

353-371 DELAWARE ROAD, HORSLEY PARK

PROPOSED PLACE OF PUBLIC WORSHIP
(TEMPLE & ANCILLARY STRUCTURES)

**TRAFFIC & PARKING
IMPACT ASSESSMENT**

JUNE 2015

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**TRAFFIC & PARKING IMPACT ASSESSMENT
353-371 DELAWARE ROAD, HORSLEY PARK
PROPOSED PLACE OF PUBLIC WORSHIP
DATE: 22 JUNE 2015**

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1 INTRODUCTION

This report has been prepared by Hemanote Consultants to assess the traffic and parking implications for the proposed Place of Public Worship (Temple) and associated ancillary structures at 353-371 Delaware Road, Horsley Park. This report is to be read in conjunction with the architectural plans prepared by HVTDA Architecture and submitted to Fairfield City Council as part of a Development Application.

This report is set as follows:

- *Section 2:* Description of the existing site location and its use;
- *Section 3:* Description of existing traffic conditions in the surrounding streets;
- *Section 4:* Assessment of a similar site (existing temple site);
- *Section 5:* Description of the proposed development and on-site parking provision, layout and circulation;
- *Section 6:* Assessment of Impacts on traffic on surrounding streets;
- *Section 7:* Management of Parking during special events; and
- *Section 8:* Outlines Conclusions.

2 EXISTING SITE DESCRIPTION

➤ **Site Location**

The subject site is located on the western side of Delaware Road, approximately 700 metres south of its junction with Burley Road, within the suburb of Horsley Park. The site has a total area of 41,990m² and a frontage of approximately 170 metres to Delaware Road from the west. Refer to Figure 1 for a site locality map.

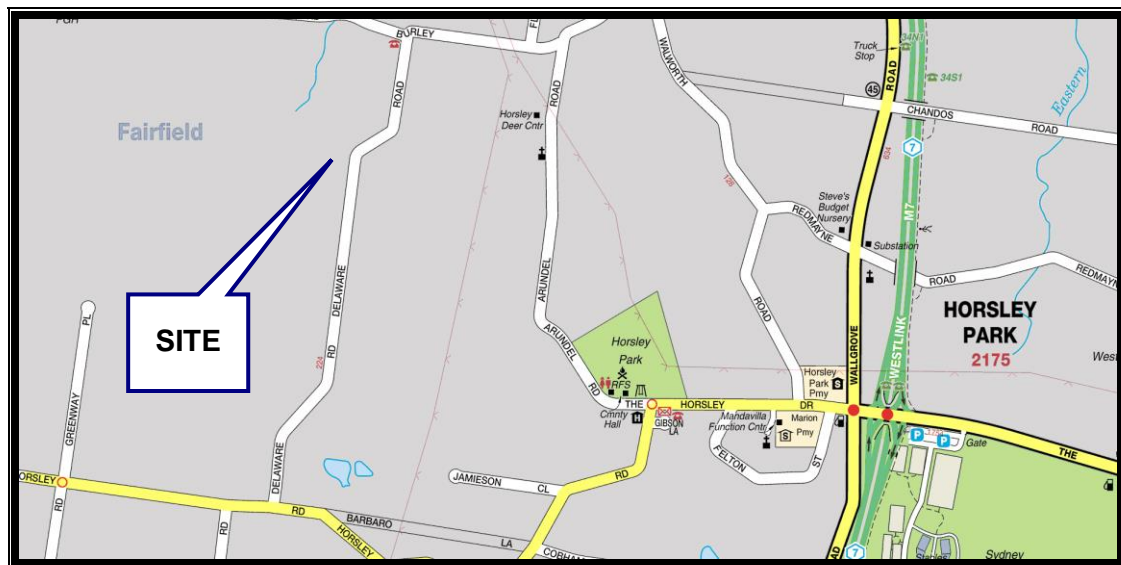


Figure 1: Site Locality Map

➤ **Existing Site Land Use**

The subject site is currently a vacant land and is located among other rural type zoned properties. The site currently has an approval for a temple operating from a haphazard shed.

3 EXISTING TRAFFIC CONDITIONS

3.1 Road Network and Classification

Delaware Road is a local rural road running north-south between Horsley Road (collector road) and Burley Road (local road), within the suburb of Horsley Park.

3.2 Road Description and Traffic Control

Delaware Road is a two-lane two-way undivided carriageway, with a carriageway width of approximately 6 metres, in the vicinity of the subject site. These two lanes provide one travel lane per direction. Delaware Road intersects with Burley Road at its northern end and is controlled by 'Give Way' control and road centreline markings. The legal speed limit on Delaware Road is signposted as 60 km/hr.

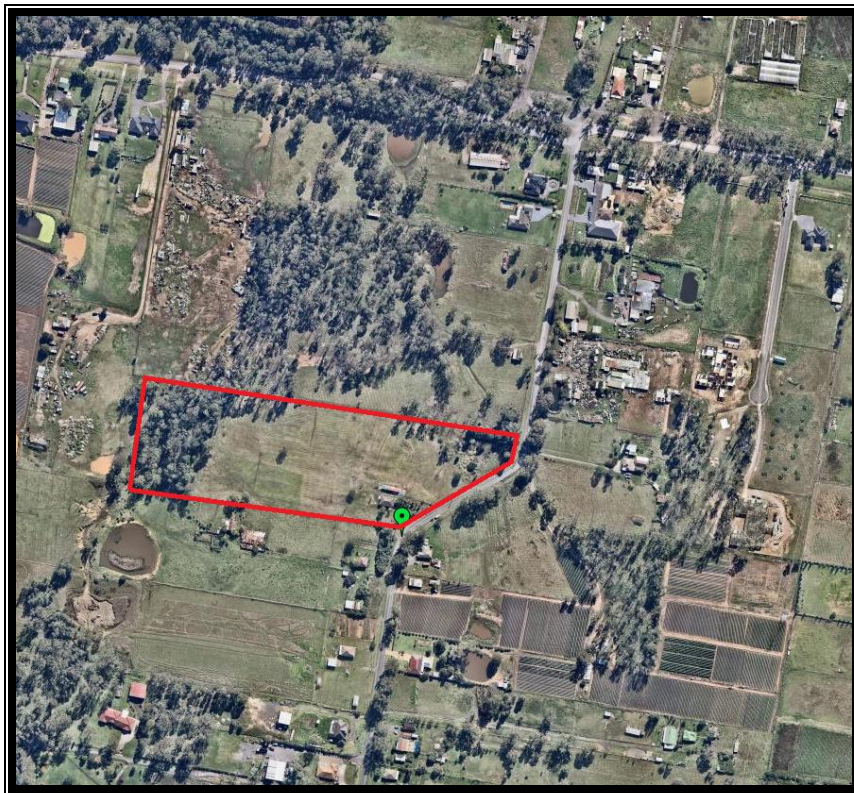


Figure 2: Aerial map of the Subject Site and surrounding roads



Photo 1: Site frontage – Delaware Road – facing north



Photo 2: Delaware Road – facing south

3.3 Current Traffic Flows

➤ Traffic volume count

A traffic volume count was undertaken by Engdata Services in Delaware Road on Thursday 7 May 2015 during morning peak period (9.00am to 11.00am) and afternoon peak periods (2.00pm to 4.00pm) considering the Temple peak hours of operation and traffic peak periods. The traffic flows are shown in Table 1 below and in Appendix 'B':

Traffic movement	Morning Peak Hour (Vehicles Per Hour)	Afternoon Peak Hour (Vehicles Per Hour)
	7.15.00am – 8.15am	3.00pm – 4.00pm
Northbound	22	19
Southbound	8	22

Table 1: Current traffic flows on Delaware Road (on a typical weekday)

The traffic flows on Delaware Road at the subject site is considered to be low and appropriate for a local road in a rural area. Traffic is free flowing without any major queuing or delays in peak hours. It is determined that the existing level of service on Delaware Road is classified as level 'A', in accordance with Table 4.4 of the Roads & Maritime Services "Guide to Traffic Generating Developments - 2002" (attached below) with peak hour flow being less than 200 vehicles per hour per direction.

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Table 4.4: Urban road peak hour flows per direction (RMS Guide)

3.4 Existing Transportation Services

The subject site is well served by public transport services with regular bus services operating outside the subject site along Delaware Road (i.e. bus routes 812 and 813).

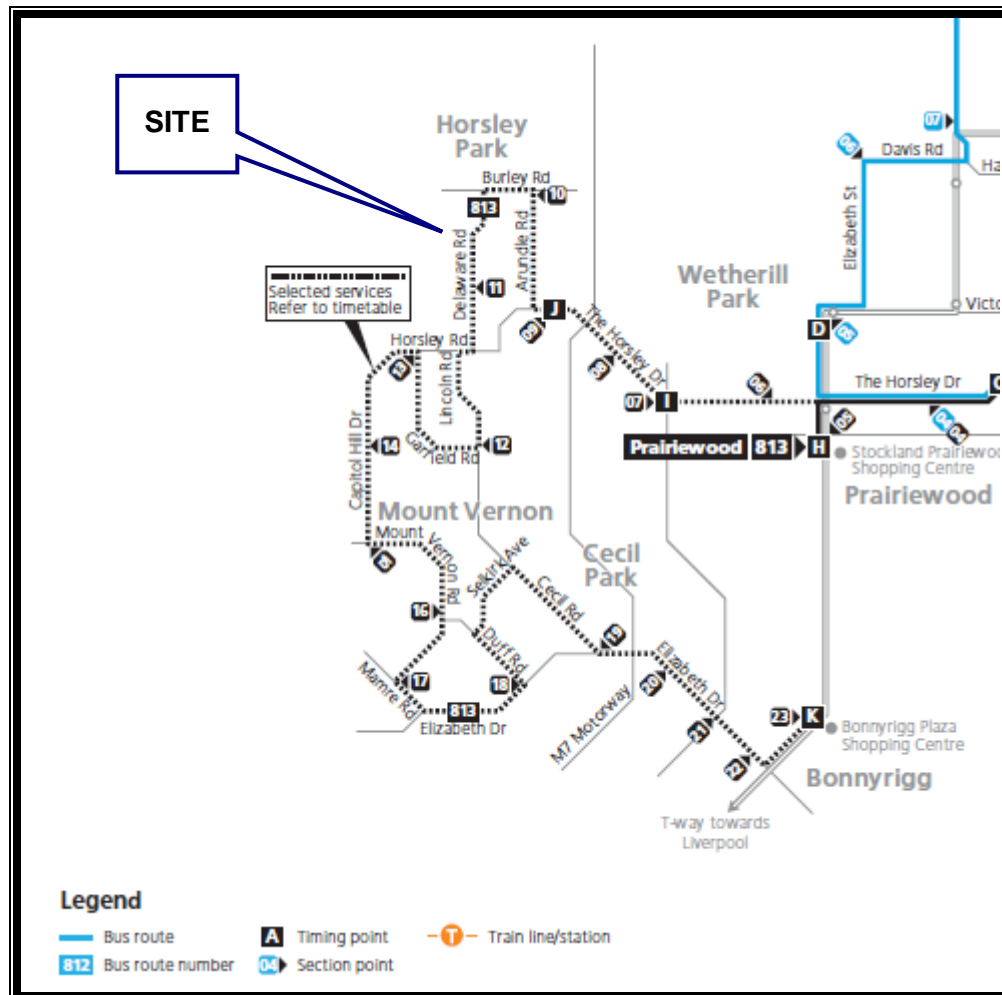


Figure 3: bus route in the vicinity of the subject site

4 ASSESSMENT OF SIMILAR TEMPLE SITE

Hemanote Consultants have previously undertaken an assessment at an existing temple site that is relatively similar to the subject proposal, in order to determine the parking demand for the proposed development site at Horsley Park.

The Phuoc Hue Temple at 365 Victoria Street, Wetherill Park, was selected for this assessment. Hemanote Consultants had undertaken the traffic and parking study on Saturday 22 October 2011, between 9.00am – 2.00pm and on Wednesday 26 October 2011, between 6.00pm – 8.00pm, in order to have an accurate indication of the parking demands and the traffic generated from such development.

Site Location and Description

Phouc Hue Temple is located at the corner of Victoria Street and Daniel Street, within the suburb of Wetherill Park. The site consists of a Temple Building, Monastery accommodation building, administration offices and associated two parking areas (at the front and rear of the site). Parking areas are accessible by separate gates and pedestrian access is segregated from the parking areas.



Arial Map of the site



On-site & on-Street parking utilisation survey

A parking survey was carried out throughout the site and on Daniel Street, in order to determine the current parking utilisation levels and parking demands.

The parking utilisation survey was undertaken at one hour intervals on Saturday 22 October 2011, between 9:00am – 2:00pm, and on Wednesday 26 October 2011, between 6:00pm and 8:00pm, considering the temple's hours of operation and its main activities. The parking utilisation survey and site observation have determined the followings:

- On Saturday, a total of 10 on-site parking spaces were occupied while 3 on-street spaces were utilised during the survey period. A total of 39 attendees were recorded during weekend service;
- On Wednesday, a total of 7 on-site parking spaces were occupied while no on-street spaces were utilised during the survey period. A total of 18 attendees were recorded;
- It was observed that the weekend service attracts older visitors than on a weekday; and
- The turnover in parking is higher on a weekday than on weekend.

It was determined from the parking utilisation survey that a large percentage of on-street parking spaces were unoccupied during normal weekend and weekday services. As well as, visitors to the temple could easily obtain on-street parking at any time, if it was required.

In summary, it can be concluded based on the parking utilisation surveys that a maximum rate of 1 parking space per 3 attendees was observed.

Traffic Flows

A traffic volume count was undertaken of vehicles coming and leaving the temple site, in order to determine the current peak traffic generation for such development.

The traffic volume counts were carried out on Saturday 22 October 2011, between 9:00am – 2:00pm, and on Wednesday 26 October 2011, between 6:00pm and 8:00pm, considering the temple's hours of operation and its main activities.

The peak traffic volumes generated per hour were as follows:

- On Saturday, peak traffic volume of 6 vehicles per hour; and
- On Wednesday, peak traffic volume of 5 vehicles per hour.

It can be determined from the traffic surveys that the traffic generated, during survey periods, was low and did not affect the amenity of the surrounding road network.

5 PROPOSED DEVELOPMENT

5.1 Description

The proposal is for the construction of a Buddhist monastery & temple with meditation rooms and residential accommodation for 24 monks and nuns, including the master of the Temple, with a large on-site car parking area and ancillary structures such as two small Buddhist art gallery pavilions, a main dining hall and administration block.

The overall site facilities consist of the following main elements:

- Temple building with a leasable area of **255.6m²** with seatings provided.
- The Monastery component comprises private meditation rooms and residential accommodation for **24 Monks & Nuns**. This is located away from the temple and will be clearly marked 'no public access'. It should be noted that the majority of monks and nuns do not drive a vehicle.
- Meditation classes having a total area of **633.2m²**.
- Administration office building having a gross leasable area of **347.6m²**. Staff members working on site and teachers for meditation classes are all monks who would be living at the monastery house within the site.
- A dining hall for the assembly of worshippers to share some meals once the meditation sessions are finished. The hall will not be used for special functions.
- On-site car parking area for **120 car spaces** on ground level, including 4 accessible car parking spaces for people with a disability, in addition to a **loading bay** and a **parking bay for a mini bus**.
- The site will operate a mini bus shuttle service for local in the surrounding area.

The proposed hours of operation of the proposed Temple:

- During normal operation – from 7.00am to 9.00pm on Monday to Saturday and from 9.00am to 5.00pm on Sunday, with formal daily meditation sessions between 7.00am and 9.00am, 2.00pm and 4.00pm and from 7.00pm to 9.00pm (with predicted maximum attendance of between 30 to 50 people but not any one time as they come and go). Outside the formal meditation ceremonies, visitors are welcome to come and engage in personal meditation.

- Three annual special events – Chinese New Year: First New Moon after western New Year, Buddha's Birthday (The Vesak celebration) on 8th April and Abhidhamma Day (Devotion to Buddha's Mother): Full Moon in October. Special event ceremonies are expected to attract a maximum of 150 people).
- For further details on the hours of operation, special events and proposed activities on site, please refer to the Plan of Management submitted with the Development Application.

Refer to **Appendix 'A'** for the proposed development plans.

5.2 Vehicular & Pedestrian Access

The proposed vehicular access to and from the subject site will be via a new two-way driveway crossing on the western side of Delaware Road. This driveway provides for separate entry and exit into and out of the site and leads to an internal roadway which is mainly 6.5 metres in width and provides for two-way traffic within the site.

This internal road leads to the loading bay and mini bus parking bays near the front of the site, as well as to the on-site car parking area and the access loop road/trail to be located around the residential component of the monastery for access of emergency vehicles to the rear of the site.

All vehicular access to be located and constructed in accordance with the requirements of AS 2890.1:2004, where adequate sight distance is available.

Clearly defined pedestrian paths and crossings are provided throughout the site.

5.3 On-site Parking Provision

In accordance with *Chapter 12 – Car Parking – Fairfield City Wide DCP 2013* – off-street car parking be provided as shown in Table 2 below:

Type of use	Parking rate	Parking rate proposed	Parking spaces required/proposed
Place of public worship (Temple)	1 space per 6 seats or 1 space per 5m ² of gross leasable area, whichever is greater	1 space per 5m ² of gross leasable area	51 parking spaces (based on a leasable area of 255.6m ² with seatings provided)
Meditation tuition classes (Educational)	1 space per 40m ² of gross leasable area (for coaching classes)	1 space per 40m ² of gross leasable area	16 parking spaces (based on a gross leasable classes area of 633.2m ²)
Admin Office building	1 space per 40m ² of gross leasable area	1 space per 40m ² of office leasable space	9 parking spaces (based on a gross leasable office area of 347.6m ²)
Residential building for Monks & Nuns	0.2 parking space for each room (treated as a boarding house for the monks & nuns only) as per SEPP (Affordable Rental Housing) 2009	0.2 parking space for each room (given that Buddhist monks & nuns do not normally drive a vehicle and remain on monastery site at most times)	5 spaces for the monks/nuns residence (based on 24 rooms)
Total number of car parking spaces required			81
Total number of car parking spaces provided			120
Compliance with parking			Yes

Table 2: on-site parking provision

Therefore, the proposed development requires a total of 81 car parking spaces.

The proposed on-site car parking provides a total of 120 car parking spaces, including four (4) accessible car parking spaces for people with disabilities, in addition to a loading bay and a parking bay for mini buses, which is considered to be adequate in accordance with Fairfield City Wide DCP 2013 and the proposed use of the site.

5.4 On-site Parking Layout and Circulation

The proposed layout of the on-site car parking area and manoeuvring arrangements has been designed to enhance vehicular access and pedestrian safety. Dedicated and clearly defined pedestrian pathways and crossing line markings are provided throughout the site.

AS2890.1-2004 *Parking facilities Part 1: Off-street car parking* requires a minimum parking space width of 2.5 meters and a minimum length of 5.4 meters for class 2 parking. The proposed off-street car parking spaces have a width of 2.7 meters and a length of 5.4 meters each, which is adequate.

The proposed mobility car parking spaces for people with a disability have a minimum width of 4.8 meters, including a shared/no parking area (2.4 metres in width), which is adequate in accordance with AS2890.6:2009. It should be noted that these spaces shall comprise a firm plane surface with a fall not exceeding 1:40 in any direction (i.e. 2.5%) or 1:33 if the surface is a bituminous seal and the parking space is out of doors.

Clause 2.4.2 of AS2890.1-2004 requires a minimum aisle width of 5.8 metres for two-way aisles, adjacent to 90° angle parking. The proposed traffic aisles have a width of 6.5 metres, which is adequate for manoeuvring into and out of parking spaces.

Adequate turning areas have been provided throughout the site, providing for two-way traffic to assist with the safe manoeuvring/turning of vehicles and to ensure that vehicles can exit the site onto Delaware Road in a forward direction.

Adequate vehicular access for emergency vehicles (i.e. 8.8m long fire brigade truck) is provided throughout the site, in addition to an access loop road/trail to be located around the residential component of the monastery for access of emergency vehicles to the rear of the site and to the Asset Protection Zone.

All vehicular manoeuvring within the site has been designed and checked using AS2890.1-2004 and AS2890.2-2002. **Therefore, the car parking layout and manoeuvring arrangements are considered to be adequate in accordance with AS2890.1 – 2004 and AS2890.2-2002 and appropriate for vehicles during entering and exiting the site.**

6 EXTERNAL TRAFFIC IMPACT

The “*RMS Guide to Traffic Generating Development – 2002*” does not provide a traffic generation rate for places of worship.

The estimated traffic generation from the proposed development is as follows:

- Temple worship area - peak traffic volume of 25 vehicles per hour (on a normal weekday).
- Admin office – 9 to 10 vehicle trips per peak hour (on a normal weekday).
- Residence for monks & nuns – 2 to 3 vehicle trips per hour (as the majority of monks/nuns don't drive).
- Meditations classes – No additional traffic generation as the classes will be attended by the worshippers who attended the service in the temple.

Therefore the total estimated traffic generation for the subject site is 36 to 38 vehicles during peak hour of the use of the site.

This traffic generation is considered to be minimal and will have no major impacts on existing traffic conditions on Delaware Road.

Therefore, the traffic generated by the proposed development will not alter the current Level of Service (LOS) in the surrounding road network, as traffic generated by the use of the development can be readily accommodated on the surrounding streets.

The potential increase in the number of vehicle movements in and about Delaware Road will remain well within the environmental capacity of the street, with no adverse impacts on the amenity of the area.

7 MANAGEMENT OF PARKING DURING SPECIAL EVENTS

The expected maximum attendance during special events at the proposed temple site is likely to be in the order of 150 people.

The parking demand during special events can be accommodated within the proposed on-site car parking provision within the subject site. The site will also operate a mini bus shuttle service for local in the surrounding area.

It is recommended that at least two to three staff members patrol the site and adjacent area in a high visibility gear during special events to ensure there is no disturbance to traffic flow and to control movements of vehicles into and out of the site, if required.

MANAGEMENT OF PARKING DURING SPECIAL EVENT OPERATIONS:

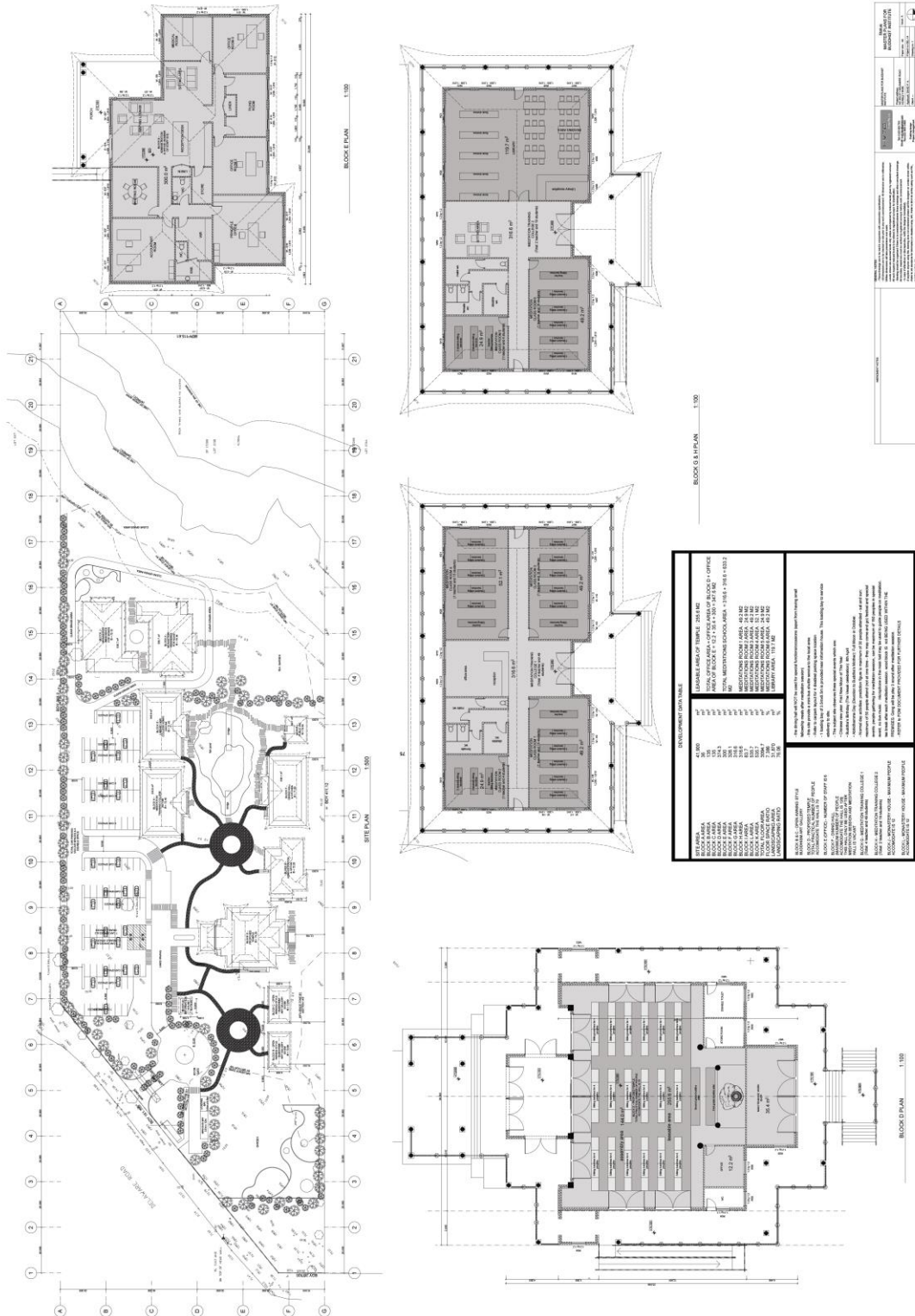
- The temple site is to provide members of its congregation with an educational flyer advising of safe parking and traffic practices during special events and that all vehicles are to be parked within the dedicated spaces on the subject site.
- Staff members in high visibility gear will be present on site to regulate traffic movements into and out of the site and to manage on-site parking, to ensure that no vehicles are illegally parked and are not obstructing driveways or pedestrian paths.
- The Temple site is to operate a mini bus shuttle service for local in the surrounding area, when required.

8 CONCLUSION

It can be concluded from the traffic and parking impact assessment that the proposal will have no major impacts on existing traffic or on-street parking in Delaware Road:

- The traffic flows on Delaware Road are considered to be low and appropriate for a local road in a rural area, with free flowing traffic without any major queuing or delay in peak traffic periods.
- The external impact of the traffic generated by the proposal is considered to be satisfactory and will remain well within the Environmental capacity of the surrounding streets, with no adverse impacts on the amenity of the area.
- The level of proposed on-site car parking provision is considered to be adequate for the proposed use of the site.
- The on-site car parking layout is adequate in accordance with AS2890.1 – 2004, AS2890.2-2002 and AS2890.6 – 2009.
- The subject site is well served by public transport services in the form of buses services along Delaware Road.

Appendix A – Proposed Development Plans



Appendix B – Current Traffic Volume Counts

engdata services

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Traffic Count - 353-371 Delaware Rd Horsley Park

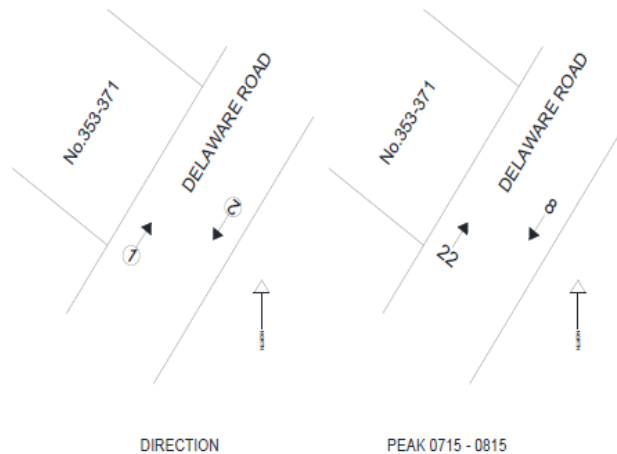
Thursday 7.5.15

Ref: 1017

Direction	NEAST	SWEST	
Location	Delaware Rd		
Time Per	1	2	TOTAL
0700 - 0715	4	2	6
0715 - 0730	4	1	5
0730 - 0745	5	1	6
0745 - 0800	5	6	11
0800 - 0815	8	0	8
0815 - 0830	2	1	3
0830 - 0845	2	3	5
0845 - 0900	4	3	7
total	34	17	51

PEAK HOUR

0715 - 0815



Direction	NEAST	S/WEST	
Location	Delaware Rd		
Time Per	1	2	TOTAL
1400 - 1415	4	9	13
1415 - 1430	1	2	3
1430 - 1445	4	2	6
1445 - 1500	2	3	5
1500 - 1515	5	5	10
1515 - 1530	3	4	7
1530 - 1545	5	7	12
1545 - 1600	6	6	12
total	30	38	68

PEAK HOUR
1500 - 1600

