STANBURY
TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

TRANSPORT IMPACT ASSESSMENT

PROPOSED MIXED-USE DEVELOPMENT
26 – 42 EDEN STREET & 161 – 179 PRINCES HIGHWAY
ARNCLIFFE

PREPARED FOR ARNCLIFFE EDEN PROPERTY PTY. LTD.
OUR REF: 20-171-8

JULY 2021

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1. INTRODUCTION

1.1 Scope of Assessment

This Transport Impact Assessment is submitted to the Department of Planning, Industry and Environment (DPIE) in support of a State Significant Development Application (SSDA-11429726) for the development of land identified at 26 – 42 Eden Street and 161 – 179 Princes Highway, Arncliffe (the subject subject) for the purposes of a mixed-use precinct with open space, retail, and residential uses, comprising social and market housing as part of the NSW Land and Housing Corporation (LAHC)'s 'Communities Plus' program.

SSDA-11429726 seeks approval for the following development:

- Demolition of all existing buildings and structures on the site;
- Site preparation works, excavation and tree removal;
- The construction of a mixed-use development comprising:
  - 744 apartments across four (4) buildings between 19 – 23 storeys in height, including:
    - 186 market housing apartments in Building A;
    - 202 market housing apartments in Building B;
    - 180 social housing apartments in Building C; and
    - 176 market housing apartments in Building D;
  - 3,113m^2 gross floor area of retail premises;
  - 240m^2 of a future child care centre;
  - 3,706m^2 of communal open space;
  - 813 spaces of lower ground and basement car parking; and
  - 4,870m^2 of publicly accessible open space including a 4,000m^2 park, an 870m^2 public plaza (meeting space), and through site link connecting Eden Street and Princes Highway.

This aim of this assessment is to investigate and report upon the potential parking and traffic consequences of the proposal and to recommend appropriate ameliorative measures where required. This report provides the following scope of assessment:

- Section 1 provides a summary of the site location, details, existing and surrounding land-uses;
- Section 2 describes the proposed development;
- Section 3 assesses the adequacy of the proposed site access arrangements with reference to relevant Australian Standard specifications and the specific operational requirements of the development;

- Section 4 assesses the proposed vehicular, motorcycle and bicycle parking with reference to relevant Council and Transport for NSW (TfNSW, formally Roads & Maritime Services) specifications;

- Section 5 assess the adequacy of the proposed internal circulation and manoeuvrability of the proposed development with reference to relevant Australian Standard specifications and the specific operational requirements of the development;

- Section 6 assesses the existing traffic, parking and transport conditions surrounding and servicing the subject development site including a description of the surrounding road network, traffic demands, operational performance and available public transport infrastructure;

- Section 7 describes the existing travel behaviour in the surrounding precinct;

- Section 8 estimates the projected traffic generating ability of the proposed development and assesses the ability or otherwise of the surrounding road network to be capable of accommodating the altered demand in a safe and efficient manner; and

- Section 9 provides an indicative assessment of the traffic and pedestrian management measures likely to be implemented during the construction phases of the development.

The report has been prepared pursuant to State Environmental Planning Policy (Infrastructure) 2007.

In accordance with section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), the Secretary's Environmental Assessment Requirements (SEARs) for SSDA-11429726 were issued on 18 December 2020. To assist, **Table 1** overleaf specifies which section or sections of this report address each of the SEARs with respect to Transport, Traffic, Parking and Access (Operation and Construction).

TABLE 1 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS TRANSPORT, TRAFFIC, PARKING AND ACCESS (OPERATION AND CONSTRUCTION)	
Requirement	**Section/s of Report Addressing Item**
The predicted transport mode share split for the development.	Section 6, 7, 8 and separate Green Travel Plan
An analysis of the existing traffic network, including the road hierarchy, current daily and peak hour vehicle movements and existing performance levels of nearby intersections.	Section 6
A forecast of additional daily and peak hour vehicle movements as a result of the proposal (using SIDRA modelling or similar a 5-year intervals) and identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cycle conflict).	Section 8
Proposals to mitigate and traffic impacts, including intersection upgrades to achieve acceptable performance.	Section 2 and 8
Details of car parking provision, having regard to relevant parking rates, specifications and standards.	Section 4
Details of proposed vehicular access, loading, deliveries and servicing arrangements, and any proposed infrastructure improvements or measures to reduce potential conflicts with pedestrians and cyclists.	Section 2 and 5
Proposals to improve walking and cycling, such as connections into existing walking and cycling networks, high quality end-of-trip facilities and adequate bicycle parking for visitors, employees and residents (provided in accordance with the relevant rates, specifications and standards).	Section 2 and separate Green Travel Plan
Measures to promote sustainable travel choices for employees, residents or visitors, such as minimising car parking provision, encouraging car share and public transport, cycling and walking, implemented a green travel plans and providing trip end facilities.	Sections 2, 4 and separate Green Travel Plan
A Construction Traffic Management and Pedestrian Management Plan providing details of predicted construction traffic movements, routes, and access arrangements, and outline how construction traffic impacts on existing traffic pedestrian and cycle networks would be appropriately managed and mitigated.	Section 9

1.2 Reference Documents

Reference is made to the following documents throughout this report:

- TfNSW's *Guide to Traffic Generating Developments*;
- TfNSW's *Guide to Transport Impact Assessments*;
- Bayside Council's *Rockdale Development Control Plan* (RDCP 2011);
- Bayside Council's *Rockdale Technical Specification Traffic, Parking and Access*;

- Bayside Council's Rockdale *Technical Specification Waste Minimisation and Managemen*t;

- Bayside Council's *Arncliffe and Banksia Public Domain Plan & Technical Manual*;

- Bayside Council's *Arncliffe and Banksia Local Infrastructure Contribution Plan 2020 – Revision 1*;

- AECOM Arncliffe and Banksia Priority Precincts, Strategic Transport Plan (2015);

- AECOM Cooks Cove Strategic Transport Study (Oct 2016)

- DPIE's *Bayside West Precincts 2036: Arncliffe, Banksia and Cooks Cove*;

- The following Australian Standards for *Parking Facilities:*

  - *Part 1: Off-Street Car Parking* (AS2890.1:2004);
  - *Part 2: Off-Street Commercial Vehicle Facilities* (AS2890.2:2002);
  - *Part 3: Bicycle Parking* (AS2890.3:2015);
  - *Part 6: Off-Street Parking for People with Disabilities* (AS2890.6:2009).

- *State Environmental Planning Policy (Affordable Rental Housing) 2009* (hereafter referred to as the 'ARH SEPP').

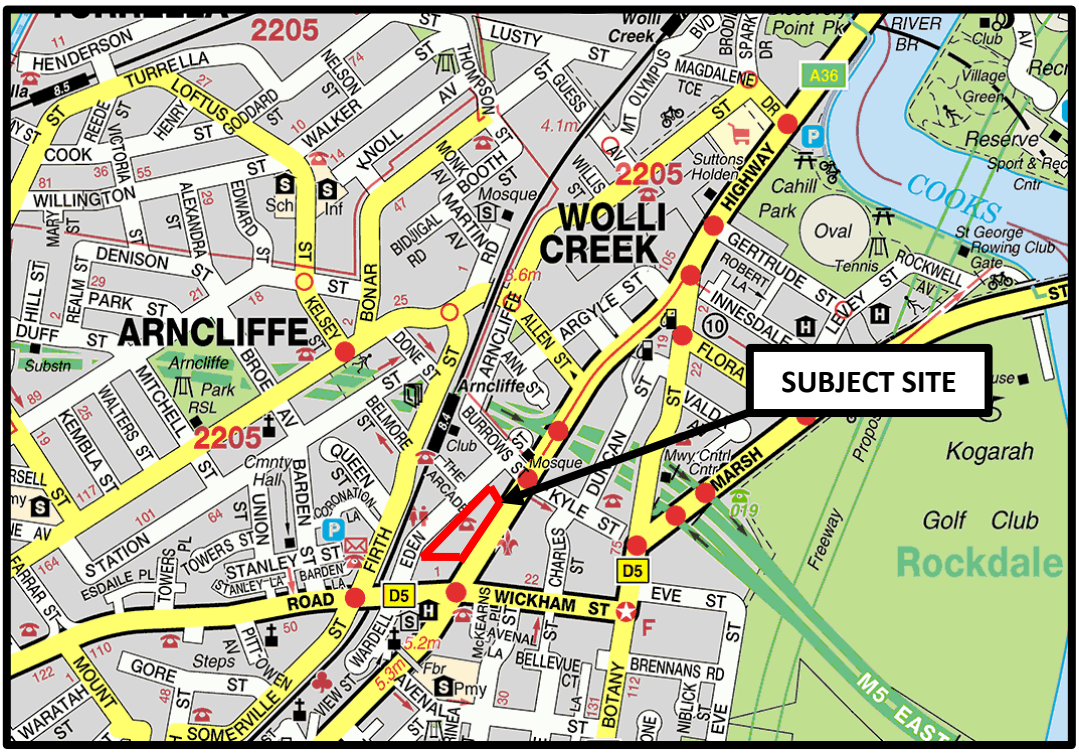
Architectural plans have been prepared by Group GSA, reduced copies of a selection of which are attached as **Attachment 1**.

1.3 Site Details

1.3.1 Site Location

The subject site is located on the western side of Princes Highway and the eastern side of Eden Street, approximately midway between Forest Road to the south and Burrows Street to the north, Arncliffe. The site location is illustrated overleaf within a local an aerial context by **Figure 1** and **Figure 2**, respectively.

FIGURE 1
SITE LOCATION WITHIN A LOCAL CONTEXT



Source: UBD Australian City Streets – Version 8

FIGURE 2
SITE LOCATION WITHIN AN AERIAL CONTEXT

Source: Group GSA

1.3.2 Site Description

The site forms a number of allotments as follows:

- Lots 1 -3 and 7 - 12 DP 23701;
- Lot 1 DP 447649; and
- Lot 1 DP 1094906.

Collectively, the allotments provide a street address of 26 – 42 Eden Street and 161 – 179 Princes Highway, Arncliffe.

The site forms an irregularly shaped parcel of land, providing approximate frontages of 190m and 165m to Eden Street and Princes Highway, respectively.

The total site area is approximately 13,440m^2.

1.3.3 Existing Use

The subject site currently accommodates 14 residential apartment buildings containing approximately 140 apartments.

The three storey buildings are serviced by a series of off-street car parking areas, containing 29 formalised spaces, being serviced by a total of eight (8) vehicular driveways connecting with Eden Street.

No vehicular access is currently provided between the site and Princes Highway.

A series of pedestrian access paths connect with both Eden Street and Princes Highway, however no formalised through site pedestrian connectivity between the two frontage roads is provided.

1.3.4 Surrounding Land Uses

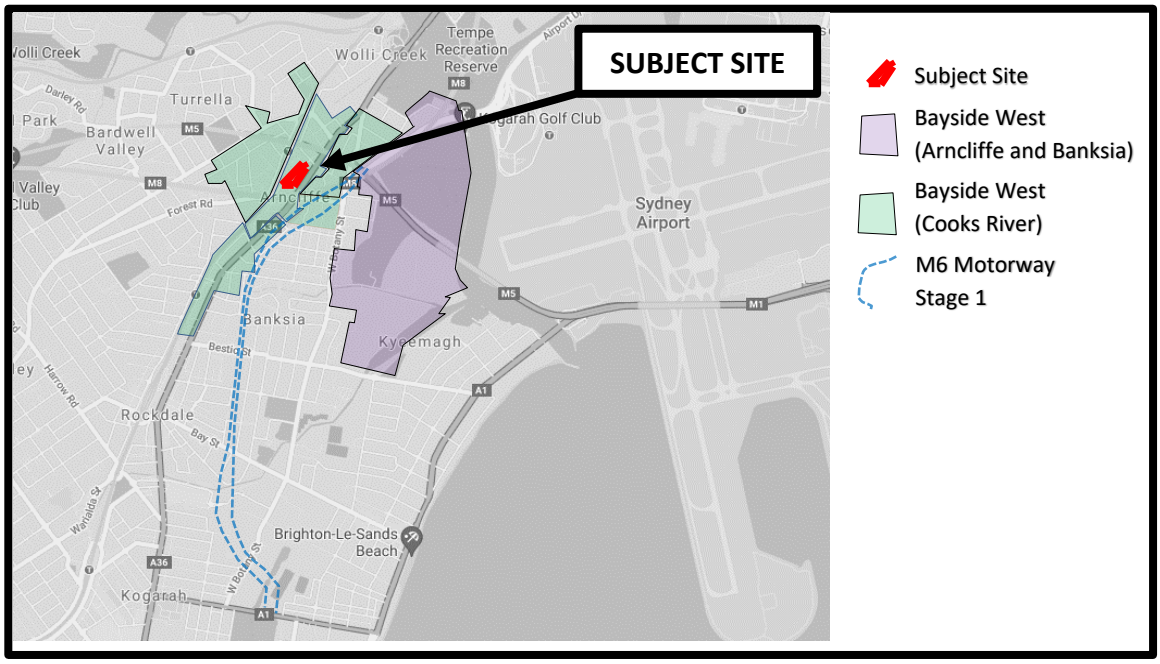
The site is surrounded by a mix of land-uses as follows:

- A series of detached residential dwellings occupy land to the south, fronting Forest Road and Eden Street;
- Medium density residential apartment buildings are situated to the north, fronting Princes Highway, Burrows Street and Eden Street;
- A mix of medium density residential apartment buildings and detached dwellings are situated to the west, on the opposite side of Eden Street; and
- A mixed of high density residential developments and highway service commercial uses occupy land to the east, on the opposite side of Princes Highway.

1.3.5 Strategic Context

A number of infrastructure projects and planning documents are likely to directly influence the access to the proposed development site and of the wider area. A summary of the major projects proposed or under investigation are shown in **Figure 3**.

FIGURE 3
MAJOR PROJECTS PROPOSED IN RELATION TO THE SITE



1.3.5.1 Bayside West Precincts

As outlined in the NSW Government Report *"Bayside West Precincts 2036 Arncliffe, Banksia and Cooks Cove"* dated August 2018, Arncliffe, Banksia and Cooks Cove were nominated for the Planned Precincts program by the former Rockdale City Council (now Bayside Council). The NSW Government endorsed the nomination in July 2014 (Arncliffe and Banksia) and 2015 (Cooks Cove). In the Arncliffe and Banksia precincts, there is the opportunity to provide around 5,000 new dwellings by 2036. Some of the infrastructure upgrades proposed to facilitate this as identified in Section 7 of the Infrastructure Strategy include:

- R1 - New major intersections on Marsh Street to provide access to Cooks Cove;
- R2 - Improvements to Marsh Street and Airport Drive. Including improved pedestrian connections to the Giovanni Bridge and upgraded pedestrian crossing of Marsh Street (potential pedestrian over pass);
- R3 - Upgrades to the Kyle Street / West Botany Street intersection;
- R4 - Upgrade to the existing signalised intersection at Princes Highway / Burrows Street;

- R5 - Review configuration of Duncan and West Botany Street intersections;
- R6 - Upgrade the Allen Street / Princes Highway intersection;
- R7 - Upgrades to the intersection of Forest Road at Firth and Eden Streets;
- R8 - Review intersection treatments on either side of the railway underpass between Allen Street and Wollongong Road;
- R9 - Upgrade to the Spring Street / Princes Highway intersection;
- P1 - Investigate provision of a new walking and cycling bridge over the Cooks River to the Sydney Airport;
- P2 - A direct foreshore bicycle/pedestrian path along the Cooks River;
- P3 - New and improved cycle and pedestrian crossing of the Princes Highway from Cahill Park to Brodie Spark Drive. Consider pedestrian over pass;
- L1 – Charles Street realignment;
- L2 – Gertrude Street extension; and
- L3 – Intersection upgrades at:
    - Wolli Creek Road / Wollongong Road;
    - Fripp Street / Wollongong Road;
    - Dowling Street / Wollongong Road; and
    - Wickham Street / Charles Street.

These and other proposed upgrades are shown overleaf in **Figure 4**.

FIGURE 4
INFRASTRUCTURE UPGRADES PROPOSED FOR THE BAYSIDE WEST PRECINCTS

1.3.5.2 M6 Motorway

Stage 1 of the M6 motorway design and construction contract was announced on 24/5/2021 and is planned to connect the M8 Motorway (Westconnex) with President Avenue at Kogarah.

The AECOM report titled *F6 Extension Stage 1 from New M5 Motorway at Arncliffe to President Avenue at Kogarah Appendix D: Traffic and Transport Technical Report* Table 9-1 identifies the following:

- Princes Highway, immediately south of Bay Street, in 2026 following completion of Stage 1, is expected to see a 7% reduction in daily traffic in a northbound direction and a 5% reduction in daily traffic in a southbound direction;

- The M6 Motorway is expected to improve the operation of the intersection of Princes Highway / Wickham Street / Forest Road with a reduction of 9 seconds

of average delay in the weekday AM peak hour and 10 seconds of average delay in the PM peak hour;

- All intersections analysed during the weekday AM and PM peak hours indicate that in 2026 following the completion of the M6 Motorway that all intersections will either approximately maintain their projected 2026 operation or improve operation; and

- Heavy vehicles on Princes Highway immediately south of Bay Street estimated to reduce by around 40% following the opening of the M6 Motorway Stage 1.

2. PROPOSED DEVELOPMENT

2.1 Built Form

The subject proposal (SSDA-11429726) seeks consent for the demolition of existing site structures, site preparation works, excavation and tree removal and the construction of a mixed-use development comprising:

- 744 apartments across four (4) buildings between 19 – 23 storeys in height, including:
  - 186 market housing apartments in Building A;
  - 202 market housing apartments in Building B;
  - 180 social housing apartments in Building C; and
  - 176 market housing apartments in Building D;

- 3,113m^2 gross floor area of retail premises, contained at lower and upper ground levels across all four buildings;

- A 40-place child care centre situated within Building D providing 240m^2 of floor space;

- Parking areas contained within lower ground and three basement levels, comprising:

  - 813 car parking spaces;
  - 392 bicycle parking spaces; and
  - 67 motorcycle parking space;

- A dedicated loading area containing five (5) marked loading bays capable of accommodating vehicles up to and including 14m long Articulated Vehicles (AV); and

- 4,870m^2 of public open space, including:

  - A 4,000m^2 publicly accessible parking; and
  - An 870m^2 public plaza (meeting space) and through site link.

2.1.1 Market Residential Apartments

The subject application proposes the development include three market residential apartment buildings. Buildings A, B and D are proposed to comprise a total of 564 standard residential apartments, comprising the following:

- 223 x one-bedroom dwellings;

- 199 x two-bedroom dwellings; and

- 142 x three-bedroom dwellings.

The market residential apartments are proposed to be serviced by parking contained within three basement levels comprising:

- 564 resident car spaces;
- 75 visitor car spaces;
- 372 bicycle spaces; and
- 50 motorcycle spaces.

2.1.2 Social Housing Apartments

Building C is proposed to comprise 180 social housing apartments in accordance with the Affordable Housing SEPP, comprising:

- 9 x studio apartments;
- 100 x one-bedroom dwellings;
- 63 x two-bedroom dwellings; and
- 8 x three-bedroom dwellings.

The social residential apartments are proposed to be serviced by parking contained within three basement levels, comprising:

- 90 resident car spaces; and
- 12 motorcycle spaces.

2.1.3 Retail Tenancies

A total of 19 separate retail tenancies are proposed to be provided within the lower and upper ground levels of all four buildings, providing a total floor area of 3,113m^2, whereby the tenancies range in size between 27m^2 and 501m^2.

The retail floor space is proposed to be serviced by parking contained within the lower ground level comprising 72 passenger vehicle customer parking spaces and 12 passenger vehicle staff spaces. The retail tenancies are also proposed to be serviced by 16 bicycle parking spaces.

2.1.4 Child Care Centre

A child care centre is proposed to be contained within Building D and is to be capable of accommodating up to 40 children and provide a floor area of 240m^2.

The child care centre is proposed to be serviced by the second basement level of parking situated within the eastern corner of the parking area below building B, with six parking spaces (including one adaptable space) being allocated to child care staff and visitors.

2.1.4.1 Child Care Centre Operation

The child care centre is proposed to accommodate up to 40 children as follows:

- 15 children aged between zero and two years of age;
- 15 children aged between two and three years of age; and
- 10 children aged between three and five years of age.

The centre is required to employ a minimum of eight staff in accordance with the current *Children (Education and Care Services) National Law (NSW)* requirements, as follows:

- Four staff associated with the children aged between zero and two years of age;
- Three staff associated with the children aged between two and three years of age; and
- One staff associated with the children aged between three and five years of age.

The centre is proposed to operate between 7:00am and 6:00pm Monday to Friday.

2.1.5 Passenger Vehicle Access

Passenger vehicle access is proposed via separate ingress and egress driveways, connecting with Eden Street within the south-western corner of the site. These driveways are proposed to form a 'seagull' T-junction with Eden Street, whereby dedicated right turn entry and exit lanes are to be provided within the public road to assist ingress and egress movements.

No passenger vehicular access is proposed between the site and Princes Highway.

2.1.6 Service Vehicle Access

Service vehicle access is proposed between the dedicated on-site loading area and Eden Street, separate and to the north of the abovementioned passenger vehicle access arrangements, via a combined ingress / egress driveway.

No service vehicle access is proposed between the site and Princes Highway.

2.1.7 Pedestrian Access / Links

Pedestrian connectivity between the development and the eastern Eden Street footpath and the western Princes Highway footpath is proposed via a series of paths linking directly with the development buildings.

Through site pedestrian links are proposed between Eden Street and Princes Highway adjacent to the northern boundary via a dedicated pedestrian link as well as central to the site via the public park.

2.1.8 External Works

The following external works are proposed adjacent to and in the immediate vicinity of the site in order to ensure the development integrates into the precinct in a safe and efficient manner:

- A raised marked pedestrian crossing over Eden Street directly adjacent to The Arcade to facilitate safe and efficient connectivity between Princes Highway, the site and Arncliffe Railway Station;
- The modification of the existing pedestrian refuge within Eden Street at Forest Road to prohibit right turn movements to and from Eden Street;
- The provision of a painted 'seagull' treatment within Eden Street accommodating dedicated right turn entry and exit lanes associated with the passenger vehicle access driveway;
- The provision of a dual lane bicycle lane within Eden Street along the western kerb alignment, between Forest Road and Burrows Street; and
- The provision of a shared pedestrian / cycle path along the western Princes Highway footway, between Forest Road and Burrows Street.

Detailed discussion / assessment of the above external works is contained within subsequent sections of this report.

3. SITE ACCESS ARRANGEMENTS

3.1 Passenger Vehicle Access

Vehicle access between Eden Street and the on-site passenger vehicle parking areas is proposed 6m wide ingress and egress driveways, separated by a 1m, situated within the south-western corner of the site. These driveways are proposed to form a 'seagull' T-junction with Eden Street, whereby dedicated right turn entry and exit lanes are to be provided within the public road to assist ingress and egress movements.

The following sub-sections of this report provide discussion / assessment with respect to the proposed passenger vehicle access design and sight distance.

1.3.5 Driveway Design

AS2890.1:2004 provides driveway design specifications based on the proposed primary land use, the functional order of the access road and the number of spaces the driveway is to serve. Based on the development providing a part residential / part retail land-use, the local (non-arterial) functional order of Eden Street and the development providing a total of 813 car parking spaces, AS2890.1:2004 specifies, at minimum, a Category 4 type driveway is required. A Category 4 type driveway involves minimum 6m wide ingress and egress laneways, being divided by a minimum 1m wide separation island.

The proposed separated 6m wide ingress and egress driveways servicing the development therefore suitably accord with the minimum AS2890.1:2004 and accordingly, are satisfactory. In fact, the proposed 'seagull' road marking contained within Eden Street effectively results in a Category 5 type driveway being provided, whereby the access driveways form a pseudo public road junction approach to Eden Street.

To further demonstrate the suitability of the proposed passenger vehicle access arrangements, this Practice has prepared several swept path plans, copies of which of which are attached as **Appendix 2**. These paths have been prepared utilising the architectural plans as a base, the Autoturn program and B99 passenger vehicles manoeuvring specifications obtained from AS2890.1:2004. These swept paths illustrate that the passenger vehicles can enter and exiting the site via the above-described passenger vehicle access driveways in a safe and efficient manner.

The safety and efficiency of the access / egress movements are also proposed to be assisted by the provision of a relatively level (maximum of 1:20) grade for at least 6m inside the adjusted property boundary. It is further noted that sight distance between exiting vehicles and pedestrians within the eastern Eden Street footway is not proposed to be impeded by any obstructions to visibility in accordance with Figure 3.1 of AS2890.1:2004. In consideration of this and the abovementioned discussion, the proposed passenger vehicle access design is satisfactory.

1.3.6 Sight Distance

AS2890.1:2004 specifies a minimum sight distance requirement between a frontage road governed by a sign posted speed limit of 50km/h and a driveway of 69m.

The consistent vertical and horizontal alignment of Eden Street to the north of the passenger vehicle access driveways results in extensive sight distance between southbound Eden Street traffic flow and the driveway location (greater than 150m), thereby readily exceeding the minimum sight distance provisions of AS2890.1:2004.

The variable horizontal alignment of Eden Street to the south however limits sight distance between northbound Eden Street traffic flow and the driveway location to approximately 50m. The limitation in sight distance is proposed to be mitigated through the provision of the painted 'seagull' treatment within Eden Street. In this regard, the provision of dedicated right turn entry and exit lanes within Eden Street facilitates the following:

- Separates northbound through Eden Street vehicle movements from movements turning right into the site, eliminating the potential for rear-end type collisions associated with site entry movements; and

- Relocates the connection point of right turn site egress movements to the northbound through Eden Street travel lane to the north, whereby an appropriate extent of sight distance is afforded due to the consistent alignment of the frontage road to the north.

The proposed extent of sight distance facilitated between the passenger vehicle access movements and abutting through Eden Street traffic flow is therefore considered to be appropriate, incorporating the proposed 'seagull' treatment.

3.2 Service Vehicle Access

Service vehicle access is proposed between the dedicated on-site loading area and Eden Street via a 9.5m wide combined ingress / egress driveway, situated approximately 1m to the north of the previously assessed passenger vehicle access driveways.

AS2890.2:2018 provides driveway design specifications based on the largest vehicle required to be serviced and the functional order of the access road. On the basis of Eden Street providing a minor (non-arterial) function and the development being expected to accommodate vehicles up to and including AVs, Figure 3.1 of AS2890.2:2018 specifies, at minimum, a 12.5m wide combined ingress / egress driveway be provided.

Notwithstanding the above, in order to undertake a functional assessment of the suitability or otherwise of the access arrangements, a series of swept path plans have been prepared, copies of which are included as **Appendix 2**. These plans indicate that the largest vehicles required to service the site (14.5m long AVs) are capable of entering and exiting the site via the movements previously described

without unreasonable encroachment on driveway extents, internal development obstructions and potential adjoining public road kerb-side parking, incorporating minor amendments to the submitted design plans as highlighted within the swept path plans.

The safety and efficiency of access / egress movements are also proposed to be assisted by the following design considerations:

- The provision of a relatively level (maximum of 1:20) grade within the development on immediate approach to the property boundary; and

- The provision of appropriate areas adjacent to the driveway, clear of obstructions, facilitating visibility between exiting motorists and potential pedestrian activity within the eastern Eden Street footway.

In consideration of this and the abovementioned discussion, the proposed service vehicle access design is satisfactory.

3.3 Pedestrian Access

Pedestrian connectivity between the development and the eastern Eden Street footpath and the western Princes Highway footpath is proposed via a series of paths linking directly with the development buildings.

Through site pedestrian links are proposed between Eden Street and Princes Highway adjacent to the northern boundary via a dedicated pedestrian link as well as central to the site via the public park.

Further to the above, the following external works are proposed adjacent to and in the immediate vicinity of the site in order to ensure the development integrates into the precinct in a safe and efficient manner:

- A raised marked pedestrian crossing over Eden Street directly adjacent to The Arcade to facilitate safe and efficient connectivity between Princes Highway, the site and Arncliffe Railway Station; and

- The provision of a shared pedestrian / cycle path along the western Princes Highway footway, between Forest Road and Burrows Street.

4. PARKING CONSIDERATIONS

4.1 Market Resident Vehicular Parking Provision

The market residential buildings are proposed to be serviced by a shared basement parking area providing a resident parking yield of 564 spaces.

4.1.1 Council's Requirements

Bayside Council relies of the following off-street resident parking rates for market residential flat buildings within RDCP 2011:

1 space per 1 or 2 bedroom dwelling
2 spaces per 3 or more bedroom dwelling

Table 1 identifies the off-street parking required to satisfy RDCP 2011.

TABLE 1
OFF-STREET MARKET RESIDENT PARKING REQUIREMENTS
ROCKDALE DEVELOPMENT CONTROL PLAN 2011

Measure	No. Dwellings	Spaces Required
1 bedroom	223	223
2 bedroom	199	199
3 bedroom	142	284
	Total	**706**

Table 1 indicates that according to RDCP 2011 the proposed development requires a minimum of 706 off-street market resident spaces.

The proposed market resident parking provision of 564 resident spaces represents a parking shortfall of 142 parking spaces in accordance with RDCP 2011.

4.1.2 Discussion on Requirements

The previous sub-section of this report presents that the development provides a market resident parking shortfall of 142 spaces in accordance with RDCP 2011. The RDCP 2011 market resident parking requirements are significantly in excess of other local government areas. The Bayside Local Government Area is large and contains a great variety of development scale and density and similarly, provides varying accessibility to public transport infrastructure. The higher requirement for market residential parking is acknowledged and supported in areas with poor accessibility to public transport, however the subject site is provided within extremely accessible walking distance to Arncliffe Railway Station. Further, a number of bus routes operate within 200m walking distance of the site, providing connectivity to regular, frequent and varied modes of public transport within the context of the Local Government Area. A more detailed discussion in regards to proximity to public transport is contained within Section 6.4 of this report.

In regard to the above, the Department of Planning & Environment's *Apartment Design Guide* provides consistent planning and design standards for apartments across the State. It provides design criteria and general guidance about how development proposals can achieve the design quality principles identified in SEPP 65 *(State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development)*.

Objective 3J-1 of the *Apartment Design Guide* specifies that development within 800m of a railway station or light rail stop in the Sydney metropolitan area are to use the minimum car parking requirement for residential developments as set out in TfNSW' *Guide to Traffic Generating Developments*, or the car parking requirement prescribed by the relevant council, whichever is less.

Table 2 below provides the market resident parking requirements for high density residential flat buildings located within Metropolitan Sub-Regional Centres contained within section 5.4.3 of *TfNSW' Guide to Traffic Generating Developments*.

TABLE 2
OFF-STREET MARKET RESIDENT PARKING REQUIREMENTS
TfNSW'S GUIDE TO TRAFFIC GENERATING DEVELOPMENTS

Item	Rate	Yield	Spaces Required
1 bedroom dwellings	0.6 spaces per dwelling	223	134
2 bedroom dwellings	0.9 spaces per dwelling	199	180
3/4 bedroom dwellings	1.4 spaces per dwelling	142	199
		Total	**513**

As the site is located within 800m of Arncliffe Railway Station, the minimum parking requirements applicable to the development are those specified by TfNSW' *Guide to Traffic Generating Developments*. Application of the abovementioned rates to the development results in a parking requirement of 513 market resident spaces. The proposed parking provision of 564 resident spaces therefore accords with this requirement and accordingly, is considered to be satisfactory.

4.2 Market Residential Visitor Vehicular Parking Provision

The market residential buildings are proposed to be serviced by a shared basement parking area providing 75 residential visitor parking spaces.

4.2.1 Council's Requirements

Bayside Council relies of the following off-street residential visitor parking rates for market residential flat buildings within RDCP 2011:

1 space per 5 dwellings

On the basis of 564 market residential dwellings, RDCP 2011 requires a minimum of 113 off-street visitor space to satisfy the control plan.

The proposed market residential visitor parking provision of 75 resident spaces represents a parking shortfall of 38 parking spaces in accordance with RDCP 2011.

4.2.2 Discussion on Requirements

The previous sub-section of this report presents that the development provides a market residential visitor parking shortfall of 38 spaces in accordance with RDCP 2011. The previous discussion with respect to a market resident parking reduction being appropriate within the subject site, given the proximity of the site to public transport infrastructure, also applies to the market residential visitor demands.

In regard to the above, Objective 3J-1 of the *Apartment Design Guide* relied upon by SEPP 65 *(State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development)*, specifies that development within 800m of a railway station within the Sydney metropolitan area may apply parking rates for visitors as set out within TfNSW's *Guide to Traffic Generating Developments*. This publication provides the following with respect to visitor parking for high density developments:

> *The recommended minimum number of off-street visitor parking spaces is one space for every 5 to 7 dwellings. Councils may wish to reduce this requirement for buildings located in close proximity to public transport, or where short-term unit leasing is expected.*

The immediate proximity of the site to Arncliffe Railway Station, combined with the potential for mixed use trips associated with the retail component of the development is such that it is appropriate to apply a reduced market residential visitor parking rate to the subject development. In this regard, the proposed visitor parking provision of 75 spaces required to service a total of 564 market dwellings equates to approximately one visitor parking space per 7.5 dwellings, thereby according with the abovementioned intent of TfNSW's *Guide to Traffic Generating Developments*.

4.3 Social Resident Vehicular Parking Provision

The social housing building is proposed to be serviced by basement parking containing 90 off-street passenger vehicle parking spaces. These spaces are to be specifically allocated to residents.

4.3.1 ARH SEPP Requirements

The ARH SEPP provides state wide relevant parking requirements for in fill affordable housing. Clause 14(2)(a)(ii) of the ARH SEPP states the following with respect to car parking:

14. Standards that cannot be used to refuse consent

(2) A consent authority must not refuse consent to development to which this Division applies on any of the following grounds:

(a) parking
if:

(i) in the case of a development application made by a social housing provider for development on land in an accessible area – at least 0.4 parking spaces are provided for each dwelling containing 1 bedroom, at least 0.5 parking spaces are provided for each dwelling containing 2 bedrooms and at least 1 parking space is provided for each dwelling containing 3 or more bedrooms.

(ii) In any other case, at least 0.5 parking spaces are provided for each dwelling containing 1 bedroom, at least 1 parking space is provided for each dwelling containing 2 bedrooms and at least 1.5 parking spaces are provided for each dwelling containing 3 or more bedrooms.

Clause 4(1) of the ARH SEPP defines 'accessible area' as *land that is within:*

(a) 800 metres walking distance of a public entrance to a railway station or a wharf from which a Sydney Ferries ferry service operates, or

(b) 400 metres walking distance of a public entrance to a light rail station or, in the case of a light rail station with no entrance, 400 metres walking distance of a platform of the light rail station, or

(c) 400 metres walking distance of a bus stop used by a regular bus service (within the meaning of the Passenger Transport Act 1990) that has at least one bus per hour servicing the bus stop between 06.00 and 21.00 each day from Monday to Friday (both days inclusive) and between 08.00 and 18.00 on each Saturday and Sunday.

Table 3 below provides the social resident parking requirements applicable to the development as the social housing component of the development is to be provided for a social housing provider (LAHC) and is located within 800m walking distance of Arncliffe Railway Station.

TABLE 3
OFF-STREET SOCIAL RESIDENT PARKING REQUIREMENTS
ARH SEPP

Item	Rate	Yield	Spaces Required
1 bedroom dwellings	0.4 spaces per dwelling	100	40
2 bedroom dwellings	0.5 spaces per dwelling	63	32
3/4 bedroom dwellings	1.0 space per dwelling	8	8
		Total	**80**

Table 3 indicates that the development cannot be refused on the grounds of parking in the event that 80 social resident parking spaces are provided.

The proposed social resident parking provision of 90 spaces therefore complies with the minimum requirements of the ARH SEPP and accordingly is considered to be satisfactory.

4.4 Retail Vehicular Parking Provision

The retail component of the development is proposed to be serviced by a shared parking area situated at lower ground level providing 78 spaces comprising 12 retail staff parking spaces and 66 retail visitor parking spaces.

4.4.1 Council's Requirements

Bayside Council relies of the following off-street resident parking rates for retail and commercial developments within RDCP 2011:

1 space per 40m^2 GFA

Based on 3,113m^2 retail floor space being proposed, the following calculation is provided with respect to the abovementioned RDCP 2011 requirement:

(3,113m^2 / 40m^2) = 77.8 (adopt 78 spaces)

RDCP 2011 therefore requires the provision of 78 vehicular parking spaces to service the retail component of the development.

The proposed retail passenger vehicle parking provision of 78 spaces is accordingly considered to be satisfactory.

4.5 Child Care Centre Vehicular Parking Provision

The retail component of the development is proposed to be serviced by a shared parking area situated at lower ground level with a total of six (6) spaces allocated to the child care centre comprising four (4) child care centre staff parking spaces and two (2) child care centre visitor parking spaces.

4.5.1 Council's Requirements

Bayside Council relies of the following off-street resident parking rates for child care centres within RDCP 2011:

1 space per 20 children
1 space per two members of staff

Based on a 40-place child care centre requiring eight staff members, the following calculation is provided with respect to the abovementioned RDCP 2011 requirement:

(40 / 20) + (8 / 2) = 6 spaces

RDCP 2011 therefore requires the provision of six (6) vehicular parking spaces to service the child care centre component of the development.

The proposed child care centre passenger vehicle parking provision of six (6) spaces with four (4) spaces allocated to staff of the centre and two (2) spaces allocated to visitors is accordingly considered to be satisfactory.

4.6 Other Vehicular Parking Provision

4.6.1 Car Wash

RDCP 2011 specifies that residential apartment buildings are required to provide a minimum of one (1) car wash bay.

A single car wash bay is proposed within the development, being shared with a residential visitor parking space.

The proposed car wash bay provision is considered to be satisfactory.

4.6.2 Car Share

RDCP 2011 does not provide car share requirements relevant to the proposed development. Notwithstanding this, it is considered desirable that a development of this size provide convenient access to car share infrastructure.

For maximum exposure, it is considered that car share bays should be situated on-street, rather than within private developments.
It is accordingly recommended that a minimum of one dedicated car share parking space be provided within Eden Street in the immediate vicinity of the subject development, the requirement for which could reasonably be imposed as a condition of consent.

4.6.3 Electric Charge Points

RDCP 2011 does not provide electric charge point requirements relevant to the proposed development. Notwithstanding this, it is considered desirable that a development of this size provide convenient access to car share infrastructure.

In response to the above, the following is proposed:

- Six of the retail customers parking spaces, representing approximately 7.5% of the total provision, are to be fitted with electric charge points; and

- 10 of the residential visitor parking spaces, representing approximately 13% of the total provision, are to be fitting with electric charge points.

The provided electric charge capability of the development is considered appropriate in the absence of specific requirements contained within RDCP 2011.

4.7 Bicycle Parking

RDCP 2011 provides the following bicycle parking requirements relevant to the subject development:

1 space per 10 market residential dwellings

1 space per 200m^2 of retail floor space, with 15% of these to be accessible to visitors

1 space per 10 children associated with the child care centre

The following calculations are accordingly provided with respect to RDCP 2011:

Market Resident Bicycle Parking Demand
(564 / 10) = 57 spaces

Retail Bicycle Parking Demand
(3,353m^2 / 200m^2) = 17 spaces, 4 of which are to be accessible to visitors

Child Care Centre Bicycle Parking Demand
(40 / 10) = 4 spaces

RDCP 2011 therefore requires a minimum of 74 bicycle parking spaces to service the development, comprising 57 resident spaces, 13 retail staff spaces, four (4) retail customer spaces and four (4) child care centre spaces.

The development provides the following bicycle parking provision:

- 372 resident storage cages, which are capable of accommodating bicycles, within the basement parking levels;
- 16 bicycle parking spaces provided within eight (8) doubled sided bicycle rails within the lower ground parking area; and
- Four bicycle parking spaces within the lower ground floor parking area within two (2) double sided bicycle rails.

The proposed total bicycle parking provision of 392 parking spaces is accordingly compliant with or exceeds the relevant RDCP 2011 parking requirements and is accordingly considered to be satisfactory.

4.7 Motorcycle Parking

RDCP 2011 provides the following motorcycle parking requirements relevant to the subject development:

1 space per 15 market residential dwellings

1 space per 20 retail car spaces

The following calculations are accordingly provided with respect to RDCP 2011:

Market Resident Demand
(564 / 15) = 38 spaces
Retail Parking Demand
(78 / 20) = 3.9 (adopt 4) spaces

RDCP 2011 therefore requires a minimum of 42 motorcycle parking spaces to service the development, comprising 38 resident spaces and four (4) retail spaces.

The development provides the following motorcycle parking provision:

- 50 market resident motorcycle spaces within the basement parking levels;
- 12 social resident motorcycle spaces within the basement parking levels; and
- Five (5) retail spaces within the lower ground parking area.

The proposed motorcycle parking provision is accordingly compliant with or exceeds the relevant RDCP 2011 parking requirements and is accordingly considered to be satisfactory.

5. INTERNAL CIRCULATION & MANOEUVRABILITY

5.1 Passenger Vehicle Parking Areas

Upon entry into the passenger vehicle access driveway passenger vehicles will travel in a forward direction to immediately access the following:

- The retail customer parking area situated within the lower ground floor level;
- The secure retail staff parking area situated within the lower ground floor level; or
- The residential parking situated within basement levels 1 to 3.

The passenger vehicle parking levels comprise a series of parking aisles, primarily servicing standard rows of 90-degree parking spaces, although a small number of parallel parking spaces are also proposed. The passenger vehicle within the parking areas have been designed to accord with the following minimum dimensions in accordance with the requirements of AS2890.1:2004 and AS2890.6:2009:

- 90-degree resident, residential visitor and retail staff parking space width = 2.4m;
- 90-degree retail customer parking space width = 2.7m;
- 90-degree disabled parking space width = 2.4m (with adjoining 2.4m wide shared area);
- 90-degree small parking space width = 2.3m;
- Parallel parking space width = 2.1m;
- Additional vehicular space width where parking spaces adjoins an obstruction = 0.3m;
- Standard and disabled 90-degree vehicular parking space length = 5.4m;
- Parallel parking space length = 6.4m;
- Vehicular parking aisle width adjoining 90-degree residential parking spaces = 5.8m;
- Vehicular parking aisle width adjoining 90-degree retail parking spaces = 6.2m;
- One-way straight roadway / ramp width = 3m;
- Two-way straight roadway / ramp width = 5.5m;

- Minimum separation of one-way roadways = 0.6m;
- Parking aisle extension past dead end parking bays = 1.0m;
- Headroom = 2.2m;
- Headroom above disabled parking spaces and adjoining shared areas = 2.5m;
- Maximum ramp grade servicing residential parking areas = 1:4;
- Maximum ramp grade servicing retail parking areas = 1:5;
- Maximum change in grade = 1:8; and
- Maximum grade within 6m of the property boundary = 1:20.

Safe and efficient internal manoeuvring and parking space accessibility is anticipated to result, taking into consideration the above compliance with the relevant AS2890.1:2004 and AS2890.6:2009 specifications.

In order to demonstrate the internal passenger vehicle manoeuvrability within the vicinity of these areas and generally throughout the overall parking areas, this Practice has prepared a number of swept path plans which are included as **Appendix 2**. The turning paths provided on the plans have been generated using Autoturn software and derived from B85 and B99 vehicle specifications provided within AS2890.1-2004.

Section B4.4 of AS2890.1-2004 states the following with regard to the use of templates to assess vehicle manoeuvring:

'Constant radius swept turning paths, based on the design vehicle's minimum turning circle are not suitable for determining the aisle width needed for manoeuvring into and out of parking spaces. Drivers can manoeuvre vehicles within smaller spaces than swept turning paths would suggest.'

It would therefore appear that whilst the turning paths provided within AS 2890.1 - 2004 can be utilised to provide a 'general indication' of the suitability or otherwise of internal parking and manoeuvring areas, vehicles can generally manoeuvre more efficiently than the paths indicate. Notwithstanding this, the swept path plans illustrate that passenger vehicles can manoeuvre throughout vehicle parking areas, incorporating minor amendments to the submitted design plans as highlighted within the swept path plans. Safe and efficient internal manoeuvring and parking space accessibility is anticipated to result, taking into consideration the above compliance with the relevant Australian Standards.

Further to the above, internal intersection priority will be required to appropriately govern opposing and / or conflicting turning movements.

5.2 Service Vehicle Areas

The subject site is anticipated to generate the requirement for the following heavy vehicle servicing:

- Regular residential waste collection by Council's 9.64m long refuse collection vehicle;
- Delivery and removalist activity associated with the residential dwellings by vehicles up to and including 8.8m long Medium Rigid Vehicles (MRVs);
- Retail delivery and waste collection by private contractor vehicles up to and including 14m long AVs.

All heavy vehicle servicing of the site is proposed to occur within the dedicated servicing area located at upper ground level, accessed via Eden Street to the north of the passenger vehicle access area.

The servicing area is proposed to provide the following dedicated loading bays:

- Two bays capable of accommodating 14.5m long AVs;
- One bay capable of accommodating Council's 9.64m long refuse collection vehicle; and
- Three bays capable of accommodating MRVs.

The internal servicing area is proposed to provide the following design characteristics according with AS2890.2:2018:

- Minimum two-way roadway width = 9.5m;
- Maximum grade within 6m of the site boundary = 1:20;
- Loading bay width = 3.5m;
- AV loading bay length = 14.5m;
- Council refuse collection vehicle loading bay length = 10m;
- MRV loading bay length = 9m; and
- Clearance = 4.5m.

Further to the above, a series of swept path plans have been prepared and included as **Appendix 2** which demonstrate the manoeuvring of the largest vehicles expected to service the site. These paths indicate that the proposed site design is capable of accommodating the manoeuvring requirements of heavy vehicles to and from the loading area. In consideration of this and the above discussion, the subject development design is considered to be capable of

accommodating the largest vehicles expected to service the site in a safe and efficient manner.

5.3 Bicycle Parking Areas

The bicycle storage rails / cages provide the following minimum design parameters in accordance with the relevant specifications of AS2890.3:2015:

- Double sided open bicycle rail length = 1.8;
- Open bicycle rail separation = 1.0m;
- Aisle width adjoining open bicycle rails = 1.5m;
- Enclosed storage cage width = 0.7m;
- Enclosed storage cage length = 1.8m; and
- Aisle width adjoining enclosed storage cages = 2m.

5.4 Motorcycle Parking Areas

The motorcycle parking spaces within the development have been designed to accord with the following base dimensions in accordance with AS2890.1:2004:

- Space width = 1.2m;
- Space length = 2.5m; and
- Minimum aisle width = 5.8m.

6. EXISTING TRANSPORT CONDITIONS

6.1 Surrounding Road Network

The following provides a description of the surrounding road network:

- **Princes Highway** performs a State Road function under the care and control of TfNSW. Within the Sydney metropolitan area context, Princes Highway provides a major north-south connection between King Street and Sydney Park Road at Newtown in the north and Old Princes Highway / Acacia Road at Kirrawee in the south.

  Princes Highway, in the vicinity of the subject site, primarily provides three lanes in each direction. Pavement widening and a raised concrete median is provided on approach to major junctions to facilitate exclusive turning lanes.

  Clearway parking restrictions apply along the northbound and southbound kerb-side travel lanes during the morning peak period (6:00am – 10:00am) and the afternoon peak period applies for the northbound kerb-side travel lane (3:00pm – 7:00pm) on weekdays to facilitate three unobstructed traffic lanes.

  Princes Highway forms an intersection with Burrows Street approximately 100m to the north of the subject site, operating under traffic signal control. The right turn movement from the southbound Princes Highway onto Burrows Street is restricted via the extension of the concrete median into the intersection. Further, Kyle Street is restricted to an entry-only one-way eastbound function at the intersection, and through movements from Burrows Street to Kyle Street are prohibited.

  Princes Highway forms an intersection with Forest Road and Wickham Street approximately 30m to the south of the site, also operating under traffic signal control. Left turn movements at this intersection are facilitated through slip lanes at each approach, with the left turn movement from Forest Road to the Highway being signalised. Right turn movements from Forest Road and Wickham Street to Princes Highway are prohibited. Dedicated right turn lanes within the northbound and southbound Princes Highway approaches to this intersection provide tidal lane lengthening by virtue of removable bollards within the travel lanes, being further indicated through the provision of adjustable signage indicating the number of operational through lanes. During the morning peak period, the right turn lane on the northbound approach is lengthened from approximately 75m to 225m. Conversely, during the afternoon, the right turn lane on the southbound approached in lengthened from approximately 100m to 200m.

  Traffic flow on Princes Highway within the vicinity of the site is governed by a sign posted speed limit of 60km/h.

- **Forest Road** performs a State Road function under the care and control of TfNSW, providing a north-east / south-west alignment and facilitating connectivity between Princes Highway / Wickham Street in the immediate vicinity of the site and Croydon Road at Hurstville in the south-west.

  In the vicinity of the site, Forest Road provides a pavement width of approximately 12.8m, generally facilitating two through lanes of traffic in each direction. Clearway parking restrictions apply along the westbound and eastbound kerb-side travel lanes during the morning peak period (6:00am – 10:00am) and the afternoon peak period (3:00pm – 7:00pm) on weekdays to facilitate two unobstructed traffic lanes.

  Forest Road forms a cross intersection with Firth Street and Somerville Street operating under traffic signal control. Right turn movements from Somerville Street to Forest Road and from Forest Road to Somerville Street are prohibited. Left turn movements form Firth Street to Forest Road are facilitated through a slip lane.

  Forest Road forms T-junctions with a series of lower order access roads within the precinct, such as Eden Street, Wardell Street and Barden Street operating under major / minor priority control with Forest Road forming the priority route in each instance.

  Traffic flow within Forest Road is governed by a speed limit of 60km/h; however, a 40km/h speed limit applies adjacent to the subject site during prescribed school start and finish times associated with St Francis Xavier's Catholic Primary School.

- **Eden Street** performs an access function, providing a north-south alignment between Forest Road in the south and Burrows Street in the north.

  Eden Street provides a 12.8m wide pavement, generally providing one through lane of traffic in each direction in conjunction with unrestricted kerb-side parking along both kerb alignments.

  Eden Street forms an intersection with Burrows Street to the north of the site, operating under 'Give Way' signage control with Burrows Street forming the priority route.

  Traffic flow within Eden Street is governed by a 50km/h speed limit and an undesignated load limit.

- **Burrows Street** performs a minor collector function between Princes Highway in the east and Arncliffe Street in the west. Burrows Street provides a primary access to a commuter car parking area situated directly to the east of the Arncliffe Railway Station.

  Burrows Street forms a 14m wide pavement between Princes Highway and Eden Street, providing two eastbound approach lanes to the Highway and one departure lane from the Highway, in conjunction with parallel parking along the southern kerb alignment. To the west of Eden Street, Burrows Street

widens to provide a 16m wide pavement providing one through lane of traffic in each direction in conjunction with 90-degree and parallel parking along the northern and southern kerb alignments, respectively.

Traffic flow within Burrows Street is governed by a 50km/h speed limit.

- **Arncliffe Street** performs a minor collector road function to the north of Allen Street and otherwise performs a local access road function to the south of Allen Street. Arncliffe Street provides a north-south alignment facilitating a connection between Brodie Spark Drive in the north and Burrows Street in the south. To the north of Guess Avenue, Arncliffe Street provides a one-way northbound traffic function.

  Arncliffe Street provides a variable wide pavement width, facilitating the provision of one through lane of traffic in each direction in conjunction to sections of parallel parking along one or both kerb alignments.

  Arncliffe Street forms an intersection with Allen Street and Wollongong Road, operating under one lane circulating roundabout control. Left turn movements from the northern Arncliffe Street approach are facilitated by the provision of a left turn slip lane.

  Arncliffe Street forms T-junctions with a series of low order access roads in the vicinity of the site including Guess Avenue, Willis Street and Ann Street, operating under major / minor priority control with Arncliffe Street forming the priority route in each instance.

  Traffic flow within Arncliffe Street is governed by a speed limit of 50km/h.

- **Brodie Spark Drive,** performs a collector road function under the care and control of Bayside Council, facilitating connectivity between the Wolli Creek residential precinct to west and Princes Highway.

  Brodie Spark Drive provides a varying pavement width, widening on approach to the Princes Highway, facilitating the provision of four lanes on approach to the Highway, being separated from two lanes on departure from the Highway, by a vegetated median. Further, parallel parking is provided along the northern kerb alignment of Brodie Spark Drive is provided via indented parking bays, on approach to the Princes Highway.

  Directly to the west of Princes Highway, Brodie Spark Drive forms a roundabout controlled intersection with Magdalene Terrace and Arncliffe Street, being governed by roundabout control. As Magdalene Terrace provides a one-way eastbound traffic function, turning movements into Magdalene Terrace are prohibited.

- **Firth Street** performs a minor collector road function between Forest Road in the south and Wollongong Road in the north. Firth Street forms an 11m wide pavement, generally providing one through lane of traffic in each direction in conjunction with kerb-side parking along both alignments.

Firth Street forms a T-junction with Wollongong Road at its northern road extremity, operating under roundabout control.

Traffic flow within Firth Street is governed by a speed limit 40km/h speed limit consistent with the high pedestrian activity area speed limit associated with Arncliffe Railway Station.

6.2 Existing Traffic Volumes

This Practice has commissioned the undertaking of morning and afternoon peak period traffic surveys of the following junctions in order to accurately ascertain existing traffic demands within the immediate precinct:

- The signalised junction of Princes Highway and Brodie Spark Drive;
- The roundabout-controlled intersection of Brodie Spark Drive, Arncliffe Street and Magdalene Terrace;
- The roundabout-controlled intersection of Arncliffe Street, Allen Street and Wollongong Road;
- The roundabout-controlled junction of Wollongong Road and Firth Street;
- The signage-controlled intersection of Burrows Street and Eden Street;
- The signalised intersection of Burrows Street, Princes Highway and Kyle Street;
- The signalised intersection of Princes Highway, Forest Road and Wickham Street;
- The signage-controlled intersection of Forest Road, Eden Street and Wardell Street; and
- The signalised intersection of Forest Road, Firth Street and Somerville Street.

Surveys were undertaken between 7:00am – 9:30am and 4:00pm – 6:00pm on Tuesday, the 30th of March 2021 in order to capture the peak weekday operational periods. Surveys were also undertaken between 11:00am – 1:00am on Saturday, the 24th of April 2021.

Table 4 overleaf provides a summary of the surveyed peak hour traffic demands throughout the surrounding public road network for each period, being 7:45am – 8:45am on weekday mornings, 5:00pm – 6:00pm on weekday afternoons and 11:45am – 12:45pm on Saturdays, whilst more detailed summaries are provided as **Appendix 3**. It should be noted, for the purpose of this assessment, Princes Highway has been considered to provide a northbound and southbound traffic function.

TABLE 4 EXISTING MORINING AND AFTERNOON PEAK HOUR TRAFFIC VOLUMES									
Road	**Weekday AM Peak**			**Weekday PM Peak**			**Saturday Peak**		
	NB / EB	**SB / WB**	**Total**	**NB / EB**	**SB / WB**	**Total**	**NB / EB**	**SB / WB**	**Total**
Princes Highway									
North of Brodie Spark Dr	3,127	1,203	4,330	1,758	2,875	4,633	2,308	2,053	4,361
South of Brodie Spark Dr	2,863	1,208	4,071	1,867	2,697	4,564	2,236	1,887	4,123
North of Burrows St	1,948	733	2,681	980	2,316	3,296	1,294	1,366	2,660
South of Burrows St	1,963	866	2,829	998	2,450	3,448	1,307	1,548	2,855
North of Forest Rd	1,902	870	2,772	965	2,449	3,414	1,284	1,543	2,827
South of Forest Rd	2,152	652	2,804	971	1,777	2,748	1,321	1,116	2,437
Forest Road									
East of Princes Hwy	1,625	766	2,391	1,028	1,105	2,133	1,105	756	1,861
West of Princes Hwy	1,369	978	2,347	1,014	1,769	2,783	1,053	1,168	2,221
East of Eden St	1,372	989	2,361	1,003	1,763	2,766	1,040	1,162	2,202
West of Eden St	1,365	911	2,276	1,003	749	1,752	1,053	1,138	2,191
East of Firth St	1,366	914	2,280	1,003	1,748	2,751	1,048	1,120	2,168
West of Firth St	1,262	787	2,049	953	1,609	2,562	1,012	1,038	2,050
Brodie Spark Drive									
West of Princes Hwy	588	319	907	453	740	1,193	559	653	1,212
East of Arncliffe St	600	319	919	433	738	1,171	560	654	1,214
West of Arncliffe St	225	128	353	186	276	462	203	242	445
Burrows Street									
West of Princes Hwy	180	36	216	182	33	215	221	30	251
West of Eden St	217	73	290	192	59	251	205	52	257
Eden Street									
North of Burrows St	5	2	7	8	1	9	9	17	26
South of Burrows St	58	55	113	55	30	85	46	21	67
North of Forest Rd	50	34	84	41	26	67	41	15	56
South of Forest Rd	27	82	109	33	32	65	6	17	23
Arncliffe Street									
South of Brodie Spark Dr	-	318	318	-	714	714	-	606	606
North of Allen St	187	257	444	187	507	694	160	435	595
South of Allen St	81	228	309	67	182	249	66	209	275
Firth Street									
South of Wollongong Rd	260	133	393	217	136	353	236	160	396
North of Forest Rd	237	206	443	232	194	426	249	215	464
South of Forest Rd	125	117	242	74	125	199	89	101	190

Note: EB = Eastbound NB = Northbound
WB = Westbound SB = Southbound

Table 2 indicates the following approximate peak hour traffic demands:

- Princes Highway accommodates:
  - Two directional demands of between 2,400 – 4,600 vehicles during the morning, afternoon and Saturday peak hours;

- Forest Road accommodates:
  - Two directional demands of approximately 2,300 vehicles during the morning peak hour; and
  - Two directional demands of approximately 1,800 – 2,800 vehicles during the afternoon and Saturday peak hours.

- Burrows Street accommodates:
  - Two directional demands of approximately 250 vehicles during the morning, afternoon and Saturday peak hours.

- Eden Street accommodates:
  - Two directional demands of up to 100 vehicles during the morning, afternoon and Saturday peak hours.

- Arncliffe Street accommodates:
  - Two directional demands of between 200 – 700 vehicles during the morning, afternoon and Saturday peak hours.

- Firth Street accommodates:
  - Two directional demands of between 200 – 500 vehicles during the morning, afternoon and Saturday peak hours.

6.3 Existing Road Network Operation

The surveyed public road junctions have been analysed utilising the SIDRA computer intersection analysis program in order to objectively assess the operation of the nearby public road network.

SIDRA is a computerised traffic arrangement program which, when volume and geometrical configurations of an intersection are imputed, provides an objective assessment of the operation efficiency under varying types of control (i.e. signs, signal and roundabouts). Key indicators of SIDRA include level of service where results are placed on a continuum from A to F, with A providing the greatest intersection efficiency and therefore being the most desirable by the Roads and Maritime Services.

SIDRA uses detailed analytical traffic models coupled with an iterative approximation method to provide estimates of the abovementioned key indicators of capacity and performance statistics. Other key indicators provided by SIDRA are average vehicle delay, the number of stops per hour and the degree of saturation. Degree of saturation is the ratio of the arrival rate of vehicles to the capacity of the approach. Degree of saturation is a useful and professionally accepted measure of intersection performance.

SIDRA provides analysis of the operating conditions that can be compared to the performance criteria set out in **Table 5** overleaf (being the TfNSW NSW method of calculation of Level of Service).

TABLE 5 LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS		
Level of Service	**Average Delay per Vehicle (secs/veh)**	**Expected Delay**
SIGNALISED INTERSECTIONS AND ROUNDABOUTS		
A	Less than 14	Little or no delay
B	15 to 28	Minimal delay and spare capacity
C	29 to 42	Satisfactory delays with spare capacity
D	43 to 56	Satisfactory but near capacity
E	57 to 70	At capacity, incidents will cause excessive delays
F	> 70	Extreme delay, unsatisfactory
PRIORITY CONTROLLED INTERSECTIONS		
A	Less than 14	Good
B	15 to 28	Acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Near capacity
E	57 to 70	At capacity and requires other control mode
F	> 70	Unsatisfactory and requires other control mode

The existing conditions have been modelled utilising the peak hour traffic volumes presented within **Appendix 3**.

Table 6 overleaf provides a summary of the SIDRA output data whilst more detailed summaries are included as **Appendix 4**.

TABLE 6 SIDRA OUTPUT EXISTING PEAK HOUR PERFORMANCE			
	AM	**PM**	**SAT**
Princes Hwy & Brodie Spark Dr			
Delay	23.3	23.7	23.9
Degree of Saturation	0.79	0.64	0.64
Level of Service	B	B	B
Brodie Spark Dr & Arncliffe St			
Delay	14.1	14.0	14.5
Degree of Saturation	0.40	0.48	0.50
Level of Service	A	A	B
Allen St & Arncliffe St			
Delay	14.3	14.1	13.6
Degree of Saturation	0.54	0.37	0.35
Level of Service	A	A	A
Firth St & Wollongong Rd			
Delay	12.9	13.0	12.7
Degree of Saturation	0.64	0.35	0.34
Level of Service	A	A	A
Burrows St & Eden St			
Delay	7.5	7.2	7.3
Degree of Saturation	0.06	0.05	0.06
Level of Service	A	A	A
Princes Hwy & Burrows St			
Delay	9.2	9.0	10.3
Degree of Saturation	0.66	0.72	0.85
Level of Service	A	A	A
Princes Hwy & Forest Rd			
Delay	75.3	83.8	43.3
Degree of Saturation	1.16	1.02	0.81
Level of Service	F	F	D
Forest Rd & Eden St			
Delay	47.4	68.9	38.3
Degree of Saturation	0.37	0.48	0.32
Level of Service	D	E	C
Forest Rd & Firth St			
Delay	22.3	26.5	24.7
Degree of Saturation	0.63	0.79	0.69
Level of Service	B	B	B

Table 6 indicates the following:

- The signalised junction of Princes Highway and Brodie Spark Drive operates with a level of service 'B', representing good to satisfactory performance;

- The roundabout-controlled intersections of Brodie Spark Drive / Arncliffe Street / Magdalene Terrace, Allen Street / Arncliffe Street and Firth Street / Wollongong Road operate with a level of service 'A' / 'B', representing good performance with spare capacity;

- The signage-controlled intersection of Burrows Street and Eden Street operates with a level of service 'A', representing good performance with spare capacity;

- The signalised intersection of Burrows Street, Princes Highway and Kyle Street, operates with a level of service 'B' during the weekday commuter peak periods, representing good performance, reducing to 'D' during the weekend peak period, representing satisfactory performance;

- The signalised intersection of Princes Highway, Forest Road and Wickham Street, operates with a level of service 'F' during weekday commuter peak periods, representing poor performance, improving to 'D' during weekend periods, representing satisfactory performance;

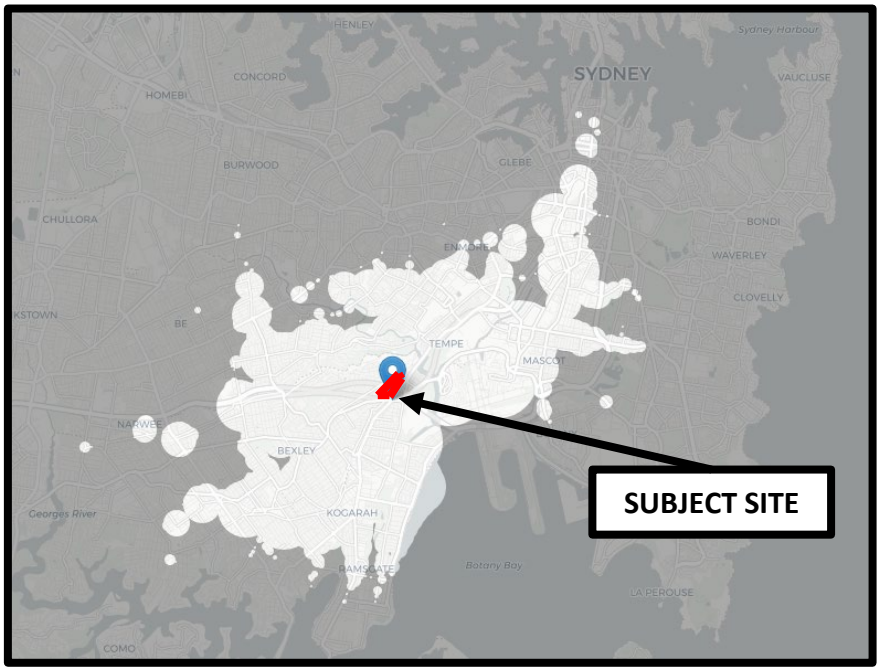
- The signage-controlled intersection of Forest Road, Eden Street and Wardell Street operates with a level of service 'D' / 'E' during weekday peak periods, representing satisfactory to poor performance, improving to 'C' during the weekend peak period, also representing satisfactory performance; and

- The signalised intersection of Forest Road, Firth Street and Somerville Street, operates with a level of service 'B', representing good to satisfactory performance.

6.4 Public Transport

Figure 5 shows the approximate distance that you can reach within approximately 30 minutes on public transport from the subject site.

FIGURE 5
APPROXIMATE 30 MINUTE TRAVEL ON PUBLIC TRANSPORT



Source: https://www.mapnificent.net/sydney

Figure 5 indicates that the Sydney CBD, the major jobs centre of the Eastern Harbour City can mostly be reached within half an hour from the subject site.

Suburbs such as Kogarah, Bexley, Narwee and the Sydney Airport can also be reached within 30 minutes on public transport.

6.4.1 Heavy Rail

The site is located approximately 150m to the south-east of the Arncliffe Railway Station. Arncliffe Railway Station provides access to train services which operate along the T4 (Eastern Suburbs & Illawarra Line) and South Coast Line.

Services along the T4 and South Coast Line provide efficient connectivity between Kiama Station in the south and the Sydney City CBD.

The frequency of the services is summarised in **Table 7**.

TABLE 7
JOURNEY TO WORK MODE SHARE FROM ARNCLIFFE AND BANKSIA

Service	Weekday AM 7:30am to 8:30am	Weekday PM 5:00pm to 6:00pm	Saturday 11:00am to 12:00pm
T4 Towards Central	6 services	6 Services	2 services
T4 Away from Central	6 services	7 Services	2 services

6.4.2 Buses

Sydney buses operate the following bus services in the immediate vicinity of the site:

- Route 473 – Rockdale to Campsie;
- Route 420 – Eastgardens to Burwood via Sydney Airport and Rockdale;
- Route N10 – Sutherland to City Town Hall (Night Service);
- Route N11 – Cronulla to City Town Hall (Night Service); and
- Route 720S – St George Girls High to Campsie Station.

Routes N10 and N11 operate along Princes Highway with the closest stop being situated within approximately 50m walking distance to the north-east of the site. Routes N10 and N11 provide a collective service frequency of every 15 minutes between 1:00am and 4:45am on weekdays and Saturdays and provides an hourly service between 1:00am and 4:00am on Sundays and public holidays.

Route 473 operates along Firth Street and Wollongong Road and provides a bus stop at approximately 200m walking distance to the west of the site. Route 473 provides a service frequency of every 30 minutes during the morning and afternoon peak hours and an hourly frequency during weekday business hours and on weekends and public holidays.

Route 420 operates along Princes Highway in the vicinity of the site and provides a bus stop at approximately 250m walking distance from the site on Wickham Street, west of Princes Highway. Route 420 provides a service frequency approximately every 15 minutes during the weekday morning and afternoon peaks and on weekend and public holidays.

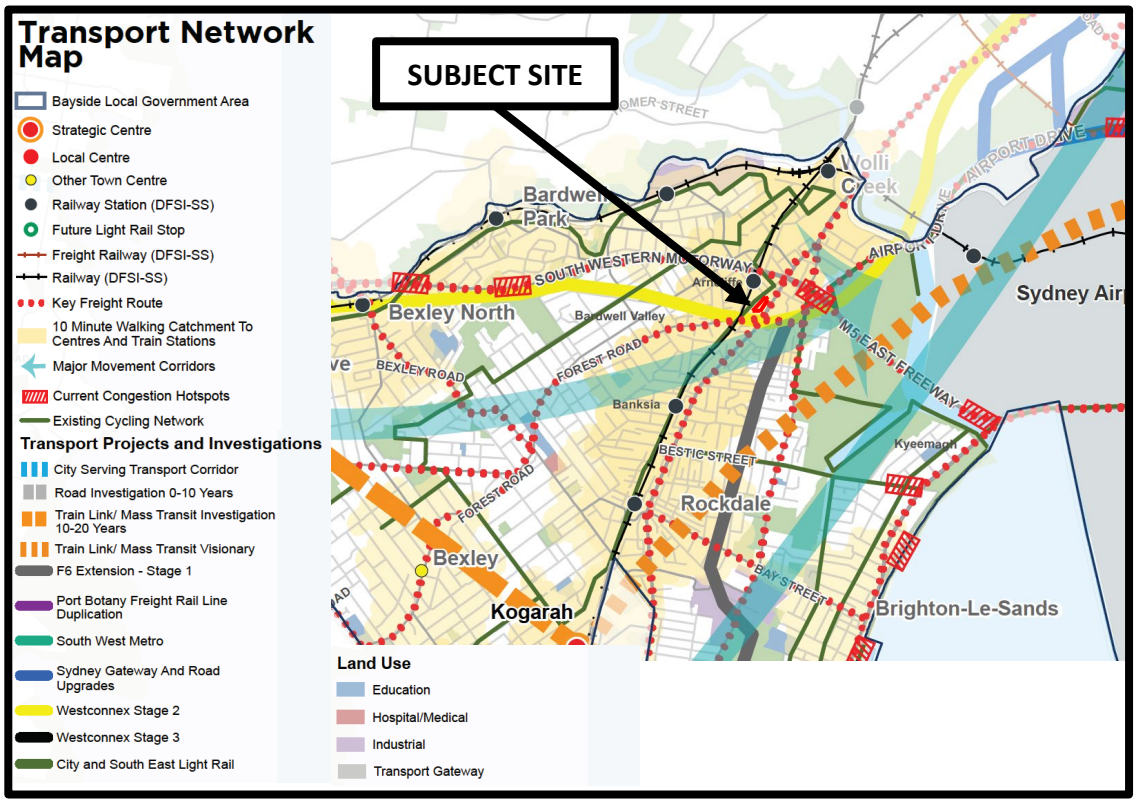
6.5 Pedestrians / Cyclists

The following pedestrian and cyclist access and mobility infrastructure surrounds the subject site:

- Footpaths are provided along both kerb alignments of Princes Highway, Eden Street, Burrows Street, Arncliffe Street to the south of Allen Street, Firth Street, Forest Road and Brodie Spark Drive;
- Signalised pedestrian crossings are provided over the southern and western approaches to the intersection of Brodie Spark Drive and Princes Highway;
- Marked pedestrian crossings are provided over Magdalene Terrace and Arncliffe Street to the south and west of the roundabout controlled intersection;
- Signalised pedestrian crossings are provided over the northern and western approaches to the intersection of Princes Highway and Burrows Street;
- Signalised pedestrian crossings are provided over all approaches of the intersection of Princes Highway and Forest Road, including marked pedestrian crossings over the left turn slip lanes;
- Signalised pedestrian crossings are provided across all approaches of the intersection of Forest Road and Firth Street, including a marked pedestrian crossing across the left turn slip lane on the northern approach;
- The Arcade forms an east-west pedestrian link between Eden Street and Arncliffe Railway Station, situated directly to the west of the site;
- Raised and marked pedestrian crossings are provided across Firth Street, providing pedestrian access to Arncliffe Railway Station; and
- Eden Street and Arncliffe Street form on-road bicycle-friendly routes.

The existing bicycle routes within the vicinity of the subject site are shown in the Bayside Council Local Strategic Policy Statement (LSPS). An extract of the Transport Network Map from the LSPS is provided in Figure 6.

FIGURE 6
BAYSIDE COUNCIL LSPS TRANSPORT NETWORK MAP



Source: Bayside Council Local Strategic Planning Statement

7. EXISTING TRAVEL BEHAVIOUR IN THE AREA

The choice of travel mode varies depending on the range of transport services available, car availability, the length of the journey, parking provision and the reason for travelling.

The Journey to Work mode share for trips originating within Arncliffe and Banksia in 2016 are shown in **Table 8**.

TABLE 8
JOURNEY TO WORK MODE SHARE FROM ARNCLIFFE AND BANKSIA

Mode of Transport	Percentage of Residents	Sydney Average
Train	33.2%	16.2%
Bus	1.9%	6.1%
Vehicle as driver	47.5%	54.3%
Vehicle as passenger	4.8%	4.1%
Bicycle	0.4%	0.7%
Walked only	2.2%	4.0%
Worked at home	3.0%	4.4%
Did not go to work	7.0%	7.8%

Note: 'Not stated' and 'other' was removed

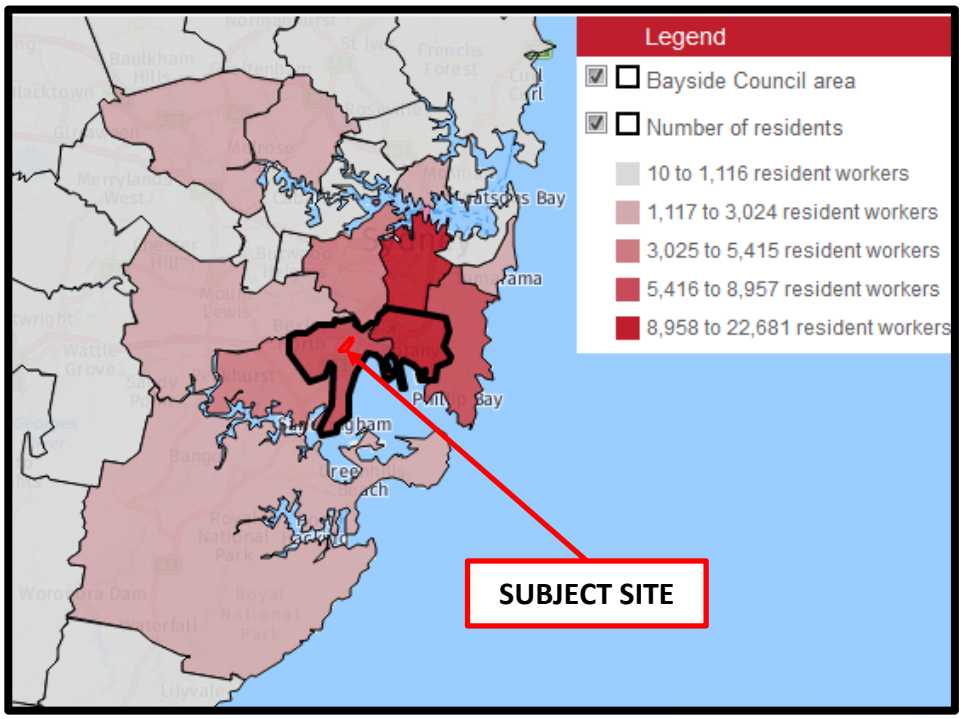
Source: id.com.au

Table 8 indicates that approximately 50 percent of trips are by private vehicle (less than the Sydney average) and approximately 33% percent are by train (more than the Sydney average). Buses are not highly utilised in the area. Similarly, a very low number of commuters use bicycles to get to work.

Figure 7 overleaf illustrates that journey to work trips (all modes) from the Bayside Council LGA to the top five LGAs are distributed as follows:

- 30% to the Sydney LGA and;
- 11.8% to the Botany Bay LGA;
- 11.4% to the Rockdale LGA;
- 7.2% to the Randwick LGA; and
- 5.8% to the Georges River LGA.

FIGURE 7
JOURNEY TO WORK TRIP DISTRIBUTION FROM BAYSIDE COUNCIL LGA



Source: https://profile.id.com.au/baysidensw/residents?WebID=110

8. PROJECTED TRANSPORT CONDITIONS

8.1 Passenger Vehicle Traffic Generation

Traffic generation rates for various land-uses have been established through extensive surveys undertaken throughout NSW and published within TfNSW's *Guide to Traffic Generating Developments* and the more recently released *Technical Direction TDT 203/04a*. The following sub-sections provide a summary of the traffic generating potential of the existing and proposed site uses.

The following traffic generation rates for high density residential flat dwellings and child care centres, relevant to the existing and proposed subject site, have been established through extensive surveys undertaken throughout NSW as published within their *Guide to Traffic Generating Developments* and the more recently released *Technical Direction TDT 203/04a:*

High Density Residential Flat Dwellings:
AM Peak hour: 0.19 trips per unit
PM Peak hour: 0.15 trips per unit
Saturday Peak hour: 0.23 trips per unit (Rockdale Survey)

Child Care Centres:
0.8 vehicle trips per child during the morning weekday peak hour
0.7 vehicle trips per child during the evening weekday peak hour

Additionally, surveys have recently been completed by Bitzios Consulting in November 2018 whereby the traffic generation of small suburban shopping centres throughout New South Wales has been investigated. The following traffic generation rates for a suburban shopping centre with a similar GLFA of the proposed retail component of the development relevant to the existing and proposed subject site, have been established through the extensive surveys undertaken:

Shopping Centre providing ~ 3,500m^2 of GLFA:
AM Peak hour: 1.74 trips per retail parking space
PM Peak hour: 2.09 trips per retail parking space
Saturday Peak hour: 2.51 trips per retail parking space

The following sub-sections provide a summary of the traffic generating potential of the previous and proposed site uses with respect to those rates established by TfNSW.

8.1.1 Previous Site Use

Section 1.3.3 of this report presents that the subject site currently accommodates 140 apartments within 14 buildings.

TfNSW's *Technical Direction TDT 203/04a* specifies average traffic generation rates of 0.19 peak hour vehicle movements per unit during the morning peak and 0.15 peak hour vehicle movements per unit during the evening peak.

The existing site use is therefore capable of generating up to 27, 21 and 33 vehicle trips to and from the site during weekday AM, weekday PM and weekend peak hours, respectively.

8.1.2 Proposed Development

The proposed mixed-use development provides accommodation for a total of 744 apartments and 3,113m^2 gross floor area of retail premises, contained at lower and upper ground levels across all four buildings and providing a total of 85 dedicated retail user parking spaces.

Application of the presented traffic generation rates to the proposed development results in the following peak hour traffic generation:

High Density Residential Flat Dwellings
AM Peak: (0.19 x 744) = 141.4 (adopt 141) trips
PM Peak: (0.15 x 744) = 111.6 (adopt 112) trips
Saturday Peak: (0.23 x 744) = 171.1 (adopt 171) trips

Child Care Centre
AM peak: (0.8 x 40) = 32 trips
PM peak: (0.7 x 40) = 28 trips

Retail
AM Peak: (1.74 x 78 parking spaces) = 135.7 (adopt 136) trips
PM Peak: (2.09 x 78 parking spaces) = 163 trips
Saturday Peak: (2.51 x 78 parking spaces) = 195.8 (adopt 196) trips

The peak hour traffic generating ability of the proposed development is accordingly estimated to be 309, 303 and 367 vehicle movements during the weekday AM, weekday PM and weekend peak hours, respectively.

8.2 Passenger Vehicle Trip Assignment

For the purposes of this assessment, the residential peak hour vehicle movements have been split between inbound and outbound movements during each peak period according to the following:

- The morning peak hour trips have been split between 20% inbound trips and 80% outbound movements, resulting in 28 inbound movements and 113 outbound movements;

- The afternoon peak hour trips have been split between 80% inbound movements and 20% outbound movements, resulting in 90 inbound movements and 22 outbound movements; and

- The Saturday peak hour trips have been evenly split between inbound and outbound trips, resulting in 85 inbound movements and 86 outbound movements.

For the purposes of this assessment, the child care centre peak hour vehicle movements have been split between inbound and outbound movements during each peak period according to the following:

- The weekday morning peak hour trips have been evenly split between inbound and outbound movements, resulting in 16 inbound movements and 16 outbound movements; and

- The weekday afternoon peak hour trips have been evenly split between inbound and outbound movements, resulting in 14 inbound movements and 14 outbound movements.

Additionally, the retail peak hour vehicle movements have been split between inbound and outbound movements during each peak period according to the following:

- The morning peak hour trips have been split between 80% inbound trips and 20% outbound movements, resulting in 109 inbound movements and 27 outbound movements;

- The afternoon peak hour trips have been evenly split between inbound and outbound movements, resulting in 81 inbound movements and 82 outbound movements; and

- The Saturday peak hour trips have been evenly split between inbound and outbound movements, resulting in 98 inbound movements and 98 outbound movements.

Accordingly, the development, in total, has been assessed to produce 153 inbound trips and 156 outbound trips during the morning peak hour, 185 inbound trips and 118 outbound trips during the evening peak hour and 183 inbound trips and 184 outbound trips during the Saturday peak hour.

Traffic has been assigned to / from the development block as follows, being derived from existing distribution patterns recently surveyed and illustrated within **Appendix 3**:

- 25% of trips travel to and from the south via Princes Highway;

- 25% of trips travel to and from the north utilising the following routes:

  - 12.5% of trips utilising Princes Highway; and

  - 12.5% of trips largely utilising Arncliffe Street.

- 25% of trips travel to and from the west via Forest Road;

- 20% of trips travel to and from the east via Wickham Street; and

- 5% of trips travel to and from the north-west via Burrows Street.

The above trip assignment and associated traffic distribution has been provided taking into account the proposed restriction of right turn movements between Eden Street and Forest Road, as described above.

8.3 Projected Road network Performance

The surrounding public road intersections have been modelled in order to estimate that likely impact on traffic safety and efficiency utilising the projected traffic volumes incorporating the proposed development. A summary of the most pertinent results are indicated within **Table 7** whilst more detailed summaries are provided within **Appendix 5**.

TABLE 7 SIDRA OUTPUT WEEKDAY PEAK HOUR PERFORMANCE						
	Existing Conditions			Projected Conditions		
	AM	PM	SAT	AM	PM	SAT
Princes Hwy & Brodie Spark Dr						
Delay	23.3	23.7	23.9	23.6	23.9	24.1
Degree of Saturation	0.79	0.64	0.64	0.79	0.65	0.67
Level of Service	B	B	B	B	B	B
Brodie Spark Dr & Arncliffe St						
Delay	14.1	14.0	14.5	14.3	14.2	14.7
Degree of Saturation	0.40	0.48	0.50	0.41	0.49	0.52
Level of Service	A	A	B	A	A	B
Allen St & Arncliffe St						
Delay	14.3	14.1	13.6	15.2	15.1	14.5
Degree of Saturation	0.54	0.37	0.35	0.62	0.42	0.41
Level of Service	A	A	A	B	B	A
Firth St & Wollongong Rd						
Delay	12.9	13.0	12.7	16.7	13.3	13.0
Degree of Saturation	0.64	0.35	0.34	0.74	0.39	0.39
Level of Service	A	A	A	B	A	A
Burrows St & Eden St						
Delay	7.5	7.2	7.3	9.6	9.1	9.3
Degree of Saturation	0.06	0.05	0.06	0.23	0.18	0.22
Level of Service	A	A	A	A	A	A
Princes Hwy & Burrows St						
Delay	9.2	9.0	10.3	12.8	10.5	18.9
Degree of Saturation	0.66	0.72	0.85	0.94	0.88	1.07
Level of Service	A	A	A	A	A	B
Princes Hwy & Forest Rd						
Delay	75.3	83.8	43.3	86.0	98.6	45.8
Degree of Saturation	1.16	1.02	0.81	1.19	1.0	0.85
Level of Service	F	F	D	F	F	D
Forest Rd & Eden St						
Delay	47.4	68.9	38.3	9.6	12.4	8.9
Degree of Saturation	0.37	0.48	0.32	0.38	0.49	0.33
Level of Service	D	E	C	A	A	A
Forest Rd & Firth St						
Delay	22.3	26.5	24.7	23.7	29.0	29.9
Degree of Saturation	0.63	0.79	0.69	0.65	0.82	0.71
Level of Service	B	B	B	B	C	C

Table 7 indicates the following:

- The signalised junction of Princes Highway and Brodie Spark Drive is projected to continue to operate with a level of service 'B', representing good performance;

- The roundabout-controlled intersections of Brodie Spark Drive / Arncliffe Street / Magdalene Terrace, Allen Street / Arncliffe Street and Firth Street / Wollongong Road are projected to continue to operate with a level of service 'A' / 'B', representing good performance with spare capacity;

- The signage-controlled intersection of Burrows Street and Eden Street is projected to continue to operate with a level of service 'A', representing good performance with spare capacity;

- The signalised intersection of Burrows Street, Princes Highway and Kyle Street is projected to operate with a level of service 'A' / 'B', representing good performance with spare capacity;

- The signalised intersection of Princes Highway, Forest Road and Wickham Street is projected to continue to operates with a level of service 'F' during weekday commuter peak periods, representing poor performance, improving to 'D' during weekend periods, representing satisfactory performance;

- The level of service at the signage-controlled intersection of Forest Road, Eden Street and Wardell Street is projected to improve from 'D' / 'E', representing poor performance to 'A', representing good operation with spare capacity; and

- The signalised intersection of Forest Road, Firth Street and Somerville Street is projected to continue to operates with a level of service 'B' during the weekday morning peak, representing good performance, a reduce from 'B' to 'C' during the weekday evening and weekend peak, still representing satisfactory operation with spare capacity.

In summary, with the exception of the junction of Forest Road and Eden Street, the additional traffic projected to be generated by the development is not projected to have unreasonable impacts on operation of the surrounding public road intersections with only minor alterations projected with respect to delay and degree of saturation.

The performance at the junction of Forest Road and Eden Street is expected to be significantly improved through the proposed prohibition of right turn movements to and from Eden Street. Although not represented within the previously presented SIDRA modelling output, the removal of the right turn movements from Forest Road into Eden Street are expected to also result in notable improvements to the nearby signalised Forest Road intersections with Princes Highway / Wickham Street and Firth Street through the elimination of potential impedance to through traffic flow within Forest Road.

8.4 Pedestrian Impacts

Assuming an average of 2.5 people per dwelling, the 744 dwellings could result in an additional total of 1,510 people living in the development. Based on the **Table 7**, 2.2% of people could be expected to walk to work during the weekday AM peak. This equates to an additional 34 people.

The notable pedestrian access and mobility infrastructure within the immediate vicinity (see Section 6.5 of this report) is such that pedestrians are provided with a particularly good level of service and connectivity throughout the surrounding precinct, which is readily capable of accommodating additional demand.

Notwithstanding the above, it is acknowledged that Princes Highway somewhat forms an impediment to east-west pedestrian desire lines within the immediately precinct. Safe and efficient pedestrian crossing movements over Princes Highway

is facilitated within 200m of the site both to the north and south via signalised crossings at Burrows Street and Forest Road, respectively.

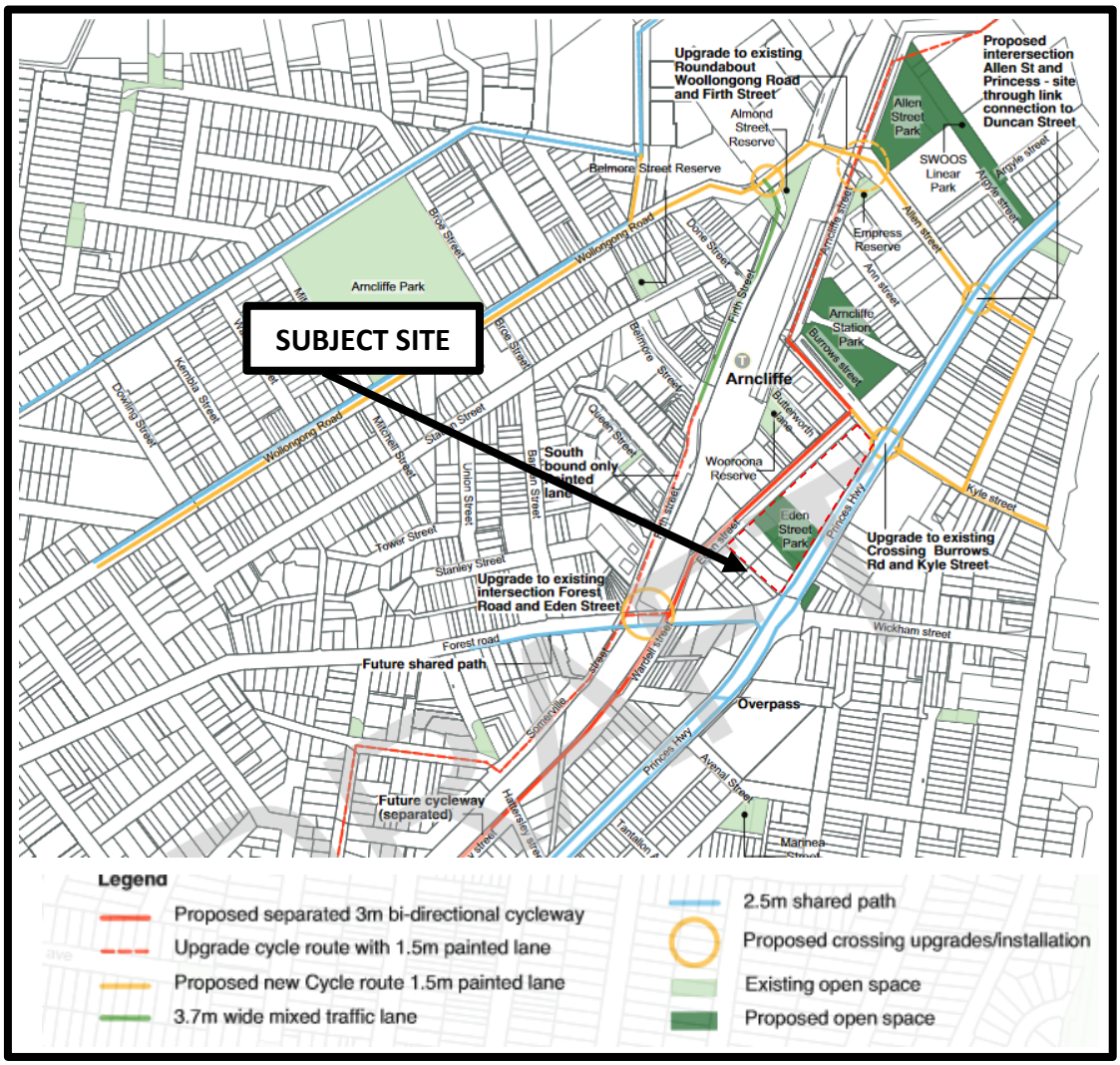
Further, the proposal involves a through site link facilitating access between Princes Highway and Arncliffe Railway Station situated on Firth Street by virtue of the public park area situated within the central portion of the site, Additionally, a marked and raised pedestrian crossing is proposed across Eden Street providing direct and adjacent access to The Arcade. The proposed development is accordingly expected to result in significant improvements to existing local pedestrian access and mobility.

8.4 Bicycle Impacts

Assuming an average of 2.5 people per dwelling, the 744 dwellings could result in an additional total of 1,510 people living in the development. Based on the Table 7, 0.4% of people could be expected to ride a bicycle during the weekday AM peak. This equates to 6 additional people taking riding a bicycle.

The proposed bicycle network is outlined in the draft Arncliffe and Banksia Public domain plan and Technical Manual Figure 3.17, an excerpt of which is provided overleaf as **Figure 8**.

FIGURE 8
PROPOSED CYCLE INFRASTRUCTURE



Source: Draft Arncliffe and Banksia Public domain plan and Technical Manual

Figure 8 indicates that the following changes are proposed in the vicinity of the subject site:

- Upgrade to the existing intersection of Forest Road / Eden Street;
- 3m bi-directional cycleway on Eden Street;
- 2.5m shared paths on both sides of Princes Highway; and
- New painted 1.5m lane on Kyle Street and Burrows Street to help the crossing over Princes Highway.

Based on the anticipated number of people cycling, the existing bicycle network is considered satisfactory to cater for the development. The proposed bicycle network is expected to offer the opportunity for more people to ride a bicycle to and from the development, reducing the reliance on private vehicle trips.

8.5 Public Transport Impacts

8.5.1 Heavy Rail Impacts

Assuming an average of 2.5 people per dwelling, the 744 dwellings could result in an additional total of 1,510 people living in the development. Based on the Table 7, 33.2% and 1.9% of people could be expected to take the train or bus to work during the weekday AM peak respectively. This equates to 502 additional people taking the train and 29 people taking the bus.

Information on the existing train passenger numbers has been sourced from the NSW Government Open Data Portal. The data is for the section Arncliffe to Wolli Creek, based on a 2019 audit and is summarised in **Table 8**.

TABLE 8
SUMMARY OF 2019 PEAK TRAIN CROWDING AT WOLLI CREEK STATION

Direction	AM Crowding	PM Crowding
Inbound to Sydney	70% (Medium)	20% (Low)
Outbound to Revesby	10% Low	70% (Medium)

Table 8 indicates that the AM peak (6am to 10am) inbound towards Central Station and the PM peak (3pm to 7pm) outbound from Central Station peak at an average of 70% occupancy.

Information on the Open Data website indicates that a train has typically has a seating capacity of 896 and an occupancy of 135% is where there are 5 people standing on each level with 15 people in the vestibule. A level of 180% is considered the maximum capacity of the train.

On average, based on 6 trains in the peak hour as outlined in **Table 7**, there is sufficient capacity in the AM and PM peak to cater for the anticipated public transport demand at Arncliffe Station.

8.5.2 Bus Impacts

Information on the existing bus crowding has been sourced from the NSW Government Open Data Portal which is reproduced in **Figure 8** and **Figure 9**.

FIGURE 8
AM PEAK BUS CROWDING 6AM TO 10AM

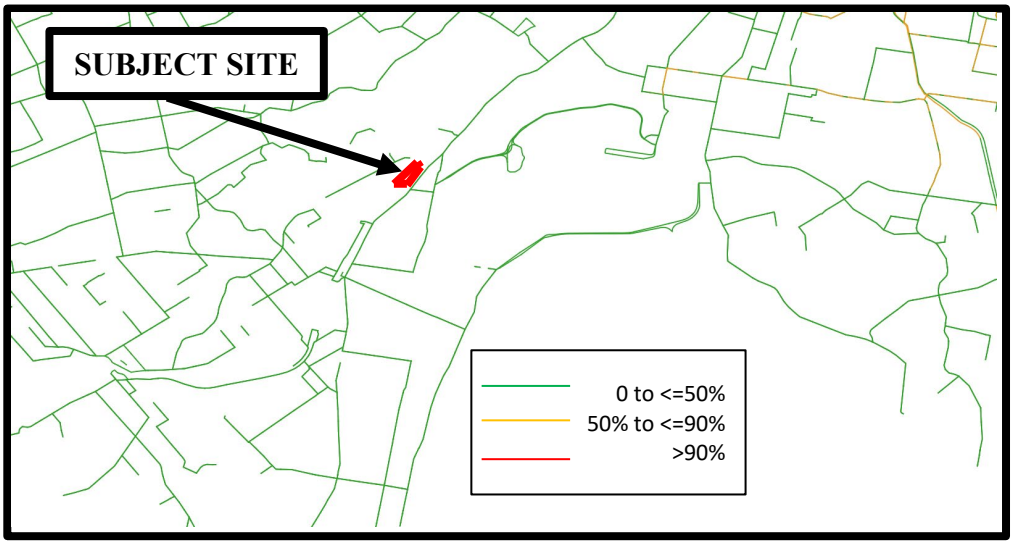


FIGURE 9
PM PEAK BUS CROWDING 3PM TO 7PM

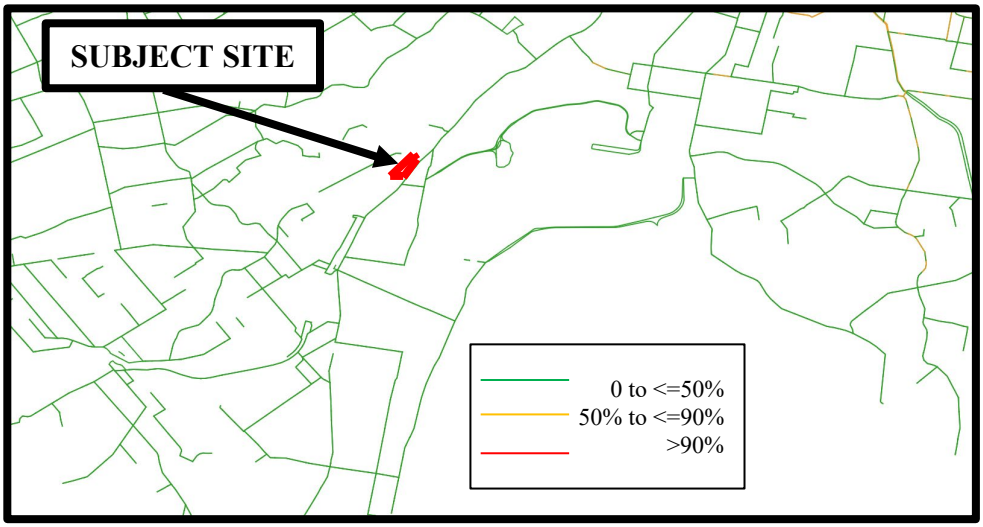


Figure 8 and **9** indicate that weekday AM and PM bus crowding in the vicinity of the site on average is low.

On average, based on 4 to 6 buses in the peak hour as outlined in Section 6.4.2, there is sufficient capacity in the AM and PM peak to cater for the anticipated public transport for buses in the vicinity of the site.

9. PRELIMINARY CONSTRUCTION MANAGEMENT PLAN

9.1 Introductory Statement

This Section of the report constitutes a preliminary Construction Traffic Management Plan (CTMP) addressing the traffic access and safety issues associated with demolition and construction works associated with the proposal. CTMPs are generally prepared at Construction Certificate stage following the commissioning of a builder thereby allowing a greater appreciation of the likely construction methodology and therefore the required traffic management measures to be implemented.

The terms of the initiatives contained within the following subsections of this report are therefore somewhat generic and some modifications may be needed by or on behalf of the successful builder / civil contractor at Construction Certificate stage depending on their feasibility taking into consideration all project requirements.

9.2 Traffic Management

The demolition and construction works are likely to be undertaken within three separate stages as follows:

- Stage 1 – demolition;
- Stage 2 – excavation and shoring; and
- Stage 3 – construction of new site structures.

The scale of the development is such that the construction works will encompass a significant majority of the site. Notwithstanding this, a portion of the site adjacent to the northern boundary is proposed to remain available for construction vehicles to occupy during loading / unloading activities.

A crane located approximately central to the site will transport construction materials between the construction vehicles within the abovementioned internal construction vehicle loading / unloading area and the remainder of the site.

Site sheds are proposed to be located along the northern boundary of the site.

Class A Hoarding will be installed along the eastern and western site boundaries adjoining Princes Highway and Eden Street.

Construction fencing is proposed to define the northern and southern boundaries.

An application to Council will be made in relation to the installation of hoarding and use of a crane, including the payment of appropriate fees.

9.3 Safe Ingress and Egress of Construction Traffic

An internal construction vehicle loading / unloading compound is proposed to be established adjacent to the western site boundary, approximately central to the site frontage to Eden Street. Forward construction vehicle access to the site is to be obtained directly via Eden Street via the installation of a temporary construction ingress driveway situated approximately 50m to the south of the northern site boundary.

This internal construction vehicle loading / unloading compound is proposed to accommodate construction vehicles up to and including 19m long articulated vehicles (AVs), including standing, loading / unloading and manoeuvring. Following the completion of off-street loading / unloading activities, the construction vehicles are to exit the site to Eden Street in a froward direction via a simple left turn movement via a further temporary construction gutter crossing situated approximately 70m north of the southern site boundary.

All site ingress and egress movements will be undertaken in a forward manner. Trucks are not (at any time) allowed to reverse onto the site from the road for safety reasons (unless specific approval as a one-off occasion is obtained from the Bayside Council).

All such site ingress and egress movements are to be strictly controlled by appropriately qualified traffic controllers. Traffic controllers are not to stop traffic on the public street to allow trucks to exit the site, they must wait until a suitable gap in traffic flows allows them to assist construction vehicles to exit.

No queuing / marshalling of construction vehicles is to occur in any public road.

Further to the large construction vehicles described above, construction employee / tradesperson passenger vehicles are to be accommodated within the basement car parking area when constructed. Access / egress associated with this passenger vehicle parking function is to occur the ultimate development driveway connection to Eden Street situated in the south-western corner of the site. These movements are to occur in a forward direction at all times.

No construction vehicle access / egress is proposed to occur via Princes Highway.

9.4 Construction Vehicle Transport Routes

Construction vehicles are to access and vacate the subject site utilising Princes Highway and M5 Motorway as the main approach / departure route. The following provides a description of the construction vehicle transit routes:

Inbound Route

Princes Highway from the south, left turn into Burrows Street, left turn to Eden Street and thence a left turn directly into the subject site.

Outbound Route

Forward left turn movement from the site to Eden Street Road, left turn to Forest Road, Wickham Street, left turn to West Botany Street, right turn to Marsh Street and thence a left or right turn to M5 Motorway.

Princes Highway provides good connectivity to the site from the south, with connectivity from the west and north-west also being facilitated by King Georges Road.

The M5 Motorway provides good connectivity from the site to the Sydney metropolitan area via links with the M1 to the east and Bexley Road, King Georges Road, Fairford Road and M7 Motorway to the west.

The above immediate connectivity of the site to the surrounding State Road network thereby allows construction vehicles are able to access and depart the site creating very little disturbance to surrounding local road traffic flow, being limited to Burrows Street only.

The multiple directional traffic lanes of the approach and departure routes are such that heavy vehicle manoeuvring is able to occur without any unreasonable encroachment on opposing travel lanes, kerbs and / or parking lanes.

9.5 Parking Control

Prior to the construction of the basement parking area, all construction employee / tradesperson passenger vehicle parking is to be accommodated off-site, within the surrounding public road network. Whilst public road kerb-side parking is generally unrestricted (untimed), demand for on-street parking is considerably, particularly in the immediate vicinity of Arncliffe Railway Station. Construction workers / tradespersons will accordingly be encouraged to do either of the following when travelling to the site in order to minimise the extent of parking demand:

- Utilise public transport to the site (the site is well serviced by previously presented rail and bus services operating within the subject vicinity); and / or
- Car pool with other construction workers.

The above transport options will form part of the conditions of commissioning when engaging the relevant site workers and as such form part of any site induction process.

No construction vehicles are to be park within the adjacent industrial estate or the estate access road.

9.6 Construction Traffic Generation

The construction works are likely to generate a maximum of six heavy vehicles servicing the site during peak hourly periods, such as concrete pours.

In general, however, the construction activities are projected to generate considerably less traffic than the existing and proposed future uses, thereby indicating suggesting that impacts will be minimal. During periods of more heavy construction vehicle generation, drivers are to be instructed by radio when to arrive at the site to ensure that there is no vehicle queuing or parking within the adjoining road network. This is to be strictly adhered to.

9.7 Traffic Impact

The recent traffic investigations of the adjoining road network and the analysis contained within previous sections of this report have indicated that whilst traffic demands within the surrounding State Road network are considerable during weekday commuter peak periods, traffic demands are notably reduced outside of commuter peak periods. During these periods, motorists are provided with a reasonable level of service within the immediately adjoining public road network. It is therefore considered that the limited traffic generation associated with the construction activities, particularly when compared against the traffic generating capability of the existing and proposed site uses, can be accommodated without any unreasonable impacts on adjoining vehicle movements considering the previously mentioned maximum hourly traffic generation. It is accordingly recommended that construction vehicle movements to and from the site be minimised and eliminated where possible during road network peak periods (7:00am – 9:00am and 4:00pm – 6:00pm).

9.8 Impacts on Pedestrians

Pedestrian demands along Eden Street immediately adjacent to the site are reasonably low, with pedestrian demands generally being accommodated along the western footway commensurate with its connectivity to The Arcade and thence Arncliffe Railway Station. Notwithstanding this, pedestrian movements within the eastern Eden Street footway adjacent to the site are to occur in an unimpeded fashion during all periods of construction.

Vehicular site access and egress movements are to be supervised by qualified traffic controllers, ensuring that pedestrian movements within Eden Street continue to occur in a safe and efficient manner.

Pedestrian demands along Princes Highway have also been observed to be reasonably low, despite a bus stop being situated to the north of the site. In any case, pedestrian movements within the western Princes Highway footway adjacent to the site are to occur in an unimpeded fashion during all periods of construction.

Further to the above, unimpeded pedestrian access to adjoining developments will be maintained at all times.

Boundary hoarding will protect pedestrians from dust and debris.

No unreasonable impacts on the safety or mobility of pedestrians are therefore anticipated during the construction works associated with the subject development.

10. CONCLUSION

This report assesses the potential transport implications associated with a mixed-use development containing 744 dwellings, approximately 3,100m^2 retail floor space and a 40-place child care centre at 26 – 42 Eden Street and 161 – 179 Princes Highway, Arncliffe. Based on this assessment, the following conclusions are now made:

- The proposed site access arrangements are projected to result in motorists being capable of entering and exiting the subject site in a safe and efficient manner;

- The proposed vehicular parking provision is considered to be satisfactory with respect to the requirements of RDCP 2011, TfNSW's Guide to Traffic Generating Developments and the ARH SEPP;

- The internal vehicle circulation arrangements are capable of providing for safe and efficient internal manoeuvring;

- The surrounding road network operates with a reasonable level of service during peak periods;

- The subject development has been projected to generate up to 309 and 367 weekday and weekend peak hour vehicle trips to and from the subject site;

- It is considered that the adjoining road network is capable of accommodating the traffic projected to be generated by the subject development; and

- There is sufficient capacity in the existing heavy rail and bus network in the vicinity of the site to cater for the anticipated peak public transport generation and existing and future public transport services will not be materially impacted by the trips generated by the subject development.

It is considered, based on the contents of this report and the conclusions contained herein, there are no traffic, public transport or parking related issues that should prevent approval of the subject application. This action is therefore recommended.

APPENDIX 1

1 BASEMENT 3
1 : 250

SITE AREA
13,440 m²

DEEP SOIL REQ
7% OF THE SITE AREA = 941 m²

TOTAL PARKING PROVIDED

PARKING SCHEDULE		ACCESSIBLE
LEVEL	CARPARK	CAR PARK
BASEMENT 3	232	15
BASEMENT 2	269	31
BASEMENT 1	228	31
LG CARPARK	85	3
TOTAL: 814 (INCL. ACCESSIBLE)		TOTAL: 80

MOTORCYCLE
RESI : 62
RETAIL : 5

BICYCLE
RESI : 372
RETAIL : 16
CHILDCARE : 4

KEY
M : MOTERCYCLE
V : VISITOR
: ACCESSIBLE
: EV CHARGE

North Point

Amendments

Issue	Description	Date
2	ISSUED FOR INFORMATION	05/11/2020
3	ISSUED FOR INFORMATION	12/11/2020
4	ISSUED FOR INFORMATION	01/12/2020
5	ISSUED FOR INFORMATION	25/03/2021
6	ISSUED FOR CLIENT'S SIGN OFF	06/04/2021
7	ISSUED FOR INFORMATION	07/04/2021
8	ISSUED FOR CONSULTANTS	16/04/2021
9	ISSUED FOR CONSULTANTS	10/05/2021
10	ISSUED FOR INFORMATION	25/05/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant
Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney
NSW 2060
TTW

Consultant
Mechanical / Acoustic / Fire Engineer
Level 6, Building B, 207 Pacific Highway
St Leonards NSW 2065
STANTEC

Consultant
Hydraulics
Level 23, 101 Miller Street, North Sydney,
NSW 2060
JHA

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architecture interior design urban design landscape
nom architect Lisa-Maree Carrigan 7568

Project Title
Eden Street Arncliffe

Drawing Title
BASEMENT LEVEL 3

DA SUBMISSION

30-Jun-21 11:59:02 AM

Plotted and checked by PDS

Verified PDS Approved LMC

Drawing Created (date) 22/10/2020 Drawing Created (by) JK, SM, AR, AO, AF

Scale	Project No	Drawing No	Issue
1:250	180319	DA 2001	B

1 BASEMENT 2
1 : 250

KEY
M : MOTERCYCLE
V : VISITOR
: ACCESSIBLE
: EV CHARGE

North Point

DA SUBMISSION

30-Jun-21 11:59:27 AM

Amendments

Issue	Description	Date
3	ISSUED FOR INFORMATION	12/11/2020
4	ISSUED FOR INFORMATION	01/12/2020
5	ISSUED FOR INFORMATION	08/03/2021
6	ISSUED FOR INFORMATION	19/03/2021
7	ISSUED FOR GANSW 03	24/03/2021
8	ISSUED FOR CLIENT'S SIGN OFF	06/04/2021
9	ISSUED FOR INFORMATION	07/04/2021
10	ISSUED FOR CONSULTANTS	16/04/2021
11	ISSUED FOR CONSULTANTS	10/05/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant
Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney NSW 2060
TTW

Consultant
Mechanical / Acoustic / Fire Engineer
Level 6, Building B, 207 Pacific Highway St Leonards NSW 2065
STANTEC

Consultant
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architecture interior design urban design landscape
nom architect Lisa-Maree Carrigan 7568

Project Title
Eden Street Arncliffe

Drawing Title
BASEMENT LEVEL 2

Plotted and checked by PDS

Verified PDS Approved LMC

Drawing Created (date) Drawing Created (by) JK, SM, AR, AO, AF

22/10/2020

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 2002	B

1 BASEMENT 1
1 : 250

KEY

M : MOTERCYCLE
V : VISITOR
: ACCESSIBLE
: EV CHARGE

North Point

DA SUBMISSION

24/08/2021 6:33:26 PM

Plotted and checked by PDS

Verified PDS Approved LMC

Drawing Created (date) Drawing Created (by) JK, SM, AR, AO, AF

22/10/2020

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 2003	B

Amendments

Issue	Description	Date
5	ISSUED FOR INFORMATION	01/12/2020
6	ISSUED FOR INFORMATION	08/03/2021
7	ISSUED FOR INFORMATION	15/03/2021
8	ISSUED FOR INFORMATION	19/03/2021
9	ISSUED FOR GANSW 03	24/03/2021
10	ISSUED FOR CLIENT'S SIGN OFF	06/04/2021
11	ISSUED FOR INFORMATION	07/04/2021
12	ISSUED FOR CONSULTANTS	16/04/2021
13	ISSUED FOR CONSULTANTS	10/05/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant
Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney NSW 2060
TTW

Consultant
Mechanical / Acoustic / Fire Engineer
Level 6, Building B, 207 Pacific Highway St Leonards NSW 2065
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nom architect Lisa-Maree Carrigan 7568

Project Title
Eden Street Arncliffe

Drawing Title
BASEMENT LEVEL 1

1 LOWER GROUND
1 : 250

Amendments

Issue	Description	Date
7	ISSUED FOR INFORMATION	02/03/2021
8	ISSUED FOR INFORMATION	08/03/2021
9	ISSUED FOR INFORMATION	19/03/2021
10	ISSUED FOR GANSW 03	24/03/2021
11	ISSUED FOR INFORMATION	07/04/2021
12	ISSUED FOR CONSULTANTS	16/04/2021
13	ISSUED FOR CONSULTANTS	10/05/2021
14	ISSUED FOR INFORMATION	18/05/2021
15	ISSUED FOR INFORMATION	21/05/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant

Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney
NSW 2060
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Mechanical / Acoustic / Fire Engineer
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nom architect Lisa-Maree Carrigan 7568

Project Title

Eden Street Arncliffe

Drawing Title

LOWER GROUND LEVEL

DA SUBMISSION

24/06/2021 6:33:43 PM

Plotted and checked by	PDS		
Verified	PDS	Approved	LMC
Drawing Created (date)		Drawing Created (by)	JK, SM, AR, AO, AF
			22/10/2020

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 2004	B

1 UPPER GROUND
1 : 250

KEY:

B:	BALCONY
WG:	WINTER GARDEN
POS:	PRIVATE OPEN SPACE
SL:	SKYLIGHT

North Point

DA SUBMISSION

29-Jun-21 3:16:03 PM

Amendments

Issue	Description	Date
5	ISSUED FOR INFORMATION	01/12/2020
6	ISSUED FOR INFORMATION	05/02/2021
7	ISSUED FOR INFORMATION	02/03/2021
8	ISSUED FOR INFORMATION	08/03/2021
9	ISSUED FOR INFORMATION	19/03/2021
10	ISSUED FOR GANSW 03	24/03/2021
11	ISSUED FOR INFORMATION	07/04/2021
12	ISSUED FOR CONSULTANTS	16/04/2021
13	ISSUED FOR CONSULTANTS	10/05/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant
Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney NSW 2060
TTW

Consultant
Mechanical / Acoustic / Fire Engineer
Level 6, Building B, 207 Pacific Highway St Leonards NSW 2065
STANTEC

Consultant
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nom architect Lisa-Maree Carrigan 7568

Project Title
Eden Street Arncliffe

Drawing Title
UPPER GROUND LEVEL

Plotted and checked by PDS

Verified PDS Approved LMC

Drawing Created (date) 22/10/2020 Drawing Created (by) JK, SM, AR, AO, AF

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 2005	B

1 NORTH EAST ELEVATION - RENDERED

1 : 250

Amendments

Issue	Description	Date
-	ISSUED FOR GANSW 03	24/03/2021
1	ISSUED FOR INFORMATION	07/04/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant

Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney
NSW 2060
TTW

Consultant

Mechanical / Acoustic / Fire Engineer
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Consultant

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Project Title

Eden Street Arncliffe

Drawing Title

NORTH EAST ELEVATION - RENDERED

DA SUBMISSION

24/06/2021 6:40:32 PM

Plotted and checked by	PDS		
Verified	PDS	Approved	LMC
Drawing Created (date)		Drawing Created (by)	JK, SM, AR, AO, AF
			03/15/21

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 3001	B

1 NORTH WEST ELEVATION - RENDERED
1 : 250

Amendments

Issue	Description	Date
-	ISSUED FOR GANSW 03	24/03/2021
1	ISSUED FOR INFORMATION	07/04/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant
Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney
NSW 2060
TTW

Consultant
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Project Title
Eden Street Arncliffe

Drawing Title
NORTH WEST ELEVATION - RENDERED

DA SUBMISSION

24/06/2021 6:41:33 PM

Plotted and checked by	PDS		
Verified	PDS	Approved	LMC
Drawing Created (date)		Drawing Created (by)	JK, SM, AR, AO, AF
			03/15/21

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 3002	B

1 SOUTH WEST ELEVATION - RENDERED
1 : 250

Amendments

Issue	Description	Date
-	ISSUED FOR GANSW 03	24/03/2021
1	ISSUED FOR INFORMATION	07/04/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant
Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney
NSW 2060
TTW

Consultant
Mechanical / Acoustic / Fire Engineer
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St Leonards NSW 2065
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nom architect Lisa-Maree Carrigan 7568

Project Title
Eden Street Arncliffe

Drawing Title
SOUTH WEST ELEVATION - RENDERED

DA SUBMISSION

24/06/2021 8:42:26 PM

Plotted and checked by	PDS		
Verified	PDS	Approved	LMC
Drawing Created (date)		Drawing Created (by)	JK, SM, AR, AO, AF
			03/15/21

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 3003	B

1 SOUTH EAST ELEVATION - RENDERED

1 : 250

Amendments

Issue	Description	Date
-	ISSUED FOR GANSW 03	24/03/2021
1	ISSUED FOR INFORMATION	07/04/2021
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant

Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney
NSW 2060
TTW

Consultant

Mechanical / Acoustic / Fire Engineer
Level 6, Building B, 207 Pacific Highway
St Leonards NSW 2065
STANTEC

Consultant

Hydraulics
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NSW 2060
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architecture interior design urban design landscape
nom architect Lisa-Maree Carrigan 7568

Project Title

Eden Street Arncliffe

Drawing Title

SOUTH EAST ELEVATION - RENDERED

DA SUBMISSION

24/06/2021 6:43:21 PM

Plotted and checked by	PDS		
Verified	PDS	Approved	LMC
Drawing Created (date)		Drawing Created (by)	JK, SM, AR, AO, AF
			03/15/21

Scale	Project No	Drawing No	Issue
1 : 250	180319	DA 3004	B

1 PARK ELEVATION - SOUTH
1 : 200

Amendments

Issue	Description	Date
A	ISSUED FOR DA	28/05/2021
B	ISSUED FOR DA	24/06/2021

Amendments

Issue	Description	Date

Consultant
Structural Engineer / Civil
Level 6, 73 Miller Street, North Sydney
NSW 2060
TTW

Consultant
Mechanical / Acoustic / Fire Engineer
Level 6, Building B, 207 Pacific Highway
St Leonards NSW 2065
STANTEC

Consultant
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architecture interior design urban design landscape
nom architect Lisa-Maree Carrigan 7568

Project Title
Eden Street Arncliffe

Drawing Title
PARK ELEVATION - RENDERED

DA SUBMISSION

24/06/2021 6:44:26 PM

Plotted and checked by PDS

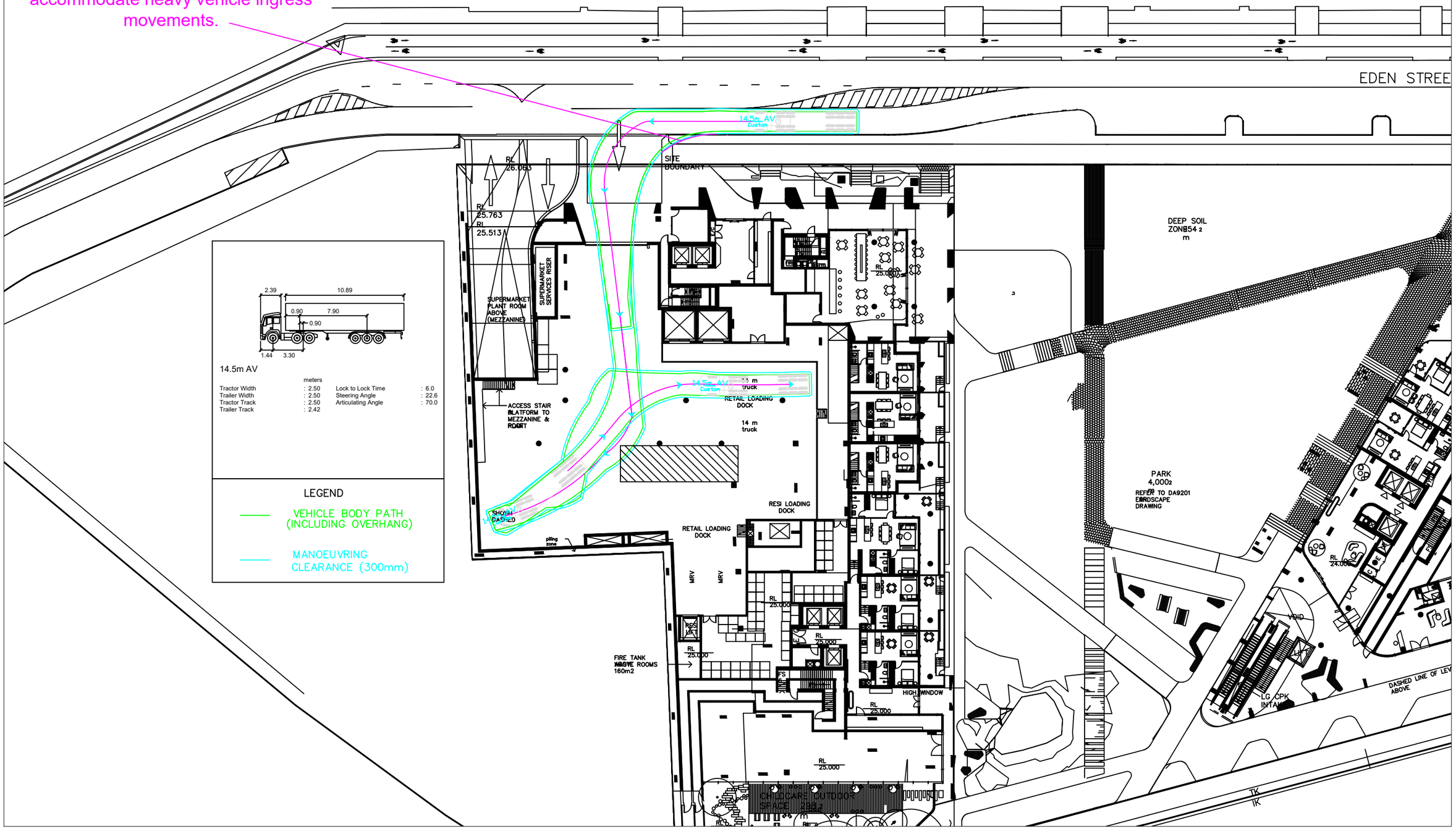
Verified PDS Approved LMC

Drawing Created (date) 03/15/21 Drawing Created (by) JK, SM, AR, AO, AF

Scale	Project No	Drawing No	Issue
1 : 200	180319	DA 3006	B

APPENDIX 2

Required driveway splay to accommodate heavy vehicle ingress movements.



14.5m AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.42		

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

STANBURY TRAFFIC PLANNING

ADDRESS: 302/166 GLEBE POINT RD, GLEBE

PH: (02) 8971 8314

MOB: 0410 561 848

EMAIL: info@stanburytraffic.com.au

WEBSITE: www.stanburytraffic.com.au

NOTES:

1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY GROUP GSA..
2. THE SWEPT PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 11 IN CONJUNCTION WITH MANOEUVRING SPECIFICATIONS FOR A 14.5m LONG ARTICULATED VEHICLE.

STANBURY TRAFFIC PLANNING

14.5m LONG ARTICULATED VEHICLE SWEPT PATHS

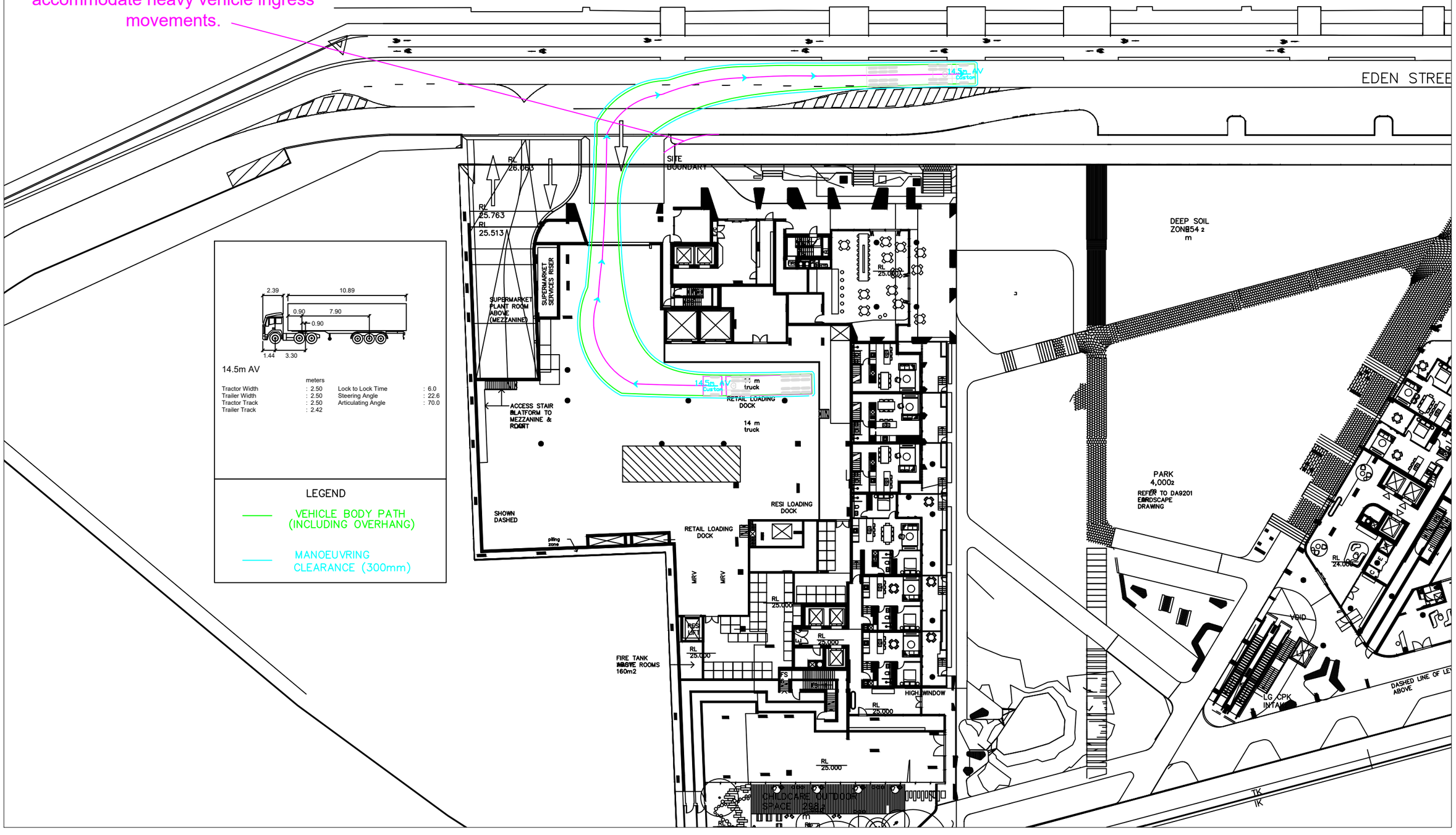
SITE INGRESS MOVEMENTS TO LOADING BAY

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3			ISSUE A
FILE: 20-171		SUPERSEDES SHEET/ISSUE -	
DATE: 1/07/2021			SHEET 1

Required driveway splay to accommodate heavy vehicle ingress movements.



14.5m AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.42		

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

STANBURY TRAFFIC PLANNING

ADDRESS: 302/166 GLEBE POINT RD, GLEBE

PH: (02) 8971 8314

MOB: 0410 561 848

EMAIL: info@stanburytraffic.com.au

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NOTES:

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2. THE SWEPT PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 11 IN CONJUNCTION WITH MANOEUVRING SPECIFICATIONS FOR A 14.5m LONG ARTICULATED VEHICLE.

STANBURY TRAFFIC PLANNING

14.5m LONG ARTICULATED VEHICLE SWEPT PATHS

SITE EGRESS MOVEMENTS FROM LOADING BAY

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

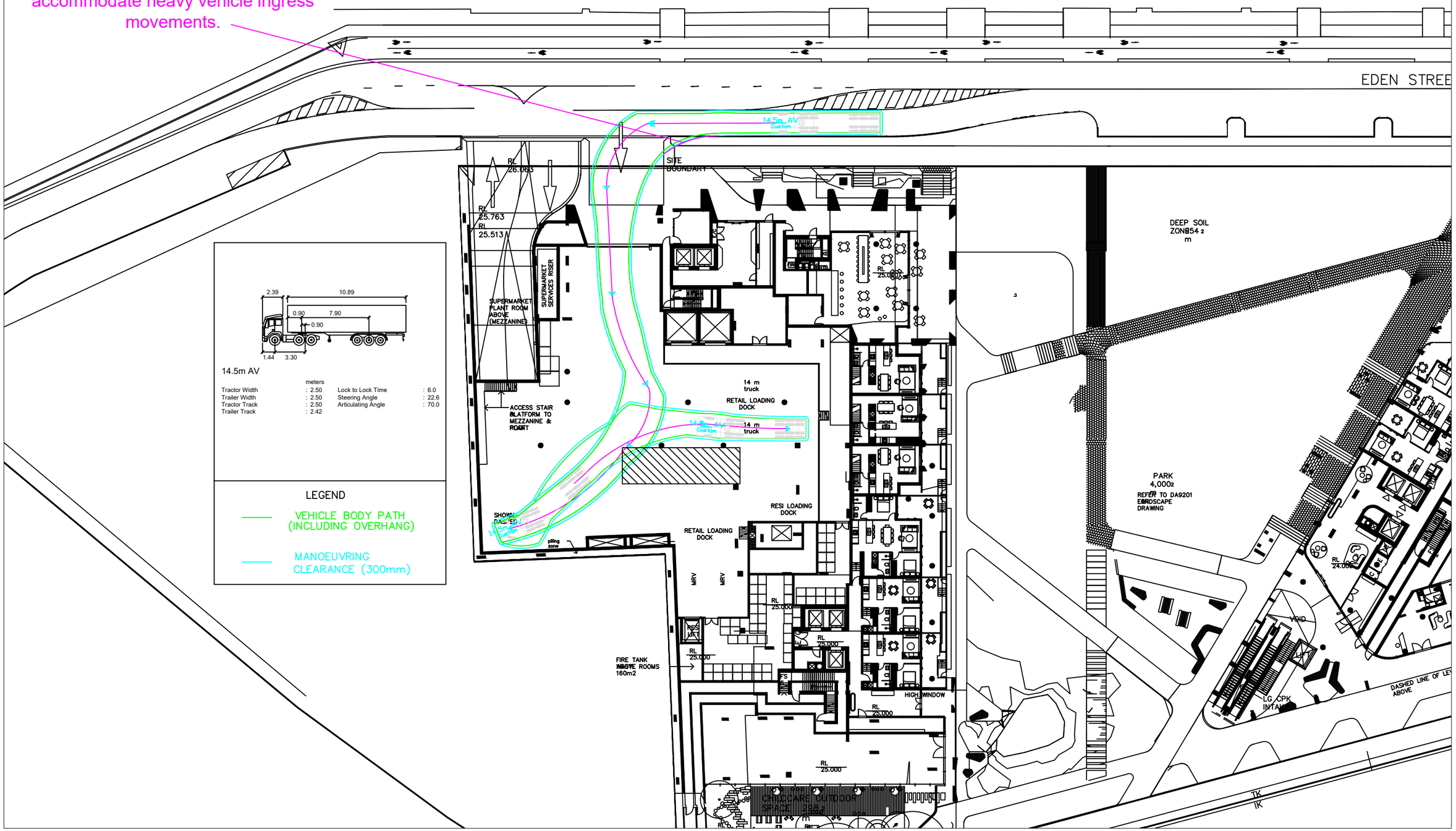
FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 2

Required driveway splay to accommodate heavy vehicle ingress movements.



14.5m AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.42		

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

STANBURY TRAFFIC PLANNING

ADDRESS: 302/166 GLEBE POINT RD, GLEBE

PH: (02) 8971 8314

MOB: 0410 561 848

EMAIL: info@stanburytraffic.com.au

WEBSITE: www.stanburytraffic.com.au

NOTES:

1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY GROUP GSA..
2. THE SWEPT PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 11 IN CONJUNCTION WITH MANOEUVRING SPECIFICATIONS FOR A 14.5m LONG ARTICULATED VEHICLE.

STANBURY TRAFFIC PLANNING

14.5m LONG ARTICULATED VEHICLE SWEPT PATHS

SITE INGRESS MOVEMENTS TO LOADING BAY

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

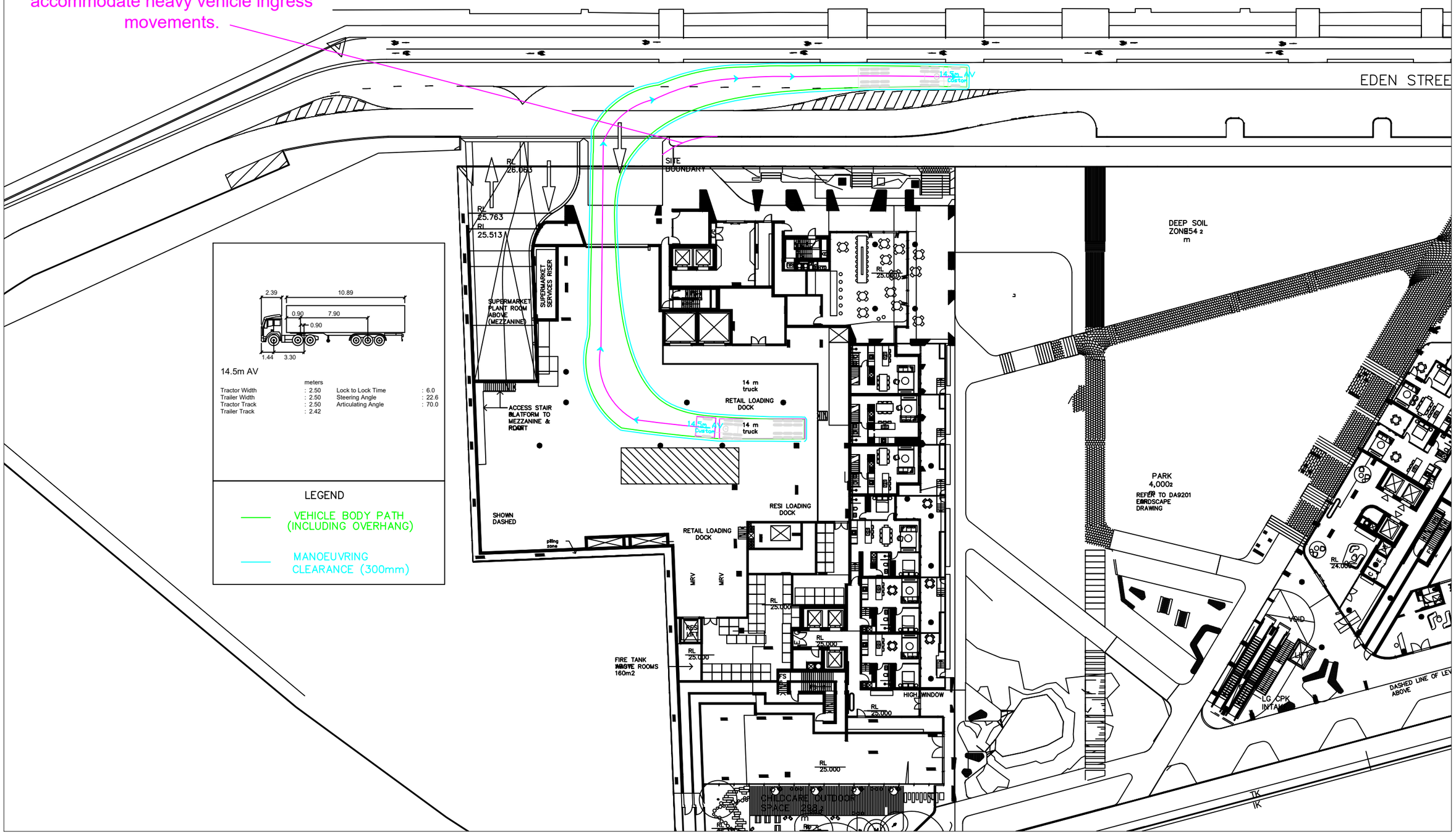
SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

ISSUE A

SHEET 3

Required driveway splay to accommodate heavy vehicle ingress movements.



14.5m AV

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.42		

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

STANBURY TRAFFIC PLANNING

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MOB: 0410 561 848

EMAIL: info@stanburytraffic.com.au

WEBSITE: www.stanburytraffic.com.au

NOTES:

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STANBURY TRAFFIC PLANNING

14.5m LONG ARTICULATED VEHICLE SWEPT PATHS

SITE EGRESS MOVEMENTS FROM LOADING BAY

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

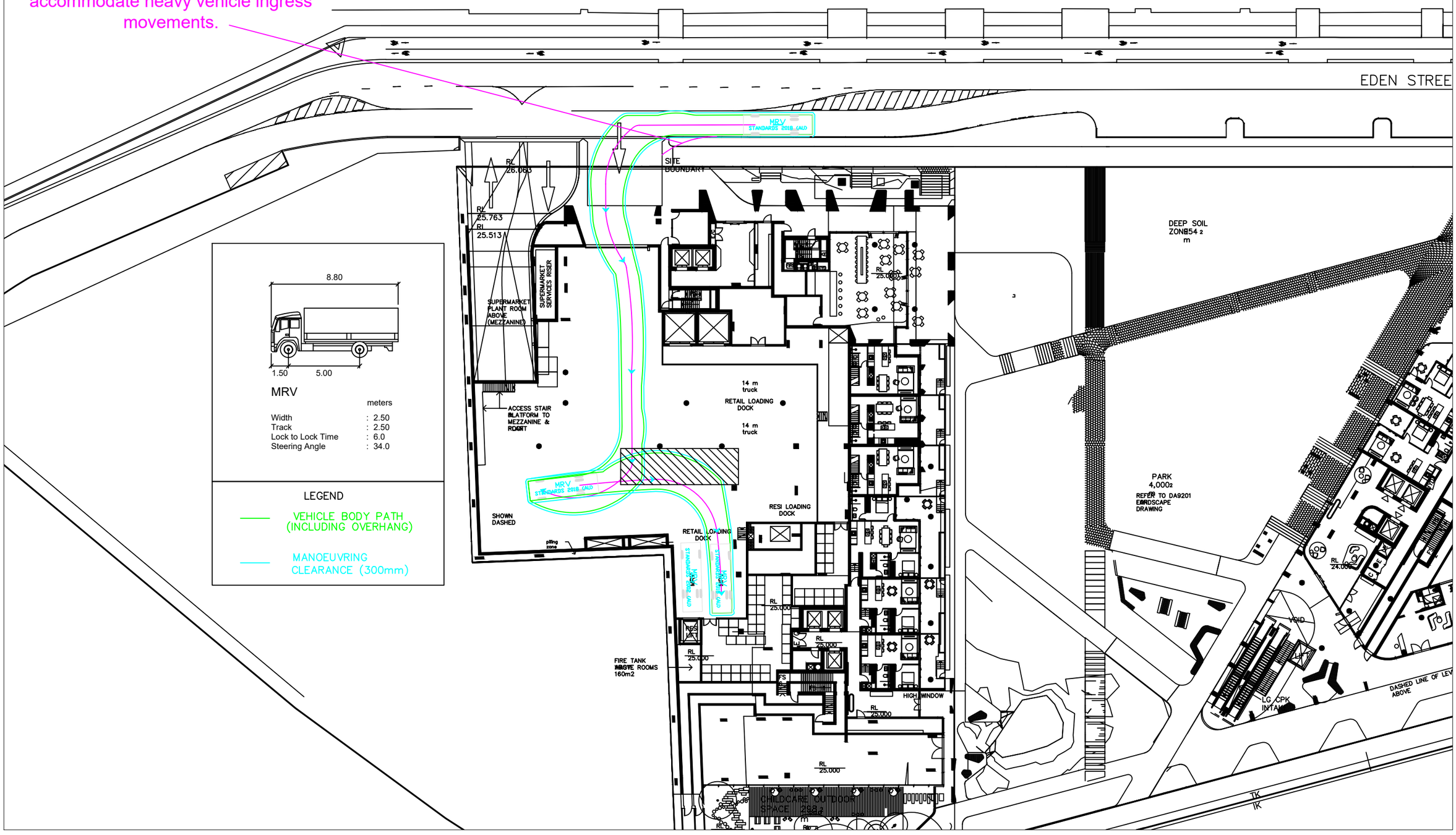
FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 4

Required driveway splay to accommodate heavy vehicle ingress movements.



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

MEDIUM RIGID VEHICLE SWEPT PATHS

INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

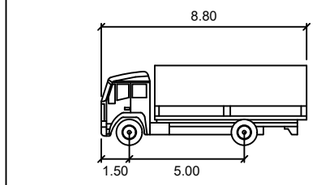
SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

ISSUE A

SHEET 5

Required driveway splay to accommodate heavy vehicle ingress movements.



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

EDEN STRE

SITE BOUNDARY

RL 26.063

RL 25.763

RL 25.513

SUPERMARKET PLANT ROOM ABOVE (MEZZANINE)

SUPERMARKET SERVICES RISER

ACCESS STAIR PLATFORM TO MEZZANINE & ROOF

14 m truck

RETAIL LOADING DOCK

RESI LOADING DOCK

SHOWN DASHED

piling zone

FIRE TANK WASTE ROOMS 160m2

HIGH WINDOW

DEEP SOIL ZONE 854.2 m

PARK 4,000.2

REFER TO DA9201 LANDSCAPE DRAWING

VOID

LG CPK INTAKE

DASHED LINE OF ABOVE

CHILDCARE OUTDOOR SPACE 298.2

RL 25.000

RL 24.000

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STANBURY TRAFFIC PLANNING

MEDIUM RIGID VEHICLE SWEPT PATHS

INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

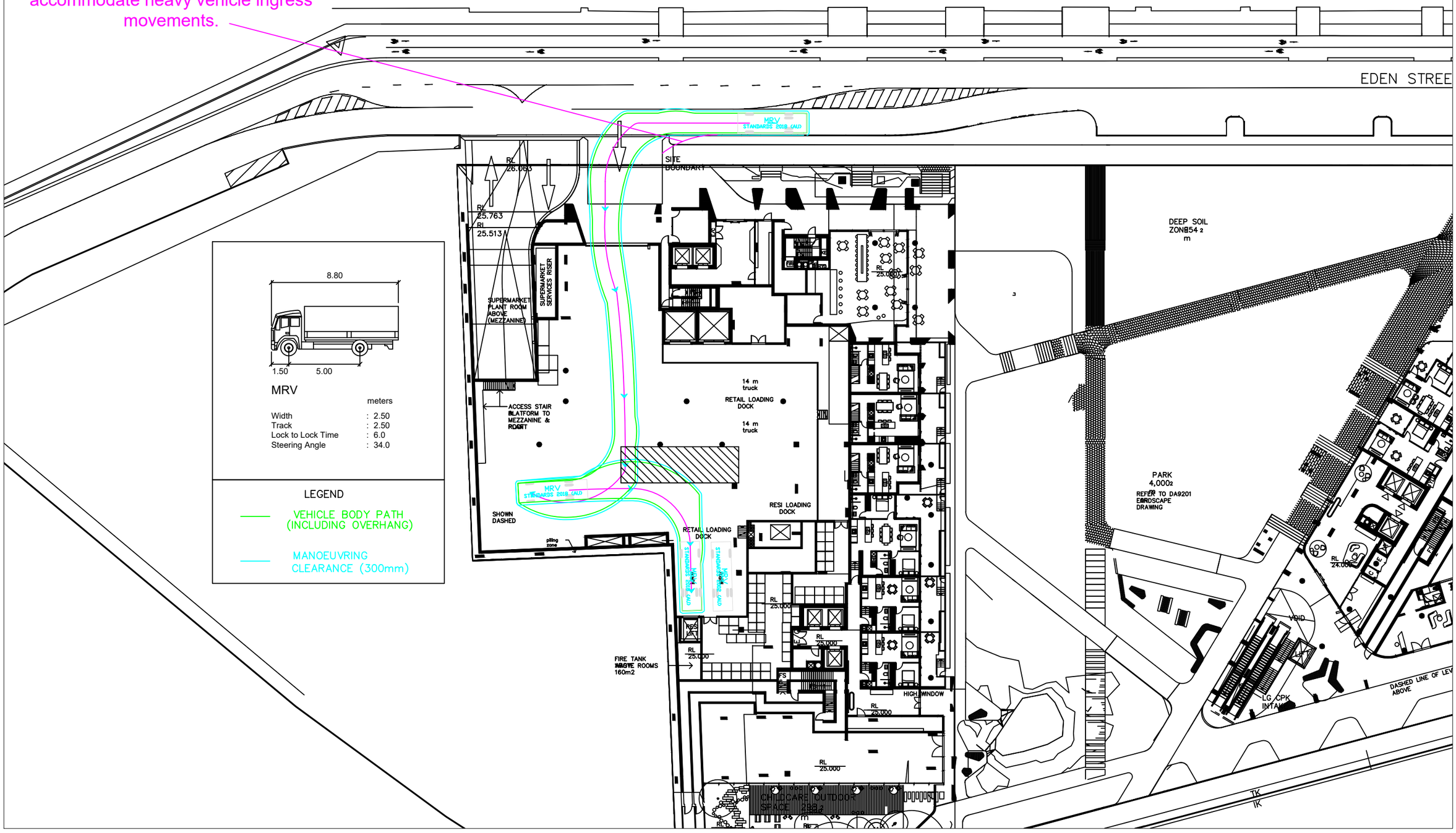
FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 6

Required driveway splay to accommodate heavy vehicle ingress movements.



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

MEDIUM RIGID VEHICLE SWEPT PATHS

INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

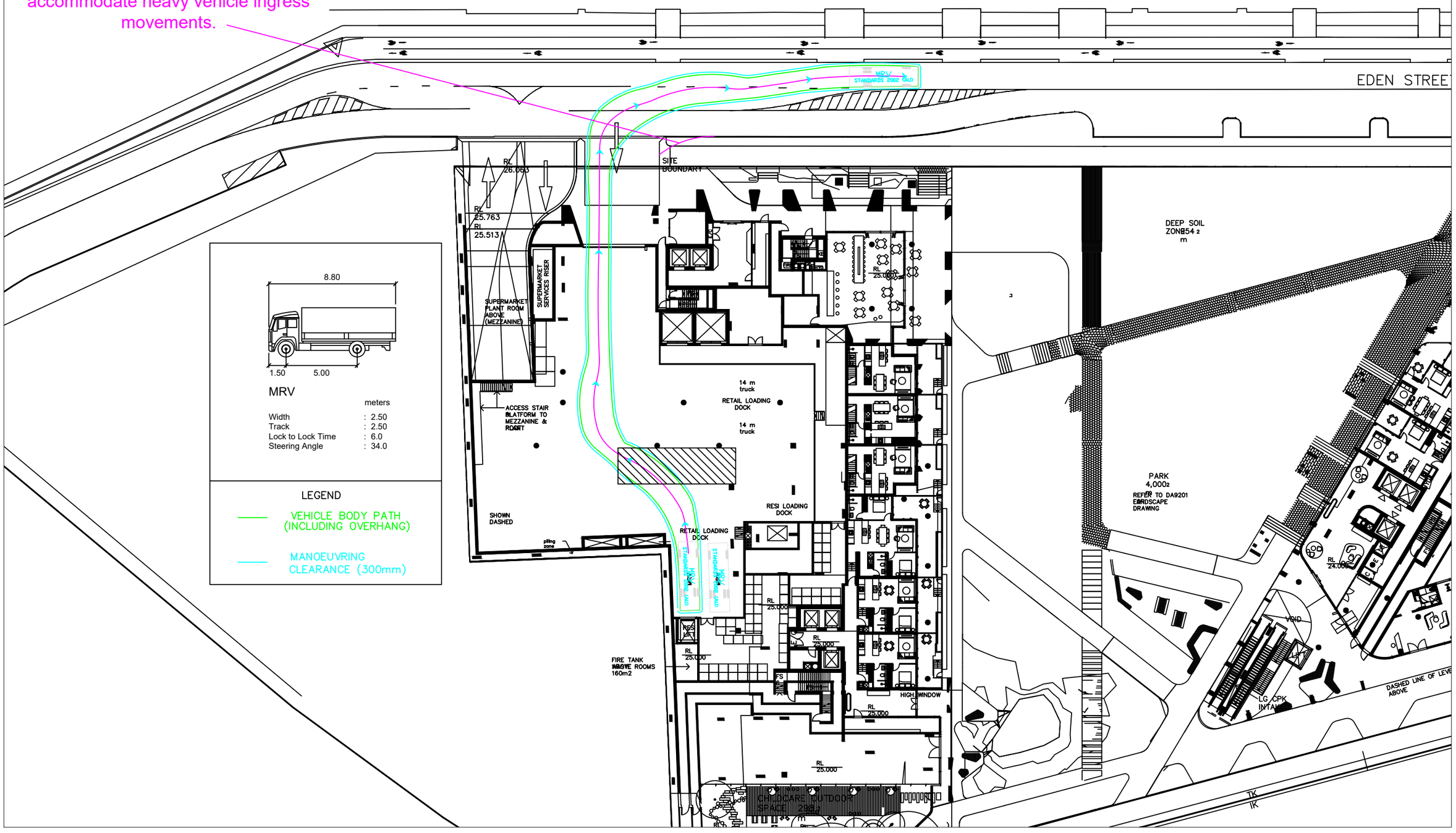
SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

ISSUE A

SHEET 7

Required driveway splay to accommodate heavy vehicle ingress movements.



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

MEDIUM RIGID VEHICLE SWEPT PATHS

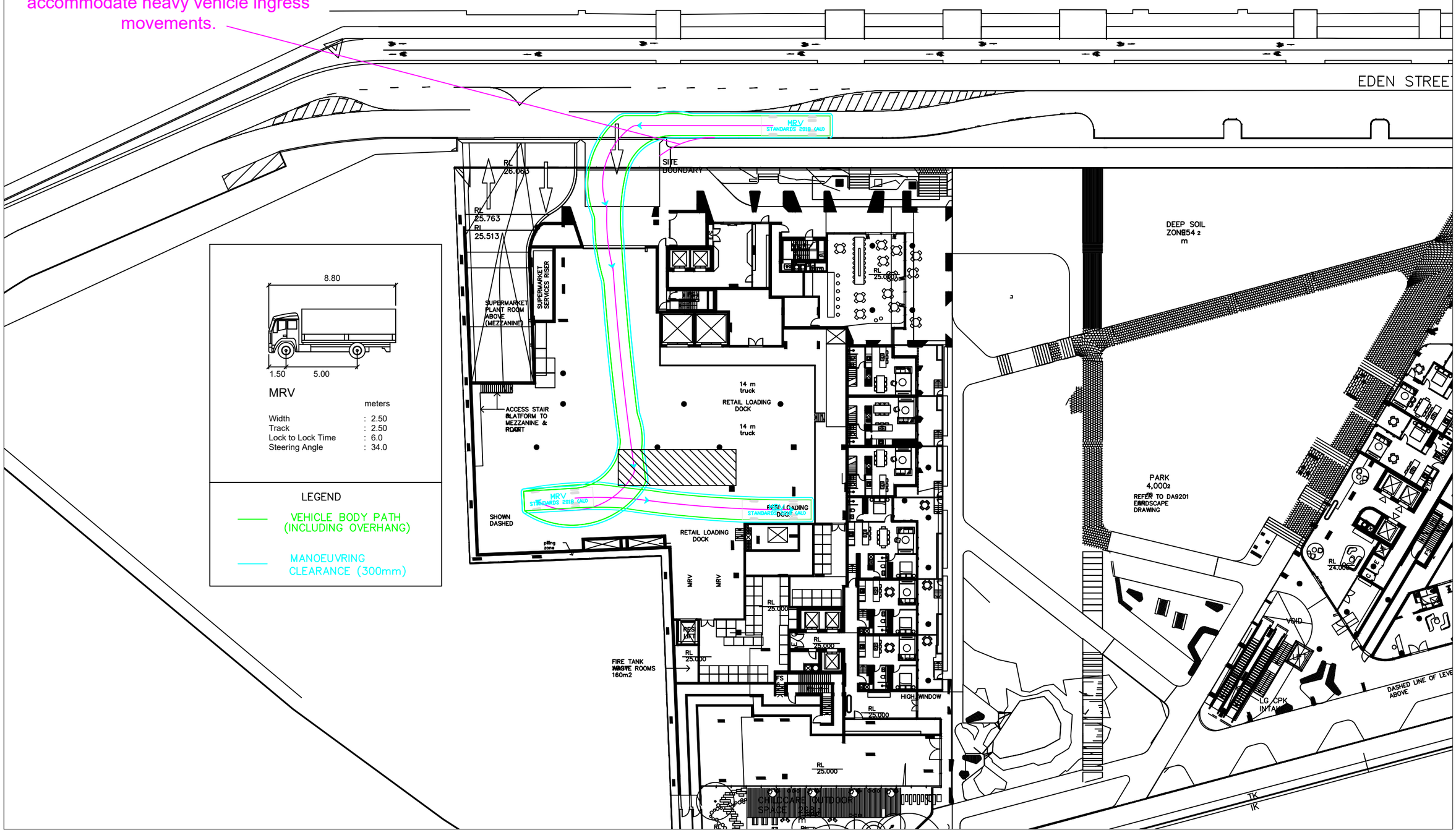
INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3		ISSUE A
FILE: 20-171	SUPERSEDES SHEET/ISSUE -	
DATE: 1/07/2021		SHEET 8

Required driveway splay to accommodate heavy vehicle ingress movements.



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

MEDIUM RIGID VEHICLE SWEPT PATHS

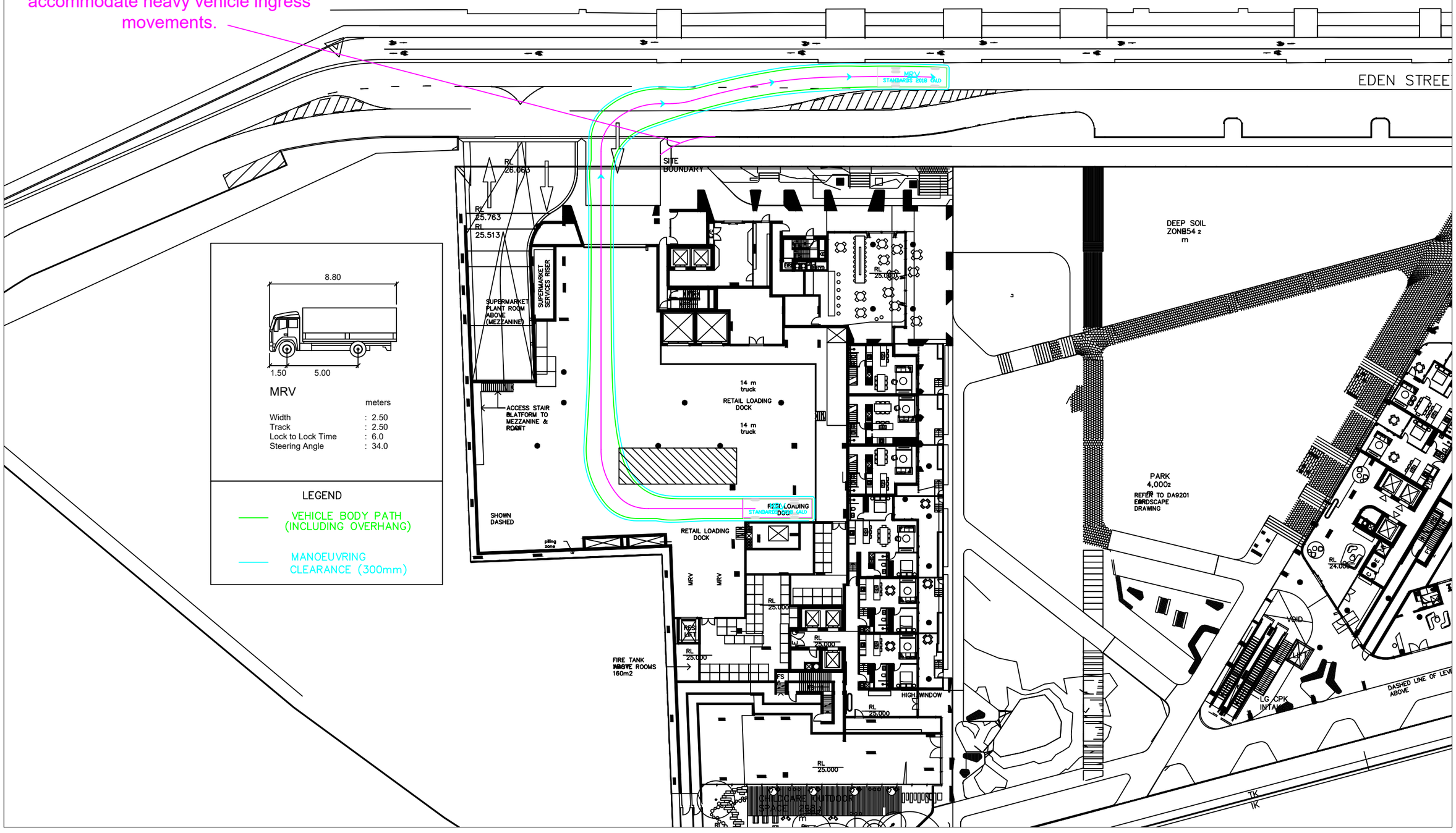
INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3		ISSUE A
FILE: 20-171	SUPERSEDES SHEET/ISSUE -	
DATE: 1/07/2021		SHEET 9

Required driveway splay to accommodate heavy vehicle ingress movements.



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

MEDIUM RIGID VEHICLE SWEPT PATHS

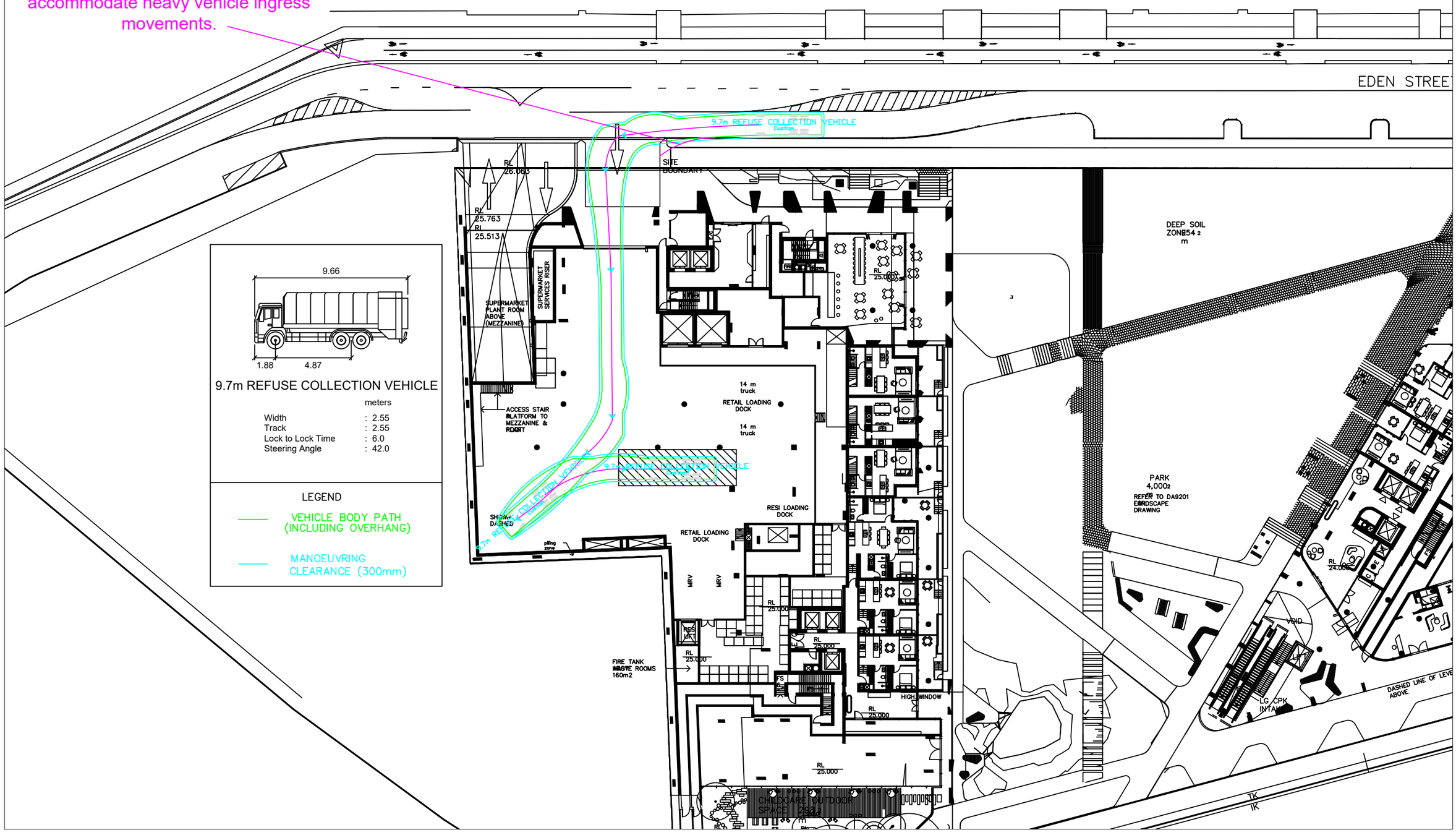
INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3		ISSUE A
FILE: 20-171	SUPERSEDES SHEET/ISSUE -	
DATE: 1/07/2021		SHEET 10

Required driveway splay to accommodate heavy vehicle ingress movements.



9.7m REFUSE COLLECTION VEHICLE

	meters
Width	: 2.55
Track	: 2.55
Lock to Lock Time	: 6.0
Steering Angle	: 42.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

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STANBURY TRAFFIC PLANNING

9.4m LONG REFUSE COLLECTION VEHICLE SWEPT PATHS

INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

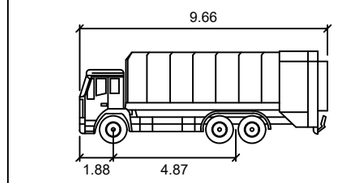
FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 11

Required driveway splay to accommodate heavy vehicle ingress movements.



9.7m REFUSE COLLECTION VEHICLE

	meters
Width	: 2.55
Track	: 2.55
Lock to Lock Time	: 6.0
Steering Angle	: 42.0

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING

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STANBURY TRAFFIC PLANNING

9.4m LONG REFUSE COLLECTION VEHICLE SWEPT PATHS

INTERNAL LOADING BAY MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

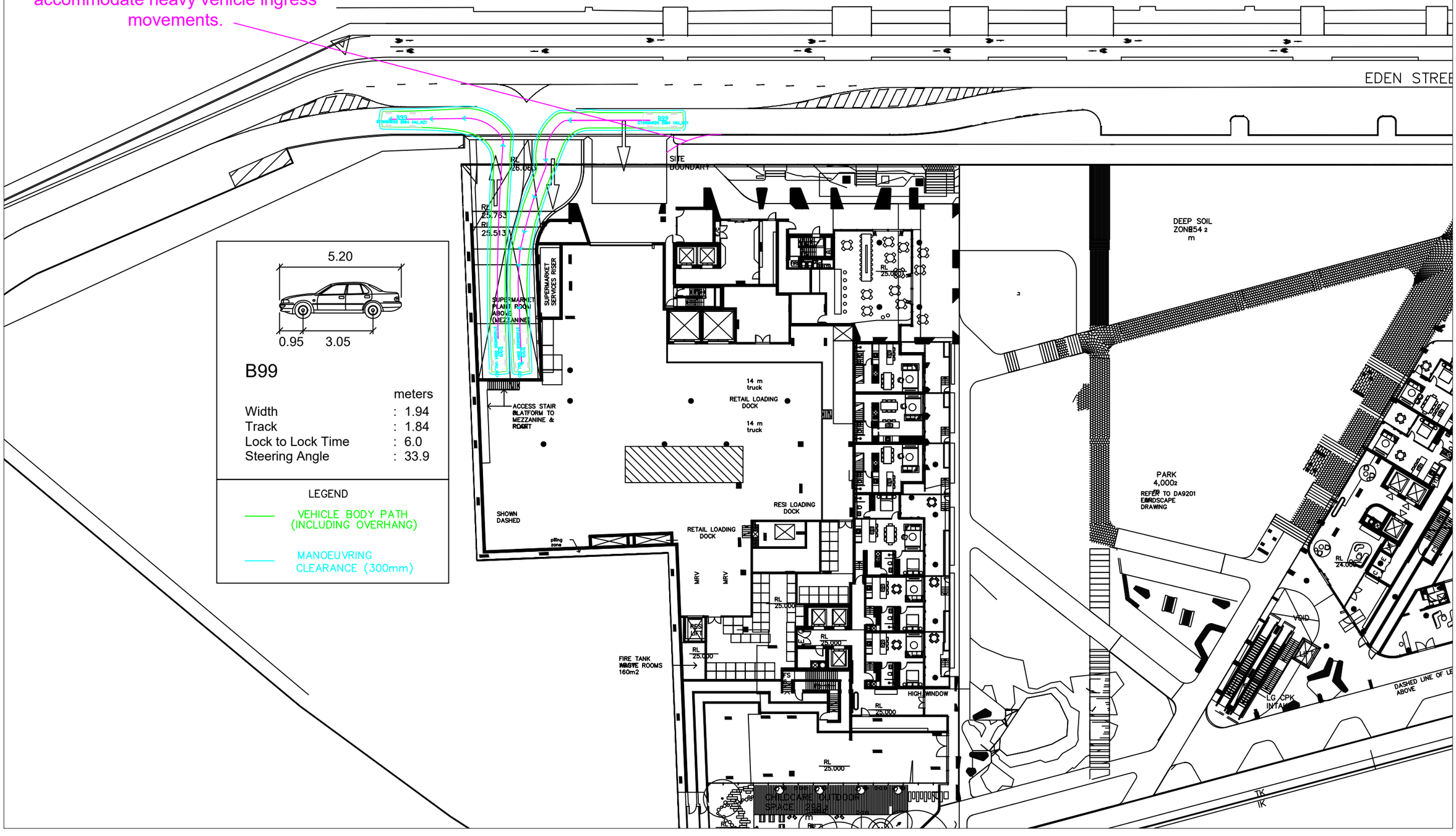
FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 12

Required driveway splay to accommodate heavy vehicle ingress movements.



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

SITE INGRESS / EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

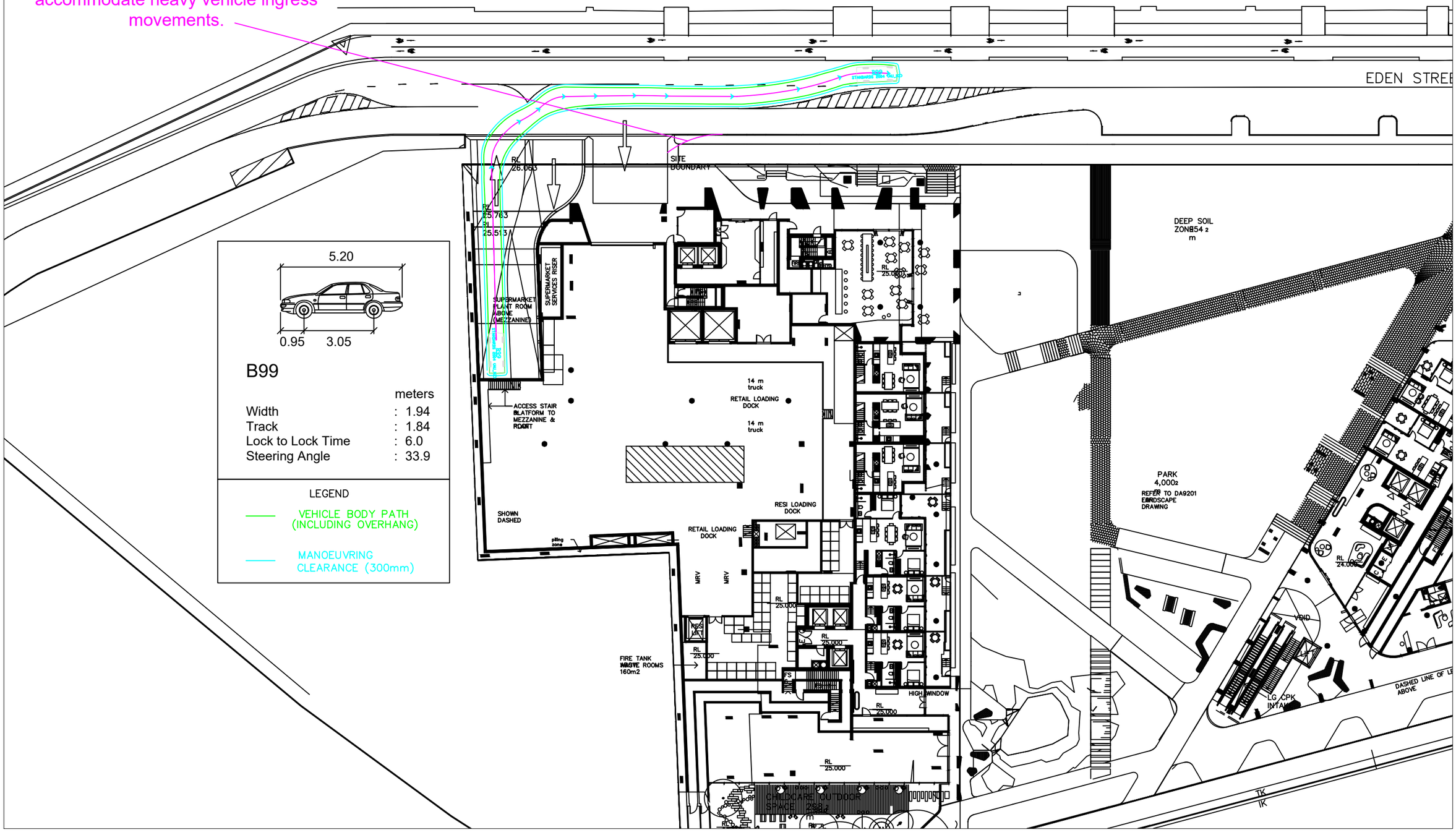
FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 13

Required driveway splay to accommodate heavy vehicle ingress movements.



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING
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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

SITE EGRESS MOVEMENT

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

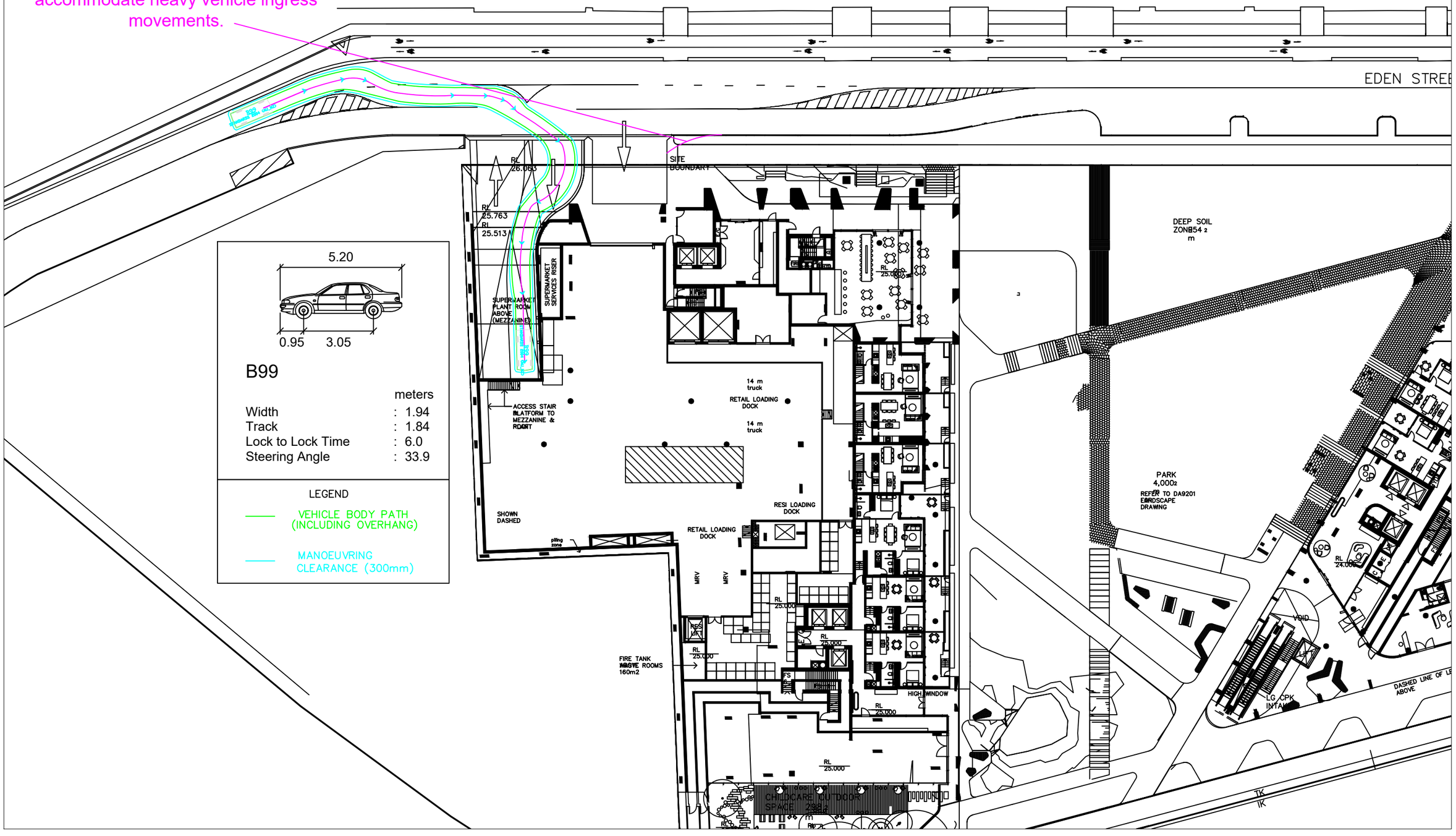
FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 14

Required driveway splay to accommodate heavy vehicle ingress movements.



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

SITE INGRESS MOVEMENT

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

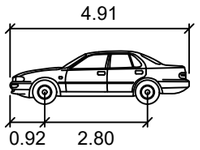
ISSUE: A

FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

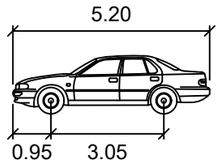
DATE: 1/07/2021

SHEET: 15



B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



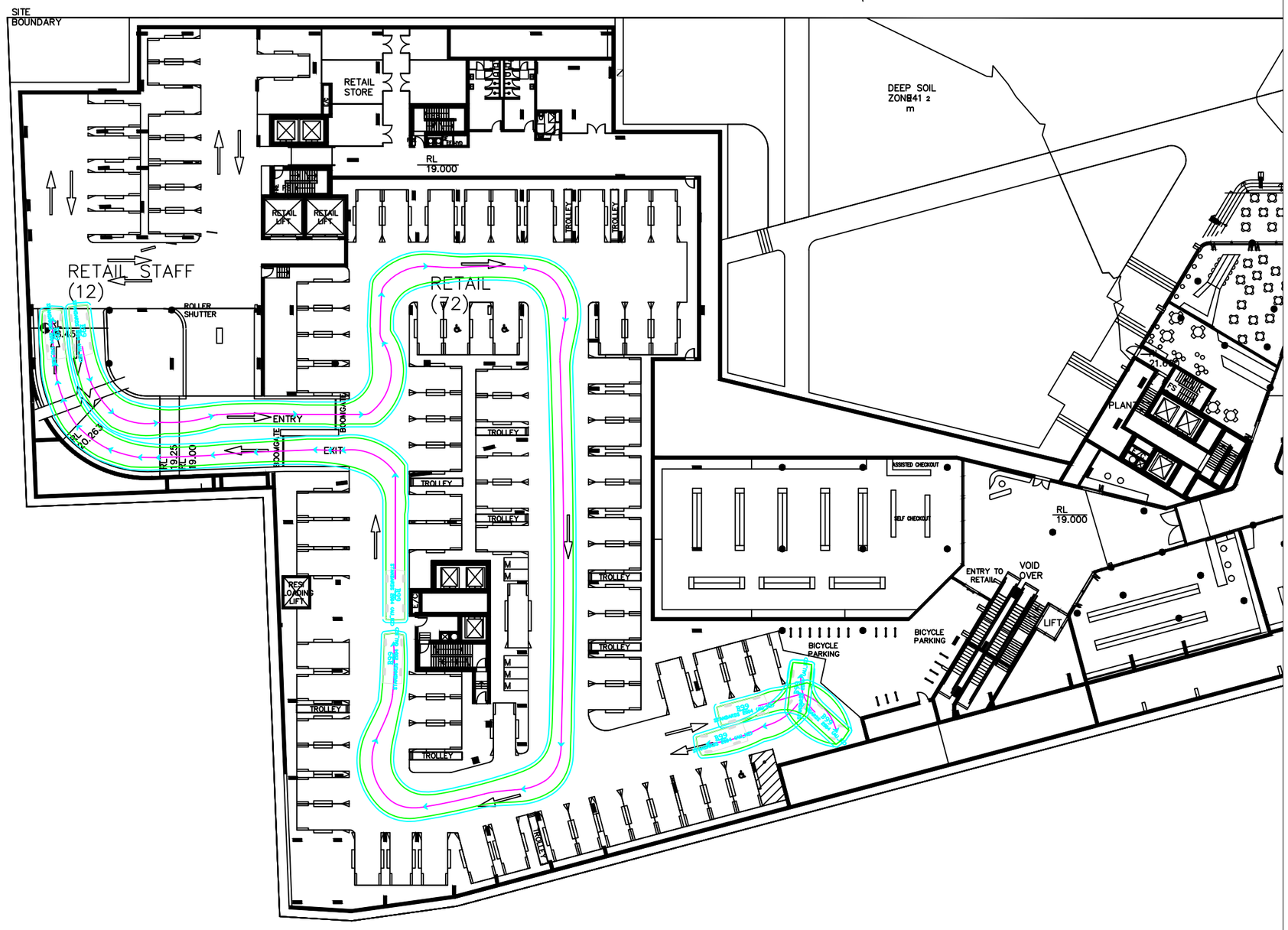
B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)



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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

LOWER GROUND FLOOR MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

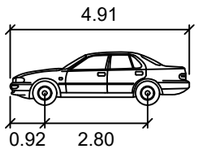
FILE: 20-171

SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

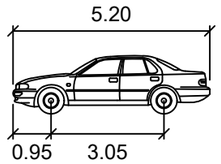
ISSUE A

SHEET 16



B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



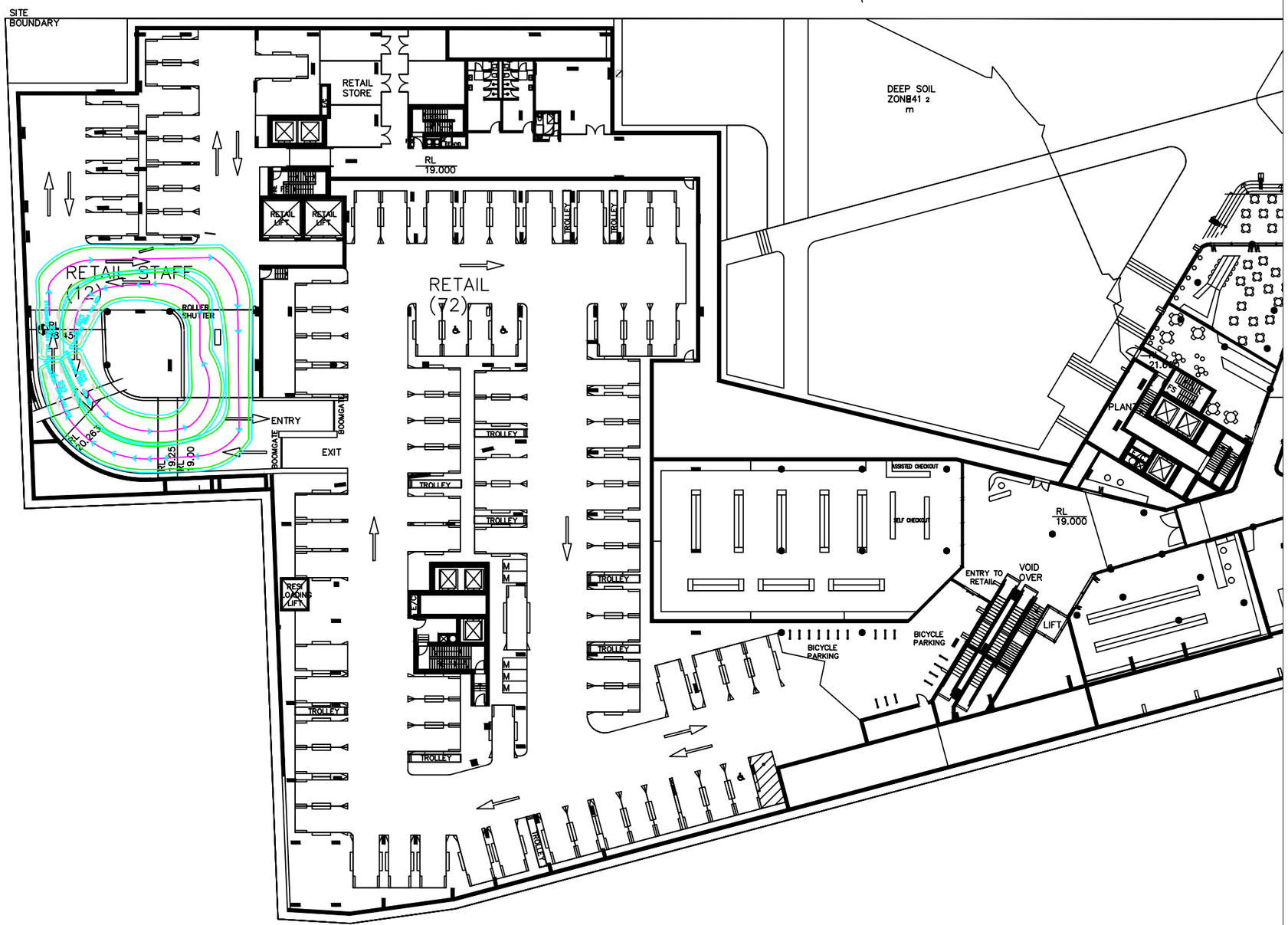
B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)



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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

SITE INGRESS / EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

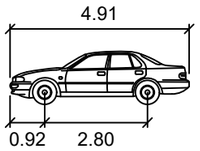
FILE: 20-171

SUPERSEDES SHEET/ISSUE -

ISSUE A

DATE: 1/07/2021

SHEET 17

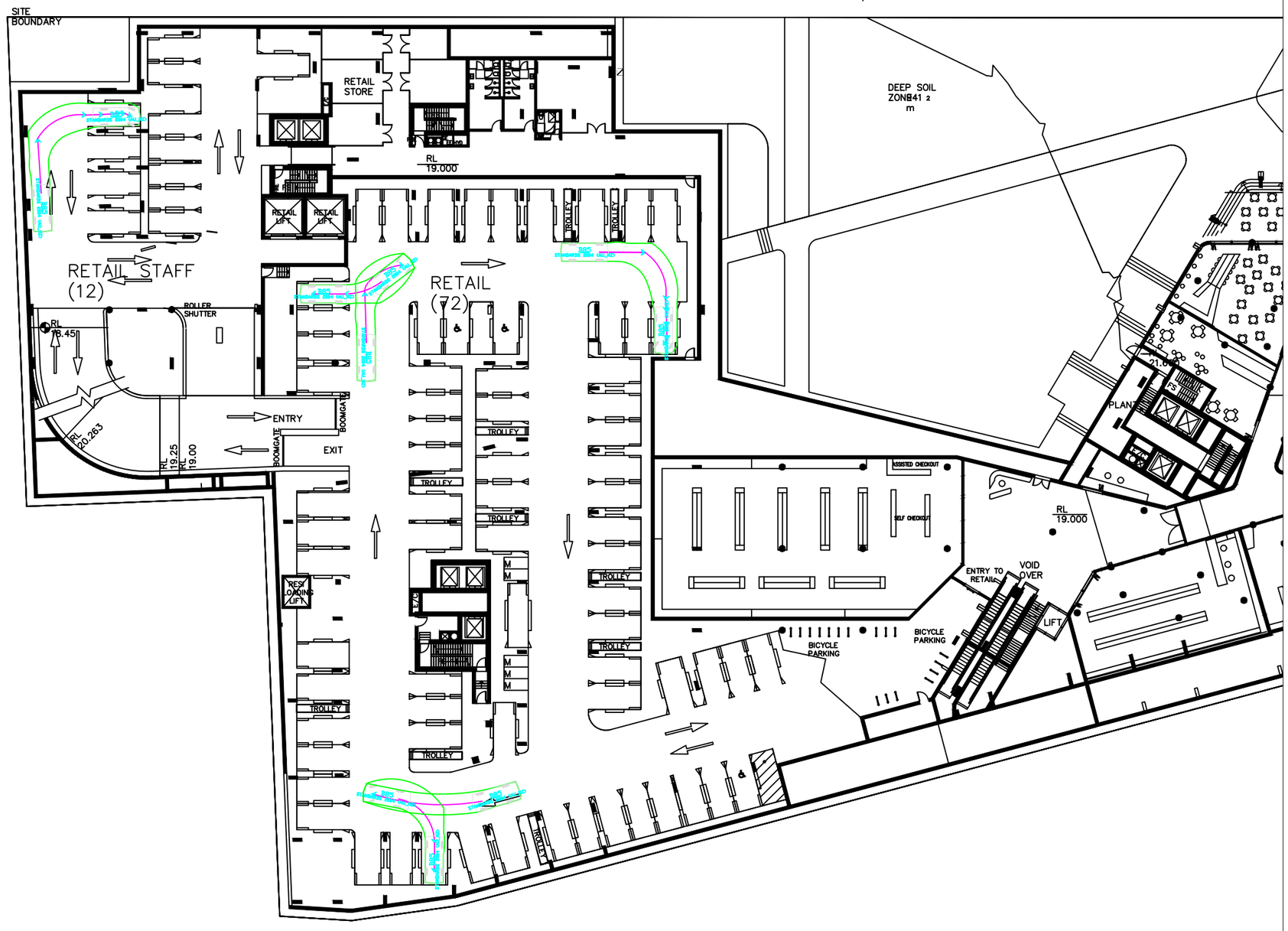


B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)



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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

LOWER GROUND FLOOR PARKING SPACE INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

SUPERSEDES SHEET/ISSUE -

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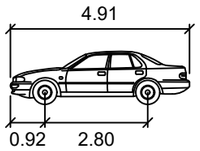
SHEET 18



B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

LOWER GROUND FLOOR PARKING SPACE INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

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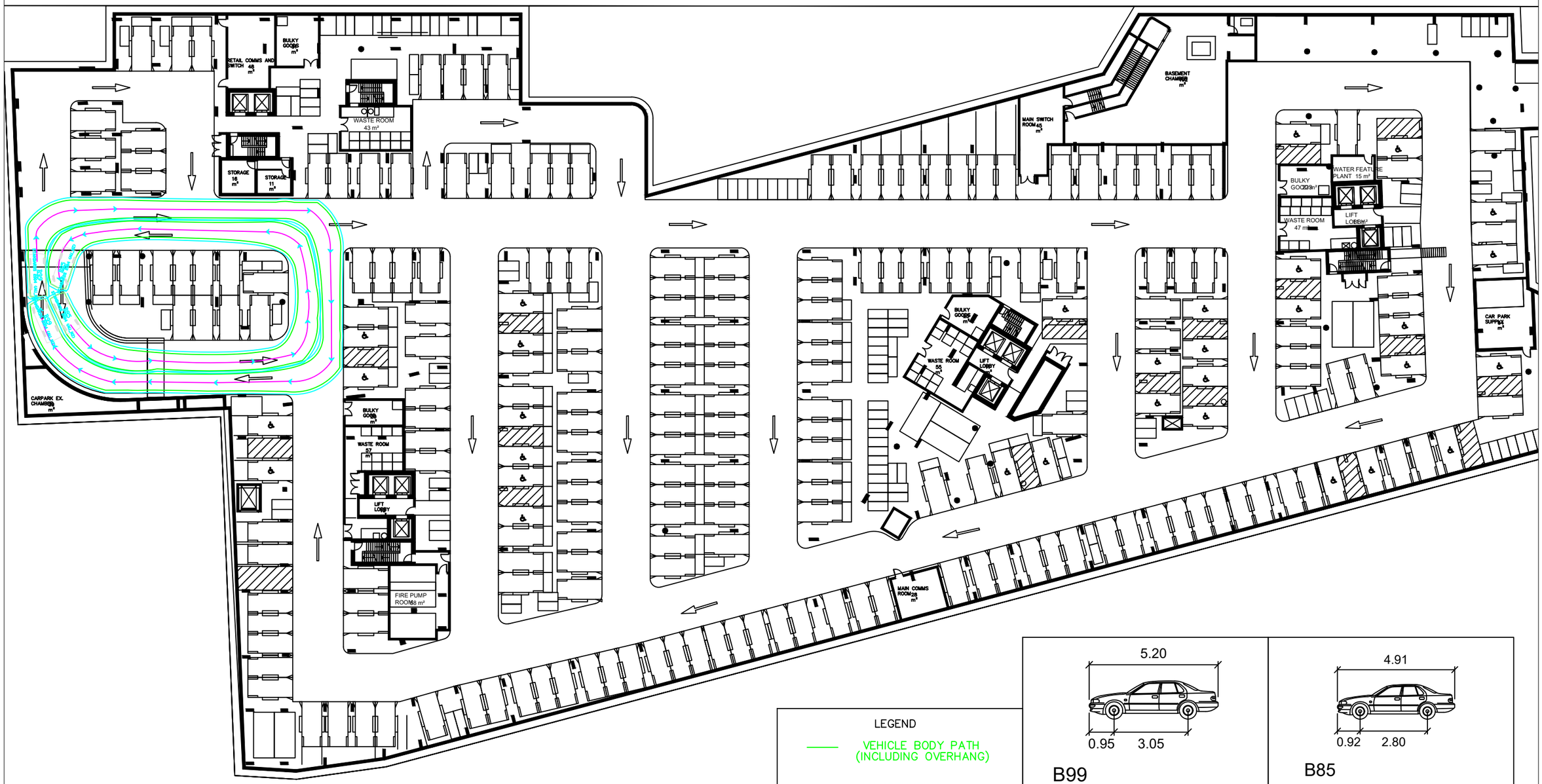
SHEET 19



LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 1 MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

ISSUE: A

FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 20

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 1 PARKING SPACE INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

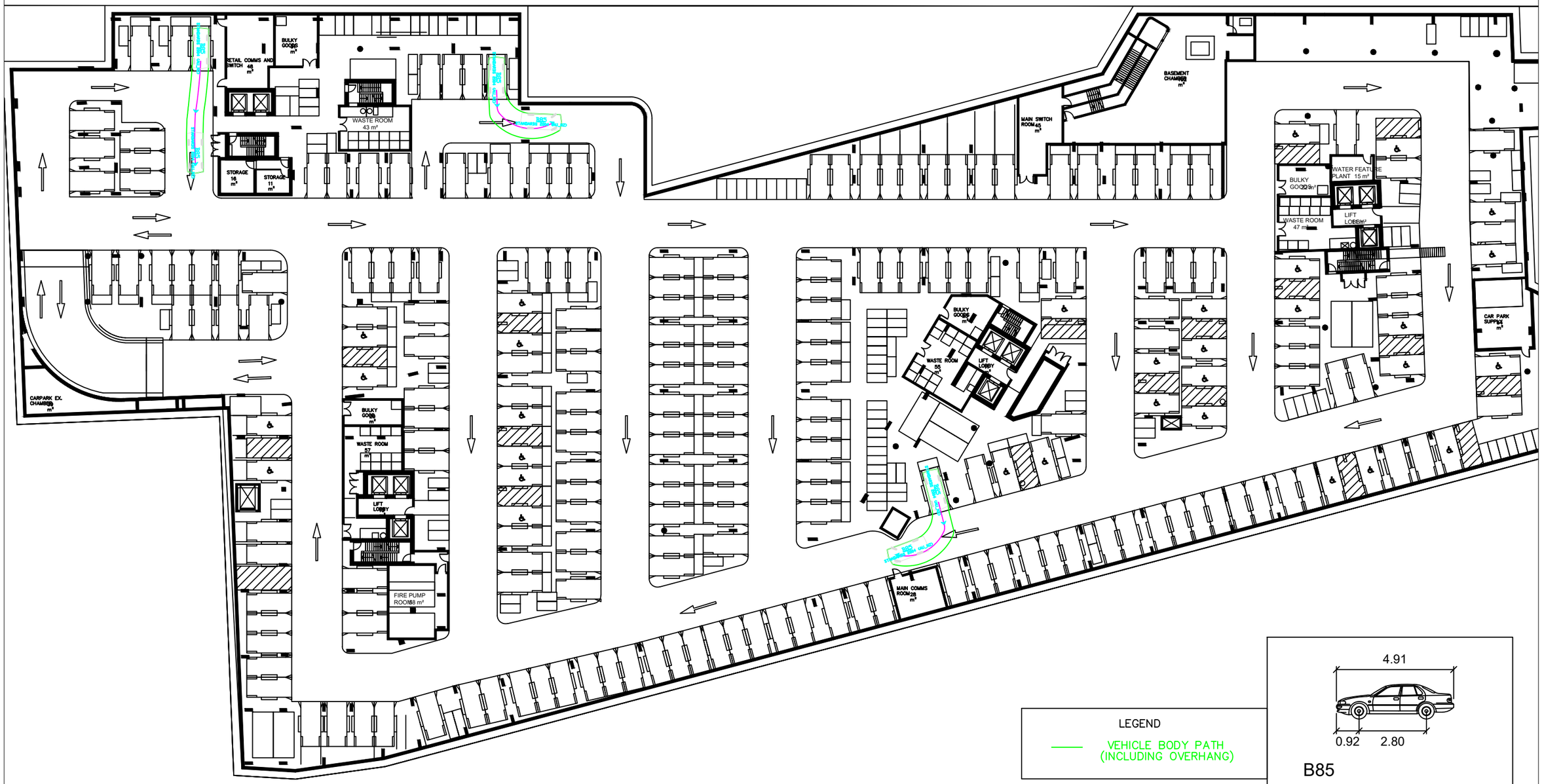
FILE: 20-171

SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

ISSUE A

SHEET 21



LEGEND

—— VEHICLE BODY PATH (INCLUDING OVERHANG)

B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 1 PARKING SPACE EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

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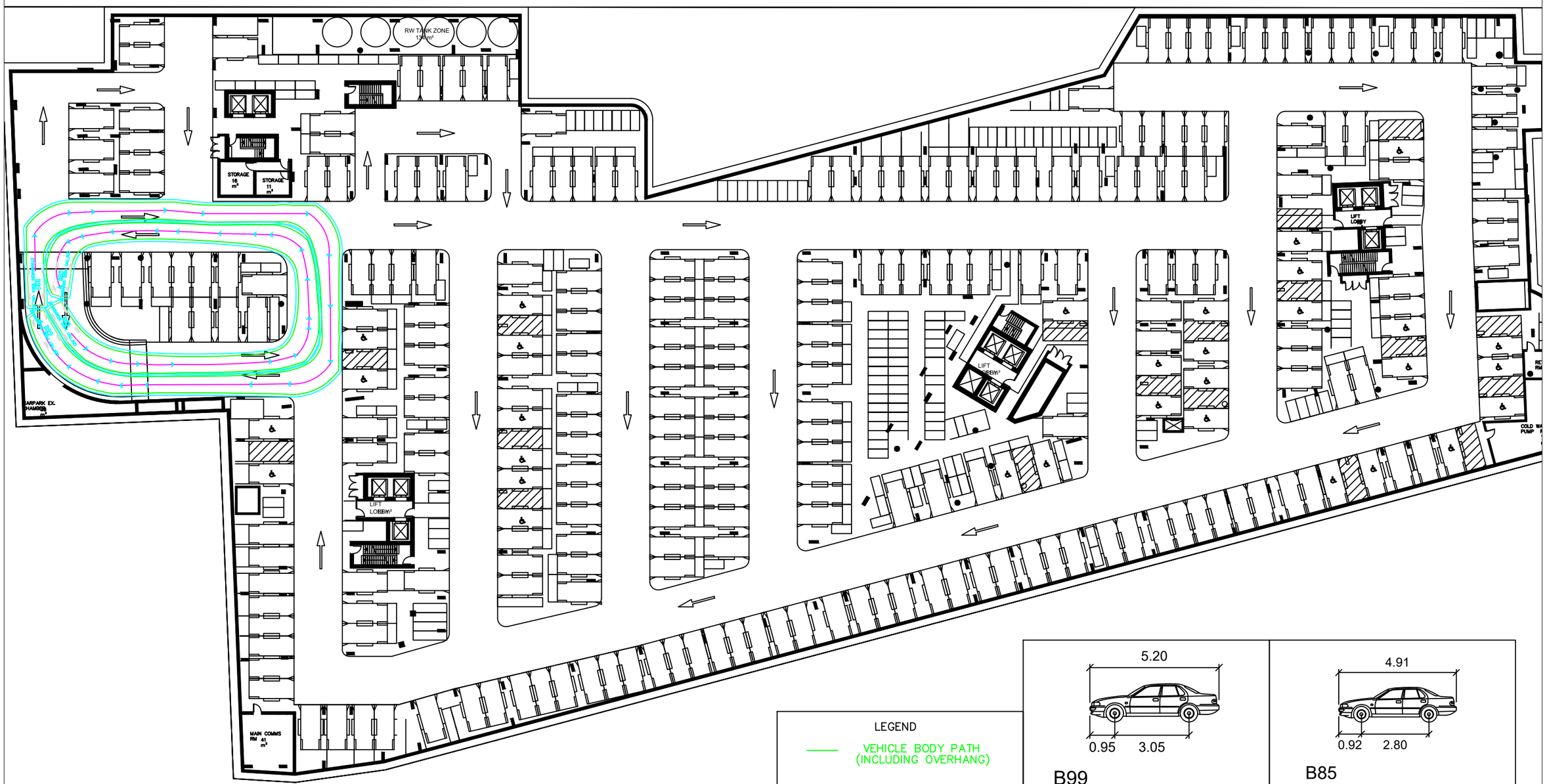
SHEET 22



LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 2 MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

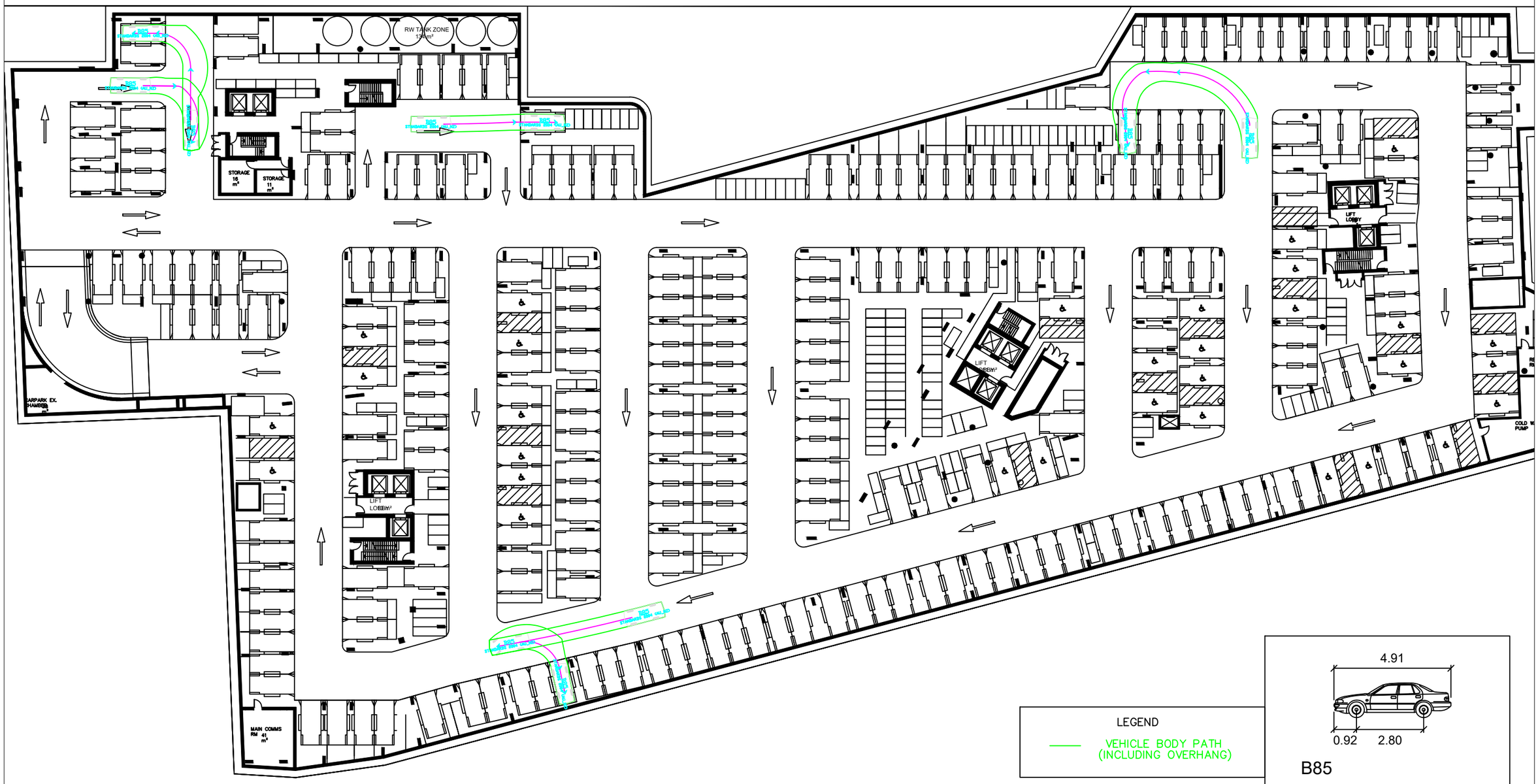
ISSUE: A

FILE: 20-171

SUPERSEDES SHEET/ISSUE: -

DATE: 1/07/2021

SHEET: 23



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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 2 PARKING SPACE INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

SUPERSEDES SHEET/ISSUE -

DATE: 1/07/2021

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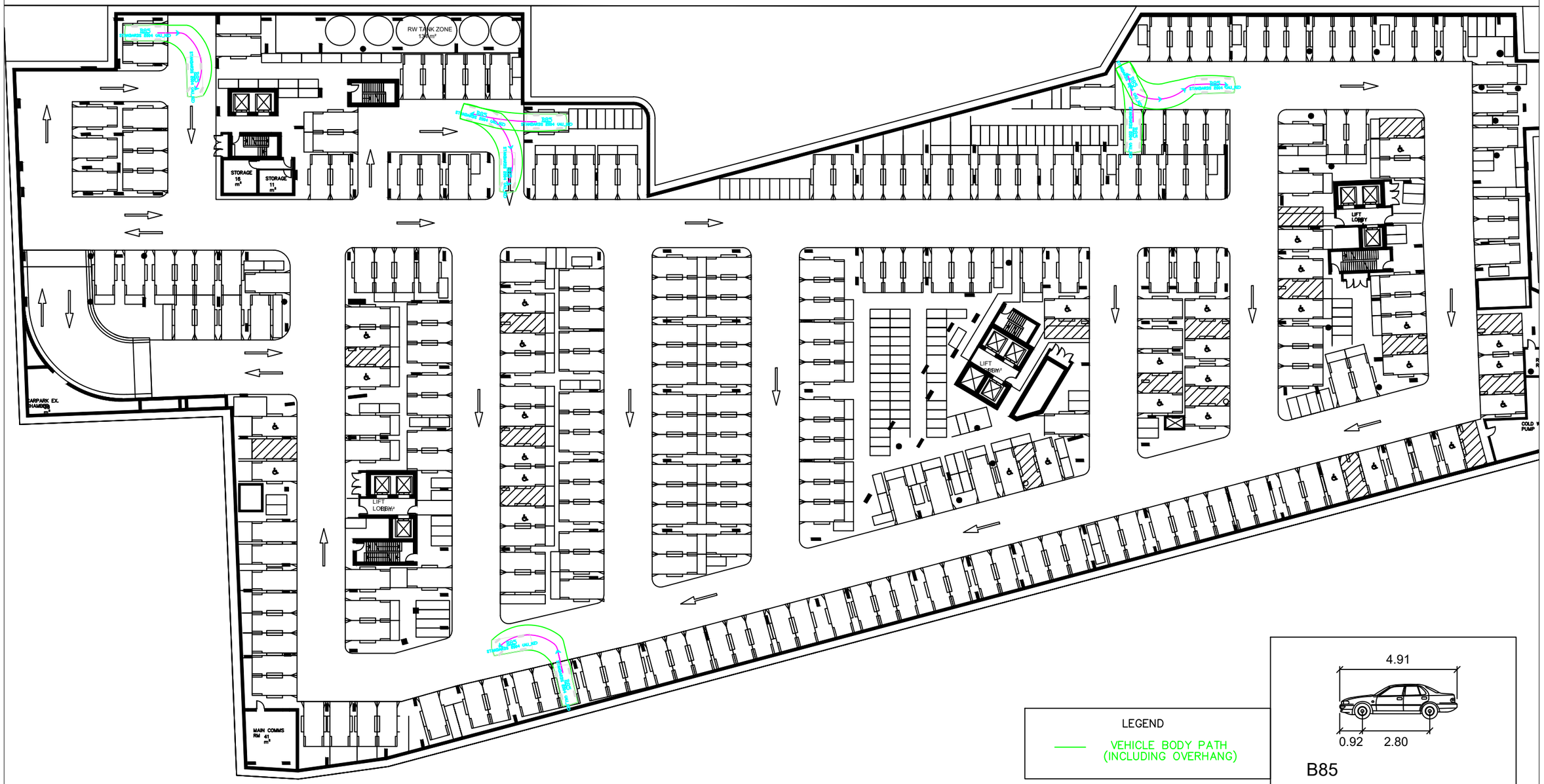

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 2 PARKING SPACE EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

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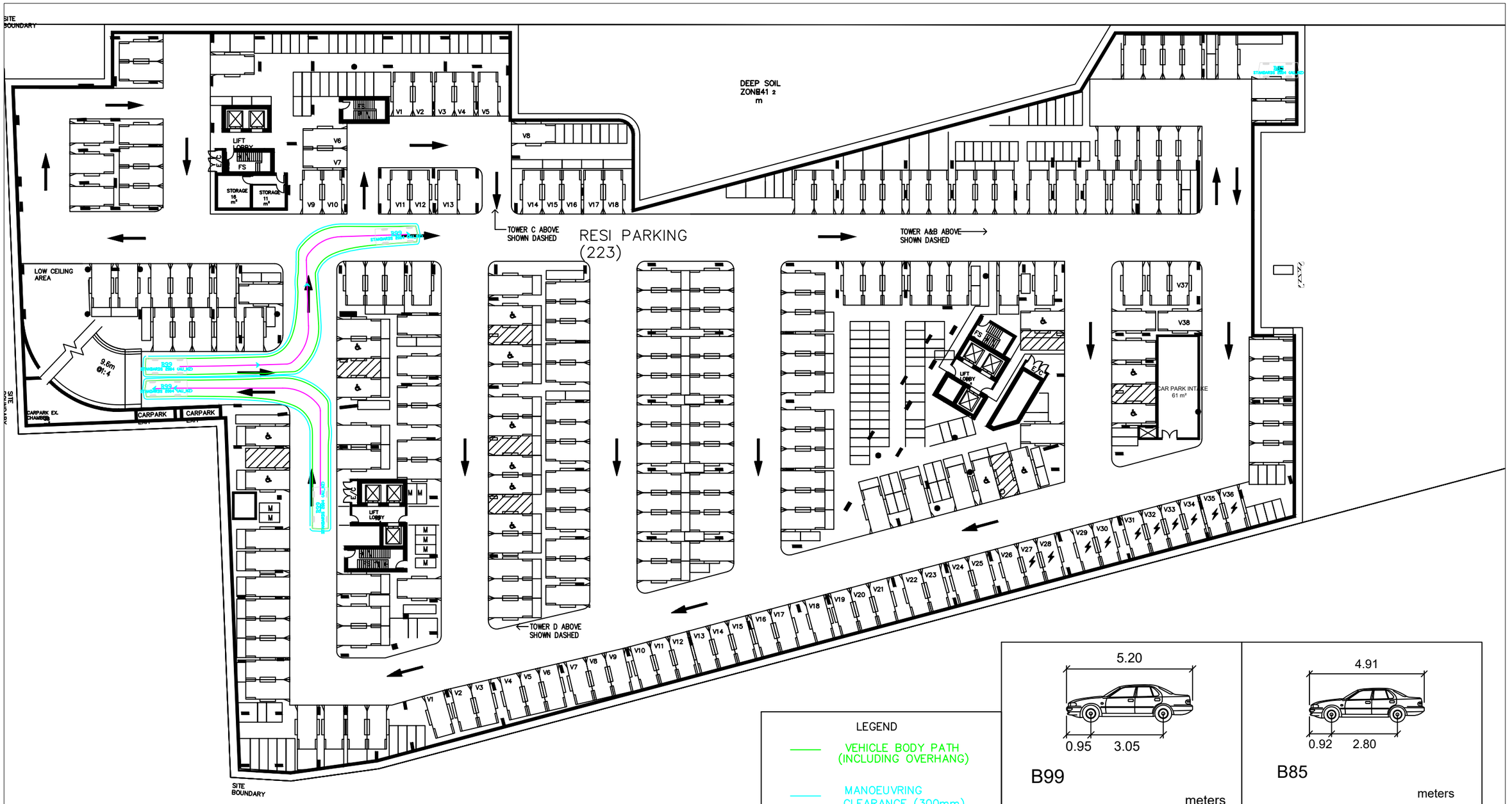

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 3 MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

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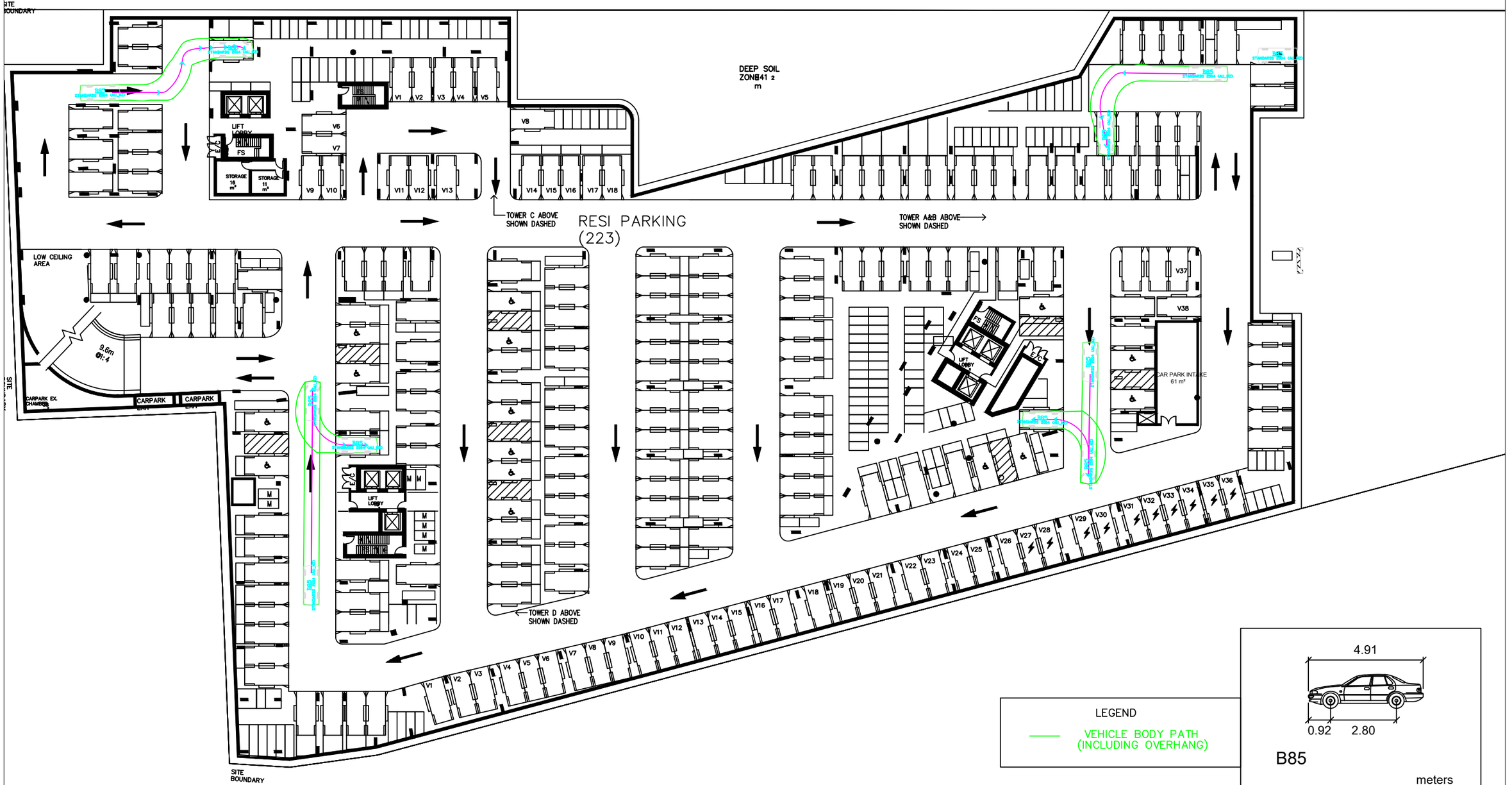

LEGEND

—— VEHICLE BODY PATH (INCLUDING OVERHANG)

B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 3 PARKING SPACE INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

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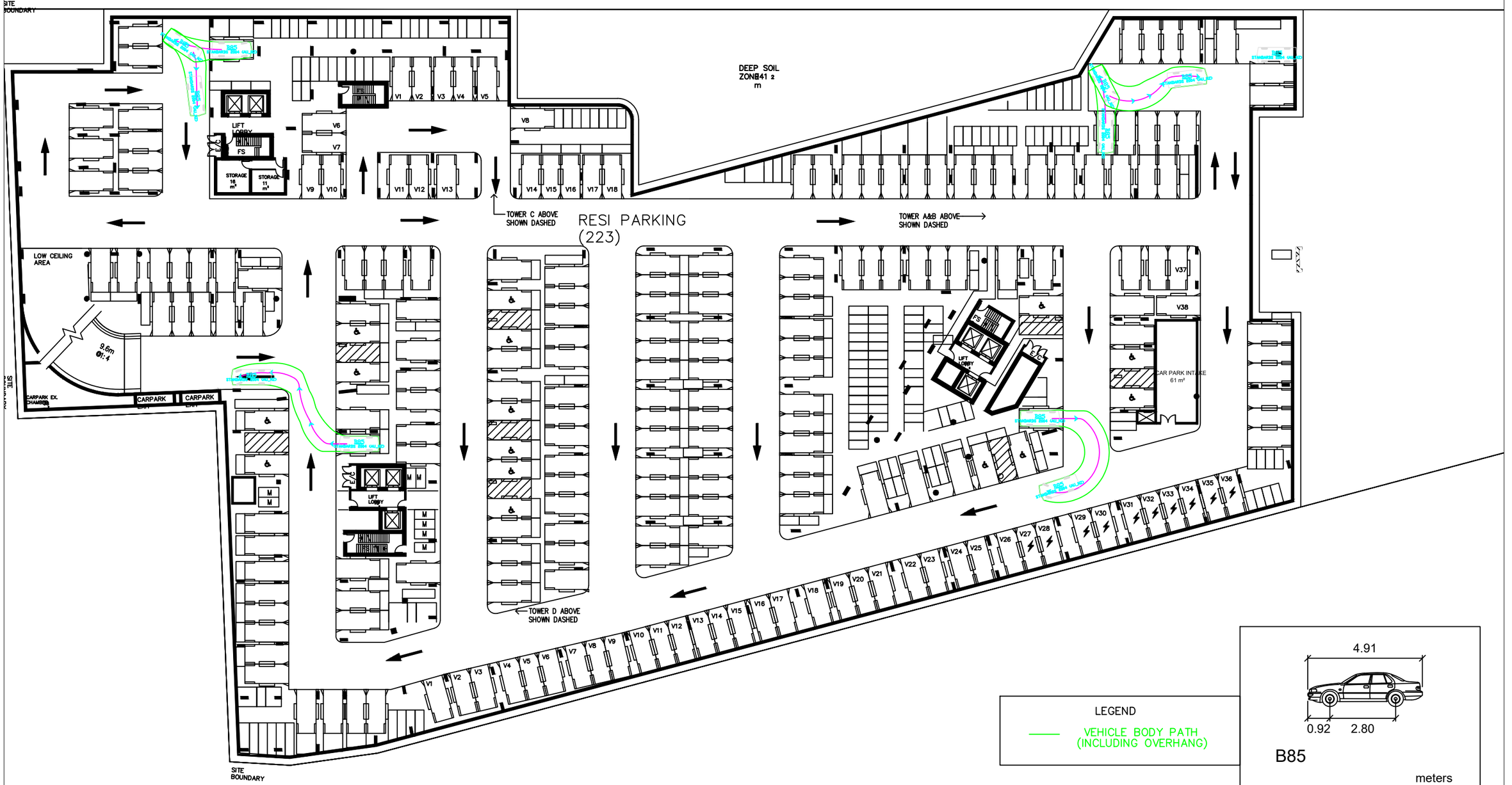

LEGEND

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B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 3 PARKING SPACE EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

26 - 42 EDEN STREET & 161 - 179 PRINCES HIGHWAY, ARNCLIFFE

SCALE: 1:500 AT A3

FILE: 20-171

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APPENDIX 3

Arncliffe IC - Traffic Flows

MATRIX Traffic and Transport Data

Search By Time and Classfication

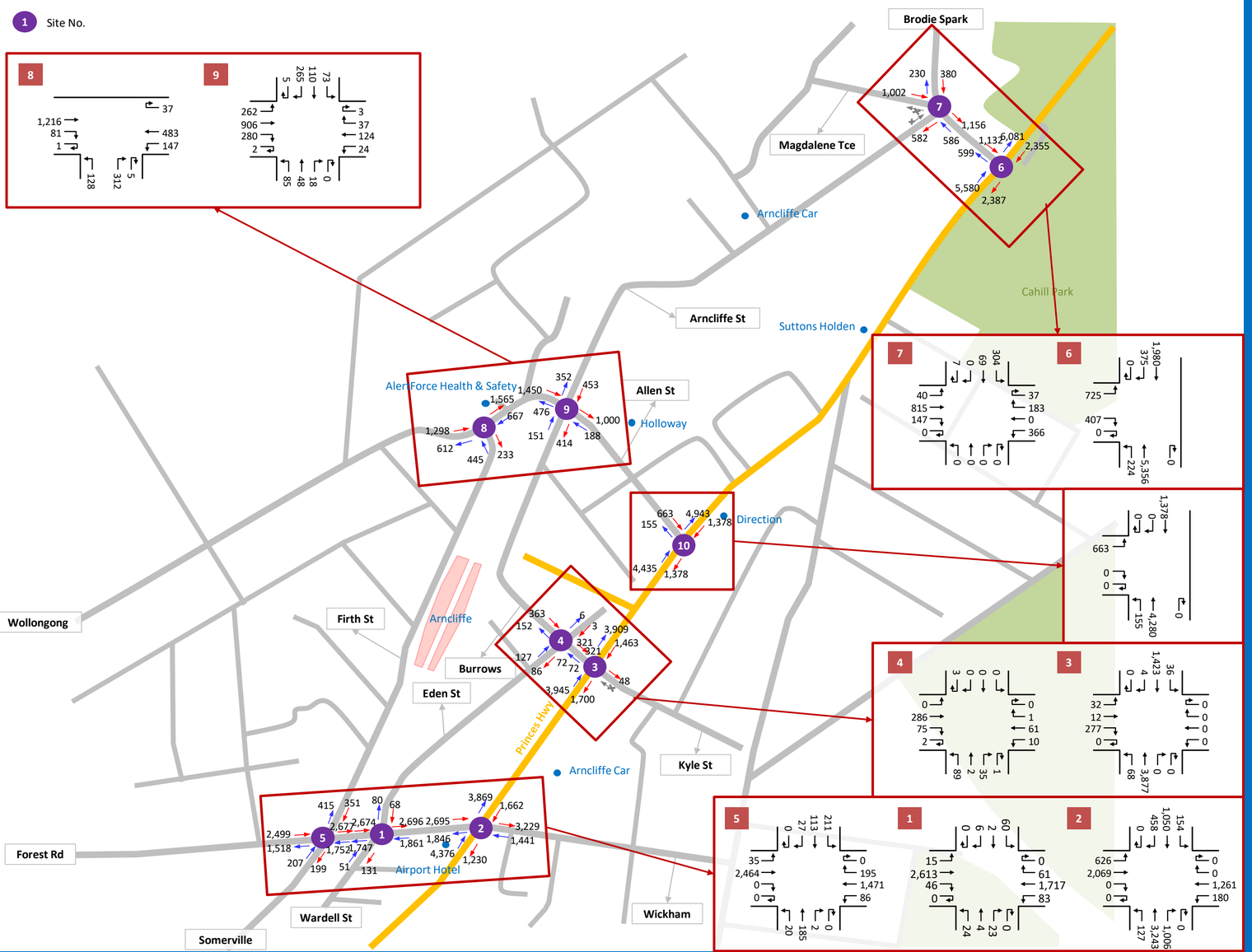
Day	Start Time	End Time	Classification
AM	7:00	9:00	All vehicles

Volume Forecasting

0 % * 0 = original survey data

(e.g. input 20 for volume increase 20% or -20 for volume decrease 20%)

1 Site No.



Arncliffe IC - Traffic Flows

MATRIX Traffic and Transport Data

Search By Time and Classfication

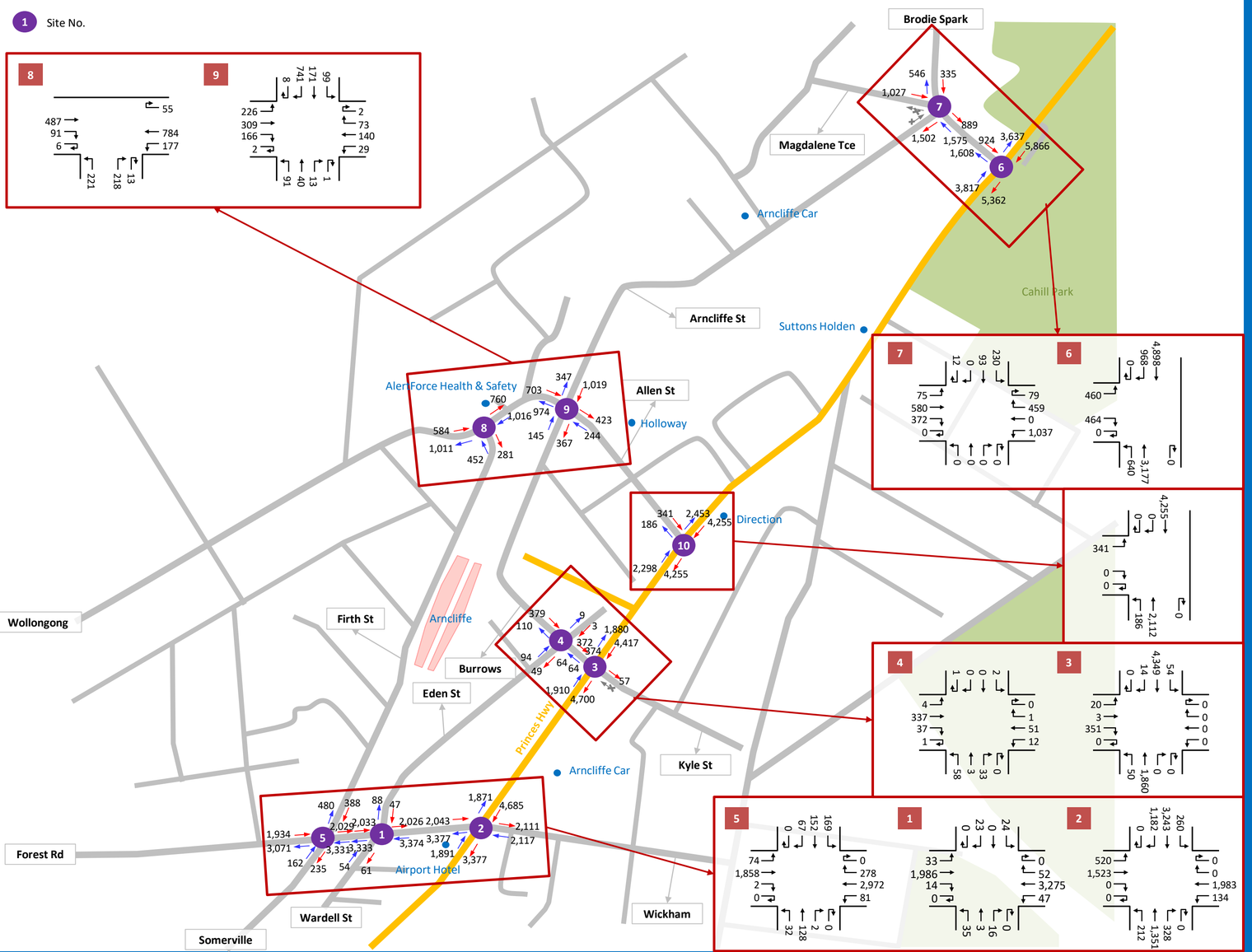
Day	Start Time	End Time	Classification
PM	16:00	18:00	All vehicles

Volume Forecasting

0 % * 0 = original survey data

(e.g. input 20 for volume increase 20% or -20 for volume decrease 20%)

1 Site No.



Arncliffe IC - Traffic Flows

MATRIX Traffic and Transport Data

Search By Time and Classfication

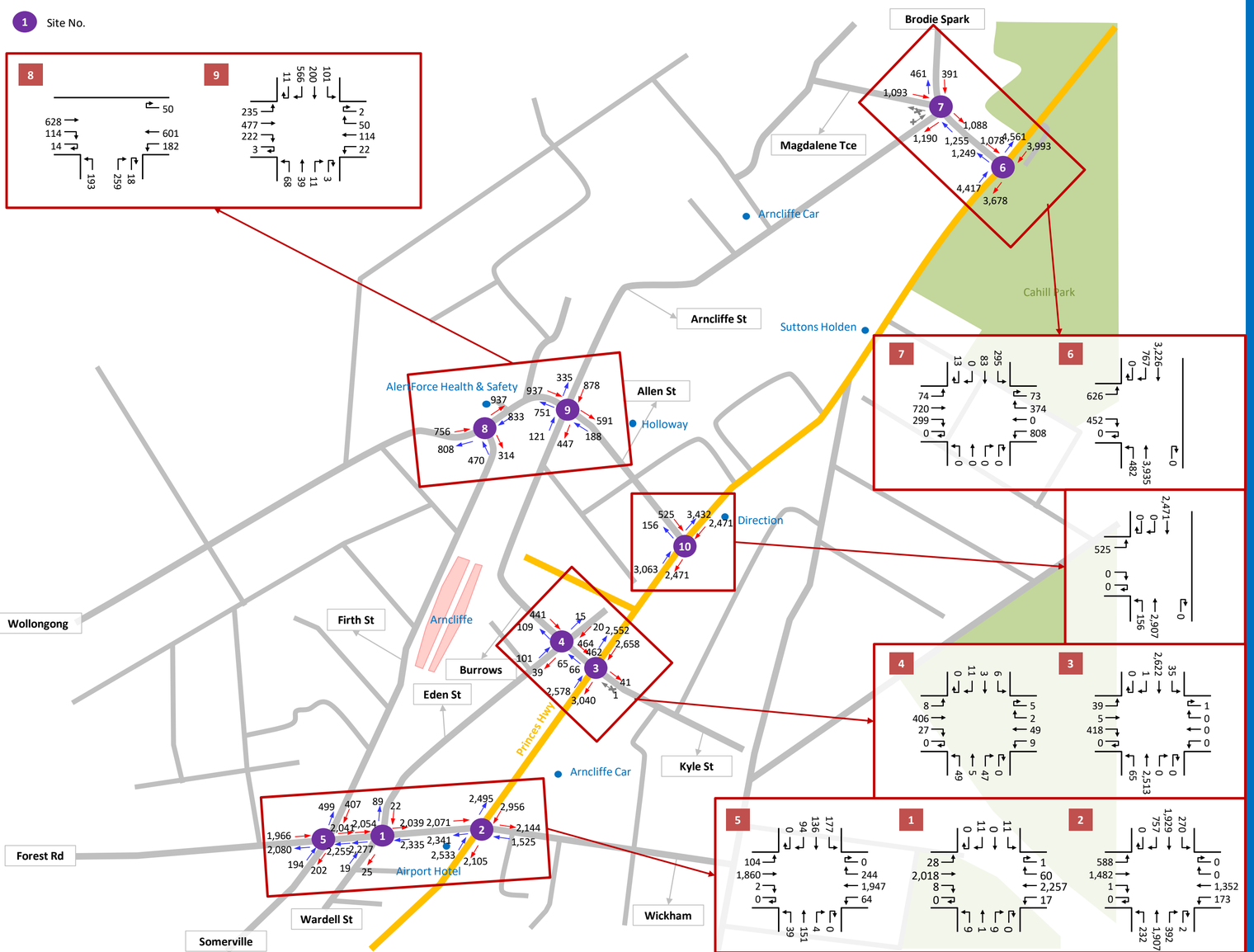
Day	Start Time	End Time	Classification
Sat_2hrs	11:00	13:00	All vehicles

Volume Forecasting

0 % * 0 = original survey data

(e.g. input 20 for volume increase 20% or -20 for volume decrease 20%)

1 Site No.



APPENDIX 4

MOVEMENT SUMMARY

Site: 101 [Princes Hghwy and Brodie Sparks Dr (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	123	5.0	123	5.0	0.108	16.0	LOS B	3.2	23.3	0.41	0.68	0.41	31.3
2	T1	2740	5.0	2740	5.0	* 0.788	19.1	LOS B	46.3	337.8	0.77	0.72	0.77	42.9
Approach		2863	5.0	2863	5.0	0.788	18.9	LOS B	46.3	337.8	0.76	0.72	0.76	42.6
North: Princes Hghwy North														
8	T1	1007	5.0	1007	5.0	0.246	6.9	LOS A	7.6	55.1	0.36	0.32	0.36	52.4
9	R2	196	5.0	196	5.0	0.333	61.9	LOS E	6.0	43.7	0.93	0.78	0.93	22.3
Approach		1203	5.0	1203	5.0	0.333	15.9	LOS B	7.6	55.1	0.46	0.39	0.46	44.4
West: Brodie Sparks Dr														
10	L2	387	5.0	387	5.0	0.406	49.0	LOS D	11.2	82.1	0.86	0.80	0.86	25.5
12	R2	201	5.0	201	5.0	* 0.785	80.9	LOS F	7.3	53.6	1.00	0.88	1.22	12.1
Approach		588	5.0	588	5.0	0.785	59.9	LOS E	11.2	82.1	0.91	0.83	0.98	20.4
All Vehicles		4654	5.0	4654	5.0	0.788	23.3	LOS B	46.3	337.8	0.70	0.65	0.71	39.2

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P11	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.0	214.2	0.94
P12	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
West: Brodie Sparks Dr												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
All Pedestrians		150	158	64.3	LOS F	0.2	0.2	0.96	0.96	230.4	216.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Hghwy and Brodie Sparks Dr (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	324	5.0	324	5.0	0.443	24.4	LOS B	12.1	88.3	0.60	0.75	0.60	25.8
2	T1	1543	5.0	1543	5.0	0.554	21.5	LOS B	24.9	181.6	0.68	0.61	0.68	41.4
Approach		1867	5.0	1867	5.0	0.554	22.0	LOS B	24.9	181.6	0.67	0.64	0.67	39.4
North: Princes Hghwy North														
8	T1	2459	5.0	2459	5.0	* 0.640	13.4	LOS A	31.1	226.9	0.62	0.57	0.62	46.8
9	R2	416	5.0	416	5.0	0.541	58.6	LOS E	12.7	92.8	0.94	0.82	0.94	23.1
Approach		2875	5.0	2875	5.0	0.640	20.0	LOS B	31.1	226.9	0.66	0.61	0.66	41.7
West: Brodie Sparks Dr														
10	L2	215	5.0	215	5.0	0.161	36.4	LOS C	4.8	35.3	0.71	0.74	0.71	29.7
12	R2	238	5.0	238	5.0	* 0.620	70.6	LOS F	8.0	58.1	1.00	0.80	1.01	13.4
Approach		453	5.0	453	5.0	0.620	54.4	LOS D	8.0	58.1	0.86	0.77	0.87	20.3
All Vehicles		5195	5.0	5195	5.0	0.640	23.7	LOS B	31.1	226.9	0.68	0.63	0.68	38.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P11	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.0	214.2	0.94
P12	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
West: Brodie Sparks Dr												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
All Pedestrians		150	158	64.3	LOS F	0.2	0.2	0.96	0.96	230.4	216.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Hghwy and Brodie Sparks Dr (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	257	5.0	257	5.0	0.242	19.8	LOS B	8.1	59.5	0.51	0.72	0.51	28.5
2	T1	1979	5.0	1979	5.0	*0.638	19.0	LOS B	31.3	228.8	0.69	0.62	0.69	42.9
Approach		2236	5.0	2236	5.0	0.638	19.1	LOS B	31.3	228.8	0.66	0.64	0.66	41.8
North: Princes Hghwy North														
8	T1	1657	5.0	1657	5.0	0.426	10.3	LOS A	16.3	119.3	0.48	0.43	0.48	49.4
9	R2	396	5.0	396	5.0	*0.644	64.7	LOS E	12.8	93.4	0.99	0.82	0.99	21.8
Approach		2053	5.0	2053	5.0	0.644	20.8	LOS B	16.3	119.3	0.58	0.51	0.58	41.0
West: Brodie Sparks Dr														
10	L2	329	5.0	329	5.0	0.285	43.1	LOS D	8.3	60.7	0.79	0.78	0.79	27.3
12	R2	230	5.0	230	5.0	*0.622	71.7	LOS F	7.8	56.7	1.00	0.80	1.02	13.2
Approach		559	5.0	559	5.0	0.622	54.9	LOS D	8.3	60.7	0.88	0.79	0.89	21.1
All Vehicles		4848	5.0	4848	5.0	0.644	23.9	LOS B	31.3	228.8	0.65	0.60	0.65	38.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P11	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.0	214.2	0.94
P12	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
West: Brodie Sparks Dr												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
All Pedestrians		150	158	64.3	LOS F	0.2	0.2	0.96	0.96	230.4	216.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Brodie Spark Dr and Arncliff St (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Brodie Spark Dr East														
4	L2	195	5.0	195	5.0	0.137	4.0	LOS A	0.7	5.4	0.29	0.49	0.29	53.0
6	R2	102	5.0	102	5.0	0.104	9.0	LOS A	0.5	3.9	0.30	0.62	0.30	44.0
6u	U	22	5.0	22	5.0	0.104	11.1	LOS A	0.5	3.9	0.30	0.62	0.30	30.7
Approach		319	5.0	319	5.0	0.137	6.1	LOS A	0.7	5.4	0.30	0.54	0.30	49.7
North: Brodie Spark Dr North														
7	L2	174	5.0	174	5.0	0.262	7.0	LOS A	1.6	11.7	0.66	0.71	0.66	27.3
8	T1	46	5.0	46	5.0	0.262	6.9	LOS A	1.6	11.7	0.66	0.71	0.66	54.0
9u	U	5	5.0	5	5.0	0.262	14.1	LOS A	1.6	11.7	0.66	0.71	0.66	52.2
Approach		225	5.0	225	5.0	0.262	7.1	LOS A	1.6	11.7	0.66	0.71	0.66	33.9
West: Magdalene Terrace														
10	L2	21	5.0	21	5.0	0.396	4.6	LOS A	2.8	20.2	0.40	0.50	0.40	48.3
11	T1	404	5.0	404	5.0	0.396	4.6	LOS A	2.8	20.2	0.40	0.50	0.40	23.0
12	R2	77	5.0	77	5.0	0.396	9.7	LOS A	2.8	20.2	0.40	0.50	0.40	53.6
Approach		502	5.0	502	5.0	0.396	5.3	LOS A	2.8	20.2	0.40	0.50	0.40	29.8
All Vehicles		1046	5.0	1046	5.0	0.396	6.0	LOS A	2.8	20.2	0.42	0.56	0.42	36.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Brodie Spark Dr and Arncliff St (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Brodie Spark Dr East														
4	L2	460	5.0	460	5.0	0.358	4.8	LOS A	2.5	18.3	0.52	0.59	0.52	52.1
6	R2	241	5.0	241	5.0	0.267	9.9	LOS A	1.6	12.0	0.51	0.69	0.51	43.1
6u	U	37	5.0	37	5.0	0.267	12.0	LOS A	1.6	12.0	0.51	0.69	0.51	29.7
Approach		738	5.0	738	5.0	0.358	6.9	LOS A	2.5	18.3	0.52	0.63	0.52	49.0
North: Brodie Spark Dr North														
7	L2	128	5.0	128	5.0	0.224	6.9	LOS A	1.4	10.1	0.67	0.71	0.67	27.3
8	T1	53	5.0	53	5.0	0.224	6.8	LOS A	1.4	10.1	0.67	0.71	0.67	54.0
9u	U	5	5.0	5	5.0	0.224	14.0	LOS A	1.4	10.1	0.67	0.71	0.67	52.2
Approach		186	5.0	186	5.0	0.224	7.1	LOS A	1.4	10.1	0.67	0.71	0.67	36.4
West: Magdalene Terrace														
10	L2	30	5.0	30	5.0	0.476	5.9	LOS A	3.5	25.9	0.63	0.67	0.63	45.8
11	T1	268	5.0	268	5.0	0.476	5.8	LOS A	3.5	25.9	0.63	0.67	0.63	22.1
12	R2	201	5.0	201	5.0	0.476	10.9	LOS A	3.5	25.9	0.63	0.67	0.63	51.7
Approach		499	5.0	499	5.0	0.476	7.9	LOS A	3.5	25.9	0.63	0.67	0.63	37.1
All Vehicles		1423	5.0	1423	5.0	0.476	7.2	LOS A	3.5	25.9	0.58	0.65	0.58	42.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Brodie Spark Dr and Arncliff St (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Brodie Spark Dr East														
4	L2	412	5.0	412	5.0	0.305	4.5	LOS A	2.0	14.8	0.44	0.55	0.44	52.4
6	R2	203	5.0	203	5.0	0.221	9.5	LOS A	1.3	9.5	0.44	0.66	0.44	43.4
6u	U	39	5.0	39	5.0	0.221	11.6	LOS A	1.3	9.5	0.44	0.66	0.44	30.0
Approach		654	5.0	654	5.0	0.305	6.5	LOS A	2.0	14.8	0.44	0.59	0.44	49.3
North: Brodie Spark Dr North														
7	L2	155	5.0	155	5.0	0.256	7.4	LOS A	1.6	11.9	0.71	0.75	0.71	27.1
8	T1	41	5.0	41	5.0	0.256	7.3	LOS A	1.6	11.9	0.71	0.75	0.71	53.7
9u	U	7	5.0	7	5.0	0.256	14.5	LOS B	1.6	11.9	0.71	0.75	0.71	51.7
Approach		203	5.0	203	5.0	0.256	7.6	LOS A	1.6	11.9	0.71	0.75	0.71	33.9
West: Magdalene Terrace														
10	L2	32	5.0	32	5.0	0.501	5.7	LOS A	3.8	28.0	0.61	0.64	0.61	46.5
11	T1	366	5.0	366	5.0	0.501	5.6	LOS A	3.8	28.0	0.61	0.64	0.61	22.3
12	R2	153	5.0	153	5.0	0.501	10.7	LOS A	3.8	28.0	0.61	0.64	0.61	52.2
Approach		551	5.0	551	5.0	0.501	7.1	LOS A	3.8	28.0	0.61	0.64	0.61	33.5
All Vehicles		1408	5.0	1408	5.0	0.501	6.9	LOS A	3.8	28.0	0.55	0.63	0.55	40.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Allen Street and Arncliff Street (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Arncliff St South														
1	L2	47	5.0	47	5.0	0.077	5.1	LOS A	0.4	3.0	0.43	0.55	0.43	48.7
2	T1	23	5.0	23	5.0	0.077	5.2	LOS A	0.4	3.0	0.43	0.55	0.43	55.0
3	R2	11	5.0	11	5.0	0.077	10.1	LOS A	0.4	3.0	0.43	0.55	0.43	51.4
3u	U	1	5.0	1	5.0	0.077	12.2	LOS A	0.4	3.0	0.43	0.55	0.43	54.8
Approach		82	5.0	82	5.0	0.077	5.9	LOS A	0.4	3.0	0.43	0.55	0.43	51.6
East: Allen St														
4	L2	13	5.0	13	5.0	0.118	5.8	LOS A	0.6	4.7	0.53	0.61	0.53	48.7
5	T1	74	5.0	74	5.0	0.118	5.9	LOS A	0.6	4.7	0.53	0.61	0.53	44.7
6	R2	25	5.0	25	5.0	0.118	10.8	LOS A	0.6	4.7	0.53	0.61	0.53	52.8
6u	U	2	5.0	2	5.0	0.118	12.9	LOS A	0.6	4.7	0.53	0.61	0.53	48.4
Approach		114	5.0	114	5.0	0.118	7.1	LOS A	0.6	4.7	0.53	0.61	0.53	48.2
North: Arncliff St South														
7	L2	43	5.0	43	5.0	0.039	5.7	LOS A	0.2	1.6	0.55	0.57	0.55	52.6
8	T1	60	5.0	60	5.0	0.245	7.3	LOS A	1.5	10.6	0.71	0.76	0.71	51.8
9	R2	152	5.0	152	5.0	0.245	12.2	LOS A	1.5	10.6	0.71	0.76	0.71	36.5
9u	U	2	5.0	2	5.0	0.245	14.3	LOS A	1.5	10.6	0.71	0.76	0.71	53.9
Approach		257	5.0	257	5.0	0.245	10.0	LOS A	1.5	10.6	0.68	0.73	0.68	42.4
West: Wollongong Rd														
10	L2	137	5.0	137	5.0	0.536	4.3	LOS A	4.7	34.1	0.32	0.47	0.32	51.9
11	T1	480	5.0	480	5.0	0.536	4.4	LOS A	4.7	34.1	0.32	0.47	0.32	46.4
12	R2	155	5.0	155	5.0	0.536	9.3	LOS A	4.7	34.1	0.32	0.47	0.32	50.9
12u	U	1	5.0	1	5.0	0.536	11.4	LOS A	4.7	34.1	0.32	0.47	0.32	20.2
Approach		773	5.0	773	5.0	0.536	5.3	LOS A	4.7	34.1	0.32	0.47	0.32	48.9
All Vehicles		1226	5.0	1226	5.0	0.536	6.5	LOS A	4.7	34.1	0.42	0.54	0.42	46.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Allen Street and Arncliff Street (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Arncliff St South														
1	L2	42	5.0	42	5.0	0.076	6.4	LOS A	0.4	3.0	0.58	0.63	0.58	48.0
2	T1	21	5.0	21	5.0	0.076	6.5	LOS A	0.4	3.0	0.58	0.63	0.58	54.6
3	R2	3	5.0	3	5.0	0.076	11.4	LOS A	0.4	3.0	0.58	0.63	0.58	50.8
3u	U	1	5.0	1	5.0	0.076	13.5	LOS A	0.4	3.0	0.58	0.63	0.58	54.3
Approach		67	5.0	67	5.0	0.076	6.8	LOS A	0.4	3.0	0.58	0.63	0.58	51.1
East: Allen St														
4	L2	13	5.0	13	5.0	0.148	7.0	LOS A	0.9	6.3	0.65	0.71	0.65	47.4
5	T1	65	5.0	65	5.0	0.148	7.1	LOS A	0.9	6.3	0.65	0.71	0.65	42.7
6	R2	44	5.0	44	5.0	0.148	12.0	LOS A	0.9	6.3	0.65	0.71	0.65	51.7
6u	U	1	5.0	1	5.0	0.148	14.1	LOS A	0.9	6.3	0.65	0.71	0.65	46.5
Approach		123	5.0	123	5.0	0.148	8.9	LOS A	0.9	6.3	0.65	0.71	0.65	47.9
North: Arncliff St South														
7	L2	48	5.0	48	5.0	0.034	4.3	LOS A	0.2	1.3	0.30	0.47	0.30	53.5
8	T1	85	5.0	85	5.0	0.370	5.1	LOS A	2.3	16.5	0.47	0.65	0.47	52.6
9	R2	371	5.0	371	5.0	0.370	10.0	LOS A	2.3	16.5	0.47	0.65	0.47	37.0
9u	U	3	5.0	3	5.0	0.370	12.1	LOS A	2.3	16.5	0.47	0.65	0.47	54.6
Approach		507	5.0	507	5.0	0.370	8.6	LOS A	2.3	16.5	0.46	0.63	0.46	40.9
West: Wollongong Rd														
10	L2	119	5.0	119	5.0	0.262	4.2	LOS A	1.7	12.1	0.26	0.49	0.26	52.1
11	T1	152	5.0	152	5.0	0.262	4.3	LOS A	1.7	12.1	0.26	0.49	0.26	46.7
12	R2	83	5.0	83	5.0	0.262	9.2	LOS A	1.7	12.1	0.26	0.49	0.26	51.2
12u	U	1	5.0	1	5.0	0.262	11.3	LOS A	1.7	12.1	0.26	0.49	0.26	20.2
Approach		355	5.0	355	5.0	0.262	5.4	LOS A	1.7	12.1	0.26	0.49	0.26	50.2
All Vehicles		1052	5.0	1052	5.0	0.370	7.5	LOS A	2.3	16.5	0.42	0.59	0.42	44.2

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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Allen Street and Arncliff Street (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Arncliff St South														
1	L2	41	5.0	41	5.0	0.069	5.7	LOS A	0.4	2.7	0.52	0.59	0.52	48.3
2	T1	18	5.0	18	5.0	0.069	5.8	LOS A	0.4	2.7	0.52	0.59	0.52	54.8
3	R2	4	5.0	4	5.0	0.069	10.7	LOS A	0.4	2.7	0.52	0.59	0.52	51.1
3u	U	3	5.0	3	5.0	0.069	12.8	LOS A	0.4	2.7	0.52	0.59	0.52	54.5
Approach		66	5.0	66	5.0	0.069	6.4	LOS A	0.4	2.7	0.52	0.59	0.52	51.3
East: Allen St														
4	L2	11	5.0	11	5.0	0.114	6.5	LOS A	0.6	4.7	0.61	0.66	0.61	48.3
5	T1	67	5.0	67	5.0	0.114	6.6	LOS A	0.6	4.7	0.61	0.66	0.61	44.0
6	R2	19	5.0	19	5.0	0.114	11.5	LOS A	0.6	4.7	0.61	0.66	0.61	52.4
6u	U	2	5.0	2	5.0	0.114	13.6	LOS A	0.6	4.7	0.61	0.66	0.61	47.7
Approach		99	5.0	99	5.0	0.114	7.7	LOS A	0.6	4.7	0.61	0.66	0.61	47.4
North: Arncliff St South														
7	L2	56	5.0	56	5.0	0.043	4.7	LOS A	0.2	1.6	0.39	0.51	0.39	53.2
8	T1	91	5.0	91	5.0	0.346	5.8	LOS A	2.0	14.7	0.56	0.69	0.56	52.5
9	R2	281	5.0	281	5.0	0.346	10.7	LOS A	2.0	14.7	0.56	0.69	0.56	37.0
9u	U	7	5.0	7	5.0	0.346	12.8	LOS A	2.0	14.7	0.56	0.69	0.56	54.5
Approach		435	5.0	435	5.0	0.346	8.9	LOS A	2.0	14.7	0.54	0.67	0.54	42.1
West: Wollongong Rd														
10	L2	116	5.0	116	5.0	0.336	4.1	LOS A	2.2	16.3	0.23	0.47	0.23	52.3
11	T1	260	5.0	260	5.0	0.336	4.2	LOS A	2.2	16.3	0.23	0.47	0.23	47.1
12	R2	104	5.0	104	5.0	0.336	9.1	LOS A	2.2	16.3	0.23	0.47	0.23	51.5
12u	U	2	5.0	2	5.0	0.336	11.2	LOS A	2.2	16.3	0.23	0.47	0.23	20.3
Approach		482	5.0	482	5.0	0.336	5.2	LOS A	2.2	16.3	0.23	0.47	0.23	49.9
All Vehicles		1082	5.0	1082	5.0	0.346	7.0	LOS A	2.2	16.3	0.41	0.58	0.41	45.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Wollongong Road and Firth Street (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wollongong Rd South														
2	T1	661	5.0	661	5.0	0.643	6.7	LOS A	6.3	45.7	0.70	0.66	0.72	43.7
3	R2	45	5.0	45	5.0	0.643	11.0	LOS A	6.3	45.7	0.70	0.66	0.72	51.5
3u	U	1	5.0	1	5.0	0.643	12.9	LOS A	6.3	45.7	0.70	0.66	0.72	47.0
Approach		707	5.0	707	5.0	0.643	6.9	LOS A	6.3	45.7	0.70	0.66	0.72	44.6
East: Firth St														
4	L2	66	5.0	66	5.0	0.273	6.3	LOS A	1.6	11.6	0.56	0.72	0.56	49.0
6	R2	191	5.0	191	5.0	0.273	10.7	LOS A	1.6	11.6	0.56	0.72	0.56	37.0
6u	U	3	5.0	3	5.0	0.273	12.6	LOS A	1.6	11.6	0.56	0.72	0.56	53.5
Approach		260	5.0	260	5.0	0.273	9.6	LOS A	1.6	11.6	0.56	0.72	0.56	39.9
North: Wollongong Rd North														
7	L2	85	5.0	85	5.0	0.308	4.3	LOS A	2.2	16.3	0.24	0.46	0.24	51.6
8	T1	311	5.0	311	5.0	0.308	4.4	LOS A	2.2	16.3	0.24	0.46	0.24	46.8
9u	U	30	5.0	30	5.0	0.308	10.6	LOS A	2.2	16.3	0.24	0.46	0.24	21.5
Approach		426	5.0	426	5.0	0.308	4.8	LOS A	2.2	16.3	0.24	0.46	0.24	46.0
All Vehicles		1393	5.0	1393	5.0	0.643	6.8	LOS A	6.3	45.7	0.53	0.61	0.54	43.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Wollongong Road and Firth Street (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wollongong Rd South														
2	T1	247	5.0	247	5.0	0.252	5.0	LOS A	1.5	11.3	0.37	0.52	0.37	45.9
3	R2	46	5.0	46	5.0	0.252	9.3	LOS A	1.5	11.3	0.37	0.52	0.37	52.8
3u	U	2	5.0	2	5.0	0.252	11.2	LOS A	1.5	11.3	0.37	0.52	0.37	49.0
Approach		295	5.0	295	5.0	0.252	5.7	LOS A	1.5	11.3	0.37	0.52	0.37	47.8
East: Firth St														
4	L2	112	5.0	112	5.0	0.240	6.7	LOS A	1.4	10.0	0.58	0.72	0.58	49.5
6	R2	101	5.0	101	5.0	0.240	11.1	LOS A	1.4	10.0	0.58	0.72	0.58	37.2
6u	U	4	5.0	4	5.0	0.240	13.0	LOS A	1.4	10.0	0.58	0.72	0.58	54.0
Approach		217	5.0	217	5.0	0.240	8.8	LOS A	1.4	10.0	0.58	0.72	0.58	43.5
North: Wollongong Rd North														
7	L2	86	5.0	86	5.0	0.351	4.4	LOS A	2.4	17.8	0.24	0.46	0.24	51.7
8	T1	373	5.0	373	5.0	0.351	4.5	LOS A	2.4	17.8	0.24	0.46	0.24	46.9
9u	U	29	5.0	29	5.0	0.351	10.7	LOS A	2.4	17.8	0.24	0.46	0.24	21.5
Approach		488	5.0	488	5.0	0.351	4.8	LOS A	2.4	17.8	0.24	0.46	0.24	46.2
All Vehicles		1000	5.0	1000	5.0	0.351	5.9	LOS A	2.4	17.8	0.35	0.53	0.35	45.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Wollongong Road and Firth Street (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wollongong Rd South														
2	T1	326	5.0	326	5.0	0.342	5.3	LOS A	2.3	16.7	0.45	0.55	0.45	45.3
3	R2	56	5.0	56	5.0	0.342	9.6	LOS A	2.3	16.7	0.45	0.55	0.45	52.4
3u	U	6	5.0	6	5.0	0.342	11.5	LOS A	2.3	16.7	0.45	0.55	0.45	48.4
Approach		388	5.0	388	5.0	0.342	6.0	LOS A	2.3	16.7	0.45	0.55	0.45	47.1
East: Firth St														
4	L2	94	5.0	94	5.0	0.253	6.4	LOS A	1.5	10.7	0.56	0.71	0.56	49.3
6	R2	131	5.0	131	5.0	0.253	10.8	LOS A	1.5	10.7	0.56	0.71	0.56	37.1
6u	U	11	5.0	11	5.0	0.253	12.7	LOS A	1.5	10.7	0.56	0.71	0.56	53.8
Approach		236	5.0	236	5.0	0.253	9.1	LOS A	1.5	10.7	0.56	0.71	0.56	42.5
North: Wollongong Rd North														
7	L2	93	5.0	93	5.0	0.337	4.5	LOS A	2.3	16.8	0.29	0.47	0.29	51.4
8	T1	325	5.0	325	5.0	0.337	4.6	LOS A	2.3	16.8	0.29	0.47	0.29	46.4
9u	U	29	5.0	29	5.0	0.337	10.8	LOS A	2.3	16.8	0.29	0.47	0.29	21.4
Approach		447	5.0	447	5.0	0.337	5.0	LOS A	2.3	16.8	0.29	0.47	0.29	46.0
All Vehicles		1071	5.0	1071	5.0	0.342	6.3	LOS A	2.3	16.8	0.41	0.56	0.41	45.0

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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Burrows St and Eden St (Site Folder: General)]

AM Existing Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Eden St South														
1	L2	45	5.0	45	5.0	0.045	5.7	LOS A	0.2	1.3	0.08	0.56	0.08	50.6
2	T1	2	5.0	2	5.0	0.045	6.1	LOS A	0.2	1.3	0.08	0.56	0.08	45.6
3	R2	10	5.0	10	5.0	0.045	7.5	LOS A	0.2	1.3	0.08	0.56	0.08	44.4
Approach		57	5.0	57	5.0	0.045	6.0	LOS A	0.2	1.3	0.08	0.56	0.08	49.7
East: Burrows St East														
4	L2	8	5.0	8	5.0	0.020	3.8	LOS A	0.0	0.1	0.03	0.14	0.03	53.5
5	T1	27	5.0	27	5.0	0.020	0.0	LOS A	0.0	0.1	0.03	0.14	0.03	57.7
6	R2	1	5.0	1	5.0	0.020	4.3	LOS A	0.0	0.1	0.03	0.14	0.03	30.1
Approach		36	5.0	36	5.0	0.020	1.0	NA	0.0	0.1	0.03	0.14	0.03	56.2
North: Eden St North														
7	L2	1	5.0	1	5.0	0.003	4.6	LOS A	0.0	0.1	0.30	0.51	0.30	23.1
8	T1	1	5.0	1	5.0	0.003	4.7	LOS A	0.0	0.1	0.30	0.51	0.30	47.3
9	R2	1	5.0	1	5.0	0.003	6.4	LOS A	0.0	0.1	0.30	0.51	0.30	46.3
Approach		3	5.0	3	5.0	0.003	5.3	LOS A	0.0	0.1	0.30	0.51	0.30	41.6
West: Burrows St West														
10	L2	1	5.0	1	5.0	0.059	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	49.5
11	T1	170	5.0	170	5.0	0.059	0.0	LOS A	0.2	1.7	0.03	0.09	0.03	57.6
12	R2	46	5.0	46	5.0	0.059	5.6	LOS A	0.2	1.7	0.09	0.25	0.09	53.2
Approach		217	5.0	217	5.0	0.059	1.2	NA	0.2	1.7	0.04	0.13	0.04	56.1
All Vehicles		313	5.0	313	5.0	0.059	2.1	NA	0.2	1.7	0.05	0.21	0.05	54.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Burrows St and Eden St (Site Folder: General)]

PM Existing Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Eden St South														
1	L2	34	5.0	34	5.0	0.048	5.7	LOS A	0.2	1.4	0.09	0.56	0.09	50.5
2	T1	3	5.0	3	5.0	0.048	5.9	LOS A	0.2	1.4	0.09	0.56	0.09	45.4
3	R2	18	5.0	18	5.0	0.048	7.2	LOS A	0.2	1.4	0.09	0.56	0.09	44.2
Approach		55	5.0	55	5.0	0.048	6.2	LOS A	0.2	1.4	0.09	0.56	0.09	48.7
East: Burrows St East														
4	L2	6	5.0	6	5.0	0.017	3.8	LOS A	0.0	0.1	0.03	0.12	0.03	53.7
5	T1	25	5.0	25	5.0	0.017	0.0	LOS A	0.0	0.1	0.03	0.12	0.03	57.9
6	R2	1	5.0	1	5.0	0.017	4.3	LOS A	0.0	0.1	0.03	0.12	0.03	30.3
Approach		32	5.0	32	5.0	0.017	0.9	NA	0.0	0.1	0.03	0.12	0.03	56.6
North: Eden St North														
7	L2	1	5.0	1	5.0	0.003	4.6	LOS A	0.0	0.1	0.28	0.51	0.28	23.4
8	T1	1	5.0	1	5.0	0.003	4.5	LOS A	0.0	0.1	0.28	0.51	0.28	47.6
9	R2	1	5.0	1	5.0	0.003	6.1	LOS A	0.0	0.1	0.28	0.51	0.28	46.5
Approach		3	5.0	3	5.0	0.003	5.1	LOS A	0.0	0.1	0.28	0.51	0.28	41.9
West: Burrows St West														
10	L2	3	5.0	3	5.0	0.052	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
11	T1	165	5.0	165	5.0	0.052	0.0	LOS A	0.1	1.0	0.02	0.07	0.02	58.1
12	R2	24	5.0	24	5.0	0.052	5.6	LOS A	0.1	1.0	0.06	0.15	0.06	54.5
Approach		192	5.0	192	5.0	0.052	0.8	NA	0.1	1.0	0.03	0.08	0.03	57.2
All Vehicles		282	5.0	282	5.0	0.052	1.9	NA	0.2	1.4	0.04	0.19	0.04	54.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Burrows St and Eden St (Site Folder: General)]

SAT Existing Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Eden St South														
1	L2	24	5.0	24	5.0	0.044	5.7	LOS A	0.2	1.2	0.07	0.57	0.07	50.3
2	T1	3	5.0	3	5.0	0.044	5.9	LOS A	0.2	1.2	0.07	0.57	0.07	45.2
3	R2	19	5.0	19	5.0	0.044	7.3	LOS A	0.2	1.2	0.07	0.57	0.07	43.9
Approach		46	5.0	46	5.0	0.044	6.3	LOS A	0.2	1.2	0.07	0.57	0.07	48.0
East: Burrows St East														
4	L2	7	5.0	7	5.0	0.014	3.8	LOS A	0.0	0.1	0.04	0.17	0.04	53.0
5	T1	18	5.0	18	5.0	0.014	0.1	LOS A	0.0	0.1	0.04	0.17	0.04	57.1
6	R2	1	5.0	1	5.0	0.014	4.4	LOS A	0.0	0.1	0.04	0.17	0.04	29.6
Approach		26	5.0	26	5.0	0.014	1.2	NA	0.0	0.1	0.04	0.17	0.04	55.3
North: Eden St North														
7	L2	6	5.0	6	5.0	0.019	4.6	LOS A	0.1	0.5	0.28	0.55	0.28	22.8
8	T1	1	5.0	1	5.0	0.019	4.6	LOS A	0.1	0.5	0.28	0.55	0.28	47.0
9	R2	10	5.0	10	5.0	0.019	6.1	LOS A	0.1	0.5	0.28	0.55	0.28	45.9
Approach		17	5.0	17	5.0	0.019	5.5	LOS A	0.1	0.5	0.28	0.55	0.28	40.6
West: Burrows St West														
10	L2	5	5.0	5	5.0	0.055	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	49.1
11	T1	187	5.0	187	5.0	0.055	0.0	LOS A	0.1	0.6	0.01	0.05	0.01	58.7
12	R2	13	5.0	13	5.0	0.055	5.6	LOS A	0.1	0.6	0.03	0.08	0.03	55.5
Approach		205	5.0	205	5.0	0.055	0.5	NA	0.1	0.6	0.01	0.05	0.01	58.1
All Vehicles		294	5.0	294	5.0	0.055	1.8	NA	0.2	1.2	0.04	0.17	0.04	54.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Princes Highway and Burrows Street (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Minimum Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	35	5.0	35	5.0	*0.445	11.1	LOS A	14.6	106.4	0.36	0.36	0.36	46.4
2	T1	1928	5.0	1928	5.0	*0.445	5.5	LOS A	14.8	107.8	0.36	0.34	0.36	47.1
Approach		1963	5.0	1963	5.0	0.445	5.6	LOS A	14.8	107.8	0.36	0.34	0.36	47.0
North: Princes Hghwy North														
7	L2	17	5.0	17	5.0	0.166	9.0	LOS A	4.1	29.9	0.27	0.26	0.27	20.2
8	T1	715	5.0	715	5.0	0.166	4.1	LOS A	4.1	30.0	0.27	0.24	0.27	49.7
Approach		732	5.0	732	5.0	0.166	4.2	LOS A	4.1	30.0	0.27	0.24	0.27	48.8
West: Burrows Street														
10	L2	20	5.0	20	5.0	0.098	66.7	LOS E	1.2	9.1	0.93	0.71	0.93	12.1
12	R2	160	5.0	160	5.0	0.662	69.9	LOS E	10.8	78.6	1.00	0.82	1.02	16.8
Approach		180	5.0	180	5.0	0.662	69.5	LOS E	10.8	78.6	0.99	0.81	1.01	16.3
All Vehicles		2875	5.0	2875	5.0	0.662	9.2	LOS A	14.8	107.8	0.38	0.35	0.38	41.1

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Princes Hghwy North												
P3	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	236.2	222.8	0.94
West: Burrows Street												
P4	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	227.8	211.9	0.93
All Pedestrians		100	105	64.8	LOS F	0.2	0.2	0.96	0.96	232.0	217.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Highway and Burrows Street (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Minimum Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	27	5.0	27	5.0	* 0.226	9.8	LOS A	5.7	41.9	0.29	0.29	0.29	47.9
2	T1	971	5.0	971	5.0	0.226	4.3	LOS A	5.9	43.3	0.29	0.26	0.29	49.2
Approach		998	5.0	998	5.0	0.226	4.4	LOS A	5.9	43.3	0.29	0.26	0.29	49.2
North: Princes Hghwy North														
7	L2	31	5.0	31	5.0	0.523	11.0	LOS A	19.1	139.7	0.40	0.39	0.40	19.2
8	T1	2279	5.0	2279	5.0	* 0.523	6.0	LOS A	19.2	140.0	0.40	0.38	0.40	46.1
Approach		2310	5.0	2310	5.0	0.523	6.1	LOS A	19.2	140.0	0.40	0.38	0.40	45.7
West: Burrows Street														
10	L2	9	5.0	9	5.0	0.037	62.7	LOS E	0.5	3.9	0.90	0.67	0.90	12.6
12	R2	173	5.0	173	5.0	0.716	71.4	LOS F	11.9	86.7	1.00	0.85	1.07	16.5
Approach		182	5.0	182	5.0	0.716	70.9	LOS F	11.9	86.7	0.99	0.84	1.06	16.4
All Vehicles		3490	5.0	3490	5.0	0.716	9.0	LOS A	19.2	140.0	0.40	0.37	0.40	41.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Princes Hghwy North												
P3	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	236.2	222.8	0.94
West: Burrows Street												
P4	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	227.8	211.9	0.93
All Pedestrians		100	105	64.8	LOS F	0.2	0.2	0.96	0.96	232.0	217.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Highway and Burrows Street (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Minimum Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	29	5.0	29	5.0	* 0.296	10.2	LOS A	8.2	59.5	0.31	0.30	0.31	47.5
2	T1	1278	5.0	1278	5.0	0.296	4.6	LOS A	8.3	60.8	0.31	0.28	0.31	48.6
Approach		1307	5.0	1307	5.0	0.296	4.8	LOS A	8.3	60.8	0.31	0.29	0.31	48.6
North: Princes Hghwy North														
7	L2	21	5.0	21	5.0	0.309	9.6	LOS A	8.8	64.2	0.31	0.30	0.31	19.9
8	T1	1344	5.0	1344	5.0	* 0.309	4.7	LOS A	8.8	64.4	0.31	0.29	0.31	48.6
Approach		1365	5.0	1365	5.0	0.309	4.8	LOS A	8.8	64.4	0.31	0.29	0.31	48.0
West: Burrows Street														
10	L2	16	5.0	16	5.0	0.066	63.2	LOS E	1.0	7.0	0.90	0.70	0.90	12.6
12	R2	205	5.0	205	5.0	0.848	78.5	LOS F	15.2	110.9	1.00	0.92	1.23	15.4
Approach		221	5.0	221	5.0	0.848	77.3	LOS F	15.2	110.9	0.99	0.90	1.20	15.3
All Vehicles		2893	5.0	2893	5.0	0.848	10.3	LOS A	15.2	110.9	0.36	0.33	0.38	39.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Princes Hghwy North												
P3	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	236.2	222.8	0.94
West: Burrows Street												
P4	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	227.8	211.9	0.93
All Pedestrians		100	105	64.8	LOS F	0.2	0.2	0.96	0.96	232.0	217.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes HIghway and Forest Road (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	73	5.0	73	5.0	0.069	14.9	LOS B	1.8	13.0	0.42	0.65	0.42	47.3
2	T1	1572	5.0	1572	5.0	0.724	37.2	LOS C	31.2	227.8	0.90	0.80	0.90	38.0
3	R2	507	5.0	507	5.0	* 1.164	204.6	LOS F	56.3	410.8	1.00	1.38	2.18	13.1
Approach		2152	5.0	2152	5.0	1.164	75.9	LOS F	56.3	410.8	0.90	0.93	1.18	26.1
East: Wickham St														
4	L2	105	5.0	105	5.0	0.091	8.5	LOS A	1.4	10.2	0.25	0.61	0.25	52.6
5	T1	661	5.0	661	5.0	0.573	40.1	LOS C	20.2	147.8	0.86	0.74	0.86	25.9
Approach		766	5.0	766	5.0	0.573	35.8	LOS C	20.2	147.8	0.78	0.73	0.78	29.8
North: Princes Hghwy North														
7	L2	79	5.0	79	5.0	0.121	37.1	LOS C	3.6	26.2	0.72	0.71	0.72	28.5
8	T1	547	5.0	547	5.0	* 0.636	49.7	LOS D	18.3	133.6	0.93	0.79	0.93	33.8
9	R2	244	5.0	244	5.0	1.003	118.5	LOS F	23.1	168.9	1.00	1.12	1.64	11.0
Approach		870	5.0	870	5.0	1.003	67.8	LOS E	23.1	168.9	0.93	0.88	1.11	25.6
West: Forest Rd														
10	L2	330	5.0	330	5.0	0.936	78.7	LOS F	25.1	183.5	0.87	1.00	1.26	15.2
11	T1	1039	5.0	1039	5.0	* 1.008	108.2	LOS F	63.3	462.0	1.00	1.29	1.53	13.1
Approach		1369	5.0	1369	5.0	1.008	101.1	LOS F	63.3	462.0	0.97	1.22	1.46	13.5
All Vehicles		5157	5.0	5157	5.0	1.164	75.3	LOS F	63.3	462.0	0.91	0.97	1.18	22.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
East: Wickham St												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Princes Hghwy North												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
West: Forest Rd												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	232.7	219.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes HIghway and Forest Road (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	101	5.0	101	5.0	0.239	42.7	LOS D	5.0	36.8	0.79	0.72	0.79	34.6
2	T1	711	5.0	711	5.0	0.889	67.8	LOS E	24.5	178.9	0.98	0.96	1.19	29.2
3	R2	151	5.0	151	5.0	0.278	29.7	LOS C	5.5	40.4	0.81	0.76	0.81	41.1
Approach		963	5.0	963	5.0	0.889	59.2	LOS E	24.5	178.9	0.93	0.91	1.09	31.2
East: Wickham St														
4	L2	72	5.0	72	5.0	0.063	15.3	LOS B	1.8	13.5	0.40	0.63	0.40	48.2
5	T1	1033	5.0	1033	5.0	* 0.990	97.4	LOS F	50.1	365.4	1.00	1.25	1.45	14.3
Approach		1105	5.0	1105	5.0	0.990	92.0	LOS F	50.1	365.4	0.96	1.20	1.39	15.8
North: Princes Hghwy North														
7	L2	109	5.0	109	5.0	0.111	13.9	LOS A	2.5	18.5	0.42	0.66	0.42	41.8
8	T1	1705	5.0	1705	5.0	* 1.015	111.0	LOS F	60.7	442.9	1.00	1.32	1.54	21.9
9	R2	635	5.0	635	5.0	* 1.012	90.6	LOS F	48.7	355.5	1.00	1.11	1.50	11.4
Approach		2449	5.0	2449	5.0	1.015	101.4	LOS F	60.7	442.9	0.97	1.24	1.48	19.7
West: Forest Rd														
10	L2	254	5.0	254	5.0	0.759	53.6	LOS D	15.1	110.4	0.89	0.84	0.96	19.8
11	T1	760	5.0	760	5.0	0.845	56.1	LOS D	31.6	230.4	0.96	0.93	1.10	21.2
Approach		1014	5.0	1014	5.0	0.845	55.5	LOS D	31.6	230.4	0.94	0.91	1.06	20.8
All Vehicles		5531	5.0	5531	5.0	1.015	83.8	LOS F	60.7	442.9	0.96	1.11	1.32	21.0

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
East: Wickham St												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Princes Hghwy North												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
West: Forest Rd												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	234.0	220.7	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes HIghway and Forest Road (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	125	5.0	125	5.0	0.189	18.6	LOS B	3.7	26.9	0.50	0.68	0.50	45.1
2	T1	984	5.0	984	5.0	*0.810	56.2	LOS D	25.8	188.6	0.97	0.91	1.07	32.0
3	R2	211	5.0	211	5.0	*0.784	72.0	LOS F	14.8	107.8	1.00	0.88	1.12	28.7
Approach		1320	5.0	1320	5.0	0.810	55.2	LOS D	25.8	188.6	0.93	0.88	1.03	32.2
East: Wickham St														
4	L2	89	5.0	89	5.0	0.076	8.7	LOS A	1.3	9.3	0.26	0.62	0.26	52.4
5	T1	667	5.0	667	5.0	0.604	42.8	LOS D	20.6	150.4	0.89	0.77	0.89	25.0
Approach		756	5.0	756	5.0	0.604	38.8	LOS C	20.6	150.4	0.82	0.75	0.82	28.4
North: Princes Hghwy North														
7	L2	141	5.0	141	5.0	0.147	17.8	LOS B	4.1	30.1	0.49	0.68	0.49	38.7
8	T1	1026	5.0	1026	5.0	0.487	32.1	LOS C	18.7	136.3	0.78	0.68	0.78	40.0
9	R2	376	5.0	376	5.0	*0.793	35.4	LOS C	14.3	104.4	0.99	0.88	1.05	25.4
Approach		1543	5.0	1543	5.0	0.793	31.6	LOS C	18.7	136.3	0.80	0.73	0.82	37.2
West: Forest Rd														
10	L2	300	5.0	300	5.0	*0.804	54.0	LOS D	18.3	133.4	0.88	0.87	0.99	19.7
11	T1	753	5.0	753	5.0	0.777	46.9	LOS D	28.9	211.0	0.93	0.84	0.97	23.7
Approach		1053	5.0	1053	5.0	0.804	48.9	LOS D	28.9	211.0	0.92	0.85	0.98	22.5
All Vehicles		4672	5.0	4672	5.0	0.810	43.3	LOS D	28.9	211.0	0.87	0.80	0.91	31.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
East: Wickham St												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Princes Hghwy North												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
West: Forest Rd												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	234.0	220.7	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Forest Road and Eden Street (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wardell St														
1	L2	13	5.0	13	5.0	0.160	8.2	LOS A	0.6	4.1	0.74	0.79	0.74	15.0
2	T1	1	5.0	1	5.0	0.160	36.1	LOS C	0.6	4.1	0.74	0.79	0.74	30.0
3	R2	13	5.0	13	5.0	0.160	47.4	LOS D	0.6	4.1	0.74	0.79	0.74	20.6
Approach		27	5.0	27	5.0	0.160	28.1	LOS B	0.6	4.1	0.74	0.79	0.74	18.4
East: Forest Rd East														
4	L2	55	5.0	55	5.0	0.290	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	51.4
5	T1	896	5.0	896	5.0	0.290	1.2	LOS A	1.4	10.3	0.12	0.06	0.14	50.8
6	R2	38	5.0	38	5.0	0.290	15.6	LOS B	1.4	10.3	0.27	0.06	0.30	49.8
Approach		989	5.0	989	5.0	0.290	2.0	NA	1.4	10.3	0.12	0.06	0.13	50.8
North: Eden St														
7	L2	31	5.0	31	5.0	0.071	10.0	LOS A	0.3	2.4	0.65	0.70	0.65	39.9
8	T1	1	5.0	1	5.0	0.071	36.6	LOS C	0.3	2.4	0.65	0.70	0.65	40.5
9	R2	2	5.0	2	5.0	0.071	45.3	LOS D	0.3	2.4	0.65	0.70	0.65	36.0
Approach		34	5.0	34	5.0	0.071	12.9	LOS A	0.3	2.4	0.65	0.70	0.65	39.7
West: Forest Rd West														
10	L2	11	5.0	11	5.0	0.373	3.9	LOS A	0.0	0.0	0.00	0.01	0.00	55.3
11	T1	1328	5.0	1328	5.0	0.373	0.4	LOS A	0.8	6.0	0.05	0.02	0.06	57.0
12	R2	26	5.0	26	5.0	0.373	10.8	LOS A	0.8	6.0	0.11	0.02	0.12	45.8
Approach		1365	5.0	1365	5.0	0.373	0.6	NA	0.8	6.0	0.05	0.02	0.06	56.8
All Vehicles		2415	5.0	2415	5.0	0.373	1.6	NA	1.4	10.3	0.10	0.05	0.11	52.0

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Forest Road and Eden Street (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wardell St														
1	L2	24	5.0	24	5.0	0.169	12.4	LOS A	0.6	4.7	0.79	0.84	0.79	15.6
2	T1	2	5.0	2	5.0	0.169	52.1	LOS D	0.6	4.7	0.79	0.84	0.79	30.9
3	R2	7	5.0	7	5.0	0.169	67.3	LOS E	0.6	4.7	0.79	0.84	0.79	21.4
Approach		33	5.0	33	5.0	0.169	26.5	LOS B	0.6	4.7	0.79	0.84	0.79	18.0
East: Forest Rd East														
4	L2	22	5.0	22	5.0	0.480	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	52.5
5	T1	1713	5.0	1713	5.0	0.480	0.4	LOS A	1.1	8.2	0.05	0.02	0.06	56.5
6	R2	28	5.0	28	5.0	0.480	14.2	LOS A	1.1	8.2	0.11	0.02	0.13	53.6
Approach		1763	5.0	1763	5.0	0.480	0.7	NA	1.1	8.2	0.05	0.02	0.06	56.3
North: Eden St														
7	L2	14	5.0	14	5.0	0.213	9.2	LOS A	0.7	5.4	0.79	0.81	0.81	25.7
8	T1	1	5.0	1	5.0	0.213	52.8	LOS D	0.7	5.4	0.79	0.81	0.81	25.9
9	R2	12	5.0	12	5.0	0.213	68.9	LOS E	0.7	5.4	0.79	0.81	0.81	22.6
Approach		27	5.0	27	5.0	0.213	37.4	LOS C	0.7	5.4	0.79	0.81	0.81	24.3
West: Forest Rd West														
10	L2	11	5.0	11	5.0	0.278	3.9	LOS A	0.0	0.0	0.00	0.01	0.00	55.3
11	T1	982	5.0	982	5.0	0.278	0.7	LOS A	0.7	5.3	0.05	0.01	0.06	55.1
12	R2	10	5.0	10	5.0	0.278	21.1	LOS B	0.7	5.3	0.11	0.01	0.12	43.3
Approach		1003	5.0	1003	5.0	0.278	1.0	NA	0.7	5.3	0.05	0.01	0.06	55.0
All Vehicles		2826	5.0	2826	5.0	0.480	1.4	NA	1.1	8.2	0.07	0.03	0.08	52.8

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Forest Road and Eden Street (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wardell St														
1	L2	4	5.0	4	5.0	0.020	8.9	LOS A	0.1	0.6	0.67	0.68	0.67	19.8
2	T1	1	5.0	1	5.0	0.020	30.1	LOS C	0.1	0.6	0.67	0.68	0.67	36.9
3	R2	1	5.0	1	5.0	0.020	37.6	LOS C	0.1	0.6	0.67	0.68	0.67	27.0
Approach		6	5.0	6	5.0	0.020	17.2	LOS B	0.1	0.6	0.67	0.68	0.67	24.7
East: Forest Rd East														
4	L2	12	5.0	12	5.0	0.319	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	52.7
5	T1	1127	5.0	1127	5.0	0.319	0.4	LOS A	0.7	5.0	0.05	0.02	0.06	56.6
6	R2	23	5.0	23	5.0	0.319	12.5	LOS A	0.7	5.0	0.11	0.03	0.12	53.5
Approach		1162	5.0	1162	5.0	0.319	0.7	NA	0.7	5.0	0.05	0.02	0.06	56.4
North: Eden St														
7	L2	8	5.0	8	5.0	0.076	8.4	LOS A	0.3	2.0	0.70	0.76	0.70	32.5
8	T1	1	5.0	1	5.0	0.076	31.0	LOS C	0.3	2.0	0.70	0.76	0.70	32.9
9	R2	7	5.0	7	5.0	0.076	38.3	LOS C	0.3	2.0	0.70	0.76	0.70	29.0
Approach		16	5.0	16	5.0	0.076	22.9	LOS B	0.3	2.0	0.70	0.76	0.70	31.0
West: Forest Rd West														
10	L2	17	5.0	17	5.0	0.282	3.9	LOS A	0.0	0.0	0.00	0.02	0.00	55.2
11	T1	1031	5.0	1031	5.0	0.282	0.1	LOS A	0.2	1.2	0.01	0.01	0.02	58.8
12	R2	5	5.0	5	5.0	0.282	11.7	LOS A	0.2	1.2	0.03	0.01	0.03	48.4
Approach		1053	5.0	1053	5.0	0.282	0.2	NA	0.2	1.2	0.01	0.01	0.02	58.6
All Vehicles		2237	5.0	2237	5.0	0.319	0.7	NA	0.7	5.0	0.04	0.02	0.04	56.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Forest Road and Firth Street (Site Folder: General)]

AM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Somerville St														
1	L2	11	5.0	11	5.0	0.616	71.9	LOS F	8.4	61.0	1.00	0.80	1.01	36.0
2	T1	113	5.0	113	5.0	*0.616	66.3	LOS E	8.4	61.0	1.00	0.80	1.01	30.0
Approach		124	5.0	124	5.0	0.616	66.8	LOS E	8.4	61.0	1.00	0.80	1.01	30.7
East: Forest Rd East														
4	L2	47	5.0	47	5.0	0.407	9.7	LOS A	11.7	85.8	0.31	0.32	0.31	51.9
5	T1	761	5.0	761	5.0	0.407	8.0	LOS A	13.2	96.5	0.41	0.41	0.41	54.3
6	R2	106	5.0	106	5.0	*0.407	25.2	LOS B	13.2	96.5	0.70	0.67	0.70	40.2
Approach		914	5.0	914	5.0	0.407	10.1	LOS A	13.2	96.5	0.44	0.43	0.44	52.9
North: Firth St														
7	L2	121	5.0	121	5.0	0.178	12.5	LOS A	2.6	19.1	0.39	0.66	0.39	46.5
8	T1	70	5.0	70	5.0	0.364	63.9	LOS E	4.5	33.2	0.97	0.74	0.97	30.7
9	R2	15	5.0	15	5.0	0.181	78.2	LOS F	1.0	7.6	0.99	0.69	0.99	34.5
Approach		206	5.0	206	5.0	0.364	34.7	LOS C	4.5	33.2	0.63	0.69	0.63	37.3
West: Forest Rd West														
10	L2	18	5.0	18	5.0	*0.633	30.3	LOS C	30.0	218.7	0.77	0.70	0.77	48.1
11	T1	1244	5.0	1244	5.0	0.633	24.7	LOS B	30.0	219.4	0.77	0.70	0.77	46.2
Approach		1262	5.0	1262	5.0	0.633	24.8	LOS B	30.0	219.4	0.77	0.70	0.77	46.3
All Vehicles		2506	5.0	2506	5.0	0.633	22.3	LOS B	30.0	219.4	0.65	0.60	0.65	46.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Somerville St												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.7	208.6	0.93
East: Forest Rd East												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Firth St												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
West: Forest Rd West												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	227.9	212.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Forest Road and Firth Street (Site Folder: General)]

PM Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Somerville St														
1	L2	15	5.0	15	5.0	0.415	72.2	LOS F	4.8	35.0	0.99	0.76	0.99	35.8
2	T1	57	5.0	57	5.0	0.415	66.6	LOS E	4.8	35.0	0.99	0.76	0.99	29.8
Approach		72	5.0	72	5.0	0.415	67.7	LOS E	4.8	35.0	0.99	0.76	0.99	31.3
East: Forest Rd East														
4	L2	49	5.0	49	5.0	0.651	10.6	LOS A	25.7	187.7	0.42	0.41	0.42	51.0
5	T1	1559	5.0	1559	5.0	0.651	10.1	LOS A	26.4	192.6	0.53	0.55	0.53	53.2
6	R2	140	5.0	140	5.0	* 0.651	23.8	LOS B	26.4	192.6	0.69	0.77	0.69	41.6
Approach		1748	5.0	1748	5.0	0.651	11.2	LOS A	26.4	192.6	0.54	0.56	0.54	52.5
North: Firth St														
7	L2	84	5.0	84	5.0	0.085	11.6	LOS A	1.6	11.9	0.35	0.64	0.35	47.2
8	T1	75	5.0	75	5.0	* 0.486	66.6	LOS E	5.0	36.5	0.99	0.76	0.99	30.1
9	R2	35	5.0	35	5.0	0.351	77.8	LOS F	2.4	17.7	1.00	0.73	1.00	34.6
Approach		194	5.0	194	5.0	0.486	44.8	LOS D	5.0	36.5	0.71	0.70	0.71	35.5
West: Forest Rd West														
10	L2	35	5.0	35	5.0	0.786	53.2	LOS D	29.9	218.5	0.97	0.88	1.00	41.1
11	T1	917	5.0	917	5.0	* 0.786	47.6	LOS D	30.0	219.3	0.97	0.88	1.00	38.1
Approach		952	5.0	952	5.0	0.786	47.8	LOS D	30.0	219.3	0.97	0.88	1.00	38.2
All Vehicles		2966	5.0	2966	5.0	0.786	26.5	LOS B	30.0	219.3	0.70	0.68	0.71	44.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Somerville St												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.7	208.6	0.93
East: Forest Rd East												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Firth St												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
West: Forest Rd West												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	227.9	212.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Forest Road and Firth Street (Site Folder: General)]

SAT Peak Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Somerville St														
1	L2	13	5.0	13	5.0	0.494	72.8	LOS F	5.8	42.2	0.99	0.77	0.99	35.7
2	T1	73	5.0	73	5.0	*0.494	67.2	LOS E	5.8	42.2	0.99	0.77	0.99	29.8
Approach		86	5.0	86	5.0	0.494	68.0	LOS E	5.8	42.2	0.99	0.77	0.99	30.9
East: Forest Rd East														
4	L2	30	5.0	30	5.0	0.441	9.3	LOS A	12.7	92.8	0.30	0.30	0.30	52.5
5	T1	968	5.0	968	5.0	0.441	7.4	LOS A	17.1	125.1	0.41	0.40	0.41	54.7
6	R2	122	5.0	122	5.0	*0.441	20.8	LOS B	17.1	125.1	0.63	0.61	0.63	43.1
Approach		1120	5.0	1120	5.0	0.441	8.9	LOS A	17.1	125.1	0.43	0.42	0.43	53.7
North: Firth St														
7	L2	88	5.0	88	5.0	0.098	10.8	LOS A	1.6	11.6	0.33	0.64	0.33	47.8
8	T1	70	5.0	70	5.0	0.474	66.4	LOS E	4.6	33.9	0.98	0.75	0.98	30.1
9	R2	57	5.0	57	5.0	0.686	81.8	LOS F	4.1	30.2	1.00	0.81	1.15	33.9
Approach		215	5.0	215	5.0	0.686	47.7	LOS D	4.6	33.9	0.72	0.72	0.76	35.4
West: Forest Rd West														
10	L2	54	5.0	54	5.0	0.626	38.8	LOS C	26.6	193.8	0.84	0.76	0.84	45.2
11	T1	957	5.0	957	5.0	*0.626	33.2	LOS C	26.7	194.9	0.84	0.75	0.84	42.8
Approach		1011	5.0	1011	5.0	0.626	33.5	LOS C	26.7	194.9	0.84	0.75	0.84	42.9
All Vehicles		2432	5.0	2432	5.0	0.686	24.7	LOS B	26.7	194.9	0.65	0.60	0.65	45.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Somerville St												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.7	208.6	0.93
East: Forest Rd East												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Firth St												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
West: Forest Rd West												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	227.9	212.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

APPENDIX 5

MOVEMENT SUMMARY

Site: 101 [Princes Hghwy and Brodie Sparks Dr (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	123	5.0	123	5.0	0.108	16.0	LOS B	3.2	23.3	0.41	0.68	0.41	31.3
2	T1	2760	5.0	2760	5.0	*0.794	19.2	LOS B	47.0	342.8	0.78	0.72	0.78	42.8
Approach		2883	5.0	2883	5.0	0.794	19.1	LOS B	47.0	342.8	0.76	0.72	0.76	42.5
North: Princes Hghwy North														
8	T1	1026	5.0	1026	5.0	0.251	6.9	LOS A	7.7	56.4	0.37	0.32	0.37	52.4
9	R2	215	5.0	215	5.0	0.365	62.3	LOS E	6.6	48.2	0.93	0.78	0.93	22.3
Approach		1241	5.0	1241	5.0	0.365	16.5	LOS B	7.7	56.4	0.46	0.40	0.46	43.9
West: Brodie Sparks Dr														
10	L2	407	5.0	407	5.0	0.437	49.4	LOS D	12.2	89.2	0.86	0.80	0.86	25.4
12	R2	201	5.0	201	5.0	*0.785	80.9	LOS F	7.3	53.6	1.00	0.88	1.22	12.1
Approach		608	5.0	608	5.0	0.785	59.8	LOS E	12.2	89.2	0.91	0.83	0.98	20.5
All Vehicles		4732	5.0	4732	5.0	0.794	23.6	LOS B	47.0	342.8	0.70	0.65	0.71	39.0

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P11	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.0	214.2	0.94
P12	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
West: Brodie Sparks Dr												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
All Pedestrians		150	158	64.3	LOS F	0.2	0.2	0.96	0.96	230.4	216.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Hghwy and Brodie Sparks Dr (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	324	5.0	324	5.0	0.444	24.4	LOS B	12.1	88.3	0.60	0.75	0.60	25.8
2	T1	1558	5.0	1558	5.0	0.560	21.5	LOS B	25.2	184.3	0.69	0.62	0.69	41.4
Approach		1882	5.0	1882	5.0	0.560	22.0	LOS B	25.2	184.3	0.67	0.64	0.67	39.4
North: Princes Hghwy North														
8	T1	2482	5.0	2482	5.0	*0.646	13.5	LOS A	31.6	230.7	0.62	0.58	0.62	46.7
9	R2	439	5.0	439	5.0	0.571	59.0	LOS E	13.5	98.7	0.95	0.82	0.95	23.0
Approach		2921	5.0	2921	5.0	0.646	20.4	LOS B	31.6	230.7	0.67	0.61	0.67	41.5
West: Brodie Sparks Dr														
10	L2	230	5.0	230	5.0	0.173	36.5	LOS C	5.2	37.9	0.71	0.74	0.71	29.7
12	R2	238	5.0	238	5.0	*0.620	70.6	LOS F	8.0	58.1	1.00	0.80	1.01	13.4
Approach		468	5.0	468	5.0	0.620	53.9	LOS D	8.0	58.1	0.86	0.77	0.86	20.6
All Vehicles		5271	5.0	5271	5.0	0.646	23.9	LOS B	31.6	230.7	0.69	0.64	0.69	38.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P11	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.0	214.2	0.94
P12	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
West: Brodie Sparks Dr												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
All Pedestrians		150	158	64.3	LOS F	0.2	0.2	0.96	0.96	230.4	216.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Hghwy and Brodie Sparks Dr (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	257	5.0	257	5.0	0.242	19.8	LOS B	8.1	59.5	0.51	0.72	0.51	28.5
2	T1	2002	5.0	2002	5.0	*0.646	19.1	LOS B	31.9	233.1	0.69	0.63	0.69	42.8
Approach		2259	5.0	2259	5.0	0.646	19.2	LOS B	31.9	233.1	0.67	0.64	0.67	41.7
North: Princes Hghwy North														
8	T1	1680	5.0	1680	5.0	0.428	9.9	LOS A	16.3	118.9	0.47	0.43	0.47	49.7
9	R2	419	5.0	419	5.0	*0.654	64.0	LOS E	13.5	98.5	0.98	0.83	0.98	21.9
Approach		2099	5.0	2099	5.0	0.654	20.7	LOS B	16.3	118.9	0.57	0.51	0.57	41.1
West: Brodie Sparks Dr														
10	L2	352	5.0	352	5.0	0.305	43.4	LOS D	9.0	65.5	0.80	0.78	0.80	27.2
12	R2	230	5.0	230	5.0	*0.672	73.7	LOS F	7.9	57.8	1.00	0.82	1.06	13.0
Approach		582	5.0	582	5.0	0.672	55.3	LOS D	9.0	65.5	0.88	0.80	0.90	21.1
All Vehicles		4940	5.0	4940	5.0	0.672	24.1	LOS B	31.9	233.1	0.65	0.60	0.66	38.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P11	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.0	214.2	0.94
P12	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
West: Brodie Sparks Dr												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
All Pedestrians		150	158	64.3	LOS F	0.2	0.2	0.96	0.96	230.4	216.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Brodie Spark Dr and Arncliff St (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Brodie Spark Dr East														
4	L2	214	5.0	214	5.0	0.150	4.0	LOS A	0.8	6.0	0.29	0.49	0.29	53.0
6	R2	102	5.0	102	5.0	0.105	9.0	LOS A	0.5	4.0	0.31	0.62	0.31	44.0
6u	U	22	5.0	22	5.0	0.105	11.1	LOS A	0.5	4.0	0.31	0.62	0.31	30.6
Approach		338	5.0	338	5.0	0.150	6.0	LOS A	0.8	6.0	0.30	0.54	0.30	49.9
North: Brodie Spark Dr North														
7	L2	174	5.0	174	5.0	0.266	7.1	LOS A	1.6	12.0	0.68	0.73	0.68	27.2
8	T1	46	5.0	46	5.0	0.266	7.1	LOS A	1.6	12.0	0.68	0.73	0.68	53.9
9u	U	5	5.0	5	5.0	0.266	14.3	LOS A	1.6	12.0	0.68	0.73	0.68	52.0
Approach		225	5.0	225	5.0	0.266	7.3	LOS A	1.6	12.0	0.68	0.73	0.68	33.8
West: Magdalene Terrace														
10	L2	21	5.0	21	5.0	0.410	4.6	LOS A	2.9	21.3	0.40	0.50	0.40	48.3
11	T1	424	5.0	424	5.0	0.410	4.6	LOS A	2.9	21.3	0.40	0.50	0.40	23.0
12	R2	77	5.0	77	5.0	0.410	9.7	LOS A	2.9	21.3	0.40	0.50	0.40	53.6
Approach		522	5.0	522	5.0	0.410	5.3	LOS A	2.9	21.3	0.40	0.50	0.40	29.5
All Vehicles		1085	5.0	1085	5.0	0.410	5.9	LOS A	2.9	21.3	0.43	0.56	0.43	36.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Brodie Spark Dr and Arncliff St (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Brodie Spark Dr East														
4	L2	483	5.0	483	5.0	0.376	4.8	LOS A	2.7	19.5	0.53	0.59	0.53	52.1
6	R2	241	5.0	241	5.0	0.269	10.0	LOS A	1.7	12.1	0.51	0.69	0.51	43.1
6u	U	37	5.0	37	5.0	0.269	12.1	LOS A	1.7	12.1	0.51	0.69	0.51	29.7
Approach		761	5.0	761	5.0	0.376	6.8	LOS A	2.7	19.5	0.53	0.63	0.53	49.0
North: Brodie Spark Dr North														
7	L2	128	5.0	128	5.0	0.227	7.0	LOS A	1.4	10.4	0.69	0.72	0.69	27.3
8	T1	53	5.0	53	5.0	0.227	6.9	LOS A	1.4	10.4	0.69	0.72	0.69	53.9
9u	U	5	5.0	5	5.0	0.227	14.2	LOS A	1.4	10.4	0.69	0.72	0.69	52.1
Approach		186	5.0	186	5.0	0.227	7.2	LOS A	1.4	10.4	0.69	0.72	0.69	36.3
West: Magdalene Terrace														
10	L2	30	5.0	30	5.0	0.490	5.9	LOS A	3.7	27.1	0.64	0.68	0.64	45.8
11	T1	283	5.0	283	5.0	0.490	5.9	LOS A	3.7	27.1	0.64	0.68	0.64	22.1
12	R2	201	5.0	201	5.0	0.490	11.0	LOS A	3.7	27.1	0.64	0.68	0.64	51.6
Approach		514	5.0	514	5.0	0.490	7.9	LOS A	3.7	27.1	0.64	0.68	0.64	36.7
All Vehicles		1461	5.0	1461	5.0	0.490	7.2	LOS A	3.7	27.1	0.59	0.66	0.59	42.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Brodie Spark Dr and Arncliff St (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Brodie Spark Dr East														
4	L2	435	5.0	435	5.0	0.322	4.5	LOS A	2.2	15.9	0.45	0.55	0.45	52.4
6	R2	203	5.0	203	5.0	0.224	9.5	LOS A	1.3	9.7	0.44	0.66	0.44	43.4
6u	U	39	5.0	39	5.0	0.224	11.7	LOS A	1.3	9.7	0.44	0.66	0.44	30.0
Approach		677	5.0	677	5.0	0.322	6.4	LOS A	2.2	15.9	0.45	0.59	0.45	49.4
North: Brodie Spark Dr North														
7	L2	155	5.0	155	5.0	0.262	7.6	LOS A	1.7	12.4	0.73	0.76	0.73	27.0
8	T1	41	5.0	41	5.0	0.262	7.5	LOS A	1.7	12.4	0.73	0.76	0.73	53.5
9u	U	7	5.0	7	5.0	0.262	14.7	LOS B	1.7	12.4	0.73	0.76	0.73	51.5
Approach		203	5.0	203	5.0	0.262	7.8	LOS A	1.7	12.4	0.73	0.76	0.73	33.8
West: Magdalene Terrace														
10	L2	32	5.0	32	5.0	0.521	5.7	LOS A	4.1	29.8	0.62	0.64	0.62	46.4
11	T1	389	5.0	389	5.0	0.521	5.7	LOS A	4.1	29.8	0.62	0.64	0.62	22.2
12	R2	153	5.0	153	5.0	0.521	10.8	LOS A	4.1	29.8	0.62	0.64	0.62	52.1
Approach		574	5.0	574	5.0	0.521	7.0	LOS A	4.1	29.8	0.62	0.64	0.62	33.0
All Vehicles		1454	5.0	1454	5.0	0.521	6.9	LOS A	4.1	29.8	0.56	0.63	0.56	40.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Allen Street and Arncliff Street (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Arncliff St South														
1	L2	95	5.0	95	5.0	0.142	5.2	LOS A	0.8	5.8	0.46	0.56	0.46	48.8
2	T1	43	5.0	43	5.0	0.142	5.2	LOS A	0.8	5.8	0.46	0.56	0.46	55.2
3	R2	11	5.0	11	5.0	0.142	10.2	LOS A	0.8	5.8	0.46	0.56	0.46	51.6
3u	U	1	5.0	1	5.0	0.142	12.3	LOS A	0.8	5.8	0.46	0.56	0.46	55.0
Approach		150	5.0	150	5.0	0.142	5.6	LOS A	0.8	5.8	0.46	0.56	0.46	51.7
East: Allen St														
4	L2	13	5.0	13	5.0	0.130	6.5	LOS A	0.7	5.4	0.60	0.66	0.60	48.2
5	T1	74	5.0	74	5.0	0.130	6.6	LOS A	0.7	5.4	0.60	0.66	0.60	43.9
6	R2	25	5.0	25	5.0	0.130	11.5	LOS A	0.7	5.4	0.60	0.66	0.60	52.4
6u	U	2	5.0	2	5.0	0.130	13.6	LOS A	0.7	5.4	0.60	0.66	0.60	47.6
Approach		114	5.0	114	5.0	0.130	7.8	LOS A	0.7	5.4	0.60	0.66	0.60	47.5
North: Arncliff St South														
7	L2	43	5.0	43	5.0	0.040	5.7	LOS A	0.2	1.7	0.57	0.58	0.57	52.5
8	T1	79	5.0	79	5.0	0.301	8.2	LOS A	1.9	14.1	0.80	0.81	0.80	51.5
9	R2	152	5.0	152	5.0	0.301	13.1	LOS A	1.9	14.1	0.80	0.81	0.80	36.2
9u	U	2	5.0	2	5.0	0.301	15.2	LOS B	1.9	14.1	0.80	0.81	0.80	53.5
Approach		276	5.0	276	5.0	0.301	10.6	LOS A	1.9	14.1	0.76	0.77	0.76	42.7
West: Wollongong Rd														
10	L2	137	5.0	137	5.0	0.620	4.6	LOS A	6.2	45.4	0.43	0.51	0.43	51.1
11	T1	480	5.0	480	5.0	0.620	4.6	LOS A	6.2	45.4	0.43	0.51	0.43	45.0
12	R2	251	5.0	251	5.0	0.620	9.6	LOS A	6.2	45.4	0.43	0.51	0.43	49.8
12u	U	1	5.0	1	5.0	0.620	11.7	LOS A	6.2	45.4	0.43	0.51	0.43	19.9
Approach		869	5.0	869	5.0	0.620	6.1	LOS A	6.2	45.4	0.43	0.51	0.43	48.0
All Vehicles		1409	5.0	1409	5.0	0.620	7.0	LOS A	6.2	45.4	0.51	0.58	0.51	46.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Allen Street and Arncliff Street (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Arncliff St South														
1	L2	90	5.0	90	5.0	0.149	6.6	LOS A	0.9	6.3	0.62	0.66	0.62	48.0
2	T1	36	5.0	36	5.0	0.149	6.7	LOS A	0.9	6.3	0.62	0.66	0.62	54.6
3	R2	3	5.0	3	5.0	0.149	11.6	LOS A	0.9	6.3	0.62	0.66	0.62	50.8
3u	U	1	5.0	1	5.0	0.149	13.7	LOS A	0.9	6.3	0.62	0.66	0.62	54.3
Approach		130	5.0	130	5.0	0.149	6.8	LOS A	0.9	6.3	0.62	0.66	0.62	50.7
East: Allen St														
4	L2	13	5.0	13	5.0	0.166	8.0	LOS A	1.0	7.4	0.72	0.76	0.72	46.7
5	T1	65	5.0	65	5.0	0.166	8.1	LOS A	1.0	7.4	0.72	0.76	0.72	41.7
6	R2	44	5.0	44	5.0	0.166	13.0	LOS A	1.0	7.4	0.72	0.76	0.72	51.1
6u	U	1	5.0	1	5.0	0.166	15.1	LOS B	1.0	7.4	0.72	0.76	0.72	45.5
Approach		123	5.0	123	5.0	0.166	9.9	LOS A	1.0	7.4	0.72	0.76	0.72	47.1
North: Arncliff St South														
7	L2	48	5.0	48	5.0	0.034	4.3	LOS A	0.2	1.3	0.30	0.47	0.30	53.5
8	T1	108	5.0	108	5.0	0.422	5.7	LOS A	2.7	19.8	0.58	0.69	0.58	52.4
9	R2	371	5.0	371	5.0	0.422	10.6	LOS A	2.7	19.8	0.58	0.69	0.58	36.9
9u	U	3	5.0	3	5.0	0.422	12.7	LOS A	2.7	19.8	0.58	0.69	0.58	54.4
Approach		530	5.0	530	5.0	0.422	9.1	LOS A	2.7	19.8	0.56	0.67	0.56	41.3
West: Wollongong Rd														
10	L2	119	5.0	119	5.0	0.337	4.3	LOS A	2.3	16.7	0.31	0.53	0.31	51.3
11	T1	152	5.0	152	5.0	0.337	4.4	LOS A	2.3	16.7	0.31	0.53	0.31	45.2
12	R2	180	5.0	180	5.0	0.337	9.3	LOS A	2.3	16.7	0.31	0.53	0.31	50.0
12u	U	1	5.0	1	5.0	0.337	11.4	LOS A	2.3	16.7	0.31	0.53	0.31	20.0
Approach		452	5.0	452	5.0	0.337	6.3	LOS A	2.3	16.7	0.31	0.53	0.31	49.3
All Vehicles		1235	5.0	1235	5.0	0.422	7.9	LOS A	2.7	19.8	0.49	0.63	0.49	44.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Allen Street and Arncliff Street (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Arncliff St South														
1	L2	103	5.0	103	5.0	0.159	5.9	LOS A	0.9	6.7	0.56	0.62	0.56	48.4
2	T1	41	5.0	41	5.0	0.159	6.0	LOS A	0.9	6.7	0.56	0.62	0.56	54.9
3	R2	4	5.0	4	5.0	0.159	10.9	LOS A	0.9	6.7	0.56	0.62	0.56	51.2
3u	U	3	5.0	3	5.0	0.159	13.0	LOS A	0.9	6.7	0.56	0.62	0.56	54.7
Approach		151	5.0	151	5.0	0.159	6.2	LOS A	0.9	6.7	0.56	0.62	0.56	51.2
East: Allen St														
4	L2	11	5.0	11	5.0	0.126	7.4	LOS A	0.7	5.4	0.68	0.71	0.68	47.7
5	T1	67	5.0	67	5.0	0.126	7.5	LOS A	0.7	5.4	0.68	0.71	0.68	43.2
6	R2	19	5.0	19	5.0	0.126	12.4	LOS A	0.7	5.4	0.68	0.71	0.68	52.0
6u	U	2	5.0	2	5.0	0.126	14.5	LOS A	0.7	5.4	0.68	0.71	0.68	46.9
Approach		99	5.0	99	5.0	0.126	8.5	LOS A	0.7	5.4	0.68	0.71	0.68	46.6
North: Arncliff St South														
7	L2	56	5.0	56	5.0	0.043	4.7	LOS A	0.2	1.7	0.40	0.51	0.40	53.1
8	T1	114	5.0	114	5.0	0.396	6.4	LOS A	2.5	17.9	0.65	0.74	0.65	52.3
9	R2	281	5.0	281	5.0	0.396	11.3	LOS A	2.5	17.9	0.65	0.74	0.65	36.8
9u	U	7	5.0	7	5.0	0.396	13.4	LOS A	2.5	17.9	0.65	0.74	0.65	54.3
Approach		458	5.0	458	5.0	0.396	9.3	LOS A	2.5	17.9	0.62	0.71	0.62	42.5
West: Wollongong Rd														
10	L2	116	5.0	116	5.0	0.414	4.3	LOS A	3.1	22.6	0.31	0.51	0.31	51.4
11	T1	260	5.0	260	5.0	0.414	4.4	LOS A	3.1	22.6	0.31	0.51	0.31	45.6
12	R2	196	5.0	196	5.0	0.414	9.3	LOS A	3.1	22.6	0.31	0.51	0.31	50.3
12u	U	2	5.0	2	5.0	0.414	11.4	LOS A	3.1	22.6	0.31	0.51	0.31	20.1
Approach		574	5.0	574	5.0	0.414	6.0	LOS A	3.1	22.6	0.31	0.51	0.31	48.9
All Vehicles		1282	5.0	1282	5.0	0.414	7.4	LOS A	3.1	22.6	0.48	0.61	0.48	45.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Wollongong Road and Firth Street (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wollongong Rd South														
2	T1	669	5.0	669	5.0	0.739	10.5	LOS A	9.7	70.8	0.89	0.90	1.10	40.2
3	R2	45	5.0	45	5.0	0.739	14.8	LOS B	9.7	70.8	0.89	0.90	1.10	49.3
3u	U	1	5.0	1	5.0	0.739	16.7	LOS B	9.7	70.8	0.89	0.90	1.10	43.8
Approach		715	5.0	715	5.0	0.739	10.8	LOS A	9.7	70.8	0.89	0.90	1.10	41.2
East: Firth St														
4	L2	66	5.0	66	5.0	0.392	6.7	LOS A	2.5	18.5	0.62	0.75	0.62	48.5
6	R2	287	5.0	287	5.0	0.392	11.1	LOS A	2.5	18.5	0.62	0.75	0.62	36.6
6u	U	16	5.0	16	5.0	0.392	13.0	LOS A	2.5	18.5	0.62	0.75	0.62	53.0
Approach		369	5.0	369	5.0	0.392	10.4	LOS A	2.5	18.5	0.62	0.75	0.62	39.3
North: Wollongong Rd North														
7	L2	126	5.0	126	5.0	0.351	4.4	LOS A	2.6	19.3	0.29	0.47	0.29	51.4
8	T1	319	5.0	319	5.0	0.351	4.5	LOS A	2.6	19.3	0.29	0.47	0.29	46.5
9u	U	30	5.0	30	5.0	0.351	10.7	LOS A	2.6	19.3	0.29	0.47	0.29	21.3
Approach		475	5.0	475	5.0	0.351	4.9	LOS A	2.6	19.3	0.29	0.47	0.29	46.5
All Vehicles		1559	5.0	1559	5.0	0.739	8.9	LOS A	9.7	70.8	0.64	0.73	0.74	41.8

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Wollongong Road and Firth Street (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wollongong Rd South														
2	T1	256	5.0	256	5.0	0.294	5.7	LOS A	1.9	13.6	0.50	0.59	0.50	44.9
3	R2	46	5.0	46	5.0	0.294	10.0	LOS A	1.9	13.6	0.50	0.59	0.50	52.1
3u	U	2	5.0	2	5.0	0.294	11.9	LOS A	1.9	13.6	0.50	0.59	0.50	48.1
Approach		304	5.0	304	5.0	0.294	6.4	LOS A	1.9	13.6	0.50	0.59	0.50	46.8
East: Firth St														
4	L2	112	5.0	112	5.0	0.348	7.0	LOS A	2.2	15.7	0.63	0.76	0.63	48.8
6	R2	189	5.0	189	5.0	0.348	11.4	LOS A	2.2	15.7	0.63	0.76	0.63	36.8
6u	U	11	5.0	11	5.0	0.348	13.3	LOS A	2.2	15.7	0.63	0.76	0.63	53.3
Approach		312	5.0	312	5.0	0.348	9.9	LOS A	2.2	15.7	0.63	0.76	0.63	41.4
North: Wollongong Rd North														
7	L2	128	5.0	128	5.0	0.389	4.4	LOS A	2.9	21.0	0.27	0.46	0.27	51.5
8	T1	379	5.0	379	5.0	0.389	4.5	LOS A	2.9	21.0	0.27	0.46	0.27	46.7
9u	U	29	5.0	29	5.0	0.389	10.7	LOS A	2.9	21.0	0.27	0.46	0.27	21.4
Approach		536	5.0	536	5.0	0.389	4.8	LOS A	2.9	21.0	0.27	0.46	0.27	46.7
All Vehicles		1152	5.0	1152	5.0	0.389	6.6	LOS A	2.9	21.0	0.43	0.58	0.43	44.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Wollongong Road and Firth Street (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wollongong Rd South														
2	T1	335	5.0	335	5.0	0.389	6.0	LOS A	2.7	19.5	0.57	0.63	0.57	44.3
3	R2	56	5.0	56	5.0	0.389	10.3	LOS A	2.7	19.5	0.57	0.63	0.57	51.8
3u	U	6	5.0	6	5.0	0.389	12.2	LOS A	2.7	19.5	0.57	0.63	0.57	47.6
Approach		397	5.0	397	5.0	0.389	6.7	LOS A	2.7	19.5	0.57	0.63	0.57	46.2
East: Firth St														
4	L2	94	5.0	94	5.0	0.346	6.7	LOS A	2.2	15.7	0.61	0.74	0.61	48.8
6	R2	214	5.0	214	5.0	0.346	11.1	LOS A	2.2	15.7	0.61	0.74	0.61	36.8
6u	U	12	5.0	12	5.0	0.346	13.0	LOS A	2.2	15.7	0.61	0.74	0.61	53.3
Approach		320	5.0	320	5.0	0.346	9.9	LOS A	2.2	15.7	0.61	0.74	0.61	40.7
North: Wollongong Rd North														
7	L2	146	5.0	146	5.0	0.382	4.5	LOS A	2.8	20.6	0.31	0.48	0.31	51.4
8	T1	334	5.0	334	5.0	0.382	4.6	LOS A	2.8	20.6	0.31	0.48	0.31	46.4
9u	U	29	5.0	29	5.0	0.382	10.8	LOS A	2.8	20.6	0.31	0.48	0.31	21.3
Approach		509	5.0	509	5.0	0.382	5.0	LOS A	2.8	20.6	0.31	0.48	0.31	46.7
All Vehicles		1226	5.0	1226	5.0	0.389	6.8	LOS A	2.8	20.6	0.47	0.60	0.47	44.1

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Burrows St and Eden St (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Eden St South														
1	L2	114	5.0	114	5.0	0.232	5.7	LOS A	1.0	7.4	0.11	0.59	0.11	49.2
2	T1	2	5.0	2	5.0	0.232	7.8	LOS A	1.0	7.4	0.11	0.59	0.11	43.7
3	R2	95	5.0	95	5.0	0.232	9.6	LOS A	1.0	7.4	0.11	0.59	0.11	42.5
Approach		211	5.0	211	5.0	0.232	7.5	LOS A	1.0	7.4	0.11	0.59	0.11	46.8
East: Burrows St East														
4	L2	46	5.0	46	5.0	0.041	3.7	LOS A	0.0	0.1	0.01	0.35	0.01	50.9
5	T1	27	5.0	27	5.0	0.041	0.0	LOS A	0.0	0.1	0.01	0.35	0.01	54.7
6	R2	1	5.0	1	5.0	0.041	4.4	LOS A	0.0	0.1	0.01	0.35	0.01	27.6
Approach		74	5.0	74	5.0	0.041	2.4	NA	0.0	0.1	0.01	0.35	0.01	52.1
North: Eden St North														
7	L2	1	5.0	1	5.0	0.004	4.8	LOS A	0.0	0.1	0.40	0.54	0.40	21.8
8	T1	1	5.0	1	5.0	0.004	6.0	LOS A	0.0	0.1	0.40	0.54	0.40	45.8
9	R2	1	5.0	1	5.0	0.004	8.4	LOS A	0.0	0.1	0.40	0.54	0.40	44.7
Approach		3	5.0	3	5.0	0.004	6.4	LOS A	0.0	0.1	0.40	0.54	0.40	40.0
West: Burrows St West														
10	L2	1	5.0	1	5.0	0.091	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	49.5
11	T1	170	5.0	170	5.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	161	5.0	161	5.0	0.098	5.7	LOS A	0.5	3.4	0.18	0.56	0.18	49.8
Approach		332	5.0	332	5.0	0.098	2.8	NA	0.5	3.4	0.09	0.27	0.09	53.1
All Vehicles		620	5.0	620	5.0	0.232	4.4	NA	1.0	7.4	0.09	0.39	0.09	50.5

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Burrows St and Eden St (Site Folder: General)]

PM Projected Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Eden St South														
1	L2	97	5.0	97	5.0	0.182	5.7	LOS A	0.8	5.7	0.10	0.58	0.10	49.5
2	T1	3	5.0	3	5.0	0.182	7.5	LOS A	0.8	5.7	0.10	0.58	0.10	44.1
3	R2	73	5.0	73	5.0	0.182	9.1	LOS A	0.8	5.7	0.10	0.58	0.10	42.9
Approach		173	5.0	173	5.0	0.182	7.2	LOS A	0.8	5.7	0.10	0.58	0.10	47.3
East: Burrows St East														
4	L2	52	5.0	52	5.0	0.043	3.7	LOS A	0.0	0.1	0.01	0.37	0.01	50.6
5	T1	25	5.0	25	5.0	0.043	0.0	LOS A	0.0	0.1	0.01	0.37	0.01	54.3
6	R2	1	5.0	1	5.0	0.043	4.3	LOS A	0.0	0.1	0.01	0.37	0.01	27.4
Approach		78	5.0	78	5.0	0.043	2.5	NA	0.0	0.1	0.01	0.37	0.01	51.6
North: Eden St North														
7	L2	1	5.0	1	5.0	0.004	4.8	LOS A	0.0	0.1	0.39	0.54	0.39	22.1
8	T1	1	5.0	1	5.0	0.004	5.8	LOS A	0.0	0.1	0.39	0.54	0.39	46.0
9	R2	1	5.0	1	5.0	0.004	7.9	LOS A	0.0	0.1	0.39	0.54	0.39	45.0
Approach		3	5.0	3	5.0	0.004	6.2	LOS A	0.0	0.1	0.39	0.54	0.39	40.3
West: Burrows St West														
10	L2	3	5.0	3	5.0	0.088	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	49.4
11	T1	165	5.0	165	5.0	0.088	0.0	LOS A	0.4	3.1	0.00	0.01	0.00	59.6
12	R2	144	5.0	144	5.0	0.088	5.8	LOS A	0.4	3.1	0.19	0.56	0.19	49.8
Approach		312	5.0	312	5.0	0.088	2.7	NA	0.4	3.1	0.09	0.26	0.09	53.2
All Vehicles		566	5.0	566	5.0	0.182	4.1	NA	0.8	5.7	0.08	0.38	0.08	50.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Burrows St and Eden St (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Eden St South														
1	L2	109	5.0	109	5.0	0.222	5.7	LOS A	1.0	7.1	0.08	0.58	0.08	49.3
2	T1	3	5.0	3	5.0	0.222	7.6	LOS A	1.0	7.1	0.08	0.58	0.08	43.8
3	R2	93	5.0	93	5.0	0.222	9.3	LOS A	1.0	7.1	0.08	0.58	0.08	42.6
Approach		205	5.0	205	5.0	0.222	7.4	LOS A	1.0	7.1	0.08	0.58	0.08	46.9
East: Burrows St East														
4	L2	53	5.0	53	5.0	0.040	3.7	LOS A	0.0	0.1	0.01	0.41	0.01	50.2
5	T1	18	5.0	18	5.0	0.040	0.1	LOS A	0.0	0.1	0.01	0.41	0.01	53.8
6	R2	1	5.0	1	5.0	0.040	4.4	LOS A	0.0	0.1	0.01	0.41	0.01	26.9
Approach		72	5.0	72	5.0	0.040	2.8	NA	0.0	0.1	0.01	0.41	0.01	50.9
North: Eden St North														
7	L2	6	5.0	6	5.0	0.024	4.8	LOS A	0.1	0.6	0.40	0.60	0.40	21.3
8	T1	1	5.0	1	5.0	0.024	5.9	LOS A	0.1	0.6	0.40	0.60	0.40	45.1
9	R2	10	5.0	10	5.0	0.024	8.2	LOS A	0.1	0.6	0.40	0.60	0.40	44.1
Approach		17	5.0	17	5.0	0.024	6.9	LOS A	0.1	0.6	0.40	0.60	0.40	38.7
West: Burrows St West														
10	L2	5	5.0	5	5.0	0.090	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
11	T1	187	5.0	187	5.0	0.090	0.0	LOS A	0.4	3.2	0.02	0.07	0.02	58.1
12	R2	128	5.0	128	5.0	0.090	5.7	LOS A	0.4	3.2	0.18	0.48	0.18	50.6
Approach		320	5.0	320	5.0	0.090	2.4	NA	0.4	3.2	0.08	0.23	0.08	53.7
All Vehicles		614	5.0	614	5.0	0.222	4.2	NA	1.0	7.1	0.08	0.38	0.08	50.4

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Princes Highway and Burrows Street (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Minimum Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	73	5.0	73	5.0	*0.454	11.1	LOS A	14.8	108.2	0.37	0.38	0.37	46.1
2	T1	1928	5.0	1928	5.0	*0.454	5.5	LOS A	15.2	111.2	0.37	0.35	0.37	46.9
Approach		2001	5.0	2001	5.0	0.454	5.7	LOS A	15.2	111.2	0.37	0.35	0.37	46.8
North: Princes Hghwy North														
7	L2	17	5.0	17	5.0	0.170	9.0	LOS A	4.2	30.8	0.27	0.26	0.27	20.2
8	T1	734	5.0	734	5.0	0.170	4.1	LOS A	4.2	30.9	0.27	0.24	0.27	49.7
Approach		751	5.0	751	5.0	0.170	4.2	LOS A	4.2	30.9	0.27	0.24	0.27	48.8
West: Burrows Street														
10	L2	40	5.0	40	5.0	0.197	67.8	LOS E	2.5	18.6	0.94	0.74	0.94	11.9
12	R2	225	5.0	225	5.0	0.943	94.2	LOS F	18.8	137.1	1.00	1.01	1.44	13.5
Approach		265	5.0	265	5.0	0.943	90.2	LOS F	18.8	137.1	0.99	0.97	1.37	13.3
All Vehicles		3017	5.0	3017	5.0	0.943	12.8	LOS A	18.8	137.1	0.40	0.38	0.43	36.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Princes Hghwy North												
P3	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	236.2	222.8	0.94
West: Burrows Street												
P4	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	227.8	211.9	0.93
All Pedestrians		100	105	64.8	LOS F	0.2	0.2	0.96	0.96	232.0	217.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Highway and Burrows Street (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Minimum Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	73	5.0	73	5.0	* 0.237	9.4	LOS A	5.7	41.5	0.28	0.34	0.28	47.5
2	T1	971	5.0	971	5.0	0.237	4.2	LOS A	6.3	45.8	0.29	0.28	0.29	49.0
Approach		1044	5.0	1044	5.0	0.237	4.6	LOS A	6.3	45.8	0.29	0.28	0.29	48.9
North: Princes Hghwy North														
7	L2	31	5.0	31	5.0	0.528	11.0	LOS A	19.5	142.0	0.41	0.39	0.41	19.2
8	T1	2302	5.0	2302	5.0	* 0.528	6.1	LOS A	19.5	142.3	0.41	0.38	0.41	46.1
Approach		2333	5.0	2333	5.0	0.528	6.1	LOS A	19.5	142.3	0.41	0.38	0.41	45.6
West: Burrows Street														
10	L2	24	5.0	24	5.0	0.099	63.6	LOS E	1.5	10.7	0.91	0.71	0.91	12.5
12	R2	213	5.0	213	5.0	0.881	82.1	LOS F	16.3	119.0	1.00	0.95	1.29	14.9
Approach		237	5.0	237	5.0	0.881	80.2	LOS F	16.3	119.0	0.99	0.92	1.25	14.8
All Vehicles		3614	5.0	3614	5.0	0.881	10.5	LOS A	19.5	142.3	0.41	0.39	0.43	39.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Princes Hghwy North												
P3	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	236.2	222.8	0.94
West: Burrows Street												
P4	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	227.8	211.9	0.93
All Pedestrians		100	105	64.8	LOS F	0.2	0.2	0.96	0.96	232.0	217.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes Highway and Burrows Street (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Minimum Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	75	5.0	75	5.0	* 0.307	10.0	LOS A	8.2	60.2	0.31	0.35	0.31	47.1
2	T1	1278	5.0	1278	5.0	0.307	4.6	LOS A	8.7	63.7	0.31	0.30	0.31	48.4
Approach		1353	5.0	1353	5.0	0.307	4.9	LOS A	8.7	63.7	0.31	0.30	0.31	48.3
North: Princes Hghwy North														
7	L2	21	5.0	21	5.0	0.314	9.7	LOS A	9.0	65.7	0.31	0.30	0.31	19.9
8	T1	1367	5.0	1367	5.0	* 0.314	4.7	LOS A	9.0	65.8	0.31	0.29	0.31	48.5
Approach		1388	5.0	1388	5.0	0.314	4.8	LOS A	9.0	65.8	0.31	0.29	0.31	48.0
West: Burrows Street														
10	L2	39	5.0	39	5.0	0.161	64.3	LOS E	2.4	17.5	0.92	0.73	0.92	12.4
12	R2	255	5.0	255	5.0	1.074	162.6	LOS F	29.0	211.9	1.00	1.21	1.90	8.5
Approach		294	5.0	294	5.0	1.074	149.6	LOS F	29.0	211.9	0.99	1.15	1.77	8.7
All Vehicles		3035	5.0	3035	5.0	1.074	18.9	LOS B	29.0	211.9	0.38	0.38	0.45	31.0

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Princes Hghwy North												
P3	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	236.2	222.8	0.94
West: Burrows Street												
P4	Full	50	53	64.8	LOS F	0.2	0.2	0.96	0.96	227.8	211.9	0.93
All Pedestrians		100	105	64.8	LOS F	0.2	0.2	0.96	0.96	232.0	217.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes HIghway and Forest Road (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	73	5.0	73	5.0	0.069	15.3	LOS B	1.8	13.3	0.43	0.65	0.43	47.0
2	T1	1610	5.0	1610	5.0	0.740	37.6	LOS C	32.2	235.3	0.90	0.81	0.90	37.8
3	R2	507	5.0	507	5.0	* 1.164	204.6	LOS F	56.3	410.8	1.00	1.38	2.18	13.1
Approach		2190	5.0	2190	5.0	1.164	75.5	LOS F	56.3	410.8	0.91	0.93	1.18	26.2
East: Wickham St														
4	L2	105	5.0	105	5.0	0.092	9.0	LOS A	1.5	11.0	0.27	0.62	0.27	52.3
5	T1	692	5.0	692	5.0	0.600	40.5	LOS C	21.5	156.6	0.87	0.75	0.87	25.7
Approach		797	5.0	797	5.0	0.600	36.3	LOS C	21.5	156.6	0.79	0.74	0.79	29.5
North: Princes Hghwy North														
7	L2	79	5.0	79	5.0	0.121	37.1	LOS C	3.6	26.2	0.72	0.71	0.72	28.5
8	T1	586	5.0	586	5.0	* 0.679	50.3	LOS D	19.8	144.7	0.95	0.81	0.95	33.6
9	R2	289	5.0	289	5.0	* 1.188	249.8	LOS F	41.7	304.8	1.00	1.44	2.34	5.6
Approach		954	5.0	954	5.0	1.188	109.6	LOS F	41.7	304.8	0.94	0.99	1.35	18.5
West: Forest Rd														
10	L2	330	5.0	330	5.0	0.952	85.3	LOS F	26.2	191.4	0.87	1.02	1.31	14.3
11	T1	1070	5.0	1070	5.0	* 1.034	123.4	LOS F	69.3	505.8	1.00	1.37	1.63	11.7
Approach		1400	5.0	1400	5.0	1.034	114.5	LOS F	69.3	505.8	0.97	1.29	1.55	12.2
All Vehicles		5341	5.0	5341	5.0	1.188	86.0	LOS F	69.3	505.8	0.91	1.01	1.25	21.0

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
East: Wickham St												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Princes Hghwy North												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	235.7	222.8	0.95
West: Forest Rd												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	232.7	219.0	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes HIghway and Forest Road (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	101	5.0	101	5.0	0.241	43.5	LOS D	5.1	37.1	0.79	0.72	0.79	34.4
2	T1	757	5.0	757	5.0	0.937	76.5	LOS F	28.0	204.6	0.98	1.03	1.29	27.4
3	R2	151	5.0	151	5.0	0.272	29.1	LOS C	5.4	39.7	0.80	0.76	0.80	41.3
Approach		1009	5.0	1009	5.0	0.937	66.1	LOS E	28.0	204.6	0.94	0.96	1.16	29.5
East: Wickham St														
4	L2	72	5.0	72	5.0	0.063	15.3	LOS B	1.8	13.5	0.40	0.63	0.40	48.2
5	T1	1070	5.0	1070	5.0	* 1.050	134.3	LOS F	60.4	441.2	1.00	1.44	1.69	11.0
Approach		1142	5.0	1142	5.0	1.050	126.8	LOS F	60.4	441.2	0.96	1.38	1.61	12.2
North: Princes Hghwy North														
7	L2	109	5.0	109	5.0	0.112	14.3	LOS A	2.6	18.9	0.42	0.66	0.42	41.5
8	T1	1735	5.0	1735	5.0	* 1.032	121.3	LOS F	64.4	470.2	1.00	1.37	1.60	20.6
9	R2	668	5.0	668	5.0	* 1.043	110.6	LOS F	56.9	415.3	1.00	1.17	1.63	9.9
Approach		2512	5.0	2512	5.0	1.043	113.8	LOS F	64.4	470.2	0.98	1.29	1.56	18.2
West: Forest Rd														
10	L2	254	5.0	254	5.0	0.791	56.7	LOS E	15.7	114.6	0.89	0.87	1.01	19.1
11	T1	784	5.0	784	5.0	0.895	64.7	LOS E	35.4	258.1	0.97	1.01	1.19	19.3
Approach		1038	5.0	1038	5.0	0.895	62.7	LOS E	35.4	258.1	0.95	0.97	1.15	19.2
All Vehicles		5701	5.0	5701	5.0	1.050	98.6	LOS F	64.4	470.2	0.96	1.19	1.42	18.8

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
East: Wickham St												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Princes Hghwy North												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
West: Forest Rd												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	234.0	220.7	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Princes HIghway and Forest Road (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Princes Hghwy South														
1	L2	125	5.0	125	5.0	0.197	20.5	LOS B	4.0	28.9	0.54	0.69	0.54	44.0
2	T1	1030	5.0	1030	5.0	*0.850	60.2	LOS E	28.4	207.3	0.98	0.95	1.13	31.0
3	R2	211	5.0	211	5.0	0.784	72.0	LOS F	14.8	107.8	1.00	0.88	1.12	28.7
Approach		1366	5.0	1366	5.0	0.850	58.4	LOS E	28.4	207.3	0.94	0.92	1.08	31.4
East: Wickham St														
4	L2	89	5.0	89	5.0	0.077	9.0	LOS A	1.3	9.6	0.27	0.62	0.27	52.2
5	T1	704	5.0	704	5.0	0.653	44.3	LOS D	22.3	162.9	0.91	0.79	0.91	24.5
Approach		793	5.0	793	5.0	0.653	40.3	LOS C	22.3	162.9	0.84	0.77	0.84	27.7
North: Princes Hghwy North														
7	L2	141	5.0	141	5.0	0.148	19.2	LOS B	4.3	31.7	0.51	0.69	0.51	37.8
8	T1	1072	5.0	1072	5.0	0.499	31.6	LOS C	19.4	141.9	0.78	0.68	0.78	40.2
9	R2	404	5.0	404	5.0	*0.830	37.7	LOS C	16.1	117.8	1.00	0.91	1.10	24.5
Approach		1617	5.0	1617	5.0	0.830	32.0	LOS C	19.4	141.9	0.81	0.74	0.83	37.0
West: Forest Rd														
10	L2	300	5.0	300	5.0	*0.839	58.7	LOS E	19.3	140.6	0.89	0.90	1.06	18.7
11	T1	790	5.0	790	5.0	0.835	52.8	LOS D	32.7	238.9	0.95	0.91	1.06	22.0
Approach		1090	5.0	1090	5.0	0.839	54.4	LOS D	32.7	238.9	0.94	0.91	1.06	21.1
All Vehicles		4866	5.0	4866	5.0	0.850	45.8	LOS D	32.7	238.9	0.88	0.83	0.95	30.5

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Princes Hghwy South												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
East: Wickham St												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Princes Hghwy North												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	238.2	226.1	0.95
West: Forest Rd												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	234.0	220.7	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Forest Road and Eden Street (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wardell St														
1	L2	26	5.0	26	5.0	0.029	7.9	LOS A	0.2	1.1	0.47	0.58	0.47	31.6
Approach		26	5.0	26	5.0	0.029	7.9	LOS A	0.2	1.1	0.47	0.58	0.47	31.6
East: Forest Rd East														
4	L2	81	5.0	81	5.0	0.283	5.6	LOS A	0.0	0.0	0.00	0.09	0.00	50.7
5	T1	984	5.0	984	5.0	0.283	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	57.8
Approach		1065	5.0	1065	5.0	0.283	0.4	NA	0.0	0.0	0.00	0.05	0.00	57.0
North: Eden St														
7	L2	62	5.0	62	5.0	0.082	9.6	LOS A	0.4	3.2	0.58	0.66	0.58	43.1
Approach		62	5.0	62	5.0	0.082	9.6	LOS A	0.4	3.2	0.58	0.66	0.58	43.1
West: Forest Rd West														
10	L2	75	5.0	75	5.0	0.376	3.9	LOS A	0.0	0.0	0.00	0.06	0.00	54.5
11	T1	1341	5.0	1341	5.0	0.376	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	58.7
Approach		1416	5.0	1416	5.0	0.376	0.2	NA	0.0	0.0	0.00	0.03	0.00	58.2
All Vehicles		2569	5.0	2569	5.0	0.376	0.6	NA	0.4	3.2	0.02	0.06	0.02	56.1

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Forest Road and Eden Street (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wardell St														
1	L2	31	5.0	31	5.0	0.054	12.4	LOS A	0.3	2.1	0.67	0.71	0.67	26.2
Approach		31	5.0	31	5.0	0.054	12.4	LOS A	0.3	2.1	0.67	0.71	0.67	26.2
East: Forest Rd East														
4	L2	32	5.0	32	5.0	0.486	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	52.4
5	T1	1801	5.0	1801	5.0	0.486	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.1
Approach		1833	5.0	1833	5.0	0.486	0.2	NA	0.0	0.0	0.00	0.01	0.00	58.9
North: Eden St														
7	L2	38	5.0	38	5.0	0.042	8.0	LOS A	0.2	1.7	0.48	0.59	0.48	44.8
Approach		38	5.0	38	5.0	0.042	8.0	LOS A	0.2	1.7	0.48	0.59	0.48	44.8
West: Forest Rd West														
10	L2	67	5.0	67	5.0	0.281	3.9	LOS A	0.0	0.0	0.00	0.07	0.00	54.4
11	T1	989	5.0	989	5.0	0.281	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	58.6
Approach		1056	5.0	1056	5.0	0.281	0.3	NA	0.0	0.0	0.00	0.04	0.00	58.0
All Vehicles		2958	5.0	2958	5.0	0.486	0.4	NA	0.3	2.1	0.01	0.03	0.01	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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Forest Road and Eden Street (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wardell St														
1	L2	5	5.0	5	5.0	0.006	8.9	LOS A	0.0	0.2	0.54	0.56	0.54	30.2
Approach		5	5.0	5	5.0	0.006	8.9	LOS A	0.0	0.2	0.54	0.56	0.54	30.2
East: Forest Rd East														
4	L2	17	5.0	17	5.0	0.325	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	52.6
5	T1	1210	5.0	1210	5.0	0.325	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.4
Approach		1227	5.0	1227	5.0	0.325	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.2
North: Eden St														
7	L2	45	5.0	45	5.0	0.051	8.2	LOS A	0.3	2.0	0.49	0.60	0.49	44.6
Approach		45	5.0	45	5.0	0.051	8.2	LOS A	0.3	2.0	0.49	0.60	0.49	44.6
West: Forest Rd West														
10	L2	68	5.0	68	5.0	0.292	3.9	LOS A	0.0	0.0	0.00	0.07	0.00	54.5
11	T1	1032	5.0	1032	5.0	0.292	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	58.6
Approach		1100	5.0	1100	5.0	0.292	0.3	NA	0.0	0.0	0.00	0.04	0.00	58.1
All Vehicles		2377	5.0	2377	5.0	0.325	0.3	NA	0.3	2.0	0.01	0.03	0.01	57.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Forest Road and Firth Street (Site Folder: General)]

AM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Somerville St														
1	L2	11	5.0	11	5.0	0.577	70.6	LOS F	8.2	60.2	1.00	0.79	1.00	36.3
2	T1	113	5.0	113	5.0	0.577	65.0	LOS E	8.2	60.2	1.00	0.79	1.00	30.3
Approach		124	5.0	124	5.0	0.577	65.5	LOS E	8.2	60.2	1.00	0.79	1.00	31.0
East: Forest Rd East														
4	L2	47	5.0	47	5.0	0.480	10.4	LOS A	15.6	113.7	0.35	0.35	0.35	51.2
5	T1	761	5.0	761	5.0	0.480	7.8	LOS A	15.6	113.7	0.41	0.41	0.41	54.4
6	R2	188	5.0	188	5.0	* 0.480	36.9	LOS C	14.8	107.8	0.86	0.90	0.86	33.8
Approach		996	5.0	996	5.0	0.480	13.4	LOS A	15.6	113.7	0.49	0.50	0.49	50.6
North: Firth St														
7	L2	184	5.0	184	5.0	0.282	13.5	LOS A	4.5	32.5	0.43	0.68	0.43	45.8
8	T1	70	5.0	70	5.0	0.386	62.7	LOS E	4.5	32.8	0.96	0.74	0.96	31.0
9	R2	56	5.0	56	5.0	* 0.646	80.6	LOS F	4.0	29.5	1.00	0.80	1.11	34.1
Approach		310	5.0	310	5.0	0.646	36.7	LOS C	4.5	32.8	0.65	0.71	0.67	37.5
West: Forest Rd West														
10	L2	18	5.0	18	5.0	* 0.643	29.9	LOS C	30.9	225.3	0.77	0.70	0.77	48.3
11	T1	1282	5.0	1282	5.0	0.643	24.3	LOS B	30.9	225.9	0.77	0.70	0.77	46.4
Approach		1300	5.0	1300	5.0	0.643	24.4	LOS B	30.9	225.9	0.77	0.70	0.77	46.4
All Vehicles		2730	5.0	2730	5.0	0.646	23.7	LOS B	30.9	225.9	0.66	0.63	0.67	45.8

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Somerville St												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.7	208.6	0.93
East: Forest Rd East												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Firth St												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
West: Forest Rd West												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	227.9	212.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Forest Road and Firth Street (Site Folder: General)]

PM Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Somerville St														
1	L2	15	5.0	15	5.0	0.415	72.2	LOS F	4.8	35.0	0.99	0.76	0.99	35.8
2	T1	57	5.0	57	5.0	0.415	66.6	LOS E	4.8	35.0	0.99	0.76	0.99	29.8
Approach		72	5.0	72	5.0	0.415	67.7	LOS E	4.8	35.0	0.99	0.76	0.99	31.3
East: Forest Rd East														
4	L2	49	5.0	49	5.0	0.700	11.1	LOS A	30.3	221.2	0.46	0.45	0.46	50.5
5	T1	1559	5.0	1559	5.0	0.700	11.5	LOS A	30.3	221.2	0.57	0.60	0.57	52.3
6	R2	212	5.0	212	5.0	* 0.700	28.9	LOS C	26.8	195.9	0.78	0.88	0.78	38.4
Approach		1820	5.0	1820	5.0	0.700	13.5	LOS A	30.3	221.2	0.59	0.63	0.59	51.0
North: Firth St														
7	L2	151	5.0	151	5.0	0.185	12.6	LOS A	3.2	23.7	0.39	0.66	0.39	46.4
8	T1	75	5.0	75	5.0	* 0.528	66.6	LOS E	5.0	36.5	0.99	0.76	0.99	30.1
9	R2	60	5.0	60	5.0	0.680	80.5	LOS F	4.3	31.5	1.00	0.81	1.14	34.1
Approach		286	5.0	286	5.0	0.680	41.0	LOS C	5.0	36.5	0.67	0.72	0.70	36.5
West: Forest Rd West														
10	L2	35	5.0	35	5.0	0.824	56.3	LOS D	32.9	239.9	0.99	0.92	1.05	40.4
11	T1	963	5.0	963	5.0	* 0.824	50.6	LOS D	33.0	240.7	0.99	0.92	1.05	37.2
Approach		998	5.0	998	5.0	0.824	50.8	LOS D	33.0	240.7	0.99	0.92	1.05	37.4
All Vehicles		3176	5.0	3176	5.0	0.824	29.0	LOS C	33.0	240.7	0.73	0.73	0.75	43.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Somerville St												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.7	208.6	0.93
East: Forest Rd East												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Firth St												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
West: Forest Rd West												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	227.9	212.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Forest Road and Firth Street (Site Folder: General)]

SAT Peak Projected
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Somerville St														
1	L2	13	5.0	13	5.0	0.268	60.2	LOS E	5.1	37.5	0.91	0.72	0.91	38.5
2	T1	73	5.0	73	5.0	0.268	54.6	LOS D	5.1	37.5	0.91	0.72	0.91	32.8
Approach		86	5.0	86	5.0	0.268	55.4	LOS D	5.1	37.5	0.91	0.72	0.91	33.9
East: Forest Rd East														
4	L2	30	5.0	30	5.0	0.559	13.9	LOS A	22.9	167.2	0.48	0.45	0.48	47.8
5	T1	968	5.0	968	5.0	0.559	13.4	LOS A	22.9	167.2	0.55	0.56	0.55	51.3
6	R2	205	5.0	205	5.0	* 0.559	36.9	LOS C	19.9	145.2	0.82	0.91	0.82	34.2
Approach		1203	5.0	1203	5.0	0.559	17.4	LOS B	22.9	167.2	0.60	0.61	0.60	48.6
North: Firth St														
7	L2	149	5.0	149	5.0	0.172	12.4	LOS A	3.2	23.3	0.39	0.66	0.39	46.6
8	T1	70	5.0	70	5.0	0.278	54.0	LOS D	4.1	30.2	0.90	0.70	0.90	33.2
9	R2	110	5.0	110	5.0	* 0.708	70.8	LOS F	7.5	54.6	0.99	0.84	1.10	35.9
Approach		329	5.0	329	5.0	0.708	40.8	LOS C	7.5	54.6	0.70	0.73	0.73	37.9
West: Forest Rd West														
10	L2	54	5.0	54	5.0	0.714	43.8	LOS D	30.1	219.6	0.91	0.82	0.91	43.7
11	T1	1003	5.0	1003	5.0	* 0.714	38.2	LOS C	30.2	220.8	0.91	0.81	0.91	41.0
Approach		1057	5.0	1057	5.0	0.714	38.5	LOS C	30.2	220.8	0.91	0.81	0.91	41.2
All Vehicles		2675	5.0	2675	5.0	0.714	29.9	LOS C	30.2	220.8	0.74	0.71	0.75	43.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Somerville St												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.7	208.6	0.93
East: Forest Rd East												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

North: Firth St												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
West: Forest Rd West												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	227.9	212.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.