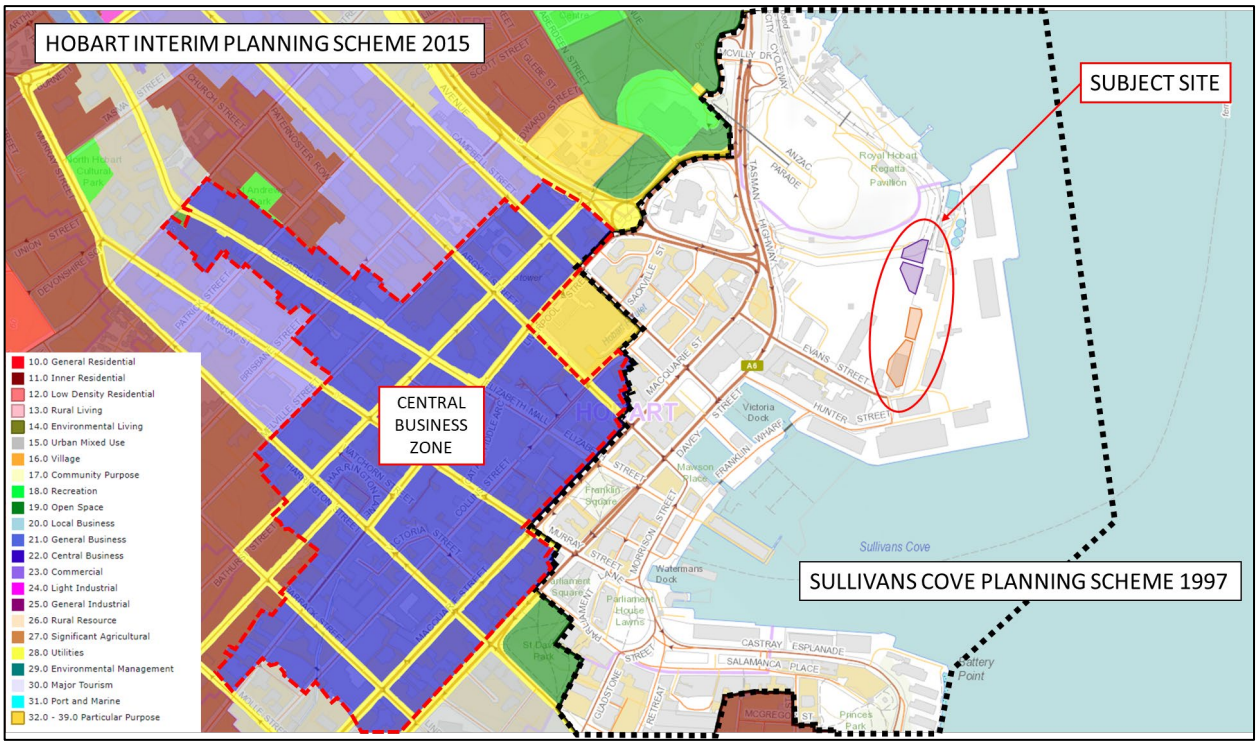
A review of the *Hobart Interim Planning Scheme 2015* indicates that the subject site is located adjacent to the 'Central Business' land zoning as shown in dark purple at Figure 8, overpage.

Clause E6.6.5 of the *Hobart Interim Planning Scheme 2015* (Parking and Access) states the following with regard to the provision of car parking spaces for all land uses within the Central Business Zone:

Table 2 Hobart Planning Scheme 2015: Parking and Access Conde – Central Business Zone

Objective	
To ensure that pedestrian activity generated by retailing, entertainment and multi –storey office uses in the central business district is not compromised through the provision of on-site car parking.	
Acceptable Solutions	**Performance Criteria**
A1 a) No on-site parking is provided; or **b) on-site parking is provided at a maximum rate of 1 space per 200m² of gross floor area for commercial uses; or** c) on-site parking is provided at a maximum rate of 1 space per dwelling for residential uses; or d) on-site parking is required operationally for an essential public service, including, hospital, police or other emergency service.	P1 Car parking provision: a) is in the form of a public car parking station provided as part of a development which utilises a major existing access; or b) must not compromise any of the following: (i) pedestrian safety, amenity or convenience; (ii) the enjoyment of 'al fresco' dining or other outdoor activity; (iii) air quality and environmental health; (iv) **traffic safety.**

Figure 8 Proximity of Subject Site to Hobart Planning Scheme Zones



The 'acceptable solutions' outline a car parking limitation policy for commercial and retail land uses in the central business district which effectively limits the provision of car parking to 1 space to every 200m^2.

This maximum rate is lower than the minimum provisions applied to other areas of the Hobart City Council, which recognises the accessibility of the city centre by alternate transport modes and seeks to discourage private motor vehicle travel by constraining the supply of car parking for these uses.

On this basis, the subject proposal would be permitted to provide up to (24,356 / 200) 121 car parking spaces at the site if the same transport strategy were to be applied to the Macquarie Point precinct.

4.2 CAR PARKING DEMAND ASSESSMENT

In consideration of the above, whilst there is no minimum requirement for car parking spaces at the site there may be a minimum quantum of car parking spaces that MPDC would like to provide to support the viability of the precinct.

The following sub sections provide discussion regarding the likely car parking demands of the land uses proposed at the site.

4.2.1 ANTARCTIC FACILITIES ZONE

It is understood that the Antarctic Facilities zone is expected to accommodate a mix of office, laboratory and retail facilities.

For discussions purposes, reference is made to the 'standard' car parking requirement rates at Table E6.1 of the *Hobart Interim Planning Scheme 2015* below:

- Office 1 space for each 30m^2 floor area
- Research & Development 1 space for each 40m^2 floor area
- Retail 1 space for each 30m^2 floor area

Based on application of the above rates, the car parking requirement for the uses considered in the Antarctic Facilities zone would be as follows:

Table 3 Antarctic Facilities Zone (Hobart Planning Scheme Car Parking Requirement Rates)

Antarctic Facilities Zone	*Yield*	*Car Parking Requirement Rate*	*No. Parking Spaces*
Office	7,094 m^2	1 space for every $35m^{2*}$	202 spaces
Retail	2,365 m^2	1 space for every $30m^2$	78 spaces
Total			**280 spaces**

* It is understood that the 'office' land use considered in the Antarctic zone is to comprise laboratories and other research facilities but will primarily operate as an office. Therefore, an average of the office and research car parking rates has been applied to this land use.

Based on the above, the Antarctic Facilities Zone would generate a car parking requirement for 280 spaces based on 'standard' Hobart car parking rates.

A provision based on these rates would be expected to cater for both staff and customer parking demands.

4.2.2 INTEGRATED MIXED USE ZONE

Hotel Land Use

It is common for modern inner city hotels to have limited or no on-site car parking and rely on the use of publicly available car parks to accommodate visitor parking demands, with information regarding parking opportunities and pricing provided on their websites.

To provide an assessment of car parking demands, it has been assumed that the $7,449m^2$ of hotel floor area will yield in the order of 148 hotel rooms. This is equivalent to an average $50m^2$ per room, though the real number of rooms is likely to be fewer once corridors, back of house and communal areas are considered so in this regard the following assessment is likely to be conservative.

The *Hobart Interim Planning Scheme 2015* suggests car parking for residential hotels should be provided at a rate of "1 space to every bedroom".

This is considered excessive, particularly given that hotels rarely operate at full capacity.

Accordingly, reference is made to the car parking provision rates from the RTA (now Transport for NSW) publication "Guide to Traffic Generating Development (October 2002)" which are reproduced below:

- 1 space to every 5 rooms for 5 star hotels. (This requirement excludes the parking demand generated by other hotel functions such as conference facilities); and
- 1 space to every 4 rooms for 3 or 4 star hotels.

Conservatively, the higher 3 & 4 star hotel rate has been adopted for assessment purposes. This equates to a typical parking demand for (148 / 4) 37 guest car parking spaces but excludes demands associated with conferences and functions that may occur at the hotel.

Retail Land Use

The retail component of the Mixed-Use Zone is expected to accommodate activated ground floor uses such as bars, restaurants, cafes and shopfronts.

The *Hobart Interim Planning Scheme 2015* suggests car parking for restaurants and food services should be provided at a rate of around 15 spaces per $100m^2$, which is again considered excessive for activated land uses in a central location.

For analysis purposes, the general 'retail' rate of '1 space for each $30m^2$ floor area' has been adopted, which equates to a parking demand for around (3,724 / 30) 124 spaces.

A provision based on these rates would be expected to cater for both staff and customer parking demands.

Allied Health Use

Limited information has been provided regarding the proposed Applied Health land use, however the following assumptions have been made:

- Physical and/or sporting related allied health streams will be provided, such as physiotherapy, dietics and nutrition, physiology, massage and myotherapy, etc;
- Some allied health streams will require area for training, performance or athlete develpoment, etc; and
- Based on the above, an average $100m^2$ has been allowed for each medical practitioner.

On this basis, the $3,724m^2$ of allied health floor area may yield in the order of (3,724 / 100) 37 medical practitioners.

The *Hobart Interim Planning Scheme 2015* suggests car parking for medical centres should be provided at a rate of 5 spaces for each person providing health services. This is again considered excessive for an allied health facility in this location.

For comparison, reference is made to the Victorian Planning Scheme which requires 5 spaces to be provided to the first practitioner providing health services and 3 spaces to be provided to each additional practitioner. The latter '3 space' requirement allows for a space to be provided to the practitioner, a patient, and a patient in the waiting room, whilst the initial '5 space' requirement also allows for administrative staff.

Given the size of the allied health facility, a parking rate of 3 spaces to every practitioner and an additional space for every 5 practitioners for administrative staff has been adopted. On this basis, the car parking requirement would be around (37 x 3 + 37 / 5) 118 spaces.

4.3 SUMMARY OF CAR PARKING DEMANDS & RECOMMENDED ALLOCATIONS

Based on the preceding sections, the following table summarises the parking demands for each of the proposed land uses.

Table 4 Potential Car Parking Provisions

Land Use	Parking Provision	Reference
Antarctic Facilities Zone		
Office	202 spaces	Hobart Interim Planning Scheme 2015
Retail	78 spaces	Hobart Interim Planning Scheme 2015
Integrated Mixed-Use Zoe		
Hotel	37 spaces	RMS Guide to Traffic Generating Developments
Retail	124 spaces	Hobart Interim Planning Scheme 2015
Allied Health	118 spaces	Victorian Planning Schemes
Total	559 spaces	

The above table indicates that a car parking demand in the order of 559 spaces could be generated by the uses proposed at the site. This estimate is slightly higher than the 532 spaces currently shown by Cox on the preliminary architectural plans but lower than the approximately 600 space yield initially estimated by MPDC in the early stages of design development.

Notably, this estimate is largely based on statutory car parking requirement rates which aim to 'predict and provide' for both staff and customer car parking demands.

This approach is generally counter intuitive to that outlined for the adjacent 'central business' zone in the *Hobart Interim Planning Scheme 2015*, which aims to limit the impact of traffic by supressing the number of publicly available car parking spaces in the city centre.

In this regard, given the locational attributes of the site, the 532 spaces currently shown on the architectural plans should be more than sufficient to support the proposed use of the precinct.

Notably, the *Macquarie Point Multipurpose Stadium Transport Study (WSP, 2024)* indicates that the abutting road network will operate at around capacity during the 2030 base case scenario without the stadium development, therefore a higher provision of car parking at the site will have greater traffic impact on the surrounding roads and intersection.

The following comments are made with regard to the allocations of car parking spaces at the site:

Stadium Land Use

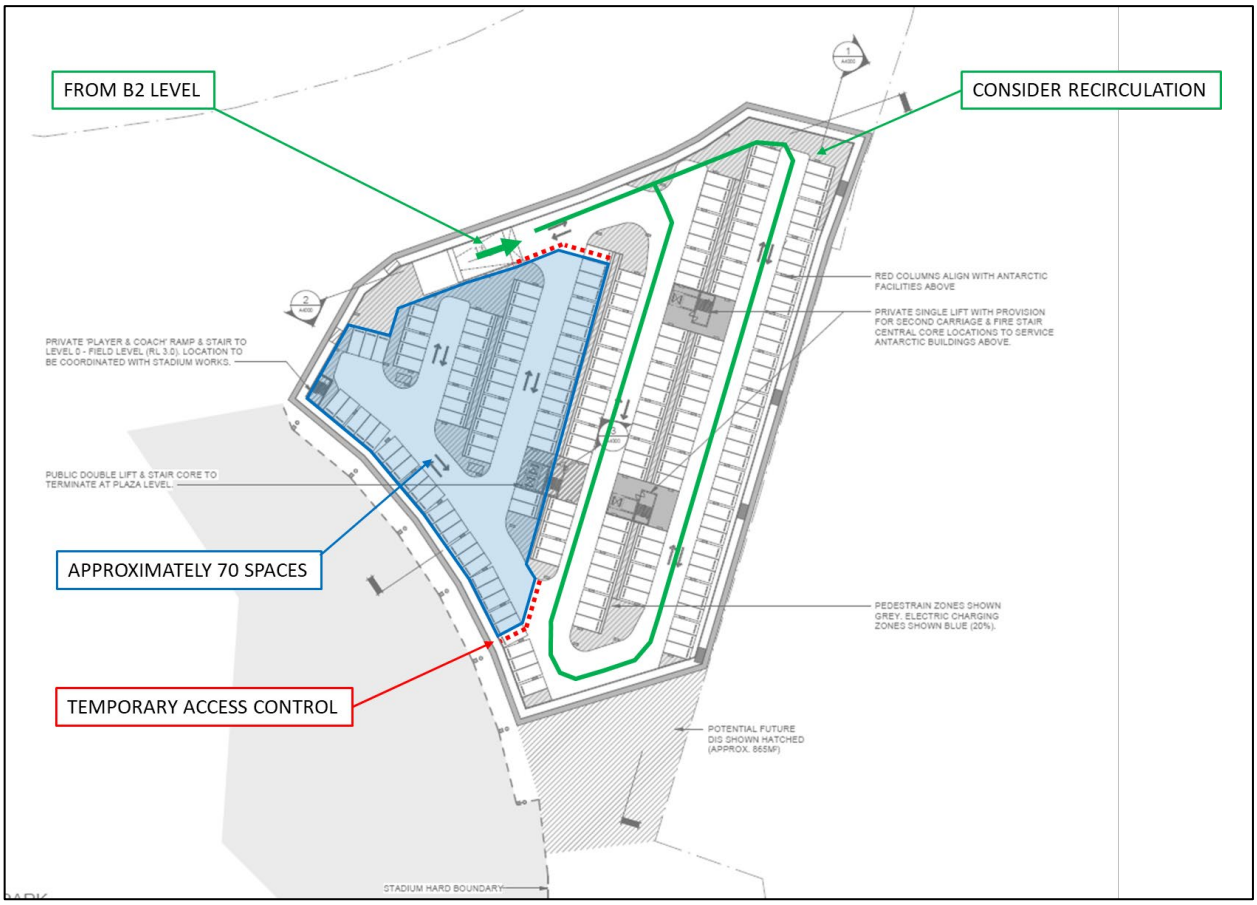
SALT has been advised that 70 car parking spaces are required for the dedicated use of the adjacent stadium development to cater for teams, officials, etc.

If these spaces are to be required on event days only, then they should be located in an area of the car park that could be cordoned from the general provision as required, so that they can be used by the general public on non-event days. These spaces would ideally be located on the B3 level so that the remainder of the car park could remain available for public use on event days.

A review of the preliminary architectural plans indicates there will be in the order of 195 spaces on the B3 level of which around 70 spaces could be cordoned whilst still allowing vehicles to recirculate to/from the B1 and B2 levels.

These arrangements are shown at Figure 9, noting that there may be potential loss of spaces to accommodate traffic controls (i.e. boom gates or similar) subject to further design and review).

Figure 9 Potential area of B2 level to be made available for stadium use on event days.



Remaining Car Parking Spaces and Hotel Land Use

Based on the preceding, the proposed car park would provide 532 spaces for public use on non-event days and (532-70) 462 car parking spaces on event days.

These spaces would be for the shared use of all land uses at the site.

Notwithstanding, it is recognised that the car park will form an extension to the city centre and is likely to attract custom from motorists that are not strictly related to the land uses at the site. This includes motorists that currently park in the approximately 300 temporary spaces that are currently provided at the site.

In this regard, the following operational measures are recommended to ensure that a short-term car parking supply remains available at the site to support the proposed land uses in the precinct:

- Limiting the number of spaces that are allocations to specific user groups; and
- Introducing an appropriate pricing scheme that deters private vehicle travel by motorists that do not have access to a dedicated or reserved car parking space.

In particular, additional office car parking demands are not desirable and should be discouraged through a pricing structure that deters long-term parking at the site during conventional business hours. This would also serve to deter additional retail staff driving to the site during the commuter peaks.

New public transport facilities that integrate the site into the adjacent Hobart City Centre are imperative to encourage a higher take-up of public transport services and deter private motor vehicle travel to/from the precinct.

With regard to the hotel land use, there could be an option to pre-book a number of spaces within the public car parking provision subject to appropriate internal management measures being in place (such as reserved signage or limiting the number of public entries into the car park to ensure that a certain quantum of pre-booked car parking spaces remain available).

4.4 DDA CAR PARKING REQUIREMENT (DAY TO DAY USE)

The *Hobart Interim Planning Scheme 2015* states that DDA Accessible spaces should be provided in accordance with the provisions outlined in the Building Code of Australia (BCA); which is now the National Construction Code (NCC).

The NCC states that the DDA Accessible car parking requirement for both office buildings (Class 5) and public car parks (Class 7a) is '1 space to every 100 car parking spaces or part thereof'

On this basis, the subject proposal for a 532 space carpark would require that at least 6 car parking spaces be designed as DDA Accessible spaces.

There may be merit in increasing this figure depending on the number of accessible rooms that are provided in the proposed hotel land use and the further refinement of the allied health services to be provided at the site.

4.5 MOTORCYCLE PARKING REQUIREMENT

As a guide the Hobart Interim Planning Scheme 2015 states that motorcycle parking spaces should be provided at a rate of 1 space to each 20 car parking spaces.

Based on a basement car parking provision of 532 spaces being provided, there would be a requirement to provide around (532 / 20) 27 motorcycle parking spaces in the car park.

4.6 OTHER PARKING MATTERS

The hotel is likely to generate a demand for taxi and rideshare services.

It is understood that a set-down and collection may be suggested along the Evans Street frontage which would desirably provide convenient access to the hotel pedestrian lobby.

5 BICYCLE PARKING CONSIDERATIONS

5.1 BICYCLE PARKING SPACES

The *Sullivans Cove Planning Scheme 1997* does not outline statutory bicycle parking requirements for new developments.

Accordingly, reference is made to the adjacent *Hobart Interim Planning Scheme 2015*, which outlines the below bicycle parking requirement rates for the potential land uses within the precinct.

Table 5 Hobart Interim Planning Scheme 2015 Bicycle Parking Requirement Rates

Land Use		Employee / Resident Bicycle Parking requirement	Class	Visitor / Customer / Student Bicycle Parking Requirement	Class
Office		1 for each 250 m^2 floor area after the first 250 m^2 floor area	1 or 2	1 for each 1000 m^2 of floor area if the floor area exceeds 1000 m^2	3
Retail	Shop	1 for each 500 m^2 floor area after the first 500 m^2 floor area	1 or 2	1 for each 500 m^2 floor area	3
	Restaurant	1 for each 100 m^2 of floor area available to the public	1 or 2	1 for each 200 m^2 floor area after the first 200 m^2 floor area (minimum 2)	3
	Take Away Food Premises	1 for each 100 m^2 of floor area available to the public	1 or 2	1 for each 50 m^2 floor area	3
Visitor Accommodation		1 for each 40 accommodation rooms	1 or 2	1 for each 30 accommodation rooms	3
Medical Centre		1 for each 8 practitioners	1 or 2	1 for each 4 practitioners	3

In consideration of the above:

- The Antarctic Zone retail component has been classified as 'shop' land use; and
- The Mixed-Use retail component could accommodate a mix of activated land uses, including 'shop', 'restaurant' and 'take-away' land uses and has been evenly split as such.

Based on the above, the minimum bicycle parking requirement that would be required to support the development of the site based on the adjacent requirement rates would be as outlined at Table 6, below.

Table 6 Estimated Bicycle Parking Requirement

Land Use	Yield	Employee / Resident Bicycle Parking requirement	No.	Visitor / Customer / Student Bicycle Parking Requirement	No.
Office (Antarctic Zone Offices)	7,094m^2	1 for each 250 m^2 floor area after the first 250 m^2 floor area	29	1 for each 1000 m^2 of floor area if the floor area exceeds 1000 m^2	8
Shop (Antarctic Zone Retail + 33% Mixed Use Zone Retail)	~3,606m^2	1 for each 500 m^2 floor area after the first 500 m^2 floor area	8	1 for each 500 m^2 floor area	8
Restaurant (Retail)	~1,241m^2	1 for each 100 m^2 of floor area available to the public	13	1 for each 200 m^2 floor area after the first 200 m^2 floor area (minimum 2)	7
Take Away Food Premises (Retail)	~1,241m^2	1 for each 100 m^2 of floor area available to the public	13	1 for each 50 m^2 floor area	25
Medical Centre (Allied Health)	3,724 m^2 (37 practitioners)	1 for each 8 practitioners	5	1 for each 4 practitioners	10
Visitor Accommodation (Hotel)	~148 rooms	1 for each 40 accommodation rooms	4	1 for each 30 accommodation rooms	5
Total			**72**		**63**

Based on the above, the precinct should consider providing at least 72 bicycle spaces in secured compounds for the use of employees and 63 publicly accessible bicycle spaces for the use of visitors.

Given the sustainability objectives of the development and the adjacent stadium develpoment, there may be merit in providing a greater bicycle parking provision across the broader precinct.

5.2 END OF TRIP FACILITIES

In addition to bicycle parking spaces, best practice suggests that employees are to be provided 'end of trip' facilities at the following rates:

- 1 shower for the first 5 employee bicycle spaces required, plus 1 shower to each 10 employee bicycle spaces required thereafter; and
- 1 change room or direct access to a communal change room to each shower.

Based on the above, the 72 employee bicycle spaces will require a provision of 7 showers within the surrounding buildings.

This should be increased to at least 8 showers to allow an even number of male and female showers be provided.

Consideration should be given to providing a greater number of showers to further encourage bicycle use as a mode of transport to the precinct.

An area that allows for the repair of bicycles should also be considered within each employee bicycle compound and measures such as drinking fountains and a fresh towel service may also be considered.

5.3 BICYCLE PARKING DESIGN

Bicycle parking spaces should be designed in accordance with the relevant design criteria outlined for each particular user class in the Australian Standard for Bicycle Parking Facilities (AS2890.3:2015).

As per the adjacent Hobart Interim Planning Scheme / Australian Standard:

Table 7 Hobart Planning Scheme / Australian Standard Bicycle Parking User Classes

User Class (HPS)	Security Level (AS)	Physical Description	Safety Features
1	A	*An individual locker with a high security locking mechanism.*	*Facilities are highly visible, publicly accessible and are close to the modal change point.* *Facilities should be located in well-lit areas.*
2	B	*A secure room or structure, protected from the weather, containing bicycle parking devices that allow users to lock the bicycle frame and both wheels.* *Users provided with security access devices such as keys, codes or swipe cards for communal cages. Users may provide their own locking devices for individual cages.* *Chain mesh fencing is not considered suitable.* *Entrance gates (to the secure bike area) are self-closing and self-locking.*	*Where available to the general public, or in large workplaces or institutions, some level of direct surveillance may be necessary to reduce the level of theft among users (e.g. CCTV).* *Facilities should be located in well lit areas, and where passive surveillance is likely.* *Facilities should be situated as close to the entrance/exit as practicable, e.g. lift core, workplace entrance, etc.*
3	C	*A bicycle parking space, where the bicycle frame and both wheels can be locked to a bicycle parking device using the owner's own locking device.*	*Facilities should be located in well lit areas, and where passive surveillance is likely.* *Facilities should be located as close as practicable to the user's destination.*

Access to the bicycle parking facilities should ideally be accessible from the ground level or a dedicated bicycle access provided if intended to be provided in the upper basement level (B1).

6 TRAFFIC GENERATION

6.1 GENERAL

An estimate of day to day peak hour traffic generation is required to assess:

1. The design of the vehicular access to the basement car park from the new access road; and
2. The most appropriate prioritisation and layout of the T-intersection to the TasPorts land from the Northern Access Road.

To allow for an element of conservatism in the assessment, the 600 parking space yield initially estimated by MPDC in the early stages of design development has been adopted to for assessment purposes.

6.2 TRAFFIC ESTIMATE

It is understood that the car park will be for the shared use of the facilities on the site, and though some spaces may be limited to reserved parking, the car park will largely be fully accessible to the general public.

To allow for an assessment of these spaces, reference is made to the traffic generation of the temporary car parking spaces that are currently provided at the site, which gives an indication of how publicly available parking spaces located at the site are likely to be used if reasonably priced and made freely available.

MPDC has advised SALT that the temporary car park land use at the site was sought to activate the area whilst planning processes and remediation took place across the wider precinct. A review of the site on NearMap indicates that this area provides in the order of 300 spaces.

However, at the time of our traffic surveys in August 2022, an area at the north of the car park was unavailable due to being temporarily occupied by structures and accessways associated with COVID-19 PCR testing, accessed via a separate crossover to Evans Street to the east of the site.

Based on a review of the site on NearMap (22.02.2022) these structures reduced the on-site car parking supply to approximately 173 spaces.

By cross referencing the recorded number of vehicle movements against the reduced car parking supply that was available at the time of the survey, the observed peak hour trip generation rates recorded at the site are summarised at Table 8, below.

Table 8 Temporary Car Park Trip Generation

Peak	Time	Trip Generation (vehicles per hour)			Trip Generation Rates (movements per space)		
		Inbound	Outbound	Total	In	Out	Total
AM	8:00am-9:00am	108 vph	28 vph	136 vph	0.62	0.16	0.78
PM	5:00pm-6:00pm	12 vph	93 vph	105 vph	0.07	0.54	0.61

Peak hour trip generation at the site generally occurred at the same time as the AM Network Peak (7:45am-8:45am) but did not coincide with the PM Network Peak (4:00pm-5:00pm).

If these rates were to be applied to the initial 600 parking space estimate considered by MPDC early in the stages of design development, the car park could be expected to generate the following peak hour traffic volumes.

Table 9 Peak Hour Car Park Traffic Generation Estimate

Car Park	AM Peak			PM Peak		
	Inbound	Outbound	Total	In	Out	Total
600 spaces (early estimate)	372 vph	96 vph	468 vph	42 vph	324 vph	366 vph

If the timing of peak hour traffic is to continue as per the existing conditions, morning peak hour trip generation is expected to generally occur at the same time as the AM Network Peak whereas evening peak hour trip generation is expected to occur after the PM Network Peak.

During event days, the *Macquarie Point Multipurpose Stadium Transport Study* prepared by WSP indicates that the northern access road will be access controlled on McVilly Drive near Tasman Highway for 180 minutes prior to an event taking place, however traffic departing the multi-deck car park will still be permitted to exit towards Tasman Highway during this time.

Accordingly, for assessments sake we have also assumed that an evening event is scheduled and the 70 spaces to be provided for stadium use on event days will fill during the PM peak period without reducing the day-to-day peak hour volumes.

This will increase the preceding estimate to 112 inbound movements and 324 movements during the PM peak period (436 movements total).

Lastly, it is understood that the traffic related impacts of COVID had largely concluded by the time of our survey and the temporary structures were removed soon after.

Notwithstanding, it is recommended that this survey be recommissioned (alongside updated intersection turning surveys) to support any analysis presented in a Traffic Impact Assessment for the site.

7 INTERSECTION DESIGNS

7.1 NORTHERN ACCESS ROAD DESIGN (BY OTHERS)

Vehicular access to the precinct is proposed the 'Northern Access Road', which is to extend from McVilly Drive around the eastern side of the Regatta Grounds and terminate to the northwest of the stadium.

The concept designs at Section 2.3.2 indicate the Northern Access Road will provide a turnaround treatment at its western end and service an event bus plaza with bays provided along the northern side of the roadway and southern side west of the car park access. A central ramp is to descend beneath the turnaround treatment to provide access to a stadium service road that passes beneath the stadium and intersects Evans Street to the south.

SALT has been advised that the service road will accommodate servicing vehicles and deliveries to the stadium.

The design of the northern access road is being undertaken by others.

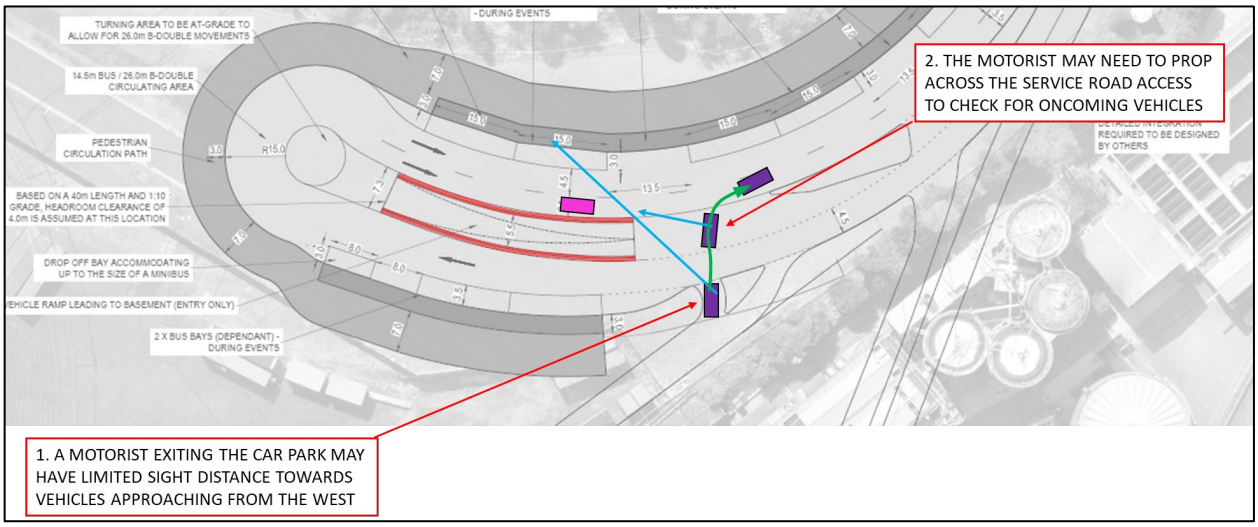
7.2 CAR PARK ACCESS

7.2.1 INTEGRATION WITH NORTHERN ACCESS ROAD

The Burberry Concept Plan indicates the car park access is to allow left-in and left/right-out vehicle movements.

In reviewing the above, it is noted that the placement of the ramp to the stadium service road in the centre of the carriageway may require walls on either side that could potentially limit a motorists sightlines to eastbound traffic.

Accordingly, a motorist may prop in the centre of the carriageway (across the stadium service road access) to check for approaching vehicles prior to entering the eastbound traffic stream, or if choosing to stage the movement.

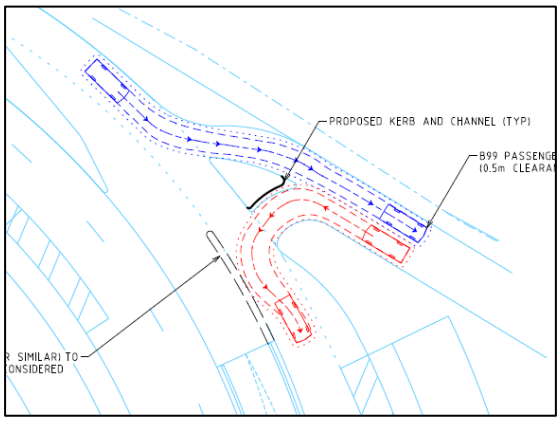


Given the above, and the large distance required for vehicles to cross the westbound lanes (~10.6m) there may be merit in restricting the access to left-in, left-out movements only.

SALT has prepared a Concept Layout Plan for a left-in, left-out intersection treatment which is attached at APPENDIX 1. The treatment considers:

- Reducing the width of the splitter island to assist left-turn out movements; and
- Providing some form of physical treatment (such as a kerb, island, etc.) along the front of the outbound turn lane to physically restrict outbound movements to left-turn only.

Swept path diagrams for both the left-in, left-out and left-in, left/right-out arrangements that are being considered have been appended to this report.



7.2.2 BOOM GATE OPERATION

The preliminary architectural plans suggest the vehicular access from the northern access road to the basement car park will be widened internal to the site to provide three lanes comprising an inbound lane, outbound lane, and a central 'contra-flow' lane that can change directions to accommodate the peak directional flow.

On a day to day basis, there will be two inbound lanes and one outbound lane during the morning peak period, and one inbound and two outbound lanes during the afternoon peak period.

The lanes are proposed to be access controlled by boom gates. Accordingly, SALT has undertaken a queueing assessment of the peak hour volumes at Section 6.2 to determine the potential queuing impacts at the boom gates and the suitability of the proposed access arrangements.

Two forms of access control have been considered:

1. A conventional ticket issue and boom gate system

   An inbound motorist is issued a ticket at the entrance which when pulled from the machine causes the inbound boom gate to raise.

   Prior to departing the motorist pays at a parking machine and receives a stamped ticket. The departing motorist then inserts the ticket into the machine at the egress which causes the outbound boom gate to raise.

   This form of access control allows for 300 vehicles to pass through a lane in an hour (300vph).

2. A frictionless (license plate recognition) system

   License Plate Recognition (LPR) cameras are installed at the access lanes which record the numberplate of a vehicle when entering. A speed hump is often placed at the inbound lane to ensure the motorist slows to allow the number plate to be read clearly.

   This form of access control allows 600 vehicles to enter through a lane in an hour (600vph).

   Prior to departing the motorist pays at a parking machine and enters their license plate number. The LPR camera at the egress scans a departing motorists license plate and then raises the outbound boom gate if payment has been made.

   This form of access control allows 450 vehicles to exit through a lane in an hour (450vph).

The results of the queueing assessments are presented at Table 10, below.

Table 10 Queueing Analysis at Car Park Entry

Peak Hour Period	Control Point	No. of Lanes	Capacity	Forecast Demand	98th Percentile Queue Length*
Conventional Ticket Issue System					
AM Peak Period	Entry	2 no.	600 vph	372 vph	8 vehicles
	Exit	1 no.	300 vph	96 vph	3 vehicles
PM Peak Period	Entry	1 no.	300 vph	112 vph	3 vehicles
	Exit	2 no.	600 vph	324 vph	6 vehicles
Frictionless Parking System					
AM Peak Period	Entry	2 no.	1200 vph	372 vph	3 vehicles
	Exit	1 no.	450 vph	96 vph	2 vehicles
PM Peak Period	Entry	1 no.	600 vph	112 vph	2 vehicles
	Exit	2 no.	900 vph	324 vph	3 vehicles

* Total number of cars split across 1 or 2 lanes as stated.

The preliminary architectural plans indicate the three access lanes will provide a 25 metre long flat section in front of the inbound and outbound boom gates.

Based on an average length of 7 metres per vehicle (which allows for a gap between propped vehicles), the single access lane provided in the counter peak direction (i.e. outbound in the AM and inbound in the PM) will be sufficient to store 3 vehicles.

This satisfies the 98th percentile queue lengths estimated in the counter peak direction under both access control options.

In the peak directions:

- Two lanes will be provided for inbound movements during the morning peak period. There is a 17-metre long 'transitional' section between the access lanes and ramp from the Northern Service Road in which vehicles can split into the two inbound lanes.

  This increased length will allow for 6 inbound vehicles to queue in each of the outer and contra-flow lanes (i.e. a total of 12 vehicles) without queueing on the ramp.

  This satisfies the 98th percentile inbound queue length estimated under both access control options; and
- Two lanes will be provided for outbound movements during the afternoon peak period.

  Five (5) vehicles could queue in the contra-flow lane without impeding on inbound movements and the outer lane could accommodate 6 vehicles prior to the car parking spaces (i.e. 11 vehicles total), however additional queueing could occur internally along the left side of the car parking aisles.

  This satisfies the 98th percentile outbound queue length estimated under both access control options.

Given the above, either access control arrangement could be implemented and cater to the anticipated day-to-day morning and afternoon peak hour traffic flows.

With regard to the adjacent stadium use, SALT has been advised that the car park is not intended to cater for the car parking demands of spectators that attend events at the stadium. This approach is reinforced by the *Macquarie Point Multipurpose Stadium Transport Study*, which indicates there is adequate on and off-street car parking provided within central Hobart to accommodate the parking demands of spectators at times when events are anticipated to occur at the site.

Notwithstanding, given the proximity of the car park to the stadium and its intended public use, it is more than likely that many spectators will still seek to park in the car park on days when events occur. This could include weekend eventgoers that choose to park in the car park for the full day, or office workers that typically park in other areas of the city that choose to park in this car park when evening events are scheduled.

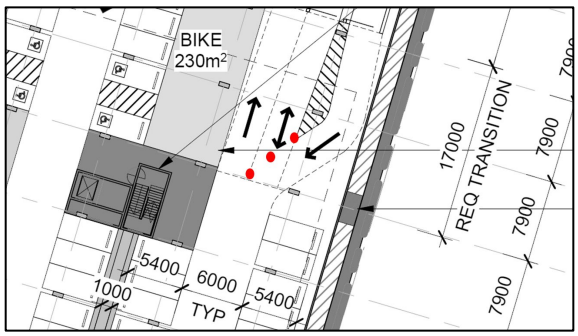
The *Macquarie Point Multipurpose Stadium Transport Study* indicates that the Northern Access Road is to be closed to traffic for 180-minutes prior to, and 30-minutes after an event to allow for the event bus plaza to operate satisfactorily. SALT has been advised that the purpose of these delays is to improve pedestrian safety as well as prioritise and allow for fluidity in bus movements.

During this time an outbound queue may form within the car park comprising corporate, team and staff allocations as well as some members of the general public which could potentially exceed the queueing capacity at the access controls.

In this regard, it is recommended that a frictionless access control system be installed at the facility to allow a greater throughput of vehicles at the conclusion of an event. This will not necessarily reduce queueing impacts at these times but will allow the car park to discharge more quickly.

Although it is understood the car park is being designed by others, the following high level comments are made with regard to the access arrangements:

- The central islands between access lanes typically require a minimum 600-700mm width to accommodate boom gate mounts, ticket machines or LPR cameras if used;
- Traffic management (such as line-marking, signage or bollards, etc.) will be required at the inbound merge to control the movement of vehicles to/from the contra-flow lane; and
- Traffic management (such as temporary bollards) may be required on the car park side of the access lanes to avoid two outbound queues forming within the car park aisles after an event in order to maintain inbound vehicle access (right).



7.3 TASPORTS INTERSECTION ARRANGEMENT

To the north of the basement access, a T-intersection is proposed to allow vehicles travel:

- To the southeast towards the TasPorts land; or
- To the southwest towards the multi-level basement car park, event bus plaza and stadium service road.

SALT has been requested to provide comment on the preferred priority arrangement at the intersection, i.e. whether the TasPorts access road, or the continuation of the Northern Service Road should form the priority or minor leg.

7.3.1 ESTIMATED TURNING VOLUMES

The peak hour volumes to/from the continuation of the Northern Service Road have already been determined at Section 6.2. An additional 4 heavy vehicle movements have been added to/from these legs of the intersection to represent a public transport bus service to/from the precinct every 15 minutes.

With regard to the TasPorts leg of the intersection, the *Macquarie Point Multipurpose Stadium Transport Study* indicates that the Northern Access Road will form the main point of access to the Port of Hobart for road freight movements. The existing Evans Street access will remain operational for cruise terminal operations and access to port controlled areas beyond the secured port zone. It will also remain available for over height freight and commodity vehicles that cannot currently pass under the McVilly Drive interchange at Tasman Highway.

In lieu of detailed port trip generation data being provided and to allow an assessment of the most appropriate priority route, SALT has sourced data from the *Macquarie Point Multipurpose Stadium Transport Study* regarding the maximum yields of commodities that could be accommodated at the Port of Hobart in any one calendar year. This suggested that a maximum 61,160 vehicle movements per annum (in and out combined) could be anticipated.

The following assumptions have been made to determine a likely peak hour traffic volume:

- The Port of Hobart comprises 8 wharfs, comprising 6 'Macquarie' wharfs (75%) that are accessed from the TasPorts land to the east of the site and 2 'Princes' wharfs which are located on the southern side of the port and accessed from Castray Esplanade.

  Assuming an even distribution of movements between the two areas equates to (0.75 x 61,160) 45,870 vehicle movements per annum to the TasPorts land east of the site.
- Loading operations are understood to occur throughout the year however it is understood that some months are busier than others. Conservatively, it is estimated that 10% of movements may occur during a single month (rather than one twelfth). This equates to (0.1 x 45,870) 4,587 vehicle movements per month;
- Assuming an even distribution of movements throughout the month equates to (4,587 / (52/12)) 1,058 vehicle movements per week;
- Although 7-day a week operations are expected to be common, it is conservatively assumed that 20% of movements may occur during a single day (rather than one seventh). This equates to (0.2 x 1,058) 212 vehicle movements per day;
- Case study held by SALT from another wharf suggests there are continuous arrivals to port operations from around 5:00am to 11:00pm, with around 6% of deliveries are made during the AM peak 1-hour period and 8% are made during the PM peak 1-hour period.

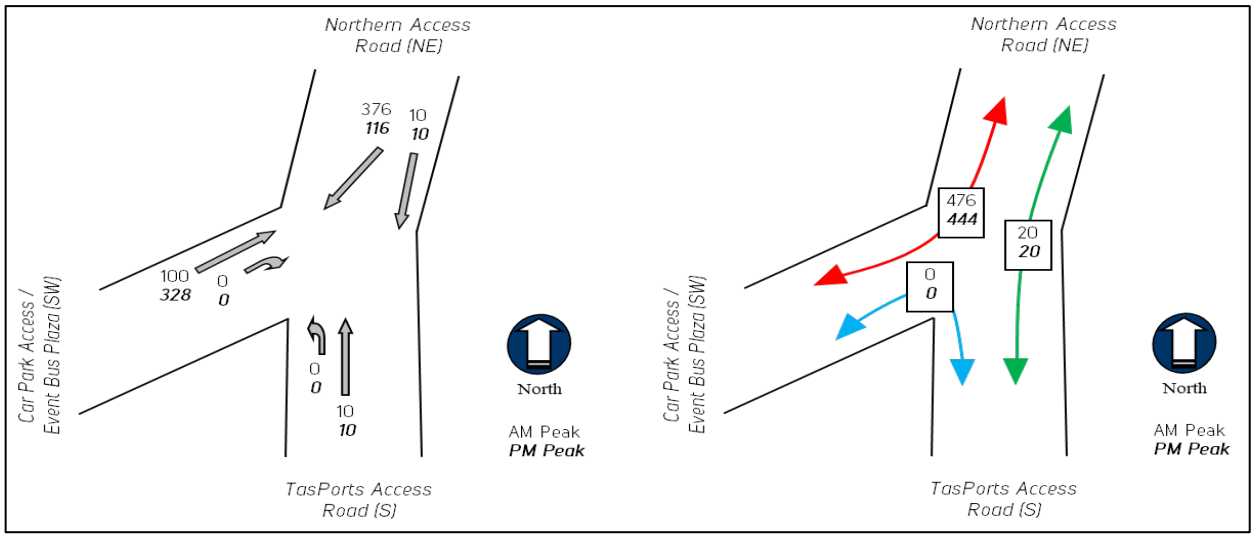
  This would equate to:
  - (0.06 x 212) 13 vehicle movements during the AM peak 1-hour period; and
  - (0.08 x 212) 17 vehicle movements during the PM peak 1-hour period.

Based on the above and for analysis purposes, these peak hour traffic volumes have been rounded up to 20 vehicle movements for both the AM and PM peak periods.

This traffic has been split evenly between inbound and outbound movements.

Based on the above, the peak hour turning movements at the intersection are presented at Figure 10 (left), and the through volumes between each leg of the intersection are presented at Figure 10 (right).

Figure 10 Peak Hour Turning Volumes (left) and through volumes (right) at the TasPorts intersection



The above figures indicate that the continuation of the Northern Service Road towards the car park access and event bus plaza is by far the most dominant route at the intersection, with only a small proportion of the intersection approach volumes (less than 5%) turning to/from the TasPorts access.

Given the dominance of the traffic flows along the Northern Service Road and Car Park Access / Event Bus Plaza legs, it would be more logical for these legs to be assigned as the major (priority) route.

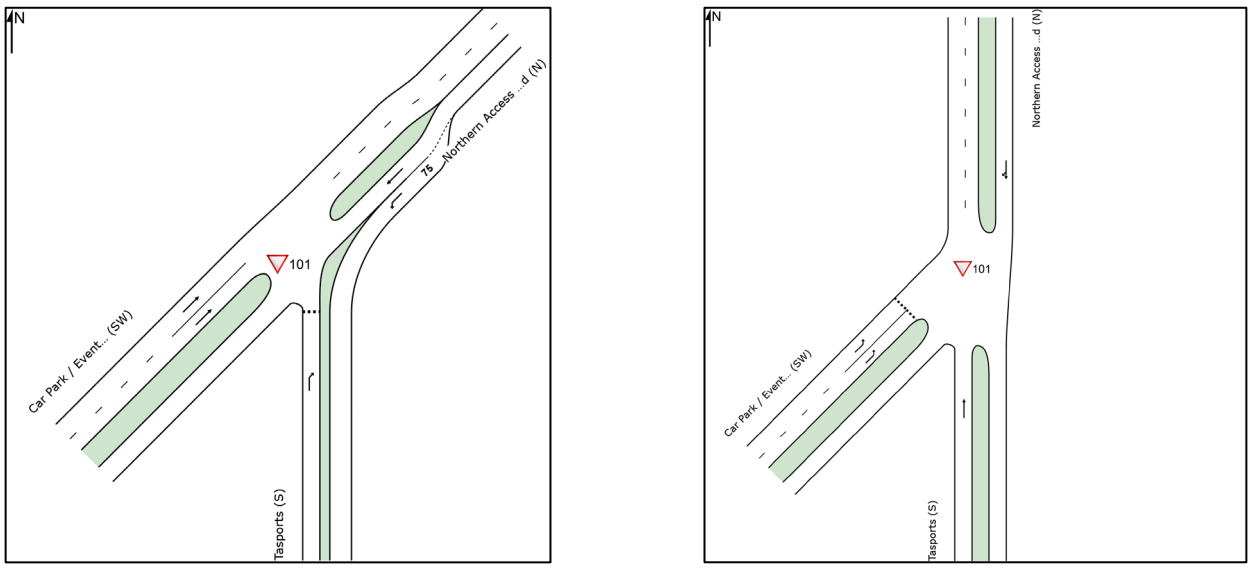
7.3.2 SIDRA ANALYSES

For discussion purposes, SALT has undertaken SIDRA analyses for both prioritisation arrangements using the AM and PM peak hour traffic volumes presented at Figure 10. This computer package measures the performance of an intersection using a range of parameters, with key parameters described as below:

- *Degree of Saturation (D.O.S.)* is the ratio of the volume of traffic observed making a particular movement compared to the maximum capacity for that movement.
- The *95th Percentile (95%ile) Queue* represents the maximum queue length, in metres, that can be expected in 95% of observed cycle lengths during in the peak hour.
- *Average Delay* is the delay time, in seconds, which can be expected over all vehicles making a particular movement in the peak hour.

The intersection arrangements assessed by SALT are presented schematically at Figure 11. The car park / event bus priority arrangement (left) provides a left-turn slip lane into the TasPorts land as shown on the Burberry plan, which has been removed from the TasPorts priority arrangement (right).

Figure 11 SIDRA Schematic Layouts: Car Park / Event Bus priority (left) and TasPorts priority (right)



In preparing the analyses, an approach and departure cruising speed of 50kmh has been applied to all legs. A 50 km/h negotiation speed has been applied to the priority and unopposed vehicle movements.

The key SIDRA outputs for both options are summarised at Table 11, below.

Table 11 Key Sidra Outputs: Car Park / Bus Plaza Priority – AM (top) & PM (bottom)

Approach	Movement	AM Peak Period			PM Peak Period		
		Degree of Saturation (DOS)	95th%ile Q Length (m)	Average Delay (s)	Degree of Saturation (DOS)	95th%ile Q Length (m)	Average Delay (s)
Car Park / Bus Plaza Priority							
TasPorts Access (S)	Through	0.035	1.6	13.6	0.031	1.4	12.0
Northern Access Rd (N)	Through	0.009	0.0	0.0	0.009	0.0	0.0
	Right	0.197	0.0	0.1	0.062	0.0	0.0
Car Park / Event Bus (SW)	Left	0.027	0.0	0.0	0.086	0.0	0.0
Intersection		**0.197**	**1.6**	**0.3**	**0.086**	**1.4**	**0.3**
TasPorts Access Priority							
TasPorts Access (S)	Through	0.008	0.0	0.0	0.008	0.0	0.0
Northern Access Rd (N)	Through	0.229	9.2	0.1	0.075	2.8	0.0
	Right	0.229	9.2	3.4	0.075	2.8	3.4
Car Park / Event Bus (SW)	Left	0.033	1.0	3.8	0.108	3.3	3.8
Intersection		**0.229**	**9.2**	**3.4**	**0.108**	**3.3**	**3.6**

The SIDRA analyses indicates that:

- Both intersection layouts will operate well below capacity during both peak periods; and
- Both intersection layouts will cause minimal queueing on the minor approach.

With regard to delays:

- The Car Park / Event Bus Plaza priority option causes:
  - No delay to trucks entering the TasPorts access road as the left-turn movement from the Northern Service Road can occur unimpeded;
  - An average delay of 13.6 seconds to trucks departing the TasPorts access road towards Tasman Highway during the AM peak period, and 12.0 seconds for the same movement during the PM peak period.
  - Based on the estimated approach volume of 10 trucks per hour, this will cause an overall delay of around 136 seconds to TasPorts trucks during the AM peak 1-hour period and 120 seconds during the PM peak 1-hour period.
- The TasPorts priority option causes:
  - No delays to trucks entering or exiting the TasPorts access road as these can both occur unimpeded;
  - An average delay of 3.4 seconds to inbound vehicles turning right from the Northern Service Road towards the Car Park / Event Bus Plaza during both the AM and PM peak periods, and an average delay of 3.8 seconds to outbound vehicles turning left onto the Northern Service Road during both the AM and PM peak periods.

    Therse are largely geometric delays associated with slowing down on approach to the intersection, giving way and then speeding up when departing the intersection.
  - Based on the estimated approach volumes, these delays will cause:
    - 376 right-turning vehicles @ 3.4 seconds + 100 left-turning vehicles @ 3.8 seconds = 27 minutes and 38 seconds of delay to vehicles during the AM peak 1-hour period; and
    - 116 right-turning vehicles @ 3.4 seconds + 328 left-turning vehicles @ 3.8 seconds = 27 minutes and 21 seconds of delay to vehicles during the PM peak 1-hour period.

Based on the preceding, there will be much less overall traffic delay caused to vehicular traffic if the car park / event bus plaza leg of the intersection forms the priority traffic route.

7.3.3 INTERSECTION DESIGN AND POTENTIAL SIGNALISATION

SALT has reviewed the layout of the proposed TasPorts intersection as presented on the Burberry Plan and found it to be generally satisfactory.

Swept path diagrams are attached at APPENDIX 1 demonstrating B-Double vehicle movements between the Northern Access Road and the TasPorts access confirming that adequate intersection geometry can been provided for these movements.

MPDC has queried whether this intersection arrangement could potentially be signalised, if requested by TasPorts, in order to reduce the potential for delays to its vehicle fleet.

In consideration of this the following points are provided:

- The intersection operates below capacity and with minimal delays and queue lengths. An intersection that operates in this manner would not normally be considered for signalisation;
- Signalising the intersection would generally require that the approach legs intersect closer to 90 degrees, which may impact on the Taswater compound between the TasPorts access and car park access; and
- No bus parking would be permitted along the northern kerbside within the intersection.

8 CONCLUSION

MPDC is considering a mixed-use development at the east of the Macquarie Point Precinct adjacent to the proposed stadium development.

A multi-level basement car park is proposed to be constructed beneath the development with vehicular access provided from a new access road constructed into the precinct from McVilly Drive.

Based on the foregoing analysis, it is concluded that:

- The Northern Access Road a is being designed by others and will need to be appropriately designed to safely accommodate bus plaza movements, vehicular access to the basement car park and TasPorts land, and pedestrian movements.

Parking Matters

- There is no statutory car parking requirement for a development at the site;
- The adjacent Hobart Interim Planning Scheme 2015:
  - Applies a car parking limitation policy to the areas immediately abutting the site, which if applied to the proposal would limit the car parking provision at the site to 121 spaces;
  - Applies 'predict and provide' car parking rates to less accessible areas of Hobart, which if applied to the development would require a car parking provision of 559 spaces;
  - The latter estimate is marginally higher than the 532 spaces shown on the preliminary architectural plans.
- Given the location of the site to the Hobart city centre, the 532 spaces shown on the architectural plans should be more than sufficient to cater to the parking demands generated by the uses proposed at the site when considered in isolation;
- The Macquarie Point Multipurpose Stadium Transport Study indicates that the abutting road network will operate at around capacity during the 2030 base case scenario without the stadium development, therefore a higher provision of car parking at the site will have greater traffic impact on the surrounding roads and intersection;
- The 70 spaces to be provided for the stadium use should be cordonable from the general provision as required so that they can be used by the general public on non-event days;
- The current development schedule would require that 6 DDA Accessible spaces and 27 motorcycle parking spaces are provided at the site; and
- The current development schedule suggests that 72 secured and 63 publicly accessible bicycle parking spaces be provided at the site.

Car Park Access

- Based on the preliminary architectural scheme, the development is likely to generate 468 vehicle movements during the AM peak period and 436 movements during the PM peak period;
- The provision of 3 car park access lanes (inbound, outbound and a directional contra-flow lane) to service the car park will be adequate during typical non-event days;
- It is recommended that a frictionless (license plate recognition) access control system be used to control the boom gates to allow the car park discharge quickly at the end of an event;
- Subject to further design, a left-in. left-out access arrangement to the car park may be considered.

Prioritisation of TasPorts Access

- Traffic generation estimates indicate that the Event Bus Plaza / Car Park Access leg of the intersection will generate around 20 times more traffic than the TasPorts Access Road leg of the intersection;
- SIDRA analyses indicates that there will be much greater overall delay to vehicles if the TasPorts Access Road leg were provided priority;
- Given the above, it is recommended that the Event Bus Plazza / Car Park access leg of the intersection be allocated as the major route and the TasPorts access form the minor leg of the intersection.

APPENDIX 1 CONCEPT LAYOUT PLANS / SWEPT PATHS

PROPOSED KERB AND CHANNEL (TYP)

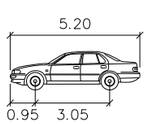
B99 PASSENGER CAR SWEPT PATH (TYP)
(0.5m CLEARANCE SHOWN)

BASE LAYOUT (SHOWN IN BLUE)
PREPARED BY OTHERS

PHYSICAL TREATMENT (I.E KERB, ISLAND OR SIMILAR) TO
RESTRICT RIGHT TURN MOVEMENT TO BE CONSIDERED

SUBJECT SITE
MACQUARIE POINT

DESIGN VEHICLE



PASSENGER–CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6

MACQUARIE POINT DEVELOPMENT CORPORATION
MACQUARIE POINT NORTHERN ACCESS ROAD
MACQUARIE POINT, HOBART
CONCEPT LAYOUT PLAN
CAR PARK ENTRANCE

SALT³
Service.
Approachability.
Loyalty.
Transparency.
Level 4, 116 Bathurst St Hobart TAS 7000
• MELBOURNE • CANBERRA • SYDNEY • ADELAIDE • DARWIN
ABN: 18 439 813 274 Email: salt@salt3.com.au Ph: 03 9020 4225

0 2.5 5 10
SCALE: 1:500 @ A3

DRAWN / CHECKED	DATE	SIZE
EC / MD	29.08.2024	A3
DRAWING NUMBER		REVISION
SALT-22241-SK-007		1

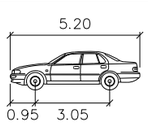
PROPOSED KERB AND CHANNEL (TYP)

B99 PASSENGER CAR SWEPT PATH (TYP)
(0.5m CLEARANCE SHOWN)

BASE LAYOUT (SHOWN IN BLUE)
PREPARED BY OTHERS

SUBJECT SITE
MACQUARIE POINT

DESIGN VEHICLE



PASSENGER–CAR

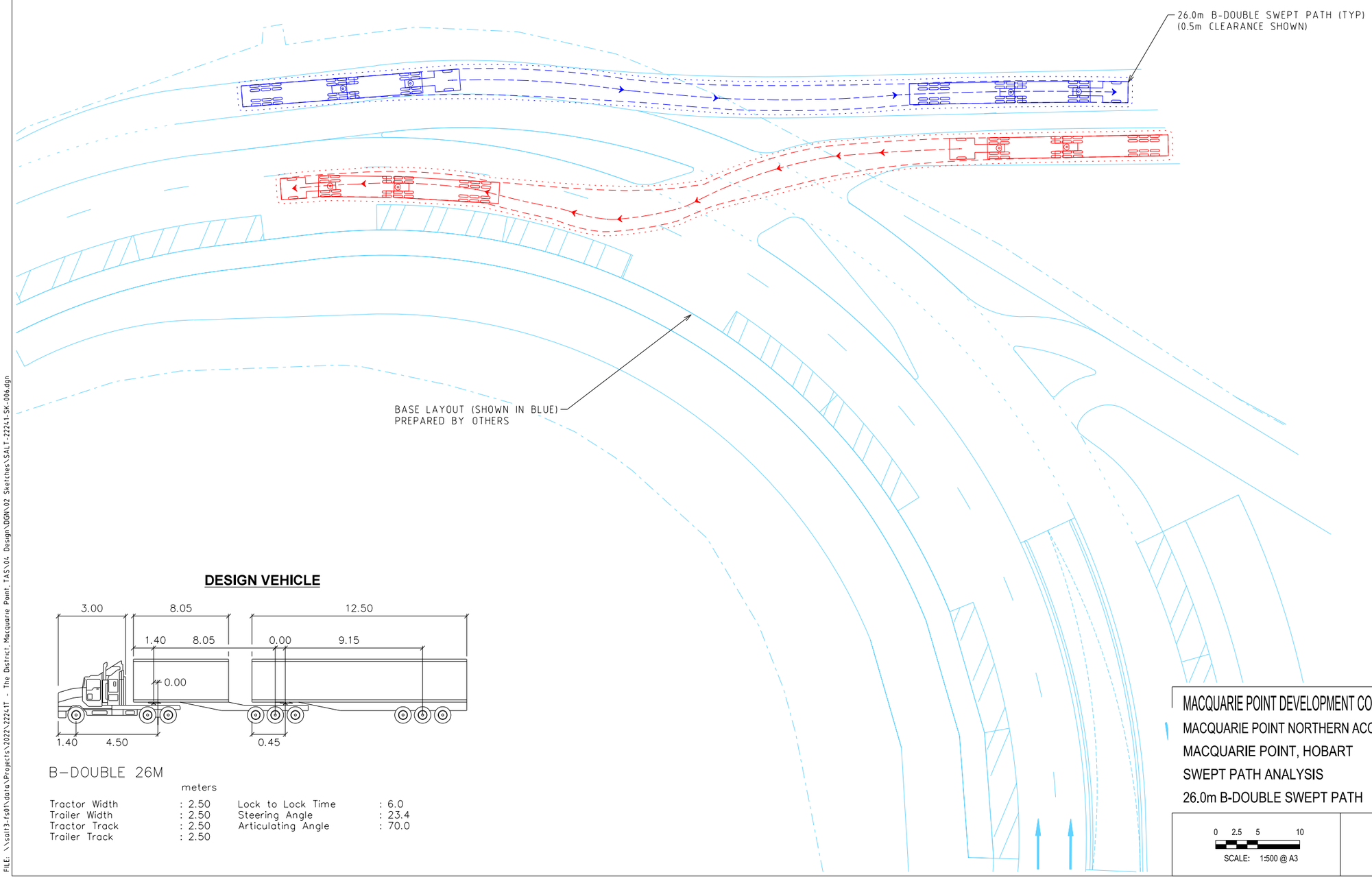
	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6

MACQUARIE POINT DEVELOPMENT CORPORATION
MACQUARIE POINT NORTHERN ACCESS ROAD
MACQUARIE POINT, HOBART
CONCEPT LAYOUT PLAN
CAR PARK ENTRANCE

0 2.5 5 10
SCALE: 1:500 @ A3

SALT³
Service.
Approachability.
Loyalty.
Transparency.
Level 4, 116 Bathurst St Hobart TAS 7000
• MELBOURNE • CANBERRA • SYDNEY • ADELAIDE • DARWIN
ABN: 18 439 813 274 Email: salt@salt3.com.au Ph: 03 9020 4225

DRAWN / CHECKED	DATE	SIZE
EC / MD	01.08.2024	A3
DRAWING NUMBER		REVISION
SALT-22241-SK-005		2



DESIGN VEHICLE

B–DOUBLE 26M

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

SUBJECT SITE
MACQUARIE POINT

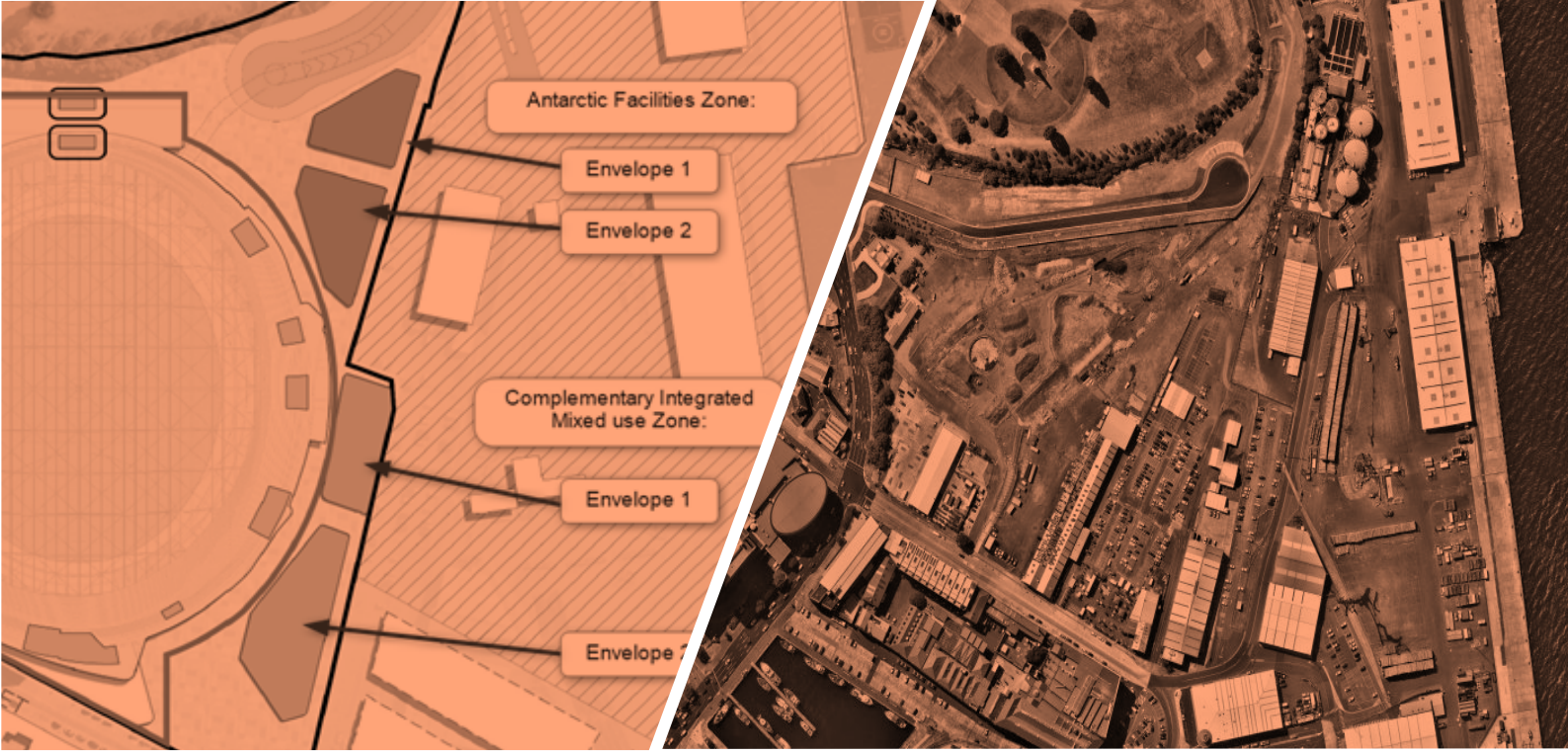
MACQUARIE POINT DEVELOPMENT CORPORATION
MACQUARIE POINT NORTHERN ACCESS ROAD
MACQUARIE POINT, HOBART
SWEPT PATH ANALYSIS
26.0m B-DOUBLE SWEPT PATH

SALT³
Service.
Approachability.
Loyalty.
Transparency.
Level 4, 116 Bathurst St Hobart TAS 7000
• MELBOURNE • CANBERRA • SYDNEY • ADELAIDE • DARWIN
ABN: 18 439 813 274 Email: salt@salt3.com.au Ph: 03 9020 4225

0 2.5 5 10
SCALE: 1:500 @ A3

DRAWN / CHECKED	DATE	SIZE
EC / MD	01.08.2024	A3
DRAWING NUMBER		REVISION
SALT-22241-SK-006		2

This page is intentionally left blank



Service. Approachability. Loyalty. Transparency.

MELBOURNE Level 3, 51 Queen Street, Melbourne VIC 3000
+61 3 9020 4225

SYDNEY Suite 303/61 Marlborough Street, Surry Hills NSW 2010
+61 2 9068 7995

HOBART Level 4, 116 Bathurst Street, Hobart TAS 7000
+61 400 535 634

CANBERRA 45 West Row, Canberra ACT 2601
+61 2 9068 7995

www.salt3.com.au