



RedSquare
Traffic

Creativity in Transport Engineering

Unit 10D, 106 Old Pittwater Road, Brookvale Traffic and Parking Assessment



Prepared for Shufflemedia
Productions; RedSquare Traffic
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EXECUTIVE SUMMARY

RedSquare Traffic has been engaged by Shufflemedia Productions ('Client') to provide Traffic Engineering Services in response to the Pre-lodgement Meeting Notes (Application Reference PLM2021/2091) issued by Northern Beaches Council for the proposed 'Change of Use' of Unit 10D 106 Old Pittwater Road, Brookvale, New South Wales. ('Subject Site', 'Site').

The Subject Site is located within the suburb of Brookvale, approximately a 30-minute drive North of Sydney CBD.

This package of work includes the preparation of a Traffic and Parking Assessment report to be submitted to the Northern Beaches Council inclusive of a Car Parking Demand Assessment, to support the above-mentioned development.

Through this process RedSquare Traffic's team have undertaken the following tasks:

- Existing road network, active and public transport conditions have been reviewed.
- Nearby land uses and zones have been reviewed.
- Car parking requirements have been reviewed with regards to Appendix 1 & Section C3 of the 2011 Warringah Development Control Plan.
- Bicycle parking requirements and end of trip facilities have been reviewed with regards to Section C3(A) and C3 of the 2011 Warringah Development Control Plan.
- Traffic generation, traffic distribution and traffic assignment calculations have been performed.
- Accessways, access points and road safety compliance checks have been performed with regards to section C2 of the 2011 Warringah Development Control Plan.
- A road safety review has been performed.

Additionally, this report summaries and tabulates the following on-site tasks:

- A site inspection that has been performed to review existing transport and parking conditions.
- Parking surveys that have been conducted on-site to determine parking demand vs availability.



SUMMARY

- RedSquare Traffic understands the Client, Shufflemedia Productions, is intending to develop an existing warehouse space into a high technology industry (Light Industry) for filming, photography, and events. These events potentially hold up to 150 patrons.
- The Subject Site is located within the suburb of Brookvale, approximately a 30-minute drive North of Sydney CBD.
- Patrons are expected to be customers visiting a specific event showcasing product or service demonstrations. It is expected that most visitors will arrive after 6:00pm and spend up to 2 hours on average in the premises.
- The site is located within a General Industrial Zone (IN1).
- The site is bounded by another unit on the east and Allenby Park on the west, with an approximate floor area of 320m² internal and 90m² external.
- As per the captured survey data on Friday the 7th of January 2022, out of the 190 spaces, only 28, 38, 31 and 14 parking spaces were occupied at 9:30am, 12:30pm, 3:30pm and 6:30pm, respectively. Additionally, out of the 50 street car parking spaces in the vicinity, only 28 and 12 street car parking spaces were occupied at 3:30pm and 6:30pm, respectively.
- A total of 18 marked car parking spaces are directly located outside the Subject Site.
- The development should provide a total of 45 car parking spaces in order to operate as a Place of Assembly under the revised parking requirement.
- It is noted, only 2 bicycle parking spaces are required under Section C3(A) of the DCP for the proposed light industrial use.
- Car parking demand assessment confirmed that factors such as operating hours, abundance of short-stay parking, availability of public transport and walking facilities and variations associated with the parking demands of the premises contributed to an even lesser parking demand.
- Furthermore, several factors including active transport related objectives of the Northern Beaches Council supports the discouragement of car dependency.



- The facility is proposed to generate 16 daily vehicle trips and 2 additional trips during peak hour for non-event days.
- The facility is expected to generate 90 additional trips during an event, which is to take place after 6:00pm.
- RedSquare Traffic, with significant amount of confidence can conclude that no additional traffic impacts are expected to be generated as a result of the proposed tenancy.
- No new or additional road safety related issues are existent or expected to be generated as a result of the proposed facility.
- Current traffic management treatments, road safety features and access points within the industrial area is considered appropriate for the proposed development.



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1 INTRODUCTION

1.1 BACKGROUND

RedSquare Traffic has been engaged by Shufflemedia Productions ('Client') to provide Traffic Engineering Services in response to the Pre-lodgement Meeting Notes (Application Reference PLM2021/2091) issued by Northern Beaches Council for the proposed 'Change of Use' of Unit 10D 106 Old Pittwater Road, Brookvale, New South Wales. ('Subject Site', 'Site').

The Subject Site is located within the suburb of Brookvale, approximately a 30-minute drive North of Sydney CBD.

This package of work includes the preparation of a Traffic and Parking Assessment report to be submitted to the Northern Beaches Council inclusive of a Car Parking Demand Assessment, to support the above-mentioned development.

Through this process RedSquare Traffic's team have undertaken the following tasks:

- Existing road network, active and public transport conditions have been reviewed.
- Nearby land uses and zones have been reviewed.
- Car parking requirements have been reviewed with regards to Appendix 1 & Section C3 of the 2011 Warringah Development Control Plan.
- Bicycle parking requirements and end of trip facilities have been reviewed with regards to Section C3(A) and C3 of the 2011 Warringah Development Control Plan.
- Traffic generation, traffic distribution and traffic assignment calculations have been performed.
- Accessways, access points and road safety compliance checks have been performed with regards to section C2 of the 2011 Warringah Development Control Plan.
- A road safety review has been performed.

Additionally, this report summaries and tabulates the following on-site tasks:

- A site inspection that has been performed to review existing transport and parking conditions.



- Parking surveys that have been conducted on-site to determine parking demand vs availability.

1.2 PROJECT DETAILS

RedSquare Traffic understands the Client, Shufflemedia Productions, is intending to develop an existing warehouse space into a high technology industry ('light Industry') for filming, photography, and events. These events potentially hold up to 150 patrons.

Patrons are expected to be customers visiting a specific event showcasing product or service demonstrations. It is expected that most visitors will arrive after 6:00pm and spend up to 2 hours on average in the premises.

It is recognised with reference to the Site Plans (Source: **Ron H Allars PTY LTD Architects**) that the entire industrial warehouse area will have the following features:

- 190 parking spaces (shared between the entire industrial complex of 106 Old Pittwater Road).
- Proposed openings are from 6:00pm to 12 midnight (occasionally till about 2:00am, depending on the event).
- Visitors range from 25 to 65 years of age.
- Three staff members on regular days.
- Square area of 320m² internal and 90m² external.
- Loading and unloading goods are made by couriers using trolleys.
- The space includes a photography studio with full white cyclorama, workshop, event space and exhibition space.
- Facilities within the complex include kitchen, green room, lounge areas and outdoor area.

RedSquare Traffic has reviewed the Northern Beaches Council Planning Controls and Warringah Development Control Plan to understand relevant zoning, clauses and overlays applicable to the Subject Site, and are as follows.

- Northern Beaches Bush Fire Prone Land, Vegetation Buffer.
- Warringah LEP201 – Land Slip Risk Map – Area A.



- Warringah LEP2011 – Land Slip Risk Map – Area B.
- Warringah LEP2011 – Land Slip Risk Map – Area C.
- Development Control Plan – Low Risk Flood Planning Precinct.
- Warringah LEP 2011 – Land Zoned IN1 General Industrial.

Elaborated details are provided in Section 2.7.

Table 1 summarises the Car and Bicycle parking requirements associated with the proposed industrial usage calculated as per **Appendix 1** and **C3 (A)** of the 2011 Warringah Development Control Plan (DPC). Further details are available in Section 04.

TABLE 1: SUMMARY TABLE OF FINDINGS

Type	Findings
Car Parking Statutory Requirement	45 spaces
Bicycle Parking Statutory Requirement	2 spaces
Car Parking Provisions On-Site	190 spaces
Car Parking Availability	162 spaces (on average)
Daily Traffic Generation (Non-Event Day)	16 trips
Peak Traffic Generation (Non-Event Day)	2 trips
Revised Traffic Generation (Event Day)	90 Trips
Accessways	Complies with Planning DCP
Parking Spaces	Complies with DCP

A site inspection was conducted on Friday, 7 January 2022 between 9:30am and 6:30pm, where parking surveys were also performed in and surrounding areas of the Subject Site. A



Friday was chosen for the parking surveys to understand the parking demands of a potential worst-case scenario.

Shown below in Figure 1 is an aerial image of the property with Unit 10D marked as 'Subject Site'.



FIGURE 1: SUBJECT SITE (SOURCE: NEAR MAP)

1.3 SCOPE OF WORKS

One of the aims of this Traffic and Parking Assessment report is to address requirements associated with **relevant clauses (C1, C2, C3, C3(A) and Appendix 1)** of the 2011 Warringah Development Control Plan. It also intends to address Parking, Appendix 1 – Car Parking Requirements and Traffic sections of the Pre-lodgement Meeting Notes document (Application No: PLM2021/0291) issued by the Northern Beaches Council.



Furthermore, the report intends to assess the impacts of the development on the surrounding road network including an assessment of existing conditions and suitability. Scope of works include, but not limited to:

- A review of existing and proposed transport conditions.
- A review of surrounding land uses and land zoning.
- A review of applicable Statutory Parking Requirements.
- A car parking demand assessment including an assessment of the appropriateness of provisions.
- An assessment of alternative parking options and sustainable transport opportunities.
- A review of traffic impacts to assess the effect on the surrounding road network.
- A road safety review.
- A review of accessways, access points and parking areas.
- Recommendations for Client's consideration.

1.4 REFERENCES

The following documents have been reviewed and referred to in this report:

- 2011 Warringah Development Control Plan – Appendix 1 (Car parking requirements).
- 2011 Warringah Development Control Plan – C3, C3 (A) (Parking and Bicycle Facilities).
- 2011 Warringah Development Control Plan – C2 (Traffic, Access, and Safety).
- 2011 Warringah Development Control Plan – C1 (Subdivision).
- The Northern Beaches Road Safety Plan 2019-2024.
- Northern Beaches Bike Plan – July 2020.
- Move Northern Beaches Transport Strategy 2038.
- Northern Beaches Walking Plan – April 2019.
- Site Plan of 106 Old Pittwater Road, Brookvale, 2100 (Sources: [Ron H Allard PTY LTD Architects](#)).
- Austroads Guide to Traffic Management (AGTM) Part 3: Transport Studies and Analysis Methods.



- Austroads Guide to Traffic Management (AGTM) Part 6: Intersections, Interchanges and Crossings Management.
- NSW Roads and Traffic Authority Guide to Traffic Generating Developments.



2 EXISTING CONDITIONS

2.1 SUBJECT SITE

The Subject Site is located in Brookvale on Old Pittwater Road, off Pittwater Road (North) and Condamine Street (South). Condamine Street and Pittwater Road (A8) are arterial roads managed by Transport for New South Wales. Towards its southern end, A8 connects with M1 motorway providing a connection towards Sydney CBD.

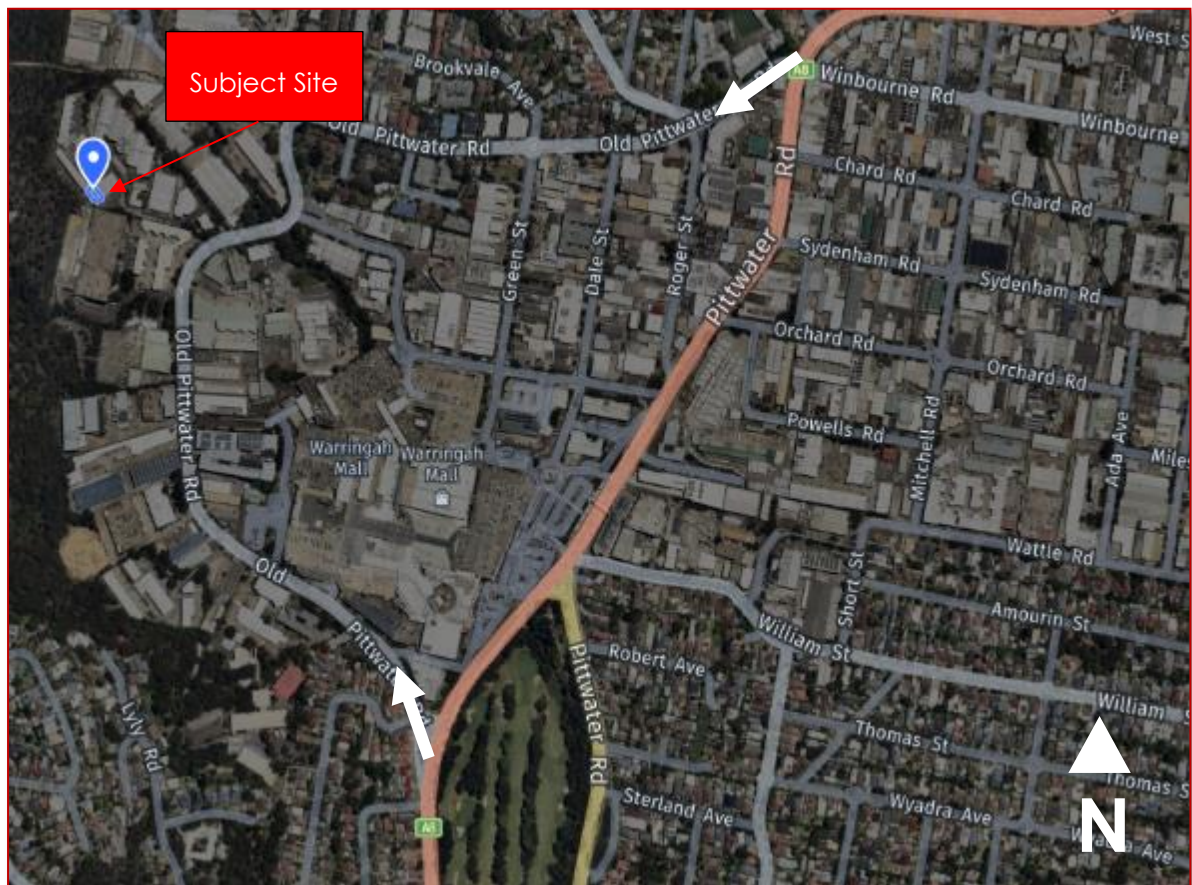


FIGURE 2: TWO ACCESS POINTS OFF A8 ROAD TO OLD PITTPATER ROAD (SOURCE: NEAR MAP)

The site is found approximately 1.5km from the A8 road, as shown by Figure 2 and is located within a General Industrial Zone (IN1). The property is situated amongst several other industrial type of land uses such as car dealers, tyre shops and gym/fitness facilities.



Unit 10D is bounded by another unit on the east and Allenby Park on the west, with an approximate floor area of 320m² internal and 90m² external. The site has only one access and egress point from Old Pittwater Road as shown in Figure 3. Multiple sub-routes can be taken to find available parking spots within the industrial area of 106 Old Pittwater Road, Brookvale as indicated by the coloured lines.



FIGURE 3: ACCESS PATHS

As seen in Figure 4, a bus hub accommodates 17 different bus routes to the Warringah mall which is situated 1.3 km away from the site. A walking distance of approximately 1.3km to the Subject Site would take approximately 17 minutes to complete. Buses are seen to be very frequent between 8:00am to 7:00pm, with few bus routes such as B1 and BN1 operating through the night.

Old Pittwater Road provides footpaths on both sides of the road with signalised crossings at its intersection with Pittwater Road and Beacon Hill Road. Additionally, there are signalised crossing facilities at the Westfield Warringah Mall entrances on Old Pittwater Road. Old Pittwater Road also contains on street parallel parking throughout its stretch.



As per the conducted parking surveys on Friday, 7th January 2022, a total of 190 car parking spaces were found to be located within the industrial area of 106 Old Pittwater Road, Brookvale. Additionally, about 50 street car parking spaces were found on Old Pittwater Roads approximately 100m away from the development site. These street parking spaces are not time-restricted.

As per the captured survey data, out of the 190 spaces, only 28, 38, 31 and 14 parking spaces were occupied at 9:30am, 12:30pm, 3:30pm and 6:30pm, respectively. Additionally, out of the 50 street car parking spaces in the vicinity, only 28 and 12 street car parking spaces were occupied at 3:30pm and 6:30pm, respectively.

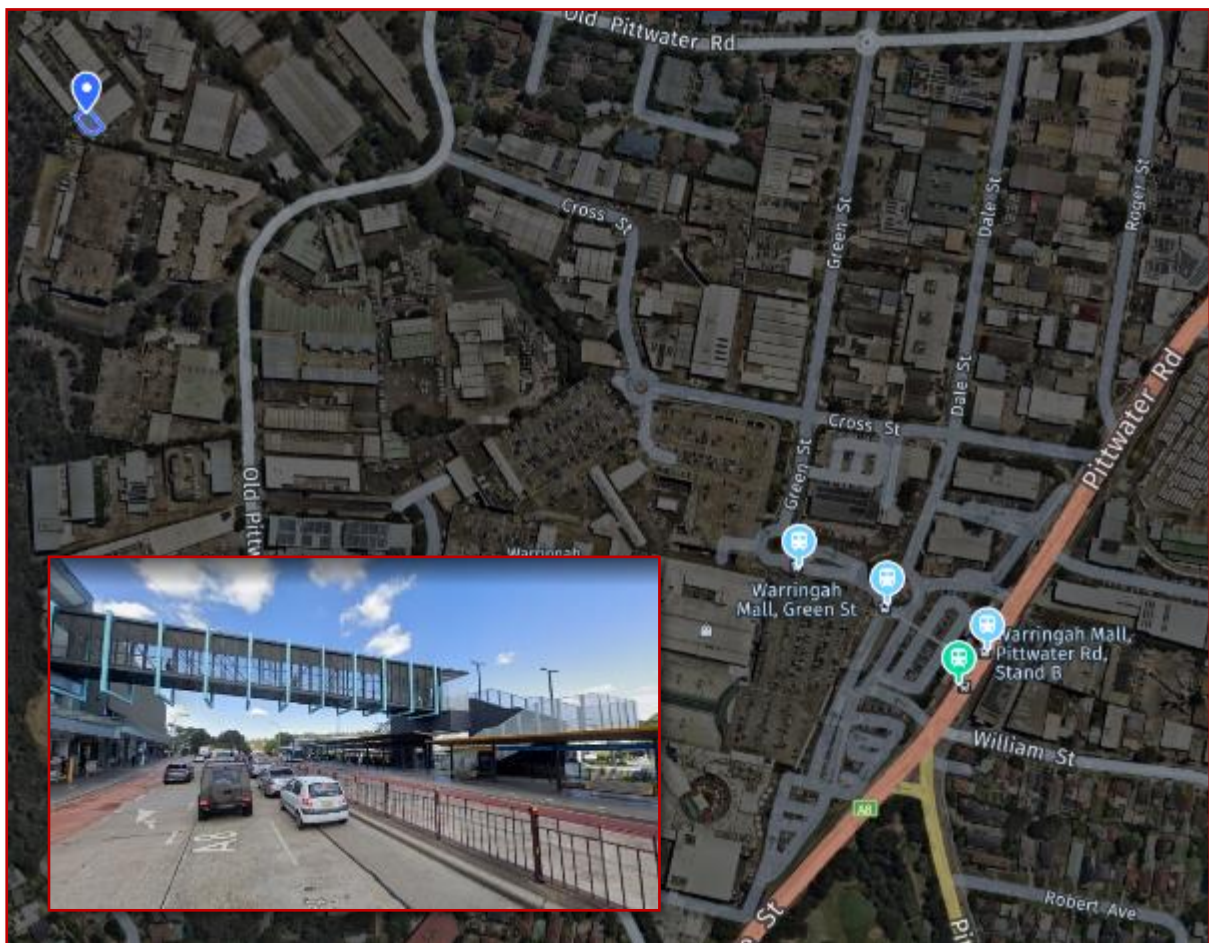


FIGURE 4: WARRINGAH MALL BUS TRANSIT



A locality plan of the Subject Site is provided in Figure 5.



FIGURE 5: LOCALITY PLAN OF THE SUBJECT SITE (SOURCE: STREET DIRECTORY)

2.2 ROAD NETWORK

An overview of the existing road network surrounding the Subject Site is presented in the following section.

2.2.1 Pittwater/Condamine Road

Table 2 outlines the existing conditions and features of Pittwater Road/ Condamine Road (A8).



TABLE 2: EXISTING CONDITIONS & FEATURES OF PITTWATER ROAD/CONDAMINE ROAD(A8)

PITTWATER ROAD/ CONDAMINE ROAD	
	
Classification & Road Authority	Arterial Road
Carriageway	Dual carriageway
Traffic lanes	• Three traffic lanes in each direction • One bus lane in each direction
Intersection (with Old Pittwater Road)	South approach: • Three through lanes with one lane acting as a bus lane • Left turn slip lane



	• Median island • Footpaths on both sides of the road North approach: • Two through traffic lanes • Right turn lane • Signalised pedestrian crossing Remaining approaches are discussed in Table 3.
Pedestrians & Cyclists	• Footpaths on both sides of the road
Road Safety Features	Features: • Traffic signals • Physical separation of opposing traffic streams via a combination of painted and median islands • Signalised pedestrian crossings • Keep clear pavement markings • Street lighting
Speed Limit	60km/h
Street Parking	Permitted in very rare locations

2.2.2 Old Pittwater Road

Table 3 outlines the existing conditions and features of Old Pittwater Road.



TABLE 3: EXISTING CONDITIONS & FEATURES OF OLD PITTWATER ROAD

OLD PITTWATER ROAD	
	
Classification & Road Authority	Distributor
Carriageway	Single Carriageway
Traffic lanes	One traffic lane in each direction
Intersection (with Pittwater Road)	Old Pittwater Road (Western Approach): • Two right turn lanes. • One left turn slip lane • Signalised pedestrian crossing



	Remaining approaches are discussed in Table 2.
Pedestrians & Cyclists	• Footpaths on both sides of the road • No specific cycle path available • No monitored or signalised crossing
Road Safety Features	Features: • Keep clear pavement markings • Roundabouts • Give way and stop signs • Double continuous centreline treatment near the access point of the Subject Site • Street lighting
Speed Limit	50km/h
Street Parking	Permitted on either side of the roadway. Old Pittwater Road has no restriction on parking times or length of stay

2.3 PARKING PROVISIONS

A total of 18 marked car parking spaces are directly located outside the subject site. Figure 6 represents the 18 shared car parking spaces immediately surrounding the site.





FIGURE 6: SHARED PARKING SPACES DIRECTLY INFRONT OF UNIT 10D

As per the captured survey data, a total of 190 car parking spaces were found within the larger industrial lot surrounding the site with parking restrictions. These parking spaces were found to be located within the 106 Old Pittwater Road complex. Out of the 190 spaces, 28, 38, 31 and 14 spaces were found to be occupied at 9:30am, 12:30pm, 3:30pm and 6:30pm respectively.

Additionally, out of the 50 streetcar parking spaces on Old Pittwater Road, only 28 and 12 street car parking spaces were occupied at 3:30pm and 6:30pm, respectively.





FIGURE 7: PARKING SURVEY SEGMENTS (SOURCE: NEAR MAP)

The survey was conducted in two area segments namely:

- **Area 1** – 106 Old Pittwater Road Complex – 190 spaces available - No Time Limit.





FIGURE 8: PARKING WITHIN 106 OLD PITTWATER ROAD COMPLEX

- **Area 2** – Old Pittwater Road Street Parking – 50 spaces available - No Time Limit.





FIGURE 9: OLD PITTWATER ROAD STREET PARKING

Table 4 denotes a summary of the parking survey data, detailing the vacant and occupied car parking spaces within the areas specified in Figure 7.

TABLE 4: SUMMARY OF PARKING SURVEY DATA

Summary	Time	Total Available	Occupied	Available
Area 1	9:30am	190	28	162
	12:30pm	190	38	152



	3:30pm	190	31	159
	6:30pm	190	14	176
Area 2	3:30pm	50	28	22
	6:30pm	50	12	38

Additionally, Figure 10 summarises the key data of total parking availability in the areas within the subject sites complex.

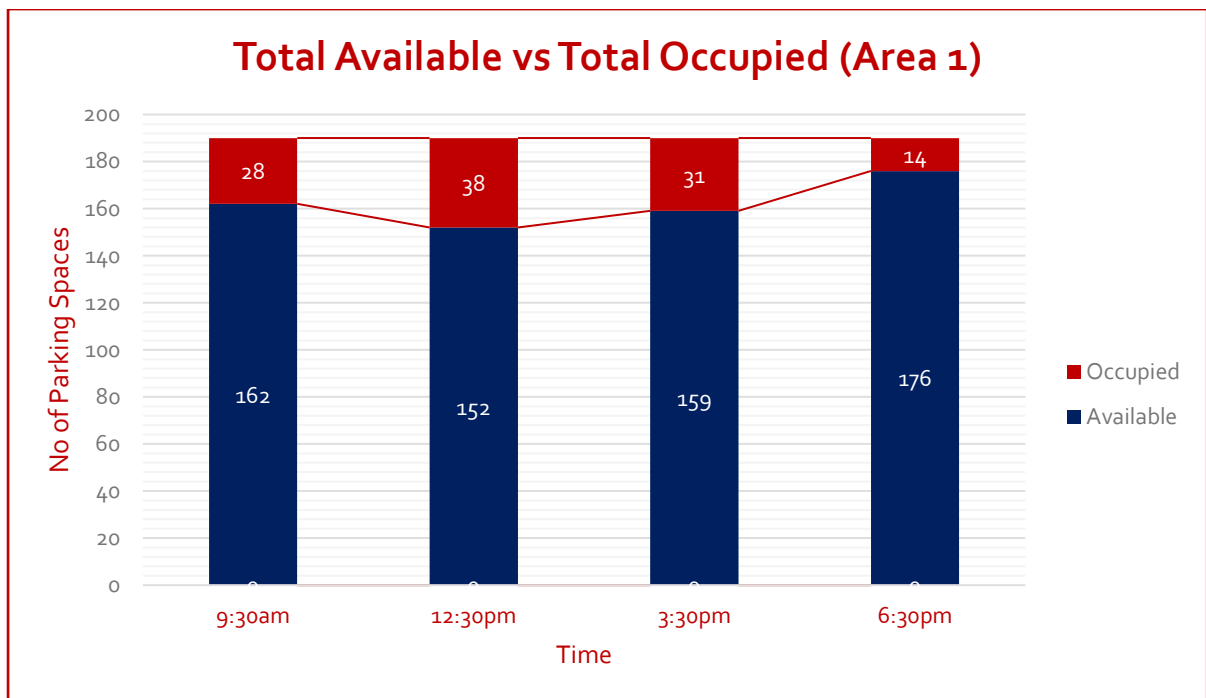


FIGURE 10: PARKING AVAILABILITY WITHIN THE INDUSTRIAL AREA

The following information was gathered from the site inspection.

- On average, 85% of the car spaces in Area 1 were available across the day which equates to approximately 162 spaces.
- There were consistently more spaces available than occupied throughout the day.



- On average, 60% of the car spaces in Area 2 were available across the afternoon which equates to approximately 30 spaces.

2.4 LOADING

Given the proposed land use of the light industry premises, loading/unloading activities are expected to be infrequent. According to the information provided by the Client, no trucks are expected to enter as there is no need for loading goods. Items are typically delivered by couriers using trolleys. Therefore, swept path plots were considered unnecessary in this analysis.

However, in case trucks needing access, the access gate is approximately 5m wide in addition to the approximately 6m wide internal roads within the facility providing sufficient space for trucks to travel comfortably. Further assessments are considered unwarranted.

2.5 PUBLIC TRANSPORT

A bus hub accommodates 17 different bus routes to the Warringah mall which is situated 1.3 km away from the site. A walking distance of approximately 1.3km to the subject site would take approximately 17 minutes to complete. Buses are seen to be very frequent between 8 am to 7 pm, with few bus routes such as B1 and BN1 operate through the night.

2.6 ACTIVE TRANSPORT

Old Pittwater Road provides footpaths on both sides of the road with signalised crossings at its intersection with Pittwater Road and Beacon Hill Road. Additionally, there are signalised crossing facilities at the Westfield Warringah Mall entrances on Old Pittwater Road. Figure 11 and Figure 12 display the crossing facilities for pedestrians at Westfield shopping centre and intersection with Pittwater Road, respectively. Additionally, Figure 13 shows the pavement markings on footpaths on Old Pittwater Road, which read "LOOK" to aid in pedestrian safety when crossing driveways.





FIGURE 11: OLD PITTWATER ROAD – WESTFIELD SHOPPING CENTRE PEDESTRIAN CROSSING



FIGURE 12: SIGNALISED INTERSECTION WITH PITTWATER ROAD





FIGURE 13: FOOTPATHS ON OLD PITTWATER ROAD

2.7 LEGISLATION REVIEW

Given below in Figure 14 is a map indicating the Planning Zones surrounding the Subject Site. The site is located within a General Industrial Zone (IN1), as per the Warringah Land Zone Map. Subsequently, Public Recreation (RE1), Low Density Residential (R2), Medium Density Residential (R3) and a Commercial Core (B3) are surrounding the Subject Site. Pittwater Road is denoted as a Classified Road (SP2).



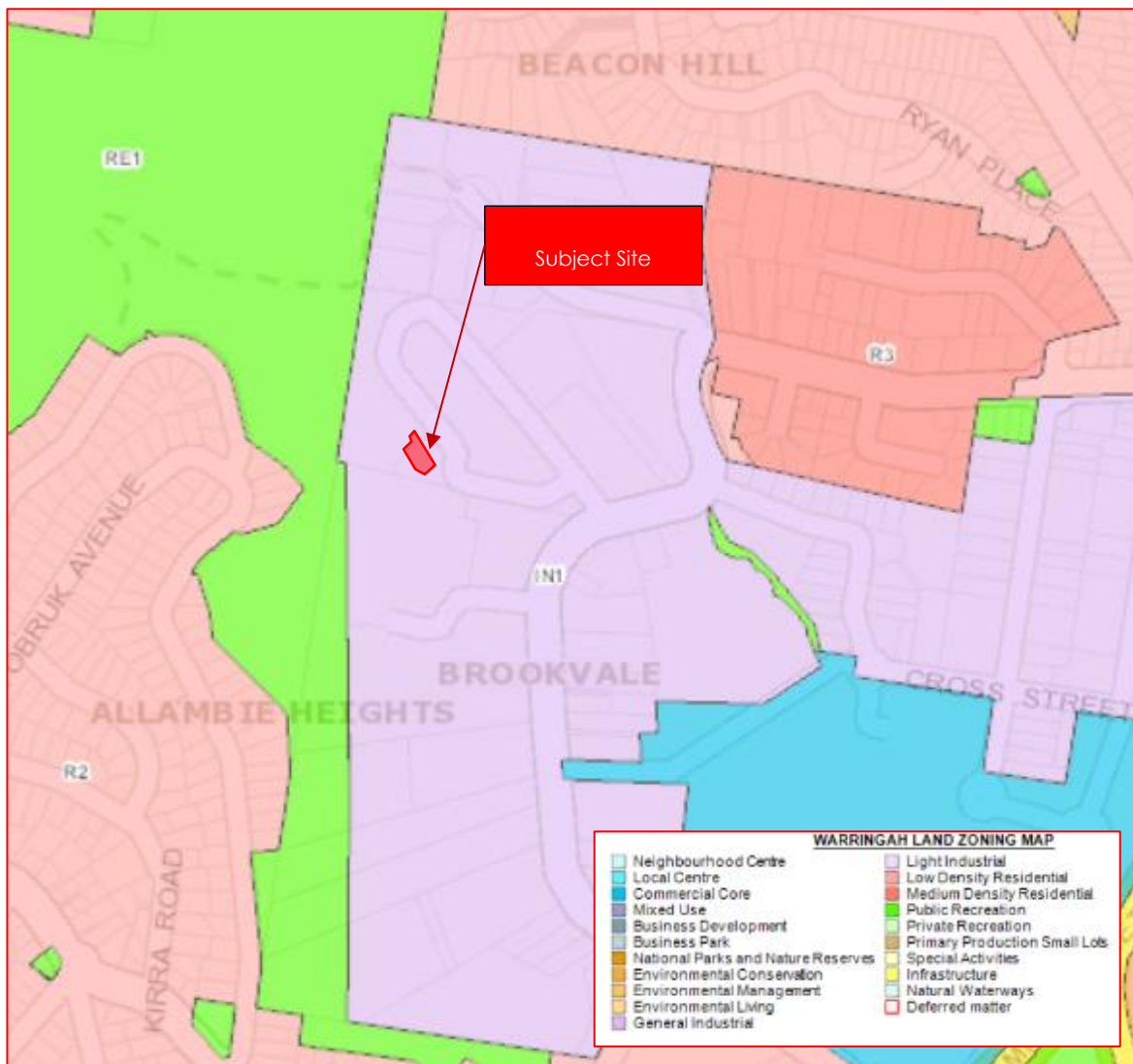


FIGURE 14: LAND ZONES SURROUNDING SUBJECT SITE

RedSquare Traffic has reviewed the Northern Beaches Councils Planning Controls to understand relevant zoning, clauses and overlays applicable to the Subject Site, and are as follows.

- General Industrial Zone (IN1).



It is further identified that the Subject Site falls within the boundaries of several other overlays such as:

- Northern Beaches Bush Fire Prone Land.
- Development Control Plan – Low Risk Flood Planning Precinct.
- Warringah LEP201 – Land Slip Risk Map – Area A.
- Warringah LEP2011 – Land Slip Risk Map – Area B.
- Warringah LEP2011 – Land Slip Risk Map – Area C.

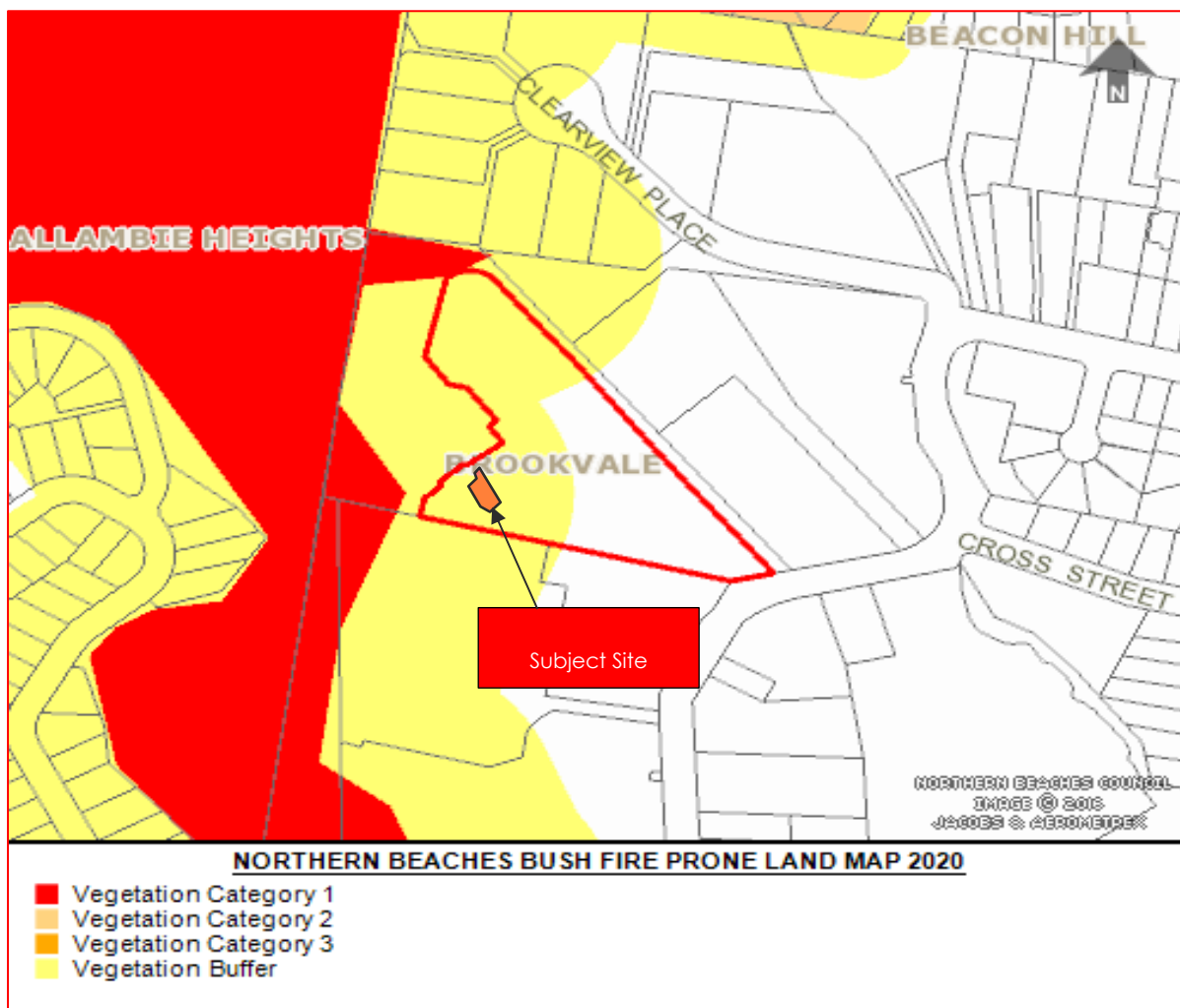


FIGURE 15: NORTHERN BEACHES BUSH FIRE PRONE LAND



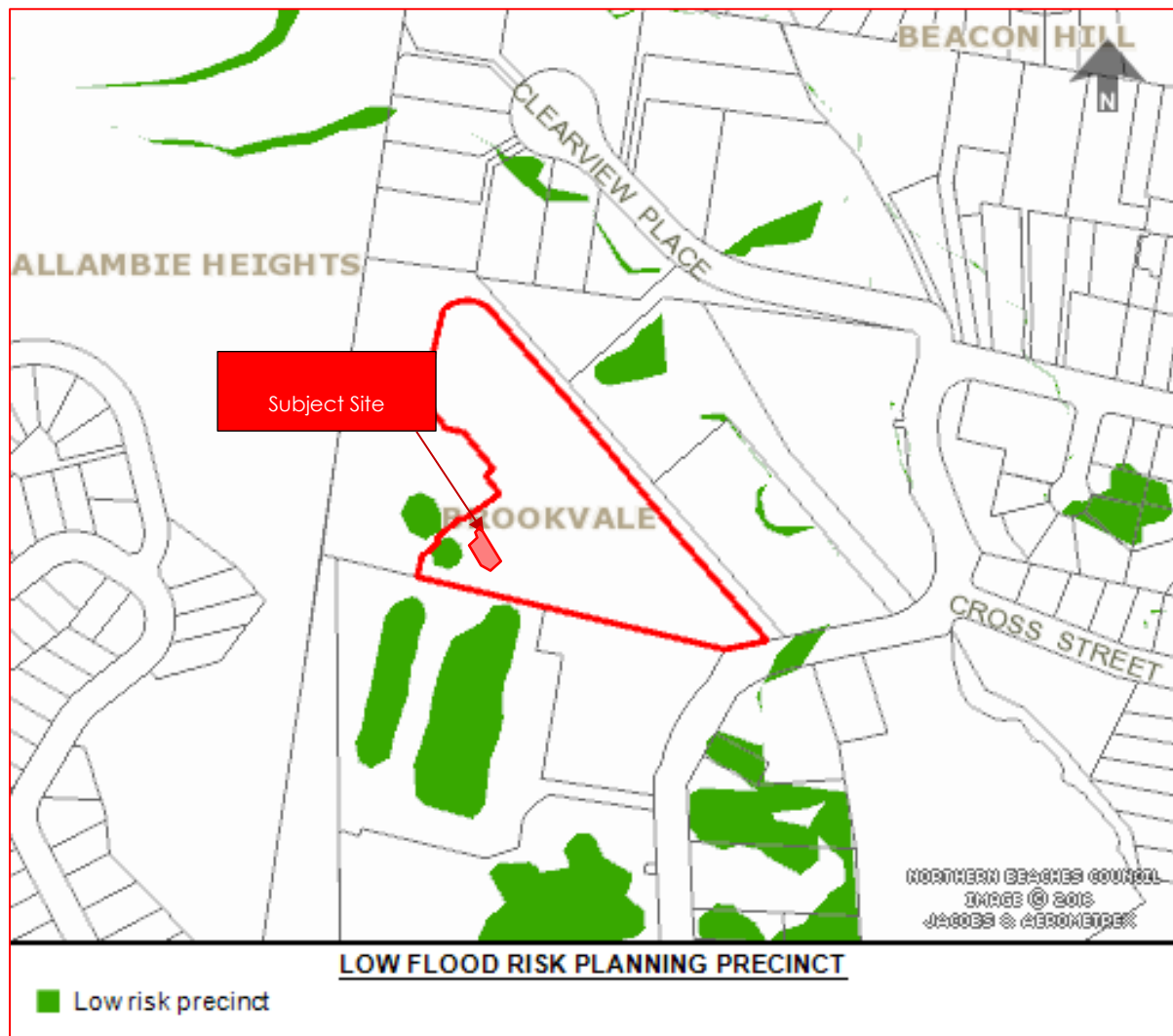


FIGURE 16: DEVELOPMENT CONTROL PLAN – LOW RISK FLOOD PLANNING PRECINCT



3 PROPOSAL

RedSquare Traffic understands the Client, Shufflemedia Productions, is intending to develop an existing warehouse space into a high technology industry ('light industry') for filming, photography, and events. These events potentially hold up to 150 patrons.

It is recognised with reference to the Site Plans (Source: **Ron H Allars PTY LTD Architects**) that the proposed premises will have the following features:

- 190 parking spaces (shared between the entire complex).
- Proposed openings are from 6:00pm to 12 midnight (occasionally till about 2:00am, depending on the event).
- Visitors range from 25 to 65 years of age.
- Three staff members on regular days.
- Square area of 320m² internal and 90m² external.
- Loading and unloading goods are made by couriers using trolleys.
- The space includes a photography studio with full white cyclorama, workshop, event space and an exhibition space.
- Facilities within the complex include kitchen, green room, lounge areas and outdoor area.

Provided below in Figure 17 is the proposed layout of this premises.



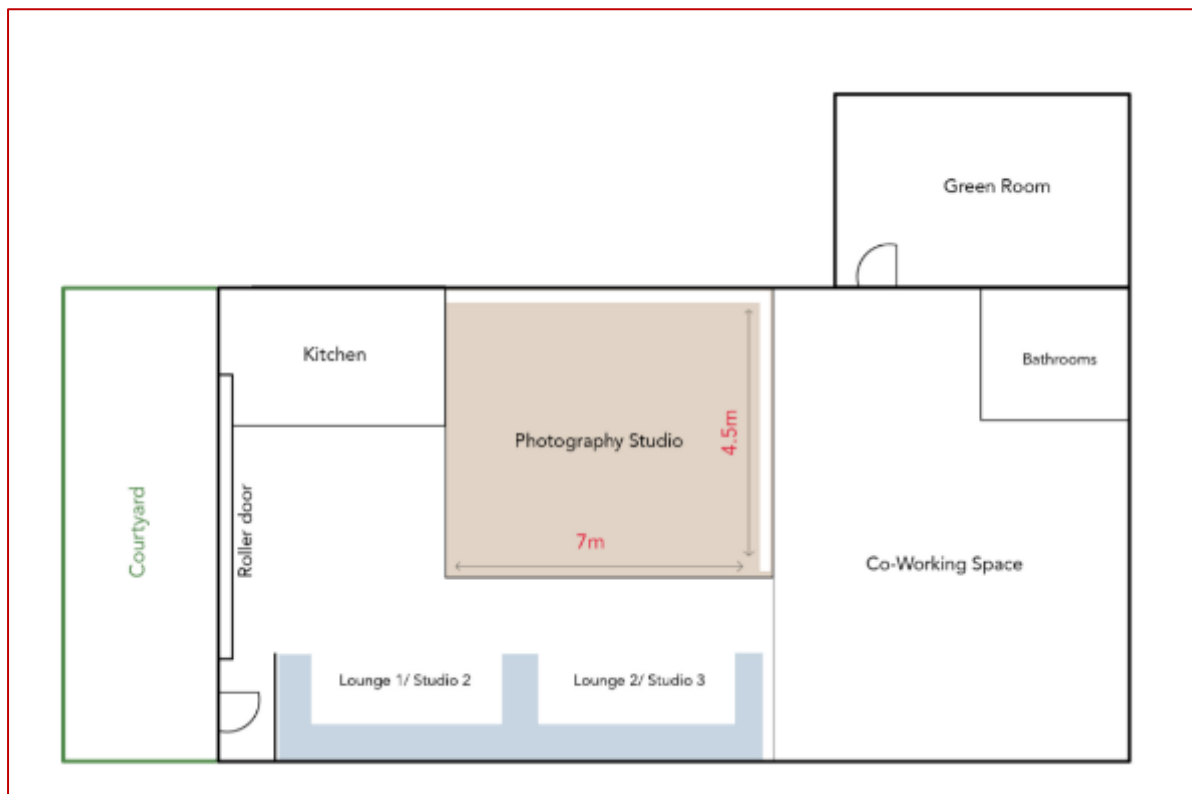


FIGURE 17: PROPOSED FLOOR PLAN (SOURCE: SHUFFLEMEDIA PRODUCTIONS FLOOR PLAN)



4 PARKING

4.1 STATUTORY REQUIREMENTS

4.1.1 Car Parking Requirements

The relevant Statutory Car Parking Requirements for the proposed light industry usage are outlined under **Section C3** of the 2011 Warringah Development Control Plan (DCP). The aims of **C3 – Parking Facilities** are:

- To provide adequate off street carparking.
- To site and design parking facilities (including garages) to have minimal visual impact on the street frontage or other public place.
- To ensure that parking facilities (including garages) are designed so as not to dominate the street frontage or other public spaces.

As per the instructions provided by Northern Beaches Council in the Pre-Lodgement Meeting Notes document, the proposed development is classified as **Industry** land use under **Appendix 1. Clause 52.06 of the Victorian Planning Scheme** will also be used as empirical evidence where the NSW Roads and Traffic Authority's (RTA) Guide to Traffic Generating Developments ('RTA Guide') is unable to hold the appropriate requirements of the clients' specifications.

As explained above, **Appendix 1** specifies that Car Parking requirements of the **industry** land use **shall be 1.3 spaces per 100 m² of gross floor area**. Lower rates can be applied to the satisfaction of the Responsible Authority.

Summarising all above, Table 5 presents applicable Statutory Car Parking Requirements.

NOTE FOR ASSESSORS

As the Subject Site is a facility that is expected to hold events that could generate up to 150 patrons, '**Industry**' classification is considered inappropriate as it will underestimate the amount of parking spaces required. Thus, comparisons have been drawn to the Victoria Planning Scheme, which specifies parking rates for facilities that hold events ('Place of Assembly').



TABLE 5: STATUTORY CAR PARKING REQUIREMENTS

Clause	Most Appropriate Classification	Floor Area/Patrons	Statutory Requirement	No of Spaces Required
Appendix 1 of Warringah DCP	Industry	320m ² internal and 90m ² external	1.3 space to each 100m ² of gross floor area	6
Clause 52.06	Place of Assembly	150 patrons	0.3 space per patron	45

Based on Table 5 above, under **Appendix 1 of the Warringah DCP**, the development must provide a total of 6 car parking spaces provided the Subject Site is to operate as an industry premises.

Revised Parking Requirement

For a facility which is deemed to hold 150 patrons at a maximum capacity event, the Warringah DCP – Appendix 1 requirements are unrealistic. Thus, it is more appropriate to observe the findings of **Clause 52.06 of the Victorian Planning Scheme**, which states that the development must provide a total of 45 car parking spaces in order to operate as a Place of Assembly.

Parking Availability

As the parking facilities in the surrounding area are shared amongst businesses, it is difficult to distinguish which premises occupies the parking bays and therefore, it is challenging to predict with certainty, how much of a shortfall is applicable to 106 Old Pittwater Road, Brookvale.

During site inspections, 162 car spaces on average were available across the entire complex. As none of these parking spaces are solely dedicated for the use of the Subject Site, a Council approval is sought to waive the requirement of providing these parking spaces within the property itself. Further details are provided in **Section 4.2**.



Design Principles Check

According to [Section C3 Parking Facilities](#), a design principles compliance check has been conducted in Table 6.

TABLE 6: CAR PARKING COMPLIANCE REVIEW AGAINST REQUIREMENTS OF 'C3 PARKING FACILITIES'

Requirement	Design Response
1. The following design principles shall be met: - Garage doors and carports are to be integrated into the house design and to not dominate the façade. Parking is to be located within buildings or on site. - Laneways are to be used to provide rear access to carparking areas where possible. - Carparking is to be provided partly or fully underground for apartment buildings and other large-scale developments. - Parking is to be located so that views of the street from front windows are not obscured; and - Where garages and carports face the street, ensure that the garage or carport opening does not exceed 6 metres or 50% of the building width, whichever is the lesser.	Not Applicable.
2. Off street parking is to be provided within the property demonstrating that the following matters have	Complies. Refer to Section 4.2 .



been taken into account: - the land use; - the hours of operation; - the availability of public transport; - the availability of alternative car parking; and - the need for parking facilities for courier vehicles, delivery / service vehicles and bicycles.	
3. Carparking, other than for individual dwellings, shall : - Avoid the use of mechanical car stacking spaces; - Not be readily apparent from public spaces; - Provide safe and convenient pedestrian and traffic movement; - Include adequate provision for manoeuvring and convenient access to individual spaces; - Enable vehicles to enter and leave the site in a forward direction; - Incorporate unobstructed access to visitor parking spaces; - Be landscaped to shade parked vehicles, screen them from public view, assist in micro-climate management and create attractive and pleasant places; - Provide onsite detention of stormwater, where appropriate; and	Complies. Safe traffic and pedestrian movements have been analysed. Loading/Unloading manoeuvres are specified in Section 2.4.



- Minimum car parking dimensions are to be in accordance with AS/NZS 2890.1.	
4. Carparking is to be provided in accordance with Appendix 1 which details the rate of car parking for various land uses. Where the carparking rate is not specified in Appendix 1 or the WLEP, carparking must be adequate for the development having regard to the objectives and requirements of this clause. The rates specified in the Roads and Traffic Authority's Guide to Traffic Generating Development should be used as a guide where relevant.	Car parking statutory requirements comply with Appendix 1 and RTA Guide.
5. Adequate provision for staff, customer and courier parking, and parking and turning of vehicles with trailers must be provided if appropriate to the land use.	Complies.
6. For bulky goods premises adequate on-site parking spaces for service/delivery vehicles at a convenient location, separated from customer parking must be provided.	Not Applicable.



7. Where appropriate, car parking which meets the needs of people with physical disabilities must be provided in accordance with the relevant Australian Standard.	Complies.
8. For Forest Way Village car parking at ground level is to be provided for individual units.	Not Applicable.

4.1.2 Bicycle Parking Requirements

The relevant Statutory Bicycle Parking Requirements for the proposed Shufflemedia Productions facility is outlined under **Section C3(A) of the Warringah DCP**. The aims of this section are as follows:

- To help meet the transport needs of the Warringah community.
- To encourage healthy active lifestyles and help reduce reliance on private motor vehicles.
- To provide convenience and safety for bicycle users.

Under **Section C3(A) of the Warringah DCP – Bicycle Parking and End of Trip Facilities**, the requirements are specified as follows. It is noted, the entire floor area has been classified as a **Light Industry**.

TABLE 7: STATUTORY BICYCLE PARKING REQUIREMENTS

Use	Floor Area	Statutory Requirement	No of Spaces Required
Light Industry	320m ² internal and 90m ² external	1 to each 200m ² of net floor area for employees.	2
Total	2		



It is noted, only 2 bicycle parking spaces are required under **Section C3(A) of the DCP** for the proposed light industrial use. Given that this bicycle parking space is dedicated for employees, it is not considered necessary for any modifications to be made. There is ample space within the land to allow for one bicycle to park.

4.2 CAR PARKING DEMAND ASSESSMENT

According to the Statutory Requirements, a total of 6 car parking spaces are required to satisfy the demand generated from the proposed development. However, with the revised parking rate in place, a total of 45 car parking spaces are required. In absence of dedicated car parking spaces within the facility, RedSquare Traffic have had to rely on parking survey data to analyse parking availability at different times of a typically busy day (e.g., Friday). It is also noted a total of 162 car parking spaces were observed to be available throughout the day on average, in the complex.

It is further noted, the provision of public transport facilities, active transport facilities and the likelihood of multi-purpose trips and several other factors reduce the dependence on cars. In absence of specific car parking demand assessment requirements in NSW guides or Warringah DCP, the following sections discuss the appropriateness of reducing the parking demand further by referring to the factors specified in a sampled Victorian Council Planning Scheme **Clause 52.06**. This clause states that a Car Parking Demand assessment can effectively support the reduction of car parking spaces shall an insufficient number of spaces be provided at the subject site.

A Car Parking Demand Assessment requires the assessment of car parking demand likely to be generated by the proposed expansion and must address the following to the satisfaction of the responsible authority:

- The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.
- The variation of car parking demand likely to be generated by the proposed use over time.
- The short-stay and long-stay car parking demand likely to be generated by the proposed use.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.



- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.
- Any empirical assessment or case study.

A discussion of the relevant items from above lists are provided as follows.

TABLE 8: CAR PARKING DEMAND ASSESSMENT

No.	Factor	Response
1	The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.	Multipurpose trips are not likely given the clients specifications and land use. It is likely visitors will arrive purely for the services provided by Shufflemedia Productions. This factor increases the parking demand associated with the Subject Site.
2	The variation of car parking demand likely to be generated by the proposed use over time.	Proposed opening hours of the business are from 6:00pm to midnight, with a max capacity of 150 patrons. However, it is not possible to conclude with confidence that the car parking demand for the Subject Site will vary over time. The variation is highly dependent on the booking schedule of the Subject Site, the season, and the length of stay. However, on the same note, car parking demand is not likely to peak in a certain time either. It can create random ups and downs, without no apparent pattern. This factor remains neutral when assessing the parking demand associated with the Subject Site.
3	The short-stay and long-stay car parking	The services expected to be provided by Shufflemedia Productions include when clients and potential customers



	demand likely to be generated by the proposed use.	will be invited for a specific event showcasing a particular demonstration of products and/or services. Visitors will remain in the premises for about 2 hours. Sometimes they will remain in the premises for up to 6 hours depending on the event. On such occasion, long term parking for both clients/visitors and staff would be required. However, on non-event days, vacant parking would be frequent due to clients rarely visiting the warehouse itself, especially before 6:00pm. This factor remains neutral when assessing the parking demand associated with the Subject Site as it is highly dependent on the booking schedule of the venue.
4	The availability of public transport in the locality of the land.	A bus hub accommodates 17 different bus routes to the Warringah mall which is situated 1.3 km away from the site. A walking distance of approximately 1.3km to the subject site would take approximately 17 minutes to complete. Buses are seen to be very frequent between 8 am to 7 pm, with few bus routes such as B1 and BN1 to run through the night. This factor reduces the parking demand associated with the Subject Site.
5	The convenience of pedestrian and cyclist access to the land.	Old Pittwater Road provides footpaths on both sides of the road with signalised pedestrian and zebra crossings across its intersection with Pittwater Road. Additionally, there is signalised crossing facilities at the Westfield Shopping Precinct entrances on Old Pittwater Road. This factor reduces the parking demand associated with the Subject Site.
6	The provision of bicycle parking and end of trip	Given the industrial nature of the land use, provision of bicycle parking and end trip facilities on the land itself are not considered necessary.



	facilities for cyclists in the locality of the land.	This factor remains neutral when assessing the parking demand associated with the Subject Site.
7	The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.	According to 2016 ABS Census data, Brookvale had 52.3% of residents travel to work by car, which is lower than New South Wales state-wide rate of 57.8%. This factor reduces the parking demand associated with the Subject Site.
8	Any empirical assessment or case study.	A neighbouring development Application Report for 10A, 106 Pittwater Road, Brookvale states a requirement of 16 parking spaces as an Indoor recreation facility. This proposal has not created a significant disruption to the road network or road user safety of the complex. Thus, it can be concluded with a high level of confidence that this application will follow a similar trajectory. This factor reduces the parking demand associated with the Subject Site.
SUMMARY		4 out of 8 factors contribute to a reduction and 1 out of 8 factors contribute to an increase of parking demands associated with the proposed premises. 3 out of 8 factors remained neutral .

4.3 SUPPORTING INFORMATION FOR PERMIT APPLICATION

Clause 52.06-7 of Victorian Council Planning Scheme states that before granting a permit to reduce the numbers of spaces, the responsible authority must consider a range of specified matters. These matters include:

- The Car Parking Demand Assessment.
- Any relevant local planning policy or incorporated plan.
- The availability of alternative car parking in the locality of the land, including:
 - Efficiencies gained from the consolidation of shared car parking spaces.



- Public car parks intended to serve the land.
- On street parking in non-residential zones.
- Streets in residential zones specifically managed for non-residential parking.
- On street parking in residential zones in the locality of the land that is intended to be for residential use.
- The practicality of providing car parking on the site, particularly for lots of less than 300 square metres.
- Any adverse economic impact a shortfall of parking may have on the economic viability of any nearby activity centre.
- The future growth and development of any nearby activity centre.
- Any car parking deficiency associated with the existing use of the land.
- Any credit that should be allowed for car parking spaces provided on common land or by a Special Charge Scheme or cash-in-lieu payment.
- Local traffic management in the locality of the land.
- The impact of fewer car parking spaces on local amenity, including pedestrian amenity and the amenity of nearby residential areas.
- The need to create safe, functional, and attractive parking areas. Access to or provision of alternative transport modes to and from the land.
- The equity of reducing the car parking requirement having regard to any historic contributions by existing businesses.
- The character of the surrounding area and whether reducing the car parking provision would result in a quality/positive urban design outcome.
- Any other matter specified in a schedule to the Parking Overlay.
- Any other relevant consideration.

Provided below is a table discussing relevant items from the above list.



TABLE 9: SUPPORTING INFORMATION

No.	Factor	Response
1	Car Parking Demand Assessment	Provided in Section 4.2 .
2	Any relevant local planning policy or incorporate plan.	• The Northern Beaches Road Safety Plan 2019-2024 "The Northern Beaches Road Safety Plan vision 'Safe Movement Always' sets out the directions and actions required to help the Northern Beaches local area to be recognised as a place which provides a safe travel environment for all users." • Northern Beaches Bike Plan – July 2020 "The Northern Beaches Bike Plan sets out the directions and actions required to help the community choose cycling as a transport option and create a safer cycling environment." • Move Northern Beaches Transport Strategy 2038 "(The Strategy) is our vision for a safe, sustainable and smart transport network. It outlines our key Future Directions on transport infrastructure, reducing congestion and changing travel behaviour."



		Northern Beaches Walking Plan – April 2019 "This Northern Beaches Walking Plan is our first as an amalgamated Council and details our plans to deliver a walking network which connects you to where you want to go." Above policies and future plans aims a common goal where dependence on cars are planned to be discouraged, by supporting more active and public transport modes.
.3	The availability of alternative car parking in the locality of the land, including: - Efficiencies gained from the consolidation of shared car parking spaces. - Public car parks intended to serve the land. - On street parking in non-residential zones. - Streets in residential zones specifically managed for non-residential parking.	- Further parking is available on the non-residential streets of Old Pittwater Road, Cross Street and Clearview Place. - Public car parks are available in the suburb of Brookvale, including a major public car park in Westfield Warringah Mall, approximately 1.3 km from site.
4	On street parking in residential zones in the locality of the land that is intended to be for residential use.	The demand for car parking is expected to be satisfied purely by the car parking spaces found within the Subject Site and the surrounding industrial lot. It is not expected, even during worst case scenarios, for the



		demand to overflow on to the nearby residential catchments. Thus, customers of the proposed development are not expected to create any disturbance to adjacent residential zones.
5	The practicality of providing car parking on the site, particularly for lots of less than 300 square metres.	No alternations to the number of existing parking spaces are required.
6	Any adverse economic impact a shortfall of parking may have on the economic viability of any nearby activity centre.	A shortfall of parking supply is not expected, thus no impact on economic viability is anticipated. In fact, supporting this development will only add economic value to the area.
7	The future growth and development of any nearby activity centre.	The suburb of Brookvale and Northern Beaches continues to undergo rapid growth with the \$310 million dollar upgrade of Warringah Mall in 2015.
8	Any car parking deficiency associated with the existing use of the land.	Site inspections indicated that parking deficiencies are not existent at the existing land.
9	Any credit that should be allowed for car parking spaces provided on common land or by a Special Charge Scheme or cash-in-lieu payment	Not applicable.



10	Local traffic management in the locality of the land	As mentioned in the report, the area contains various local area traffic management features such as keep clear pavement markings, left turn slip lanes, channelisation treatments, pavement arrows, advisory speed limits and street lighting.
11	The impact of fewer car parking spaces on local amenity, including pedestrian amenity and the amenity of nearby residential areas.	Fewer car parking spaces are not expected. However, fewer car parking spaces may encourage the use of active and public transport modes, which is a positive impact.
12	The need to create safe, functional, and attractive parking areas.	Safe, functional, and attractive parking areas are abundant in the area of the proposed premises and surrounding road networks.
13	Access to or provision of alternative transport modes to and from land.	Good access to alternative transport modes is existent at the Subject Site with the provision of footpaths, bus stops and safe road systems.
14	The equity of reducing the car parking requirement having regard to any historic contributions by existing businesses.	Negligible impacts.
15	The character of the surrounding area and whether reducing the car parking provision would result in a quality/positive urban design outcome.	Negligible impacts.
16	Any other matter specified in a schedule to the Parking Overlay.	Not applicable.



17	Any other relevant consideration.	Not applicable.
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Considering the information presented above, RedSquare Traffic deems with confidence that the facility can operate successfully without creating negative impacts to the surrounding road network.

This claim is backed by the following important observations.

- There are 190 car parks within the facility, with an average availability of 85% as observed on a typically busy Friday.
- There are 50 street parks on Old Pittwater Road, with an average availability of 60% as observed on a typically busy Friday.
- The operating hours of the proposed facility are after 6:00pm.
- Public and active transport availability.



5 TRAFFIC IMPACT ASSESSMENT

RedSquare Traffic utilised the NSW Roads and Traffic Authority's (RTA) Guide to Traffic Generating Developments ('RTA Guide') for Trip Generation rates relating to the subject site.

5.1 TRAFFIC GENERATION

The proposed tenancy is an industrial facility to be occupied by Shufflemedia Productions. Under the RTA guide, the most appropriate traffic generation rates applicable to the facility are as follows.

Non-Event Days

- Industry (Warehouse) – 0.5 per 100m² Area (Peak Hour).

NOTE FOR ASSESSORS

As the Subject Site is a facility that is expected to hold events that could generate up to 150 patrons, 'Industry' classification is considered inappropriate as it will underestimate the number of trips expected to be generated. Thus, a custom traffic generation rate of 0.6 per patron has been applied for 'Event Days' by drawing comparisons to similar assessments conducted by RedSquare Traffic in the past.

Event Days (After 6pm)

- 0.6 per patron for 150 patrons.

TABLE 10: TRAFFIC GENERATION RATES OF THE PROPOSED TENANCY

Type	Tenancy	Daily Vehicle Trips	Peak Hour Vehicle Trips
Non-Event Day	RTA Guide Rate	4/100m ² GFA	0.5/100m ² GFA
	Site Area (410m ²)	17	2
Event Day (After 6:00pm)	Tenancy	Event Trips	
	Rate	0.6 per patron for 150 patrons	



	150 Patrons	90
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It is noted, only peak hour vehicle trips are considered as worth exploring for a Non-Event Day, as the premises can operate effectively under off-peak demands when roads are operating with excess capacity. Additionally, a higher trip rate is considered when an event post 6:00pm is to occur. This is typically when the facility is to operate and be at its busiest.

5.2 TRAFFIC DISTRIBUTION & ASSESSMENT

Considering the location of major arterial and distributor roads, the layout of the surrounding road network and the likely travel patterns of residents, the following traffic distribution and volume assumptions have been made.

ASSUMPTIONS – ENTRY MOVEMENT

- 70% will perform a left turn into the property having approached from areas near the Sydney CBD.
- 30% will perform a right turn into the property having approached from the Northern Beaches District and surrounding areas.

ASSUMPTIONS – EXIT MOVEMENT

- 70% will perform a right-out movement from the property to travel towards the Sydney CBD.
- 30% will perform a left-out movement from the property to travel towards The Northern Beaches and surrounds.

It is noted from above, only an increase of 2 peak vehicle trips is expected as a result of the proposed development for Non-Event Days. Furthermore, an increase of 90 vehicle trips is expected as a result of the proposed development for Event Days after 6pm.

Figure 18 and Figure 19 show the traffic distributions of the **peak hour 'Non-Event Day'** and **'Event Day'** scenarios of the proposed development. Land use and mode choice are factors which play a role in vehicle distribution around the Subject Site and surroundings.





FIGURE 18: POST DEVELOPMENT PEAK HOUR ENTERING TRAFFIC VOLUMES





FIGURE 19: POST DEVELOPMENT PEAK HOUR EXITING TRAFFIC VOLUMES

In observing these numbers, it is apparent that 2 extra trips spread across approximately an hour when the facility is not typically operating (Non-Event Day) will only create negligible impacts. It is also noted, the 90 extra trips will create negligible impacts as the events are expected to be held outside typical peak hours (i.e., after 6:00pm).

On a regular day, during business hours, a significantly higher number trips are generated from this industrial development that contains various land uses. This is considered appropriate empirical evidence that demonstrates the ability of the road network to handle 90 extra trips after 6:00pm, on event days.

Therefore, RedSquare Traffic, with significant amount of confidence conclude that no additional traffic impacts are expected to be generated as a result of the proposed tenancy.



6 ACCESS DESIGN & ROAD SAFETY REVIEW

6.1 EXISTING TRAFFIC & ROAD SAFETY FEATURES

RedSquare Traffic observed through the site inspection and photography, that 106 Old Pittwater Road, and surrounding networks currently operate with several features that aid in accessing the site safely. These features include:

- Double continuous centreline treatments near the access point of the Subject Site on Old Pittwater Road.



FIGURE 20: DOUBLE CONTINUOUS LINE TREATMENT NEAR THE ACCESS POINT



- Accessway entrance has a lane width of 3.75 metres.
- Internal roads contain pavement markings with a lane width of 3 metres.



FIGURE 21: MAIN ACCESS ROAD WITHIN THE FACILITY

- 10km/h speed limit upon entry with signage of 'shared zone' between pedestrians and vehicles.
- *Beware of Pedestrians* and *Watch for Pedestrians* warning signage provided.





FIGURE 22: SHARED ZONE AND OTHER SAFETY/PARKING RELATED SIGNAGE

- Two-way traffic, where all vehicles can access the Subject Site with a forward manoeuvre.
- Accessway clear of overhead obstructions and foliage.
- Speed humps, stop signs and zebra crossings within the industrial area.





FIGURE 23: SPEED HUMPS AND STOP SIGNS

- Intersections within the facility with appropriate traffic management features such as hold lines, zebra crossings and Give Way signs.





FIGURE 24: TYPICAL INTERSECTION WITHIN THE FACILITY WITH APPROPRIATE TRAFFIC MANAGEMENT FEATURES

With above features in place, the internal and surrounding road network operates satisfactorily without generating any safety related issues for users. With the development of **Shufflemedia Productions**, no new or additional safety issues are expected to arise.

6.2 ACCESSWAY REQUIREMENT COMPLIANCE CHECK

Section **C2** of the 2011 Warringah Development Control Plan highlights the requirements and objectives in regard to vehicular access and onsite loading/unloading. The aims of **C2 – Traffic, Access and Safety** are:

To minimise:



- Traffic hazards.
- Vehicles queuing on public roads.
- The number of vehicle crossings in a street.
- Traffic, pedestrian, and cyclist conflict.
- Interference with public transport facilities.
- The loss of "on street" kerbside parking.

According to **Section C2 Traffic, Access and Safety**, a design principles compliance check has been conducted in Table 11.

TABLE 11: ACCESS COMPLIANCE REVIEW

Requirement	Design Response
1. Applicants shall demonstrate that the location of vehicular and pedestrian access meets the objectives.	Complies. Currently demonstrated by existing traffic movements.
2. Vehicle access is to be obtained from minor streets and lanes where available and practical.	Not practical. Only access is provided from Old Pittwater Road. No modifications are considered necessary.
3. There will be no direct vehicle access to properties in the B7 zone from Mona Vale Road or Forest Way.	Not Applicable.
4. Vehicle crossing approvals on public roads are to be in accordance with Council's Vehicle Crossing Policy (Special Crossings) LAP-PL413 and Vehicle Access to Roadside Development LAP-PL 315.	No modifications are considered necessary as this is an existing facility.



5. Vehicle crossing construction and design is to be in accordance with Council's Minor works specification.	No modifications are considered necessary as this is an existing facility.
6. Facilities for the loading and unloading of service, delivery and emergency vehicles are to be: appropriate to the size and nature of the development; screened from public view; and designed so that vehicles may enter and leave in a forward direction.	Complies. Refer to Section 2.4 for loading related specifications.



7 CONCLUSION

7.1 SUMMARY & RECOMMENDATIONS

- RedSquare Traffic understands the Client, Shufflemedia Productions, is intending to develop an existing warehouse space into a high technology industry (Light Industry) for filming, photography, and events. These events potentially hold up to 150 patrons.
- The Subject Site is located within the suburb of Brookvale, approximately a 30-minute drive North of Sydney CBD.
- Patrons are expected to be customers visiting a specific event showcasing product or service demonstrations. It is expected that most visitors will arrive after 6:00pm and spend up to 2 hours on average in the premises.
- The site is located within a General Industrial Zone (IN1).
- The site is bounded by another unit on the east and Allenby Park on the west, with an approximate floor area of 320m² internal and 90m² external.
- As per the captured survey data on Friday the 7th of January 2022, out of the 190 spaces, only 28, 38, 31 and 14 parking spaces were occupied at 9:30am, 12:30pm, 3:30pm and 6:30pm, respectively. Additionally, out of the 50 street car parking spaces in the vicinity, only 28 and 12 street car parking spaces were occupied at 3:30pm and 6:30pm, respectively.
- A total of 18 marked car parking spaces are directly located outside the Subject Site.
- The development should provide a total of 45 car parking spaces in order to operate as a Place of Assembly under the revised parking requirement.
- It is noted, only 2 bicycle parking spaces are required under Section C3(A) of the DCP for the proposed light industrial use.
- Car parking demand assessment confirmed that factors such as operating hours, abundance of short-stay parking, availability of public transport and walking facilities and variations associated with the parking demands of the premises contributed to an even lesser parking demand.



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- Furthermore, several factors including active transport related objectives of the Northern Beaches Council supports the discouragement of car dependency.
 - The facility is proposed to generate 16 daily vehicle trips and 2 additional trips during peak hour for non-event days.
 - The facility is expected to generate 90 additional trips during an event, which is to take place after 6:00pm.
 - RedSquare Traffic, with significant amount of confidence can conclude that no additional traffic impacts are expected to be generated as a result of the proposed tenancy.
 - No new or additional road safety related issues are existent or expected to be generated as a result of the proposed facility.
 - Current traffic management treatments, road safety features and access points within the industrial area is considered appropriate for the proposed development.



8 APPENDICES

8.1 SITE PHOTOS









































