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## No.32 and 34 Paterson Street Mundijong Transport Impact Statement *version 1.0*



Harvey Constructions  
Proposed extension to  
Mundijong Tavern  
No.32 & 34 Paterson Street  
Mundijong

QTM Works # 28552

Client: Harvey Constructions Pty Ltd

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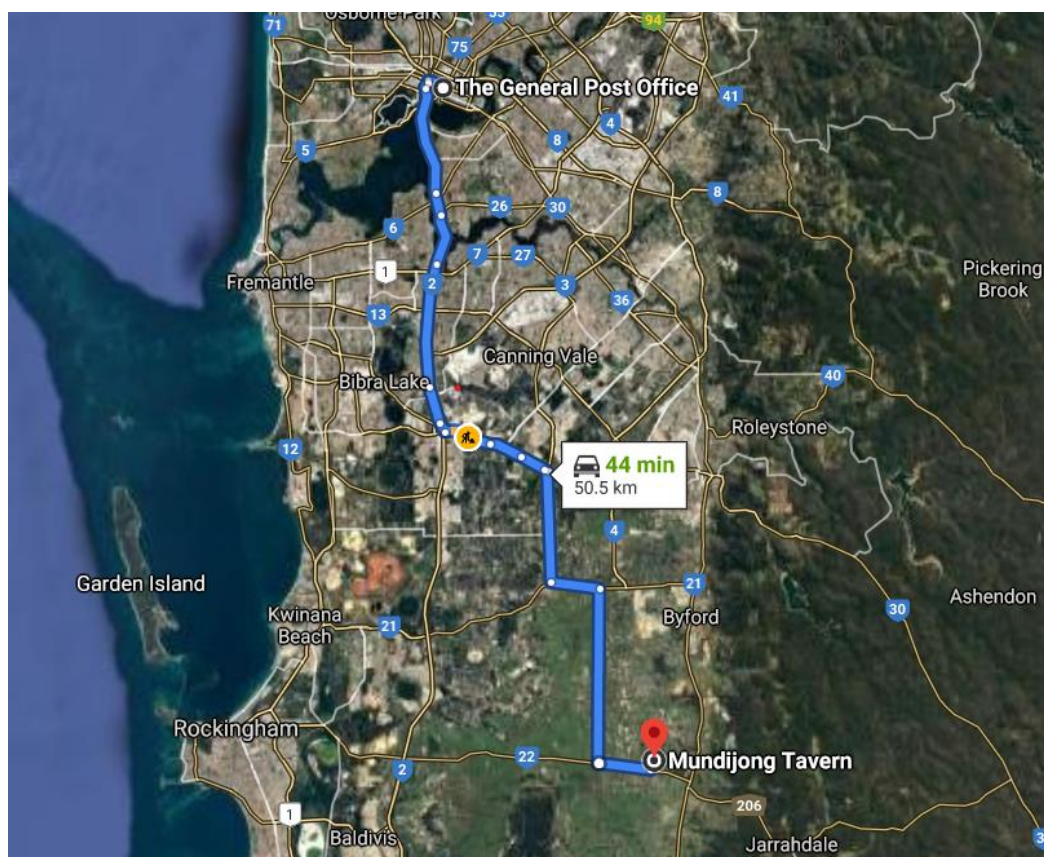
## 1. Introduction

Harvey Constructions Pty Ltd, commissioned QTM to provide traffic engineering services in the preparing of Transport Impact Statement (TIS) for Mundijong Hotel on 32 and 34 Paterson Road, Mundijong (Site).

### 1.1 Location of the Site

The Site is located approximately 50.5 km by road south-east of Perth Central Business District (CBD). It is in a suburban setting who's western, and northern boundaries are abutting residential developments, the southern boundary abutting Mundijong Post Office.

The Site is accessed via a crossover located at the middle of 34 Paterson Road. The location of the Site in relation to Perth CBD is shown in Figure 1. A more detailed aerial photo of the site with reference to the adjacent road network is shown in Figure 2.



Source: Google Maps

Figure 1: General location of Subject Site with reference to Perth CBD





Source: Near Map image via Serpentine Jarrahdale Shire (SJ Shire) online GIS app

**Figure 2: Detailed view of the Site with reference to adjacent road network**



## 2. Existing Situation

### 2.1. Existing Site Use Access and Parking

The layout of the Site is shown in Figure 2. On No.34 Paterson Road is an existing vacant site with part of the site being used as ad-hoc car park. On No.32 Paterson Road is the existing Mundijong Hotel which was established in 1897. They are situated within the Mundijong Town Centre precinct.

There is an existing crossover providing access to the ad-hoc car park on No.34 Paterson Road. A view of the Site from the north towards the south is shown in

**Figure 3.**



*Source: Taken by Phillip Yap*

**Figure 3: A view of the Site from the north towards the south at Paterson Road**



## 2.2. Existing Site Traffic Generation

The Site has a hotel on No.32 Paterson Road; with No.34 Paterson Road being a vacant lot, part of the lot is being used as an ad-hoc car parking area with crushed rock pavement and accessed via an existing constructed crossover on Paterson Road.

As advised by the proponent, the breakdown in floor area are as follows:

1. Internal Patronage area to the bar and dining areas – 165m<sup>2</sup>
2. Alfresco area – 57m<sup>2</sup>

## 2.3. Surrounding Road Network and Traffic Management on Frontage Roads

Paterson Road is a north-south local connector providing access to the residential dwellings located west of Paterson Road. It is a largely single carriage, two-lane cross-section with a width of 8.2 m north of Richardson Street. In front of the Site it has a cross-section that consists of in the north-bound direction a parking lane and traffic lane. It has a coloured pavement median interspersed with traffic islands to form a 4m wide turning pocket. In the south-bound direction, it has a traffic lane and a painted shoulder which can be utilise as a bicycle lane though not designated as a bicycle lane in this section of Paterson Road.

It is classified as a Local Distributor Road under the Main Roads Western Australia (MRWA) road hierarchy. Paterson Road has a speed limit of 60 km/h. (**Figure 4**)



**Figure 4: Cross section view of Paterson Road looking south towards Mundijong Road.**

The laneway at the rear of the property is an unconstructed accessway (**Figure 5**).





**Figure 5: View of the unconstructed laneway at rear of Site looking north.**

## **2.4. Existing Traffic Volumes and Roads and Major Intersections.**

The Paterson Street was recently counted by SJ Shire for the preparation of District Structure Plan. As advised by SJ Shire, the following traffic volumes were recorded (Table 1):

**Table 1: Existing Paterson Street traffic volume from Cardno report**

| <b>Paterson Street</b> | <b>North Bound (VPH)</b> | <b>South Bound (VPH)</b> | <b>Total</b> |
|------------------------|--------------------------|--------------------------|--------------|
| <b>AM Network Peak</b> | 119                      | 87                       | 206          |
| <b>PM Network Peak</b> | 286                      | 362                      | 648          |

## **2.5. Operation of Surrounding Intersections**

Based on-site observation and conversations with residents encountered during the site visit, the road is operating at a low level in a traffic capacity perspective.



## **2.6. Road Safety**

As advised by MRWA road crash database, there is one major property damage crash recorded at Paterson Street between Whitby Street and Richardson Street intersections between 1 January 2015 and 31 December 2019.

MRWA updates their publicly available crash database on an annual basis and hence it is not due another update until at least the first quarter of 2021.

### 3. Development Proposal

#### 3.1. Proposed Site Use

The proposal for the Site is for the addition of a drive through liquor store comprising the following elements:

- Bottle Shop Drive Thru Floor Plan
  - a. Display Areas – 137m
  - b. Cool room/Fridge areas – 29m<sup>2</sup>
- Drive Thru Area – 66m this will be first-in, first out arrangement to ensure safety of customers and pedestrians.
- Formalise the ad-hoc parking area by sealing and constructing up to 44 parking bays (including two ACROD bays) on No.34 Paterson Street.

#### 3.2. Proposed Access to Site

Vehicle access for the proposed car park and drive through area is via an existing single, full movement crossover on Paterson Street servicing the ad-hoc parking area.

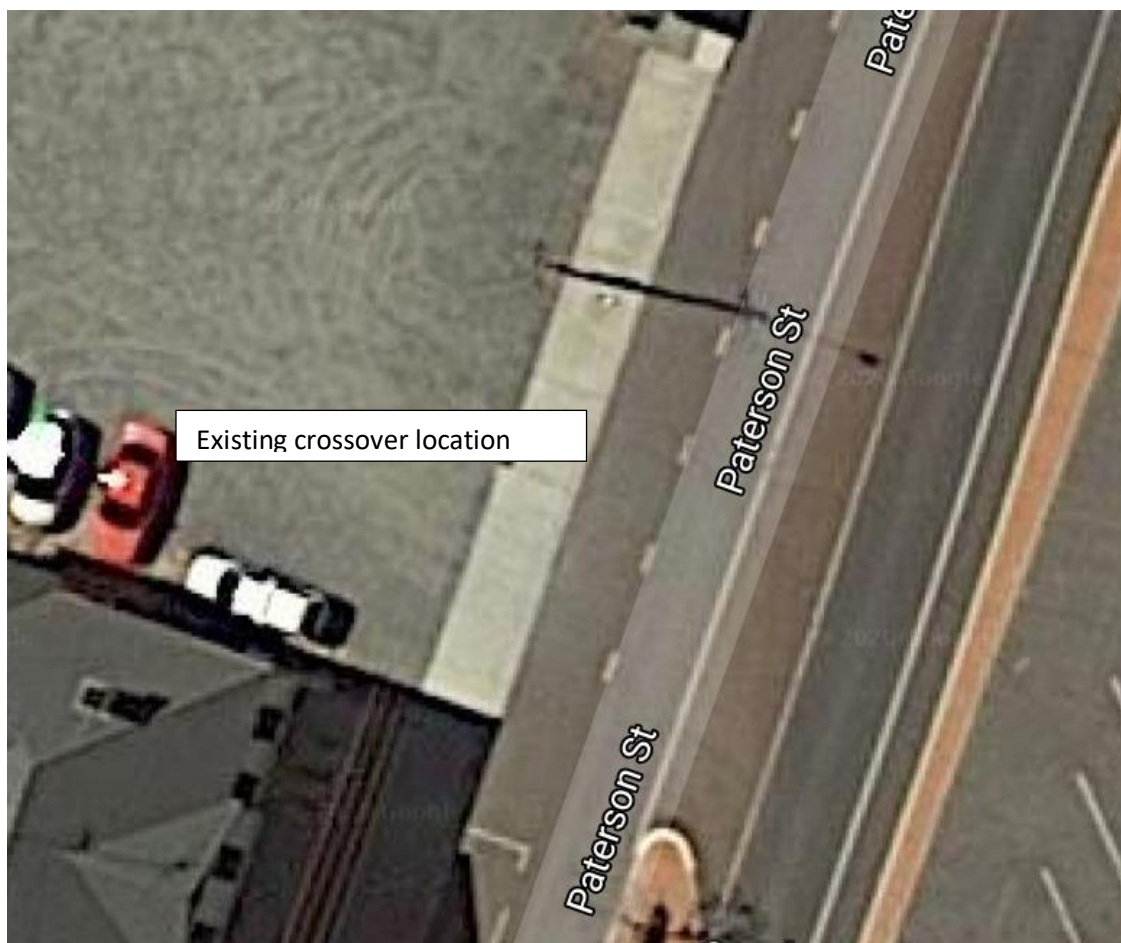


Figure 6: Existing location for crossovers.

#### 4. Changes to Surrounding Transport Networks

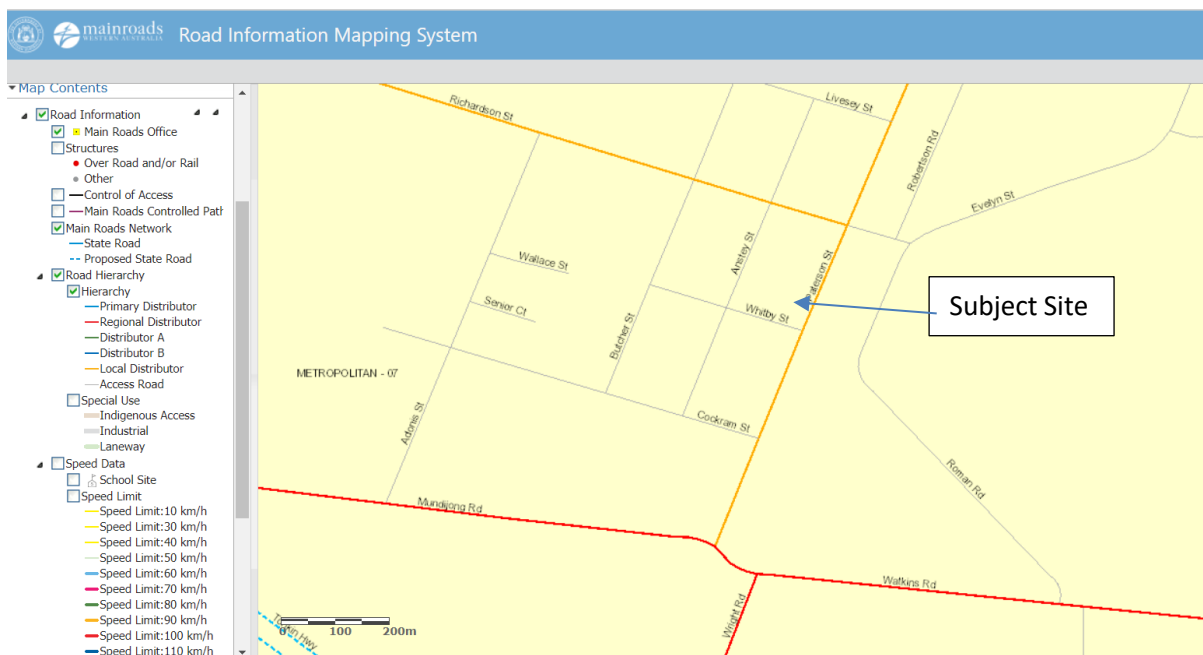
It is anticipated there will be changes to the surrounding transport networks as the extension of the Tonkin Highway is currently being planned and not clarity on the final configuration to be adopted is publicly available.

The other possible change to the transport network is the extension of the electric metro train service to the Mundijong area. Based on the discussions with SJ Shire officers this project is at the preliminary planning stage and not details are public available at this stage.

#### 5. Integration with Surrounding Area

The Site is part of the existing Mundijong Town Centre. An updated District Structure Plan is currently being developed.

The road hierarchy extract from MRWA Road Information System is shown in **Figure 7**.



**Figure 7: MRWA Road Information System on-line GIS extract of road hierarchy adjacent to Site**





## 6. Traffic Assessment

### 6.1. Assessment Years and Time Periods

The traffic assessment is based on the site generated traffic and from 2020 plus a ten-year post-development time horizon based on the modelled traffic growth volume from the transport assessment report “Transport Impact Assessment: Mundijong Structure Plan” (June 2020). As advised by the report, in horizon year 2031 the Paterson Street traffic volume will be (Table 2):

**Table 2: Paterson Street traffic volume in 2031 from Cardno Report**

| Paterson Street | North Bound (VPH) | South Bound (VPH) | Total |
|-----------------|-------------------|-------------------|-------|
| AM Network Peak | 201               | 98                | 299   |
| PM Network Peak | 146               | 130               | 276   |

This is in part due to improved connectivity within the surrounding network outlined within the report and incorporated into the transport model.

### 6.2. Development Traffic Generation and Distribution

#### 6.2.1. Existing Site Traffic

The existing Site is a tavern based on Institution of Transport Engineer (ITE) “Traffic Generation Manual 10<sup>th</sup> edition” the rates of a drinking place (code 925) for a 222 square meter tavern it is anticipated to have a hourly site-generated traffic of a total of 27 vehicles per hour with: 18 vehicles in-bound and 9 vehicles out-bound.

#### 6.2.2. Proposed Development Traffic Generation

Based on ITE “Traffic Generation Manual 10<sup>th</sup> edition” (Table 3):

**Table 3: Peak site traffic generation of the proposed Site land use: Liquor Store**

| ITE | Hourly | Floor | Total | Percentage |     | Trips |     |
|-----|--------|-------|-------|------------|-----|-------|-----|
|     | Rate   | Area  | Trips | In         | Out | In    | Out |
| PM  | 17.62  | 1.66  | 29    | 52%        | 48% | 15    | 14  |

In summary, for 166 square metres liquor store the Site is anticipated to generate a total of 29 trips in the PM (6pm to 7pm) in the PM site generated traffic peak hour. Based on previous observation of other liquor stores the site generated peak hour is in a Saturday

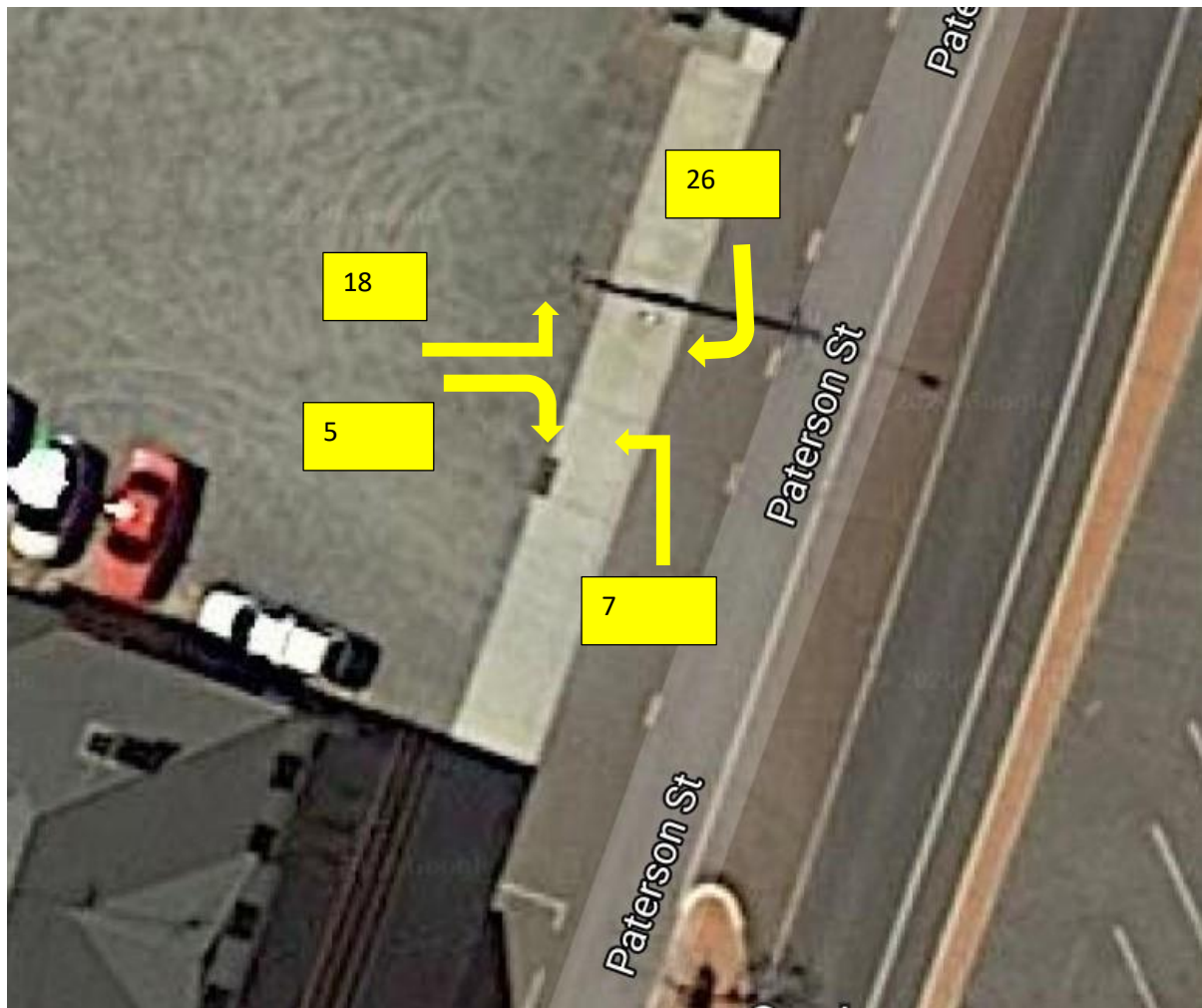


evening which do not coincide with the network peak hour which is usually in the noon period on a Saturday.

### 6.3. Traffic flows

The site is to be accessed via the only access point which is a crossover located at. All traffic is to access and egress via this access point on Paterson Street and then disburse throughout the local road network.

The traffic is to be distributed in a 20% south and 80% north pattern. This is assumed that most of the patrons of the tavern is from the north of the Site. The distributed traffic pattern is depicted in **Figure 8**.



**Figure 8: Traffic volume of the assigned traffic PM site generated peak hour**



#### **6.4. Analysis of Development Crossover**

The WAPC guideline document “*Transport Impact Assessment Guidelines*” (2016) provides guidance on the assessment of traffic impacts:

*“As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 percent of capacity. Therefore, any section of road where the development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.”*

The proposed drive-in bottle shop will not increase traffic flows anywhere near the quoted WAPC threshold to warrant further detailed analysis. The proposed development of the Site will not increase traffic on any lanes on the surrounding road network by more than 100 vph, therefore the impact on the surrounding road network is insignificant / minor.

#### **7. Parking**

The proposed development at the Site is to provide 44 car parking bays.

The staff car park bays are 2.5 m wide effective width of 5.5 m which complies with AS2890.1 requirement.

#### **8. Provision for Service Vehicles**

It is anticipated that the proposed development will generate a small amount of service vehicle traffic. The service vehicle traffic will be largely deliveries and removal of waste from the Site coupled with occasional visits from trades person.

QTM is advised that waste will be collected by a private service provider. QTM had undertaken a turn path analysis for 12.5 m design service vehicle (waste management vehicle and delivery vehicle) and showed that it can access and egress the Site car park in a forward gear subject to the car park being empty. This movement is shown in **Figure 9**. The collection of waste bins and deliveries will need to be undertaken during hours that the car park will be most likely to be empty.



Figure 9: Turn path of a 12.5 m service vehicle undertaking a front-in, front out manoeuvre.

### 9. Public Transport Access

There are public transport services on Paterson Street adjacent to the Site. The nearest public transport stop is located outside the Tavern (**Figure 10**).

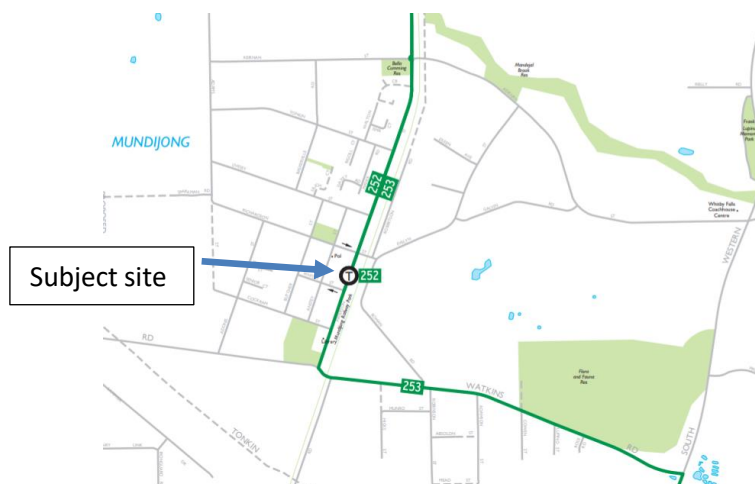


Figure 10: Extract from Public Transport Authority public transport map near the Site





In the future, there is a planned extension of the metro style electric railway line to Mundijong. The exact location of the proposed station is still in the preliminary planning stage. There is no public information available on the proposed station's location.

## **10. Pedestrian and Bicycle Access**

A footpath link links the site with the existing footpath network on Paterson Street. There are footpaths on both sides of Paterson Street between Mundijong Railway Station and Mundijong Road. There is an on-road bicycle path (south bound only) at Paterson Street between Mundijong Station (north of Whitby Street) and Cockram Street.

## **11. Site-specific Issues**

The car park elements like kerb type and pavement type will need to be designed to accommodate the manoeuvres of the 12.5m design truck.

## **12. Conclusions**

This Transport Impact Statement (TIS) has been prepared by QTM for Harvey Constructions for the proposed extension of a drive-through liquor store and car parking area located at No.34 Paterson Street, Mundijong.

The Site has good connectivity via the existing constructed road network and has well provision of pedestrian connectivity linking it to Mundijong Town Centre.

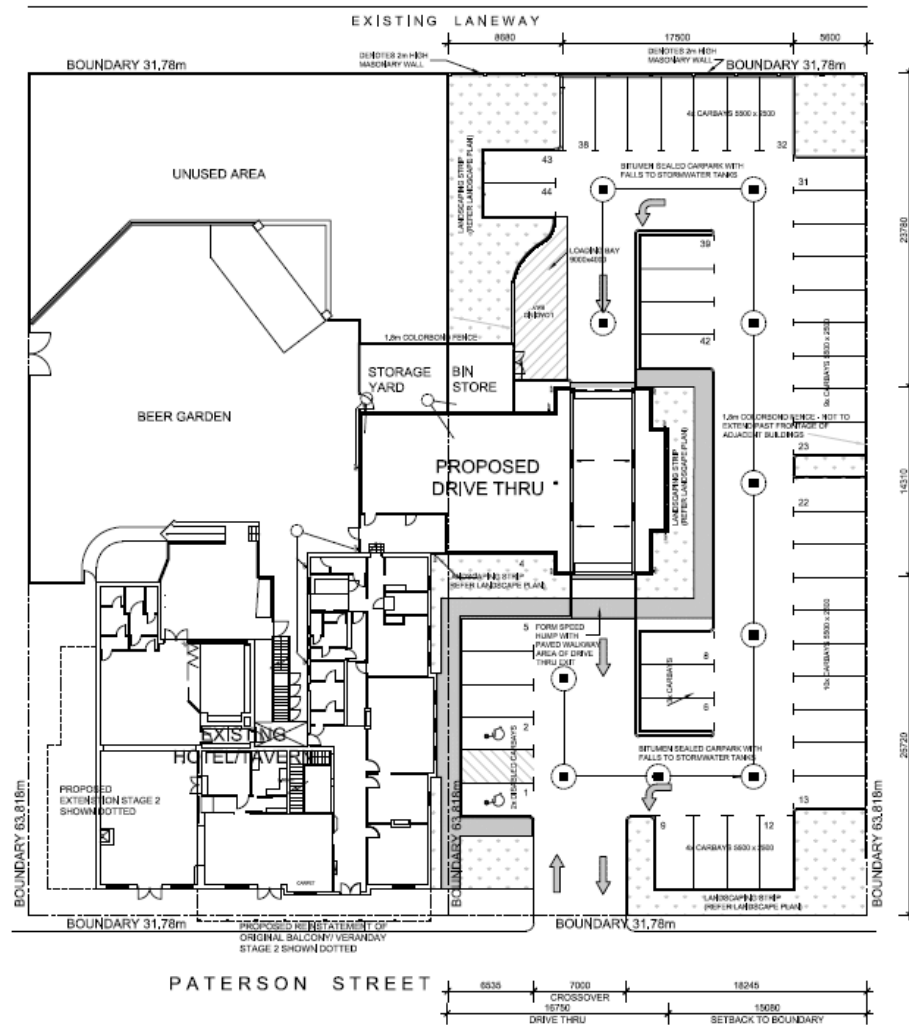
The Site is to be serviced by a 44-bay car park including two ACROD bays.

The traffic analysis showed that the traffic generation of the proposed land use as a tavern and drive through liquor store is generally in alignment with the traffic volumes used in structure planning currently being progress by SJ Shire.

In conclusion, the findings of this TIS are supportive of the proposed development of the Site.



## **Appendix A - Drawings**



SITE PLAN SCALE 1:200 @ A2

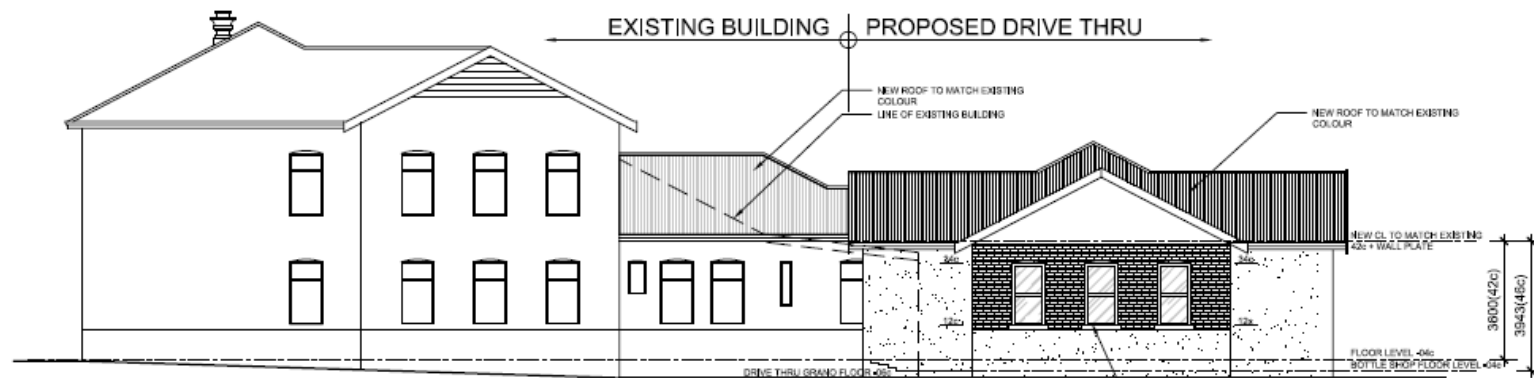




Mundijong Hotel  
Traffic Impact Statement



EAST (FRONT) ELEVATION TO PATERSON ST SCALE 1:100 @ A2



WEST (REAR) ELEVATION TO BEER GARDEN SCALE 1:100 @ A2