



TRAFFIC IMPACT ASSESSMENT

**Northside Private Hospital
West Gosford NSW**

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CONTENTS

1. Introduction	1
2. Location and Site	2
3.1 Road Network	5
3.2 Public Transport	8
3.3 Key Intersections	10
4. Description of Proposed Development	14
5. Parking Requirements	15
5.1 Car Parking	15
5.2 Accessible Parking	18
5.3 Motorcycle Parking	18
5.4 Bicycle Parking	18
5.5 Refuse Collection and Servicing	19
5.6 Car Share Services	20
5.7 Private Shuttle Bus Service	20
6. Traffic and Transport Impacts	21
6.1 Existing Traffic Generation	21
6.2 Development Vehicle Trip Generation (Stages 1 & 2)	21
6.3 Net Trip Generation (Stages 1 & 2)	24
6.4 Daily Trip Generation	24
6.5 Traffic Distribution	25
6.6 Modelled Scenarios	29
6.7 Peak Period Intersection Performance	29
6.8 Development Person Trip Generation	35
6.9 Travel Modal Splits	36
6.10 Pedestrian Safety and Connectivity	38
6.11 Adequacy of Public Transport	39
7. Sustainable Travel Plans	40
7.1 Green/Workplace Travel Plans	40
7.2 Travel Demand Management	41
8. Access and Internal Design Aspects	42
8.1 Site Vehicular Access	42



8.2 Internal Design	45
9. Construction Traffic Management	47
9.1 Construction Vehicles	47
9.2 Contractor Parking	48
9.3 Traffic Control Plans	48
9.4 Swept Path Analysis	48
10. SEARs Requirements	49
11. Conclusions	53
Appendices	
Appendix A: Photographic Record	
Appendix B: Concept Architectural Plans	
Appendix C: SIDRA Modelling	
Appendix D: Swept Path Analysis	



1. INTRODUCTION

TRAFFIX has been commissioned by Donald Cant Watts Corke to undertake a traffic impact assessment (TIA) in support of a staged State Significant Development Application (SSD 10159) relating a proposed private hospital development at the corner of Racecourse Road and Faunce Street West, West Gosford. The development is located within the Central Coast Council local government area (LGA) and has been assessed under that Council's controls.

This report documents the findings of our investigations and should be read in the context of the Statement of Environmental Effects (SEE) prepared separately. It should also be noted that this report has been prepared in response to the Planning Secretary's Environmental Assessment Requirements (SEARs), specifically, key issue 8 - Transport and Accessibility (Construction and Operation).

The report is structured as follows:

- ▶ Section 2: Describes the site and its location
- ▶ Section 3: Documents existing traffic conditions
- ▶ Section 4: Describes the proposed development
- ▶ Section 5: Assesses the parking requirements
- ▶ Section 6: Assesses traffic impacts
- ▶ Section 7: Outlines sustainable travel plans
- ▶ Section 8: Discusses access and internal design aspects
- ▶ Section 9: Discusses preliminary construction traffic management
- ▶ Section 10: Addresses each SEARs requirement
- ▶ Section 11: Presents the overall study conclusions



2. LOCATION AND SITE

The subject site is located on the corner of Racecourse Road and Faunce Street West on a portion of land within Lot 2 in DP 1226922 at 22-48 Faunce Street West, West Gosford. It is located approximately 1.1 kilometres west of Gosford Railway Station and approximately 1.3 kilometres west of the Gosford central business district (CBD).

The site has an irregular configuration and has a total site area of approximately 11,880m². It has a north-west frontage to Racecourse Road measuring 144 metres, a southern frontage to Faunce Street West measuring 150 metres, a western frontage to an Ausgrid Substation measuring 55 metres and a north-east frontage to a section of Ausgrid Depot measuring 96 metres.

The site accommodates the former West Gosford Ausgrid Depot with several large office/workshop buildings and parking spaces for light and heavy vehicle. Within the bounds of the site, a single vehicular crossing is provided to Faunce Street West, approximately 48 metres east of Racecourse Road. It is noted that a second vehicular crossing is located on Racecourse Road, however it is located outside the bounds of the subject development site.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A** which provides an appreciation of the site and surrounding road network.



Figure 1: Location Plan



Figure 2: Site Plan



3. EXISTING TRAFFIC CONDITIONS

3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- ▶ **Central Coast Highway:** an RMS State Highway (HW30) that generally runs in an east-west direction within the vicinity of the site and provides a link between the Central Coast in the east and the Pacific Highway in the west. The Central Coast Highway is subject to a 70km/h speed zoning local to the site. The highway generally accommodates three (3) traffic lanes in each direction within a divided carriageway.
- ▶ **Pacific Highway** a small portion of RMS State Highway (HW10) that is classified as a sub-arterial road within the vicinity. The highway runs in a diagonal direction from south-west to north-east, beginning at the Central Coast Highway in the south and ending at Mann Street at the north. It is subject to a 60km/h speed zoning and accommodates a single lane of traffic in each direction. Parking is generally permitted on the north-west side of the road.
- ▶ **Racecourse Road:** a portion of Unclassified Regional Road (7757) that generally runs in a south-west to north-east direction between the Central Coast Highway in the south and Mann Street in the north. Racecourse Road is subject to a 50km/h speed zoning and generally accommodates a single lane of traffic within an undivided carriageway. On-street parking restrictions vary along the length of the road.



- ▶ Faunce Street West: a local road that runs in an east-west direction between Racecourse Road in the east and Showground Road in the west. Faunce Street West is subject to a 50km/h speed zoning and carries a single lane of traffic in either direction. It is noted that a 40km/h School Zone operates within the vicinity of the Gosford Public School. Faunce Street West permits a combination of unrestricted and restricted parking along both sides of the road.
- ▶ Young Street: a local road that generally runs in a north-south direction between Faunce Street West in the north and a cul-de-sac in the south. It is subject to a 50km/h speed zoning and accommodates a single lane of traffic in each direction within an undivided carriageway.

The site is conveniently located with respect to the local and arterial road networks serving the region, with connections to the east and west (via the Central Coast Highway) using Racecourse Road.

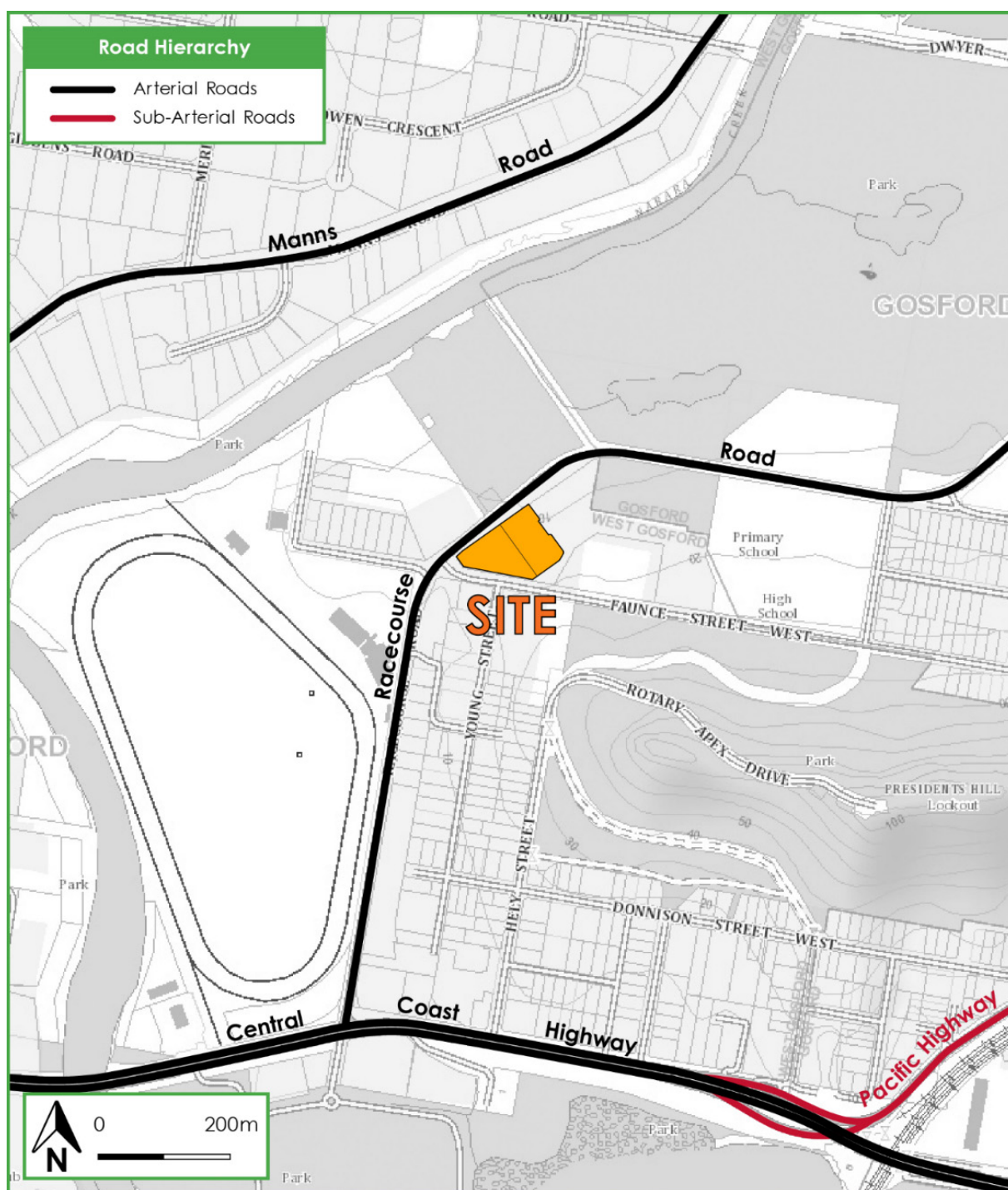


Figure 3: Road Hierarchy



3.2 Public Transport

The existing bus services that operate in the locality are shown in **Figure 4**. State Government transport planning guidelines acknowledge that a development is advantageously located to benefit bus services if it is within 400 metres walking distance of a bus stop. It is evident that the development benefits from good bus services with four (4) bus stops located within 400 metres of the site. These services provide connections to destinations such as Gosford, Somersby, Erina and West Gosford. The bus routes provide services every half hour during the weekday peak hour periods and are summarised as follows:

- ▶ 20 – Gosford to Matcham (Loop Service)
- ▶ 32 – Spencer to Gosford
- ▶ 32/4 – Mangrove Mountain to Gosford
- ▶ 33/4 – Gosford to Somersby Industrial Estate and Kariong (Loop Service)
- ▶ 34 – Gosford to Kariong (Loop Service)

In addition, the Gosford Railway Station is located approximately 1.1 kilometres south-east of the site. This station provides services on the Central Coast and Newcastle Line and the North West NSW rail network.

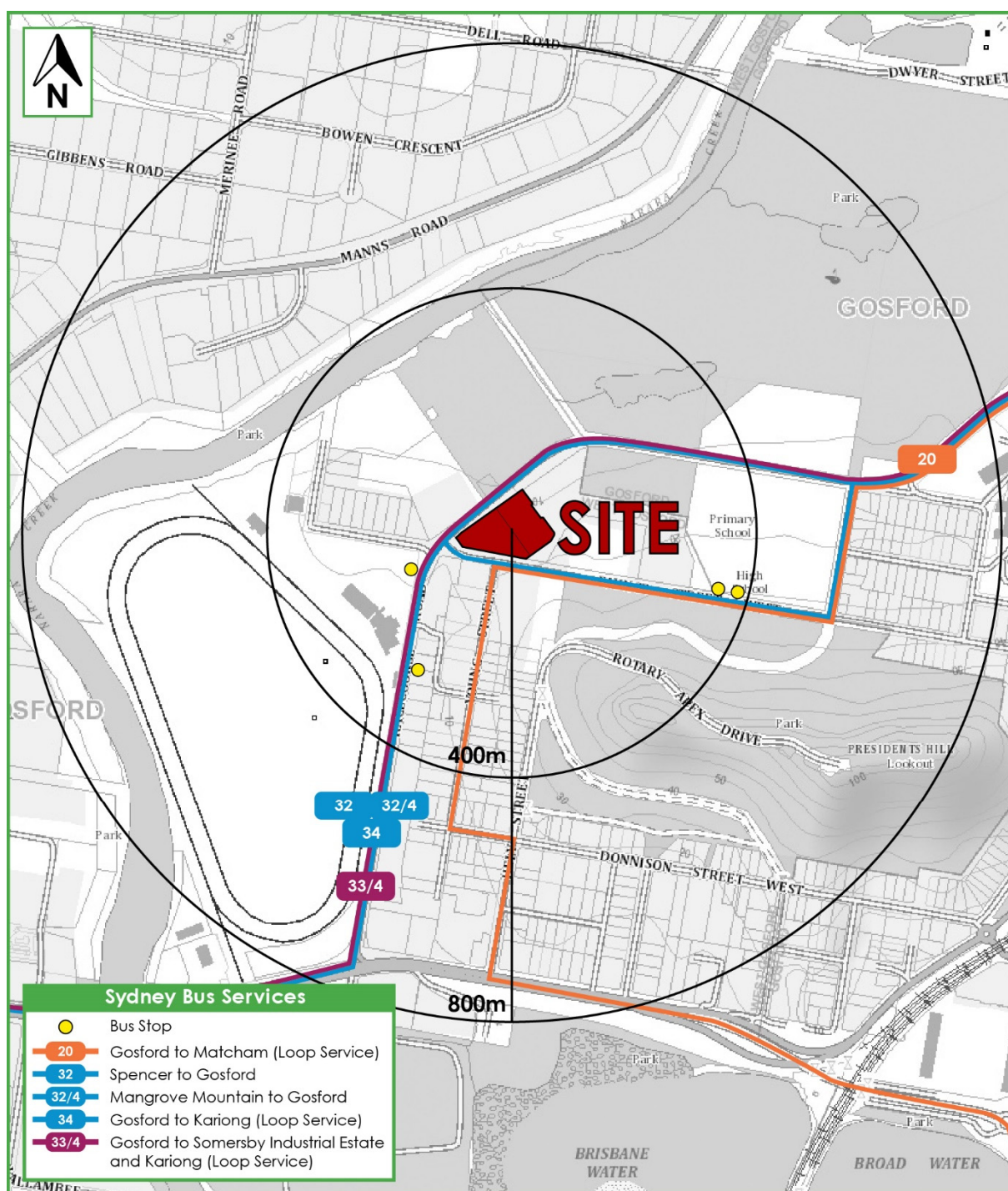


Figure 4: Public Transport

3.3 Key Intersections

Three (3) key intersections have been identified in the vicinity of the site. These intersections are located at the junction of main thoroughfares that will be utilised by users associated with future developments.

3.3.1 Central Coast Highway and Racecourse Road



Figure 5: Intersection of Central Coast Highway and Racecourse Road (Source: NearMap)

It can be seen from **Figure 5** that the intersection of Racecourse Road and Central Coast Highway is a signalised cross intersection with all approaches providing signalised pedestrian crossings. The main attributes of each approach are outlined below:

- ▶ Racecourse Road (north and south legs)
 - The southbound approach provides a high angle slip lane onto Central Coast Highway, a shared through/right lane and a designated right-turn lane.
 - The northbound approach provides a shared left/through/right lane and a designated right-turn lane.
- ▶ Central Coast Highway (east and west legs)
 - The westbound approach provides three (3) through lanes and a channelised right turn lane. Left-turns into Racecourse Road are also permitted from the kerbside lane.
 - The eastbound approach provides a low angle slip lane (including a through bus lane), three (3) through lanes and a channelised right turn lane.

3.3.2 Racecourse Road and Faunce Street West



Figure 6: Intersection of Racecourse Road and Faunce Street West (Source: NearMap)

It can be seen from **Figure 6** that the intersection of Racecourse Road and Faunce Street West is a staggered four-legged intersection. The intersection is priority-controlled with Faunce Street West the minor legs. The main attributes of each approach are outlined below:

- ▶ Racecourse Road (north and south legs)
 - The southbound approach provides a single through lane and permits left and right turns onto Faunce Street West.
 - The northbound approach provides a single through lane and permits left and right turns onto Faunce Street West.
- ▶ Faunce Street West (east and west legs)
 - The westbound approach provides a single lane and permits left and right turns onto Racecourse Road.
 - The eastbound approach provides a single lane and permits left and right turns onto Racecourse Road.

3.3.3 Faunce Street West and Showground Road



Figure 7: Intersection of Faunce Street West and Showground Road (Source: NearMap)



It can be seen from **Figure 7** that the intersection of Faunce Street West and Showground Road is three-legged roundabout intersection. It is noted that an off-street car park is accessible from the eastern side of the roundabout. Movements into this car park have been included in the SIDRA model assessments. The main attributes of each approach are outlined below:

▶ Faunce Street West (west leg)

- The eastbound approach provides a single through lane and permits left and right turns onto Showground Road. A marked pedestrian crossing is located approximately 5 metres west of Showground Road.

▶ Showground Road (north and south legs)

- The northbound approach provides a single lane and permits left turns onto Faunce Street West and through movements along Showground Road. A marked pedestrian crossing is located approximately 20 metres south of Faunce Street West.
- The southbound approach provides a single lane and permits right turns onto Faunce Street West and through movements along Showground Road.



4. DESCRIPTION OF PROPOSED DEVELOPMENT

A detailed description of the proposed development is provided in the Statement of Environmental Effects prepared separately. In summary, the development for which approval is now sought is a staged redevelopment of the site comprising the following components:

Stage 1 – Concept and Built Form DA

- ▶ Demolition of a portion of existing Ausgrid Depot;
- ▶ Construction of a Private Hospital comprising:
 - 14 x Operating Theatres;
 - 14 x Intensive Care Units (ICU);
 - Four (4) levels of Inpatient Unit (IPU) wards containing a total of 224 beds; and
 - Construction of 426m² GFA of ancillary retail area.
- ▶ Construction of 1,935m² GFA of medical clinics;
- ▶ Construction of 1,285m² GFA of medical tenancies;
- ▶ Three (3) levels of basement car parking containing 389 parking spaces;
- ▶ A loading dock accommodating four (4) service bays;
- ▶ Hospital front of house;
- ▶ Hospital back of house; and
- ▶ Porte Cochere drop-off/pick-up area.

Stage 2 – Concept DA

- ▶ Construction of a four-storey building along Racecourse Road comprising:
 - Construction of 567m² GFA of ancillary retail area; and
 - Construction of 2,038m² GFA of medical tenancies.

The parking and traffic impacts arising from both stages of the development are discussed in **Section 5** and **Section 6**. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix B**.



5. PARKING REQUIREMENTS

5.1 Car Parking

5.1.1 Private Hospital

The Gosford City Centre Development Control Plan 2018 (DCP), Section 7.4 specifies the following parking rates for hospitals as summarised in **Table 1**:

Table 1: Gosford City Centre DCP Car Parking Rates

Type	Quantity	DCP Car Parking Rates	Parking Requirement
Hospital Development			
Beds	224	1 space per 3 beds	75
Employees	Not Available	1 space per 3 employees	NA
TOTAL			75

As can be seen from **Table 1** that the proposed development is required to provide 75 parking spaces for patients, while the additional employee parking provision cannot be determined as the number of staff (present at any one time) is unknown at this stage and will depend on rosters. Reference has therefore been made to the Roads and Maritime Services Guide to Traffic Generating Developments (2002) (RMS GTGD) which provides a formula for peak parking accumulation for private hospitals when the number of employees is unknown. The following formula was used to determine the peak parking accumulation:

► Peak Parking Accumulation = $-26.52 + 1.18 \times \text{Number of Beds}$

Application of the above formula results in a peak parking accumulation of 238 parking spaces. The RMS GTGD notes that car parking should be provided in accordance with the peak parking accumulation with due consideration being given to reducing the required parking if convenient and safe on-street parking is available and provided that the use of this parking does not adversely affect the amenity of the surrounding area.



5.1.2 Supporting Services (Stages 1 & 2)

The supporting services proposed within the development are generally ancillary to the Private Hospital component of the concept design. These supporting services comprise retail space, medical clinics and medical tenancies (commercial space). These services are not expected to be major attractors to the site and will generally complement the Private Hospital component of the development. **Table 2** and **3** provide parking rates and proposed provision of spaces required based on the RMS GTGD. This is considered superior to the DCP and provided a consistent approach based on RMS Guidelines. The parking requirements for both stages are outlined below:

Table 2: Parking Rates and Provision for Supporting Services (Stage 1)

Type	Area	RMS Parking Rate	Spaces Required
Ancillary Retail to Private Hospital	426m ²	Included in Private Hospital Parking	N/A
Medical Clinics (Extended Hours Medical Centre)	1,935m ²	4 spaces per 100m ² Gross Floor Area	77
Medical Tenancies (Commercial Space)	1,285m ²	1 space per 40m ² unrestrained	32
TOTAL			109

Table 3: Parking Rates and Provision for Supporting Services (Stage 2)

Type	Area	RMS Parking Rate	Spaces Required
Ancillary Retail to Private Hospital	567m ²	Included in Private Hospital Parking	N/A
Medical Clinics (Extended Hours Medical Centre)	-	4 spaces per 100m ² Gross Floor Area	-
Medical Tenancies (Commercial Space)	2,038m ²	1 space per 40m ² unrestrained	51
TOTAL			51

As can be seen in **Table 2** and **3**, the proposed supporting services are nominally required to provide 109 spaces for Stage 1 and 51 spaces for Stage 2. This represents a total of 160 parking spaces, comprising 77 spaces for supporting medial facilities (radiology, pathology etc.) and 83 spaces for supporting medical tenancies. It should be noted that this is a matter that can be further considered at development application stages as the design evolves from concept to detailed design.



5.1.3 Overall Car Parking Provision

The overall car parking requirements are presented in **Table 4** below:

Table 4: Overall Parking Rates and Provision

Type	Beds / Area	Parking Rate	Spaces Required
Private Hospital (Stage 1)			
Beds	224	$-26.52 + 1.18 \times \text{Number of Beds}$	238
Supporting Services (Stage 1)			
Ancillary Retail to Private Hospital	426m ²	Included in Private Hospital Parking	N/A
Medical Clinics (Extended Hours Medical Centre)	1,935m ²	4 spaces per 100m ² Gross Floor Area	77
Medical Tenancies (Commercial Space)	1,285m ²	1 space per 40m ² unrestrained	32
SUB-TOTAL – Stage 1			347
Supporting Services (Stage 2)			
Ancillary Retail to Private Hospital	567m ²	Included in Private Hospital Parking	N/A
Medical Clinics (Extended Hours Medical Centre)	-	4 spaces per 100m ² Gross Floor Area	-
Medical Tenancies (Commercial Space)	2,038m ²	1 space per 40m ² unrestrained	51
SUB-TOTAL – Stage 2			51
TOTAL – Stages 1 & 2			398

As such, the assessed 347 parking spaces for Stage 1 (238 for the hospital and 109 for the supporting services) and 51 parking spaces for Stage 2 (supporting services) is considered an appropriate provision for the purposes of this concept stage and should ensure all normal parking demands are capable of being readily accommodated on-site. It should be noted that the proposed basement car park levels provide up to 389 parking spaces for Stage 1 (+42 spaces over minimum requirement) and an additional 59 spaces for Stage 2 (+8 spaces over minimum requirement), however this total may change as the design evolves from concept to detailed design.



The analysis does however demonstrate that the Stage 1 & 2 designs are able to provide satisfactory parking provision and that the final requirement can be assessed when further operation details are known at development application stage.

5.2 Accessible Parking

The Gosford City Centre DCP states that where car parking is provided in excess of five (5) spaces, provision shall be made for parking for persons with a disability at the rate of one (1) space per one hundred (100) or part thereof of car spaces provided. A higher proportion of such spaces may be required for uses which are likely to generate a higher demand for such facilities. Application of the above rate to the nominally proposed 389 parking spaces, requires the development to provide a minimum of four (4) accessible spaces, however as the development is a hospital, it is anticipated that it will generate a higher demand for accessible parking spaces. Therefore, reference has been made to the Disability (Access to Premises – Buildings) Standards 2010.

This standard specifies a rate of 1 space for every 50 carparking spaces or part thereof for hospitals with outpatient areas. As the hospital and supporting services provide 389 parking spaces for Stage 1, a minimum of eight (8) accessible parking spaces is required. Details relating to the number and location of accessible parking spaces will be determined at future development application stage/s, at which time, the parking arrangement will be optimised.

5.3 Motorcycle Parking

The Gosford City Centre DCP states that 1 motorcycle space per 25 parking spaces should be provided or part thereof. Application of this rate to the 389 car parking space requires the development to provide 16 motorcycle parking spaces. The final motorcycle parking provision is a matter that can be further considered at development application stages as the design evolves from concept to detailed design.

5.4 Bicycle Parking

The Gosford City Centre DCP does not provide bicycle parking rates for hospital developments. Nevertheless, bicycle parking will be provided in accordance with Cycling Aspects of



Austrroads Guides (2017). The proposed bicycle parking requirements for the subject private hospital and supporting services are outlined in **Table 5** below:

Table 5: Bicycle Parking Rates and Provision

Type	Beds / Area	Staff Parking Rate	Visitor Parking Rate	Total Spaces Required
Private Hospital (Stage 1)				
Beds	224	1 space per 15 beds	1 space per 30 beds	22
Supporting Services (Stage 1)				
Ancillary Retail	426m ²	1 space per 400m ² GFA	1 space per 200m ² GFA	3
Health Centre (Medical Clinics & Medical Tenancies)	3,220m ²	1 space per 400m ² GFA	1 space per 200m ² GFA	24
SUB-TOTAL – Stage 1				49
Supporting Services (Stage 2)				
Ancillary Retail	567m ²	1 space per 400m ² GFA	1 space per 200m ² GFA	4
Health Centre (Medical Clinics & Medical Tenancies)	2,038m ²	1 space per 400m ² GFA	1 space per 200m ² GFA	15
SUB-TOTAL – Stage 2				29
TOTAL – Stages 1 & 2				68

As can be seen in **Table 5**, the proposed development is nominally required to provide a total of 49 bicycle parking spaces for Stage 1 and 19 bicycle parking spaces for Stage 2. This represents a total of 68, comprising 22 spaces for the private hospital and 46 spaces for supporting services. It is noted that the development will provide appropriate end of trip facilities for staff members to encourage the use of sustainable means of travel to and from the site. The final bicycle parking provision and end of trip facilities is a matter that can be further considered at development application stages as the design evolves from concept to detailed design.

5.5 Refuse Collection and Servicing

A four (4) bay loading dock has been provided on the south-east corner of the site and provides a vital connection to hospital services such as the waste management room, kitchen, linen rooms and service lifts. The loading dock is expected to accommodate up to 12.5m long



heavy rigid vehicles (HRV) and has been designed to permit reverse in/forward out vehicle movements. The loading dock is accessed via the main internal roadway and provides a loading dock area that is separated from car movements. Details relating to the number of service bays will be determined at future development application stage/s, at which time, the servicing arrangements will be optimised.

5.6 Car Share Services

The proposed development does not provide any car share spaces and this is considered appropriate given the proposed use. Specifically, car share spaces are typically only implemented in residential developments where residents/tenants can use the car for a period of time and return it to the designated parking space. The demand for car share vehicles for staff and general visitors will be moderate not expected to meet the financial requirements for a public car share arrangement. Nevertheless, other methods to reduce parking demand and deliver a sustainable outcome are discussed in further detail below.

5.7 Private Shuttle Bus Service

The proposed Private Hospital in conjunction with the Gosford Public Hospital have discussed the implementation of a privately-operated bus service that will transport staff to and from nearby parking stations and the Gosford Railway Station. This service will correspond to staff shift changes and will may utilise a small shuttle bus depending on the demand of such a service. Details of the abovementioned bus service could be addressed within a Workplace Travel Plan prepared at a later DA stage.



6. TRAFFIC AND TRANSPORT IMPACTS

6.1 Existing Traffic Generation

As mentioned above, the subject site currently accommodates a portion of the former West Gosford Ausgrid Depot. It is noted that the RMS GTGD not provide traffic generation rates for service depots, therefore the existing traffic generation will be determined using a first principles approach using a trips per parking space per hour rate. Vehicle trips and parking requirements for office/commercial developments are considered comparable to that of a service depot, with the majority of employees arriving/departing the site within a similar time period. The RMS GTGD recommends an evening peak hour vehicle trip rate of 2 vehicles per 100m² gross floor area (GFA) and a parking rate of 2.5 spaces per 100m² GFA. Combining the above trip and parking rates results in the following:

- ▶ 0.80 trips per parking space per hour in the morning and evening peak periods.

It is estimated that there are approximately 45 parking spaces within the bounds of the proposed hospital development. Application of this rate to the 45 parking spaces; and applying an 80/20 peak period directional split results in the following traffic generation:

- ▶ 36 vehicle trips per hour in the morning peak period (29 in, 7 out); and
- ▶ 36 vehicle trips per hour in the evening peak period (7 in, 29 out).

This is considered a conservative assessment of the existing traffic generation due to the nature of a service depot which operates 24/7 and involves “on-call” responses to occur within these peak periods. The removal of only 36 vehicles per hour from the road network as discussed further below this reflects a worst case (conservatively high volume) existing scenario.

6.2 Development Vehicle Trip Generation (Stages 1 & 2)

6.2.1 Private Hospital (Stage 1)

The impacts of the proposed development on the external road network have been assessed in accordance with the trip generation rates published in the RMS Guide to Traffic Generating Developments (2002). It should be noted that private hospitals generally have a morning peak



period, and evening peak period and a peak vehicle trip period which generally occurs between 3:00pm and 4:00pm in response to staff shift changes. As describe in the RMS GTGD, proposed developments should be assessed at the peak activity time for the development itself and the peak activity time of the adjacent road network. The guide also states that the first of these is generally used for a basis for reviewing access to the site and driveway design requirements, whilst the second and possible more important period is used to assess the effect of the development on the road system. For the purpose of this assessment, the morning and evening peak periods of the hospital will be used to determine the impacts on the surrounding road network and the peak traffic generation (3:00pm-4:00pm) will be used to determine the access design to Racecourse Road.

As mentioned previously, at this stage of the project the number of employees is unknown. According to the RMS GTGD, the morning and evening peak traffic generation can be derived using the formulas below:

- ▶ Morning Vehicle Trip Generation = $-12.41 + 0.57 \times \text{Number of Beds}$
- ▶ Evening Vehicle Trip Generation = $-11.96 + 0.69 \times \text{Number of Beds}$

Application of the above formulas to the 224 beds and application of a 60/40 directional split results in the following traffic generation:

- ▶ 115 vehicle trips per hour in the morning peak period (69 in, 46 out); and
- ▶ 143 vehicle trips per hour in the evening peak period (57 in, 86 out).

6.2.2 Supporting Services (Stages 1 & 2)

The supporting services comprise retail space, medical clinics and medical tenancies (commercial space) and are expected to complement the private hospital component of the development. As such, the traffic generation rates for these components should be adjusted to reflect 'link trips' that will likely occur for patients visiting the development. A summary of the supporting services is reiterated below:

- ▶ 993m² GFA of ancillary retail area (included in Private Hospital Rate);
- ▶ 1,935m² GFA of medical clinics; and
- ▶ 3,323m² GFA of medical tenancies.



Ancillary Retail (Stages 1 & 2)

The proposed 993m² of retail space is considered ancillary to the private hospital development and is not considered the major attractor to the site. These premises are envisioned to provide goods and services to staff, patients and visitors and will comprise retail premises typically found in private/public hospitals throughout NSW. Premises may include cafés, gift shops, on-site pharmacies, florists and newsagents etc. As such, this assessment attributes no traffic generation to the retail space noting that the vast majority of trips to and from the development will be for the purpose of work or patient visits. That is, the retail area is not a 'destination' land use that would otherwise attract 'external' users.

Medical Clinics (Stage 1)

The RMS GTGD provides traffic generation rates for extended hours' medical centres. These rates are considered appropriate for the proposed medical clinics (radiology, pathology etc.) within the development. The guide recommends a mean morning peak hour vehicle trip rate of 10.4 vehicles per 100m² GFA (range 3.1 to 19.4 veh/hr/100m²) and a mean evening peak hour vehicle trip rate of 8.8 vehicles per 100m² GFA (range 4.4 to 19 veh/hr/100m²). As mentioned above, these services are considered closely related to the hospital development, thus a 50% reduction in traffic has been adopted to reflect the synergy between these services and the hospital. This results in the following traffic generation:

- ▶ 5.2 vehicles per 100m² GFA in the morning peak period; and
- ▶ 4.4 vehicles per 100m² GFA in the evening peak period.

These values are considered an appropriate assessment given they are equal to or greater than the minimum range values stated above. Application of the above rates to the proposed 1,935m² of medical clinic space and application of an 80/20 directional split results in the following traffic generation:

- ▶ 101 vehicle trips per hour in the morning peak period (81 in, 20 out); and
- ▶ 85 vehicle trips per hour in the evening peak period (17 in, 68 out).

Medical Tenancies (Stages 1 & 2)

The RMS Technical Direction (TDT 2013/04a) provides updated traffic generation rates for medical tenancies (office) developments. The guide recommends a morning peak hour



vehicle trip rate of 1.6 vehicles per 100m² GFA and an evening peak hour vehicle trip rate of 1.2 vehicles per 100m² GFA. Whilst the exact use of this space is unknown at this stage of the project, it is envisioned that the space will be occupied by commercial businesses within the medical field and will have typical staff movements into and from the site. Therefore, the full RMS rates will be adopted for this assessment.

Application of the above rates to the proposed 3,323m² of medical tenancies and application of an 80/20 directional split results in the following traffic generation:

- ▶ 53 vehicle trips per hour in the morning peak period (42 in, 11 out); and
- ▶ 40 vehicle trips per hour in the evening peak period (8 in, 32 out).

6.3 Net Trip Generation (Stages 1 & 2)

The above traffic generation is not a net increase over existing conditions. When accounting for the existing uses of the site, the proposed development will generate:

- ▶ +233 vehicle trips per hour in the morning peak period (+163 in, +70 out); and
- ▶ +232 vehicle trips per hour in the evening peak period (+75 in, +157 out).

6.4 Daily Trip Generation

It is noted that the RMS GTGD does not provide daily vehicle trip rates for private hospitals or extended hours' medical centres (medical clinics). However, the guide does recommend an office daily vehicle trip generation rate of 11 vehicles per 100m² GFA. This represents a nine-fold increase over the evening peak hour generation rate. To estimate the daily traffic generation of the entire development, the evening peak hour generation (232 vph) was scaled by a factor of nine (9). Application of this factor to the evening peak hour generation results in approximately 2,088 vehicles per day (includes inbound and outbound vehicles).

It is highly relevant to note, that daily traffic volumes are not a relevant consideration for the assessment of the traffic network, which is based on intersection performance during peak (hourly) periods.



6.5 Traffic Distribution

In order to estimate the expected distribution of traffic to and from the subject development for both stages, journey to work data supplied by the NSW Government Bureau of Transport Statistics was used. Whilst this method focused on employment trips to and from the site, the distributions are consistent with the location of populated areas, thus are considered appropriate for the inclusion of general visitor trips. The surveys of commuters who drive to and from zone TZ5331, centred on Racecourse Road, indicate the following distribution for the subject intersections:

Inbound Movements

- ▶ 21% arrive to the site from the north via Racecourse Road from suburbs such as Blue Haven, Budgewoi and Chittaway Bay.
- ▶ 10% arrive to the site from the north via Showground Road/Faunce Street West from suburbs such as Blue Haven, Budgewoi and Chittaway Bay.
- ▶ 53% arrive to the site from the south via the Central Coast Highway (eastern leg). These vehicles travel from suburbs such as Avoca Beach, Bateau Bay and Box Head.
- ▶ 16% arrive to the site from the south via the Central Coast Highway (western leg). These vehicles travel from suburbs such as Calga and Kariong.

Outbound Movements

- ▶ 5% leave the site towards the north via Racecourse Road towards suburbs such as Blue Haven, Budgewoi and Chittaway Bay.
- ▶ 26% leave the site towards the north via Racecourse Road/Faunce Street West/Showground Road towards suburbs such as Blue Haven, Budgewoi and Chittaway Bay.
- ▶ 53% leave the site towards the south via the Central Coast Highway (eastern leg). These vehicles travel towards suburbs such as Avoca Beach, Bateau Bay and Box Head.
- ▶ 16% leave the site towards the south via the Central Coast Highway (western leg). These vehicles travel towards suburbs such as Calga and Kariong.



Collectively, the development volumes assessed have been distributed across the road network as illustrated in **Figures 8, 9, 10** and **11**. The analysis assumes the following access arrangements in accordance with concept plans.

It is noted that the intersection of Racecourse Road and Showgrounds Road has not been surveyed or modelled. This is due to the fact that the intersection will need to accommodate an additional 72 vehicle movements per hour. These trips will in turn distributed across four (4) approaches during the more critical evening peak period. An additional 72 vehicles through all approaches of the roundabout intersection is considered a moderate increase and equates to one additional vehicle movement only every 50 seconds. The Sidra modelling program is not particularly sensitive to changes of this order and existing Levels of Service are expected to be maintained.

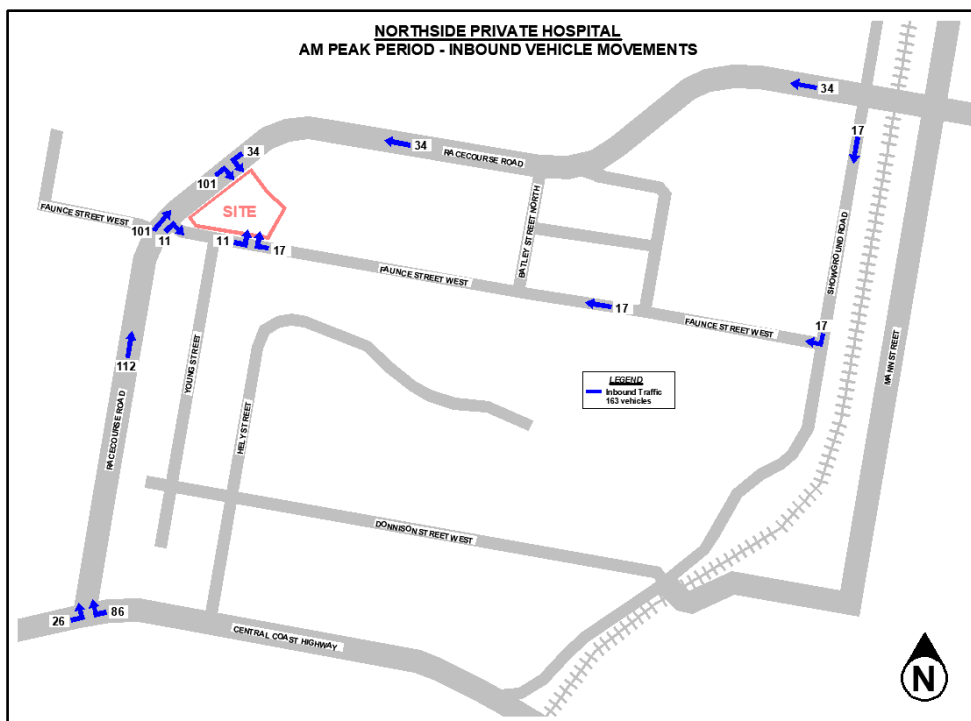


Figure 8: AM Peak Period Distribution (Inbound vehicle trips per hour)

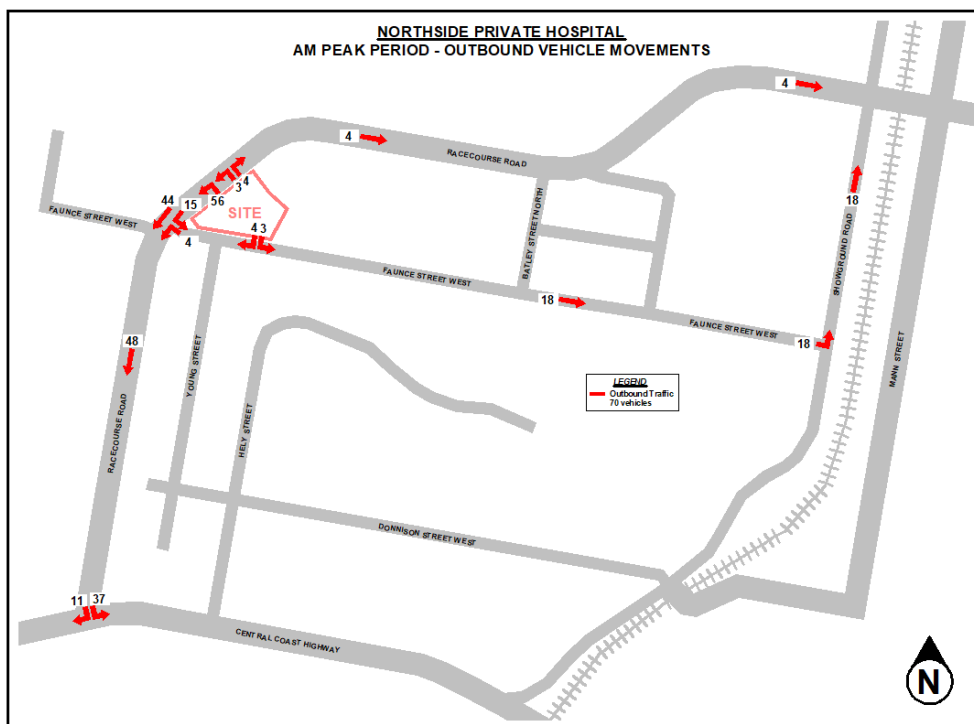


Figure 9: AM Peak Period Distribution (Outbound vehicle trips per hour)

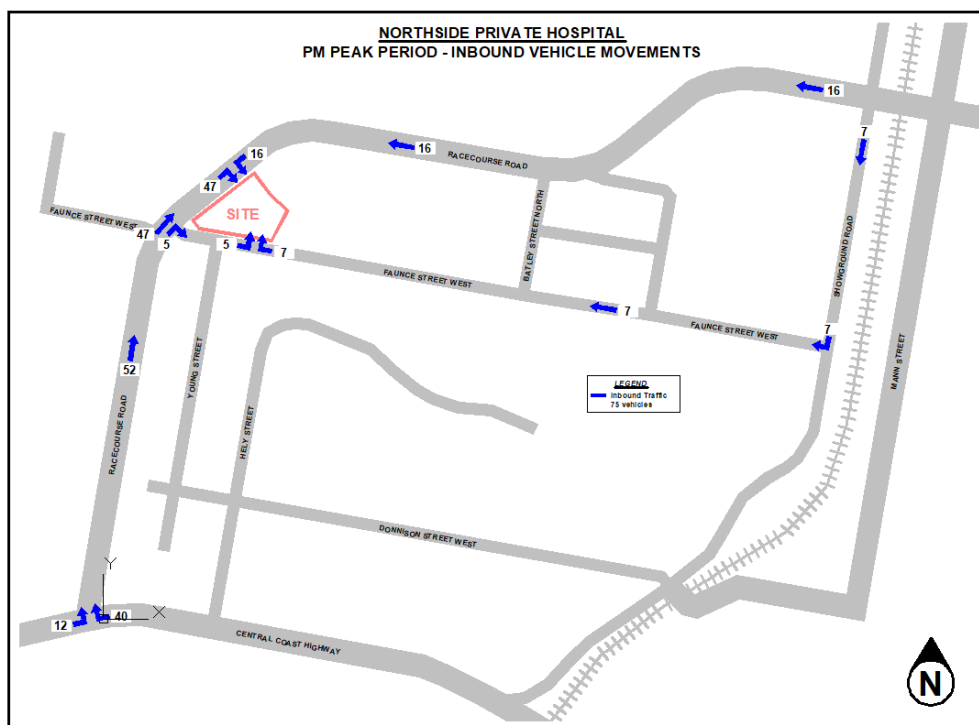


Figure 10: PM Peak Period Distribution (Inbound vehicle trips per hour)

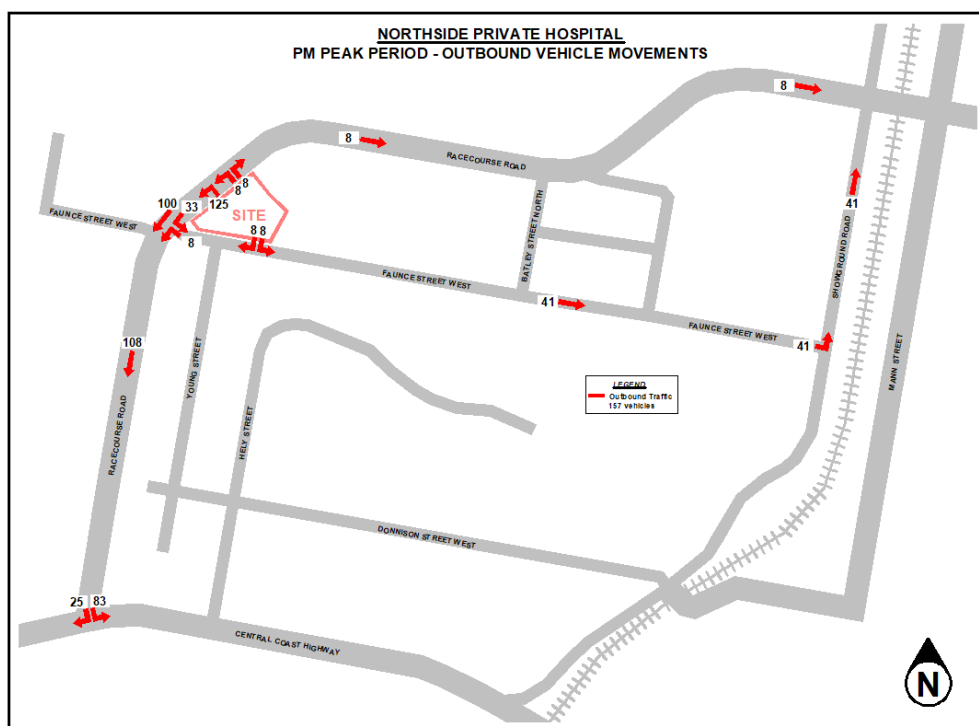


Figure 11: PM Peak Period Distribution (Outbound vehicle trips per hour)



6.6 Modelled Scenarios

In order to assess the potential traffic impacts of the proposed development (Stages 1 & 2), the following scenarios were identified:

- ▶ 2019 Base Case;
- ▶ 2019 Base Case + Development;
- ▶ 2029 Base Case; as requested by Council; and
- ▶ Discussion of 2029 Base Case Plus Development Scenario.

It is noted that the 2029 future scenario incorporated a two percent (2%) annual growth (as requested by Council) of traffic to the existing surveys, resulting in significant input flow onto the surrounding road network. It should be noted that an Aurecon Australia Pty Ltd traffic study commissioned by the RMS for the intersection of Central Coast Highway/Brisbane Water Drive /Manns Road at West Gosford adopted a future growth rate of 1%. Nevertheless, a 2% growth rate was applied to the Central Coast Highway/Racecourse Road intersection, providing a highly conservative assessment of future traffic impacts. Furthermore, the 2029 scenario does not take into account any infrastructure projects in the immediate area by Council or RMS over the next 10 years, which would improve the performance of key intersections in the locality.

6.7 Peak Period Intersection Performance

Traffic surveys were undertaken of the intersections mentioned above, which are considered to be most critical in relation to the site. These counts were undertaken on 12 March 2019 during the network peak periods, being between 6:30am and 9:00am (morning peak period) and 4:30pm and 6:30pm (evening peak period).

The traffic volumes in these surveys formed the base case volumes for software modelling undertaken to assess intersection performance characteristics under existing traffic conditions. The SIDRA Intersection 8 model produces a range of outputs, the most useful of which are the Degree of Saturation (DoS) and Average Vehicle Delay per vehicle (AVD). The AVD is in turn related to a level of service (LoS) criteria. These performance measures can be interpreted using the following explanations:



DoS - the DoS is a measure of the operational performance of individual intersections. As both queue length and delay increase rapidly as DoS approaches 1, it is usual to attempt to keep DoS to less than 0.9. When DoS exceeds 0.9 residual queues can be anticipated, as occurs at many major intersections throughout the metropolitan area during peak periods. In this regard, a practical limit at 1.1 can be assumed. For intersections controlled by roundabout or give way/stop control, satisfactory intersection operation is generally indicated by a DoS of 0.8 or less.

AVD - the AVD for individual intersections provides a measure of the operational performance of an intersection. In general, levels of acceptability of AVD for individual intersections depend on the time of day (motorists generally accept higher delays during peak commuter periods) and the road system being modelled (motorists are more likely to accept longer delays on side streets than on the main road system).

LoS - this is a comparative measure which provides an indication of the operating performance of an intersection as shown in **Table 6** below.

Table 6: Intersection Performance Indicators (RMS)

Level of Service (LoS)	Average Delay per Vehicle (sec/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	Less than 14	Good Operation	Good Operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and space capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	42 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity	Unsatisfactory and requires other control mode or major treatment



A summary of the modelled results is provided below in **Table 7**. Reference should also be made to the SIDRA outputs provided in **Appendix C** which provide detailed results for individual lanes and approaches.

The first three modelled scenarios outlined above are all included in Table 6.

Table 7: Existing, Proposed and Future Intersection Performances

Intersection	Control	Scenario	Period	Degree of Saturation	Average Delay (s)	LoS
Racecourse Road and Central Coast Highway (State)	Signalised	Base	AM	0.833	41.0	C
		Base + Dev		0.833	42.4	C
		2029*		0.891	41.1	C
		Base	PM	0.873	39.0	C
		Base + Dev		0.886	41.5	C
		2029*		1.226	51.4	D
Faunce Street West (East) and Racecourse Road	Give Way	Base	AM	0.364	13.3	A
		Base + Dev		0.441	17.2	B
		2029*		0.462	18.3	B
		Base	PM	0.296	11.9	A
		Base + Dev		0.366	15.3	B
		2029*		0.355	15.9	B
Faunce Street West (West) and Racecourse Road	Give Way	Base	AM	0.311	13.9	A
		Base + Dev		0.421	18.7	B
		2029*		0.461	19.9	B
		Base	PM	0.330	12.5	A
		Base + Dev		0.388	15.9	B
		2029*		0.399	17.1	B
Faunce Street West (East) and Showground Road	Round-about	Base	AM	0.329	11.7	A
		Base + Dev		0.344	11.8	A
		2029*		0.400	12.4	A
		Base	PM	0.292	11.6	A
		Base + Dev		0.298	11.7	A
		2029*		0.355	12.3	A

*2029 volumes derived by adopting a background growth rate of 2% per annum onto all movements.



6.7.1 Base Case + Development Performance

It can be seen from **Table 7** that all intersections operate satisfactorily (with LoS A, B or C) under both the Base Case (2019) and Base Case Plus Development scenarios and the latter is the scenario that reflects the criteria for assessing impacts under current RMS Guidelines. That is, the EP&A Act as well as the RMS Guidelines require that a development need only be assessed for improvements that are required to support the development itself. This is a consequence of the need to identify a nexus between development and any measures required to manage its associated impacts. As can be seen in Table 6, these scenarios are both satisfactory in terms of the network performance, such that the concept development is supportable on traffic grounds.

Specifically, the intersection of Racecourse Road and Central Coast Highway recorded a minimal change to the intersection delay in the morning and evening peaks. The intersection remains at a level of service of 'C' in the morning and evening peaks during this scenario. The intersection of Faunce Street West (east) and Racecourse Road recorded an acceptable level of service of 'B' in the morning and evening peak periods, representing a small increase in average delay of 3.9 seconds and 3.4 seconds respectively. The intersection of Faunce Street West (west) and Racecourse Road also recorded an acceptable level of service of 'B' in the morning and evening peak periods, representing a small increase in average delay of 4.8 seconds and 3.4 seconds respectively. A level of service 'B' still represents an intersection with acceptable delays and spare capacity. The intersection of Faunce Street West and Showground Road recorded a minimal change to the intersection delay in the morning and evening peaks, with the intersection remaining at a level of service 'A' during this scenario. In this regard, the impact of the development on the wider road network during the morning and evening network peak periods is considered acceptable with no external improvements required to support the development scheme.

It is acknowledged that the site is located in proximity to Henry Kendall High School and Gosford Public School. As demonstrated above, nearby intersections experience small increases in average delay in the morning and evening peak periods. Noting that hospital staff changes correspond with typical school pick-up times (3pm-4pm), the local road network may experience a short isolated spike in vehicle movements near the site during this period. This one-hour period has therefore been assessed for reviewing site access and driveway design requirements as permissible under the RMS Guidelines and is discussed further in Section 8.1.



In the spirit of providing an input to Council and RMS in relation to their ongoing strategic planning responsibilities, further sensitivity testing has been undertaken as discussed in the following section.

6.7.2 Sensitivity Testing

2029 Base Case Performance

The "2029 Base Case" scenario reflects traffic conditions in 2029 which will arise even if the proposed development is not considered and does not occur. It was modelled to provide an indication of the traffic flows near the site in 10 years' time, which is a scenario that Council and RMS will need to deal with in any event (without the development), in terms of road network performance and required associated infrastructure.

The intersection of Racecourse Road and Central Coast Highway recorded a minimal change to the intersection delay in the morning peak period and maintains a level of service 'C'. The evening peak period showed a level of service 'D', representing a moderate increase in average delay. The intersection of Faunce Street West (east) and Racecourse Road recorded an acceptable level of service of 'B' in the morning and evening peak periods representing a small increase in average delay of 5.0 seconds and 4.0 seconds respectively, with spare capacity in both peaks. The intersection of Faunce Street West (west) and Racecourse Road recorded an acceptable level of service of 'B' in the morning and evening peak periods representing a small increase in average delay of 6.0 seconds and 4.6 seconds respectively, with spare capacity in both peaks. The intersection of Faunce Street West (east) and Showground Road recorded an acceptable level of service of 'A' in the morning and evening peak periods representing a small increase in average delay of 0.7 seconds for both periods, with spare capacity in both peaks.

In summary, the intersections of Racecourse Road/Faunce Street West (staggered) and Faunce Street West (east) and Showground Road will experience small increases to the average delay during morning and evening peak periods, however, will still provide spare capacity. The intersection of Racecourse Road and the Central Highway is the only intersection to experience a significant increase in average delays during the evening peak period in 2029. This reflects conditions arising from 10 years of 'background' traffic growth at a rate of 2% per annum, which is a cumulative increase of 22% on all movements at all



intersections. In relation to this critical intersection, it reflects a total increase in throughput from 5,387 veh/hr currently to 6,567 veh/hr during the more critical PM peak period. Nevertheless, the results reflect increased delays associated with minor movements and it is expected that infrastructure changes to accommodate this background growth would be modest, with no additional through lanes required. The improvements would be more in the nature of fine-tuning existing lane discipline and/or optimising the intersection phasing.

2029 Base Case Plus Development Performance

In the context of the 2029 Base Case outlined above, the additional traffic volumes generated by the subject development are very moderate and able to be accommodated by existing intersections.

The exception remains the critical intersection of Racecourse Road and the Central Highway. In this regard, the propose development is expected to generate a net additional 160 veh/hr through this intersection in the evening as shown in Figure 10 and Figure 11. This represents approximately 2.4% of the 6,567 veh/hr that will arise at this intersection without the development. In addition, the cumulative traffic growth represented by the 2029 future scenario already takes account of future development of the subject account; as it does the region generally.

On this basis, the 10 year growth scenario is not considered to be a relevant consideration for any subsequent development application.

6.7.3 Summary on Network Performance

In summary, the surrounding road network will experience small increases to the average delay during morning and evening peak periods, however, will still provide spare capacity. It should be noted that this assessment is considered a 'worst case' scenario and may have the potential to be improved at DA Stage/s once operational rosters are known and the effects of sustainable initiatives are factored in.



6.8 Development Person Trip Generation

6.8.1 Private Hospital (Stage 1)

The anticipated person trip generation for the proposed development have been assessed under the RTA Land Use Traffic Generation Data and Analysis 28 – Private Hospitals (1994). This guideline provides various formulas for calculating the anticipated person trip of the development, however, as the number of staff is unknown, the utilised formula was based on staff, as outlined below:

- ▶ Peak Person Trips = $-28.51 + 1.45 \text{ Beds}$

Application of the above rate to the proposed 224 beds, results in the following anticipated peak person trips:

- ▶ 296 person trips during the peak periods

6.8.2 Ancillary Retail (Stage 1 & 2)

As mentioned previously, the proposed 993m² of retail space is considered ancillary to the private hospital development and is not considered the major attractor to the site. As such, this assessment attributes no pedestrian generation to the proposed retail space which is considered to be included within the private hospital rate.

6.8.3 Medical Clinics (Stage 1)

The RMS Trip Generation Surveys Medical Centres Analysis Report (2015) was reviewed to determine a relationship between GFA and person trip generation. The report concluded that there was little correlation between the number of person trips and the total GFA. Therefore, in order to estimate the person trips relating to the medical clinic space, the office/commercial rates specified in the RMS Technical Direction (TDT 2013/04a) will be adopted. The Technical Direction recommends a person trip rate of 2.26 trips per 100m² GFA in the morning peak period and 1.73 trips per 100m² GFA in the evening peak period. Application of these rates to the proposed 1,935m² GFA of medical clinic space results in the following anticipated peak person trips:

- ▶ 44 person trips per hour during the morning peak period



- ▶ 34 person trips per hour during the evening peak period

6.8.4 Medical Tenancies (Stage 1 & 2)

The RMS Technical Direction (TDT 2013/04a) provides pedestrian generation rates for Office Blocks, which are considered comparable to medical tenancies. The Technical Direction recommends a person trip rate of 2.26 trips per 100m² GFA in the morning peak period and 1.73 trips per 100m² GFA in the evening peak period. Application of these rates to the proposed 3,323m² GFA of medical tenancies results in the following anticipated peak person trips:

- ▶ 75 person trips per hour during the morning peak period
- ▶ 57 person trips per hour during the evening peak period

6.8.5 Combined Person Trip Generation (Stage 1 & 2)

The combined person trip generation of the private hospital, medical clinic and commercial components are summarised below:

- ▶ 415 person trips per hour during the morning peak period
- ▶ 387 person trips per hour during the evening peak period

This is a matter that can be revisited at a subsequent DA Stage/s once staff numbers and rosters are known.

6.9 Travel Modal Splits

The Demographic Resource Centre provides data pertaining to travel modal splits for persons within the West Gosford region, based on 2016 Census Data and the Australia Bureau of Statistics. Accordingly, the travel mode splits have been summarised in **Table 8** below.



Table 8: West Gosford Travel Modal Splits 2016

Travel Mode	Percentage
Train	18.2%
Bus	2.8%
Car Driver	50.9%
Car Passenger	5.1%
Motorbike	0.5%
Bicycle	0.0%
Walked Only	8.7%
Other	1.0%
Worked at Home	2.7%
Did Not Work	9.3%
Not Stated	0.6%

Application of these travel mode splits to the overall person trip generation of the proposed development, results in the person trips for alternative transport as summarised in **Table 9** and **Table 10** below:

Table 9: Non-Car Trips - AM

Travel Mode	%	No. of Persons
Train	18.2%	76
Bus	2.8%	12
Bicycle	0.0%	0
Walked Only	8.7%	36
Other	1.0%	4
TOTAL		128

Table 10: Non-Car Trips - PM

Travel Mode	%	No. of Persons
Train	18.2%	70
Bus	2.8%	11
Bicycle	0%	0
Walked Only	8.7%	34
Other	1.0%	4
TOTAL		119



As can be seen in Tables 8 and 9, approximately 30% of trips within the West Gosford area are completed using alternative means of travel, with a large percentage (68% of alternative trips) utilising public transport options. It is noted that no trips are completed by bicycle, indicating that minimal off-road and on-road bicycle facilities are provided within the West Gosford area. A Workplace Travel Plan could be implemented for staff to encourage the use of bicycle trips to and from the proposed development, noting that bicycle parking and end of trip facilities are provided on-site. It is anticipated that the above person trip generations can be used for infrastructure planning with regards to alternative modes of transportation during the development peak periods, such as extended bus services during staff shift changes and improved bicycle facilities in the locality. Again, this matter would be revisited at a subsequent DA Stage/s.

6.10 Pedestrian Safety and Connectivity

The existing frontages along Racecourse Road and Faunce Street West are currently grassed and do not provide any sealed pedestrian pathways. In order to improve pedestrian connectivity and safety in the immediate vicinity of the proposed development, shared paths are proposed along the frontages of Racecourse Road and Faunce Street West. It is noted that the conceptual design provides two (2) pedestrian connections along each frontage, providing staff and visitor multiple access points to the hospital and ancillary services. The proposed share path will traverse the north-west and southern boundaries, noting that the scope of works is limited to the site's extremities.

Shared paths widths typically range between 2.0m and 4.0m and are provided with appropriate line marking and signage to delineate directions of travel, hazards and wayfinding information. Whilst existing pedestrian and cycling facilities in the area are limited, it is expected that as larger neighbouring sites are developed, pedestrian and cyclist infrastructure will be provided as part of any public domain infrastructure works. It is therefore expected that the proposed shared paths will eventually link with neighbouring sites and any future capital works projects proposed by Council, eventually connecting the site with other major attractors in the West Gosford area. The provision of shared paths along the Racecourse Road and Faunce Street West frontages is considered an appropriate measure to improve pedestrian and cyclist safety within the vicinity of the site.



In addition to the proposed shared path, pedestrian facilities could be provided along Racecourse Road and at the intersection of Racecourse Road/Faunce Street West to facilitate pedestrian movements to and from existing bus stops (ID: 2250360 and 2250256). Pedestrian facilities could include pedestrian refuge islands and associated kerb ramps which could be integrated into the site access arrangements along Racecourse Road. Additional pedestrian facilities within the vicinity of the site will provide a benefit to the private hospital users and the wider community, noting that 2016 Census Data demonstrates that approximately 130 people will utilise walking, cycling and public transport to travel to and from the site. It is emphasised that detailed design of any proposed pedestrian facilities or crossing will be undertaken by a suitably qualified civil engineer at future development application stage/s, at which time, the design will be optimised to meet the relevant guidelines and standards.

6.11 Adequacy of Public Transport

As discussed in **Section 3.2**, Racecourse Road and Faunce Street West are serviced by numerous bus routes that typically operate Monday to Saturday and provide connections to Gosford, Matcham, Spencer, Mangrove Mountain and Kariong. Whilst the 2016 Census Data suggests that approximately 12 people will utilise bus services, the implementation of a Workplace Travel Plan will likely increase this number, also noting that the site may operate a private shuttle bus for employees. Preliminary discussions with Transport for NSW have indicated that operating times for certain bus services within in the immediate area could be extended to correspond with staff shift changes, should the need arise. This is a matter that can be further considered at development application stages once staff numbers are known and travel mode targets are determined.



7. SUSTAINABLE TRAVEL PLANS

7.1 Green/Workplace Travel Plans

A comprehensive Green Travel Plan (GTP) and Workplace Travel Plan (WTP) can be developed for the Northside Private Hospital for staff and visitors, respectively. These plans are intended to encourage the use of public transport and alternative modes of transportation, with the primary objectives outlined as follows:

- ▶ Promote the use of sustainable transport methods, thus reducing congestion and pollution in the local area;
- ▶ Promote the Northside Private Hospital as an innovative and environmentally aware organisation; and
- ▶ Provide an active environment by encouraging healthier travel options for staff and visitors, such as walking and cycling.

A comprehensive GTP and WTP is considered to be an important part of managing the transport demand generated by the development. These plans would provide relevant transport and access information, including:

- ▶ Local bus facilities and network maps; and
- ▶ Local walking and cycling routes.

Accordingly, the development of a GTP and WTP is encouraged to promote alternative modes of transport, noting that these plans are generally more effective for new developments, prior to the establishment of regular travel habits. Whilst the main objective of these plans is to reduce private vehicle usage, it is acknowledged that the development proposes adequate on-site car parking facilities. Consequently, the travel targets in this case must be uniquely tailored to encourage alternative modes of transport and car-pool schemes.

In this regard, a formal carpool scheme for staff should be considered to reduce the impact of private vehicle usage. As an added incentive, on-site staff parking can be prioritised to vehicles transporting two (2) or more staff members to and from work. As such, the



development of such a scheme would assist in actively reducing the reliance on private vehicle usage of the hospital.

7.2 Travel Demand Management

It is envisaged that the reductions in car based travel modes to achieve any future nominated targets could be facilitated by the following travel demand management measures:

- ▶ A Transport Access Guide (TAG) is considered to be a useful travel tool to encourage travel by alternative means other than private cars. This TAG would illustrate the public transport routes operating in the locality and is envisaged to be distributed to staff and visitors of the hospital; and
- ▶ Car sharing schemes can be encouraged for both staff and visitors. Initiatives could be implemented for staff whereby on-site parking spaces are prioritised for vehicles with two (2) or more staff members.



8. ACCESS AND INTERNAL DESIGN ASPECTS

8.1 Site Vehicular Access

8.1.1 Access Design

The proposed development provides three (3) vehicular access points to the surrounding road network as described below:

Entry/Exit Driveway via Racecourse Road

An access driveway to Racecourse Road approximately 10 metres south-west of the existing vehicular crossing. The access driveway will link Racecourse Road to the internal roadway, including connections to the loading dock, porte cochere and basement car parking. It is noted that the access will service light and heavy vehicles, therefore the proposed access will be designed in accordance AS 2890.2 (2018) to accommodate the largest vehicle accessing the site. It is noted that the proposed access will be designed in accordance with the Austroads Guidelines, Road and Maritime Services (RMS) requirements, and relevant Australian Standards as required. A preliminary layout has been derived for the intersection based on available traffic survey data, expected trip distributions and Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings. In summary, the proposed intersection will comprise the following main components:

- ▶ Channelised Right Turn treatment for eastbound vehicles turning right into the site; and
- ▶ Auxiliary Left Turn treatment for westbound vehicles turning left into the site.

It is emphasised that the detailed design of the proposed access will be undertaken by a suitable qualified civil engineer at future development application stage/s, at which time, the design will be optimised to meet the relevant guidelines and standards.

Basement Exit Driveway via Racecourse Road

An exit driveway to Racecourse Road approximately 85 metres south-west of the existing vehicular crossing. The access driveway will link Racecourse Road to the basement car park and will be restricted to left-out vehicle movements only. It is noted that the access will service



light vehicles only, therefore the proposed access will be designed in accordance AS 2890.1 (2004).

Entry/Exit Driveway via Faunce Street West

An access driveway to Faunce Street West approximately 150 metres east of Young Street. The access driveway will link Faunce Street West to the internal roadway, including connections to the porte cochere and basement car parking. It is noted that the access will service light vehicles only, therefore the proposed access will be designed in accordance AS 2890.1 (2004).

Access Performance

As mentioned above, private hospitals have peak traffic generation between the hours of 3:00pm and 4:00pm which is used as a basis for reviewing access to the site and driveway design requirements. The peak traffic generation can be derived using the RMS GTGD formula:

► Peak Vehicle Trip Generation = $-22.07 + 1.04 \times \text{Number of Beds}$

Application of the above formula to the 224 beds and application of a 50/50 directional split results in the following traffic generation:

► 211 vehicle trips between 3pm and 4pm (105 in, 106 out).

It is noted that the supporting services peak traffic generation occurs during the network peak, therefore will not be included in this access performance assessment. In order to assess the traffic impacts of the proposed accesses to Racecourse Road and Faunce Street West, traffic count data was sourced at the Racecourse Road/Faunce Street West intersection. These counts were undertaken on 8 November 2018 between 3:00pm and 4:00pm. SIDRA Intersection 8 model software was then used to determine the performance of the proposed access driveway with trips distributed onto the surrounding road network as described in Section 6.5. The results are shown in **Table 11** below:



Table 11: Proposed Access Performance

Intersection	Control	Scenario	Period	Degree of Saturation	Average Delay (s)	Level of Service
Racecourse Road and Proposed Access	Seagull	Base + Dev	3pm – 4pm	0.341	9.9	A
		Base + Dev Storage		0.190	3.1	A
		2029*		0.413	12.4	A
		2029* Storage		0.232	3.5	A
Racecourse Road and Basement Exit	Stop	Base + Dev	3pm – 4pm	0.328	10.2	A
		2029*		0.394	11.9	A
Faunce Street West and Proposed Access	Stop	Base + Dev	3pm – 4pm	0.079	6.9	A
		2029*		0.094	7.2	A

* 2029 volumes derived by adopting a background growth rate of 2% per annum.

It can be seen from **Table 10** that the proposed access driveways to Racecourse Road and Faunce Street West (east) operates satisfactorily, with acceptable delays and spare capacity with a level of service of 'A' in the peak traffic generation period for the "2019 Base Case" and the "2029 Base Case" scenarios. The proposed seagull intersection and basement car park exit to Racecourse Road and general entry/exit driveway to Faunce Street West (east) are therefore considered an appropriate and safe access treatment for the future development.

8.1.2 Access Sight Distance

Sight distance at the proposed accesses will be provided in accordance with AS 2890.1 (2004) for driveways servicing light vehicles and AS 2890.2 (2018) for driveways servicing light and heavy vehicles. It should be noted that a detailed sight distance assessment can be undertaken at later development application stage/s. It is noted that appropriate 'no stopping' restrictions may need to be installed along Racecourse Road and Faunce Street West to ensure sight distances are provided for drivers exiting the site, however this may already be required on Racecourse Road due to the proposed seagull layout.



8.1.3 Proposed Porte Cochere

The proposed development provides a porte cochere drop-off/pick-up area accessed via the internal roadway. The porte cochere has a curved configuration and runs in a clock-wise direction between the main internal roadway. The porte cochere will be accessed by all drop-off/pick-up trips and is expected to be utilised by visitors, staff, taxis and ride share vehicles. The porte cochere can also accommodate a 7.0m long Coaster Bus, noting that the development may operate private shuttle buses for staff. Vehicles exiting the designated drop-off/pick-up area can exit the site via the internal roadway towards Racecourse Road or Faunce Street West. Emergency parking spaces for doctors have also been provided within the centre of porte cochere to provide fast and convenient parking for emergency doctors arriving at the site. It is expected that vehicles re-entering the porte cochere will be limited, however the option has been provided. Swept path analysis presented in **Appendix D** demonstrates the proposed porte cochere can operate satisfactorily.

8.2 Internal Design

8.2.1 Parking Modules

- ▶ All staff car parking spaces are to be provided with a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m. These arrangements satisfy User Class 1A (employee parking) requirements under AS 2890.1 (2004).
- ▶ All visitor car parking spaces are to be provided with a minimum space length of 5.4m, a minimum width of 2.6m and a minimum aisle width of 5.8m. These arrangements satisfy User Class 3 (hospital parking) requirements under AS 2890.1 (2004).
- ▶ All accessible parking spaces are to be designed in accordance with AS 2890.6 (2009), being 2.4m wide, 5.4m long and situated immediately adjacent to a dedicated shared area or the circulating aisle.
- ▶ All spaces located adjacent to obstructions of greater than 150mm in height are to be provided with an additional width of 300mm and all columns are to be located outside of the parking space design envelope shown in Figure 5.2 of AS 2890.1 (2004).
- ▶ Dead-end aisles are to be provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1 (2004).



8.2.2 Ramps/Access

- ▶ All vehicular ramps shall have a maximum gradient of 20% (1 in 5) for up to 20 metres long, with a minimum 2-metre-long transition at 12.5% (1 in 8), in accordance with the public car park requirements of AS 2890.1 (2004).
- ▶ The access driveway is to have a maximum gradient of 1:20 (5%) extending from the property boundary line to at least the longest wheelbase of any vehicle likely to use the driveway.

8.2.3 Clear Head Heights

- ▶ A minimum clear head height of 2.2m is to be provided for all areas within the basement car park as required by AS 2890.1 (2004).
- ▶ A minimum clear head height of 2.5m is to be provided above all accessible spaces in accordance with AS 2890.6 (2009).
- ▶ Head height clearances for roadways/loading docks accessed by services vehicles are to be provided in accordance with Table 2.1 of AS 2890.2 (2018).

8.2.4 Loading/Service Bays

- ▶ All loading bays are to be designed to accommodate the largest vehicle in accordance with AS 2890.2 (2018).
- ▶ Roadways/ramps accessed by waste/service vehicles are to be designed in accordance with Table 3.2 of AS 2890.2 (2018).
- ▶ The maximum gradient for any part of the service bay shall be 1:25 (4%) measured in any direction including directions oblique to the bay centre-line as required by AS 2890.2 (2018).
- ▶ Swept path analysis presented in **Appendix D** demonstrates that the proposed loading dock can operate satisfactorily.

8.2.5 Other Considerations

- ▶ Visual displays are to be provided at the access driveway in accordance with AS 2890.

In summary, the internal configuration of the car park and loading dock will be designed in accordance with the appropriate Australian Standard.



9. CONSTRUCTION TRAFFIC MANAGEMENT

A detailed Construction Traffic Management Plan (CTMP) will be prepared and submitted to Council, in response to any Conditions of Consent stipulated following approval of the SSD. The below commentary addresses the overall management principles for the site during the construction process. It is noted that the preparation of a detailed CTMP requires significant input from the appointed builder and would heavily rely upon the construction methodology, which at this point cannot be confirmed.

The proposed development would however adhere to the general CTMP aspects as outlined below, which have been provided for information purposes.

9.1 Construction Vehicles

9.1.1 Truck Routes

The truck routes for the construction of the development would utilise the main arterial roads serving the region, noting that Central Coast Highway and the start of Racecourse Road are RMS approved B-double (25 metre and 26 metre) routes. Furthermore, it should be emphasised that any proposed truck route would be restricted from utilising Faunce Street West, given the proximity and operation of Gosford Public School.

A copy of the routes would be provided to all drivers prior to attending the site and all trucks serving the site will do so via the proposed route only. The proposed truck routes are recommended so that all vehicles are able to enter and egress the site in a forward direction, thereby ensuring no reverse manoeuvres on public roadways.

9.1.2 Truck Size and Volumes

The maximum permissible vehicle and frequency of construction deliveries will be documented at a later stage and within a detailed CTMP report. The anticipated truck volumes should be estimated and discussed during future Pre-CTMP stages.

As with the truck routes, it is emphasised that the majority of truck movements would be limited to outside school peak periods, as much as possible.



9.2 Contractor Parking

Contractors will be encouraged to utilise public transport or carpool to and from site, with on-site parking also envisaged to be provided. This on-site parking would, however, be prioritised to construction employees who carpool, in order to minimise the impact on the surrounding streets. This would be further detailed subject to the detailed CTMP, which will be undertaken at the CC stage.

9.3 Traffic Control Plans

Traffic Control Plans (TCP) will be designed in accordance with the RMS Traffic Control at Worksites Manual and AS 1742.3. The TCPs would primarily relate pedestrian control to ensure appropriate safety measures are implemented.

9.4 Swept Path Analysis

Swept Path Analysis of the largest permissible vehicle would be undertaken for each construction stage, demonstrating forward entry and egress movements during all construction stages. All entry and exit movements will be monitored by RMS certified traffic controllers.

Accordingly, it is anticipated that a standard condition of consent would be imposed requiring a site specific CTMP be provided for this SSD. The CTMP will be designed in accordance with the above principles and the draft CTMP would be issued to Council at a later stage for consideration and review.



10. SEARS REQUIREMENTS

A response to item 8. *Transport and Accessibility (Construction and Operation)* of the Secretary's Environmental Assessment Requirements (SEARs) is provided below, including references to sections of this report, where applicable.

Item 1

"Assess the traffic impacts of the development on the surrounding local and classified road network using SIDRA or similar traffic model and specify any road upgrade works (local and classified) required to maintain acceptable levels of service."

TRAFFIX Response

SIDRA Modelling results have been discussed in **Section 6.7**. In addition, reference should be made to the SIDRA outputs provided in **Appendix C**, which provides detailed results for individual lanes and approaches.

Item 2

"The assessment is to include traffic and parking generated by existing and approved developments, as well as that by the proposal, and consider car sharing facilities to reduce overall parking demands in the area."

TRAFFIX Response

The traffic and parking generated by the existing and proposed development have been assessed in **Section 5** and **Section 6**.

Item 3

"Address the impact of trips generated by the proposed development on nearby intersections having regard to the cumulative impacts from other existing surrounding developments in the vicinity including Henry Kendall High School and Gosford Public School."

TRAFFIX Response

The traffic impacts on nearby intersections have been assessed in **Section 6.7**. SIDRA Modelling results have been discussed in **Section 6.7**. In addition, reference should be made to the SIDRA



outputs provided in **Appendix C**, which provides detailed results for individual lanes and approaches.

Item 4

"Assess road and pedestrian safety in the immediate vicinity of the proposed development and the details of road safety measures."

TRAFFIX Response

Road and pedestrian safety measures have been discussed in **Section 6.10**.

Item 5

"Estimate the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips."

TRAFFIX Response

The vehicle, public transport, pedestrian and cycling trip generations have been assessed in **Section 6**.

Item 6

"Assess the adequacy of public transport, pedestrian and bicycle provisions to meet the likely future demand of the proposed development."

TRAFFIX Response

The adequacy of public transport, pedestrian and bicycle provisions traffic have been assessed in **Section 6.10** and **Section 6.11**.

Item 7

"Detail the proposed walking and cycling access arrangements and connections to public transport services."

TRAFFIX Response

The proposed walking and cycling arrangements have been discussed in **Section 6.10**.



Item 8

"Demonstrate the proposed road layout, access points, and car parking can comply with the relevant Australian Standards and Council requirements."

TRAFFIX Response

In reference to **Section 8**, the vehicular access and internal design aspects of the development were assessed in accordance with AS 2890.1 (2004), AS 2890.2 (2018) and AS 2890.6 (2009).

Item 9

"Demonstrate sufficient on-site car parking, loading / unloading, pedestrian and cycling facilities (including bicycle parking and end-of-trip facilities) would be provided for the development."

TRAFFIX Response

The overall parking requirements have been assessed and discussed in **Section 5**.

Item 10

"Describe the measures to be implemented to promote sustainable means of travel, including public transport use, pedestrian and bicycle linkages in a preliminary Green Travel Plan and Workplace Travel Plan and identify any proposed facilities to increase the non-car mode share for travel to and from the site."

TRAFFIX Response

In reference to **Section 7**, a preliminary GTP and WTP was prepared for the development for staff and visitors, respectively. This section also outlined travel demand management measures such as the implementation of a Travel Access Guide to be distributed to staff and visitors to raise awareness of active and public transport routes. This in conjunction with formal carpool schemes for staff form part of the overall strategy to minimise the reliance on private vehicle usage.



Item 11

"Prepare a preliminary Construction Traffic Management Plan for the proposal and outline how construction traffic, public transport, bicycle and pedestrian impacts, and parking impacts would be appropriately managed and mitigated."

TRAFFIX Response

In reference to **Section 9**, a preliminary CTMP was prepared, which outlined the overall management principles for the site during the construction stages. However, as a CTMP generally requires extensive input from an appointed builder, the construction traffic, public transport, bicycle, pedestrian and parking impacts will be assessed during the CC stage.



11. CONCLUSIONS

The following matters are noteworthy:

- ▶ The proposal seeks approval for a staged private hospital development located at 22-48 Faunce Street West, West Gosford. The hospital development is located on the corner of Racecourse Road and Faunce Street West and will contain 14 operating theatres, 14 ICU bays, 4 levels of IPU wards, a porte cochere and three (3) levels of car parking containing 389 spaces for Stage 1 and 59 spaces for Stage 2. In addition, the development proposes supporting services comprising 993m² GFA of ancillary retail, 1,935m² GFA of medical clinics and 3,323m² GFA of medical tenancies over two (2) stages.
- ▶ The subject site has good connections to the public transport network with reliable access to regular bus and rail services. The site is located within 400 metres of four (4) bus stops, providing staff, visitors and patients connections to destinations such as Gosford, Somersby, Erina and West Gosford.
- ▶ The proposed development provides 389 car parking spaces for Stage 1 and a further 59 spaces for Stage 2 within three (3) levels of basement parking. The provision of an additional 50 car parking spaces over the RMS requirement is essentially a demonstration that substantial additional parking over and above RMS requirements can be provided if needed, once staffing levels and rosters are known. This provision is considered appropriate for the purpose of this concept design and will ensure all normal parking demands are capable of being readily accommodated on-site.
- ▶ The proposed development provides a four (4) bay loading dock, capable of accommodating 12.5m long heavy rigid vehicles. The loading dock area will be separated from car movements and is expected to readily accommodate the operational needs of the hospital and supporting services.
- ▶ Traffic generation arising from the proposal has been assessed using various scenarios as discussed in **Section 6**. In terms of the overall network performance arising from the proposed development, all intersections operate satisfactorily (with LoS A, B or C) under both the Base Case (2019) and Base Case Plus Development scenarios. In addition, sensitivity testing was conducted to provide an indication of the traffic flows near the site in 10 years' time. The 2029 Base Case scenario demonstrated small increases in average



delay at the Racecourse Road/Faunce Street West and Faunce Street West/Showground Road intersections during both peaks period. The intersection of Racecourse Road and the Central Highway is the only intersection to experience a moderate increase in average delays during the evening peak period in 2029. Nevertheless, the results reflect increased delays associated with minor movements and it is expected that infrastructure changes to accommodate this background growth would be modest.

- ▶ The basement car park will be designed to comply with the requirements of AS 2890.1 (2004) and AS 2890.6 (2009) in order to ensure safe and efficient operation.
- ▶ The loading dock will be designed to accommodate the largest vehicle expected in accordance with AS 2890.2 (2018).

This traffic impact assessment therefore demonstrates that the concept development application is supportable on traffic planning grounds. TRAFFIX anticipates an ongoing involvement during the development approval process.

APPENDIX A

Photographic Record



Intersection of Racecourse Road and Faunce Street West (east)



Intersection of Racecourse Road and Faunce Street West (east)



View looking west along Faunce Street West (east)



View looking east along Faunce Street West (east)



View looking north-east along Racecourse Road



View looking south-west along Racecourse Road



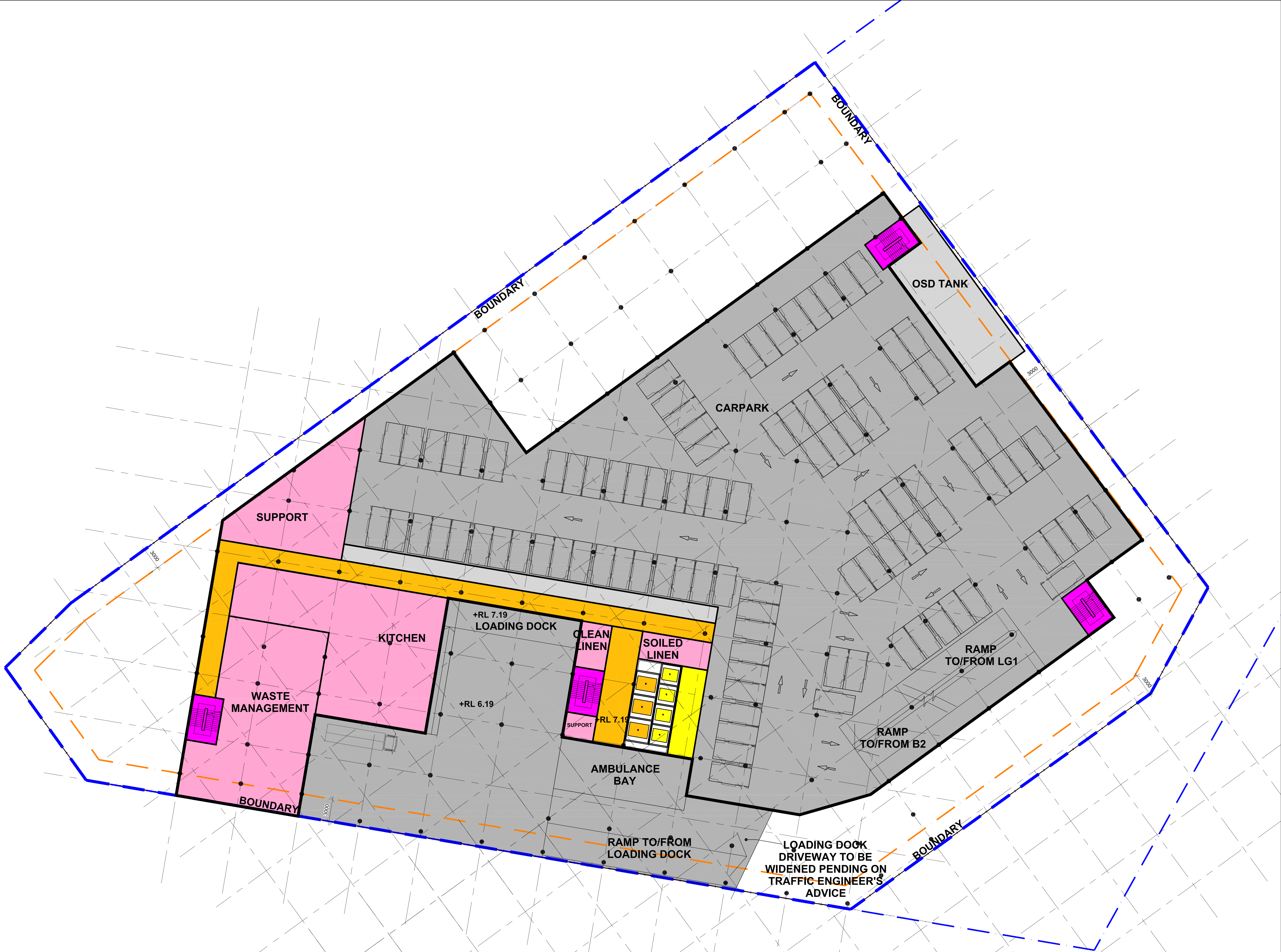
View looking north-east along Racecourse Road

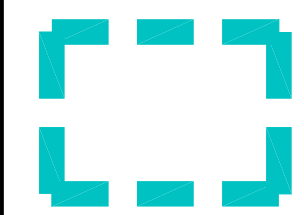


View looking south-west along Racecourse Road

APPENDIX B

Concept Architectural Plans

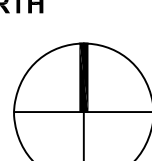


 FUTURE
EXPANSION
ZONE

USE FIGURED DIMENSIONS ONLY. DO NOT SCALE.
ALL DIMENSIONS SHALL BE VERIFIED ON SITE AND
DISCREPANCIES IMMEDIATELY BROUGHT TO THE
ATTENTION OF THE PROJECT MANAGER
FOR RESOLUTION

"CLOUDS" & REVISIONS ARE INTENDED AS GUIDES
AND DO NOT NECESSARILY DESCRIBE THE FULL
EXTENT OF REVISIONS.
ASCERTAIN FULL EXTENT BY COMPARISON WITH
PREVIOUS VERSION

TRUE
NORTH



KEY PLAN

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDR			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

QA
CHECK

Project				
Northside Private Hospital				
Client				
AA Crown				
Central Coast, NSW				

Drawn	Checked	Date	Scale
SYH	HMC	FEB '19	1:200

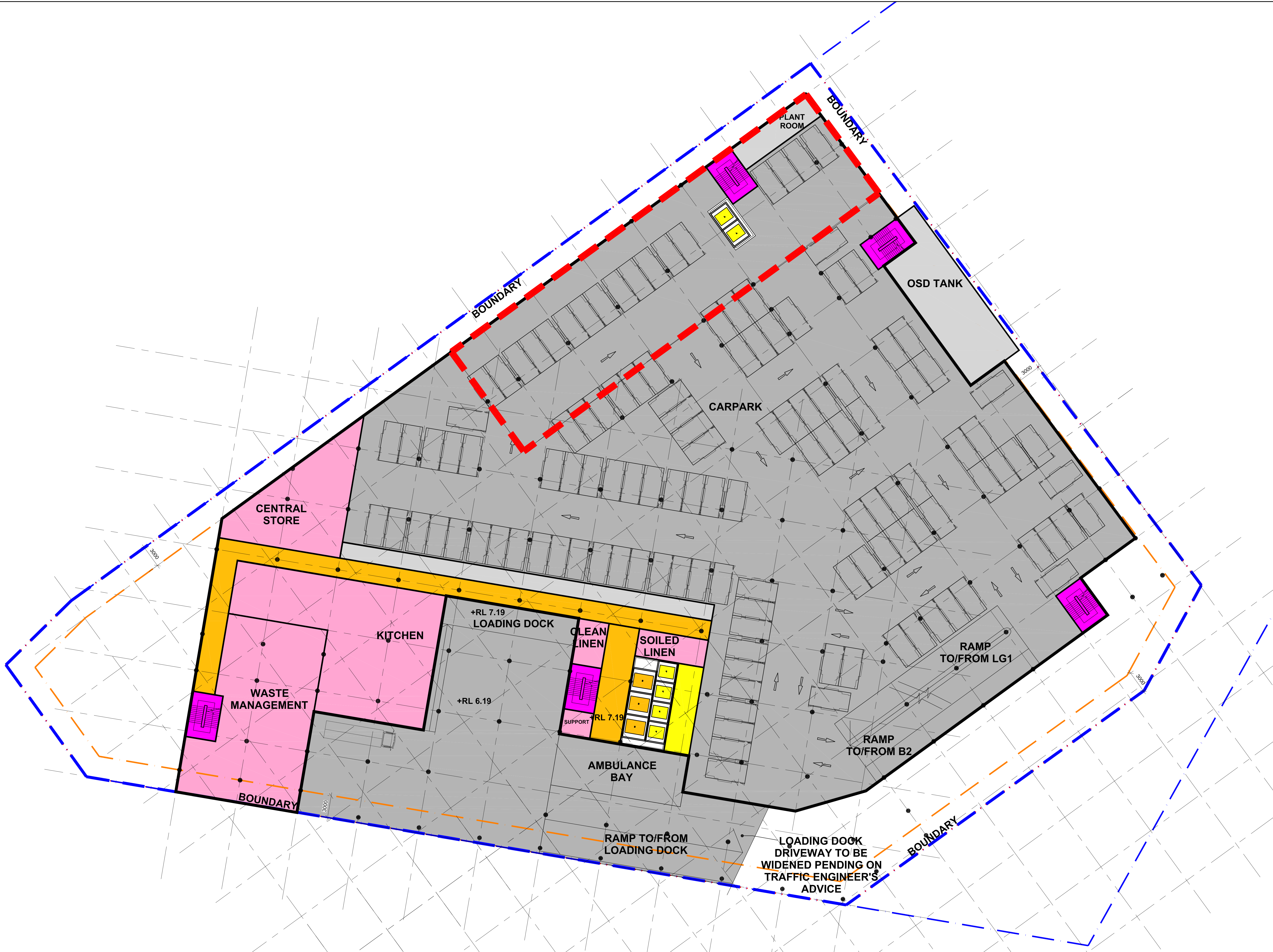
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Checked By: HMC
Date: FEB '19
Scale: 1:200

Health Projects International

Suite 1 Ground Floor 68 Alfred Street
Hillmans Point NSW 2561
PO Box 679Hillmans Point NSW 1565
ABN 33 066 856 595 Tel: (02) 9460 4199
ACN 098 802 595 3 Corporation Ltd

Project File: GPH-A-P-B1-DA

Issue: 1



STAGE 2

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Subject	By	Date	Subject	By	Date	Subject	By	Date
REDS			STRUCT			PHOL ARCH		
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Project
Northside Private Hospital

Client
AA Crown
Central Coast, NSW

Block/Zone

Drawn
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HMC

Date
FEB '19

Scale/s
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Drawing Title
FLOOR PLAN - BASEMENT 1 - OVERALL
STAGE 2

Project File
GPH-A-P-B1-DA-STG 2

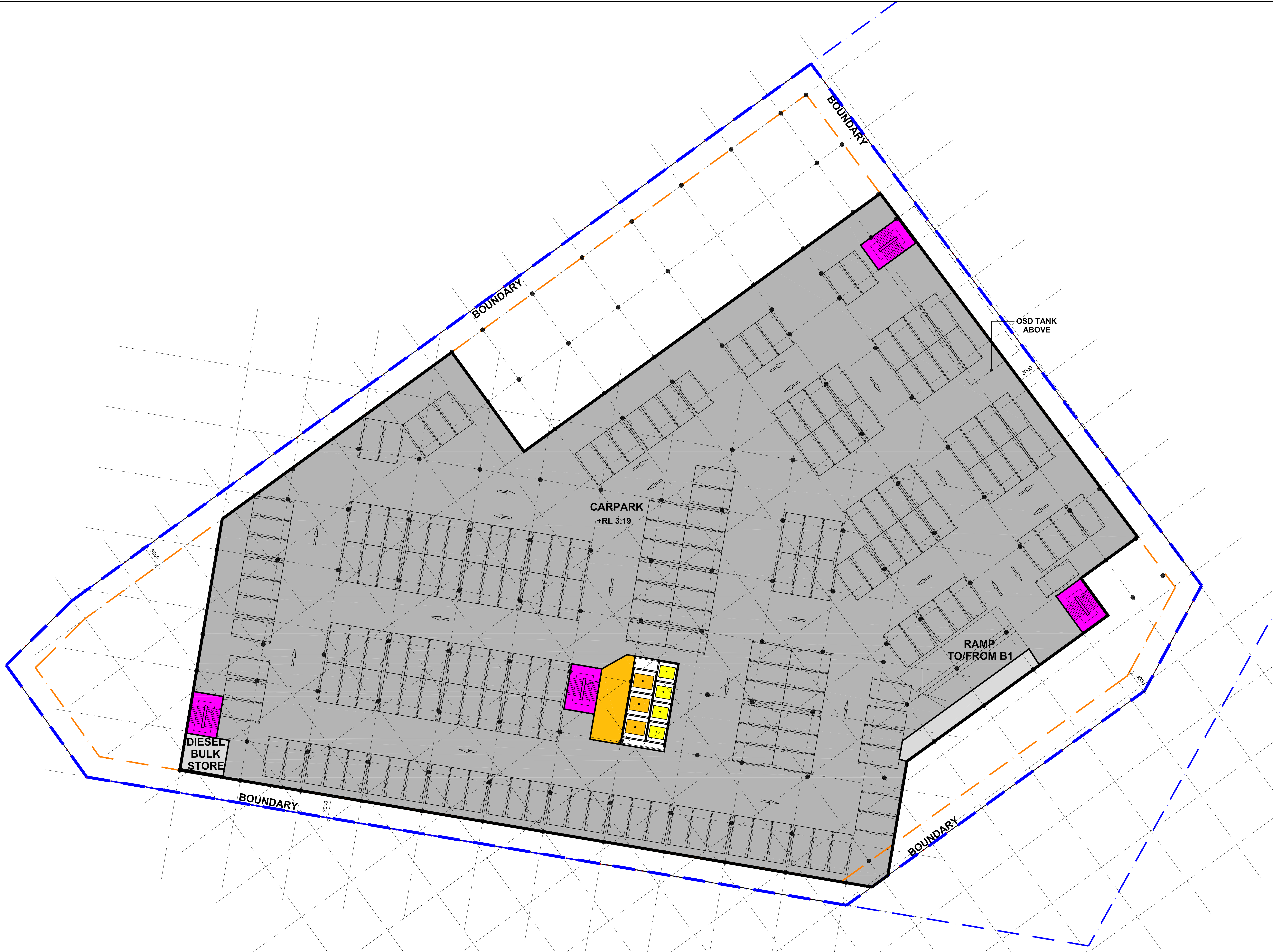
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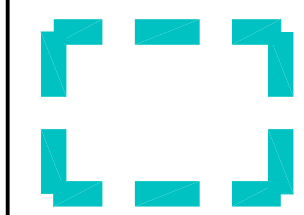
HP

Health Projects International

Suite 1 Ground Floor 68 Alfred Street
Milsom's Point NSW 2561
PO Box 679 Milsom's Point NSW 1565
ABN 33 066 856 595 Tel: (02) 9460 4399
Fax: (02) 9460 4399

QUALITY

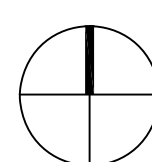


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KEY PLAN

Subject	By	Date	Subject	By	Date	Subject	By	Date
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Project
Northside Private Hospital

Client
**AA Crown
Central Coast, NSW**

Block/Zone	Drawn	Checked	Date	Scale
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Drawing Title
FLOOR PLAN - BASEMENT 2 - OVERALL

Project File	Dwg No.	Issue
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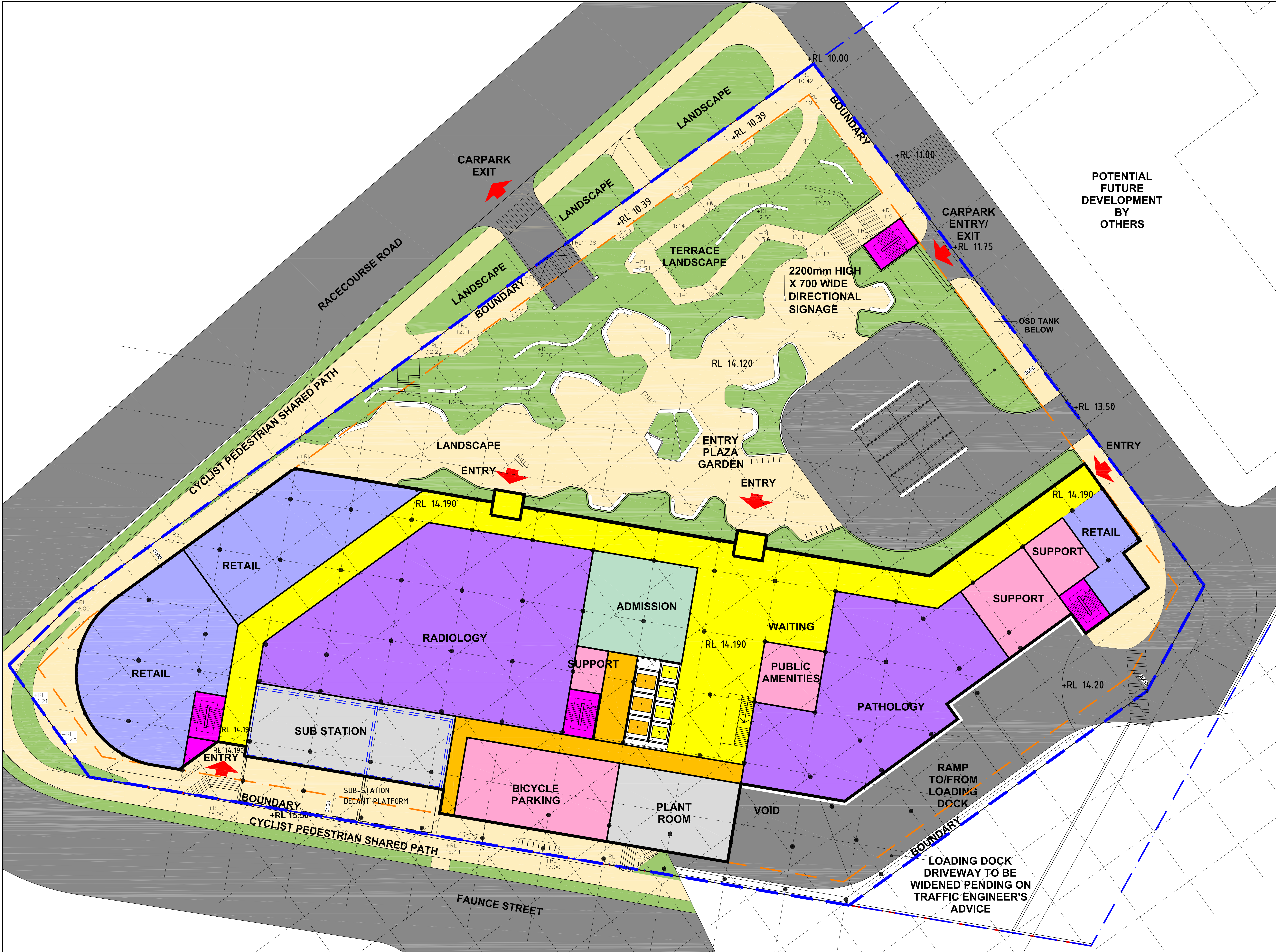
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REV	DESCRIPTION	DATE	BY

 **Health Projects International**
Suite 1 Ground Floor 68 Alfred Street
Milestones Point NSW 2061
PO Box 679 Milestones Point NSW 1545
ABN 33 066 856 595 Tel: (02) 9440 4199
Fax: (02) 9440 4199





- STAGE 2
- FUTURE EXPANSION ZONE



POTENTIAL
FUTURE
DEVELOPMENT
BY
OTHERS



STAGE 2

FUTURE
EXPANSION
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FUTURE
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BY
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1	FIRST ISSUE	22.08.19	SYH
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EXTENT OF REVISIONS.
ASCERTAIN FULL EXTENT BY COMPARISON WITH
PREVIOUS VERSION.

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KEY PLAN

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Subject	By	Date	Subject	By	Date	Subject	By	Date
REDS			STRUCT			PROJ ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

Project
Northside Private Hospital

Client
AA Crown
Central Coast, NSW

Block/Zone

Drawing Title
FLOOR PLAN - GROUND FLOOR - OVERALL
STAGE 2

Drawn
SYH

Checked
HMC

Date
FEB '19

Scale/s
1:200

HP

Health Projects International

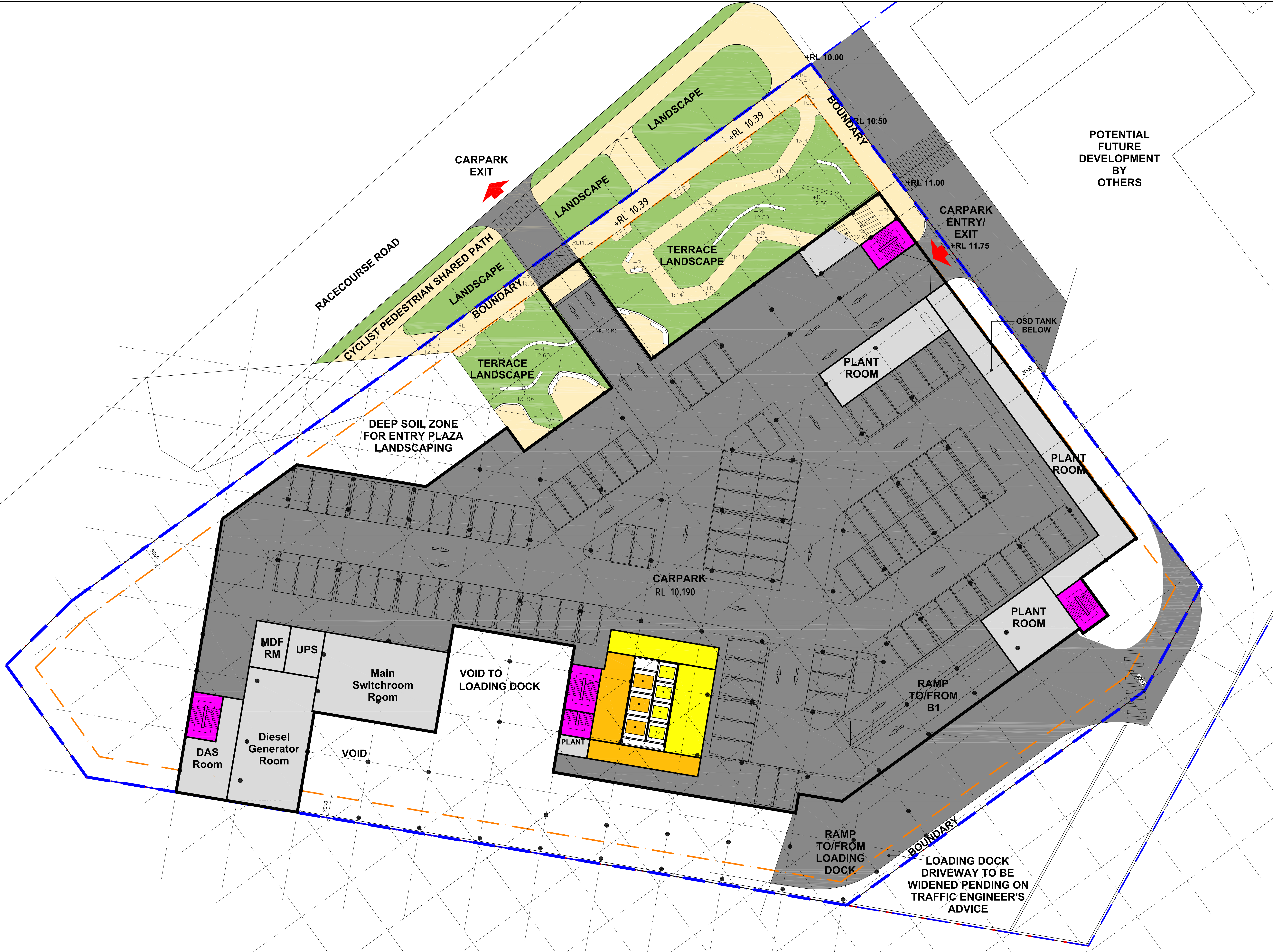
Suite 1 Ground Floor 68 Alfred Street
Missions Point NSW 2561
PO Box 679 Missions Point NSW 1565
ABN 33 066 856 595 Tel: (02) 9460 4399
Fax: 080 808 990 E: info@hpi.com.au

QUALITY

Project File

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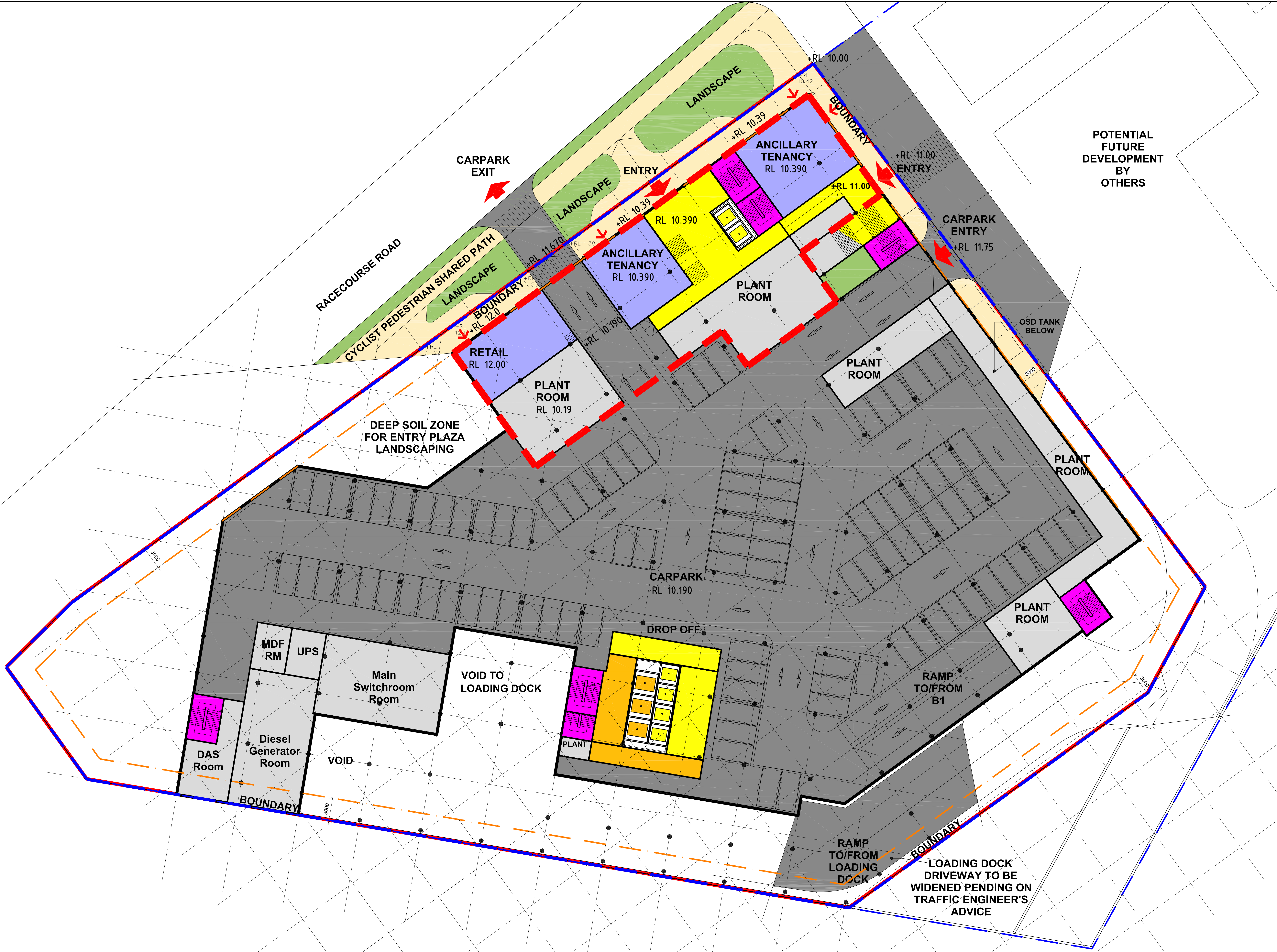
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FUTURE
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POTENTIAL
FUTURE
DEVELOPMENT
BY
OTHERS

1	FIRST ISSUE	22.08.19	SYH
REV	DESCRIPTION	DATE	BY



STAGE 2

FUTURE EXPANSION ZONE

POTENTIAL FUTURE DEVELOPMENT BY OTHERS

APPENDIX C

SIDRA Outputs

USER REPORT FOR SITE

 Project: 19.059m01v06 TRAFFIX Exisiting Intersections
Northside Hospital, Gosford

Template: Layout

Site: 101 [EX_AM Racecourse Rd x Central Coast Hwy]

Racecourse Road x Central Coast Highway

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

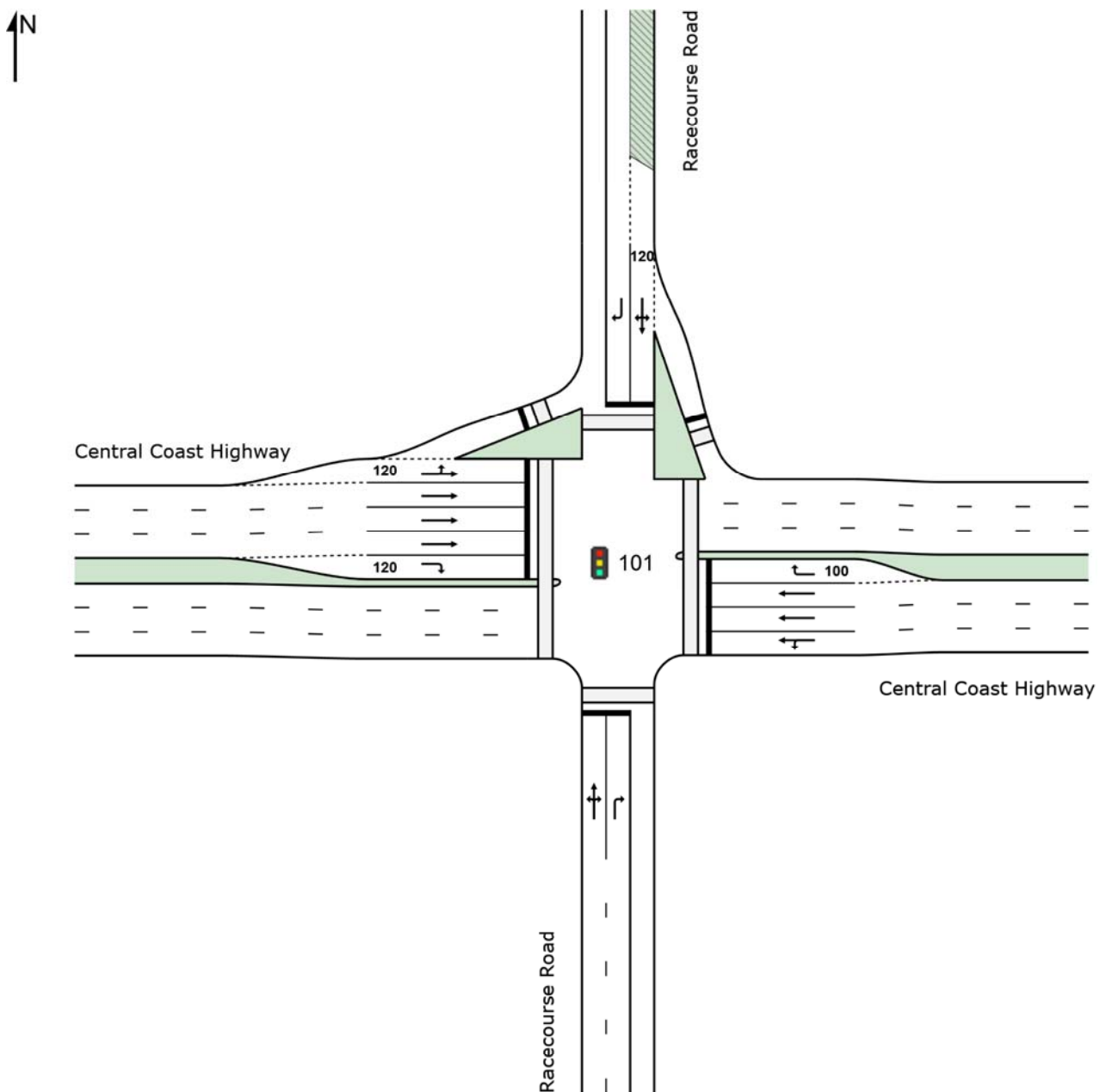
Phase Sequence: TCS Sequence - Copy

Reference Phase: Phase A

Input Phase Sequence: A, E, D, F

Output Phase Sequence: A, E, D, F

Site Layout



USER REPORT FOR SITE

 **Project: 19.059m01v06 TRAFFIX Existing Intersections**
Northside Hospital, Gosford

Template: Movement Summary

Site: 101 [EX_AM Racecourse Rd x Central Coast Hwy]

Racecourse Road x Central Coast Highway

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: TCS Sequence - Copy

Reference Phase: Phase A

Input Phase Sequence: A, E, D, F

Output Phase Sequence: A, E, D, F

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Racecourse Road												
1	L2	17	0.0	0.223	48.1	LOS D	1.5	10.2	0.97	0.71	0.97	16.4
2	T1	11	0.0	0.223	42.6	LOS D	1.5	10.2	0.97	0.71	0.97	26.6
3	R2	24	0.0	0.223	79.1	LOS F	1.6	11.3	0.99	0.71	0.99	19.3
Approach		52	0.0	0.223	61.6	LOS E	1.6	11.3	0.98	0.71	0.98	20.0
East: Central Coast Highway												
4	L2	38	2.8	0.808	47.2	LOS D	40.4	292.2	0.95	0.86	0.95	28.7
5	T1	1809	4.0	0.808	41.0	LOS C	40.5	293.4	0.94	0.85	0.94	32.6
6	R2	99	3.2	0.341	67.3	LOS E	6.5	46.7	0.93	0.78	0.93	29.2
Approach		1946	3.9	0.808	42.4	LOS C	40.5	293.4	0.94	0.85	0.94	32.3
North: Racecourse Road												
7	L2	45	4.7	0.448	57.1	LOS E	12.1	88.8	0.90	0.80	0.90	31.4
8	T1	7	0.0	0.448	51.5	LOS D	12.1	88.8	0.90	0.80	0.90	23.6
9	R2	335	6.0	0.448	57.6	LOS E	12.1	88.8	0.90	0.81	0.90	25.3
Approach		387	5.7	0.448	57.4	LOS E	12.1	88.8	0.90	0.81	0.90	26.1
West: Central Coast Highway												
10	L2	577	3.5	0.487	14.4	LOS A	14.3	103.4	0.54	0.75	0.54	45.5
11	T1	1834	4.5	0.833	43.4	LOS D	43.4	315.5	0.94	0.87	0.97	31.7
12	R2	28	3.7	0.098	64.4	LOS E	1.8	12.8	0.89	0.72	0.89	12.8
Approach		2439	4.2	0.833	36.8	LOS C	43.4	315.5	0.84	0.84	0.87	33.9
All Vehicles		4824	4.2	0.833	41.0	LOS C	43.4	315.5	0.89	0.84	0.90	32.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR SITE

 **Project: 19.059m01v06 TRAFFIX Proposed Intersections**
Northside Hospital, Gosford

Template: Movement Summary

Site: 301 [PR_AM Racecourse Rd x Central Coast Hwy]

Racecourse Road x Central Coast Highway

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: TCS Sequence - Copy

Reference Phase: Phase A

Input Phase Sequence: A, E, D, F

Output Phase Sequence: A, E, D, F

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Racecourse Road												
1	L2	17	0.0	0.223	48.1	LOS D	1.5	10.2	0.97	0.71	0.97	16.4
2	T1	11	0.0	0.223	42.6	LOS D	1.5	10.2	0.97	0.71	0.97	26.6
3	R2	24	0.0	0.223	79.1	LOS F	1.6	11.3	0.99	0.71	0.99	19.3
Approach		52	0.0	0.223	61.6	LOS E	1.6	11.3	0.98	0.71	0.98	20.0
East: Central Coast Highway												
4	L2	38	2.8	0.826	49.0	LOS D	42.5	307.8	0.96	0.88	0.98	28.0
5	T1	1809	4.0	0.826	42.6	LOS D	42.7	308.9	0.94	0.87	0.96	32.0
6	R2	189	1.7	0.645	70.9	LOS F	13.2	93.5	0.99	0.82	0.99	28.4
Approach		2037	3.8	0.826	45.3	LOS D	42.7	308.9	0.94	0.86	0.97	31.4
North: Racecourse Road												
7	L2	84	2.5	0.500	57.1	LOS E	14.0	101.6	0.91	0.81	0.91	31.6
8	T1	7	0.0	0.500	51.5	LOS D	14.0	101.6	0.91	0.81	0.91	23.6
9	R2	346	5.8	0.500	58.1	LOS E	14.0	101.6	0.91	0.81	0.91	25.2
Approach		438	5.0	0.500	57.8	LOS E	14.0	101.6	0.91	0.81	0.91	26.5
West: Central Coast Highway												
10	L2	604	3.3	0.510	14.9	LOS B	15.7	113.2	0.56	0.76	0.56	45.1
11	T1	1833	4.4	0.833	43.5	LOS D	43.5	315.9	0.94	0.87	0.97	31.6
12	R2	28	3.7	0.098	64.4	LOS E	1.8	12.8	0.89	0.72	0.89	12.8
Approach		2465	4.1	0.833	36.7	LOS C	43.5	315.9	0.85	0.84	0.87	33.9
All Vehicles		4992	4.0	0.833	42.4	LOS C	43.5	315.9	0.89	0.85	0.92	31.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR SITE

 **Project: 19.059m01v06 TRAFFIX Future Intersections**
Northside Hospital, Gosford

Template: Movement Summary

Site: 501 [FU_AM Racecourse Rd x Central Coast Hwy]

Racecourse Road x Central Coast Highway

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

Design Life Analysis (Final Year): Results for 10 years

Timings based on settings in the Site Phasing & Timing dialog (Demand & Sensitivity Analysis overrides)

Phase Times specified by the user

Phase Sequence: TCS Sequence - Copy

Reference Phase: Phase A

Input Phase Sequence: A, E, D, F

Output Phase Sequence: A, E, D, F

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Racecourse Road												
1	L2	20	0.0	0.267	52.8	LOS D ¹¹	1.9	13.6	0.98	0.72	0.98	15.3
2	T1	13	0.0	0.267	47.2	LOS D ¹¹	1.9	13.6	0.98	0.72	0.98	25.1
3	R2	29	0.0	0.267	79.9	LOS F ¹¹	2.0	13.7	0.99	0.72	0.99	19.2
Approach		62	0.0	0.267	64.4	LOS E ¹¹	2.0	13.7	0.99	0.72	0.99	19.4
East: Central Coast Highway												
4	L2	45	2.8	0.837	42.5	LOS D ¹¹	48.2	348.8	0.94	0.87	0.95	30.6
5	T1	2171	4.0	0.837	36.2	LOS C	48.4	350.4	0.92	0.85	0.94	34.8
6	R2	119	3.2	0.409	68.1	LOS E ¹¹	7.9	56.8	0.95	0.79	0.95	29.0
Approach		2336	3.9	0.837	38.0	LOS C	48.4	350.4	0.92	0.85	0.94	34.2
North: Racecourse Road												
7	L2	54	4.7	0.742	70.7	LOS F ¹¹	16.9	123.6	1.00	0.86	1.05	28.2
8	T1	9	0.0	0.742	65.0	LOS E ¹¹	16.9	123.6	1.00	0.86	1.05	20.6
9	R2	402	6.0	0.742	71.1	LOS F ¹¹	16.9	123.6	1.00	0.86	1.05	22.3
Approach		465	5.7	0.742	71.0	LOS F ¹¹	16.9	123.6	1.00	0.86	1.05	23.0
West: Central Coast Highway												
10	L2	692	3.5	0.585	15.5	LOS B	19.4	139.7	0.61	0.78	0.61	44.6
11	T1	2199	4.4	0.891	45.0	LOS D ¹¹	58.2	422.7	0.93	0.92	1.02	31.1
12	R2	34	3.7	0.118	64.6	LOS E ¹¹	2.1	15.4	0.89	0.73	0.89	12.7
Approach		2925	4.2	0.891	38.3	LOS C	58.2	422.7	0.86	0.89	0.92	33.2
All Vehicles		5788	4.2	0.891	41.1	LOS C	58.2	422.7	0.90	0.87	0.94	32.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

Site: 201 [EX_PM Racecourse Rd x Central Coast Hwy]

Racecourse Road x Central Coast Highway

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: TCS Sequence - Copy

Reference Phase: Phase A

Input Phase Sequence: A, E, D, F

Output Phase Sequence: A, E, D, F

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Racecourse Road												
1	L2	31	0.0	0.692	66.3	LOS E	5.0	35.1	1.00	0.83	1.22	12.8
2	T1	25	0.0	0.692	60.7	LOS E	5.0	35.1	1.00	0.83	1.22	21.7
3	R2	93	0.0	0.692	81.1	LOS F	5.3	37.0	1.00	0.82	1.15	19.1
Approach		148	0.0	0.692	74.6	LOS F	5.3	37.0	1.00	0.82	1.18	18.5
East: Central Coast Highway												
4	L2	115	0.0	0.634	35.1	LOS C	31.4	222.5	0.79	0.75	0.83	33.7
5	T1	1676	1.6	0.634	29.2	LOS C	32.0	226.9	0.79	0.72	0.80	38.4
6	R2	31	0.0	0.176	75.3	LOS F	2.1	14.7	0.96	0.73	0.96	27.5
Approach		1821	1.4	0.634	30.4	LOS C	32.0	226.9	0.79	0.72	0.81	37.7
North: Racecourse Road												
7	L2	111	1.0	0.766	65.2	LOS E	23.1	163.4	1.00	0.88	1.03	29.7
8	T1	25	0.0	0.766	59.5	LOS E	23.1	163.4	1.00	0.88	1.03	21.8
9	R2	513	1.6	0.766	65.7	LOS E	23.1	163.4	1.00	0.88	1.04	23.5
Approach		648	1.5	0.766	65.4	LOS E	23.1	163.4	1.00	0.88	1.04	24.6
West: Central Coast Highway												
10	L2	379	2.5	0.288	10.8	LOS A	6.0	42.6	0.38	0.70	0.38	48.7
11	T1	2316	1.5	0.873	39.5	LOS C	56.2	398.6	0.92	0.88	0.97	33.3
12	R2	75	0.0	0.431	77.6	LOS F	5.3	37.2	0.99	0.77	0.99	11.0
Approach		2769	1.6	0.873	36.6	LOS C	56.2	398.6	0.85	0.85	0.89	34.0
All Vehicles		5387	1.5	0.873	39.0	LOS C	56.2	398.6	0.85	0.81	0.89	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 401 [PR_PM Racecourse Rd x Central Coast Hwy]

Racecourse Road x Central Coast Highway

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: TCS Sequence

Reference Phase: Phase A

Input Phase Sequence: A, E, D, F

Output Phase Sequence: A, E, D, F

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Racecourse Road												
1	L2	31	0.0	0.692	66.3	LOS E	5.0	35.1	1.00	0.83	1.22	12.8
2	T1	25	0.0	0.692	60.7	LOS E	5.0	35.1	1.00	0.83	1.22	21.7
3	R2	93	0.0	0.692	81.1	LOS F	5.3	37.0	1.00	0.82	1.15	19.1
Approach		148	0.0	0.692	74.6	LOS F	5.3	37.0	1.00	0.82	1.18	18.5
East: Central Coast Highway												
4	L2	115	0.0	0.643	35.4	LOS C	32.1	227.4	0.80	0.75	0.84	33.6
5	T1	1676	1.6	0.643	29.2	LOS C	32.7	231.8	0.79	0.72	0.80	38.4
6	R2	73	0.0	0.419	77.5	LOS F	5.2	36.1	0.99	0.77	0.99	27.0
Approach		1863	1.4	0.643	31.5	LOS C	32.7	231.8	0.80	0.73	0.81	37.2
North: Racecourse Road												
7	L2	198	0.5	0.886	76.3	LOS F	31.2	220.4	1.00	0.96	1.19	27.3
8	T1	25	0.0	0.886	70.7	LOS F	31.2	220.4	1.00	0.96	1.19	19.6
9	R2	539	1.6	0.886	77.3	LOS F	31.2	220.4	1.00	0.96	1.19	21.2
Approach		762	1.2	0.886	76.9	LOS F	31.2	220.4	1.00	0.96	1.19	22.9
West: Central Coast Highway												
10	L2	392	2.4	0.298	10.8	LOS A	6.2	44.3	0.38	0.70	0.38	48.6
11	T1	2316	1.5	0.874	39.7	LOS C	56.5	400.4	0.92	0.89	0.97	33.2
12	R2	75	0.0	0.431	77.6	LOS F	5.3	37.2	0.99	0.77	0.99	11.0
Approach		2782	1.6	0.874	36.7	LOS C	56.5	400.4	0.85	0.86	0.89	34.0
All Vehicles		5556	1.4	0.886	41.5	LOS C	56.5	400.4	0.86	0.83	0.91	32.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 601 [FU_PM Racecourse Rd x Central Coast Hwy]

Racecourse Road x Central Coast Highway

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

Design Life Analysis (Final Year): Results for 10 years

Timings based on settings in the Site Phasing & Timing dialog (Demand & Sensitivity Analysis overrides)

Phase Times specified by the user

Phase Sequence: TCS Sequence - Copy

Reference Phase: Phase A

Input Phase Sequence: A, E, D, F

Output Phase Sequence: A, E, D, F

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Racecourse Road												
1	L2	37	0.0	0.845	76.1	LOS F ¹¹	6.8	47.3	1.00	0.92	1.46	11.4
2	T1	31	0.0	0.845	70.6	LOS F ¹¹	6.8	47.3	1.00	0.92	1.46	19.8
3	R2	113	0.0	0.845	87.3	LOS F ¹¹	6.8	47.3	1.00	0.91	1.37	18.1
Approach		181	0.0	0.845	82.2	LOS F ¹¹	6.8	47.3	1.00	0.92	1.40	17.3
East: Central Coast Highway												
4	L2	140	0.0	0.682	30.5	LOS C	37.0	261.6	0.77	0.74	0.81	36.3
5	T1	2043	1.6	0.682	24.4	LOS B	37.6	266.6	0.77	0.71	0.78	41.4
6	R2	37	0.0	0.501	87.8	LOS F ¹¹	2.9	20.0	1.00	0.73	1.00	25.1
Approach		2220	1.4	0.682	25.8	LOS B	37.6	266.6	0.77	0.71	0.78	40.5
North: Racecourse Road												
7	L2	135	1.0	0.933	87.9	LOS F ¹¹	34.8	246.2	1.00	1.01	1.29	25.1
8	T1	31	0.0	0.933	82.3	LOS F ¹¹	34.8	246.2	1.00	1.01	1.29	17.8
9	R2	625	1.6	0.933	88.3	LOS F ¹¹	34.8	246.2	1.00	1.01	1.30	19.5
Approach		790	1.5	0.933	88.0	LOS F ¹¹	34.8	246.2	1.00	1.01	1.30	20.5
West: Central Coast Highway												
10	L2	462	2.5	0.322	9.0	LOS A	4.9	34.8	0.31	0.68	0.31	50.3
11	T1	2823	1.5	0.959	58.6	LOS E ¹¹	89.0	630.9	0.94	1.03	1.14	26.6
12	R2	91	0.0	1.226	287.9	LOS F ¹¹	14.4	101.1	1.00	1.26	2.51	3.3
Approach		3376	1.6	1.226	58.0	LOS E ¹¹	89.0	630.9	0.85	0.99	1.06	26.2
All Vehicles		6567	1.5	1.226	51.4	LOS D ¹¹	89.0	630.9	0.85	0.90	1.01	28.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

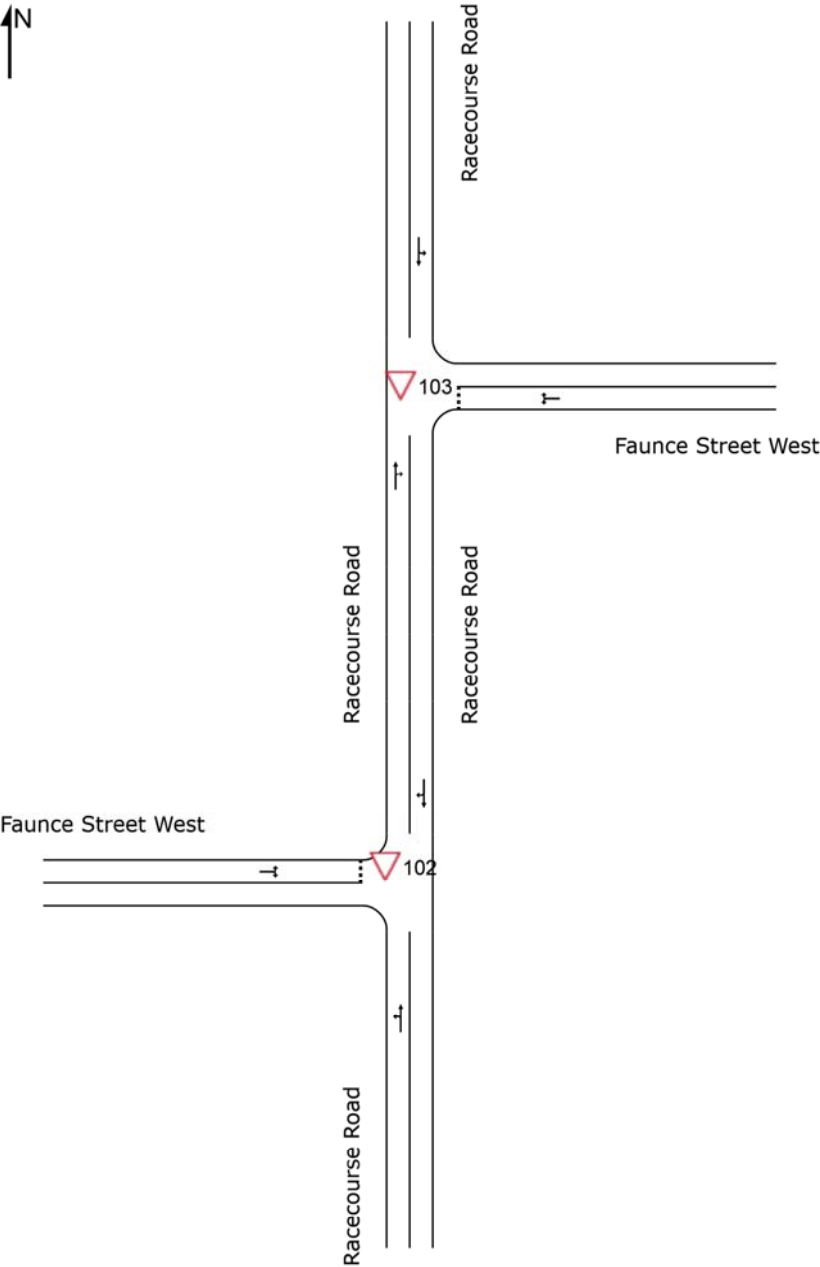
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

NETWORK LAYOUT

Network: N101 [EX_AM Faunce Street W x Racecourse Road]

New Network
Network Category: (None)



SITES IN NETWORK		
Site ID	CCG ID	Site Name
▽102	NA	EX_AM Faunce Street W (West) x Racecourse Rd
▽103	NA	EX_AM Faunce Street W (East) x Racecourse Rd

USER REPORT FOR NETWORK SITE

 **Project:** 19.059m01v06 TRAFFIX Existing Intersections
Northside Hospital, Gosford

Template: Movement Summary

 **Site:** 102 [EX_AM Faunce Street W (West) x Racecourse Rd]

 **Network:** 1 [EX_AM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (West) x Racecourse Rd
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand		Flows Arrival		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m				km/h
South: Racecourse Road														
1	L2	20	10.5	20	10.5	0.311	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	56.5
2	T1	565	4.1	565	4.1	0.311	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		585	4.3	585	4.3	0.311	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Racecourse Road														
8	T1	432	4.4	432	4.4	0.244	0.4	LOS A	0.3	2.5	0.08	0.02	0.08	59.1
9	R2	18	23.5	18	23.5	0.244	6.7	LOS A	0.3	2.5	0.08	0.02	0.08	44.3
Approach		449	5.2	449	5.2	0.244	0.6	NA	0.3	2.5	0.08	0.02	0.08	58.8
West: Faunce Street West														
10	L2	17	25.0	17	25.0	0.053	7.8	LOS A	0.2	1.4	0.59	0.75	0.59	30.3
12	R2	9	22.2	9	22.2	0.053	13.9	LOS A	0.2	1.4	0.59	0.75	0.59	46.0
Approach		26	24.0	26	24.0	0.053	10.0	LOS A	0.2	1.4	0.59	0.75	0.59	39.8
All Vehicles		1061	5.2	1061	5.2	0.311	0.7	NA	0.3	2.5	0.05	0.04	0.05	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 103 [EX_AM Faunce Street W (East) x Racecourse Rd]

Network: 1 [EX_AM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (East) x Racecourse Rd

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m			km/h	
South: Racecourse Road														
2	T1	461	3.9	461	3.9	0.364	1.6	LOS A	2.0	14.7	0.36	0.15	0.44	55.5
3	R2	121	7.8	121	7.8	0.364	6.2	LOS A	2.0	14.7	0.36	0.15	0.44	45.7
Approach		582	4.7	582	4.7	0.364	2.6	NA	2.0	14.7	0.36	0.15	0.44	53.2
East: Faunce Street West														
4	L2	72	5.9	72	5.9	0.104	6.1	LOS A	0.4	2.8	0.47	0.65	0.47	41.9
6	R2	14	7.7	14	7.7	0.104	13.3	LOS A	0.4	2.8	0.47	0.65	0.47	47.6
Approach		85	6.2	85	6.2	0.104	7.3	LOS A	0.4	2.8	0.47	0.65	0.47	43.3
North: Racecourse Road														
7	L2	154	3.4	154	3.4	0.275	5.6	LOS A	0.0	0.0	0.00	0.17	0.00	56.7
8	T1	378	5.0	378	5.0	0.275	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	56.9
Approach		532	4.6	532	4.6	0.275	1.6	NA	0.0	0.0	0.00	0.17	0.00	56.8
All Vehicles		1199	4.7	1199	4.7	0.364	2.5	NA	2.0	14.7	0.21	0.19	0.25	54.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:53:16 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Existing Intersections Northside Hospital, Gosford.sip8

USER REPORT FOR NETWORK SITE

 Project: 19.059m01v06 TRAFFIX Proposed Intersections
Northside Hospital, Gosford

Template: Movement Summary

 Site: 302 [PR_AM Faunce Street W (West) x Racecourse Rd]

 Network: 3 [PR_AM Faunce Street W x Racecourse Road]

New Site
Site Category: Faunce Street West (West) x Racecourse Rd
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles																
Mov ID	Turn	Demand		Flows		Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %			v/c	sec		Vehicles veh	Distance m				km/h
South: Racecourse Road																
1	L2	20	10.5	20	10.5	0.421	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	0.00	55.8	
2	T1	683	3.4	683	3.4	0.421	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	0.00	59.6	
Approach		703	3.6	703	3.6	0.421	0.2	NA	0.0	0.0	0.00	0.02	0.00	0.00	59.4	
North: Racecourse Road																
8	T1	482	3.9	482	3.9	0.274	0.6	LOS A	0.5	3.6	0.10	0.02	0.11	58.4		
9	R2	18	23.5	18	23.5	0.274	8.8	LOS A	0.5	3.6	0.10	0.02	0.11	43.7		
Approach		500	4.6	500	4.6	0.274	0.9	NA	0.5	3.6	0.10	0.02	0.11	58.1		
West: Faunce Street West																
10	L2	17	25.0	17	25.0	0.077	9.1	LOS A	0.2	1.8	0.70	0.84	0.70	27.5		
12	R2	9	22.2	9	22.2	0.077	18.7	LOS B	0.2	1.8	0.70	0.84	0.70	42.0		
Approach		26	24.0	26	24.0	0.077	12.6	LOS A	0.2	1.8	0.70	0.84	0.70	35.6		
All Vehicles		1229	4.5	1229	4.5	0.421	0.8	NA	0.5	3.6	0.05	0.04	0.06	58.2		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 303 [PR_AM Faunce Street W (East) x Racecourse Rd]

Network: 3 [PR_AM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (East) x Racecourse Rd

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m				km/h
South: Racecourse Road														
2	T1	567	3.2	567	3.2	0.441	2.1	LOS A	2.9	20.7	0.38	0.14	0.54	54.6
3	R2	133	7.1	133	7.1	0.441	7.4	LOS A	2.9	20.7	0.38	0.14	0.54	45.7
Approach		700	3.9	700	3.9	0.441	3.1	NA	2.9	20.7	0.38	0.14	0.54	52.7
East: Faunce Street West														
4	L2	76	5.6	76	5.6	0.124	6.4	LOS A	0.4	3.2	0.51	0.69	0.51	41.4
6	R2	14	7.7	14	7.7	0.124	17.2	LOS B	0.4	3.2	0.51	0.69	0.51	47.3
Approach		89	5.9	89	5.9	0.124	8.1	LOS A	0.4	3.2	0.51	0.69	0.51	42.8
North: Racecourse Road														
7	L2	169	3.1	169	3.1	0.306	5.6	LOS A	0.0	0.0	0.00	0.17	0.00	56.7
8	T1	424	4.5	424	4.5	0.306	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	57.0
Approach		594	4.1	594	4.1	0.306	1.6	NA	0.0	0.0	0.00	0.17	0.00	56.9
All Vehicles		1383	4.1	1383	4.1	0.441	2.8	NA	2.9	20.7	0.23	0.19	0.30	53.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:36:18 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Proposed Intersections Northside Hospital, Gosford.sip8

USER REPORT FOR NETWORK SITE

 **Project:** 19.059m01v06 TRAFFIX Future Intersections
Northside Hospital, Gosford

Template: Movement Summary

 **Site:** 502 [FU_AM Faunce Street W (West) x Racecourse Rd]

 **Network:** 17 [FU_AM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (West) x Racecourse Rd

Giveaway / Yield (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m				km/h
South: Racecourse Road														
1	L2	24	10.5	24	10.5	0.461	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	55.8
2	T1	678	4.1	678	4.1	0.461	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach		702	4.3	702	4.3	0.461	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.3
North: Racecourse Road														
8	T1	518	4.4	518	4.4	0.299	0.7	LOS A	0.6	4.5	0.11	0.02	0.13	58.1
9	R2	21	23.5	21	23.5	0.299	9.1	LOS A	0.6	4.5	0.11	0.02	0.13	43.3
Approach		539	5.2	539	5.2	0.299	1.0	NA	0.6	4.5	0.11	0.02	0.13	57.8
West: Faunce Street West														
10	L2	20	25.0	20	25.0	0.102	9.1	LOS A	0.3	2.3	0.71	0.86	0.71	27.1
12	R2	11	22.2	11	22.2	0.102	19.9	LOS B	0.3	2.3	0.71	0.86	0.71	41.7
Approach		32	24.0	32	24.0	0.102	13.0	LOS A	0.3	2.3	0.71	0.86	0.71	35.2
All Vehicles		1273	5.2	1273	5.2	0.461	0.9	NA	0.6	4.5	0.06	0.04	0.07	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▼ Site: 503 [FU_AM Faunce Street W (East) x Racecourse Rd]

Network: 17 [FU_AM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (East) x Racecourse Rd

Giveway / Yield (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles														
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m				km/h
South: Racecourse Road														
2	T1	553	3.9	553	3.9	0.462	2.8	LOS A	3.4	24.9	0.45	0.17	0.66	53.4
3	R2	145	7.8	145	7.8	0.462	8.2	LOS A	3.4	24.9	0.45	0.17	0.66	44.3
Approach		699	4.7	699	4.7	0.462	3.9	NA	3.4	24.9	0.45	0.17	0.66	51.2
East: Faunce Street West														
4	L2	86	5.9	86	5.9	0.152	6.6	LOS A	0.5	3.9	0.54	0.71	0.54	40.8
6	R2	16	7.7	16	7.7	0.152	18.3	LOS B	0.5	3.9	0.54	0.71	0.54	46.8
Approach		102	6.2	102	6.2	0.152	8.5	LOS A	0.5	3.9	0.54	0.71	0.54	42.3
North: Racecourse Road														
7	L2	184	3.4	184	3.4	0.330	5.6	LOS A	0.0	0.0	0.00	0.17	0.00	56.7
8	T1	453	5.0	453	5.0	0.330	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	56.9
Approach		638	4.6	638	4.6	0.330	1.7	NA	0.0	0.0	0.00	0.17	0.00	56.8
All Vehicles		1439	4.7	1439	4.7	0.462	3.2	NA	3.4	24.9	0.26	0.21	0.36	53.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:41:39 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Future Intersections Northside Hospital, Gosford.sip8

USER REPORT FOR NETWORK SITE

 **Project:** 19.059m01v06 TRAFFIX Existing Intersections
Northside Hospital, Gosford

Template: Movement Summary

 **Site:** 203 [EX_PM Faunce Street W (East) x Racecourse Rd]

 **Network:** 2 [EX_PM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (East) x Racecourse Rd
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m				km/h
South: Racecourse Road														
2	T1	407	2.8	407	2.8	0.250	0.6	LOS A	0.6	4.2	0.17	0.06	0.17	58.0
3	R2	42	0.0	42	0.0	0.250	5.7	LOS A	0.6	4.2	0.17	0.06	0.17	47.6
Approach		449	2.6	449	2.6	0.250	1.1	NA	0.6	4.2	0.17	0.06	0.17	56.8
East: Faunce Street West														
4	L2	83	0.0	83	0.0	0.098	7.0	LOS A	0.4	2.5	0.52	0.71	0.52	41.9
6	R2	3	0.0	3	0.0	0.098	11.9	LOS A	0.4	2.5	0.52	0.71	0.52	47.9
Approach		86	0.0	86	0.0	0.098	7.1	LOS A	0.4	2.5	0.52	0.71	0.52	42.3
North: Racecourse Road														
7	L2	32	3.3	32	3.3	0.296	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.9
8	T1	558	1.9	558	1.9	0.296	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.4
Approach		589	2.0	589	2.0	0.296	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.2
All Vehicles		1125	2.1	1125	2.1	0.296	1.2	NA	0.6	4.2	0.11	0.09	0.11	56.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 202 [EX_PM Faunce Street W (West) x Racecourse Rd]

Network: 2 [EX_PM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (West) x Racecourse Rd

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m			km/h	
South: Racecourse Road														
1	L2	12	9.1	12	9.1	0.220	5.7	LOS A	0.0	0.0	0.00	0.00	56.1	
2	T1	427	1.7	427	1.7	0.220	0.0	LOS A	0.0	0.0	0.00	0.00	59.7	
Approach		439	1.9	439	1.9	0.220	0.2	NA	0.0	0.0	0.00	0.00	59.6	
North: Racecourse Road														
8	T1	624	1.0	624	1.0	0.330	0.2	LOS A	0.3	2.2	0.05	0.01	59.4	
9	R2	17	25.0	17	25.0	0.330	5.6	LOS A	0.3	2.2	0.05	0.01	44.9	
Approach		641	1.6	641	1.6	0.330	0.3	NA	0.3	2.2	0.05	0.01	59.2	
West: Faunce Street West														
10	L2	22	19.0	22	19.0	0.074	6.7	LOS A	0.2	1.8	0.54	0.73	31.0	
12	R2	19	0.0	19	0.0	0.074	12.5	LOS A	0.2	1.8	0.54	0.73	45.3	
Approach		41	10.3	41	10.3	0.074	9.3	LOS A	0.2	1.8	0.54	0.73	40.5	
All Vehicles		1121	2.1	1121	2.1	0.330	0.6	NA	0.3	2.2	0.05	0.04	58.5	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:53:38 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Existing Intersections Northside Hospital, Gosford.sip8

USER REPORT FOR NETWORK SITE

 Project: 19.059m01v06 TRAFFIX Proposed Intersections
Northside Hospital, Gosford

Template: Movement Summary

 Site: 402 [PR_PM Faunce Street W (West) x Racecourse Rd]

 Network: 4 [PR_PM Faunce Street W x Racecourse Road]

New Site
Site Category: Faunce Street West (West) x Racecourse Rd
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles															
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed		
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m			km/h		
South: Racecourse Road															
1	L2	12	9.1	12	9.1	0.247	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	56.1	
2	T1	482	1.5	482	1.5	0.247	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.7	
Approach		494	1.7	494	1.7	0.247	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6	
North: Racecourse Road															
8	T1	738	0.9	738	0.9	0.388	0.2	LOS A	0.4	2.8	0.05	0.01	0.06	59.3	
9	R2	17	25.0	17	25.0	0.388	6.6	LOS A	0.4	2.8	0.05	0.01	0.06	44.8	
Approach		755	1.4	755	1.4	0.388	0.4	NA	0.4	2.8	0.05	0.01	0.06	59.2	
West: Faunce Street West															
10	L2	22	19.0	22	19.0	0.093	7.0	LOS A	0.3	2.2	0.62	0.78	0.62	28.9	
12	R2	19	0.0	19	0.0	0.093	15.9	LOS B	0.3	2.2	0.62	0.78	0.62	43.9	
Approach		41	10.3	41	10.3	0.093	11.1	LOS A	0.3	2.2	0.62	0.78	0.62	38.7	
All Vehicles		1289	1.8	1289	1.8	0.388	0.6	NA	0.4	2.8	0.05	0.04	0.06	58.5	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 403 [PR_PM Faunce Street W (East) x Racecourse Rd]

Network: 4 [PR_PM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (East) x Racecourse Rd

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m				km/h
South: Racecourse Road														
2	T1	457	2.5	457	2.5	0.291	1.1	LOS A	1.0	6.8	0.21	0.06	0.25	57.0
3	R2	47	0.0	47	0.0	0.291	7.5	LOS A	1.0	6.8	0.21	0.06	0.25	47.7
Approach		504	2.3	504	2.3	0.291	1.7	NA	1.0	6.8	0.21	0.06	0.25	55.9
East: Faunce Street West														
4	L2	92	0.0	92	0.0	0.125	7.9	LOS A	0.5	3.2	0.57	0.78	0.57	41.6
6	R2	3	0.0	3	0.0	0.125	15.3	LOS B	0.5	3.2	0.57	0.78	0.57	47.7
Approach		95	0.0	95	0.0	0.125	8.1	LOS A	0.5	3.2	0.57	0.78	0.57	42.0
North: Racecourse Road														
7	L2	66	1.6	66	1.6	0.366	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.7
8	T1	663	1.6	663	1.6	0.366	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	58.9
Approach		729	1.6	729	1.6	0.366	0.6	NA	0.0	0.0	0.00	0.05	0.00	58.7
All Vehicles		1328	1.7	1328	1.7	0.366	1.5	NA	1.0	6.8	0.12	0.11	0.13	56.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:37:04 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Proposed Intersections Northside Hospital, Gosford.sip8

USER REPORT FOR NETWORK SITE

 **Project:** 19.059m01v06 TRAFFIX Future Intersections
Northside Hospital, Gosford

Template: Movement Summary

 **Site:** 602 [FU_PM Faunce Street W (West) x Racecourse Rd]

 **Network:** 16 [FU_PM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (West) x Racecourse Rd

Giveway / Yield (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m				
South: Racecourse Road														
1	L2	14	9.1	14	9.1	0.264	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	56.1
2	T1	513	1.7	513	1.7	0.264	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		527	1.9	527	1.9	0.264	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Racecourse Road														
8	T1	749	1.0	749	1.0	0.399	0.3	LOS A	0.5	3.7	0.06	0.01	0.08	59.1
9	R2	20	25.0	20	25.0	0.399	7.2	LOS A	0.5	3.7	0.06	0.01	0.08	44.5
Approach		769	1.6	769	1.6	0.399	0.5	NA	0.5	3.7	0.06	0.01	0.08	58.9
West: Faunce Street West														
10	L2	27	19.0	27	19.0	0.119	7.3	LOS A	0.4	2.9	0.66	0.80	0.66	28.1
12	R2	23	0.0	23	0.0	0.119	17.1	LOS B	0.4	2.9	0.66	0.80	0.66	43.4
Approach		49	10.3	49	10.3	0.119	11.8	LOS A	0.4	2.9	0.66	0.80	0.66	38.1
All Vehicles		1345	2.1	1345	2.1	0.399	0.8	NA	0.5	3.7	0.06	0.04	0.07	58.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▼ Site: 603 [FU_PM Faunce Street W (East) x Racecourse Rd]

⚡ Network: 16 [FU_PM Faunce Street W x Racecourse Road]

New Site

Site Category: Faunce Street West (East) x Racecourse Rd

Giveway / Yield (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles														
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m				km/h
South: Racecourse Road														
2	T1	489	2.8	489	2.8	0.310	1.0	LOS A	1.0	7.3	0.21	0.06	0.25	57.0
3	R2	51	0.0	51	0.0	0.310	7.4	LOS A	1.0	7.3	0.21	0.06	0.25	47.0
Approach		539	2.6	539	2.6	0.310	1.6	NA	1.0	7.3	0.21	0.06	0.25	55.9
East: Faunce Street West														
4	L2	100	0.0	100	0.0	0.139	7.9	LOS A	0.5	3.6	0.58	0.79	0.58	41.0
6	R2	4	0.0	4	0.0	0.139	15.9	LOS B	0.5	3.6	0.58	0.79	0.58	47.3
Approach		104	0.0	104	0.0	0.139	8.2	LOS A	0.5	3.6	0.58	0.79	0.58	41.4
North: Racecourse Road														
7	L2	38	3.3	38	3.3	0.355	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.9
8	T1	669	1.9	669	1.9	0.355	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		707	2.0	707	2.0	0.355	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.2
All Vehicles		1350	2.1	1350	2.1	0.355	1.5	NA	1.0	7.3	0.13	0.10	0.14	56.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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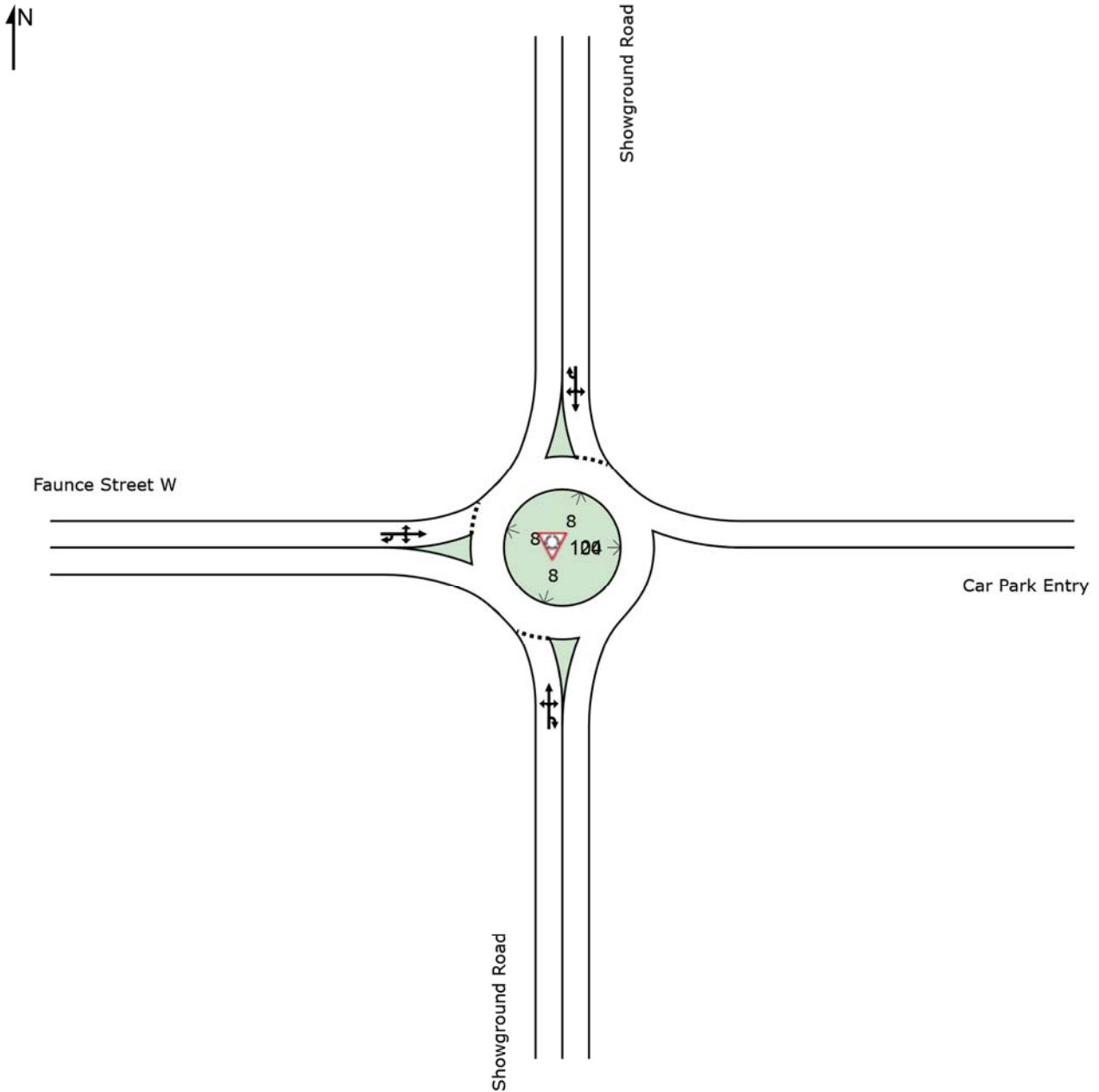
Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:42:02 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Future Intersections Northside Hospital, Gosford.sip8

Site: 104 [EX_AM_Showground Road Faunce Street W]

New Site
Site Category: (None)
Roundabout

Site Layout



Site: 104 [EX_AM_Showground Road Faunce Street W]

New Site
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Showground Road												
1	L2	48	0.0	0.329	4.2	LOS A	2.3	16.0	0.20	0.51	0.20	47.3
2	T1	306	1.7	0.329	3.9	LOS A	2.3	16.0	0.20	0.51	0.20	46.2
3	R2	29	0.0	0.329	11.5	LOS A	2.3	16.0	0.20	0.51	0.20	40.9
3u	U	80	0.0	0.329	8.7	LOS A	2.3	16.0	0.20	0.51	0.20	47.1
Approach		464	1.1	0.329	5.2	LOS A	2.3	16.0	0.20	0.51	0.20	46.3
North: Showground Road												
7	L2	13	0.0	0.258	7.7	LOS A	1.5	10.7	0.41	0.53	0.41	39.4
8	T1	227	3.2	0.258	4.6	LOS A	1.5	10.7	0.41	0.53	0.41	46.5
9	R2	37	0.0	0.258	8.1	LOS A	1.5	10.7	0.41	0.53	0.41	47.7
9u	U	1	0.0	0.258	9.6	LOS A	1.5	10.7	0.41	0.53	0.41	46.4
Approach		278	2.7	0.258	5.2	LOS A	1.5	10.7	0.41	0.53	0.41	46.5
West: Faunce Street W												
10	L2	78	4.1	0.172	6.3	LOS A	0.9	6.6	0.56	0.69	0.56	46.4
11	T1	2	0.0	0.172	11.7	LOS A	0.9	6.6	0.56	0.69	0.56	44.4
12	R2	71	1.5	0.172	9.5	LOS A	0.9	6.6	0.56	0.69	0.56	47.1
12u	U	1	0.0	0.172	11.0	LOS A	0.9	6.6	0.56	0.69	0.56	48.1
Approach		152	2.8	0.172	7.9	LOS A	0.9	6.6	0.56	0.69	0.56	46.7
All Vehicles		894	1.9	0.329	5.7	LOS A	2.3	16.0	0.33	0.55	0.33	46.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 304 [PR_AM_Showground Road Faunce Street W - Import]

New Site
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Showground Road												
1	L2	48	0.0	0.344	4.3	LOS A	2.4	16.9	0.25	0.52	0.25	47.2
2	T1	306	1.7	0.344	4.0	LOS A	2.4	16.9	0.25	0.52	0.25	46.0
3	R2	29	0.0	0.344	11.6	LOS A	2.4	16.9	0.25	0.52	0.25	40.7
3u	U	80	0.0	0.344	8.8	LOS A	2.4	16.9	0.25	0.52	0.25	47.0
Approach		464	1.1	0.344	5.4	LOS A	2.4	16.9	0.25	0.52	0.25	46.2
North: Showground Road												
7	L2	13	0.0	0.274	7.7	LOS A	1.6	11.5	0.42	0.54	0.42	39.3
8	T1	227	3.2	0.274	4.6	LOS A	1.6	11.5	0.42	0.54	0.42	46.4
9	R2	55	0.0	0.274	8.1	LOS A	1.6	11.5	0.42	0.54	0.42	47.6
9u	U	1	0.0	0.274	9.6	LOS A	1.6	11.5	0.42	0.54	0.42	46.3
Approach		296	2.5	0.274	5.4	LOS A	1.6	11.5	0.42	0.54	0.42	46.6
West: Faunce Street W												
10	L2	97	3.3	0.195	6.4	LOS A	1.1	7.7	0.57	0.70	0.57	46.5
11	T1	2	0.0	0.195	11.8	LOS A	1.1	7.7	0.57	0.70	0.57	44.5
12	R2	71	1.5	0.195	9.6	LOS A	1.1	7.7	0.57	0.70	0.57	47.2
12u	U	1	0.0	0.195	11.0	LOS A	1.1	7.7	0.57	0.70	0.57	48.1
Approach		171	2.5	0.195	7.8	LOS A	1.1	7.7	0.57	0.70	0.57	46.8
All Vehicles		931	1.8	0.344	5.8	LOS A	2.4	16.9	0.36	0.56	0.36	46.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 504 [FU_AM_Showground Road Faunce Street W - Import]

New Site

Site Category: (None)

Roundabout

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Showground Road												
1	L2	58	0.0	0.400	4.3	LOS A	3.0	21.5	0.24	0.51	0.24	47.2
2	T1	368	1.7	0.400	4.0	LOS A	3.0	21.5	0.24	0.51	0.24	46.1
3	R2	35	0.0	0.400	11.6	LOS A	3.0	21.5	0.24	0.51	0.24	40.7
3u	U	96	0.0	0.400	8.7	LOS A	3.0	21.5	0.24	0.51	0.24	47.0
Approach		557	1.1	0.400	5.3	LOS A	3.0	21.5	0.24	0.51	0.24	46.2
North: Showground Road												
7	L2	15	0.0	0.320	8.0	LOS A	2.0	14.1	0.48	0.57	0.48	39.1
8	T1	273	3.2	0.320	4.9	LOS A	2.0	14.1	0.48	0.57	0.48	46.3
9	R2	44	0.0	0.320	8.4	LOS A	2.0	14.1	0.48	0.57	0.48	47.5
9u	U	1	0.0	0.320	10.0	LOS A	2.0	14.1	0.48	0.57	0.48	46.2
Approach		333	2.7	0.320	5.6	LOS A	2.0	14.1	0.48	0.57	0.48	46.3
West: Faunce Street W												
10	L2	93	4.1	0.223	7.1	LOS A	1.3	9.0	0.63	0.74	0.63	46.1
11	T1	3	0.0	0.223	12.4	LOS A	1.3	9.0	0.63	0.74	0.63	44.1
12	R2	85	1.5	0.223	10.3	LOS A	1.3	9.0	0.63	0.74	0.63	46.9
12u	U	1	0.0	0.223	11.7	LOS A	1.3	9.0	0.63	0.74	0.63	47.9
Approach		182	2.8	0.223	8.7	LOS A	1.3	9.0	0.63	0.74	0.63	46.5
All Vehicles		1072	1.9	0.400	6.0	LOS A	3.0	21.5	0.38	0.57	0.38	46.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 204 [EX_PM_Showground Road Faunce Street W]

New Site
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Showground Road												
1	L2	22	9.5	0.292	4.3	LOS A	1.9	13.5	0.18	0.51	0.18	47.3
2	T1	302	1.4	0.292	3.9	LOS A	1.9	13.5	0.18	0.51	0.18	46.3
3	R2	34	0.0	0.292	11.5	LOS A	1.9	13.5	0.18	0.51	0.18	41.0
3u	U	53	0.0	0.292	8.6	LOS A	1.9	13.5	0.18	0.51	0.18	47.2
Approach		411	1.5	0.292	5.1	LOS A	1.9	13.5	0.18	0.51	0.18	46.2
North: Showground Road												
7	L2	19	0.0	0.265	7.5	LOS A	1.6	11.1	0.38	0.51	0.38	39.5
8	T1	247	1.3	0.265	4.3	LOS A	1.6	11.1	0.38	0.51	0.38	46.6
9	R2	23	0.0	0.265	7.9	LOS A	1.6	11.1	0.38	0.51	0.38	47.7
9u	U	13	0.0	0.265	9.4	LOS A	1.6	11.1	0.38	0.51	0.38	46.5
Approach		302	1.0	0.265	5.0	LOS A	1.6	11.1	0.38	0.51	0.38	46.5
West: Faunce Street W												
10	L2	88	3.6	0.173	6.2	LOS A	0.9	6.6	0.54	0.68	0.54	46.5
11	T1	2	0.0	0.173	11.6	LOS A	0.9	6.6	0.54	0.68	0.54	44.6
12	R2	63	1.7	0.173	9.4	LOS A	0.9	6.6	0.54	0.68	0.54	47.2
12u	U	1	0.0	0.173	10.9	LOS A	0.9	6.6	0.54	0.68	0.54	48.2
Approach		155	2.7	0.173	7.6	LOS A	0.9	6.6	0.54	0.68	0.54	46.8
All Vehicles		867	1.6	0.292	5.5	LOS A	1.9	13.5	0.32	0.54	0.32	46.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Site: 404 [PR_PM_Showground Road Faunce Street W - Import]

New Site
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Showground Road												
1	L2	22	9.5	0.298	4.3	LOS A	1.9	13.8	0.20	0.51	0.20	47.2
2	T1	302	1.4	0.298	3.9	LOS A	1.9	13.8	0.20	0.51	0.20	46.2
3	R2	34	0.0	0.298	11.5	LOS A	1.9	13.8	0.20	0.51	0.20	40.9
3u	U	53	0.0	0.298	8.7	LOS A	1.9	13.8	0.20	0.51	0.20	47.1
Approach		411	1.5	0.298	5.2	LOS A	1.9	13.8	0.20	0.51	0.20	46.1
North: Showground Road												
7	L2	19	0.0	0.271	7.5	LOS A	1.6	11.4	0.38	0.52	0.38	39.5
8	T1	247	1.3	0.271	4.3	LOS A	1.6	11.4	0.38	0.52	0.38	46.5
9	R2	31	0.0	0.271	7.9	LOS A	1.6	11.4	0.38	0.52	0.38	47.7
9u	U	13	0.0	0.271	9.4	LOS A	1.6	11.4	0.38	0.52	0.38	46.5
Approach		309	1.0	0.271	5.1	LOS A	1.6	11.4	0.38	0.52	0.38	46.5
West: Faunce Street W												
10	L2	132	2.4	0.220	6.3	LOS A	1.2	8.7	0.56	0.69	0.56	46.6
11	T1	2	0.0	0.220	11.7	LOS A	1.2	8.7	0.56	0.69	0.56	44.7
12	R2	63	1.7	0.220	9.5	LOS A	1.2	8.7	0.56	0.69	0.56	47.3
12u	U	1	0.0	0.220	11.0	LOS A	1.2	8.7	0.56	0.69	0.56	48.2
Approach		198	2.1	0.220	7.4	LOS A	1.2	8.7	0.56	0.69	0.56	46.8
All Vehicles		918	1.5	0.298	5.6	LOS A	1.9	13.8	0.34	0.55	0.34	46.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Site: 604 [FU_PM_Showground Road Faunce Street W - Import]

New Site

Site Category: (None)

Roundabout

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Showground Road												
1	L2	27	9.5	0.355	4.4	LOS A	2.5	17.9	0.22	0.51	0.22	47.2
2	T1	363	1.4	0.355	3.9	LOS A	2.5	17.9	0.22	0.51	0.22	46.1
3	R2	40	0.0	0.355	11.5	LOS A	2.5	17.9	0.22	0.51	0.22	40.9
3u	U	63	0.0	0.355	8.7	LOS A	2.5	17.9	0.22	0.51	0.22	47.1
Approach		493	1.5	0.355	5.2	LOS A	2.5	17.9	0.22	0.51	0.22	46.1
North: Showground Road												
7	L2	23	0.0	0.328	7.8	LOS A	2.1	14.6	0.44	0.54	0.44	39.2
8	T1	297	1.3	0.328	4.6	LOS A	2.1	14.6	0.44	0.54	0.44	46.4
9	R2	28	0.0	0.328	8.2	LOS A	2.1	14.6	0.44	0.54	0.44	47.6
9u	U	15	0.0	0.328	9.7	LOS A	2.1	14.6	0.44	0.54	0.44	46.3
Approach		363	1.0	0.328	5.3	LOS A	2.1	14.6	0.44	0.54	0.44	46.3
West: Faunce Street W												
10	L2	106	3.6	0.223	6.9	LOS A	1.2	8.9	0.61	0.73	0.61	46.3
11	T1	3	0.0	0.223	12.3	LOS A	1.2	8.9	0.61	0.73	0.61	44.3
12	R2	76	1.7	0.223	10.1	LOS A	1.2	8.9	0.61	0.73	0.61	47.0
12u	U	1	0.0	0.223	11.5	LOS A	1.2	8.9	0.61	0.73	0.61	48.0
Approach		186	2.7	0.223	8.3	LOS A	1.2	8.9	0.61	0.73	0.61	46.6
All Vehicles		1041	1.6	0.355	5.8	LOS A	2.5	17.9	0.37	0.56	0.37	46.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

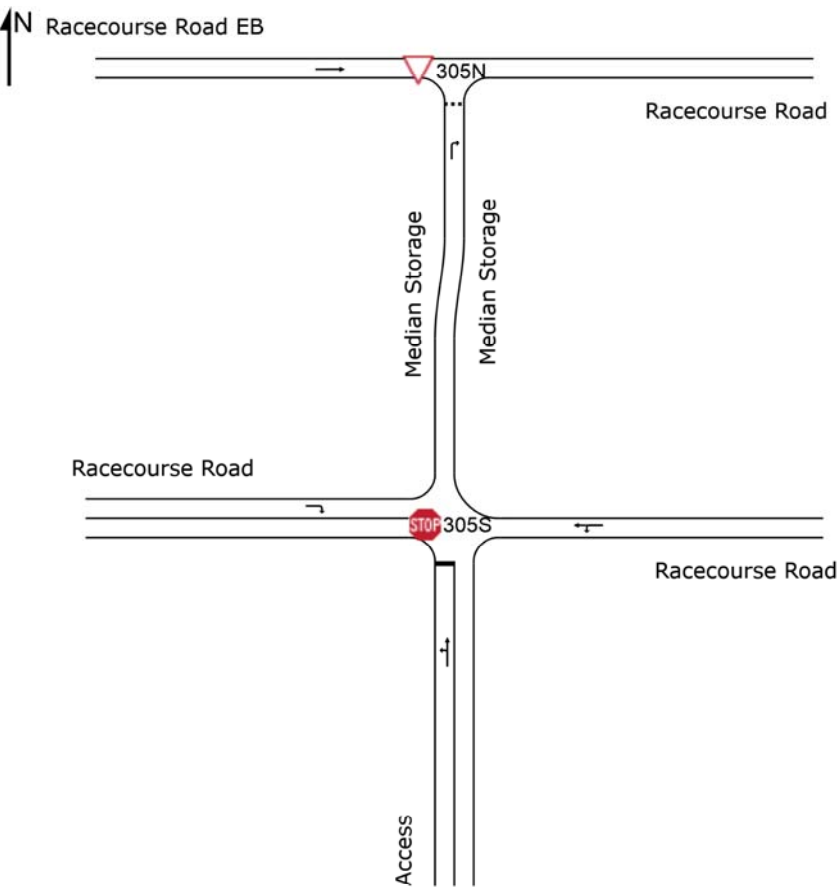
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NETWORK LAYOUT

Network: N203 [PR_AM Racecourse Road x Access]

New Network
Network Category: (None)



SITES IN NETWORK		
Site ID	CCG ID	Site Name
▽305N	NA	PR_AM_Racecourse Road EB and Median Storage
STOP305S	NA	PR_AM_Racecourse Road and Access

New Site
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m			km/h	
South: Access														
1	L2	5	0.0	5	0.0	0.019	8.4	LOS A	0.1	0.4	0.58	0.97	0.58	46.2
2	T1	5	0.0	5	0.0	0.019	9.9	LOS A	0.1	0.4	0.58	0.97	0.58	12.0
Approach		11	0.0	11	0.0	0.019	9.2	LOS A	0.1	0.4	0.58	0.97	0.58	39.6
East: Racecourse Road														
4	L2	23	0.0	23	0.0	0.341	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	56.9
5	T1	624	3.9	624	3.9	0.341	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		647	3.7	647	3.7	0.341	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
West: Racecourse Road														
12	R2	64	0.0	64	0.0	0.074	8.5	LOS A	0.3	2.1	0.58	0.77	0.58	45.4
Approach		64	0.0	64	0.0	0.074	8.5	NA	0.3	2.1	0.58	0.77	0.58	45.4
All Vehicles		722	3.4	722	3.4	0.341	1.1	NA	0.3	2.1	0.06	0.10	0.06	58.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

 **Project:** 19.059m01v06 TRAFFIX Proposed and Future
Accesses Northside Hospital, Gosford

Template: Movement Summary

 **Site:** 905N [PR_SP_Racecourse Road EB
and Median Storage]

 **Network:** 15 [PR_SP Racecourse Road x
Access]

Racecourse Raod Eastbound and Median Storage
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand		Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %				Vehicles veh	Distance m				
South: Median Storage														
3	R2	5	0.0	5	0.0	0.005	3.1	LOS A	0.0	0.1	0.34	0.60	0.34	50.6
Approach		5	0.0	5	0.0	0.005	3.1	LOS A	0.0	0.1	0.34	0.60	0.34	50.6
West: Racecourse Road EB														
11	T1	369	0.6	369	0.6	0.190	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		369	0.6	369	0.6	0.190	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		375	0.6	375	0.6	0.190	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 905S [PR_SP_Racecourse Road and Access]

Network: 6 [FU+DV_SP Racecourse Road x Access]

New Site

Site Category: (None)

Stop (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m				km/h
South: Access														
1	L2	5	0.0	5	0.0	0.024	10.1	LOS A	0.1	0.6	0.67	1.00	0.67	44.2
2	T1	5	0.0	5	0.0	0.024	12.4	LOS A	0.1	0.6	0.67	1.00	0.67	10.1
Approach		11	0.0	11	0.0	0.024	11.2	LOS A	0.1	0.6	0.67	1.00	0.67	37.0
East: Racecourse Road														
4	L2	23	0.0	23	0.0	0.413	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	56.9
5	T1	761	3.9	761	3.9	0.413	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		784	3.8	784	3.8	0.413	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
West: Racecourse Road														
12	R2	64	0.0	64	0.0	0.092	9.8	LOS A	0.4	2.5	0.63	0.85	0.63	44.1
Approach		64	0.0	64	0.0	0.092	9.8	NA	0.4	2.5	0.63	0.85	0.63	44.1
All Vehicles		859	3.4	859	3.4	0.413	1.1	NA	0.4	2.5	0.06	0.09	0.06	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:51:56 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Proposed and Future Accesses Northside Hospital, Gosford.sip8

USER REPORT FOR NETWORK SITE

 **Project:** 19.059m01v06 TRAFFIX Proposed and Future
Accesses Northside Hospital, Gosford

Template: Movement Summary

 **Site:** 905N [PR_SP_Racecourse Road EB
and Median Storage]

 **Network:** 6 [FU+DV_SP Racecourse Road x
Access]

Racecourse Raod Eastbound and Median Storage
Site Category: (None)
Giveaway / Yield (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %				Vehicles veh	Distance m				
South: Median Storage														
3	R2	5	0.0	5	0.0	0.005	3.5	LOS A	0.0	0.1	0.38	0.62	0.38	50.2
Approach		5	0.0	5	0.0	0.005	3.5	LOS A	0.0	0.1	0.38	0.62	0.38	50.2
West: Racecourse Road EB														
11	T1	450	0.6	450	0.6	0.232	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		450	0.6	450	0.6	0.232	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		456	0.6	456	0.6	0.232	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR SITE

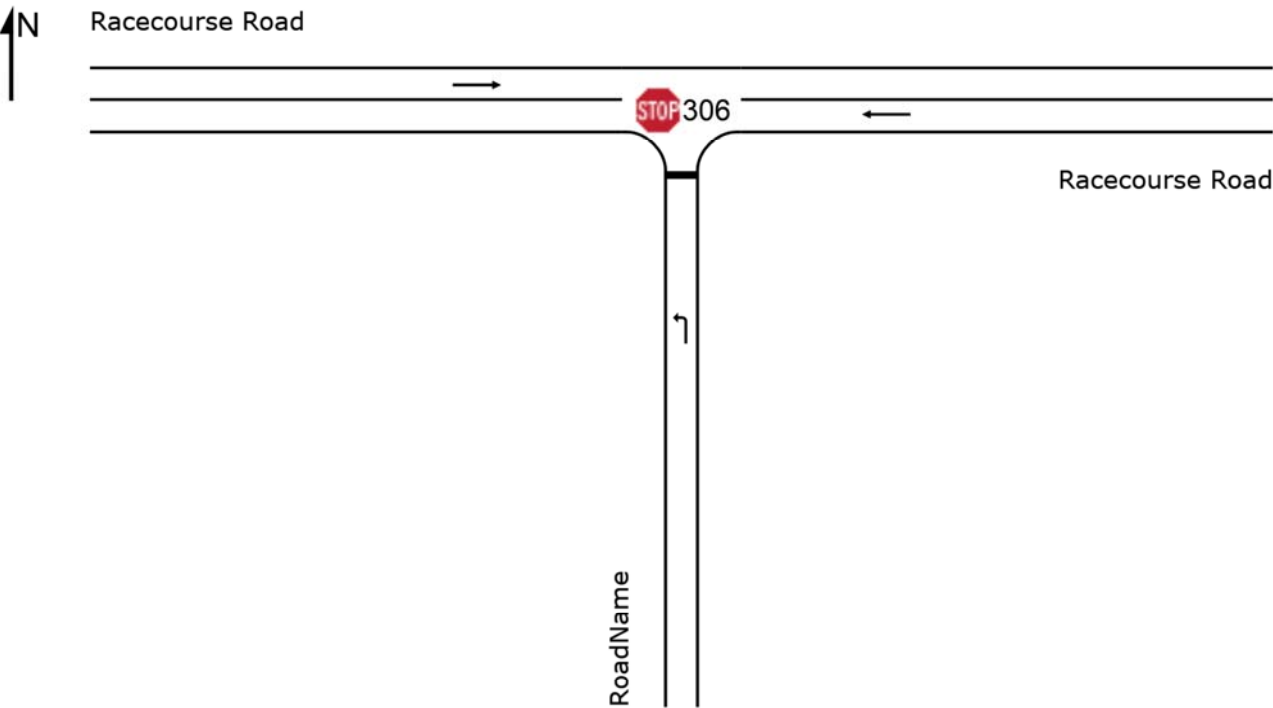
 Project: 19.059m01v06 TRAFFIX Proposed and Future
Accesses Northside Hospital, Gosford

Template: Layout

 Site: 306 [PR_AM_Basement Access to Racecourse Rd]

New Site
Site Category: (None)
Stop (Two-Way)

Site Layout



 Site: 706 [PR_SP_Basement Access to Racecourse Rd]

New Site

Site Category: (None)

Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: RoadName												
1	L2	89	0.0	0.133	10.2	LOS A	0.5	3.4	0.58	1.02	0.58	27.6
Approach		89	0.0	0.133	10.2	LOS A	0.5	3.4	0.58	1.02	0.58	27.6
East: Racecourse Road												
5	T1	624	3.9	0.328	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		624	3.9	0.328	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Racecourse Road												
11	T1	369	0.6	0.190	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		369	0.6	0.190	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		1083	2.4	0.328	0.9	NA	0.5	3.4	0.05	0.08	0.05	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR SITE

 **Project: 19.059m01v06 TRAFFIX Proposed and Future Accesses Northside Hospital, Gosford**

Template: Movement Summary

 **Site: 806 [FU+DV_SP_Basement Access to Racecourse Rd]**

New Site
Site Category: (None)
Stop (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

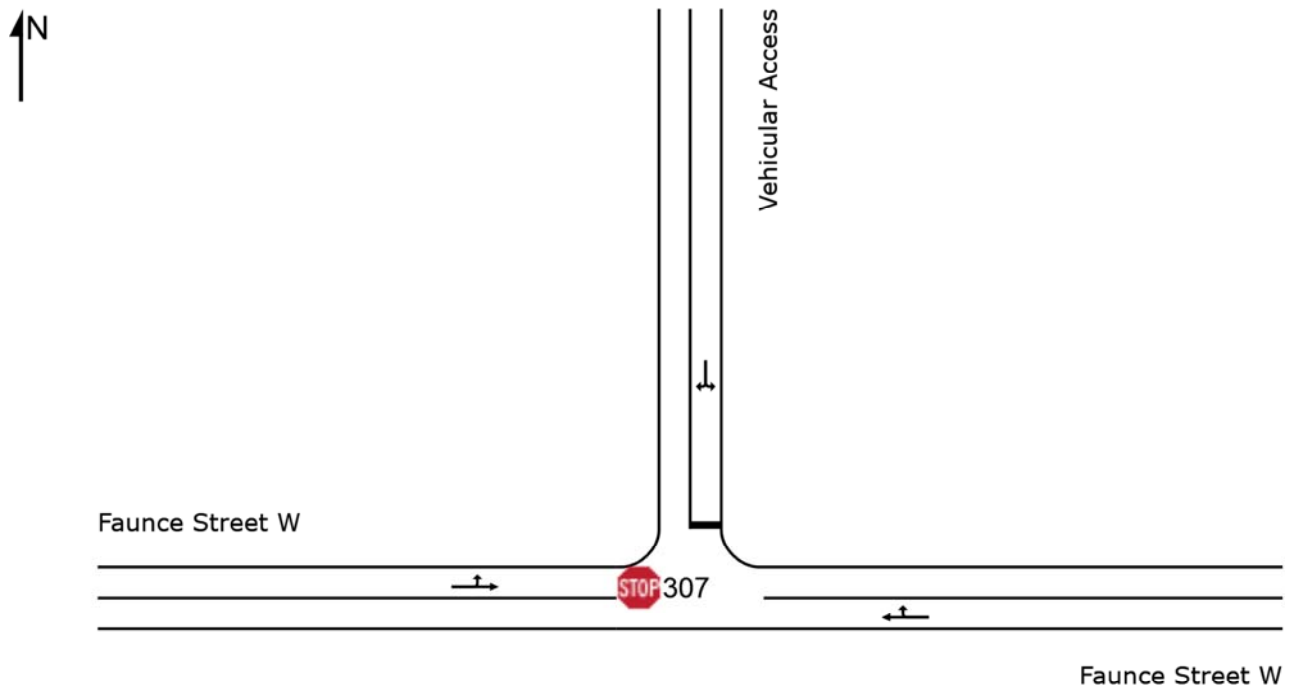
Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: RoadName												
1	L2	89	0.0	0.166	11.9	LOS A	0.6	4.1	0.67	1.03	0.67	25.9
Approach		89	0.0	0.166	11.9	LOS A	0.6	4.1	0.67	1.03	0.67	25.9
East: Racecourse Road												
5	T1	749	3.9	0.394	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		749	3.9	0.394	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Racecourse Road												
11	T1	443	0.6	0.228	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		443	0.6	0.228	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		1282	2.5	0.394	0.9	NA	0.6	4.1	0.05	0.07	0.05	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

 Site: 307 [PR_AM_Access to Faunce St W]

New Site
Site Category: (None)
Stop (Two-Way)

Site Layout



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Organisation: TRAFFIX PTY LTD | Created: Thursday, 5 September 2019 8:56:33 AM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Proposed and Future Accesses Northside Hospital, Gosford.sip8

 Site: 907 [PR_SP_Access to Faunce St W]

New Site
 Site Category: (None)
 Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Faunce Street W												
5	T1	120	0.0	0.069	0.1	LOS A	0.1	0.6	0.05	0.05	0.05	59.3
6	R2	12	0.0	0.069	5.9	LOS A	0.1	0.6	0.05	0.05	0.05	56.7
Approach		132	0.0	0.069	0.6	NA	0.1	0.6	0.05	0.05	0.05	59.1
North: Vehicular Access												
7	L2	5	0.0	0.010	6.7	LOS A	0.0	0.2	0.26	0.91	0.26	52.7
9	R2	5	0.0	0.010	6.9	LOS A	0.0	0.2	0.26	0.91	0.26	36.4
Approach		11	0.0	0.010	6.8	LOS A	0.0	0.2	0.26	0.91	0.26	48.6
West: Faunce Street W												
10	L2	12	0.0	0.079	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	11.3
11	T1	131	14.5	0.079	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach		142	13.3	0.079	0.5	NA	0.0	0.0	0.00	0.05	0.00	55.3
All Vehicles		284	6.7	0.079	0.7	NA	0.1	0.6	0.03	0.08	0.03	56.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY



Site: 1007 [FU+DEV_SP_Access to Faunce St W]

New Site

Site Category: (None)

Stop (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Faunce Street W												
5	T1	144	0.0	0.082	0.1	LOS A	0.1	0.6	0.05	0.05	0.05	59.4
6	R2	12	0.0	0.082	6.0	LOS A	0.1	0.6	0.05	0.05	0.05	56.7
Approach		156	0.0	0.082	0.5	NA	0.1	0.6	0.05	0.05	0.05	59.2
North: Vehicular Access												
7	L2	5	0.0	0.011	6.8	LOS A	0.0	0.3	0.29	0.90	0.29	52.6
9	R2	5	0.0	0.011	7.2	LOS A	0.0	0.3	0.29	0.90	0.29	36.2
Approach		11	0.0	0.011	7.0	LOS A	0.0	0.3	0.29	0.90	0.29	48.5
West: Faunce Street W												
10	L2	12	0.0	0.094	5.5	LOS A	0.0	0.0	0.00	0.04	0.00	11.3
11	T1	157	14.5	0.094	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		168	13.5	0.094	0.4	NA	0.0	0.0	0.00	0.04	0.00	56.0
All Vehicles		334	6.8	0.094	0.6	NA	0.1	0.6	0.03	0.07	0.03	57.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

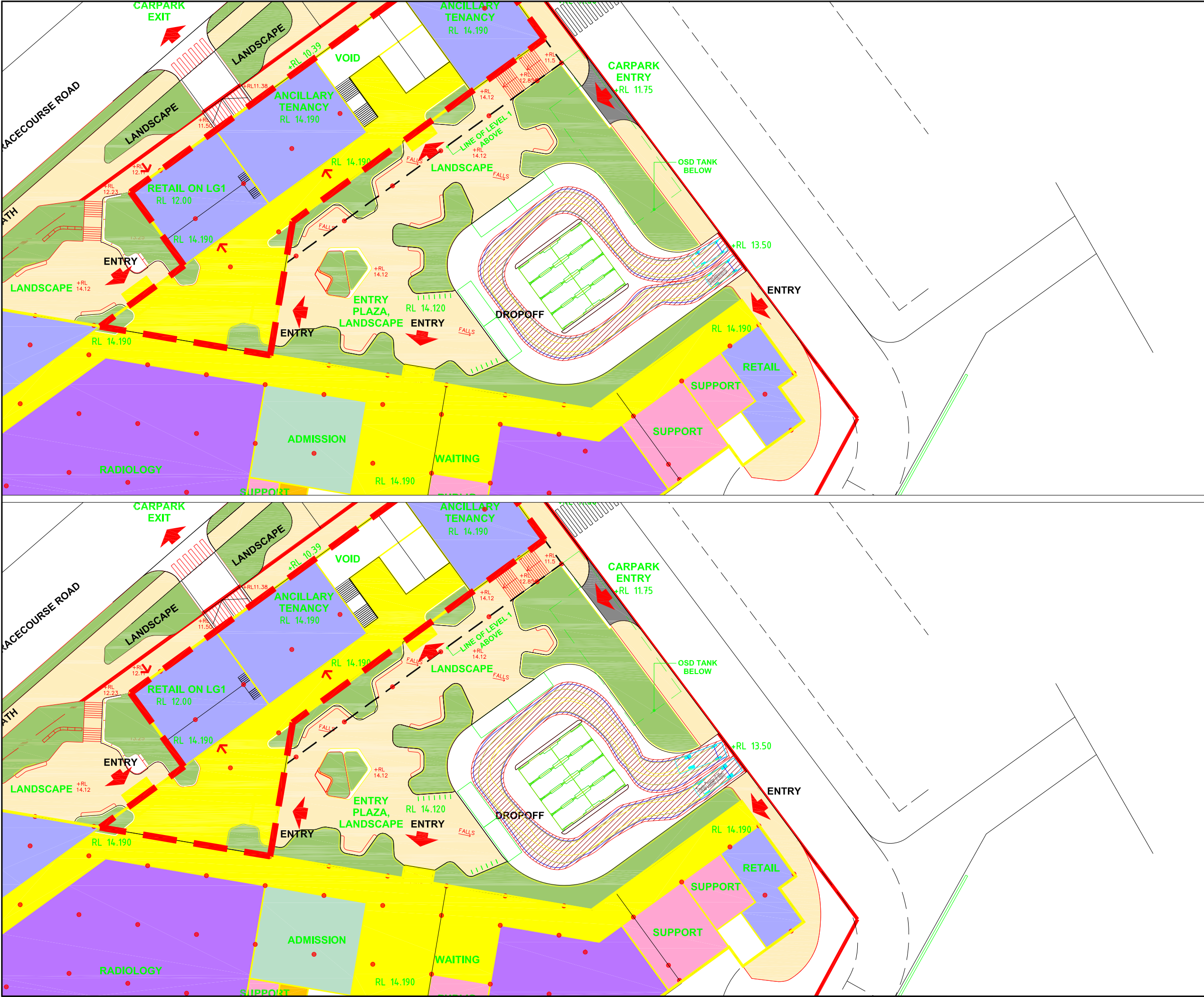
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Organisation: TRAFFIX PTY LTD | Processed: Thursday, 5 September 2019 3:18:00 PM

Project: C:\Users\hayden.dimitrovski\Desktop\19.059m01v06 TRAFFIX Proposed and Future Accesses Northside Hospital, Gosford.sip8

APPENDIX D

Swept Path Analysis



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1:2004 Parking facilities - Off-street car parking, and/or AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	NC	10-09-19

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect

Health Projects International
Suite 1, 68 Alfred Street
Milsons Point NSW 2061

Client

Donald Cant Watts Corke
Level 10, Angel Place
123 Pitt Street, Sydney NSW 2000

Scale / Plan Orientation

0 5 10 15 20m
1:500 @ A3

Project Description

Northside Private Hospital
Gosford NSW

Drawing Prepared By



TRAFFIX
TRAFFIC & TRANSPORT PLANNERS

Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012

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f: +61 2 9830 4481
w: www.traffix.com.au

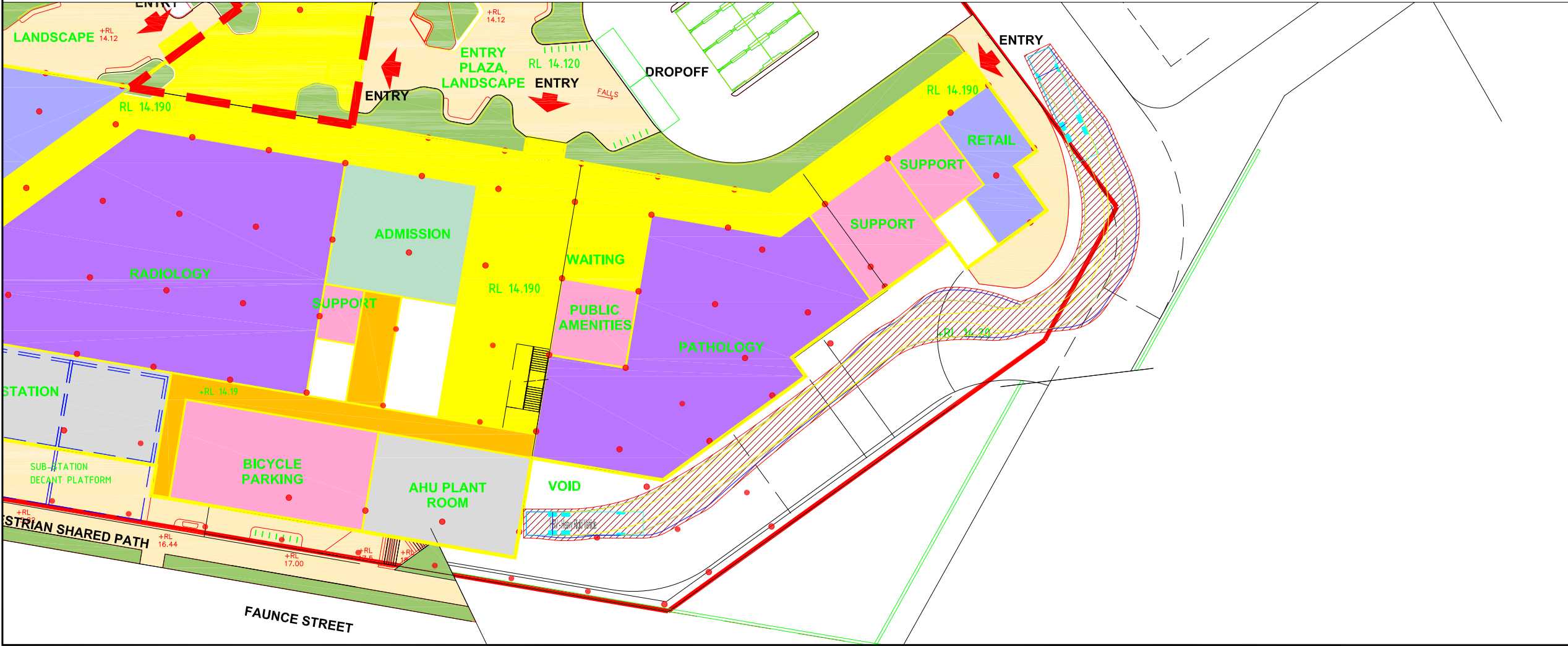
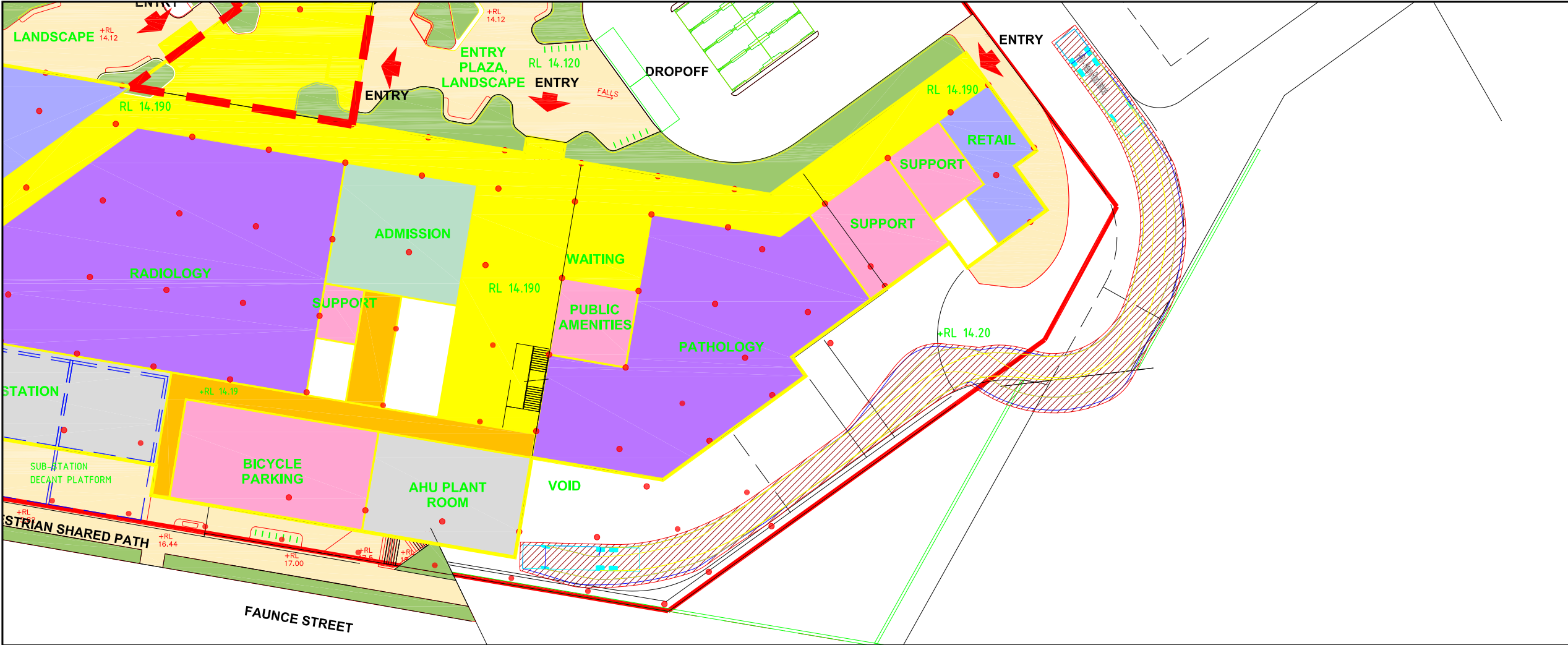
Drawing Title

Swept Path Analysis
Ground Floor Level - Porte Cochere
Vehicle Circulation Movements
TOP: B99 Design Vehicle
BOTTOM: Toyota Coaster (6.99m)

Drawn:	NC	Checked:	BL	Date:	10-09-19
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19.059d09v01 TRAFFIX [190910 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
19.059	SSD	TX.01	A



Notes:

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TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

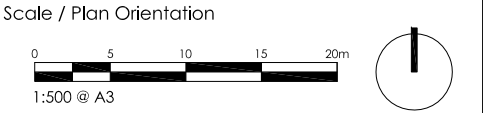
Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1:2004 Parking facilities - Off-street car parking, and/or AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	NC	10-09-19

Swept Path Legend	
	Wheel Path
	Vehicle Body Envelope
	Clearance Envelope (300mm)

Architect
Health Projects International
Suite 1, 68 Alfred Street
Milsons Point NSW 2061

Client
Donald Cant Watts Corke
Level 10, Angel Place
123 Pitt Street, Sydney NSW 2000



Project Description
Northside Private Hospital
Gosford NSW

Drawing Prepared By



TRAFFIX
TRAFFIC & TRANSPORT PLANNERS

Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012

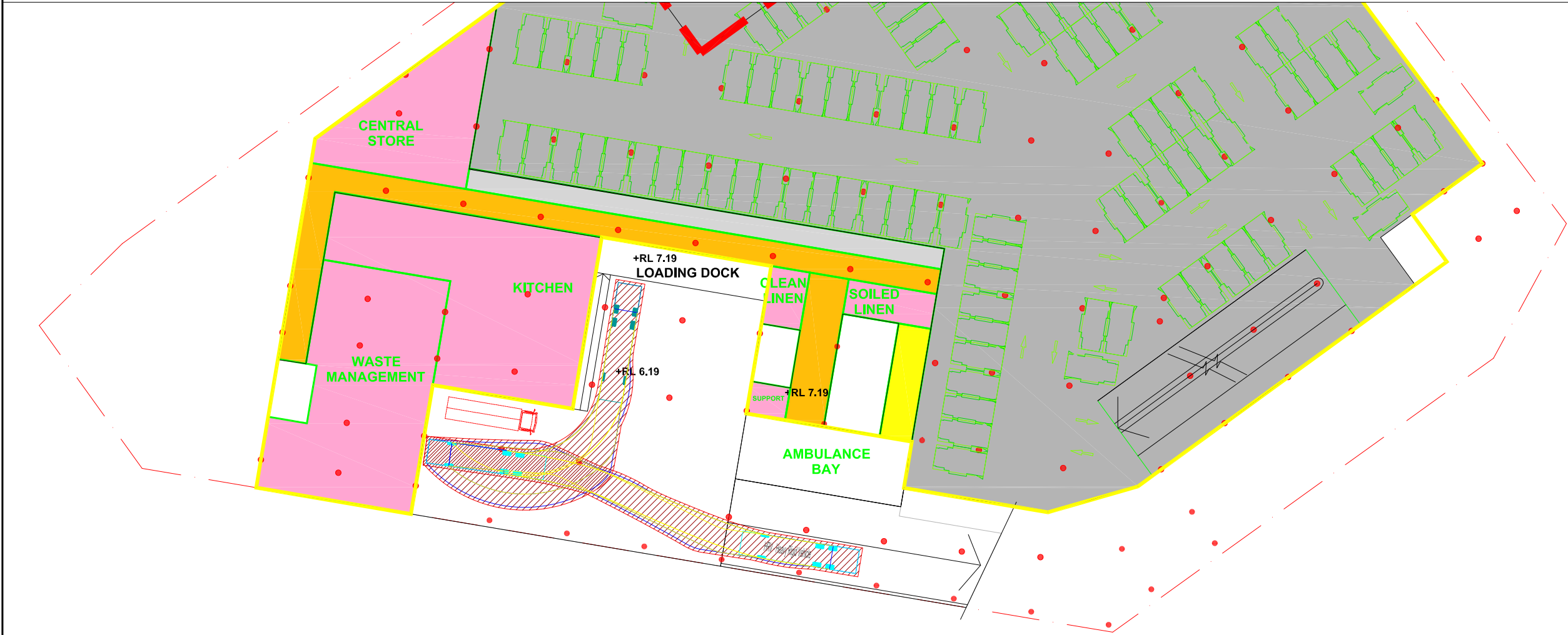
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

Drawing Title
Swept Path Analysis
Ground Floor Level - Service Vehicle Access
12.5m Heavy Rigid Vehicle
TOP: Entry Movements
BOTTOM: Exit Movements

Drawn: NC	Checked: BL	Date: 10-09-19
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19.059d09v01 TRAFFIX [190910 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
19.059	SSD	TX.02	A



Notes:

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Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1:2004 *Parking facilities - Off-street car parking*, and/or AS2890.2:2002 *Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	NC	10-09-19

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect

Health Projects International
Suite 1, 68 Alfred Street
Milsons Point NSW 2061

Client

Donald Cant Watts Corke
Level 10, Angel Place
123 Pitt Street, Sydney NSW 2000

Scale / Plan Orientation

0 5 10 15 20m
1:500 @ A3

Project Description

Northside Private Hospital
Gosford NSW

Drawing Prepared By



Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012

t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

Drawing Title

Swept Path Analysis
Basement Level - Loading Dock
12.5m Heavy Rigid Vehicle
TOP: Reverse Entry to Eastern Dock
BOTTOM: Reverse Entry to Western Dock

Drawn:	NC	Checked:	BL	Date:	10-09-19
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19.059d09v01 TRAFFIX [190910 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
19.059	SSD	TX.03	A