



## **2-30 Tempus Street, Rouse Hill**

Transport and Accessibility Impact Assessment

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Ref: 2502r01



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# Executive summary

This Transport and Accessibility Impact Assessment (TAIA) has been prepared to accompany a detailed State Significant Development Application (SSDA) for the mixed-use development at 2-30 Tempus Street, Rouse Hill. The site is made up of one lot, being Lot 19 in DP 280013.

The SSDA (SSD-76190964) seeks consent for a diverse mixed-use development comprising build-to-rent apartments, co-living apartments and a mix of commercial and ground floor retail uses, with two levels of basement car parking. This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project.

The strategic value of the site is a unique landholding offering great transport connectivity and accessibility, being located directly adjacent to metro and bus services. The Northwest T-way runs along the eastern side of Windsor Road, with the closest bus stops located on the western side of Rouse Hill Metro Station. Bus services from Rouse Hill Metro Station provide frequent services to surrounding areas including Kellyville, Norwest, Parramatta, Castle Hill, Epping and Blacktown. In addition, Sydney Metro services operate frequently throughout the day, including every four minutes during peak periods, providing connection to between Tallawong and Sydenham via the City. The site's location next to Rouse Hill Town Centre is also ideal, presenting the opportunity for future residents of the development to easily connect with essential services via active travel and reduce reliance on private vehicle travel.

The proposed development seeks to take advantage of its prime location directly adjacent to the Metro Station and town centre, with generous public domain ensuring good permeability throughout the site. Ground floor food and beverage tenancies are proposed along the Tempus Street and Market Lane frontages of the site which also take advantage of the generous public domain and encourage street activation, particularly with commuters connecting with the station, and residents and employees within the development itself. Bicycle parking facilities would be provided to residents to encourage active travel and make use of the surrounding shared path network along Windsor Road, Schofields Road and other surrounding local roads.

Resident parking would be provided in accordance with the State Environmental Planning Policy (Housing) 2021 (Housing SEPP) requirements for build-to-rent and co-living dwellings, the meaningful reduction in parking supply further supports broader active travel and reduced car dependence objectives such as those identified in the Rouse Hill Precinct Plan. A reduced commercial office parking provision is proposed which considers the site's excellent connectivity to public transport. This strategy aligns with broader travel demand management strategies and the objectives outlined in the Rouse Hill Precinct Plan to reduce car dependency and encourage more sustainable modes of travel. It would also assist with limiting the overall traffic generation and associated impact of the development on the surrounding road network.

Vehicle access to the basement car park would be provided via a driveway on White Hart Drive which would facilitate left-in and left-out movements. All loading and servicing for the site would also be accommodated within the basement. This vehicle access strategy ensures pedestrian amenity and the public domain particularly along the frontages interfacing with the Metro Station and the town centre are not compromised.

Overall, the proposed development is well considered and readily supported from a transport perspective. It responds to broader planning objectives to provide more high-quality, diverse housing and commercial floor space, and would be supported by the surrounding mixed-use precinct and excellent access to public transport to reduce dependency on private vehicle travel

# 1 Introduction

## 1.1 Background and proposal

This Transport and Accessibility Impact Assessment (TAIA) has been prepared on behalf of Freecity (the Applicant) to support a State Significant Development Application (SSDA) for the proposed mixed-use development located at 2-30 Tempus Street, Rouse Hill.

The SSDA (SSD-76190964) seeks consent for a diverse mixed-use development comprising build-to-rent and co-living apartments and a mix of commercial and ground floor retail uses, with two levels of basement car parking. A detailed description of the proposal is provided in the Environmental Impact Statement (EIS) prepared by Urbis.

## 1.2 Purpose

This TAIA has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning, Housing and Infrastructure (DPHI) for the subject SSDA. **Table 1** outlines the transport specific SEARs and a reference to where each requirement has been addressed within this report.

**TABLE 1: TRANSPORT RELATED SEARS**

SEARs	SEARs description	Report section
10. Traffic, Transport and Accessibility	<p>Provide a transport and accessibility impact assessment, which includes:</p> <ul style="list-style-type: none"><li>An analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections</li></ul>	<b>Section 3</b>
	<ul style="list-style-type: none"><li>Details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle and end-of-trip facilities), drop-off/ pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/ unloading</li></ul>	<b>Sections 4, 5.2, 5.3, 7, 9, 10</b>
	<ul style="list-style-type: none"><li>Analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments</li></ul>	<b>Sections 8.1, 8.2, 8.4, 11.7</b>

SEARs	SEARs description	Report section
	<ul style="list-style-type: none"> <li>Measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure (including road widening or intersection upgrades) to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards</li> </ul>	<p><b>Section 8.4</b></p>
	<ul style="list-style-type: none"> <li>Proposals to promote sustainable travel choices for employees, residents, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high-quality end-of-trip facilities, and implementing a Green Travel Plan</li> </ul>	<p><b>Sections 5, 6, 7.1</b></p>
	<p>Provide a Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.</p>	<p><b>Section 11</b></p>

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- Strategic context and overarching alignment with the planning intent for the surrounding area.
- Existing transport and parking conditions surrounding the site.
- Summary of the proposal.
- Active travel connectivity and pedestrian and bicycle requirements.
- Activation along the key site frontages and connections with the immediate surrounding area.
- Suitability of the proposed parking supply, access strategy and overall layout.
- Service vehicle requirements.
- Traffic generating characteristics of the proposed development.
- Transport impacts on the surrounding networks.
- Preliminary green travel initiatives and objectives.
- Preliminary construction and pedestrian management measures.

The report also considers The Hills Shire Council's pre-lodgement meeting comments provided on 6 March 2024.

## 1.3 References

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In preparing this report, reference has been made to the following:

- An inspection of the site and surrounding precinct on 8 March 2025
- Rouse Hill Strategic Centre Precinct Plan, November 2023
- State Environmental Planning Policy (Housing) 2021 (Housing SEPP)
- The Hills Development Control Plan (DCP) 2012
- The Hills Local Environmental Plan (LEP) 2019
- The Guide to Transport Impact Assessment (GTIA) 2024, Transport for NSW
- Australian Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS2890.2:2018
- Australian Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS2890.6:2022
- The Hills Shire Council Guidelines for Planning Waste Management in New Developments (Waste Management Guidelines) 2024
- Plans for the proposed development prepared by Architectus, Project Number 240130 dated April 2025
- Other documents as referenced in this report.

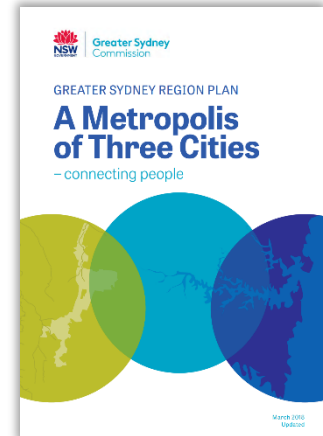
## 2 Strategic Context

### 2.1 Greater Sydney Region Plan: A Metropolis of Three Cities

The Greater Sydney Region Plan provides the overarching strategic plan for growth and change in Sydney. It is a 20-year plan with a 40-year vision that seeks to transform Greater Sydney into a metropolis of three cities – the Western Parkland City, Central River City and Eastern Harbour City. It identifies key challenges facing Sydney including increasing the population to eight million by 2056, 817,000 new jobs and a requirement of 725,000 new homes by 2036.

The Plan includes objectives and strategies for infrastructure and collaboration, liveability, productivity and sustainability. The following objectives are relevant to the proposed development:

- Objective 10 – Greater housing supply
- Objective 12 – Great places that bring people together
- Objective 14 – A Metropolis of Three Cities – integrated land use and transport creates walkable and 30-minute cities
- Objective 22 – Investment and business activity in centres.



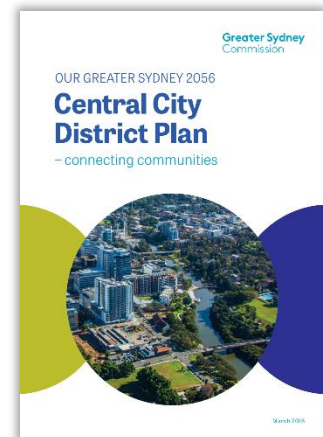
### 2.2 Our Greater Sydney 2056: Central City District Plan

The Central City District Plan is a 20-year plan to manage growth in the context of economic, social and environmental matters to implement the objectives of the Greater Sydney Region Plan. The intent of the District Plan is to inform local strategic planning statements and local environmental plans, guiding the planning and support for growth and change across the district.

The District Plan contains strategic directions, planning priorities and actions that seek to implement the objectives and strategies within the Region Plan at the district-level. The Structure Plan identifies the key centres, economic and employment locations, land release and urban renewal areas and existing and future transport infrastructure to deliver growth aspirations.

The following planning priorities are relevant to the proposed development:

- Planning Priority N5 – Providing housing supply, choice and affordability, with access to jobs, services and public transport
- Planning Priority N9 – Delivering integrated land use and transport planning and a 30 minute city
- Planning Priority N10 – Growing investment, business opportunities and jobs in strategic centres.

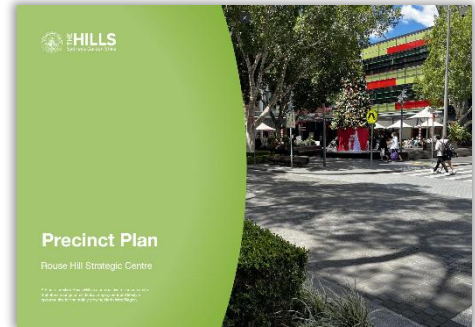


## 2.3 Rouse Hill Strategic Centre Precinct Plan

The Rouse Hill Strategic Centre Precinct Plan sets the framework for Rouse Hill to grow into a thriving regional destination and mixed-use Strategic Centre, with employment opportunities to match the needs of local highly skilled residents. The Precinct Plan specifically identifies the need to capitalise on the opportunity to develop undeveloped parcels of land near the Metro Station and T-way Interchange to assist with Rouse Hill becoming a walkable centre with high quality and well-designed buildings at its core.

The Precinct Plan specifically identifies the subject site being a prime location for commercial office space, with this providing a unique opportunity to provide gateway buildings which connect the retail area to the Metro Station and capitalise on workers using the Metro. Providing active ground floor uses is also encouraged to create vibrant streets and interfaces as people travel between the town centre and Metro Station.

By allowing for mixed-use development on the site and capitalising on the site's location immediately adjacent to the Metro Station and T-way, this in turn would deliver on the objective of reducing car dependency. The Precinct Plan highlights the desire to reduce parking provisions on site to encourage a shift towards public transport, and encouraging walking and cycling.

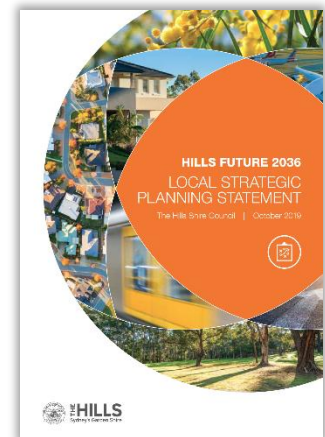


## 2.4 The Hills Future 2036 Local Strategic Planning Statement

The Hills Future 2036 Local Strategic Planning Statement (LSPS) outlines the vision for land use planning over the next 20 years to manage the growth and change of The Hills LGA. The LSPS sets out planning priorities that are consistent with the Greater Sydney Region Plan: A Metropolis of Three Cities and Greater Sydney 2056: Central City District Plan.

Planning priorities identified in the LSPS that are relevant to the proposed development include:

- Planning Priority 1 – Plan for sufficient jobs, targeted to suit the skills of the workforce
- Planning Priority 6 – Plan for new housing to support Greater Sydney's growing population
- Planning Priority 7 – Plan for new housing right locations
- Planning Priority 9 – Renew and create great places.



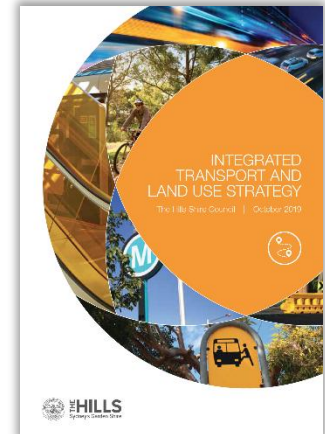
## 2.5 The Hills Integrated Transport and Land Use Strategy

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The Integrated Transport and Land Use Strategy 2019 establishes the basis for strategic planning of the Shire's traffic, transport and movement network to 2036. It informs the planning priorities and five-year actions in Hills Future 2036 Local Strategic Planning Statement, and provides the finer detail about how the vision for a cohesive transport network that meets the needs of the existing and future population would be achieved.

Planning priorities identified in the Integrated Transport and Land Use Strategy that are relevant to the proposed development include:

- Building strategic centres to realise their potential and renew and create great places
- Influencing travel behaviour to promote sustainable choices.



## 2.6 Surrounding nearby developments

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### 2.6.1 40 Civic Way, Rouse Hill

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Part of the 40 Civic Way, Rouse Hill site is already occupied by a residential apartment building which comprises a total of 28 affordable housing apartments. Off-street parking is also currently provided in a single-level basement car park which is accessed via driveway located at the northern end of the Civic Way site frontage, accommodating 32 car parking spaces.

Construction is currently underway for a new residential apartment building on the southeastern corner of the site comprising an additional 33 affordable housing apartments. The existing 32 space basement car park would be used for the use of both the existing and proposed affordable housing apartment buildings. The Traffic and Parking Assessment<sup>1</sup> report that supported the development estimated that the additional 33 affordable housing apartments would generate five to six vehicle trips in the weekday AM and PM peak hours which was considered minor and the context of the broader road network capacity.

### 2.6.2 Rouse Hill Town Centre expansion

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The Rouse Hill Town Centre Stage 2 expansion comprises the northern expansion of the existing Town Centre onto the surface car park area between the northern edge of the existing Stage 1 retail centre and Rouse Hill Drive. The expansion would involve the following:

- 10,621 square metres of additional retail gross leasable floor area (GLFA)
- 218 apartment apartments in four buildings
- A total of 482 additional car parking spaces.

The Traffic Impact Assessment that supported the DA indicates the expansion is expected to generate around 219, 335 and 440 vehicle trips in the weekday AM and PM and Saturday midday peak hours, respectively.

The Rouse Hill Town Centre expansion has been approved however construction is yet to commence.

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<sup>1</sup> 40 Civic Way, Rouse Hill, Traffic and Parking Assessment Report prepared by Varga Traffic Planning dated 13 August 2019

### 2.6.3 New Rouse Hill Hospital

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Health Infrastructure NSW is planning for a new hospital at Rouse Hill. The future hospital site is located on the northern side of Rouse Hill Drive and east of Windsor Road. It is understood that the EIS is currently in the process of being prepared and therefore no details on expected traffic generation are known at this stage.

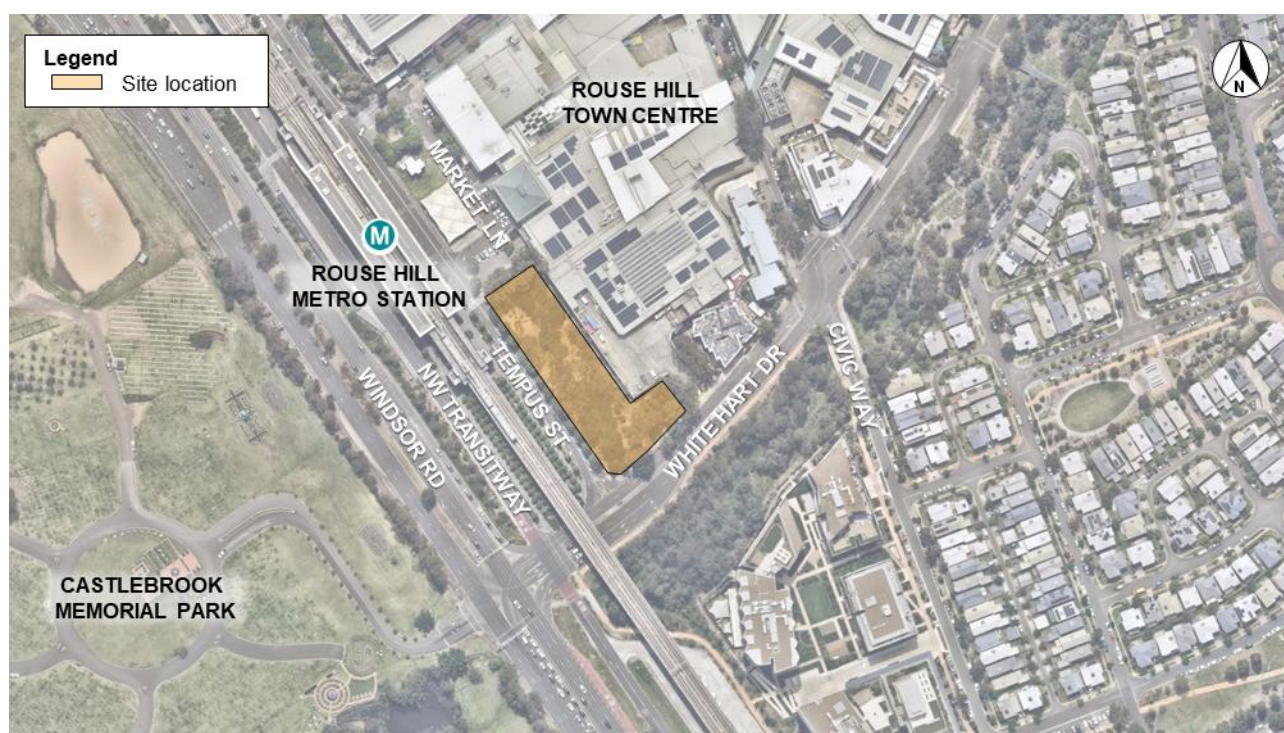
## 3 Existing conditions

### 3.1 Site overview

The site is in Rouse Hill within The Hills Local Government Area (LGA) on land legally described as Lot 19 of DP 280013. It is located directly adjacent to Rouse Hill Town Centre, Rouse Hill Metro Station and the Northwest T-way.

The site is zoned as MU1 Mixed Use and is currently unoccupied. Surrounding land uses include mixed-use within the town centre itself to the north, medium density residential to the east and west and parklands to the south adjacent to Windsor Road. The site has frontages to White Hart Drive to the south, Tempus Street to the west and Market Lane to the north.

The site location and immediate surrounds are shown in **Figure 1**.



**Figure 1: Site location**

Base image source: Nearmap, dated 27 October 2024

### 3.2 Surrounding road network

Key roads surrounding the site include Windsor Road, White Hart Drive and Tempus Street. A description of these roads is provided below.

#### 3.2.1 Windsor Road

Windsor Road is a two-way, classified State Road, with three travel lanes provided in each direction plus auxiliary turning lanes at intersections. In a broader context, Windsor Road connects between Windsor in the north and North Rocks in the south. Kerbside parking is not permitted along this road. The posted speed limit near the site is 80 kilometres per hour.

Windsor Road is shown in **Figure 2**.



**Figure 2: Windsor Road (looking south)**

Base image source: Google Streetview, dated April 2023

### 3.2.2 White Hart Drive

White Hart Drive is a two-way local road that runs along the southern boundary of the site. It has two lanes in each direction and provides connection between Windsor Road to the west and Caddies Boulevard to the east. Kerbside parking is not permitted along this road. The posted speed limit on White Hart Drive is 50 kilometres per hour.

White Hart Drive is shown in **Figure 3**.



**Figure 3: White Hart Drive (looking west)**

### 3.2.3 Tempus Street

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Tempus Street is a two-way local road that runs along the western boundary of the site. It has one lane in each direction and provides connection between Rouse Hill Drive to the north and White Hart Drive to the south. Kerbside parking is not permitted along this road except for several indented parking bays along the metro station frontage, which are used by taxis and for kiss and ride purposes. Tempus Street has a posted speed limit of 40 kilometres per hour and is a high pedestrian activity area due to the proximity to Rouse Hill Metro Station and the Rouse Hill Town Centre.

Tempus Street is shown in **Figure 4**.



**Figure 4: Tempus Street (looking north)**

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## 3.3 Public transport

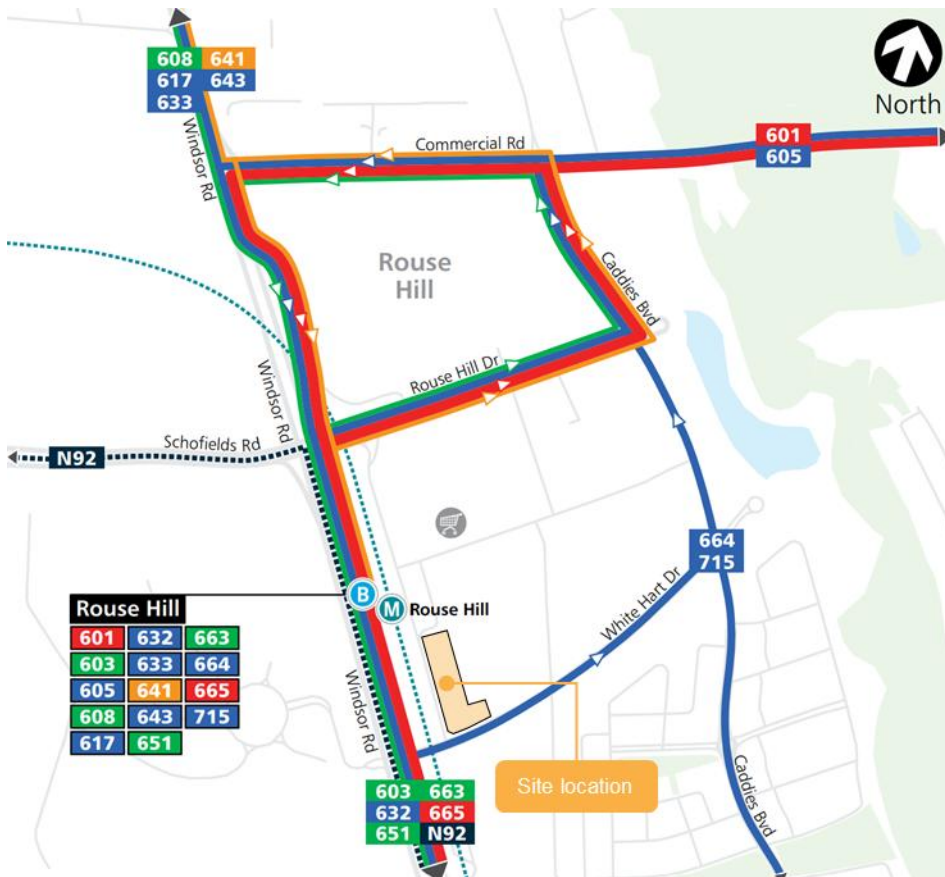
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The site has excellent access to various public transport options including bus and metro services. The site is adjacent to the Northwest T-way, with the closest bus stops located on the western side of Rouse Hill Metro Station. Bus services from Rouse Hill Metro Station provide connection to surrounding areas including Kellyville, Norwest, Parramatta, Castle Hill, Epping and Blacktown. In addition, Sydney Metro services operate frequently throughout the day, including every four minutes during peak periods, providing connection to between Tallawong and Sydenham via the City.

The surrounding public transport network including service frequencies is summarised in **Table 2** and shown indicatively in **Figure 5**.

**TABLE 2: SURROUNDING PUBLIC TRANSPORT**

Public Transport	Route	Description	Frequency during weekday peak
Bus	601	Rouse Hill Station to Parramatta via Hills Showground	15 minutes
	603	Rouse Hill Station to Parramatta via Glenhaven	15-30 minutes
	605	Rouse Hill Station to North Kellyville	15-30 minutes
	608	Rouse Hill to Windsor	60 minutes
	617	Rouse Hill to Kellyville Station via Beaumont Hills	15-30 minutes
	632	Rouse Hill Station to Pennant Hills via Norwest and Castle Hill	30 minutes
	633	Rouse Hill to Pennant Hills via Kellyville and Castle Hill	30 minutes
	641	Rouse Hill to Dural	Limited services
	643	Rouse Hill to Gables via Box Hill	30 minutes
	651	Rouse Hill Station to Epping via Castle Hill	20-30 minutes
	663	Rouse Hill Station to Parramatta via Glenwood	10-15 minutes
	664	Rouse Hill Station to Parramatta via Norwest	10-20 minutes
	665	Rouse Hill Station to Parramatta	10-15 minutes
	715	Rouse Hill Station to Seven Hills via Kellyville & Norwest	30 minutes
	731	Rouse Hill Station to Blacktown via Stanhope Gardens	20 minutes
	732	Rouse Hill Station to Blacktown via The Ponds	20-30 minutes
	735	Rouse Hill to Blacktown loop service	10-20 minutes
	740	Rouse Hill to Gables	30 minutes
	742	Rouse Hill Station to Marsden Park	60 minutes
	746	Rouse Hill to Riverstone	30 minutes
747	Rouse Hill Station to Mount Druitt via Riverstone and Marsden Park	30 minutes	
748	Rouse Hill Station to Marsden Park via Schofields	15-30 minutes	
752	Rouse Hill Station to Blacktown via Quakers Hill	15-30 minutes	
Metro	M1	Metro Northwest to Sydenham Line	4 mins



**Figure 5: Surrounding public transport network**

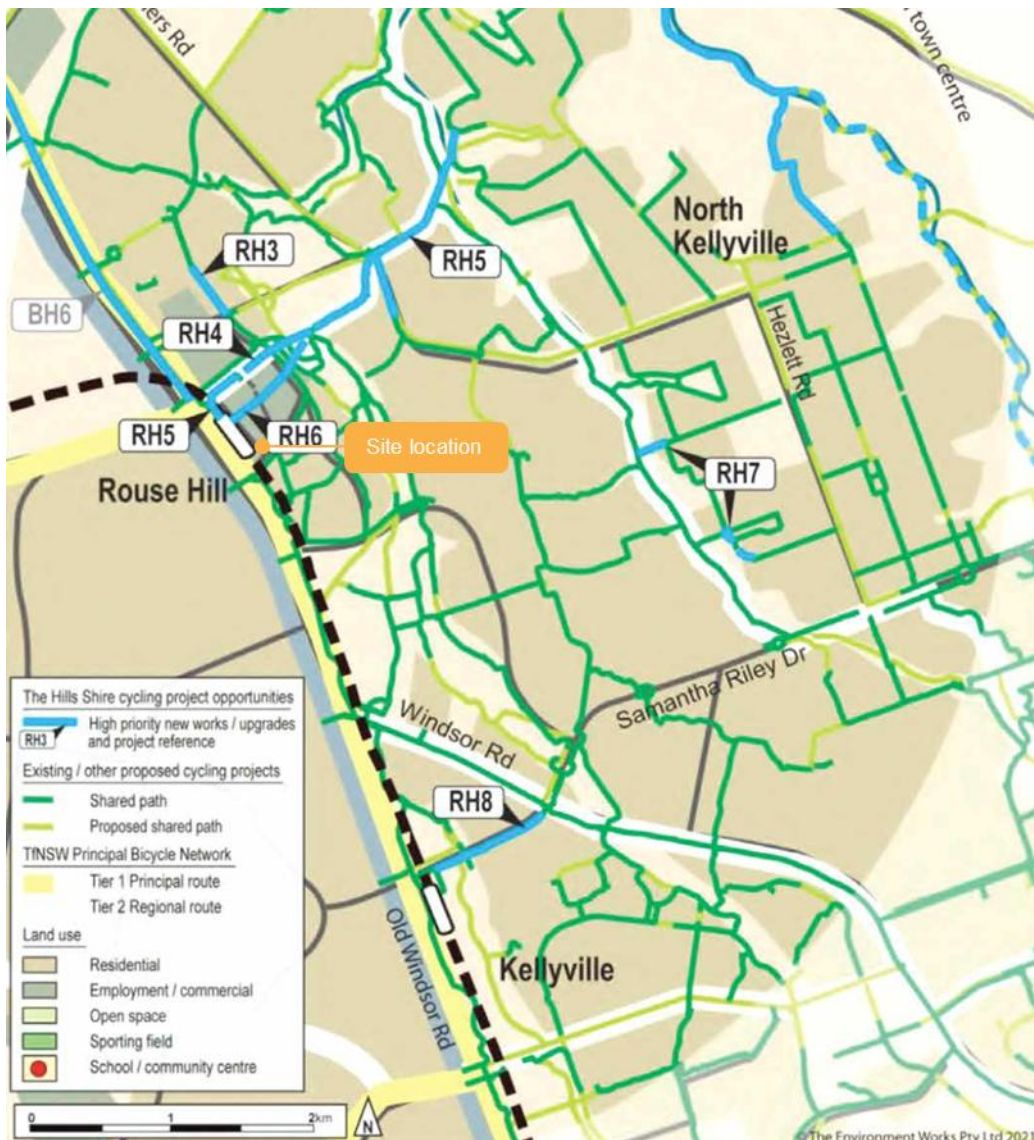
Base image source: [cdcbus.com.au/wp-content/uploads/2025/02/GSBC4\\_network\\_map](https://cdcbus.com.au/wp-content/uploads/2025/02/GSBC4_network_map), effective 3 March 2025

### 3.4 Active transport

Well established pedestrian paths are generally provided on both sides of most surrounding roads, including Tempus Street and White Hart Drive, as well as throughout the adjacent Rouse Hill Town Centre. Signalised pedestrian crossings are provided on the eastern, southern and western legs of the Windsor Road/ White Hart Drive intersection, and on all legs of the White Hart Drive intersections with Civic Way and Caddies Boulevard. Zebra crossings are provided along Tempus Street, including one near the northwestern corner of the site, providing good pedestrian connectivity to Rouse Hill Metro Station.

The site is also well connected to the surrounding cycling network. This includes shared paths along the eastern side of Windsor Road, as well as along Schofields Road, Rouse Hill Drive and many local roads within the surrounding residential catchment. Bike parking facilities are also provided at the Metro Station and within the Town Centre.

Additional cycling infrastructure and upgrades are planned for the Rouse Hill area to encourage cycling and less dependence on private vehicle travel. The strategic cycling network near the site is shown indicatively in **Figure 6**.



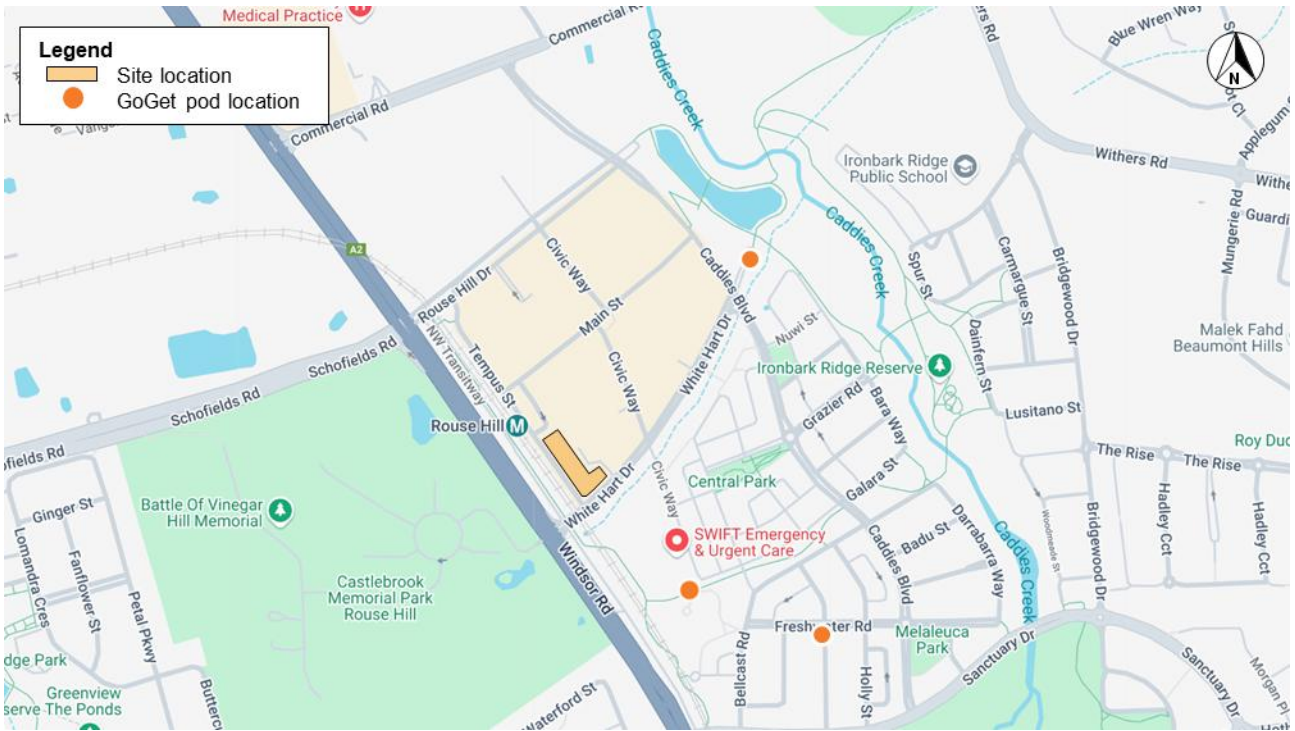
**Figure 6: Strategic cycling network near the site**

Base image source: The Hills Shire Bike Plan

### 3.5 Local car share initiatives

GoGet (along with other car share providers) has become increasingly common throughout Sydney and is now recognised as a viable transport option for drivers throughout Sydney. They are now a well-utilised service especially in the inner suburbs due to limited parking availability and the expense involved in parking close to the Sydney CBD. GoGet offer a viable alternative to the private car for trips where distances are short and are likely to be of benefit to future residents of the proposed development.

Research suggests that a single car share vehicle can replace seven to 10 private vehicles and on average services 23 members. GoGet car share pods located close to the site are shown in **Figure 7**, with the closest pod located on Galara Street around 230 metres south of the site and another located on White Hart Drive near Caddies Boulevard around 450 metres east of the site.



**Figure 7: Surrounding GoGet pods**

Base image source: GoGet, accessed March 2025

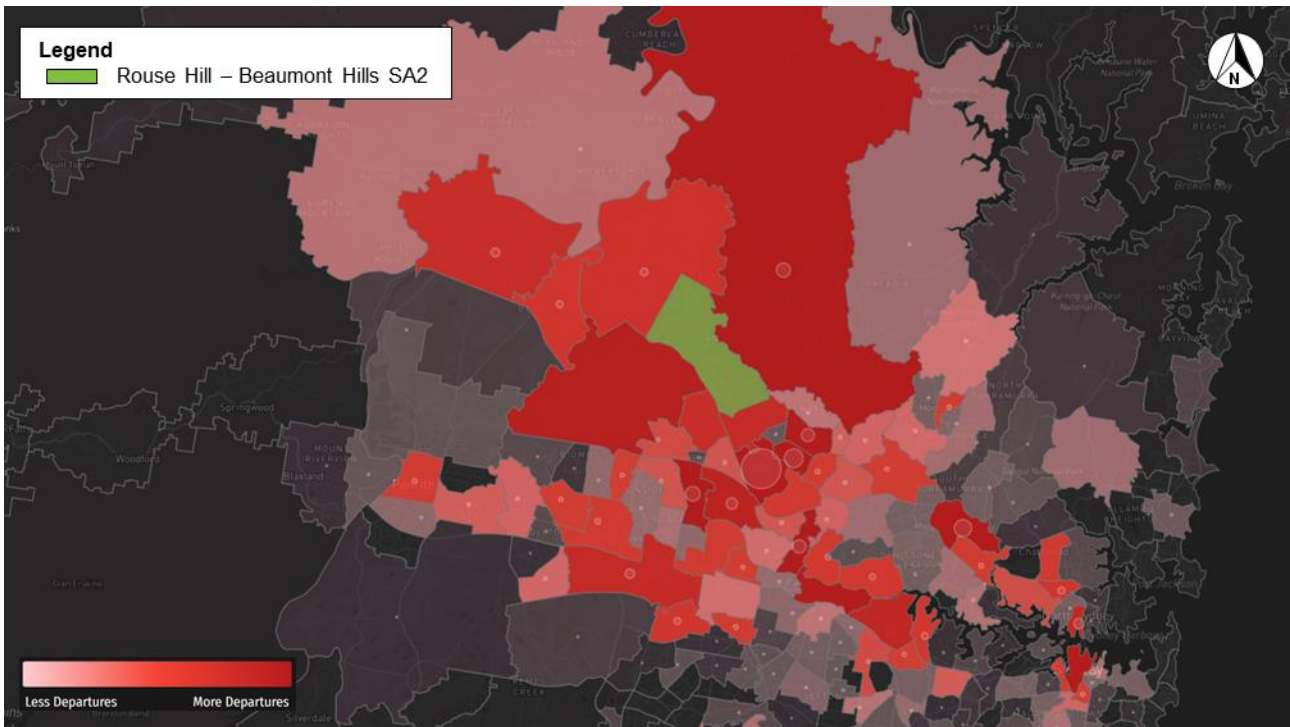
### 3.6 Existing travel behaviour

The 2016 Australian Bureau of Statistics (ABS) journey to work data for existing residents in the Statistical Area surrounding the site is provided in **Table 3** with the primary locations of work shown in **Figure 8**. Given the impacts of the COVID-19 pandemic on travel patterns during this period, reference was not made to 2021 ABS journey to work data.

**TABLE 3: ABS JOURNEY TO WORK (FROM THE SURROUNDING SA2) – 2016**

Mode of Travel	Mode share [1]
Car (as driver)	76%
Bus	12%
Car (as passenger)	5%
Train	4%
Walk	1%
Cycle	1%
Other	1%
<b>Total</b>	<b>100%</b>

[1] Not considering those that worked at home or did not work.



**Figure 8: Place of work for residents in Rouse Hill – Beaumont Hills**

Base image source: Ason Group

ABS data indicates that in 2016, most residents living within the Statistical Area used active and public transport to travel to work with heavy rail and bus services accounting for 46 per cent of all trips. Walking and cycling accounted for nine per cent. The following approximate breakdown is provided for resident places of work:

- 22 per cent in the Rouse Hill, Beaumont Hills and Bella Vista areas
- Eight per cent in Sydney CBD and immediate areas
- Four per cent in Parramatta - Rosehill
- Remainder distributed across Sydney.

### 3.7 Traffic volumes

Through engagement with Transport for NSW, it was recommended that assessment of the traffic impact of the proposed development be completed for the weekday PM and Saturday midday critical peak hours.

On this basis, traffic surveys were completed at the following key intersections near the site on Thursday 6 March between 3:00pm and 7:00pm, and on Saturday between 11:00am and 2:00pm:

- White Hart Drive/ Windsor Road
- White Hart Drive/ Tempus Street
- White Hart Drive/ Civic Way
- White Hart Drive/ Caddies Boulevard.

The weekday PM peak hour was identified to occur from 5:00pm to 6:00pm, while the Saturday peak hour was from 12:00pm to 1:00pm. The existing peak hour traffic volumes are summarised in **Table 4**.

**TABLE 4: EXISTING INTERSECTION TRAFFIC VOLUMES**

Intersection	Peak hour	Hourly traffic volumes
White Hart Drive/ Windsor Road	Weekday PM	4,217
	Saturday	4,710
White Hart Drive/ Tempus Street	Weekday PM	1,214
	Saturday	1,392
White Hart Drive/ Civic Way	Weekday PM	1,174
	Saturday	1,245
White Hart Drive/ Caddies Boulevard	Weekday PM	1,408
	Saturday	1,275

### 3.8 Intersection performance

Intersection performance was assessed using the SIDRA Intersection 9.1 (SIDRA) modelling software. Key outputs from SIDRA are summarised in **Table 5**.

**TABLE 5: SIDRA MODELLING OUTPUTS**

Output	Description
Degree of saturation (DOS)	Ratio of the arrival (demand) flow rate to the capacity of the approach or intersection during a given flow period. Where DOS is close to 1.00, the traffic demand is effectively equal to the capacity of the approach or intersection.
95th percentile vehicle queue (metres)	A statistical value which represents the queuing experienced on an approach to an intersection.
Average delay (seconds) and level of service (LOS)	Average delay is commonly used to assess the operational performance of intersections, with LOS used as an index.

The commonly used measure of intersection performance, as defined by the Transport for NSW, is vehicle delay and LOS. **Table 6** shows the criteria that SIDRA adopts in assessing the LOS. Common practice suggests that when intersection performance falls to a LOS E or below, investigations should be initiated to determine if suitable remediation can be provided.

**TABLE 6: SIDRA LOS CRITERIA**

LOS	Average delay per vehicle (seconds per vehicles)	Traffic signals and roundabouts	Give way and stop signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required

LOS	Average delay per vehicle (seconds per vehicles)	Traffic signals and roundabouts	Give way and stop signs
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	At capacity, requires other control mode

Source: Transport for NSW GTIA 2024

**Table 7** presents a summary of the existing operation of the key surveyed intersections, with full results presented in **Appendix B** of this report.

TABLE 7: EXISTING INTERSECTION PERFORMANCE					
Intersection	Peak hour	DOS	Average delay (seconds)	95 <sup>th</sup> percentile queue (metres)	LOS
White Hart Drive/Windsor Road	Weekday PM	0.85	27	154	B
	Saturday	0.86	41	283	C
White Hart Drive/Tempus Street	Weekday PM	0.19	1	5	A
	Saturday	0.21	1	4	A
White Hart Drive/Civic Way	Weekday PM	0.63	30	53	C
	Saturday	0.60	31	55	C
White Hart Drive/Caddies Boulevard	Weekday PM	0.60	15	40	B
	Saturday	0.46	16	39	B

**Table 7** indicates the surrounding key intersections currently operate satisfactorily during the weekday PM and Saturday peak hours as a LOS C or better. The White Hart Drive/ Windsor Road intersection experiences high traffic volumes given the arterial function of Windsor Road. This results in a relatively high DOS and long vehicle queues along Windsor Road, particularly during the Saturday peak hour. Vehicle delays and queues at the other intersections along White Hart Drive are lower, reflective of the lower traffic volumes at these intersections.

# 4 Development proposal

## 4.1 Overview and key objectives

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The application seeks development consent for the development of an 11, 18 and 23 storey mixed use development at 2-30 Tempus Street, Rouse Hill. Specifically, the SSDA seeks development consent for:

- Site preparation works including removal of temporary planting, bulk excavation and earthworks.
- Construction and operation of an 11, 18 and 23 storey mixed use development, comprising:
  - Consolidated podium comprising ground level lobby, retail and wellness tenancies, and two levels of commercial floor space above.
  - 216 co-living apartments within the 11-storey tower.
  - Build-to-rent apartments across the 18 and 23-storey towers, including 105 apartments in a dual key configuration.
  - Rooftop internal and external amenity spaces on each tower to service the build-to-rent and co-living residents.
- Landscaping and public domain works, including:
  - Retaining existing street trees.
  - Provision of a deep soil landscaped buffer zone along the rear boundary.
  - On-structure landscaping on each rooftop.
- Construction and use of two basement levels, accessed from a consolidated driveway on White Hart Drive to accommodate 111 car spaces, bicycle parking and loading dock facilities.
- Extension and augmentation of services and infrastructure as required.

The purpose of the project is to facilitate the delivery of high-quality, diverse housing and commercial floor space at a strategically located site. The proposal seeks to deliver a built form outcome that positively responds to its location on the edge of Rouse Hill Town Centre and adjacent to Rouse Hill Metro Station and Northwest T-way thus ensuring consistency with the desired future character of Rouse Hill.

A summary of the development schedule is provided in **Table 8** and ground floor plan shown in **Figure 9**.

**TABLE 8: PROPOSED DEVELOPMENT SCHEDULE**

Land use	Description	No./ size
Build-to-rent	Studio	42
	1-bed	36
	2-bed	20
	2-bed dual-key	63
	3-bed	24
	3-bed dual-key	42
	<b>Total</b>	<b>227 apartments</b>
Co-living	-	216 apartments
Commercial	-	3,747m <sup>2</sup> GFA
Retail	-	462m <sup>2</sup> GFA
Wellness centre	-	96m <sup>2</sup> GFA



**Figure 9: Proposed site layout**

Source: Architectus, Project Number 240130, Drawing Number DA-0100, Revision P.02, dated 7 April 2025

## 4.2 Build-to-rent housing

In the context of the proposal, it is important to highlight that build-to-rent and co-living housing is a growing asset class in Australia that improves housing diversity and quality for both renters and institutional investors. Build-to-rent schemes are defined as housing that is purpose designed and built for renting, typically offering longer rental terms and on-site support, with leases centrally and professionally managed by a single entity. It is a major contributor to housing supply globally, with widespread adoption in the United States and

Europe. Co-living housing provides compact rental accommodation for a range of occupants, with generally minimum tenancies of three months.

The Housing SEPP sets parameters that define build-to-rent and co-living housing and establishes the relevant non-discretionary development standards for designing and assessing these uses. Further, the Housing SEPP enables flexible application of certain provisions of the NSW Apartment Design Guide (ADG) to reflect the more communal nature and management of build-to-rent and co-living housing.

The Housing SEPP provides a set of 'non-discretionary development standards' for build-to-rent and co-living housing. Such standards, if complied with, prevent the consent authority from requiring more onerous standards for the matters. An example standard is to provide 0.2 parking spaces for each dwelling (for land in an accessible area). The proposed development complies with this development standard, with the lower proposed parking provision supporting broader planning objectives of reducing car dependency in the area and increasing uptake of more sustainable modes of travel. Parking would be made available to tenants that request as such and would form part of individual rental agreements. This flexible approach to parking allocation ensures that residents would have access to a parking space, if and as required rather than strictly allocating specific parking spaces to specific dwellings.

### 4.3 Vehicle access strategy

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Vehicle access to the basement car park is proposed via a single driveway on White Hart Drive with all vehicles to turn left on entry and exit. All loading and servicing for the site would also be accommodated within the basement. The vehicle access strategy positively responds to comments received in relation to the broader design and public domain surrounding the site. It ensures that quality pedestrian amenity and public domain space can be delivered along Tempus Street and to the north closer to Rouse Hill town centre and public transport services.

Further detail on the car parking and loading arrangements is included in **Section 7** and **Section 9**.

# 5 Sustainable transport

## 5.1 Overview

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Build-to-rent and co-living dwellings are typically smaller than traditional build-to-sell apartments and known to attract a diverse, young and increasingly mobile population more reliant on active and public transport to meet their daily travel needs. A travel demand management approach would be key in the precinct and critical in realising the significant benefits afforded by Sydney's expanding Metro services.

A key strategic priority of the proposal is the objective to leverage the behaviours of future residents and promote sustainable modes of daily travel. This aligns with the objectives detailed in critical Council and Government planning (as discussed at **Section 2**), including the Rouse Hill Strategic Centre Precinct Plan, The Hills Local Strategic Planning Statement and Integrated Transport and Land use Strategy.

## 5.2 Pedestrian amenity

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The proposed development seeks to take advantage of its prime location directly adjacent to the Metro Station and Town Centre, with generous public domain ensuring good permeability across the site. Ground floor food and beverage tenancies are proposed along the Tempus Street and Market Lane frontages which also take advantage of the generous public domain and encourage street activation, particularly with commuters connecting with the station and residents and employees within the development itself.

Such design principles aim to increase walking and cycling in accessible areas and further encourages the continued mode shift away from private vehicles. With resident parking provided in accordance with the Housing SEPP requirements for the build-to-rent and co-living dwellings, the meaningful reduction in parking supply when compared with both DCP and Transport for NSW requirements further supports such active travel objectives. Overall, the interface with the Metro Station and the Town Centre directly aligns with the key objectives outlined in the Rouse Hill Precinct Plan of:

- Allowing for the creation of pedestrian friendly areas with greater emphasis on place-making, amenity and active transport.
- Reducing car dependence and traffic congestion and encouraging the use of public and active transport over private vehicle trips.
- Creating active and vibrant areas to encourage economic activity and investment.

## 5.3 Bicycle parking

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Bicycle parking requirements for different development types are set out in DCP 2012. Bicycle parking for commercial and retail uses is not specifically required where the commercial or retail floor area is less than 5,000 square metres. The wellness centre is ancillary to the broader development and would be used by residents and tenants of the building and would therefore not generate bicycle parking demand.

DCP 2012 does not provide specific bicycle parking rates for residential uses. On this basis, reference has been made to the recommended residential flat bicycle parking rates outlined in Appendix I of the Cycling Aspects of Austroads Guideline. Specifically, this guideline recommends bicycle parking for residential flat uses be provided at the following rates:

- Resident: one space per three apartments.
- Visitor: one space per 12 apartments.

With regard to the build-to-rent component of the development, there are 105 dual-key apartments afforded the flexibility of being leased as a single 3-bedroom apartment or separately as a 2-bedroom apartment and studio.

Considering the site's location in Northwest Sydney, where market trends favour family-oriented demand and larger apartments, it is unlikely that all dual-key apartments will be utilized as separate dwellings. To adopt a realistic approach to estimating future demand, a conservative assumption has been made that 50 per cent of the dual-key apartments would function as two separate apartments, while the remaining 50 per cent would be occupied as single apartments.

Having consideration to the above, **Table 9** has been prepared to outline the bicycle parking requirements for the proposed development.

**TABLE 9: BICYCLE PARKING REQUIREMENTS**

Use	Yield	Description	Bicycle parking rate	Bicycle parking requirement
Build-to-rent	280 apartments <sup>1</sup>	Resident	1 space/ 3 apartments	93
		Visitor	1 space/ 12 apartments	23
Co-living	216 apartments	Resident	1 space/ 3 apartments	72
		Visitor	1 space/ 12 apartments	18
Commercial	3,746m <sup>2</sup> GFA	-	N/A	0
Retail	462m <sup>2</sup> GFA	-	N/A	0
Wellness centre	96m <sup>2</sup> GFA	-	N/A	0
<b>Total</b>				<b>206</b>

<sup>1</sup> Assumes 50% of the 105 dual-key apartments would be used as separate apartments. Therefore the total number of build-to-rent apartments for calculations = 227 + (105 x 50%) = 280 apartments.

Based on the above, the proposed development generates a bicycle parking provision of 206 spaces, including 165 spaces for residents and 41 for visitors.

A total of 132 secure bicycle parking spaces are proposed on the ground level for use by residents, with dedicated and secure access on White Hart Drive. With over 120 secure cages with dimensions that exceed bicycle storage requirements also provided across the basement car park and basement mezzanine levels, a total of over 250 resident bicycle spaces could be achieved which exceeds the estimated requirement. Visitor bicycle parking in the form is bicycle racks within the generous public domain surrounding the site along Tempus Street and to the north can be documented as part of detailed design and in consultation with stakeholders to ensure appropriate provision based on demand and existing facilities already in the vicinity.

## 5.4 Electric vehicle charging infrastructure

Reference has been made to Clause J9D4 of the National Construction Code (NCC) which stipulates a development should be constructed to support the future installation of a 7kW (32A) Type 2 electric vehicle charge in:

- 100 per cent of the car parking spaces associated with a Class 2 building
- 10 per cent of car parking spaces associated with a Class 5 or 6 building
- 20 per cent of car parking spaces associated with a Class 3, 7b, 8 or 9 building.

Car parking would be future proofed to meet the above requirements.

# 6 Preliminary Green Travel Plan

## 6.1 Introduction

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Transport is an essential aspect of daily life, impacting the economy, public health, and the environment. The transportation sector stands out as one of the rapidly growing sources of emissions in Australia, presenting a significant opportunity for reducing greenhouse gases. Beyond environmental considerations, offering diverse travel options, prioritising walking, cycling, and public transport, holds substantial public health advantages and contributes to the development of a strong and prosperous community.

While the physical infrastructure discussed in **Section 5** integrated into the development is a crucial component, it represents only a portion of the overall solution. A Green Travel Plan (GTP) would ensure that the transportation infrastructure, services, and policies both within and beyond the site are tailored to user needs and strategically coordinated to achieve the highest level of sustainability.

### 6.1.1 Context

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This Preliminary GTP has been prepared to reinforce the client's commitment towards sustainable development and to ensure that the proposed development not only integrates into, but also enhances the existing public and active transport networks.

Given the proposal is in its early stages, the purpose of this Preliminary GTP is to outline the overarching requirements for a future GTP. Noting the proposed use of the site, the focus of the future GTP would be to effect changes in resident, visitor, and staff travel to and from the site, and assist in:

- Removing barriers to active travel for all
- Maximising the number of people who walk, cycle or utilise public transport to and from the site.

This GTP is intended to develop a package of site-specific measures to promote and maximise the use of sustainable travel modes, including walking, cycling, public transport and car sharing. In this regard, this plan sets out objectives and strategies to assist the Council in achieving its goal to improve sustainability. These targets are to be realistic but ambitious enough to initiate substantive behavioural change to achieve the desired outcomes.

As a 'living' document, the GTP should be updated regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

### 6.1.2 Objectives of the GTP

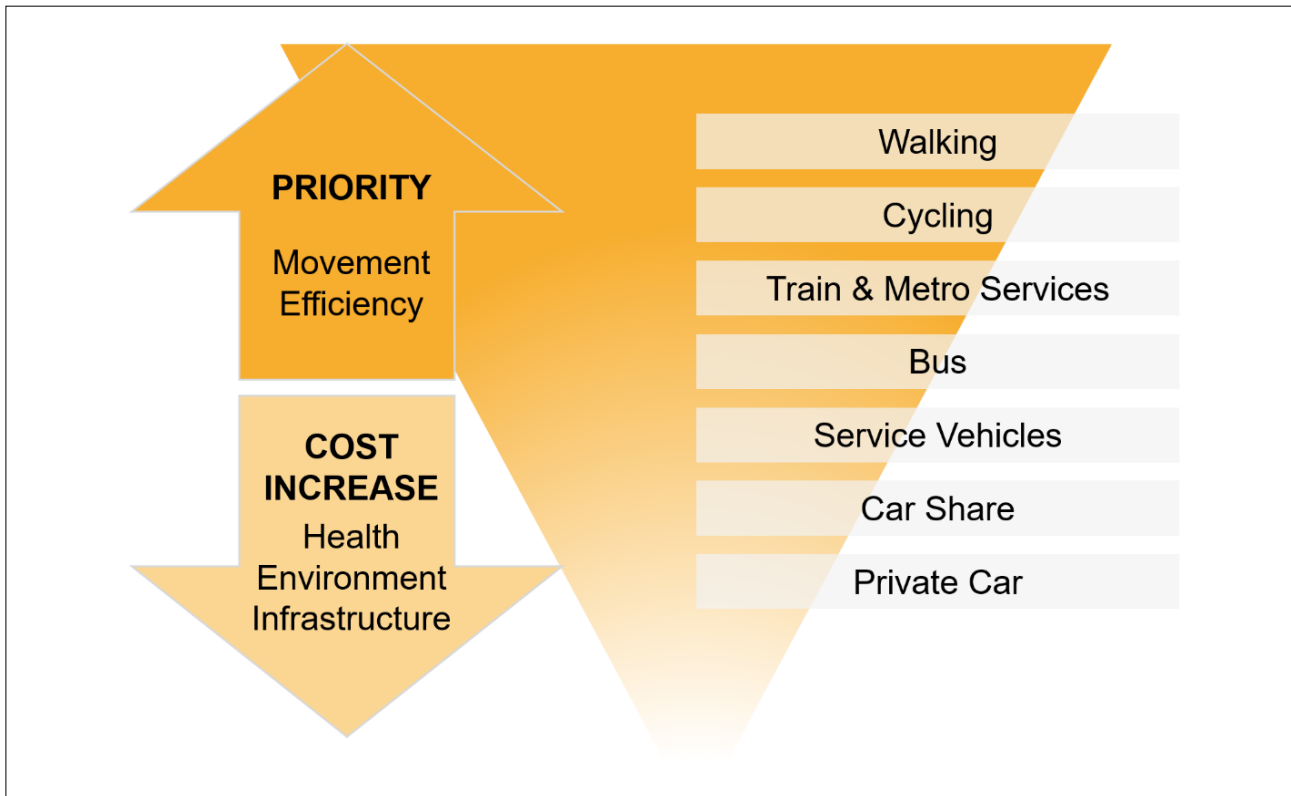
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Underpinning this GTP comprises a package of measures which could be adopted and designed to address the specific travel needs of the site. In this regard, the overall intention is to encourage and facilitate the use of alternative and sustainable modes of transport and to reduce single-occupancy car travel for journeys to and from the site.

The primary objectives of the future GTP would be to:

- Reduce the environmental footprint of the site
- Set future staff travel mode share targets
- Improve access, amenity, convenience, and safety of sustainable transport modes to/from the site
- Promote the use of 'active transport' modes such as walking and cycling, particularly for short-medium distance journeys
- Reduce reliance on the use of private vehicles for all journeys
- Encourage a healthier, happier, and more active & public transport use culture.

Having regard for the above, this GTP seeks to adopt the movement hierarchy shown in **Figure 10** (noting this is a standard hierarchy and not necessarily site specific), with priority given to ‘active transport’ such as walking and cycling.



**Figure 10: Movement hierarchy**

## 6.2 Measures and action strategies

### 6.2.1 Measures

The below list provides a range of measures that could be implemented to achieve the objectives of this preliminary GTP with any such details to be reviewed and confirmed prior to implementation of any future plan:

- An introduction to the plan for all residents and staff, setting out its purpose and objectives
- Provision of public transport travel information for residents, staff and visitors
- Encouragement of carpooling, both amongst staff and residents on site and in the wider context
- Assisted cycle purchase schemes for residents and staff
- Interest free loans to assist with cycle purchase, cycle equipment purchase etc. for residents and staff
- A transport section on the building website with links to local bus operator sites, to ensure that travel information is always up to date
- The provision of transport information for visitors to the site.

## 6.2.2 Site specific measures

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Numerous possibilities exist to incentivise users to consider alternative travel modes to and from the site. The following potential measures and initiatives could be implemented to encourage more sustainable travel modes:

### Active travel

- Establish high-quality, prominent bicycle parking
- Foster cultural change through initiatives such as:
  - Creating a bike user group, targeting staff residing within five kilometres of the site or residents working within five kilometres of the site
  - Providing information outlining opportunities and facilities available to users, including maps of available cycling routes to the site.

### Promote carpooling

- Encourage carpooling through the establishment of a carpooling club or registry/ forum
- Conduct community programs to encourage carpooling for residents.

### Public transport

- Develop a Travel Access Guide (TAG) for resident and staff access, incorporating details on site facilities and surrounding public transport services and active transport initiatives. Update the TAG as the surrounding transport environment evolves
- Install public transport information boards/ apps to inform residents and visitors about alternative transport options, utilising the TAG as a reference
- Display a copy of the TAG in communal areas of the site including (but not limited to):
  - Resident lobby
  - Staff lunchroom
  - Lift lobby area and entrances to buildings
  - Any marketing material associated with the site, such as websites and newsletters.

### Welcome packs

- Provide new staff and residents with a 'welcome pack' as part of the on-site induction process or when they first move in providing information in relation to sustainable transport choices. This pack would include copy of the GTP and a TAG, as well as general information regarding the health and social benefits of active transport and advice on where to seek further information. It is recommended that an electric copy of the welcome pack be created and made available to residents and staff.

### Additional travel demand initiatives

- Maintain ongoing engagement with Transport for NSW and Council to capture the additional public transport demand generated by the site
- Provide electric vehicle charge points to encourage resident and employee uptake of electric vehicles
- Providing suitable bicycle parking facilities for residents. It is recommended that as the site develops further, facilities should be reviewed as part of the monitoring process to meet any increase in demand.

## 6.3 Implementation and monitoring

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### 6.3.1 Responsibility for implementation

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The Travel Plan Coordinator (TPC) would be responsible for the running of the future GTP, including its administration and all liaison with interested parties. The role is likely to be undertaken by site/ building Management, or an independent consultant, appointed by building management. The TPC would be appointed following occupation of the development, who would liaise with Council as part of the monitoring process.

### 6.3.2 Travel Plan Coordinator

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The TPC should be appointed to act as the primary point of contact for enquiries relating to the progress of the future GTP. The TPC would manage all aspects of the future GTP, including the co-ordination and joint working practices between those on-site.

The TPC would promote participation in and commitment to the future GTP from and would work in partnership with all stakeholders to deliver the strategies and actions.

The TPC should be appointed within one month of the site becoming occupied. Contact details for the TPC should be provided in the implemented GTP.

### 6.3.3 Plan maintenance

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So as to record the overall success, as well as the effectiveness of the individual measures, monitoring and review of the GTP is to be conducted at regular intervals. The TPC would act as the primary point of contact for all enquiries relating to the GTP's progress.

The GTP would be monitored around every one to two years, with the first survey being carried out shortly after first occupation of the development (approximately six months). Travel mode surveys would determine the proportion of persons travelling to/from the site by each transport mode. This would be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable.

The key considerations when reviewing or monitoring the GTP are as follows:

- Update baseline conditions to reflect any changes to the transport environment in the vicinity of the site such as changes to public transport services, new cycle routes etc.
- Track progress against target travel mode targets
- Identify any shortfalls and develop an updated action plan to address issues
- Update travel modes targets (if necessary) to ensure they are realistic and remain ambitious.

If targets are not met at the end of the initial period of monitoring, the GTP would be reviewed, new measures introduced and would be reassessed at the next monitoring stage.

### 6.3.4 Consultation

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It is essential that any parties that may play a part in the future of GTPs and their actions are aware and have an opportunity to discuss. This would enable equitable input and feedback as well maximising their overall efficacy. For this reason, a coordinated approach to GTPs should be implemented (subject to individual tenant participation) to assist in the consultation with the relevant parties, which could include the following:

- Council's traffic and transport department.
- Traffic committee

- Local bus operators
- Transport for NSW.

Other organisations may be added to this list as the plans evolve.

# 7 Parking assessment

## 7.1 Car parking

As discussed, Housing SEPP 2021 stipulates a non-discretionary development standard for build-to-rent and co-living developments on land within an accessible area. Should parking be provided at a rate of at least 0.2 spaces per dwelling, the consent authority is not permitted to enforce more onerous parking requirements. No visitor parking rate is stipulated in the Housing SEPP 2021.

As discussed in **Section 5.3**, for the purposes of this assessment it is conservatively assumed that 50 per cent of the dual-key build-to-rent apartments would be leased as two separate apartments and the rest single 3-bedroom apartments.

For commercial office uses, DCP 2012 recommends a minimum car parking rate of one space per 100 square metres GFA and a maximum car parking rate of one space per 75 square metres GFA. More recent planning around Bella Vista Metro Station has adopted lower rates of one space per 100 to 145 square metres GFA. The Castle Hill North Precinct also includes maximum rates of one space per 200 square metres GFA noting that DCP 2012 also specifies that *“to encourage provision of employment uses there is no minimum requirement for car parking for ‘commercial premises’ where provided as a mixed use development with ‘residential flat buildings’.*

Considering the small and ancillary nature of the proposed ground floor retail and wellness centre uses within the proposed development and that these uses would largely cater for residents and tenants within the development itself, and/or pass-by trips associated with the Metro Station and adjacent town centre, no car parking is considered required or warranted for these proposed uses.

Having consideration to the above, **Table 10** has been prepared to outline the car parking requirements for the proposed development.

TABLE 10: CAR PARKING REQUIREMENTS			
Use	Yield	Car parking rate	Car parking requirement
Build-to-rent	280 apartments <sup>1</sup>	0.2 spaces / unit	56
Co-living	216 apartments	0.2 spaces / unit	43
Commercial	3,747m <sup>2</sup> GFA	Min: nil Max: 1 space / 100m <sup>2</sup> GFA	0-37
<b>Total</b>			<b>99-136</b>

<sup>1</sup> Assumes 50% of the 105 dual-key apartments would be used as separate apartments. Therefore, the total number of build-to-rent apartments for calculations = 227 + (105 x 50%) = 280 apartments.

Overall, the proposed development generates a car parking requirement for between 99 and 136 car parking spaces, including 99 resident spaces and a maximum 37 commercial spaces.

A total of 111 parking spaces are proposed across two basement levels, including 99 spaces for residents, 11 spaces for the commercial uses and one space for retail uses to meet accessibility requirements. The relatively low provision of commercial car parking equates to a rate of around one space per 340 square metres GFA and is considered acceptable for the following reasons:

- Most commercial office staff would likely travel to and from the site via public transport given the site’s location immediately adjacent to Rouse Hill Metro Station and Northwest T-way.
- The Rouse Hill Station Precinct is a well-established centre with a more diverse mix of land uses and a larger surrounding residential catchment compared to the Bella Vista Station Precinct. Its characteristics

are more aligned with the Castle Hill North Precinct, which reduces the necessity for commercial office car parking.

- The commercial office space is a small component of the broader mixed-use development therefore, the development itself would encourage more employment in the area, consistent with the intent of DCP 2012.
- Supports broader travel demand management strategies and the objectives outlined in the Rouse Hill Precinct Plan to reduce car dependency and encourage more sustainable modes of travel.

## 7.2 Other parking requirements

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### 7.2.1 Accessible car parking

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The NCC requires accessible parking for the build-to-rent and co-living apartments to be provided at the same rate of accessible sole-occupancy apartments to the total number of sole-occupancy apartments. It is understood that four per cent of the total apartments would be accessible, equating to a requirement for four of the 99 residential car parking spaces to be accessible spaces.

DCP 2012 specifies accessible parking for commercial office uses should be provided at a rate of one space per 50 car parking spaces and equates to the need for up to one accessible commercial space.

Accessible parking has been provided to meet these requirements. The sole retail car parking space has also been designated as an accessible parking space.

### 7.2.2 Motorcycle parking

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DCP 2012 specifies that motorcycle parking should be provided at a rate of one space per 50 car parking spaces or part thereof. Based on the proposed provision of 111 car parking spaces, this equates to a requirement for three motorcycle spaces which have been provided in the basement car park.

# 8 Transport impact assessment

## 8.1 Vehicle trip assessment

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### 8.1.1 Residential

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Traffic generation rates for the residential component of the proposed development have been sourced from a combination of Transport for NSW GTIA 2024 and Technical Direction TDT 2013/04a in combination with a first principles assessment based on turnover of parking. This approach recognises the low parking supply relative to residential apartments, which effectively equates to about one parking space per five apartments.

The GTIA 2024 and TDT 2013/04a considers traffic generation rates based on 2012 survey data for high-density residential flat dwellings, including those close to public transport services and exceeding six storeys. When assessing vehicle trip generation based on total parking supply, the average weekday AM and PM and Saturday midday peak hour trip generation rates are 0.15, 0.12 and 0.21 trips per car space, respectively. Based on 99 resident parking spaces, the residential component of the development could generate between 12 and 21 vehicle trips in any peak hour.

However, as the proposal includes a reduced parking provision in line with the Housing SEPP 2021, a higher daily vehicle usage may be anticipated. When applying a higher trip generation rate of 0.30 trips per car space and factoring in other car-based travel modes (such as ride-share services, taxis, etc.), the residential component of the development is projected to generate up to approximately 30 vehicle trips during peak hours on both weekdays and weekends.

### 8.1.2 Commercial and Retail

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Traffic generation estimates for the commercial component of proposed development have also been sourced from a combination of Transport for NSW GTIA 2024 and Technical Direction TDT 2013/04a.

Considering the site's proximity to Rouse Hill Metro Station and future transport aspirations across the broader precinct as well as the proposed reduced parking provision in relation to commercial GFA, a trip generation rate of 0.6 trips per space in the AM peak hour and 0.5 trips per space in the PM peak hour has been adopted for this assessment. This is slightly lower than the Sydney sites average referenced in the GTIA and TDT 2013/04a (0.69 and 0.53 trips per space respectively) and are closely aligned with the Sydney Olympic Park site (0.56 and 0.53 trips per space respectively), noting that Rouse Hill has superior bus and rail transport options than Sydney Olympic Park.

The adopted rates are still appropriately higher than other sites around Sydney including North Sydney, Chatswood and Parramatta, as these areas are more established centres with lower car parking requirements (average of 0.38 and 0.25 trips per space respectively).

Based on the above rates and the proposed commercial parking provision of 11 spaces, it is expected that the commercial component of the development would generate up to about seven vehicle trips in the weekday AM and PM peak hours. No traffic generation is expected to be generated by the commercial space on the weekend.

Considering the small and ancillary nature of the proposed ground floor retail space and wellness centre, and only one retail space is proposed to meet accessibility requirements, traffic generation for these uses is expected to be negligible. These uses would largely cater for residents and tenants within the development itself, and/ or pass-by trips associated with the Metro Station and adjacent town centre.

On this basis, the proposed development is estimated to generate up to about 37 vehicle trips in any weekday AM and PM and Saturday midday peak hour.

## 8.2 Person trip assessment

A person trip assessment has also been completed utilising the recommended person trip rates outlined in the Transport for NSW GTIA 2024. It is noted that the person trip assessment has only been completed for a weekday. This is due to the GTIA having limited specific guidance on person trips for various uses on a weekend. The commercial component of the development would also unlikely generate trips on the weekend, and therefore a weekend person trip assessment is less critical than the weekday person trip assessment for the proposed development.

As discussed, the minor retail and wellness centre uses are considered ancillary to the proposed development and any trips associated with these uses would likely be linked or internal trips associated with residents and commercial office users within the development itself, and/or pass-by trips associated with the Metro Station and adjacent town centre. Accordingly, the assessment of person trips associated with these uses has been excluded to avoid double-counting and ensure the accuracy of trip estimates.

**Table 11** provides a summary of the estimated person trips generated by the proposed development based on the recommended person trip rates outlined in the GTIA 2024.

TABLE 11: ESTIMATED PERSON TRIP GENERATION							
Use	Size	Person trip generation rate			Person trip generation (trips per hour)		
		Weekday AM	Weekday PM	Weekday daily	Weekday AM	Weekday PM	Weekday daily
Residential	496 units <sup>1</sup>	0.66 trips/unit	0.56 trips/unit	4.49 trips/unit	327	278	2,227
Commercial	3,747m <sup>2</sup> GFA	2.49 trips/100m <sup>2</sup> GFA	1.84 trips/100m <sup>2</sup> GFA	17.87 trips/100m <sup>2</sup> GFA	93	69	670
<b>Total</b>					<b>421</b>	<b>347</b>	<b>2,901</b>

<sup>1</sup> Assumes 50% of the 105 dual-key apartments would be used as separate apartments. Therefore the total number of build-to-rent apartments for calculations = 227 + (105 x 50%) = 280 apartments. Considering the 216 co-living apartments, this equates to a total of 496 apartments.

As shown, the proposed development is expected to generate around 420 and 350 person trips during the weekday AM and PM peak hours, respectively, with around 2,900 daily person trips on weekdays.

It is noted that the above person trip estimates are likely conservative as the GTIA person trip rates were based on surveys completed prior to the COVID-19 pandemic. In more recent years since the COVID-19 pandemic, there has been a change in travel patterns with a shift to more work from home arrangements. The higher uptake of work from home over recent years has resulted in lower person trips rates, particularly for residential and commercial land uses.

An assessment has been completed to understand the likely person trips by mode of travel. This has been completed by reverse calculating the approximate travel mode split by car based on the vehicle trip estimates outlined in **Section 8.1**, and estimating remaining public and active transport target mode shares for the site with consideration to the existing travel patterns in the surrounding area.

**Table 12** provides a summary of the estimated mode share for the development, with **Table 13** summarising the estimated weekday trips by mode.

**TABLE 12: ESTIMATED TRAVEL MODE SHARE**

Travel mode	Residential mode share	Commercial mode share
Car (as driver and passenger)	12%	10%
Public transport	78%	80%
Active transport	10%	10%

**TABLE 13: ESTIMATED PERSON TRIPS BY MODE**

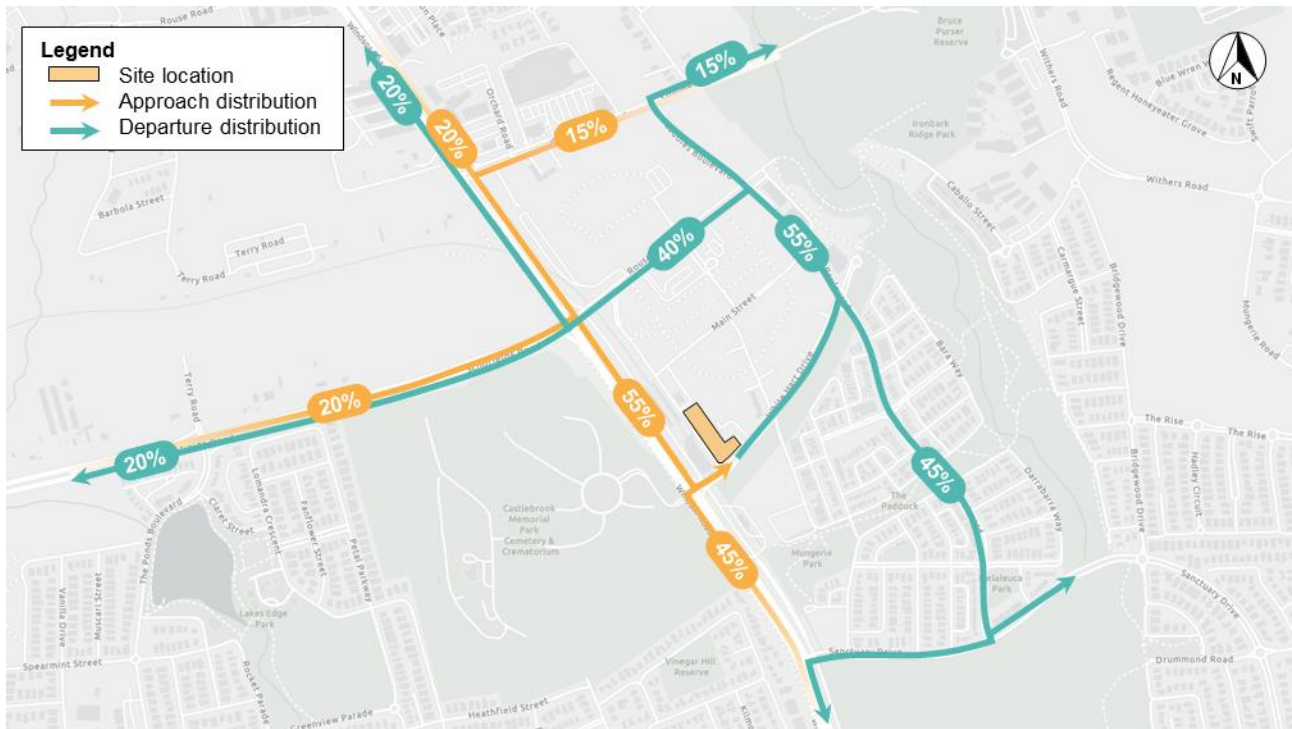
Use	Person trips by mode		
	Car	Public transport	Active transport
<b>Weekday AM peak hour</b>			
Residential	39	255	33
Commercial	9	75	9
<b>Weekday AM peak hour total</b>	<b>48</b>	<b>330</b>	<b>42</b>
<b>Weekday PM peak hour</b>			
Residential	33	217	28
Commercial	7	55	7
<b>Weekday PM peak hour total</b>	<b>40</b>	<b>272</b>	<b>35</b>
<b>Weekday daily</b>			
Residential	267	1,737	223
Commercial	67	536	67
<b>Weekday daily total</b>	<b>334</b>	<b>2,273</b>	<b>290</b>

### 8.3 Traffic distribution

The directional distribution and assignment of traffic generated by the proposed development would be influenced by a number of factors, including the:

- Configuration of the arterial road network in the immediate vicinity of the site.
- Existing operation of intersections providing access between the local and arterial road network.
- Distribution of households in the vicinity of the site.
- Surrounding employment centres, retail centres and schools in relation to the site.
- Likely distribution of employee's residences in relation to the site.
- Configuration of access points to the site.

Having consideration to the above, for the purposes of estimating vehicle movements, the directional distributions shown in **Figure 11** have been assumed. These directional distributions are generally consistent with that adopted for other surrounding transport studies, including the Rouse Hill Town Centre Stage 2 expansion.



**Figure 11: Development traffic distribution**

In addition to the above, the following directional splits of traffic (i.e. the ratio between the inbound and outbound traffic movements) have been adopted for the purposes of traffic modelling:

- Residential: 20 per cent outbound and 80 per cent inbound in the weekday PM peak hour, and 50 per cent in and out bound in the Saturday peak hour.
- Commercial: 80 per cent outbound and 20 per cent inbound in the weekday PM peak hour, no traffic generation in the Saturday peak hour.

## 8.4 Traffic impact

### 8.4.1 Assessment scenarios

For the purposes of this assessment, SIDRA modelling has been completed for the key intersections surrounding the site for the following scenarios:

- 2025 without the development (refer to **Section 3.8**)
- 2025 with the development
- 2035 without the development
- 2035 with the development.

Future 2035 background traffic volumes have been estimated by applying a standard two per cent per annum growth rate to existing traffic volumes. This approach is consistent with that adopted and accepted by Transport for NSW for other surrounding transport studies in the area. When considering the incremental increase this traffic growth rate equates to at the surrounding key intersections, the rate is considered suitable for accounting for the estimated increase in traffic associated with the approved Rouse Hill Town Centre Stage 2 and 40 Civic Place developments, while still also having further allowance for future traffic growth in the surrounding area.

## 8.4.2 2025 with development intersection performance

**Table 14** presents a summary of the expected operation of the key intersections near the site in 2025 with the additional traffic generated by the proposed development. Detailed SIDRA results are provided in **Appendix B**.

**TABLE 14: 2025 WITH DEVELOPMENT INTERSECTION PERFORMANCE**

Intersection	Peak hour	DOS	Average delay (seconds)	95 <sup>th</sup> percentile queue (metres)	LOS
White Hart Drive/Windsor Road	Weekday PM	0.70	27	170	B
	Saturday	0.76	34	233	C
White Hart Drive/Tempus Street	Weekday PM	0.15	6	5	A
	Saturday	0.13	6	4	A
White Hart Drive/proposed site access	Weekday PM	0.01	6	0	A
	Saturday	0.02	6	0	A
White Hart Drive/Civic Way	Weekday PM	0.59	30	59	C
	Saturday	0.51	31	57	C
White Hart Drive/Caddies Boulevard	Weekday PM	0.48	15	39	B
	Saturday	0.46	16	39	B

**Table 14** indicates the key intersections would continue operating at the same LOS as existing conditions with the additional traffic expected to be generated by the proposed development, with generally minor changes to average vehicle delay and vehicle queues across the intersections.

Modelling for the proposed site access point on White Hart Drive also indicates the site access is expected to operate well at a LOS A with minimal delays and no vehicle queues.

It is noted that given the proposed development traffic would result in different flow proportions at the modelled intersections compared to existing conditions, the 'user given cycle time' feature within SIDRA has been used for the 2025 with development scenario. This allows SIDRA to calculate the optimal phase times at the signalised intersections based on the existing signal cycle times and the new traffic flow proportions. In some cases, this results in slightly better intersection performance results with the development traffic compared to existing conditions due to phase times being more optimised than what SCATS phasing data indicates is being currently run on-site.

## 8.4.3 2035 without development intersection performance

**Table 15** presents a summary of the expected operation of the key intersections near the site in 2035 just considering background traffic growth. Detailed SIDRA results are provided in **Appendix B**.

**TABLE 15: 2035 WITHOUT DEVELOPMENT INTERSECTION PERFORMANCE**

Intersection	Peak hour	DOS	Average delay (seconds)	95 <sup>th</sup> percentile queue (metres)	LOS
White Hart Drive/Windsor Road	Weekday PM	0.83	31	243	C
	Saturday	0.93	43	368	D
White Hart Drive/Tempus Street	Weekday PM	0.18	6	6	A
	Saturday	0.16	6	5	A
White Hart Drive/Civic Way	Weekday PM	0.65	31	68	C
	Saturday	0.61	32	67	C
White Hart Drive/Caddies Boulevard	Weekday PM	0.60	15	46	B
	Saturday	0.56	17	49	B

**Table 15** indicates the key intersections are expected to continue operating satisfactorily at a LOS D or better during the weekday PM and Saturday peak hours. However, the DOS at the White Hart Drive/Windsor Road intersection is expected to increase closer to 1.00, indicating the intersection would be operating close to capacity without the proposed development traffic.

#### 8.4.4 2035 with development intersection performance

**Table 16** presents a summary of the expected operation of the key intersections near the site in 2035 with the additional traffic generated by the proposed development. Detailed SIDRA results are provided in **Appendix B**.

**TABLE 16: 2035 WITH DEVELOPMENT INTERSECTION PERFORMANCE**

Intersection	Peak hour	DOS	Average delay (seconds)	95 <sup>th</sup> percentile queue (metres)	LOS
White Hart Drive/Windsor Road	Weekday PM	0.86	34	263	C
	Saturday	0.92	44	385	D
White Hart Drive/Tempus Street	Weekday PM	0.18	6	6	A
	Saturday	0.17	6	5	A
White Hart Drive/proposed site access	Weekday PM	0.02	6	0	A
	Saturday	0.02	7	0	A
White Hart Drive/Civic Way	Weekday PM	0.65	31	70	C
	Saturday	0.61	32	70	C
White Hart Drive/Caddies Boulevard	Weekday PM	0.57	15	50	B
	Saturday	0.58	17	49	B

**Table 16** indicates the proposed development traffic is expected to have a negligible impact on the key intersections in 2035 compared to without the proposed development. Specifically, the proposed development traffic is expected to result in minor increases in vehicle delay and up to three seconds at the White Hart Drive/Windsor Road intersection and no change to vehicle delay at any of the other modelled intersections. Similarly, 95<sup>th</sup> percentile vehicle queues are expected to increase by two to three vehicles at the White Hart Drive/Windsor Road intersection, and no real change to queues at the other key intersections.

In addition to the above, modelling for the proposed site access point on White Hart Drive indicates the site access is expected to operate well at a LOS A with minimal delays and no vehicle queues.

The above results clearly demonstrate the development is expected to have a minor impact on the surrounding road network and can be supported from a traffic impact perspective without the need for any physical mitigation measures.

# 9 Waste and loading requirements

## 9.1 Service vehicle requirements

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The Transport for NSW Urban Freight Forecasting Model (UFFM) is a useful planning tool which performs two main functions:

- Provides daily profiles of the volume and types of freight and servicing activity that a building is likely to generate across a typical weekday, based on building information entered by the user.
- Assesses the performance of loading dock parking spaces provided by a development to manage the freight demand generated by the building.

The objective of the model is to assist in understanding the facilities that will be appropriate for a development to be self-sufficient in managing its own freight and servicing activity. It relies on various inputs including number of floors, number of residential apartments and retail area.

The Transport for NSW UFFM is based on a comprehensive data collection effort conducted on buildings across Sydney of varying sizes, locations, land use sizes and types. The buildings included commercial, residential, retail and hotels with retail being up to 3,000 square metres. It is considered an acceptable tool to understand loading dock requirements for a development.

Based on the proposed yields, the UFFM recommends allowing for three medium bays (SRV and small trucks) and one large bay (MRVs, HRVs and large trucks).

## 9.2 Waste and loading strategy

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All loading and servicing for the development is proposed to take place within the designated loading area on Basement 1.

It is understood that Council's waste truck has historically been around 10 metres long, however the Guidelines for Planning Waste Management have recently been updated to allow for future servicing by all vehicles up to 12.5-metre-long trucks. In this regard, the proposed development, including the site access and loading area, has been designed to cater for service vehicles up to 12.5 metres to meet this requirement. Notwithstanding, given the proposed residential component of the development comprises only build-to-rent and co-living apartments to be managed by a registered housing provider, there is opportunity for consolidated waste collection for all land uses within the development to be completed by a private waste contractor.

The loading area can simultaneously accommodate up to three 6.4-metre-long trucks and vans at the same time. Alternatively, it can accommodate one larger service vehicle at any one time for vehicles up to 12.5 metres long. Basic loading dock management, including online booking system would be implemented to manage service vehicle arrivals and daily use of the dock. Waste collection typically occurs early on weekday mornings at times when other loading demand is zero or low. Servicing by medium rigid trucks or larger would be infrequent considering the proposed land uses and would largely be bulky goods deliveries and removalist trucks associated with the build-to-rent apartments. The co-living dwellings comprise over 40 per cent of the total residential yield and are understood to typically come furnished, thus removing any demand for removalist trucks. As such, the loading area would typically operate as a three-bay arrangement for most of the day, facilitating deliveries by cars, vans and utes and small trucks up to 6.4 metres long.

In addition to the above, short-term high-turnover parking is provided along the Market Lane frontage of the site which would likely naturally cater for any small and fast deliveries (e.g. food delivery services, etc.) whereby drivers typically seek to avoid the time impost associated with basement loading. Such activity also typically occurs early in the morning and generally outside peak periods.

Overall, the proposed site loading strategy positively responds to the challenges associated with facilitating service vehicle access given the constrained size of the site and aligns with the recommended loading

provisions estimated by the Transport for NSW UFFM. Logical and efficient placement of the loading area has been considered without detracting from the public domain and communal areas which boast considerable benefits for residents and the general public.

Notwithstanding, implementation of a Loading Dock Management Plan (LDMP) to efficiently manage utilisation of all on-site loading spaces, requiring vehicles to be booked to controlled and in defined timeslots, would ensure a more equitable distribution of vehicles across the day rather than concentrated to shorter peaks and that all land uses are well serviced, with practical paths of travel. Further details on loading requirements, other referenced material and loading dock management/ online booking system would form part of the future LDMP.

# 10 Design commentary

The car park layout has been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS2890.6:2022) and Parking Facilities Off-Street Commercial Vehicle Facilities (AS2890.2:2018). This assessment included a review of the following:

- Bay and aisle widths
- Adjacent structures
- Circulation aisles and ramps.

This review indicates that the car park layout is consistent with the Australian Standards and is expected to operate satisfactorily. The circulation aisles and car space dimensions meet or exceed the relevant Australian Standards and ensure efficient movements throughout. The general car park circulation is simple and appropriate given the proposed land uses and expected generation. Basement access by residents and tenants would be via remote access with building management to manage service vehicle access via the online booking system.

The loading area on Basement 1 has been designed with a turntable to ensure all service vehicles can always enter and exit the site in a forward direction. Use of the turntable would only be required by medium rigid vehicles and larger. In the unlikely event of redundancy, swept paths confirm that larger vehicles would still be able to enter and exit the basement in a forward direction with reverse manoeuvring in the car park aisle facilitating a three-point turn at the base of the main access ramp. All other service vehicles would be able to enter and exit the basement in a forward direction and access the loading area without use of the turntable.

Ramp grades have been appropriately designed and checked using vertical templates to cater for all service vehicles up to 12.5 metres long. The ramp from ground to Basement 1 achieves a minimum height clearance of 3.95 metres (at the base of the ramp) and, as discussed in **Section 9.2**, is considered appropriate on account of the build-to-rent and co-living apartments being managed by a registered housing provider and likelihood of commercial arrangements for private waste collection. Such waste contractors have access to a fleet of vehicles of varying sizes that would adequately service the site.

Adequate passing opportunities are incorporated along the access ramp to accommodate the unlikely scenario of a large truck using the ramp simultaneously with an oncoming car, ensuring smooth and safe vehicle movement. Common measures such as warning lights, signage, and building management practices would ensure intended use of the loading dock, including advanced warning in the unlikely event that the loading dock is fully occupied.

The building setbacks from the property boundary at the vehicle access point and straight road alignment on White Hart Drive would result in suitable sight lines being achieved for vehicles exiting the site, well in excess of the desirable sight distance requirement of 69 metres as specified by AS/NZS2890.1:2004. Vegetation along the White Hart Drive frontage would be maintained so as to not impede available sight lines.

Vehicle swept paths at key locations confirm appropriate design and are included in **Appendix A**.

# 11 Overview Construction Pedestrian and Traffic Management Plan

## 11.1 Overview

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This section seeks to provide an overview of the Construction Pedestrian and Traffic Management Plan (CPTMP) initiatives to be implemented as part of the construction works associated with the proposed development. Specifically, this overview CPTMP considers the following:

- Estimated truck routes to/ from the site.
- Anticipated truck volumes during all construction stages.
- Potential construction site access arrangements.
- Estimated works zones.
- Pedestrian and cyclist access.
- Worker parking (if any).
- Traffic control measures.
- Overview of CPTMP requirements.

A detailed CPTMP, confirming the details within this overview CPTMP, will form part of subsequent planning stages.

## 11.2 Principles of traffic management

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The general principles of traffic management during construction activities are as follows:

- Minimise the impact on pedestrian and cyclist movements.
- Maintain appropriate public transport access.
- Minimise the loss of on-street parking.
- Minimise the impact on adjacent and surrounding buildings.
- Maintain access to/ from adjacent buildings.
- Restrict construction vehicle movements to designated routes to/ from the site.
- Manage and control construction vehicle activity near the site.
- Carry out construction activity in accordance with approved hours of works.

## 11.3 Work hours

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The works will be carried out during the approved work hours. Recommended standard hours as outlined in the NSW Environmental Protection Authority Interim Construction Noise Guideline are as follows:

- Weekdays: 7:00am – 6:00pm.
- Saturdays: 8:00am – 1:00pm.
- Sundays and public holidays: no work permitted.

Workers would be advised of the approved work hours during induction. Any works outside of the approved work hours would be subject to specific prior approval from the appropriate authorities. Such works may include delivery of cranes, large plant or equipment required on the site that require oversize vehicle access.

## 11.4 Worker induction

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All workers and subcontractors engaged on-site would be required to complete site induction. The induction would include permitted arrival and departure routes for all vehicle types, as well as standard environmental, work health and safety (WHS), driver protocols and emergency procedures.

Any workers required to undertake works or traffic control within the public domain would be suitably qualified and covered by all necessary insurances.

## 11.5 Site access, loading, and on-street works zones

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Given the footprint of the site and building arrangement, a combination of internal site loading and works zone are key to support the construction timelines, ensure efficient loading/ unloading activities, and mitigate the effects on the immediate surrounding area. At this stage of planning, it is anticipated construction vehicle accesses and work zones would be required on Tempus Street and/or White Hart Drive. Noting Tempus Street does not have a parking lane along the frontage of the site, with footpath closure to facilitate a pull-in loading and unloading area may be necessary. Vehicle access and work zone locations would be confirmed in consultation with stakeholders as part of detailed construction planning prior to the construction commencement.

As part of the detailed CPTMP, Traffic Guidance Schemes (TGS) would be prepared in accordance with the principles of the Traffic Control at Work Sites manual (Transport for NSW, 2022). The TGS would primarily show where construction signs would be located at specific locations (such as uncontrolled intersections) along the approved truck routes to warn other road users of the increase in construction vehicle movements.

Access to the neighbouring sites by emergency vehicles would not be affected by the works as the road and footpath frontages would be unaffected. Emergency protocols on the site would include a requirement for site personnel to assist with emergency access from the street. All truck movements to the site and/ or incident point would be suspended and cleared.

## 11.6 Construction worker parking

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At this stage of planning, exact construction worker numbers are currently unknown.

No construction worker parking would be provided on-site. Given the site's location to high-frequency public transport services (including metro services), workers would be encouraged to use public transport to access the site. During site induction, workers would be informed of the existing bus and metro network servicing the site. Appropriate arrangements would be made for any equipment/ tool storage and drop-off requirements.

## 11.7 Heavy vehicle generation and access routes

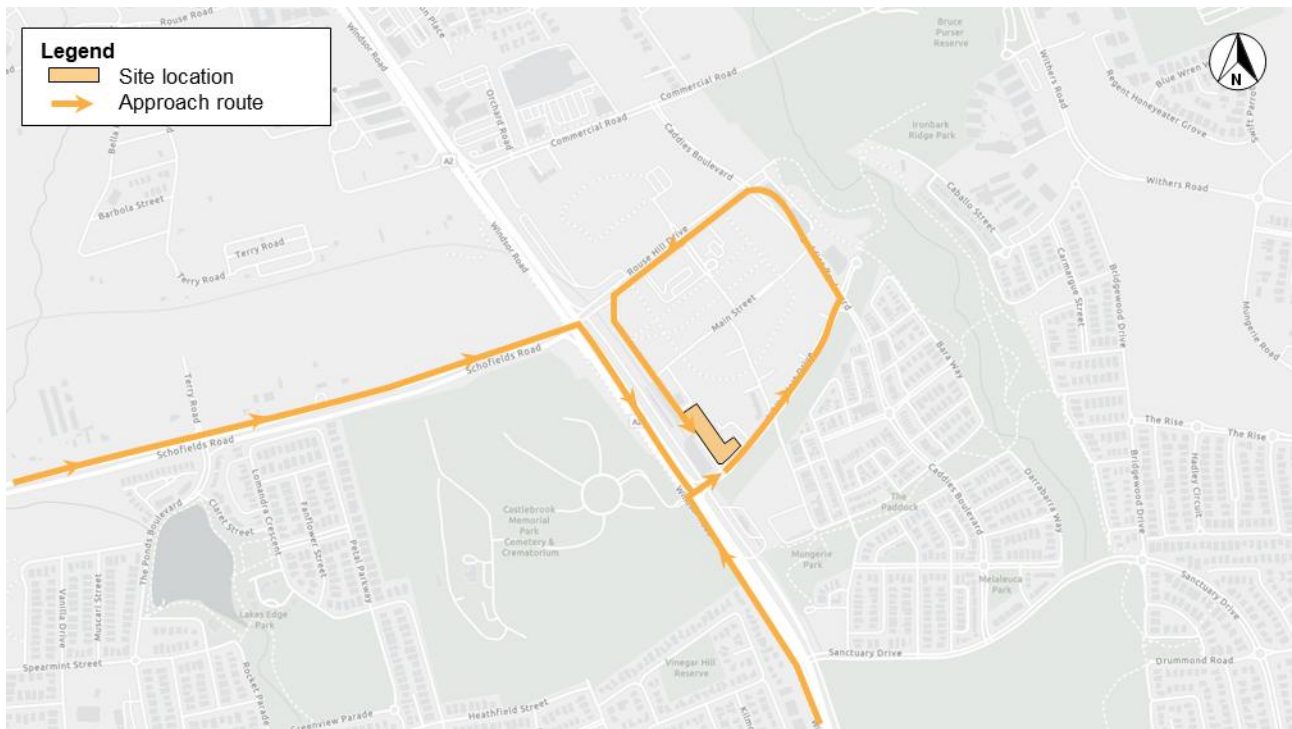
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Construction vehicles generated by the site would generally include vehicles up to 12.5-metre heavy rigid trucks, 18.1-metre truck and dog combinations and 19-metre-metre semi-trailers. At this stage of planning, the expected number of construction traffic movements to be generated by the works are currently unknown. However, construction traffic volumes are expected to be less than the expected traffic generation of the proposed development once operational, therefore also likely resulting in a lower traffic impact on the surrounding road network.

Specific approval would be sought from relevant authorities for use of the above vehicles. Any oversize vehicles using local roads to access the site would require additional Council and/ or Transport for NSW approval.

Heavy vehicle movements would be restricted to designated routes and confined to the arterial road network wherever feasible. Truck routes to/ from the site have been identified with the aim of providing the most direct routes to/ from the site as well as minimising the impact of heavy vehicles on local roads, as shown in **Figure 12** and **Figure 13**.

The construction vehicle routes, construction site access locations and on-street work zones would be finalised as part of the detailed CPTMP. The below routes aim to provide the most direct access to the site via Windsor Road and Schofields Road. The routes also avoid passing existing residential areas and travelling through the town centre as much as feasible, noting some circulation around the town centre is required to access any site access or work zone on Tempus Street.



**Figure 12: Estimated construction vehicle approach routes**



# 12 Conclusion

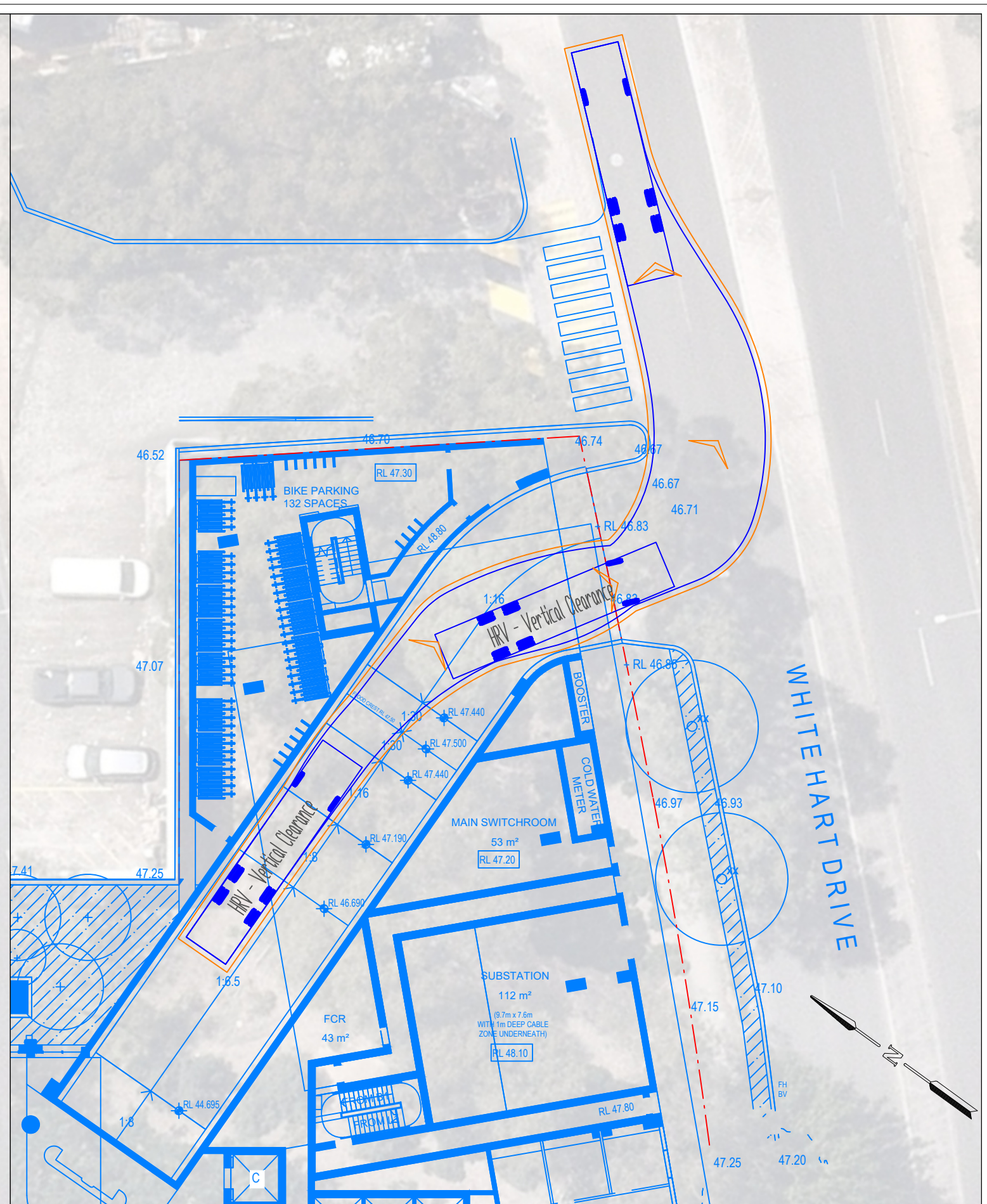
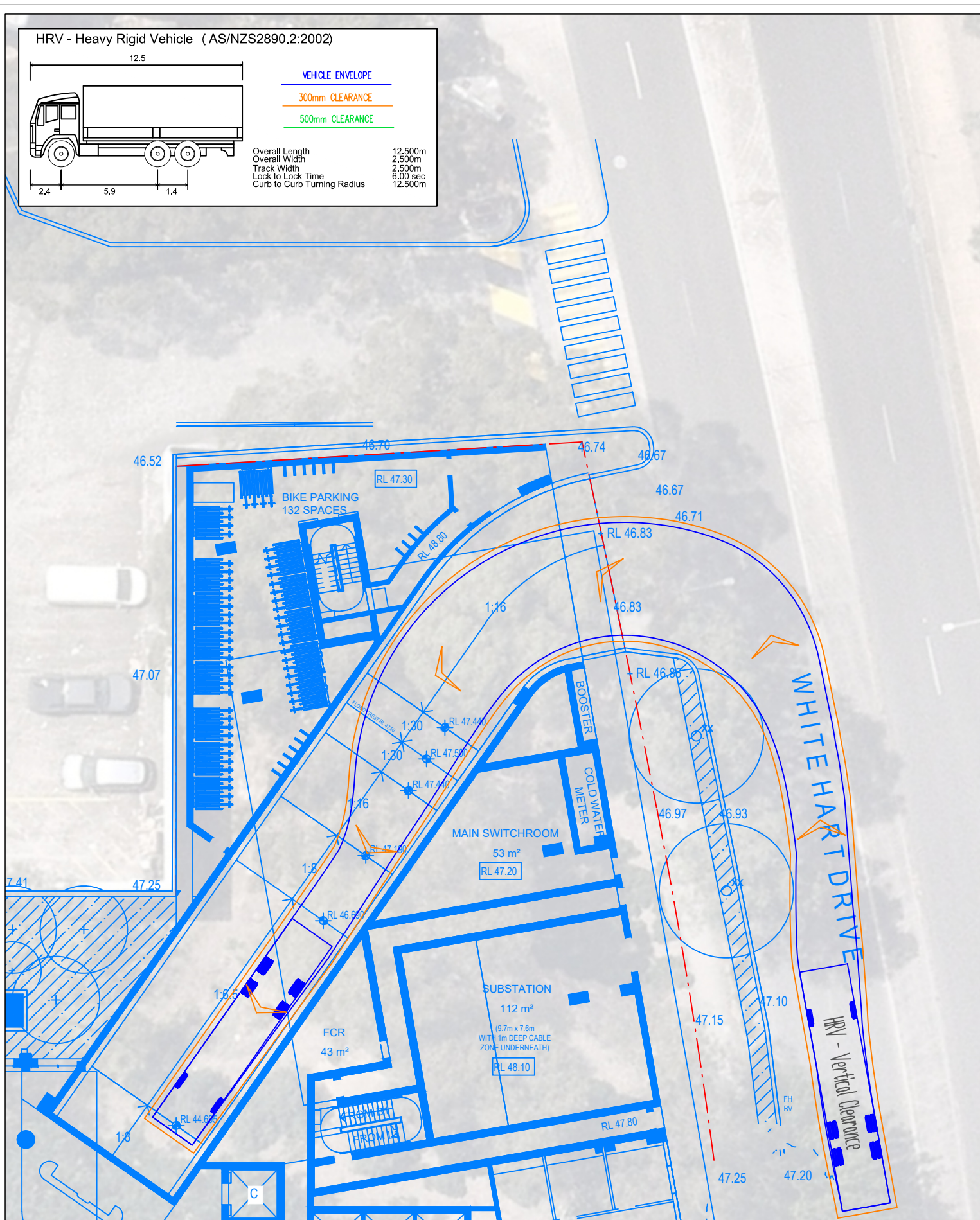
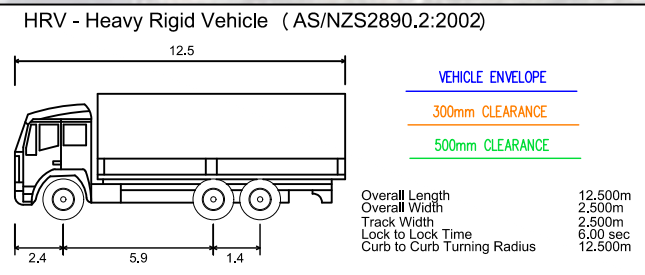
Based on the analysis and discussions presented within this report, the following conclusions are made:

- This TAIA has been prepared on behalf of Freecity to support a SSDA for the proposed mixed-use development located at 2-30 Tempus Street, Rouse Hill. The SSDA seeks consent for a diverse mixed-use development comprising build-to-rent apartments, co-living apartments and a mix of commercial and ground floor retail uses, with two levels of basement car parking.
- The strategic value of the site is a unique landholding offering great transport connectivity and accessibility, being located directly adjacent to metro and bus services. The Northwest T-way runs along the eastern side of Windsor Road, with the closest bus stops located on the western side of Rouse Hill Metro Station. Bus services from Rouse Hill Metro Station provide frequent services to surrounding areas including Kellyville, Norwest, Parramatta, Castle Hill, Epping and Blacktown. In addition, Sydney Metro services operate frequently throughout the day, including every four minutes during peak periods, providing connection to between Tallawong and Sydenham via the City.
- The site's location next to Rouse Hill Town Centre is also ideal, presenting the opportunity for future residents of the development to easily connect with essential services via active travel and reduce reliance on private vehicle travel.
- The proposed development seeks to take advantage of its prime location directly adjacent to the Metro Station and town centre, with generous public domain ensuring good permeability throughout the site. Ground floor food and beverage tenancies are proposed along the Tempus Street and Market Lane frontages of the site which also take advantage of the generous public domain and encourage street activation, particularly with commuters connecting with the station, and residents and employees within the development itself.
- The Housing SEPP provides a set of 'non-discretionary development standards' for build-to-rent and co-living housing. Such standards, if complied with, prevent the consent authority from requiring more onerous standards for the matters. This includes the need to provide 0.2 parking spaces for each dwelling for land in an accessible area.
- The proposed development includes a total of 111 parking spaces are proposed across two basement levels, including 99 spaces for residents, 11 spaces for the commercial uses and one space for retail uses to meet accessibility requirements.
- The proposed residential parking provision meets the requirements of the Housing SEPP 2021. The relatively low provision of commercial car parking is considered acceptable considering the site's location immediately adjacent to the Metro Station and T-way and supports broader travel demand management strategies and the objectives outlined in the Rouse Hill Precinct Plan to reduce car dependency and encourage more sustainable modes of travel.
- The loading area can simultaneously accommodate up to three 6.4-metre-long trucks and vans at the same time. Alternatively, it can accommodate one larger service vehicle at a time for vehicles up to 12.5 metres in length.
- Basic loading dock management including use of a booking system would be implemented to manage service vehicle arrivals and use of the dock. Overall, the proposed site loading strategy positively responds to the challenges associated with facilitating service vehicle access given the constrained size of the site and aligns with the recommended loading provisions estimated by the Transport for NSW UFFM.
- The proposed development is expected to generate up to 37 vehicle trips in any peak hour across the week. Traffic modelling for key nearby intersections during the weekday PM and Saturday peak hours indicates the proposed development traffic would have a negligible impact on the surrounding road network.
- Overall, the proposed development is well considered and readily supported from a transport perspective. It responds to broader planning objectives to provide more high-quality, diverse housing and

commercial floor space, and would be supported by the surrounding mixed-use precinct and excellent access to public transport to reduce dependency on private vehicle travel.

# Appendix A. Swept path assessment

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 Base Plan 240130-DA0100 [P.02] - Ground Plan prepared by Architectus, received 8/04/2025.  
 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

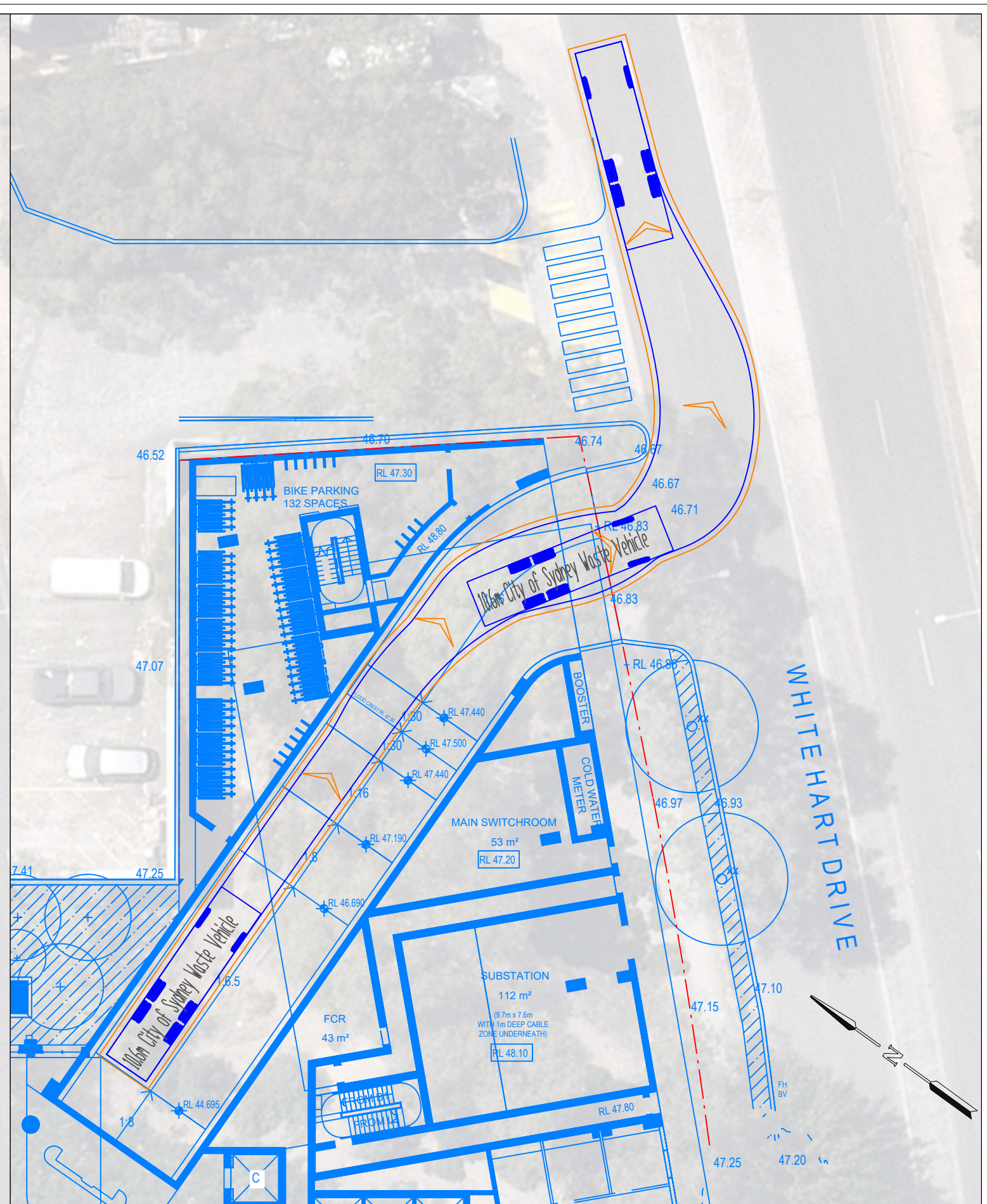
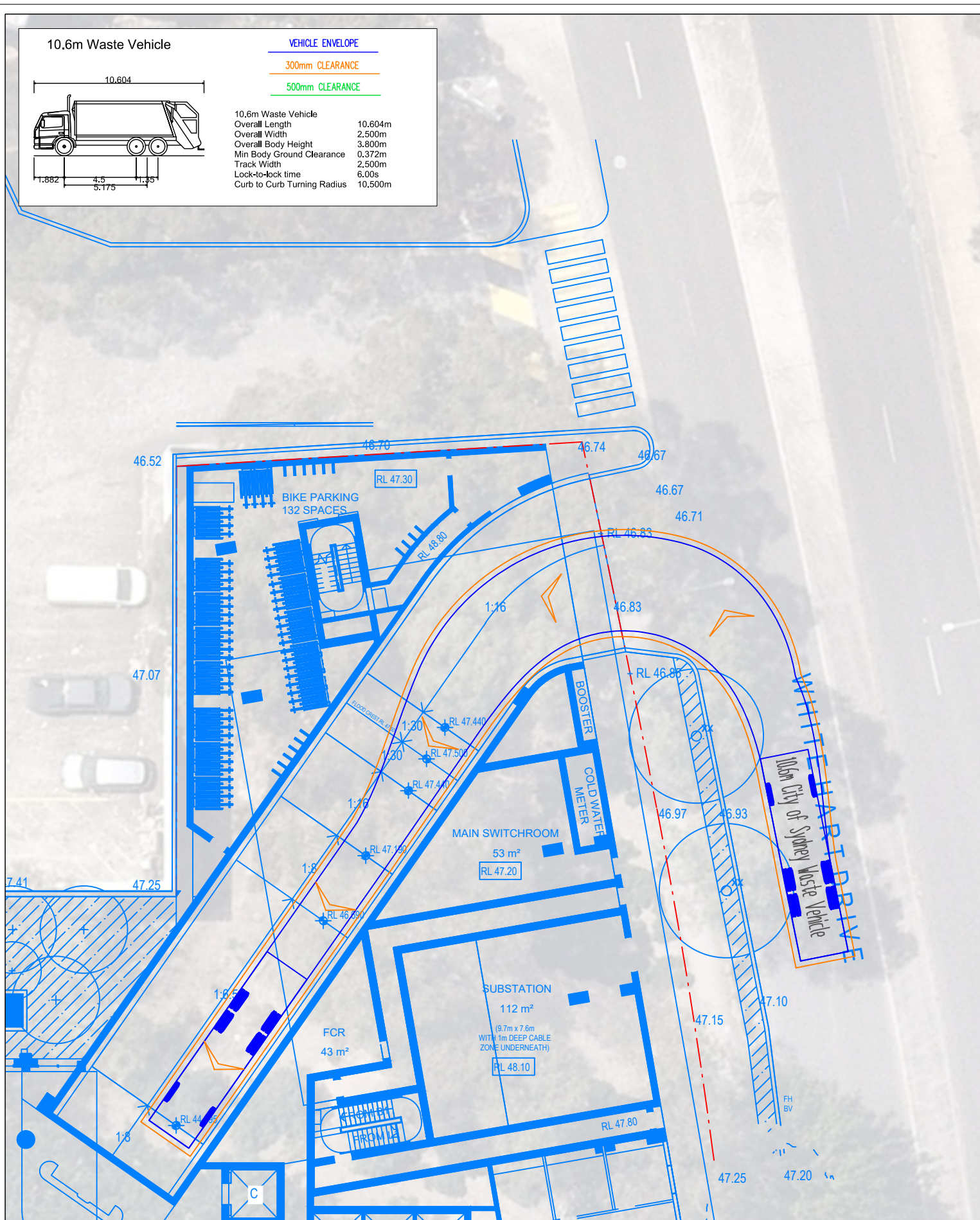
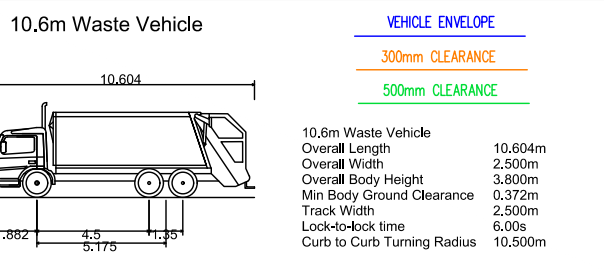
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APPROVED BY R.HAZELL	DATE 09.04.2025
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CLIENT FRECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
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GROUND FLOOR	
FILE NAME AG2502-04-v01.dwg	SHEET AG01

Suite 17.02, Level 17, 1 Castlereagh St  
 Sydney NSW 2000  
 info@asongroup.com.au

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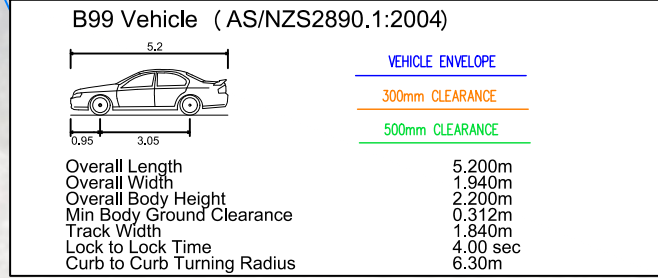
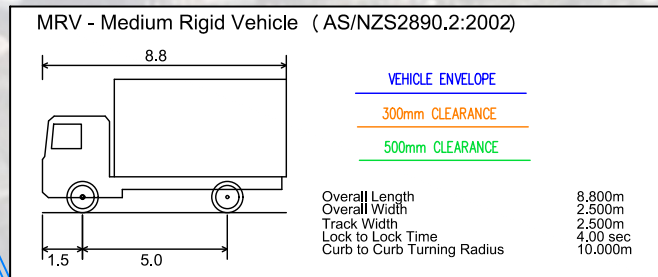
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CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

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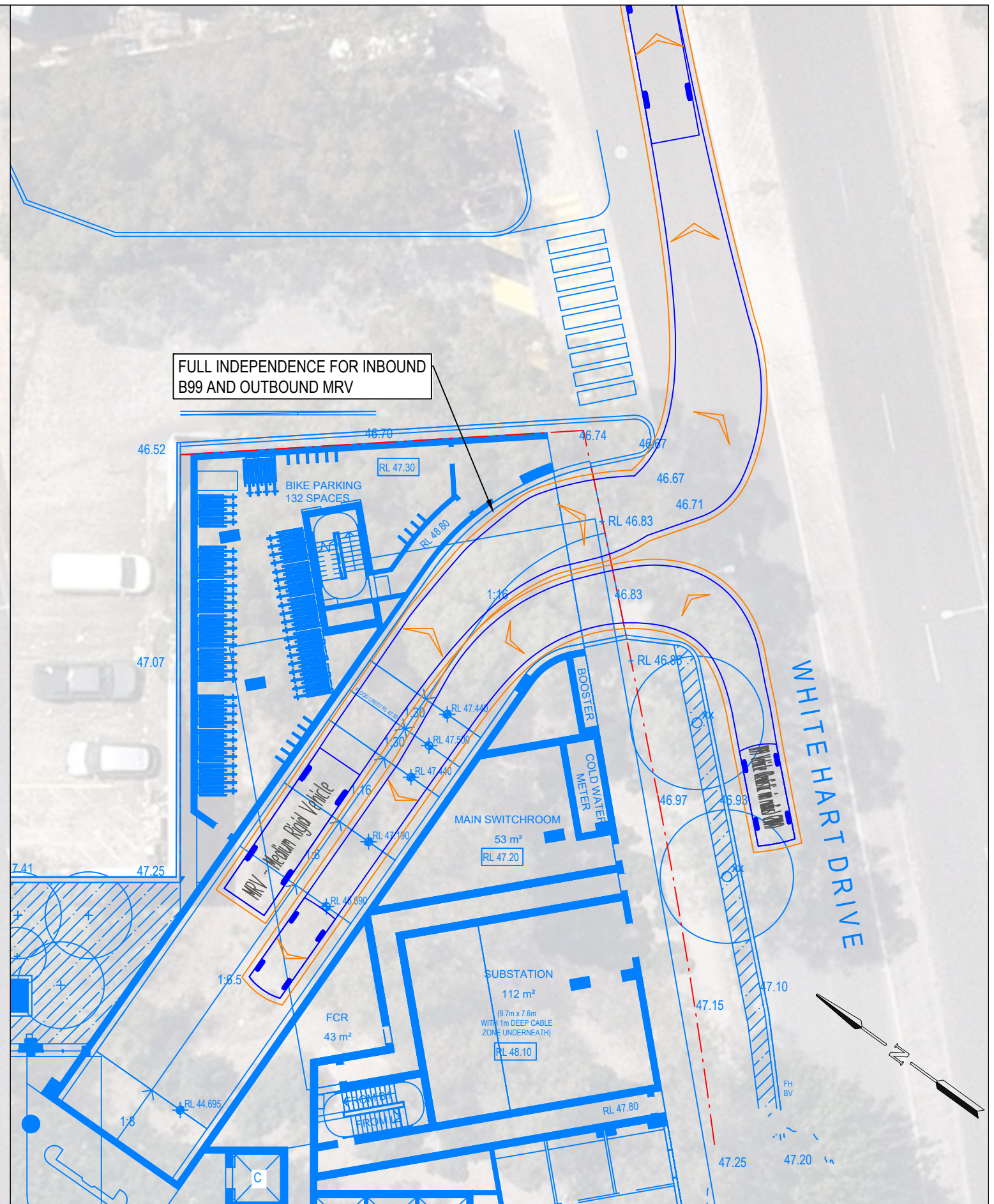
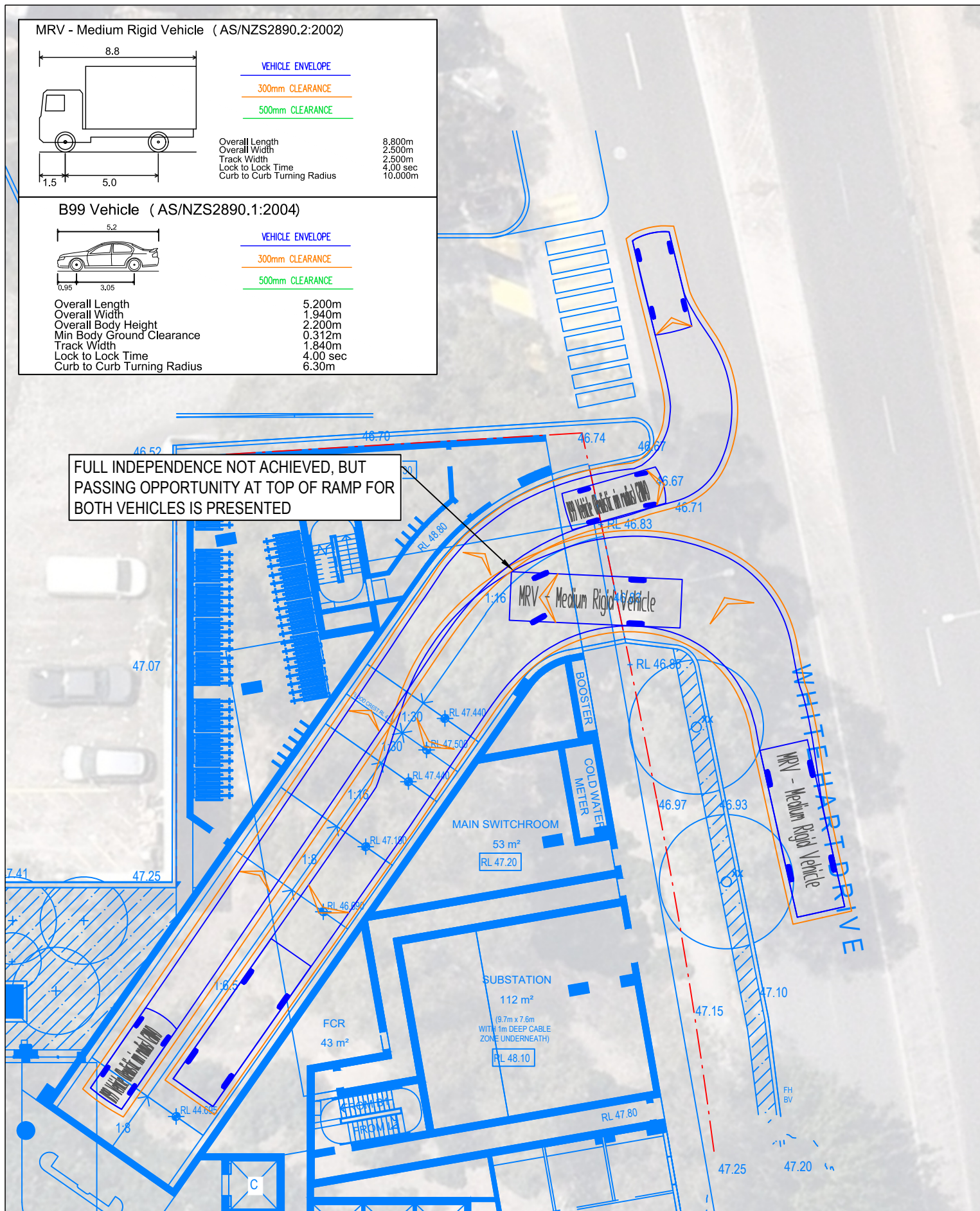
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FULL INDEPENDENCE NOT ACHIEVED, BUT PASSING OPPORTUNITY AT TOP OF RAMP FOR BOTH VEHICLES IS PRESENTED

FULL INDEPENDENCE FOR INBOUND B99 AND OUTBOUND MRV



**GENERAL NOTES**

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 Base Plan 240130-DA0100 [P.02] - Ground Plan prepared by Architectus, received 8/04/2025.  
 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

CLIENT FRECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
GROUND FLOOR	
FILE NAME AG2502-04-v01.dwg	SHEET AG03

**asongroup**

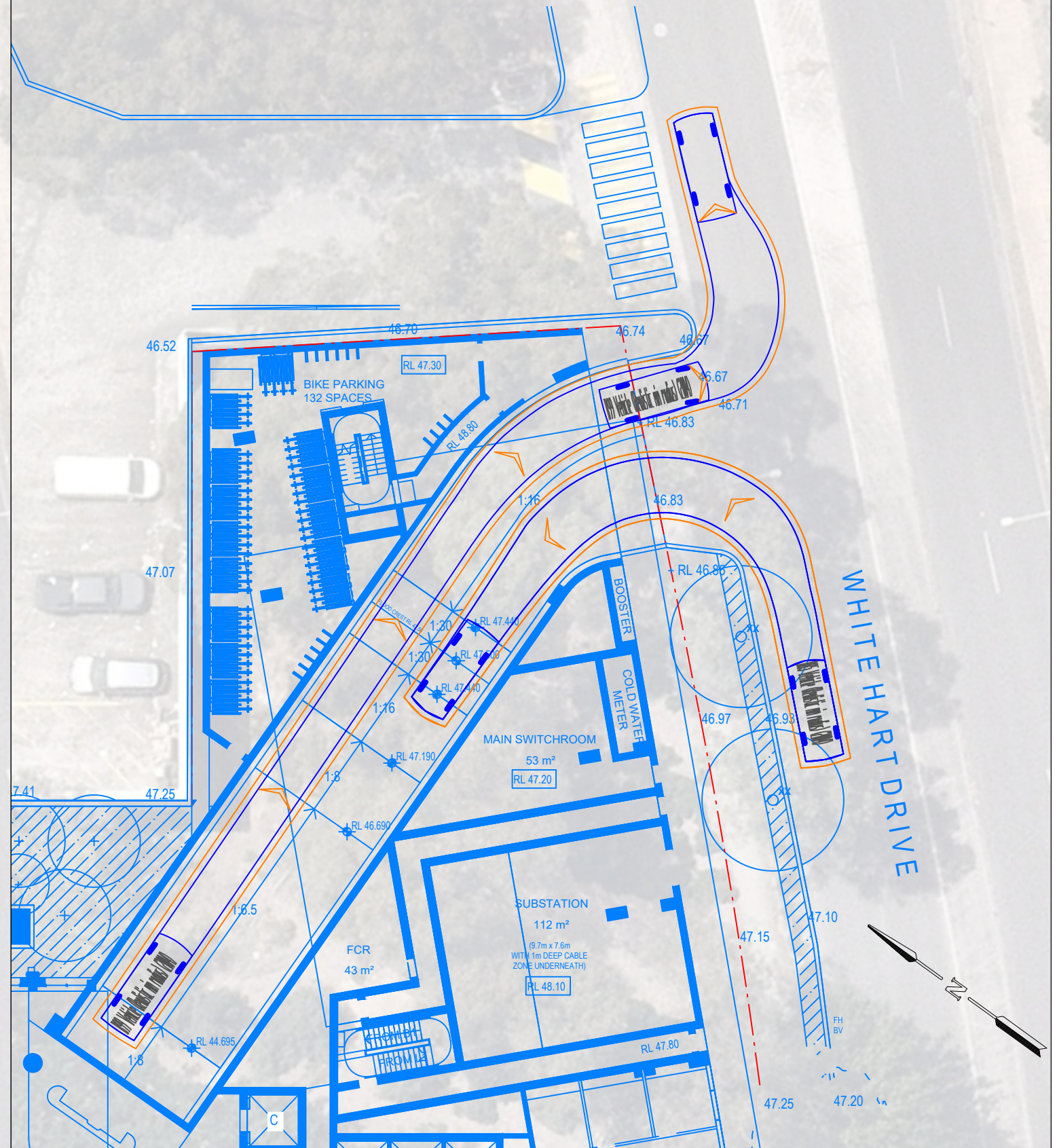
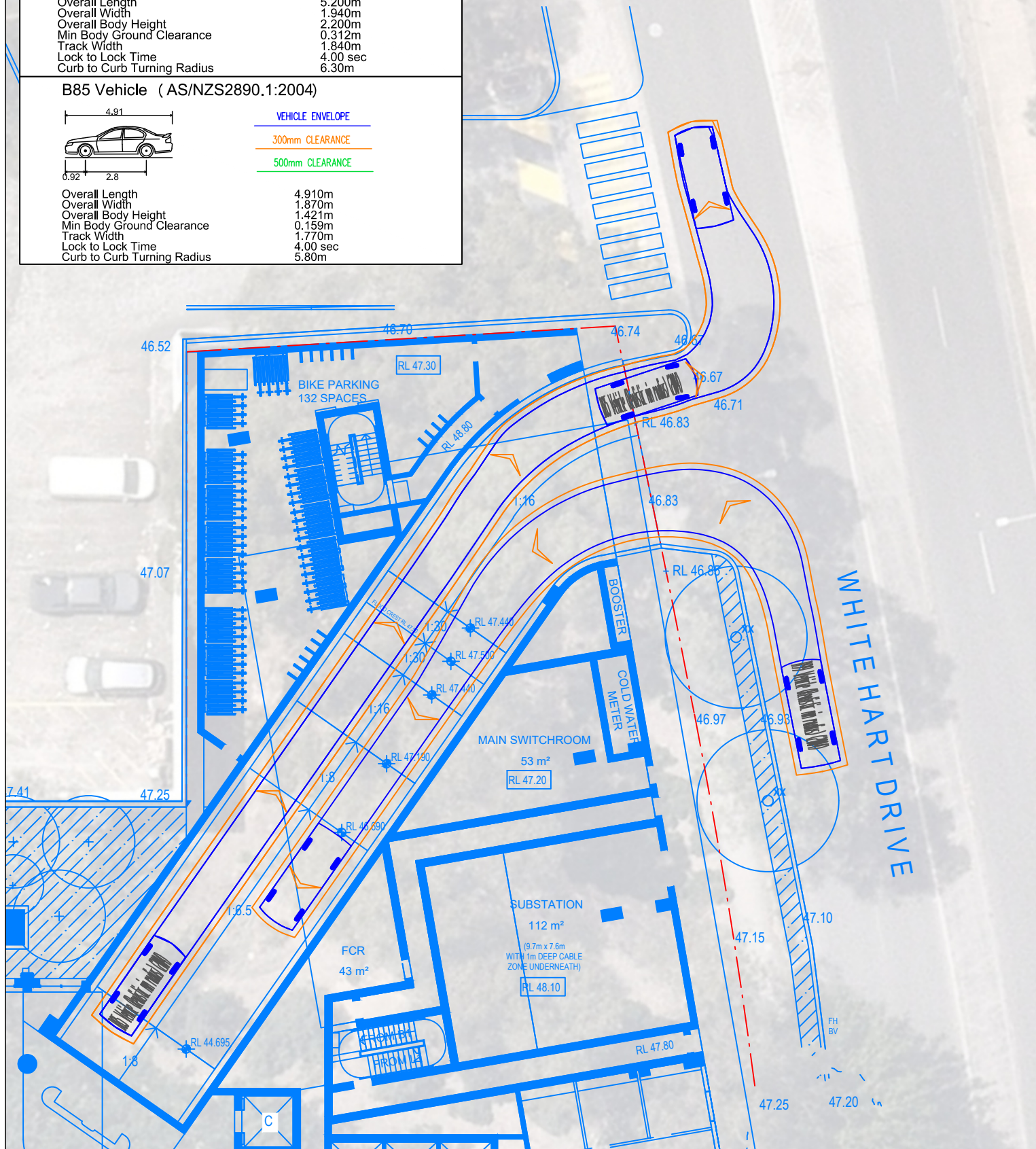
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AS/NZS 2890:2004 (B99) VEHICLE DIMENSIONS AND CLEARANCES. THIS NOTE IS AN INTEGRAL PART OF THIS PLAN. DATA TO BE NOTED IMMEDIATELY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. AS/NZS 2890:2004 (B85) VEHICLE DIMENSIONS AND CLEARANCES. THIS NOTE IS AN INTEGRAL PART OF THIS PLAN. DATA TO BE NOTED IMMEDIATELY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. AS/NZS 2890:2004 (B99) VEHICLE DIMENSIONS AND CLEARANCES. THIS NOTE IS AN INTEGRAL PART OF THIS PLAN. DATA TO BE NOTED IMMEDIATELY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

B99 Vehicle (AS/NZS2890.1:2004)	
	<b>VEHICLE ENVELOPE</b> 300mm CLEARANCE 500mm CLEARANCE
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

B85 Vehicle (AS/NZS2890.1:2004)	
	<b>VEHICLE ENVELOPE</b> 300mm CLEARANCE 500mm CLEARANCE
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m



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Base Plan 240130-DA0100 [P.02] - Ground Plan prepared by Architectus, received 8/04/2025.

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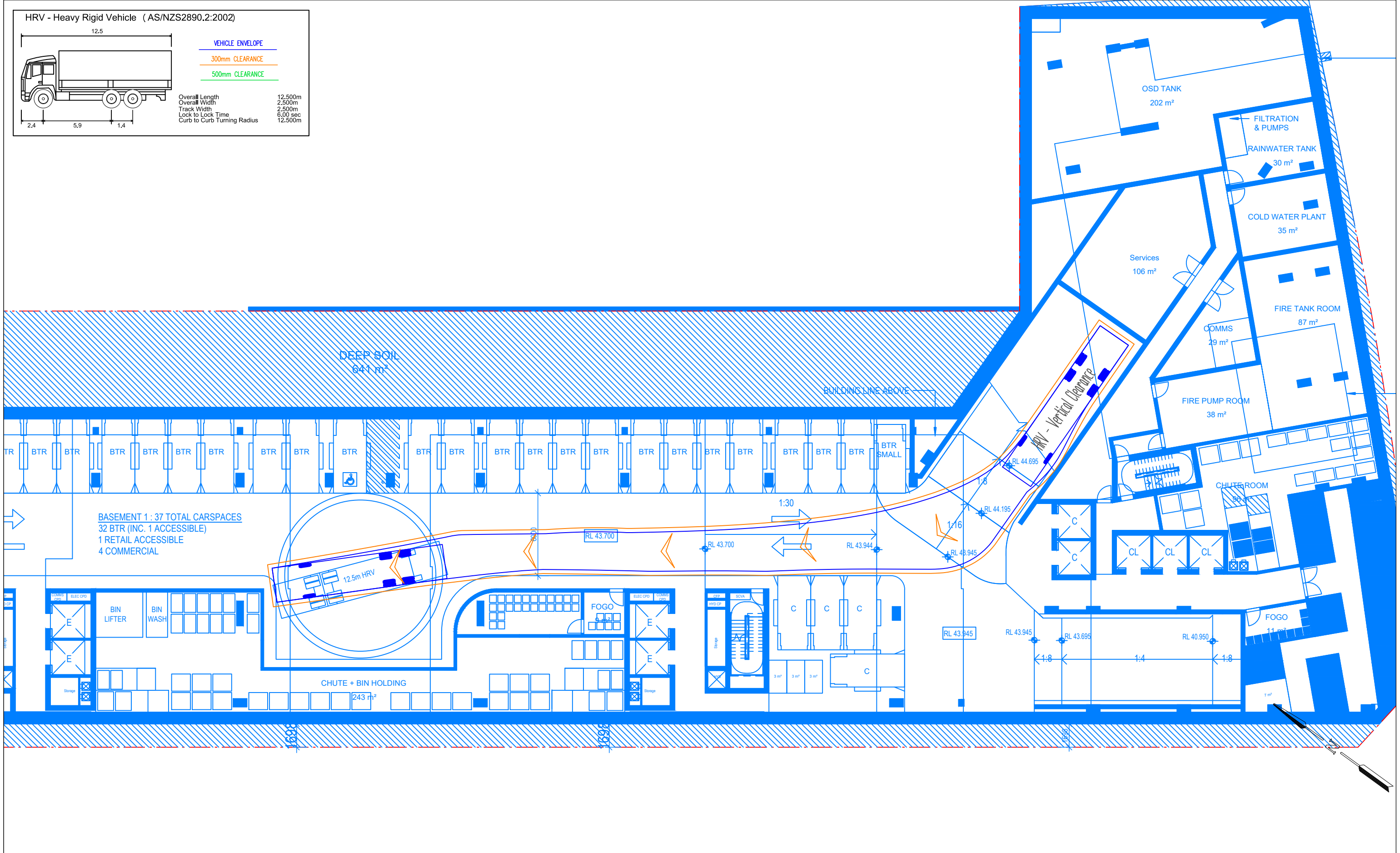
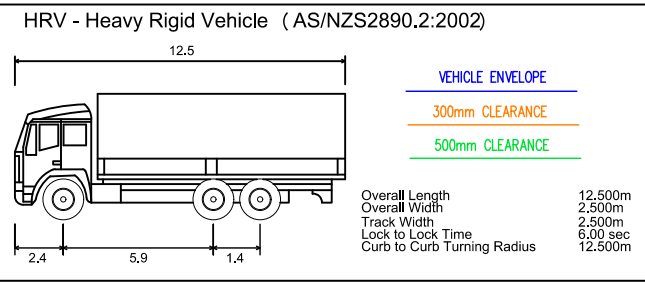
DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEEP PATH ASSESSMENT	
GROUND FLOOR	
FILE NAME AG2502-04-v01.dwg	SHEET AG04

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 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

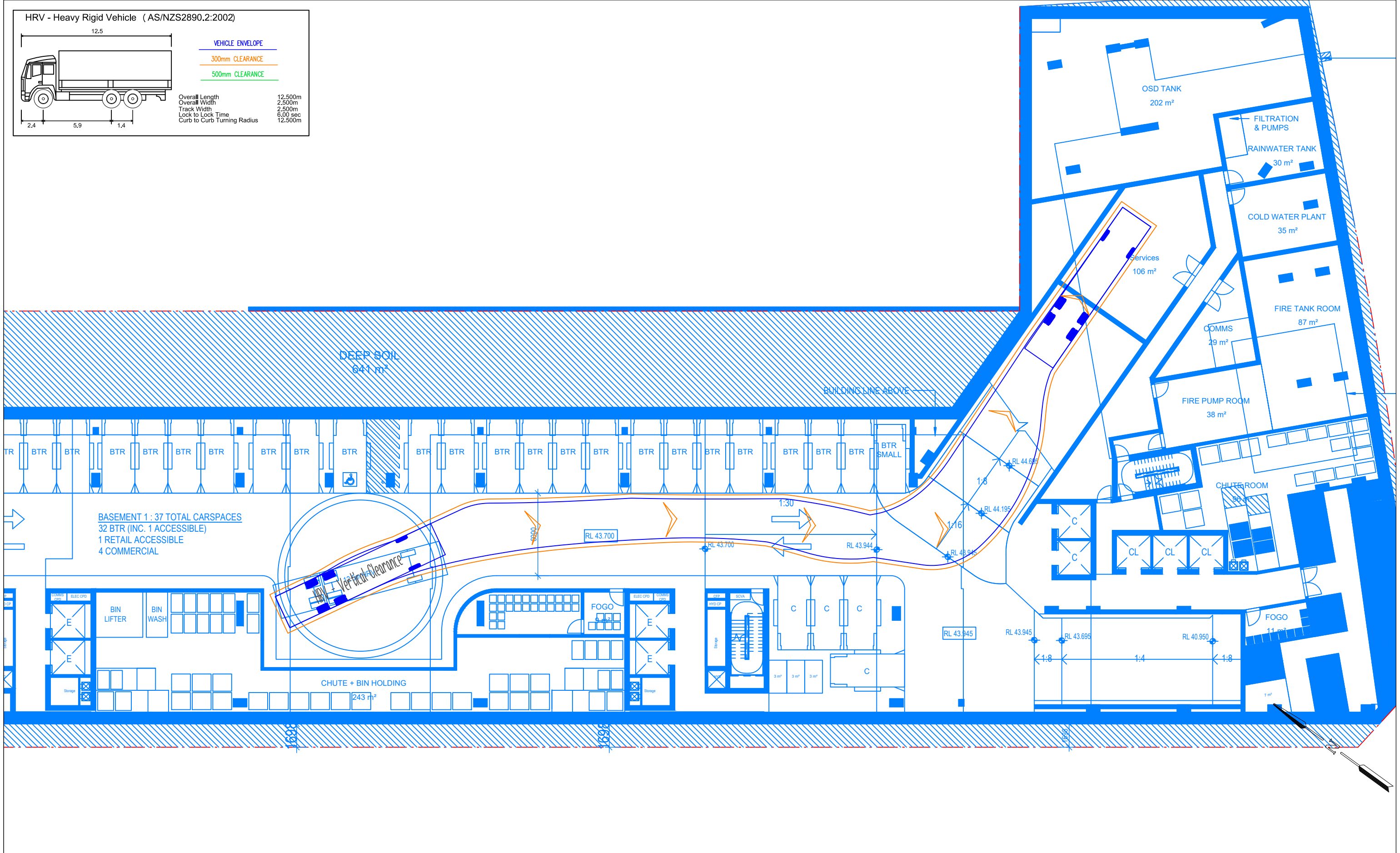
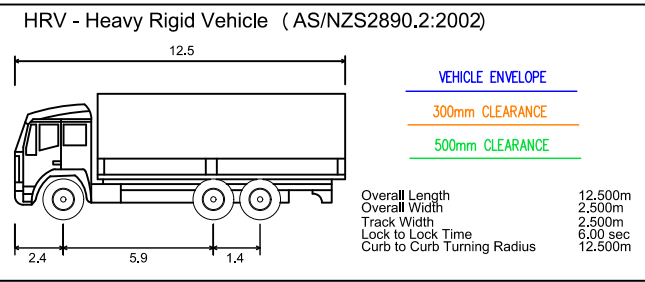
DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 1	
FILE NAME AG2502-04-v01.dwg	SHEET AG05

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 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

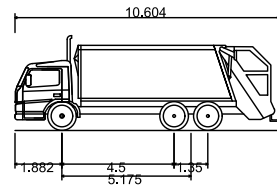
DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

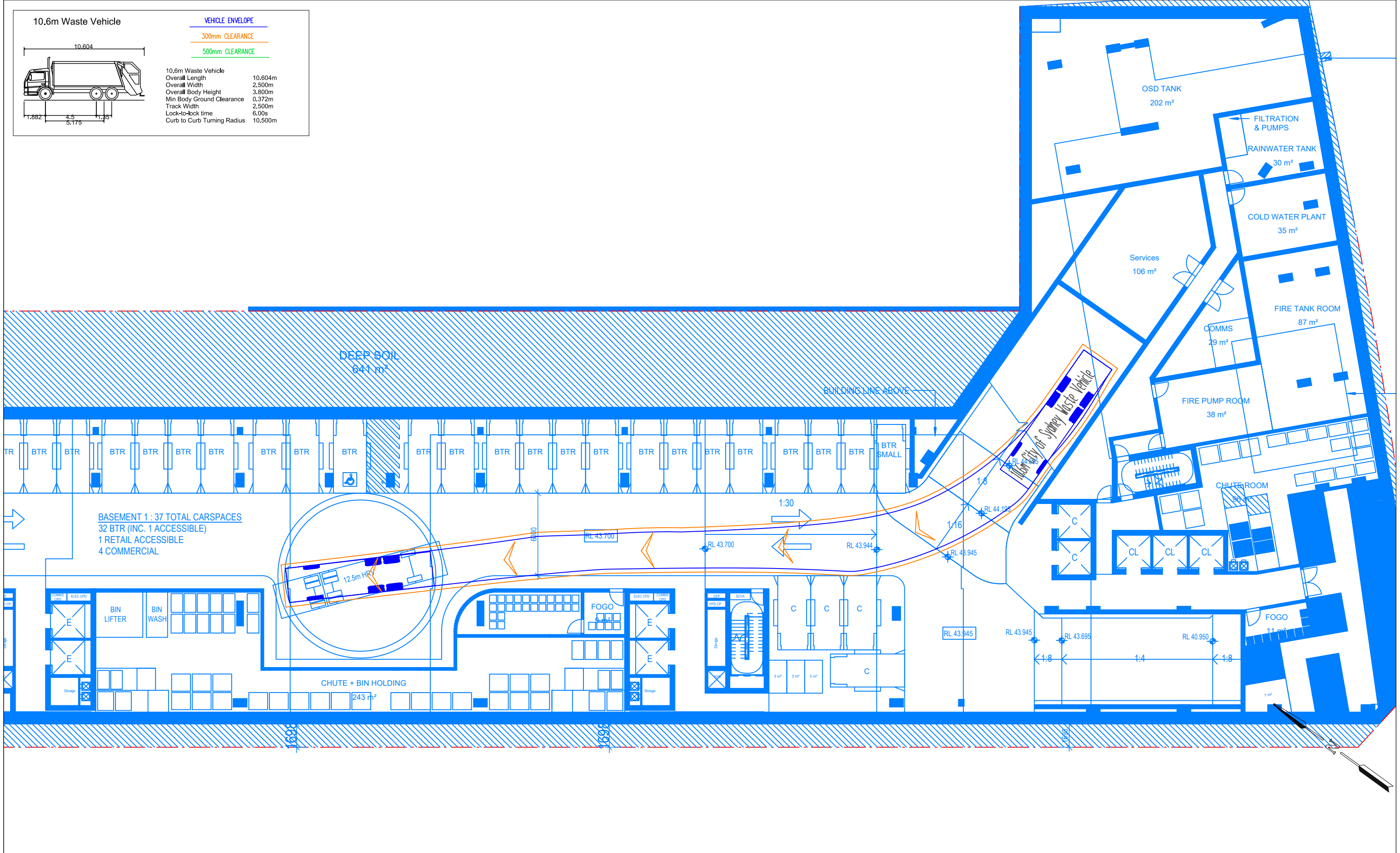
DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 1	
FILE NAME AG2502-04-v01.dwg	SHEET AG06

Suite 17.02, Level 17, 1 Castlereagh St  
 Sydney NSW 2000  
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10.6m Waste Vehicle



VEHICLE ENVELOPE	
Overall Length	10.604m
Overall Width	2.500m
Min Body Ground Clearance	0.372m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	10.500m



**GENERAL NOTES**

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DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

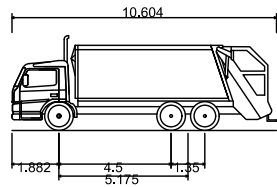
CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 1	
FILE NAME AG2502-04-v01.dwg	SHEET AG07

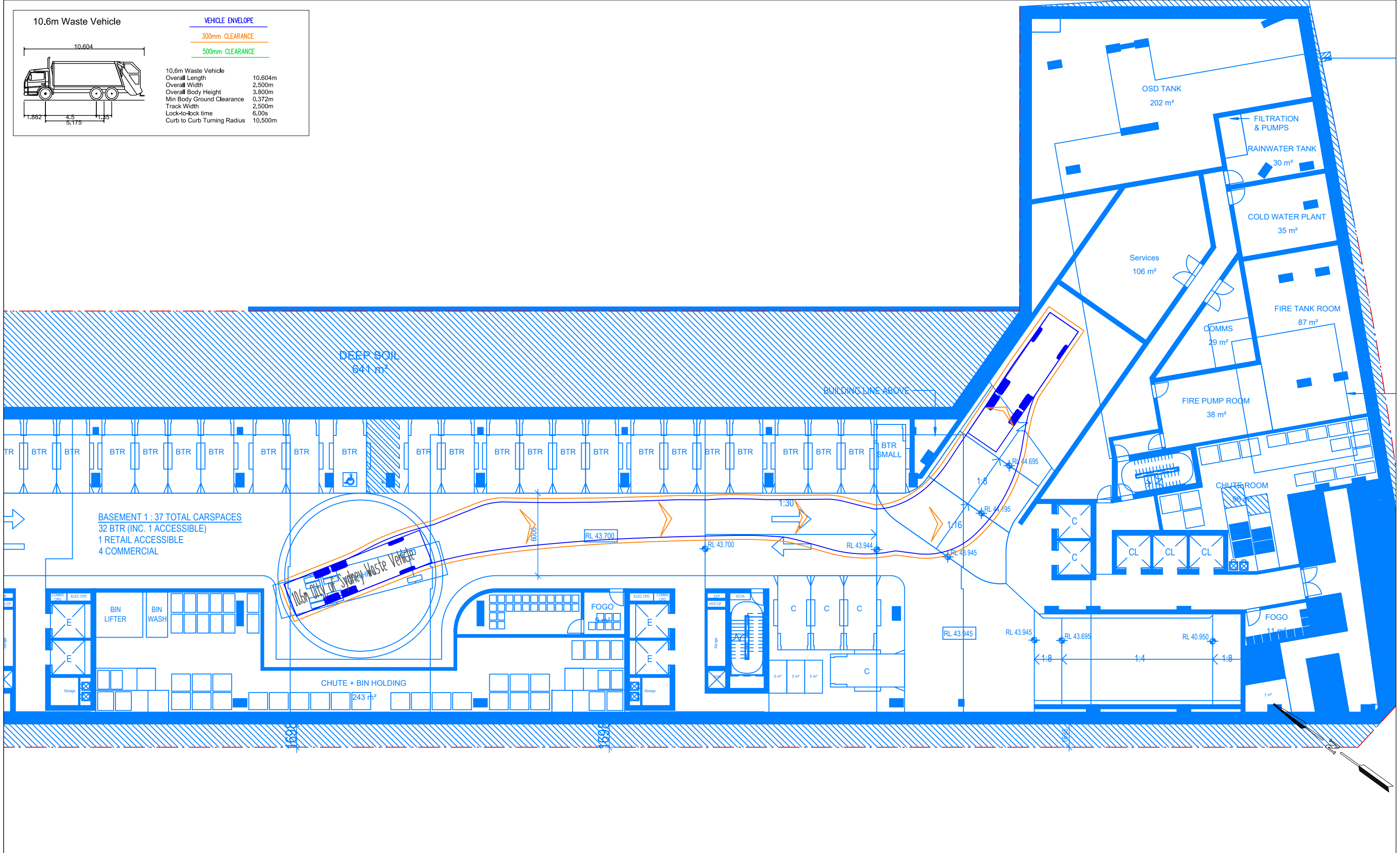
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10.6m Waste Vehicle



VEHICLE ENVELOPE	
Overall Length	10.604m
Overall Width	2.500m
Min Body Ground Clearance	0.372m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	10.500m



**GENERAL NOTES**

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 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

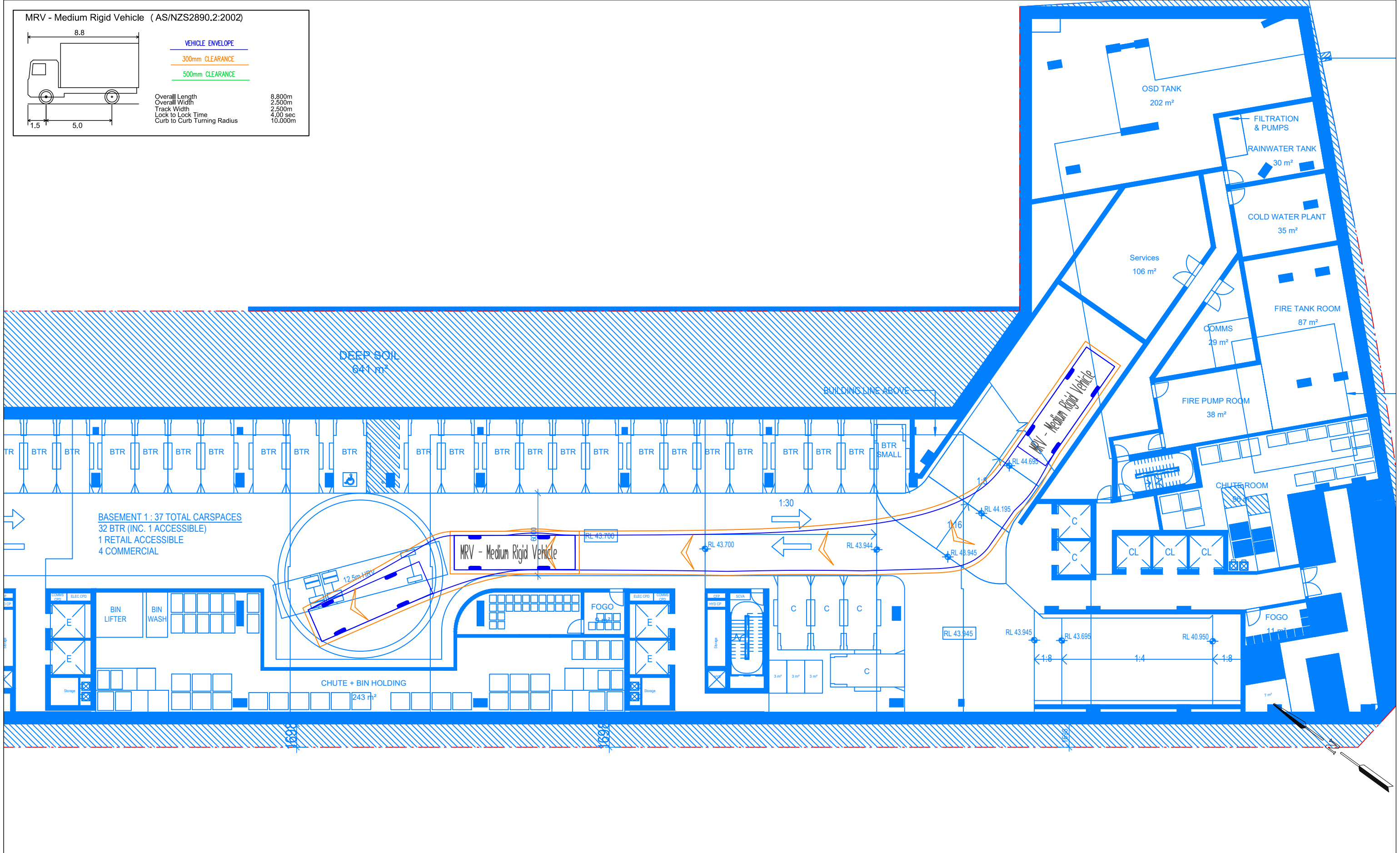
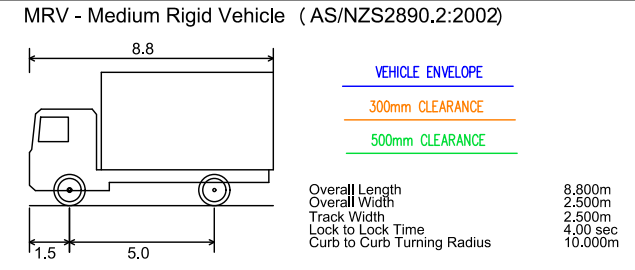
DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 1	
FILE NAME AG2502-04-v01.dwg	SHEET AG08

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AS/NZS 2890.2:2002 MRV - Medium Rigid Vehicle (AS/NZS2890.2:2002)



**GENERAL NOTES**  
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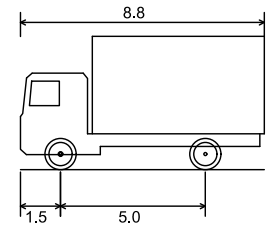
DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 1	
FILE NAME AG2502-04-v01.dwg	SHEET AG10

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MRV - Medium Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE  
 300mm CLEARANCE  
 500mm CLEARANCE

Overall Length 8.800m  
 Overall Width 2.500m  
 Track Width 2.500m  
 Lock to Lock Time 4.00 sec  
 Curb to Curb Turning Radius 10.000m

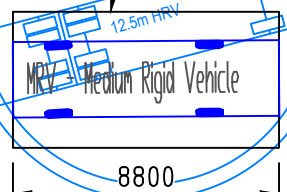
SERVICING BY AND TURNAROUND OF MRV ALSO REQUIRES USE OF TURNTABLE

DEEP SOIL  
641 m<sup>2</sup>

DEEP SOIL  
641 m<sup>2</sup>

BASEMENT 1 : 37 TOTAL CARSPACES  
 32 BTR (INC. 1 ACCESSIBLE)  
 1 RETAIL ACCESSIBLE  
 4 COMMERCIAL

BASEMENT 1 : 37 TOTAL CARSPACES  
 32 BTR (INC. 1 ACCESSIBLE)  
 1 RETAIL ACCESSIBLE  
 4 COMMERCIAL



CHUTE + BIN HOLDING  
243 m<sup>2</sup>

CHUTE + BIN HOLDING  
243 m<sup>2</sup>

GENERAL NOTES

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DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

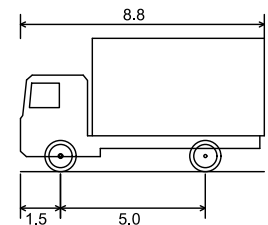
CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 1	
FILE NAME AG2502-04-v01.dwg	SHEET AG11



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MRV - Medium Rigid Vehicle (AS/NZS2890.2:2002)

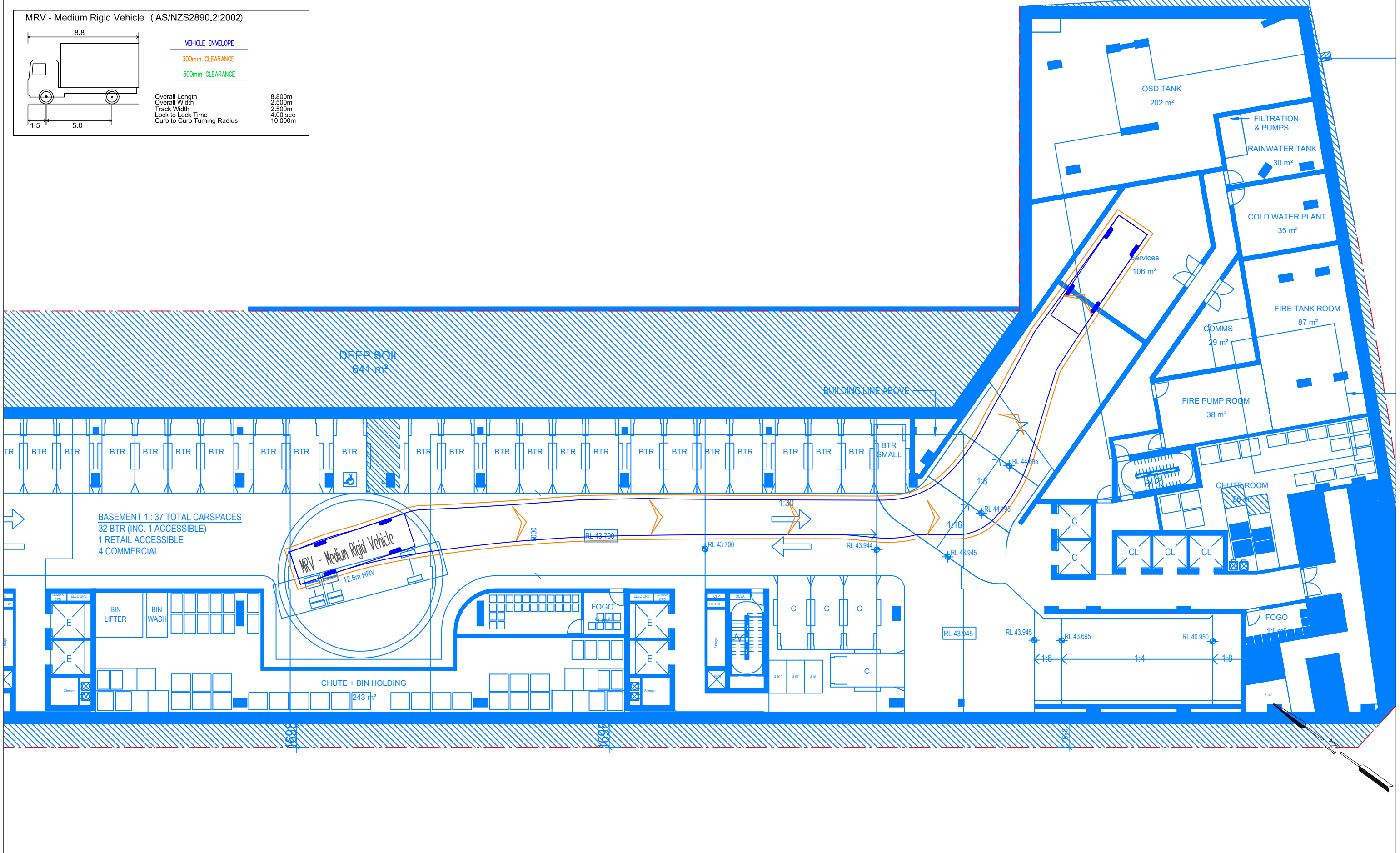


VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length 8.800m  
 Overall Width 2.500m  
 Track Width 2.500m  
 Lock to Lock Time 4.00 sec  
 Curb to Curb Turning Radius 10.000m



**GENERAL NOTES**

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 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 1	
FILE NAME AG2502-04-v01.dwg	SHEET AG12

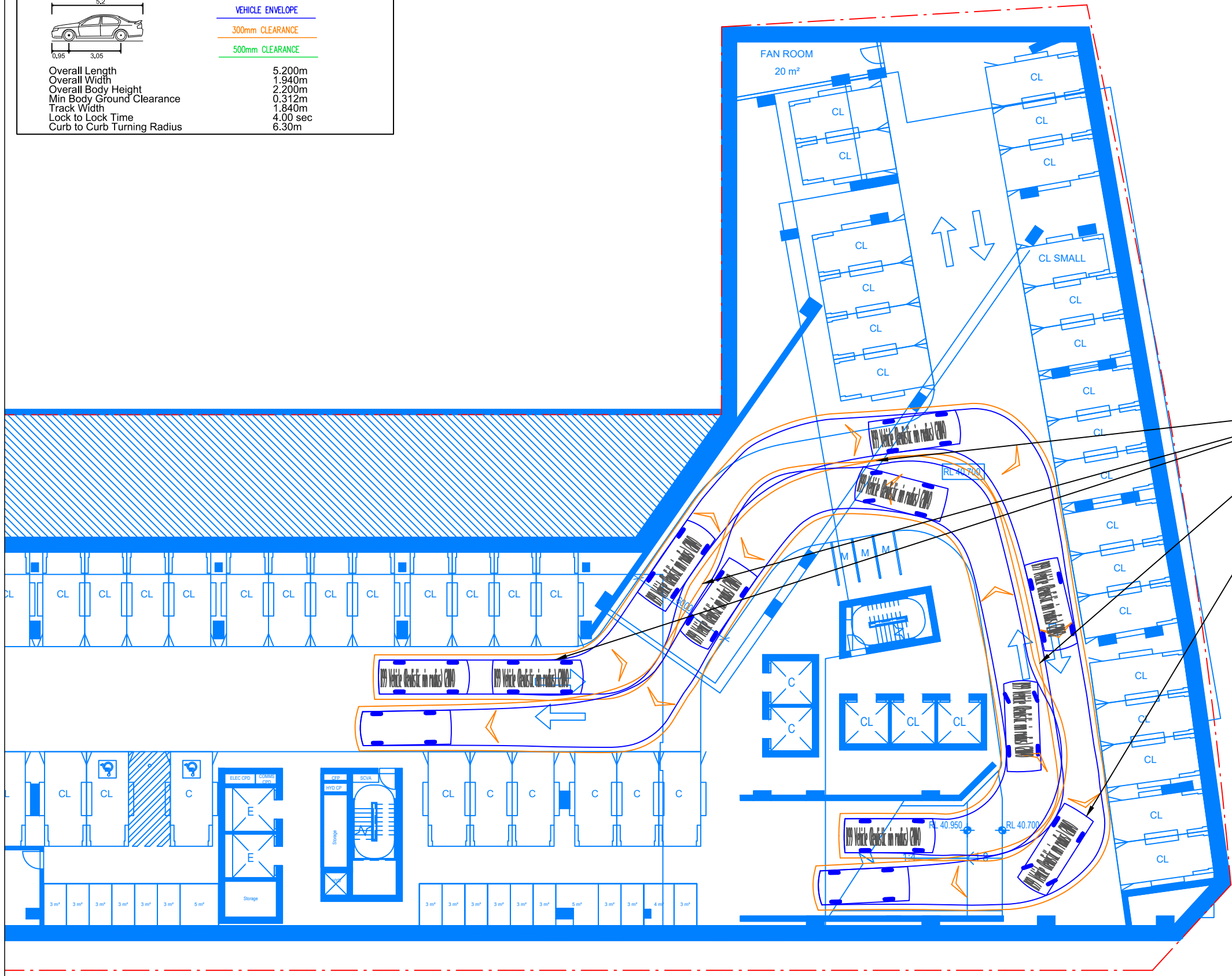
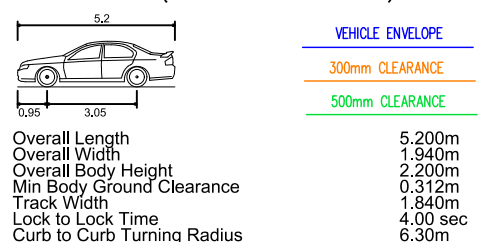
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**B99 Vehicle (AS/NZS2890.1:2004)**



MULTIPLE PASSING OPPORTUNITIES PRESENTED BETWEEN OPPOSING B99s

Xref .\X-Refx-AG2502-2025.03.07-B2v1.dwg

**GENERAL NOTES**

This drawing is provided for information purposes only and should not be used for construction.  
 Base Plan 240130-DA0091 [P.03] - Basement 2 Plan prepared by Architectus, received 8/04/2025.  
 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

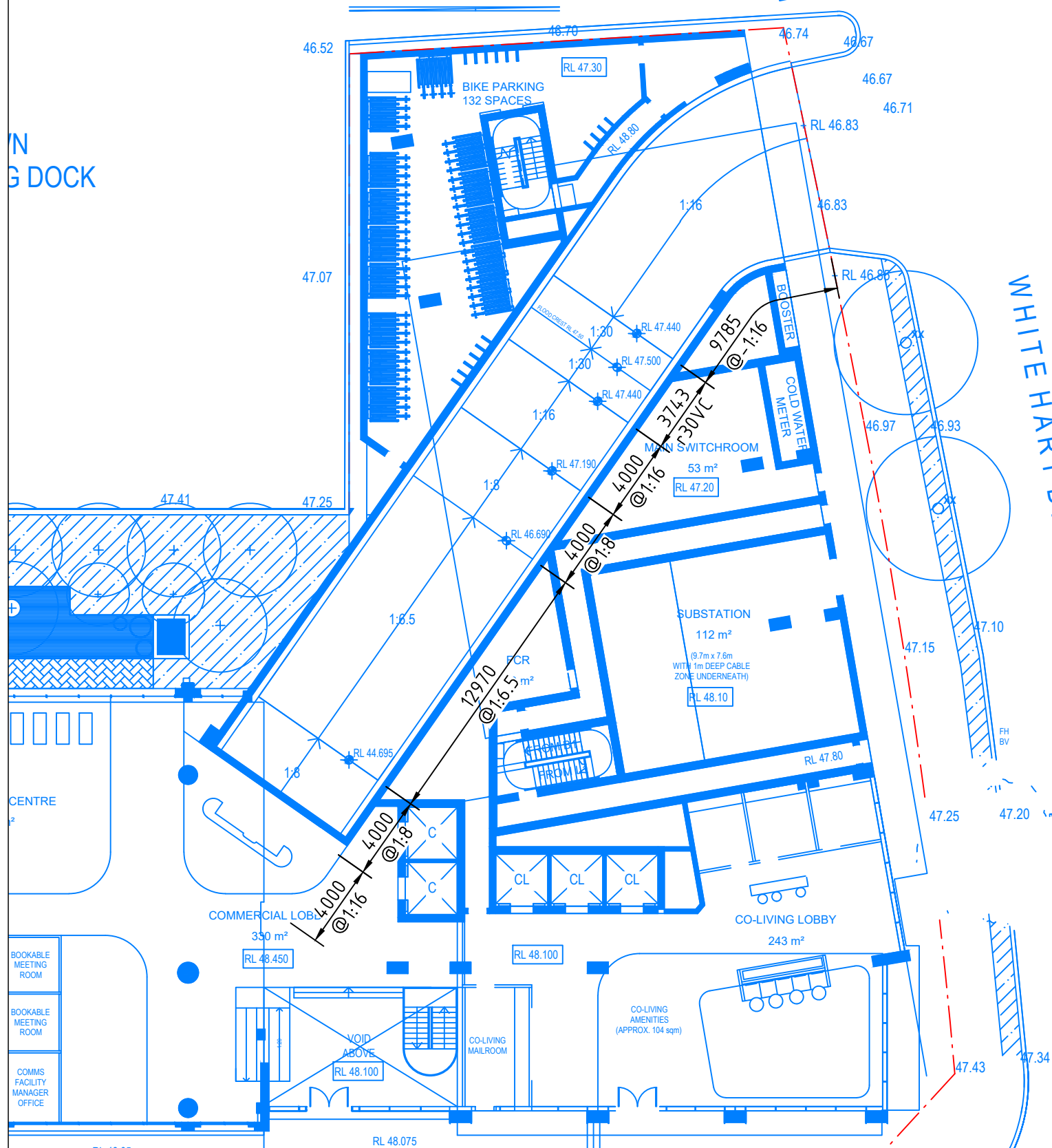
DESIGNED Eric Ye	PAPER SIZE A3	CLIENT FREECITY
APPROVED BY R.HAZELL	DATE 09.04.2025	PROJECT P2502
SCALE 1:250	0 2.5 5	2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
SWEPT PATH ASSESSMENT	
BASEMENT 2	
FILE NAME AG2502-04-v01.dwg	SHEET AG14

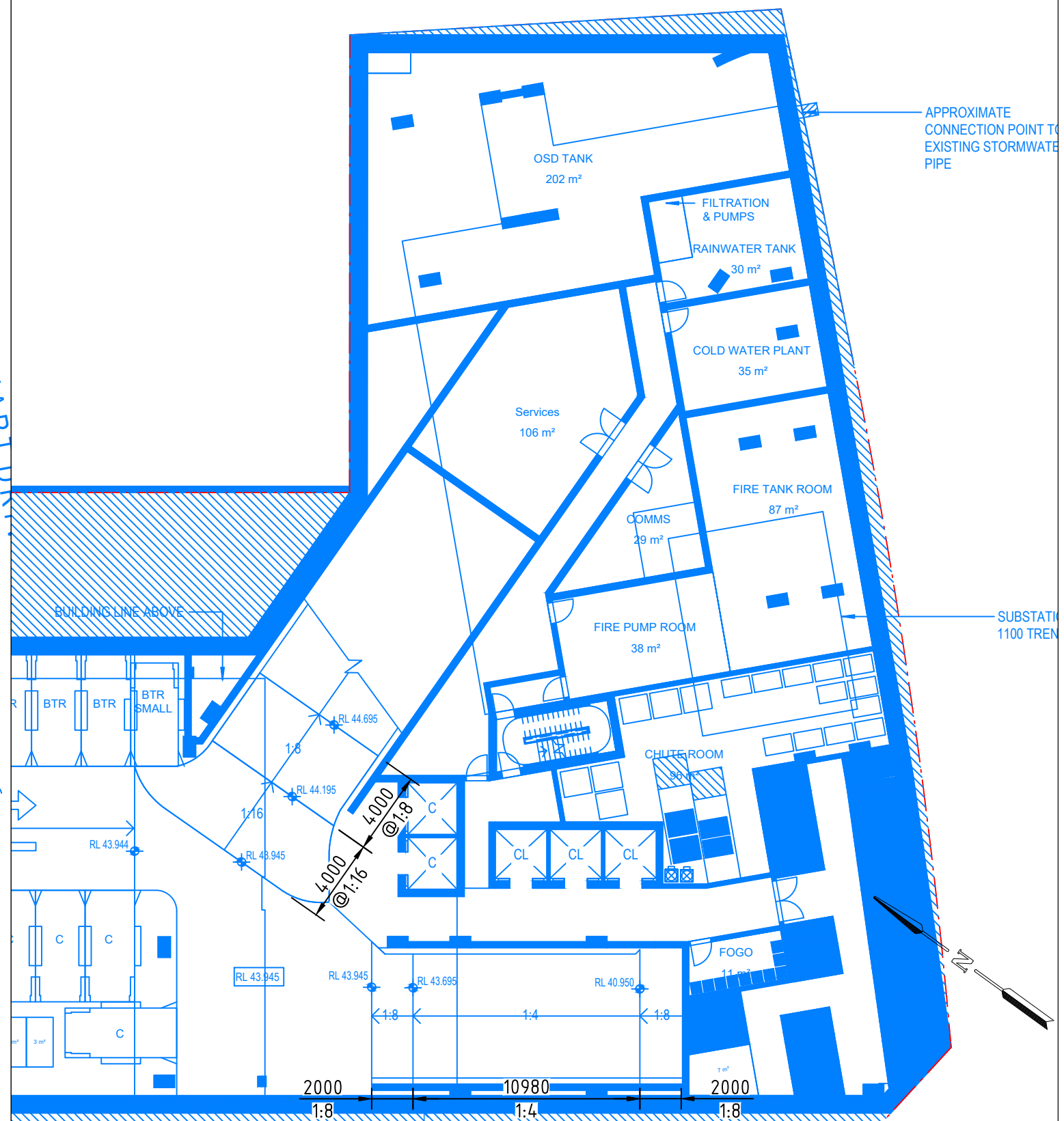
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# GROUND FLOOR



# BASEMENT 1



**GENERAL NOTES**

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 Base Plan 240130-DA0100 [P.02] - Ground Plan prepared by Architectus, received 8/04/2025.  
 Swept path assessments completed at 10 km/h (external to site) / 5 km/h (internal to site) and 300mm clearance.

DESIGNED Eric Ye	PAPER SIZE A3
APPROVED BY R.HAZELL	DATE 09.04.2025
SCALE 1:250	0 2.5 5

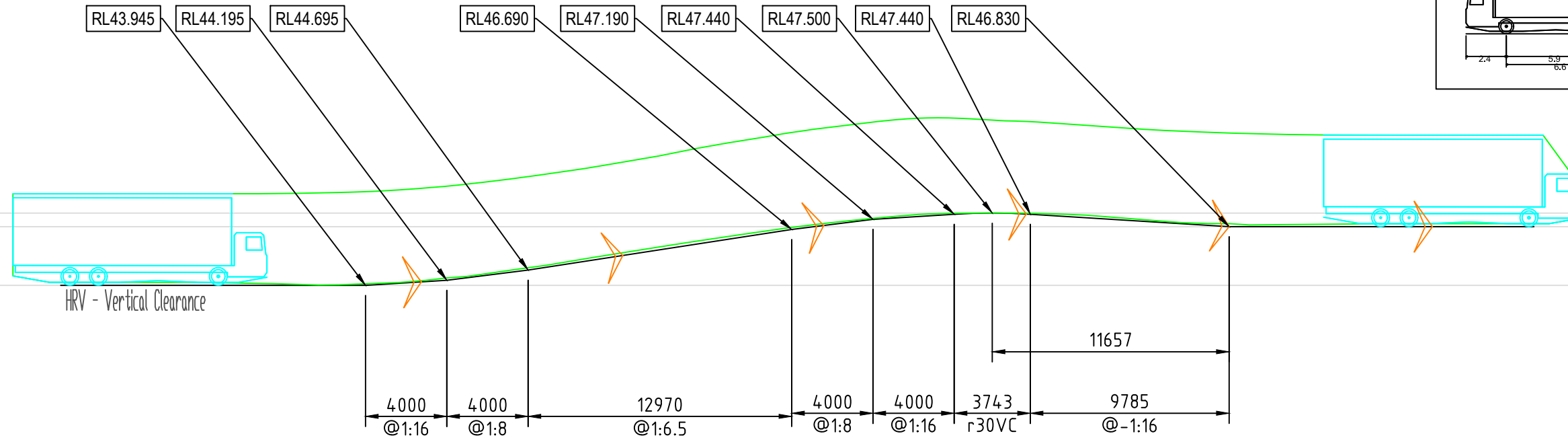
CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
RAMP GRADES	
PLAN VIEW	
FILE NAME AG2502-04-v01.dwg	SHEET AG15

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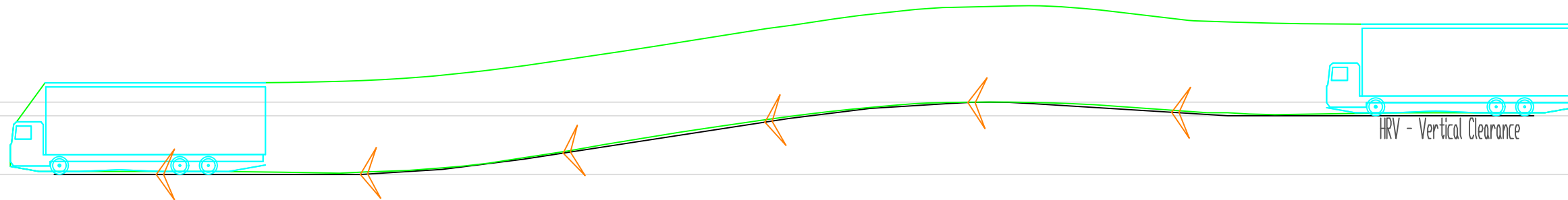
# HRV UP



HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)

- HRV - Vertical Clearance
- Overall Length 12.500m
- Overall Width 2.500m
- Overall Body Height 4.500m
- Min Body Ground Clearance 0.150m
- Track Width 2.500m
- Lock-to-lock time 6.00s
- Curb to Curb Turning Radius 12.500m

# HRV DOWN



## GENERAL NOTES

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DESIGNED Eric Ye	PAPER SIZE A3
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SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
GF TO B1 RAMP	
VERTICAL CLEARANCE	
FILE NAME AG2502-04-v01.dwg	SHEET AG16

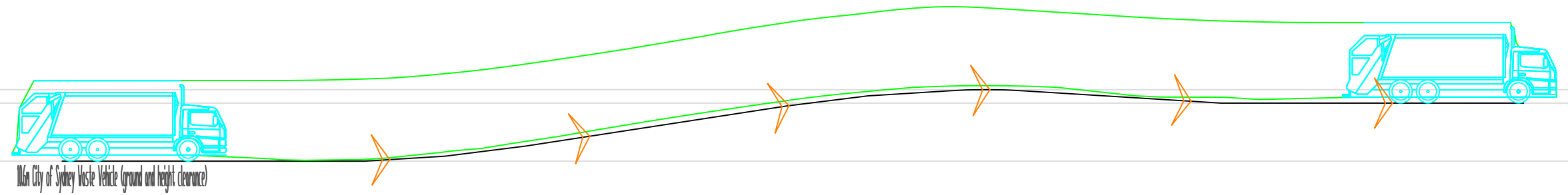
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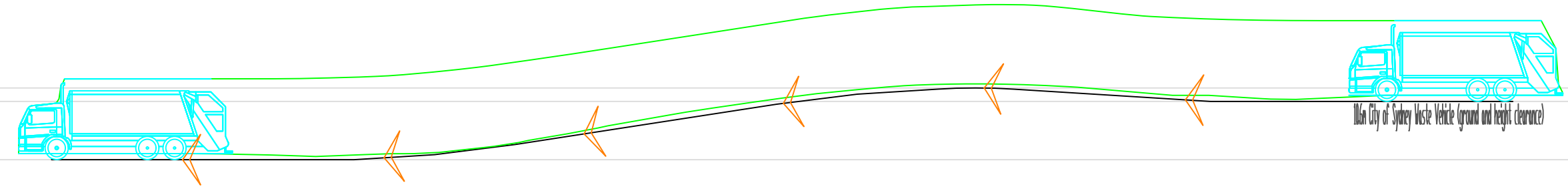
# 10.6m WASTE TRUCK UP

10.6m Waste Vehicle (ground and height clearance)

10.6m Waste Vehicle (ground and height clearance)  
 Overall Length 10.604m  
 Overall Width 2.900m  
 Overall Body Height 4.000m  
 Min Body Ground Clearance 0.300m  
 Track Width 2.500m  
 Lock-to-lock time 6.00s  
 Curb to Curb Turning Radius 10.500m



# 10.6m WASTE TRUCK DOWN



**GENERAL NOTES**

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SCALE 1:250	0 2.5 5

CLIENT FREECITY
PROJECT P2502
2-10 TEMPUS STREET, ROUSE HILL

DOCUMENT INFORMATION	
GF TO B1 RAMP	
VERTICAL CLEARANCE	
FILE NAME AG2502-04-v01.dwg	SHEET AG17

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# Appendix B. SIDRA results

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - PM (Site Folder: 2025 Existing)]

 Network: 1 [PM (Network Folder: 2025 Existing Base)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: SCATS TCS 4085 - UGPT

Input Phase Sequence: A, C, D, E, F, G

Output Phase Sequence: A, C, D, E, F, G

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%				[ Veh. veh	Dist ]				
			veh/h	%	veh/h	%	v/c	sec		m					km/h
South: Windsor Road															
1	L2	All MCs	5	0.0	5	0.0	*0.503	19.9	LOS B	9.6	68.6	0.65	0.62	0.65	37.8
2	T1	All MCs	1629	2.9	1629	2.9	0.503	15.8	LOS B	9.6	68.7	0.65	0.62	0.65	53.0
3	R2	All MCs	489	0.9	489	0.9	*0.846	56.5	LOS E	7.0	49.2	1.00	0.93	1.18	15.2
Approach			2124	2.4	2124	2.4	0.846	25.2	LOS B	9.6	68.7	0.73	0.69	0.77	41.3
East: White Hart Drive															
4	L2	All MCs	233	0.5	233	0.5	0.187	27.2	LOS B	2.6	18.5	0.75	0.73	0.75	25.9
5	T1	All MCs	2	0.0	2	0.0	*0.359	60.2	LOS E	3.5	24.5	0.95	0.77	0.95	10.4
6	R2	All MCs	179	0.0	179	0.0	0.359	64.5	LOS E	3.5	24.5	0.95	0.77	0.95	19.5
Approach			414	0.3	414	0.3	0.359	43.5	LOS D	3.5	24.5	0.84	0.75	0.84	22.1
North: Windsor Road															
7	L2	All MCs	200	0.0	200	0.0	0.133	8.4	LOS A	1.0	7.0	0.18	0.66	0.18	55.3
8	T1	All MCs	1663	2.7	1663	2.7	*0.619	26.8	LOS B	13.2	94.4	0.80	0.79	0.80	43.0
9	R2	All MCs	7	0.0	7	0.0	0.040	69.2	LOS E	0.3	2.0	0.93	0.67	0.93	20.1
Approach			1871	2.4	1871	2.4	0.619	25.0	LOS B	13.2	94.4	0.74	0.78	0.74	43.5
West: Cemetary Boulevard															
10	L2	All MCs	15	0.0	15	0.0	0.099	57.7	LOS E	0.6	4.5	0.94	0.68	0.94	21.1
11	T1	All MCs	2	0.0	2	0.0	0.099	80.2	LOS F	0.6	4.5	0.94	0.68	0.94	7.3
12	R2	All MCs	14	0.0	14	0.0	0.258	82.3	LOS F	0.6	4.3	1.00	0.68	1.00	13.9
Approach			31	0.0	31	0.0	0.258	70.3	LOS E	0.6	4.5	0.97	0.68	0.97	16.8
All Vehicles			4439	2.2	4439	2.2	0.846	27.1	LOS B	13.2	94.4	0.74	0.73	0.76	39.7

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

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back of Queue	Prop. Queue	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ] veh/h	%	[ Total HV ] veh/h	%									v/c
East: White Hart Drive															
5	T1	All MCs	412	0.8	412	0.8	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			412	0.8	412	0.8	0.106	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
North: Tempus Street															
7	L2	All MCs	165	0.0	165	0.0	0.145	5.4	LOS A	0.3	1.9	0.30	0.54	0.30	32.7
Approach			165	0.0	165	0.0	0.145	5.4	LOS A	0.3	1.9	0.30	0.54	0.30	32.7
West: White Hart Drive															
10	L2	All MCs	154	4.1	154	4.1	0.186	4.6	LOS A	0.0	0.0	0.00	0.24	0.00	39.7
11	T1	All MCs	547	1.5	547	1.5	0.186	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	44.9
Approach			701	2.1	701	2.1	0.186	1.0	NA	0.0	0.0	0.00	0.12	0.00	42.5
All Vehicles			1278	1.4	1278	1.4	0.186	1.3	NA	0.3	1.9	0.04	0.13	0.04	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: SCATS TCS 4105 - UGPT

Input Phase Sequence: A, D, E, F, F1

Output Phase Sequence: A, D, E, F, F1

Reference Phase: Phase A

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					veh	m			
South: Civic Way														
1	L2	All MCs	25	0.0	25	0.0	0.172	24.0	LOS B	1.3	8.8	0.85	0.70	11.7
2	T1	All MCs	27	0.0	27	0.0	*0.172	34.3	LOS C	1.3	8.8	0.85	0.70	16.5
3	R2	All MCs	11	0.0	11	0.0	0.172	38.8	LOS C	1.3	8.8	0.85	0.70	11.7
Approach			63	0.0	63	0.0	0.172	30.9	LOS C	1.3	8.8	0.85	0.70	13.9
East: White Hart Drive														
4	L2	All MCs	19	0.0	19	0.0	0.203	13.6	LOS A	1.2	8.7	0.86	0.71	25.1
5	T1	All MCs	139	0.0	139	0.0	0.203	28.9	LOS C	1.6	11.3	0.87	0.69	20.5
6	R2	All MCs	87	0.0	87	0.0	*0.627	47.0	LOS D	2.2	15.6	1.00	0.82	16.9
Approach			245	0.0	245	0.0	0.627	34.2	LOS C	2.2	15.6	0.91	0.74	19.2
North: Civic Way														
7	L2	All MCs	144	0.7	144	0.7	0.592	19.4	LOS B	3.5	24.7	0.95	0.83	10.9
8	T1	All MCs	38	0.0	38	0.0	*0.592	33.1	LOS C	3.5	24.7	0.95	0.83	18.7
9	R2	All MCs	247	1.3	247	1.3	0.592	37.7	LOS C	4.6	32.6	0.96	0.81	8.3
Approach			429	1.0	429	1.0	0.592	31.1	LOS C	4.6	32.6	0.96	0.82	10.0
West: White Hart Drive														
10	L2	All MCs	67	1.6	67	1.6	0.420	18.3	LOS B	4.3	30.9	0.86	0.74	17.5
11	T1	All MCs	374	2.0	374	2.0	*0.420	27.8	LOS B	4.4	31.3	0.86	0.73	13.4
12	R2	All MCs	57	1.9	57	1.9	0.208	37.8	LOS C	1.2	8.8	0.91	0.74	15.5
Approach			498	1.9	498	1.9	0.420	27.7	LOS B	4.4	31.3	0.87	0.73	14.4
All Vehicles			1236	1.1	1236	1.1	0.627	30.3	LOS C	4.6	32.6	0.91	0.76	14.2

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: SCATS TCS 4104 - UGPT

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h	
			veh/h		veh/h					veh	m				
South: Caddies Boulevard															
1	L2	All MCs	168	0.0	168	0.0	0.352	7.8	LOS A	2.0	14.4	0.71	0.68	0.71	21.8
2	T1	All MCs	255	2.9	255	2.9	*0.352	16.6	LOS B	2.3	16.6	0.81	0.68	0.81	25.7
3	R2	All MCs	1	0.0	1	0.0	0.352	22.4	LOS B	2.3	16.6	0.84	0.69	0.84	20.2
Approach			424	1.7	424	1.7	0.352	13.2	LOS A	2.3	16.6	0.77	0.68	0.77	24.5
East: White Hart Drive															
4	L2	All MCs	6	0.0	6	0.0	0.042	20.5	LOS B	0.2	1.6	0.79	0.60	0.79	18.9
5	T1	All MCs	13	0.0	13	0.0	0.042	15.8	LOS B	0.2	1.6	0.79	0.60	0.79	11.0
6	R2	All MCs	12	0.0	12	0.0	0.035	20.1	LOS B	0.1	1.0	0.79	0.66	0.79	17.8
Approach			31	0.0	31	0.0	0.042	18.4	LOS B	0.2	1.6	0.79	0.62	0.79	15.8
North: Caddies Boulevard															
7	L2	All MCs	11	0.0	11	0.0	0.302	11.7	LOS A	2.3	16.0	0.64	0.56	0.64	20.4
8	T1	All MCs	192	0.0	192	0.0	0.302	6.6	LOS A	2.3	16.0	0.64	0.56	0.64	31.5
9	R2	All MCs	219	0.0	219	0.0	*0.302	16.0	LOS B	2.3	16.0	0.77	0.70	0.77	18.9
Approach			421	0.0	421	0.0	0.302	11.6	LOS A	2.3	16.0	0.71	0.63	0.71	24.9
West: White Hart Drive															
10	L2	All MCs	356	0.6	356	0.6	0.402	13.8	LOS A	3.5	24.6	0.69	0.75	0.69	31.3
11	T1	All MCs	19	0.0	19	0.0	0.040	16.0	LOS B	0.2	1.6	0.79	0.56	0.79	29.4
12	R2	All MCs	232	3.2	232	3.2	*0.599	24.1	LOS B	3.3	23.7	0.94	0.83	0.97	25.1
Approach			606	1.6	606	1.6	0.599	17.8	LOS B	3.5	24.6	0.79	0.78	0.80	28.6
All Vehicles			1482	1.1	1482	1.1	0.599	14.7	LOS B	3.5	24.6	0.76	0.70	0.76	26.7

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - MIDDAY (Site Folder: 2025 Existing)]  Network: 2 [MIDDAY (Network Folder: 2025 Existing Base)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: SCATS TCS 4085 - UGPT

Input Phase Sequence: A, C, D, E, F, G

Output Phase Sequence: A, C, D, E, F, G

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%				[ Veh. veh	Dist ]				
			veh/h	%	veh/h	%	v/c	sec		m					km/h
South: Windsor Road															
1	L2	All MCs	20	0.0	20	0.0	*0.596	23.8	LOS B	15.5	110.4	0.77	0.75	0.77	29.1
2	T1	All MCs	1686	2.1	1686	2.1	0.596	27.6	LOS B	15.6	111.0	0.77	0.74	0.77	42.4
3	R2	All MCs	535	0.0	535	0.0	*0.720	38.1	LOS C	6.3	44.3	0.99	0.84	1.01	20.7
Approach			2241	1.6	2241	1.6	0.720	30.1	LOS C	15.6	111.0	0.82	0.77	0.83	37.6
East: White Hart Drive															
4	L2	All MCs	303	0.7	303	0.7	0.221	23.8	LOS B	3.1	21.9	0.72	0.74	0.72	27.8
5	T1	All MCs	7	0.0	7	0.0	*0.519	62.7	LOS E	5.0	34.8	0.98	0.79	0.98	10.1
6	R2	All MCs	241	0.0	241	0.0	0.519	67.0	LOS E	5.0	34.8	0.98	0.79	0.98	19.0
Approach			552	0.4	552	0.4	0.519	43.2	LOS D	5.0	34.8	0.84	0.76	0.84	22.1
North: Windsor Road															
7	L2	All MCs	239	0.0	239	0.0	0.172	9.4	LOS A	1.7	12.2	0.24	0.67	0.24	53.3
8	T1	All MCs	1815	2.8	1815	2.8	*0.860	54.3	LOS D	24.2	173.6	0.99	1.02	1.06	30.1
9	R2	All MCs	1	0.0	1	0.0	0.005	72.9	LOS F	0.0	0.3	0.90	0.60	0.90	21.0
Approach			2055	2.5	2055	2.5	0.860	49.1	LOS D	24.2	173.6	0.90	0.98	0.97	30.2
West: Cemetary Boulevard															
10	L2	All MCs	46	0.0	46	0.0	0.414	73.6	LOS F	2.6	17.9	0.97	1.01	0.97	21.2
11	T1	All MCs	21	0.0	21	0.0	0.414	95.8	LOS F	2.6	17.9	0.97	1.01	0.97	7.6
12	R2	All MCs	44	0.0	44	0.0	0.399	94.5	LOS F	1.8	12.9	0.99	1.00	0.99	15.1
Approach			112	0.0	112	0.0	0.414	86.1	LOS F	2.6	17.9	0.98	1.01	0.98	13.6
All Vehicles			4959	1.8	4959	1.8	0.860	40.7	LOS C	24.2	173.6	0.86	0.86	0.89	31.5

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

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Queue	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					veh	m			
East: White Hart Drive														
5	T1	All MCs	528	0.6	528	0.6	0.136	0.0	LOS A	0.0	0.0	0.00	0.00	49.9
Approach			528	0.6	528	0.6	0.136	0.0	NA	0.0	0.0	0.00	0.00	49.9
North: Tempus Street														
7	L2	All MCs	136	0.8	136	0.8	0.129	5.8	LOS A	0.2	1.6	0.36	0.57	32.3
Approach			136	0.8	136	0.8	0.129	5.8	LOS A	0.2	1.6	0.36	0.57	32.3
West: White Hart Drive														
10	L2	All MCs	126	0.8	126	0.8	0.208	4.6	LOS A	0.0	0.0	0.00	0.17	41.3
11	T1	All MCs	675	0.5	675	0.5	0.208	0.0	LOS A	0.0	0.0	0.00	0.07	45.6
Approach			801	0.5	801	0.5	0.208	0.7	NA	0.0	0.0	0.00	0.09	44.1
All Vehicles			1465	0.6	1465	0.6	0.208	0.9	NA	0.2	1.6	0.03	0.10	44.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

**Site: TCS 4105 [3. White Hart Drive / Civic Way] Network: 2 [MIDDAY (Network Folder: 2025 - MIDDAY (Site Folder: 2025 Existing) Existing Base)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: SCATS TCS 4105 - UGPT

Input Phase Sequence: A, D, E, F, F1

Output Phase Sequence: A, D, E, F, F1

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h	
			veh/h		veh/h					veh	m				
South: Civic Way															
1	L2	All MCs	43	0.0	43	0.0	0.224	26.6	LOS B	1.6	11.5	0.88	0.73	0.88	11.1
2	T1	All MCs	24	0.0	24	0.0	*0.224	38.4	LOS C	1.6	11.5	0.88	0.73	0.88	15.8
3	R2	All MCs	13	0.0	13	0.0	0.224	43.0	LOS D	1.6	11.5	0.88	0.73	0.88	11.1
Approach			80	0.0	80	0.0	0.224	32.8	LOS C	1.6	11.5	0.88	0.73	0.88	12.6
East: White Hart Drive															
4	L2	All MCs	21	0.0	21	0.0	0.260	15.0	LOS B	1.9	13.2	0.87	0.74	0.87	23.6
5	T1	All MCs	191	1.7	191	1.7	0.260	30.1	LOS C	2.2	15.3	0.87	0.71	0.87	19.9
6	R2	All MCs	82	1.3	82	1.3	*0.598	46.8	LOS D	2.1	14.7	1.00	0.80	1.08	17.0
Approach			294	1.4	294	1.4	0.598	33.7	LOS C	2.2	15.3	0.91	0.74	0.93	19.1
North: Civic Way															
7	L2	All MCs	107	1.0	107	1.0	0.576	19.9	LOS B	4.0	28.1	0.94	0.84	0.94	9.7
8	T1	All MCs	36	0.0	36	0.0	*0.576	34.3	LOS C	4.0	28.1	0.94	0.84	0.94	17.1
9	R2	All MCs	295	0.0	295	0.0	0.576	37.3	LOS C	4.8	33.5	0.95	0.82	0.95	8.5
Approach			438	0.2	438	0.2	0.576	32.8	LOS C	4.8	33.5	0.95	0.83	0.95	9.5
West: White Hart Drive															
10	L2	All MCs	116	0.9	116	0.9	0.403	18.7	LOS B	4.3	30.6	0.83	0.74	0.83	17.8
11	T1	All MCs	336	0.9	336	0.9	*0.403	27.9	LOS B	4.4	30.9	0.85	0.72	0.85	13.7
12	R2	All MCs	47	0.0	47	0.0	0.170	37.5	LOS C	1.0	7.1	0.91	0.73	0.91	15.7
Approach			499	0.8	499	0.8	0.403	26.7	LOS B	4.4	30.9	0.85	0.73	0.85	15.1
All Vehicles			1311	0.7	1311	0.7	0.598	30.7	LOS C	4.8	33.5	0.90	0.76	0.90	14.4

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

**Site: TCS 4104 [4. White Hart Drive / Caddies Boulevard - MIDDAY (Site Folder: 2025 Existing)]**    **Network: 2 [MIDDAY (Network Folder: 2025 Existing Base)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 50 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: SCATS TCS 4104 - UGPT

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue Prop.		Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%				[ Veh. veh	Dist ]				
			veh/h		veh/h		v/c	sec		m				km/h	
South: Caddies Boulevard															
1	L2	All MCs	129	1.6	129	1.6	0.331	6.0	LOS A	1.6	11.4	0.76	0.69	0.76	22.5
2	T1	All MCs	176	1.2	176	1.2	*0.331	20.0	LOS B	1.6	11.4	0.86	0.71	0.86	24.1
3	R2	All MCs	1	0.0	1	0.0	0.331	25.8	LOS B	1.4	10.2	0.93	0.72	0.93	17.2
Approach			306	1.4	306	1.4	0.331	14.1	LOS A	1.6	11.4	0.82	0.70	0.82	23.6
East: White Hart Drive															
4	L2	All MCs	6	0.0	6	0.0	0.037	19.5	LOS B	0.2	1.4	0.77	0.59	0.77	19.4
5	T1	All MCs	12	0.0	12	0.0	0.037	14.9	LOS B	0.2	1.4	0.77	0.59	0.77	11.4
6	R2	All MCs	9	0.0	9	0.0	0.027	19.2	LOS B	0.1	0.8	0.77	0.65	0.77	18.3
Approach			27	0.0	27	0.0	0.037	17.4	LOS B	0.2	1.4	0.77	0.61	0.77	16.3
North: Caddies Boulevard															
7	L2	All MCs	7	0.0	7	0.0	0.460	16.0	LOS B	3.4	24.0	0.84	0.73	0.84	16.4
8	T1	All MCs	187	0.0	187	0.0	0.460	10.5	LOS A	3.4	24.0	0.84	0.73	0.84	24.2
9	R2	All MCs	269	0.8	269	0.8	*0.460	25.7	LOS B	3.4	24.0	0.89	0.77	0.89	14.3
Approach			464	0.5	464	0.5	0.460	19.4	LOS B	3.4	24.0	0.87	0.75	0.87	18.5
West: White Hart Drive															
10	L2	All MCs	331	0.6	331	0.6	0.299	9.9	LOS A	2.4	17.1	0.52	0.70	0.52	34.5
11	T1	All MCs	19	0.0	19	0.0	0.037	15.1	LOS B	0.2	1.5	0.77	0.55	0.77	30.1
12	R2	All MCs	195	1.1	195	1.1	*0.465	22.2	LOS B	2.6	18.2	0.89	0.79	0.89	26.1
Approach			544	0.8	544	0.8	0.465	14.5	LOS A	2.6	18.2	0.66	0.73	0.66	30.8
All Vehicles			1342	0.8	1342	0.8	0.465	16.2	LOS B	3.4	24.0	0.77	0.73	0.77	25.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street (1)

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - PM (Site Folder: 2025 Project Case)]

 Network: 9 [PM (Network Folder: 2025 Project Case)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4085 - UGPT (phase reduction applied)

Input Phase Sequence: A, C, D, E, F, G, G2

Output Phase Sequence: A, C, D, E, F, G

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue Prop.		Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%				v/c	sec				[ Veh. veh
South: Windsor Road															
1	L2	All MCs	5	0.0	5	0.0	*0.497	16.7	LOS B	8.8	63.0	0.64	0.61	0.64	38.8
2	T1	All MCs	1629	2.9	1629	2.9	0.497	14.8	LOS B	8.8	63.1	0.63	0.61	0.63	54.2
3	R2	All MCs	502	0.8	502	0.8	*0.637	35.8	LOS C	5.6	39.2	0.96	0.82	0.96	21.6
Approach			2137	2.4	2137	2.4	0.637	19.7	LOS B	8.8	63.1	0.71	0.66	0.71	46.1
East: White Hart Drive															
4	L2	All MCs	233	0.5	233	0.5	0.176	23.6	LOS B	2.3	16.1	0.72	0.73	0.72	28.0
5	T1	All MCs	2	0.0	2	0.0	*0.487	66.2	LOS E	3.7	25.9	0.99	0.78	0.99	9.7
6	R2	All MCs	179	0.0	179	0.0	0.487	70.5	LOS E	3.7	25.9	0.99	0.78	0.99	18.3
Approach			414	0.3	414	0.3	0.487	44.1	LOS D	3.7	25.9	0.84	0.75	0.84	21.9
North: Windsor Road															
7	L2	All MCs	215	0.0	215	0.0	0.155	9.8	LOS A	1.7	11.7	0.25	0.67	0.25	52.7
8	T1	All MCs	1663	2.7	1663	2.7	*0.705	34.1	LOS C	14.6	104.2	0.89	0.89	0.89	38.5
9	R2	All MCs	7	0.0	7	0.0	0.043	72.0	LOS F	0.3	2.0	0.94	0.67	0.94	19.9
Approach			1885	2.3	1885	2.3	0.705	31.4	LOS C	14.6	104.2	0.82	0.86	0.82	38.9
West: Cemetary Boulevard															
10	L2	All MCs	15	0.0	15	0.0	0.073	50.0	LOS D	0.6	4.0	0.91	0.68	0.91	23.1
11	T1	All MCs	2	0.0	2	0.0	0.073	69.6	LOS E	0.6	4.0	0.91	0.68	0.91	8.3
12	R2	All MCs	14	0.0	14	0.0	0.115	73.2	LOS F	0.6	3.9	0.97	0.69	0.97	15.2
Approach			31	0.0	31	0.0	0.115	61.7	LOS E	0.6	4.0	0.94	0.68	0.94	18.4
All Vehicles			4466	2.2	4466	2.2	0.705	27.2	LOS B	14.6	104.2	0.77	0.75	0.77	39.6

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

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ] veh/h	%	[ Total HV ] veh/h	%									v/c
East: White Hart Drive															
5	T1	All MCs	412	0.8	412	0.8	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			412	0.8	412	0.8	0.106	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
North: Tempus Street															
7	L2	All MCs	165	0.0	165	0.0	0.147	5.5	LOS A	0.3	1.9	0.31	0.54	0.31	32.6
Approach			165	0.0	165	0.0	0.147	5.5	LOS A	0.3	1.9	0.31	0.54	0.31	32.6
West: White Hart Drive															
10	L2	All MCs	154	4.1	154	4.1	0.193	4.6	LOS A	0.0	0.0	0.00	0.23	0.00	39.8
11	T1	All MCs	575	1.5	575	1.5	0.193	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	45.0
Approach			728	2.0	728	2.0	0.193	1.0	NA	0.0	0.0	0.00	0.11	0.00	42.7
All Vehicles			1305	1.4	1305	1.4	0.193	1.2	NA	0.3	1.9	0.04	0.13	0.04	41.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Cycle Time)

**Timings based on settings in the Site Phasing & Timing dialog**

**Phase Times determined by the program**

**Downstream lane blockage effects included in determining phase times**

**Phase Sequence: SCATS TCS 4105 - UGPT**

**Input Phase Sequence: A, D, E, F, F1**

**Output Phase Sequence: A, D, E, F, F1**

**Reference Phase: Phase A**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back	Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h	%	veh/h	%					m				
South: Civic Way															
1	L2	All MCs	25	0.0	25	0.0	0.255	31.7	LOS C	1.4	9.8	0.92	0.73	0.92	10.3
2	T1	All MCs	27	0.0	27	0.0	*0.255	38.2	LOS C	1.4	9.8	0.92	0.73	0.92	14.7
3	R2	All MCs	11	0.0	11	0.0	0.255	42.7	LOS D	1.4	9.8	0.92	0.73	0.92	10.3
Approach			63	0.0	63	0.0	0.255	36.3	LOS C	1.4	9.8	0.92	0.73	0.92	12.3
East: White Hart Drive															
4	L2	All MCs	19	0.0	19	0.0	0.203	17.3	LOS B	1.2	8.7	0.86	0.73	0.86	23.8
5	T1	All MCs	139	0.0	139	0.0	0.203	30.2	LOS C	1.6	11.3	0.87	0.70	0.87	19.9
6	R2	All MCs	87	0.0	87	0.0	*0.538	45.0	LOS D	2.2	15.1	1.00	0.78	1.01	17.4
Approach			245	0.0	245	0.0	0.538	34.4	LOS C	2.2	15.1	0.91	0.73	0.92	19.1
North: Civic Way															
7	L2	All MCs	144	0.7	144	0.7	0.391	13.5	LOS A	2.6	18.4	0.83	0.76	0.83	14.6
8	T1	All MCs	38	0.0	38	0.0	0.391	20.9	LOS B	2.6	18.4	0.83	0.76	0.83	23.5
9	R2	All MCs	247	1.3	247	1.3	0.391	28.9	LOS C	4.0	28.4	0.85	0.78	0.85	10.2
Approach			429	1.0	429	1.0	0.391	23.0	LOS B	4.0	28.4	0.84	0.77	0.84	12.6
West: White Hart Drive															
10	L2	All MCs	67	1.6	67	1.6	*0.593	17.7	LOS B	5.0	35.9	0.95	0.80	0.95	12.7
11	T1	All MCs	386	1.9	386	1.9	0.593	35.2	LOS C	5.1	36.2	0.96	0.79	0.96	7.8
12	R2	All MCs	57	1.9	57	1.9	0.357	44.1	LOS D	1.4	9.7	0.98	0.74	0.98	11.9
Approach			511	1.9	511	1.9	0.593	33.9	LOS C	5.1	36.2	0.96	0.79	0.96	9.2
All Vehicles			1248	1.1	1248	1.1	0.593	30.4	LOS C	5.1	36.2	0.91	0.77	0.91	12.9

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site User-Given Cycle Time)

**Timings based on settings in the Site Phasing & Timing dialog**

**Phase Times determined by the program**

**Downstream lane blockage effects included in determining phase times**

**Phase Sequence: SCATS TCS 4104 - UGPT**

**Input Phase Sequence: A, B, C**

**Output Phase Sequence: A, B, C**

**Reference Phase: Phase A**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m			km/h	
South: Caddies Boulevard															
1	L2	All MCs	168	0.0	168	0.0	0.368	7.6	LOS A	2.2	15.5	0.74	0.69	0.74	21.1
2	T1	All MCs	255	2.9	255	2.9	*0.368	17.9	LOS B	2.3	16.5	0.82	0.70	0.82	25.1
3	R2	All MCs	1	0.0	1	0.0	0.368	24.3	LOS B	2.3	16.5	0.86	0.70	0.86	19.6
Approach			424	1.7	424	1.7	0.368	13.8	LOS A	2.3	16.5	0.79	0.69	0.79	23.9
East: White Hart Drive															
4	L2	All MCs	6	0.0	6	0.0	0.031	17.0	LOS B	0.2	1.4	0.71	0.56	0.71	21.2
5	T1	All MCs	13	0.0	13	0.0	0.031	12.4	LOS A	0.2	1.4	0.71	0.56	0.71	12.9
6	R2	All MCs	12	0.0	12	0.0	0.029	16.8	LOS B	0.1	0.9	0.71	0.65	0.71	19.8
Approach			31	0.0	31	0.0	0.031	15.0	LOS B	0.2	1.4	0.71	0.59	0.71	18.0
North: Caddies Boulevard															
7	L2	All MCs	11	0.0	11	0.0	0.371	14.6	LOS B	2.7	19.1	0.74	0.63	0.74	18.6
8	T1	All MCs	192	0.0	192	0.0	0.371	9.3	LOS A	2.7	19.1	0.74	0.63	0.74	28.2
9	R2	All MCs	219	0.0	219	0.0	*0.371	18.5	LOS B	2.7	19.1	0.84	0.72	0.84	17.1
Approach			421	0.0	421	0.0	0.371	14.2	LOS A	2.7	19.1	0.79	0.68	0.79	22.4
West: White Hart Drive															
10	L2	All MCs	363	0.6	363	0.6	0.394	13.1	LOS A	3.4	24.2	0.66	0.75	0.66	31.8
11	T1	All MCs	19	0.0	19	0.0	0.030	12.7	LOS A	0.2	1.4	0.71	0.51	0.71	32.2
12	R2	All MCs	237	3.1	237	3.1	*0.478	19.9	LOS B	3.0	21.4	0.85	0.79	0.85	27.3
Approach			619	1.5	619	1.5	0.478	15.7	LOS B	3.4	24.2	0.74	0.76	0.74	29.9
All Vehicles			1495	1.1	1495	1.1	0.478	14.7	LOS B	3.4	24.2	0.77	0.71	0.77	26.7

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	[ Dist ] m			km/h
East: White Hart Drive														
5	T1	All MCs	412	0.8	412	0.8	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach			412	0.8	412	0.8	0.106	0.0	NA	0.0	0.0	0.00	0.00	50.0
North: Loading Dock														
7	L2	All MCs	13	0.0	13	0.0	0.013	6.0	LOS A	0.0	0.1	0.38	0.56	32.1
Approach			13	0.0	13	0.0	0.013	6.0	LOS A	0.0	0.1	0.38	0.56	32.1
West: White Hart Drive														
10	L2	All MCs	27	0.0	27	0.0	0.192	3.9	LOS A	0.0	0.0	0.00	0.04	43.4
11	T1	All MCs	713	1.2	713	1.2	0.192	0.0	LOS A	0.0	0.0	0.00	0.02	48.4
Approach			740	1.1	740	1.1	0.192	0.1	NA	0.0	0.0	0.00	0.02	47.8
All Vehicles			1164	1.0	1164	1.0	0.192	0.2	NA	0.0	0.1	0.00	0.02	48.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street (1)

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - MIDDAY (Site Folder: 2025 Project Case)]  Network: 10 [MIDDAY (Network Folder: 2025 Project Case)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4085 - UGPT

Input Phase Sequence: A, C, D, E, F, G

Output Phase Sequence: A, C, D, E, F, G

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h	
			veh/h		veh/h					veh	m				
South: Windsor Road															
1	L2	All MCs	20	0.0	20	0.0	*0.515	17.1	LOS B	12.3	87.4	0.65	0.64	0.65	35.0
2	T1	All MCs	1686	2.1	1686	2.1	0.515	18.9	LOS B	12.3	88.0	0.65	0.64	0.65	49.8
3	R2	All MCs	542	0.0	542	0.0	*0.757	40.4	LOS C	7.0	48.7	1.00	0.86	1.05	19.8
Approach			2248	1.6	2248	1.6	0.757	24.1	LOS B	12.3	88.0	0.73	0.69	0.74	42.0
East: White Hart Drive															
4	L2	All MCs	303	0.7	303	0.7	0.250	26.9	LOS B	3.3	23.6	0.77	0.75	0.77	26.1
5	T1	All MCs	7	0.0	7	0.0	*0.719	70.5	LOS E	5.4	37.5	1.00	0.87	1.10	9.3
6	R2	All MCs	241	0.0	241	0.0	0.719	74.8	LOS F	5.4	37.5	1.00	0.87	1.10	17.6
Approach			552	0.4	552	0.4	0.719	48.4	LOS D	5.4	37.5	0.87	0.80	0.92	20.6
North: Windsor Road															
7	L2	All MCs	247	0.0	247	0.0	0.178	9.6	LOS A	1.9	13.3	0.25	0.67	0.25	52.9
8	T1	All MCs	1815	2.8	1815	2.8	*0.765	41.1	LOS C	19.9	142.9	0.92	0.91	0.92	35.6
9	R2	All MCs	1	0.0	1	0.0	0.007	78.0	LOS F	0.0	0.3	0.94	0.60	0.94	19.6
Approach			2063	2.5	2063	2.5	0.765	37.3	LOS C	19.9	142.9	0.84	0.88	0.84	35.4
West: Cemetary Boulevard															
10	L2	All MCs	46	0.0	46	0.0	0.424	75.5	LOS F	2.6	17.9	0.98	1.01	0.98	21.2
11	T1	All MCs	21	0.0	21	0.0	0.424	91.7	LOS F	2.6	17.9	0.98	1.01	0.98	7.6
12	R2	All MCs	44	0.0	44	0.0	0.399	94.5	LOS F	1.8	12.9	0.99	1.00	0.99	15.1
Approach			112	0.0	112	0.0	0.424	86.1	LOS F	2.6	17.9	0.99	1.01	0.99	13.5
All Vehicles			4975	1.8	4975	1.8	0.765	33.7	LOS C	19.9	142.9	0.80	0.79	0.81	35.0

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					veh	m			
East: White Hart Drive														
5	T1	All MCs	528	0.6	528	0.6	0.136	0.0	LOS A	0.0	0.0	0.00	0.00	49.9
Approach			528	0.6	528	0.6	0.136	0.0	NA	0.0	0.0	0.00	0.00	49.9
North: Tempus Street														
7	L2	All MCs	136	0.8	136	0.8	0.130	5.8	LOS A	0.2	1.6	0.37	0.57	32.2
Approach			136	0.8	136	0.8	0.130	5.8	LOS A	0.2	1.6	0.37	0.57	32.2
West: White Hart Drive														
10	L2	All MCs	126	0.8	126	0.8	0.212	4.6	LOS A	0.0	0.0	0.00	0.17	41.4
11	T1	All MCs	691	0.5	691	0.5	0.212	0.0	LOS A	0.0	0.0	0.00	0.07	45.7
Approach			817	0.5	817	0.5	0.212	0.7	NA	0.0	0.0	0.00	0.08	44.2
All Vehicles			1481	0.6	1481	0.6	0.212	0.9	NA	0.2	1.6	0.03	0.10	43.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

**Site: TCS 4105 [3. White Hart Drive / Civic Way] Network: 10 [MIDDAY (Network Folder: 2025 - MIDDAY (Site Folder: 2025 Project Case))]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4105 - UGPT

Input Phase Sequence: A, D, E, F, F1

Output Phase Sequence: A, D, E, F, F1

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back	Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h	%	veh/h	%					m				
South: Civic Way															
1	L2	All MCs	43	0.0	43	0.0	0.305	32.6	LOS C	1.8	12.4	0.93	0.75	0.93	10.0
2	T1	All MCs	24	0.0	24	0.0	*0.305	40.9	LOS C	1.8	12.4	0.93	0.75	0.93	14.5
3	R2	All MCs	13	0.0	13	0.0	0.305	45.4	LOS D	1.8	12.4	0.93	0.75	0.93	10.0
Approach			80	0.0	80	0.0	0.305	37.2	LOS C	1.8	12.4	0.93	0.75	0.93	11.5
East: White Hart Drive															
4	L2	All MCs	21	0.0	21	0.0	0.245	17.0	LOS B	1.8	12.9	0.85	0.73	0.85	23.4
5	T1	All MCs	191	1.7	191	1.7	0.245	29.6	LOS C	2.1	15.0	0.86	0.70	0.86	20.1
6	R2	All MCs	82	1.3	82	1.3	*0.512	44.9	LOS D	2.0	14.3	1.00	0.77	1.00	17.4
Approach			294	1.4	294	1.4	0.512	32.9	LOS C	2.1	15.0	0.90	0.72	0.90	19.4
North: Civic Way															
7	L2	All MCs	107	1.0	107	1.0	0.462	16.9	LOS B	3.6	25.2	0.88	0.81	0.88	11.2
8	T1	All MCs	36	0.0	36	0.0	*0.462	28.1	LOS B	3.6	25.2	0.88	0.81	0.88	19.1
9	R2	All MCs	295	0.0	295	0.0	0.462	32.6	LOS C	4.5	31.2	0.89	0.80	0.89	9.5
Approach			438	0.2	438	0.2	0.462	28.4	LOS B	4.5	31.2	0.89	0.80	0.89	10.7
West: White Hart Drive															
10	L2	All MCs	116	0.9	116	0.9	0.504	19.7	LOS B	5.0	34.9	0.91	0.78	0.91	13.4
11	T1	All MCs	352	0.9	352	0.9	*0.504	33.2	LOS C	5.0	34.9	0.91	0.77	0.91	8.5
12	R2	All MCs	47	0.0	47	0.0	0.255	42.3	LOS C	1.1	7.7	0.96	0.73	0.96	12.2
Approach			515	0.8	515	0.8	0.504	31.0	LOS C	5.0	34.9	0.92	0.77	0.92	10.2
All Vehicles			1326	0.7	1326	0.7	0.512	30.9	LOS C	5.0	34.9	0.90	0.77	0.90	13.1

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

**Site: TCS 4104 [4. White Hart Drive / Caddies Boulevard - MIDDAY (Site Folder: 2025 Project Case)]** **Network: 10 [MIDDAY (Network Folder: 2025 Project Case)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4104 - UGPT

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h	
			veh/h		veh/h					veh	m				
South: Caddies Boulevard															
1	L2	All MCs	129	1.6	129	1.6	0.368	6.1	LOS A	1.7	12.2	0.79	0.71	0.79	21.7
2	T1	All MCs	176	1.2	176	1.2	*0.368	21.2	LOS B	1.7	12.2	0.88	0.72	0.88	23.6
3	R2	All MCs	1	0.0	1	0.0	0.368	27.0	LOS B	1.4	10.2	0.95	0.73	0.95	16.6
Approach			306	1.4	306	1.4	0.368	14.8	LOS B	1.7	12.2	0.84	0.71	0.84	23.0
East: White Hart Drive															
4	L2	All MCs	6	0.0	6	0.0	0.034	18.7	LOS B	0.2	1.4	0.75	0.58	0.75	20.0
5	T1	All MCs	12	0.0	12	0.0	0.034	14.0	LOS A	0.2	1.4	0.75	0.58	0.75	11.8
6	R2	All MCs	9	0.0	9	0.0	0.026	18.3	LOS B	0.1	0.7	0.75	0.64	0.75	18.8
Approach			27	0.0	27	0.0	0.034	16.6	LOS B	0.2	1.4	0.75	0.60	0.75	16.8
North: Caddies Boulevard															
7	L2	All MCs	7	0.0	7	0.0	0.461	16.4	LOS B	3.4	24.0	0.84	0.73	0.84	16.4
8	T1	All MCs	187	0.0	187	0.0	0.461	11.0	LOS A	3.4	24.0	0.84	0.73	0.84	24.2
9	R2	All MCs	269	0.8	269	0.8	*0.461	25.4	LOS B	3.4	24.0	0.89	0.77	0.89	14.3
Approach			464	0.5	464	0.5	0.461	19.5	LOS B	3.4	24.0	0.87	0.75	0.87	18.5
West: White Hart Drive															
10	L2	All MCs	339	0.6	339	0.6	0.296	9.4	LOS A	2.4	16.7	0.50	0.69	0.50	35.0
11	T1	All MCs	19	0.0	19	0.0	0.035	14.3	LOS A	0.2	1.5	0.75	0.53	0.75	30.8
12	R2	All MCs	202	1.0	202	1.0	*0.453	21.3	LOS B	2.6	18.5	0.87	0.78	0.87	26.6
Approach			560	0.8	560	0.8	0.453	13.9	LOS A	2.6	18.5	0.64	0.72	0.64	31.3
All Vehicles			1358	0.8	1358	0.8	0.461	16.0	LOS B	3.4	24.0	0.77	0.73	0.77	25.6

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					veh	m			
East: White Hart Drive														
5	T1	All MCs	528	0.6	528	0.6	0.136	0.0	LOS A	0.0	0.0	0.00	0.00	49.9
Approach			528	0.6	528	0.6	0.136	0.0	NA	0.0	0.0	0.00	0.00	49.9
North: Loading Dock														
7	L2	All MCs	16	0.0	16	0.0	0.018	6.3	LOS A	0.0	0.2	0.41	0.59	31.8
Approach			16	0.0	16	0.0	0.018	6.3	LOS A	0.0	0.2	0.41	0.59	31.8
West: White Hart Drive														
10	L2	All MCs	16	0.0	16	0.0	0.213	3.9	LOS A	0.0	0.0	0.00	0.02	43.8
11	T1	All MCs	811	0.5	811	0.5	0.213	0.0	LOS A	0.0	0.0	0.00	0.01	49.1
Approach			826	0.5	826	0.5	0.213	0.1	NA	0.0	0.0	0.00	0.01	48.7
All Vehicles			1371	0.5	1371	0.5	0.213	0.1	NA	0.0	0.2	0.00	0.01	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - PM (Site Folder: 2035 Future Base)]

 Network: 3 [PM (Network Folder: 2035 Future Base)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4085 - UGCT

Input Phase Sequence: A, C\*, D, E, F, G, G2\*

Output Phase Sequence: A, C\*, D, E, F, G

Reference Phase: Phase A

(\* Variable Phase)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back	Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h		veh/h					veh	m				
South: Windsor Road															
1	L2	All MCs	6	0.0	6	0.0	* 0.589	17.9	LOS B	12.5	90.0	0.68	0.67	0.68	37.0
2	T1	All MCs	1956	2.9	1956	2.9	0.589	16.7	LOS B	12.6	90.2	0.68	0.67	0.68	52.1
3	R2	All MCs	587	0.9	587	0.9	* 0.798	41.5	LOS C	7.5	52.6	1.00	0.87	1.09	19.4
Approach			2549	2.4	2549	2.4	0.798	22.4	LOS B	12.6	90.2	0.75	0.72	0.78	43.7
East: White Hart Drive															
4	L2	All MCs	279	0.4	279	0.4	0.220	24.9	LOS B	2.9	20.2	0.75	0.74	0.75	27.2
5	T1	All MCs	2	0.0	2	0.0	* 0.584	67.0	LOS E	4.5	31.4	1.00	0.79	1.00	9.6
6	R2	All MCs	215	0.0	215	0.0	0.584	71.3	LOS F	4.5	31.4	1.00	0.79	1.00	18.2
Approach			496	0.2	496	0.2	0.584	45.2	LOS D	4.5	31.4	0.86	0.76	0.86	21.6
North: Windsor Road															
7	L2	All MCs	240	0.0	240	0.0	0.176	10.7	LOS A	2.2	15.6	0.29	0.68	0.29	51.1
8	T1	All MCs	1996	2.6	1996	2.6	* 0.825	40.4	LOS C	20.8	148.6	0.95	0.98	0.97	36.2
9	R2	All MCs	8	0.0	8	0.0	0.053	79.8	LOS F	0.3	2.3	0.94	0.67	0.94	19.6
Approach			2244	2.3	2244	2.3	0.825	37.4	LOS C	20.8	148.6	0.88	0.94	0.90	35.5
West: Cemetary Boulevard															
10	L2	All MCs	18	0.0	18	0.0	0.090	51.0	LOS D	0.7	4.8	0.92	0.69	0.92	22.9
11	T1	All MCs	2	0.0	2	0.0	0.090	70.8	LOS F	0.7	4.8	0.92	0.69	0.92	8.2
12	R2	All MCs	17	0.0	17	0.0	0.159	75.0	LOS F	0.7	4.9	0.98	0.69	0.98	14.9
Approach			37	0.0	37	0.0	0.159	63.1	LOS E	0.7	4.9	0.95	0.69	0.95	18.3
All Vehicles			5326	2.2	5326	2.2	0.825	31.1	LOS C	20.8	148.6	0.82	0.82	0.84	37.0

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Queue	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					veh	m			
East: White Hart Drive														
5	T1	All MCs	495	0.9	495	0.9	0.128	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach			495	0.9	495	0.9	0.128	0.0	NA	0.0	0.0	0.00	0.00	50.0
North: Tempus Street														
7	L2	All MCs	198	0.0	198	0.0	0.180	5.6	LOS A	0.3	2.4	0.34	0.55	32.4
Approach			198	0.0	198	0.0	0.180	5.6	LOS A	0.3	2.4	0.34	0.55	32.4
West: White Hart Drive														
10	L2	All MCs	184	4.0	184	4.0	0.223	4.6	LOS A	0.0	0.0	0.00	0.24	39.7
11	T1	All MCs	657	1.6	657	1.6	0.223	0.0	LOS A	0.0	0.0	0.00	0.08	44.8
Approach			841	2.1	841	2.1	0.223	1.0	NA	0.0	0.0	0.00	0.12	42.5
All Vehicles			1534	1.4	1534	1.4	0.223	1.3	NA	0.3	2.4	0.04	0.14	42.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4105 - UGCT

Input Phase Sequence: A, D, E, F, F1

Output Phase Sequence: A, D, E, F, F1

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back	Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Civic Way															
1	L2	All MCs	31	0.0	31	0.0	0.305	29.4	LOS C	1.7	11.8	0.93	0.74	0.93	10.2
2	T1	All MCs	33	0.0	33	0.0	*0.305	40.3	LOS C	1.7	11.8	0.93	0.74	0.93	14.6
3	R2	All MCs	13	0.0	13	0.0	0.305	44.8	LOS D	1.7	11.8	0.93	0.74	0.93	10.2
Approach			76	0.0	76	0.0	0.305	36.7	LOS C	1.7	11.8	0.93	0.74	0.93	12.2
East: White Hart Drive															
4	L2	All MCs	23	0.0	23	0.0	0.278	17.9	LOS B	1.6	11.5	0.90	0.76	0.90	23.0
5	T1	All MCs	166	0.0	166	0.0	0.278	32.6	LOS C	2.0	14.2	0.90	0.73	0.90	19.0
6	R2	All MCs	105	0.0	105	0.0	*0.648	46.1	LOS D	2.7	18.6	1.00	0.84	1.11	17.2
Approach			295	0.0	295	0.0	0.648	36.3	LOS C	2.7	18.6	0.94	0.77	0.98	18.5
North: Civic Way															
7	L2	All MCs	173	0.6	173	0.6	0.512	16.3	LOS B	3.9	27.2	0.88	0.80	0.88	12.5
8	T1	All MCs	45	0.0	45	0.0	*0.512	27.0	LOS B	3.9	27.2	0.88	0.80	0.88	20.9
9	R2	All MCs	297	1.4	297	1.4	0.512	32.1	LOS C	5.1	36.3	0.90	0.81	0.90	9.5
Approach			515	1.0	515	1.0	0.512	26.3	LOS B	5.1	36.3	0.89	0.81	0.89	11.4
West: White Hart Drive															
10	L2	All MCs	81	1.3	81	1.3	0.615	17.9	LOS B	5.8	41.3	0.95	0.80	0.95	15.8
11	T1	All MCs	448	1.9	448	1.9	*0.615	33.6	LOS C	5.9	41.6	0.95	0.80	0.95	11.8
12	R2	All MCs	68	1.5	68	1.5	0.272	39.3	LOS C	1.5	10.8	0.93	0.75	0.93	15.2
Approach			598	1.8	598	1.8	0.615	32.1	LOS C	5.9	41.6	0.95	0.79	0.95	12.9
All Vehicles			1483	1.1	1483	1.1	0.648	31.2	LOS C	5.9	41.6	0.93	0.79	0.93	13.9

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

**Site: TCS 4104 [4. White Hart Drive / Caddies Boulevard - PM (Site Folder: 2035 Future Base)]**

**Network: 3 [PM (Network Folder: 2035 Future Base)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site User-Given Cycle Time)

**Timings based on settings in the Site Phasing & Timing dialog**

**Phase Times determined by the program**

**Downstream lane blockage effects included in determining phase times**

**Phase Sequence: SCATS TCS 4104 - UGCT**

**Input Phase Sequence: A, B, C**

**Output Phase Sequence: A, B, C**

**Reference Phase: Phase A**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m			km/h	
South: Caddies Boulevard															
1	L2	All MCs	202	0.0	202	0.0	0.483	8.3	LOS A	2.9	20.2	0.79	0.72	0.79	19.9
2	T1	All MCs	305	2.8	305	2.8	*0.483	19.7	LOS B	3.0	21.1	0.87	0.74	0.87	24.0
3	R2	All MCs	1	0.0	1	0.0	0.483	27.0	LOS B	3.0	21.1	0.91	0.74	0.91	18.8
Approach			508	1.7	508	1.7	0.483	15.2	LOS B	3.0	21.1	0.84	0.73	0.84	22.8
East: White Hart Drive															
4	L2	All MCs	7	0.0	7	0.0	0.039	17.9	LOS B	0.2	1.7	0.73	0.57	0.73	20.6
5	T1	All MCs	15	0.0	15	0.0	0.039	13.3	LOS A	0.2	1.7	0.73	0.57	0.73	12.4
6	R2	All MCs	14	0.0	14	0.0	0.037	17.6	LOS B	0.1	1.0	0.73	0.66	0.73	19.2
Approach			36	0.0	36	0.0	0.039	15.9	LOS B	0.2	1.7	0.73	0.61	0.73	17.4
North: Caddies Boulevard															
7	L2	All MCs	13	0.0	13	0.0	0.427	14.2	LOS A	3.3	23.3	0.75	0.64	0.75	18.8
8	T1	All MCs	229	0.0	229	0.0	0.427	8.9	LOS A	3.3	23.3	0.75	0.64	0.75	28.4
9	R2	All MCs	263	0.0	263	0.0	*0.427	18.9	LOS B	3.3	23.3	0.85	0.73	0.85	16.9
Approach			505	0.0	505	0.0	0.427	14.3	LOS A	3.3	23.3	0.80	0.69	0.80	22.4
West: White Hart Drive															
10	L2	All MCs	426	0.5	426	0.5	0.444	12.8	LOS A	4.0	28.4	0.67	0.75	0.67	32.1
11	T1	All MCs	23	0.0	23	0.0	0.040	13.5	LOS A	0.2	1.7	0.73	0.53	0.73	31.5
12	R2	All MCs	278	3.0	278	3.0	*0.597	21.6	LOS B	3.7	26.9	0.90	0.82	0.92	26.4
Approach			727	1.4	727	1.4	0.597	16.2	LOS B	4.0	28.4	0.76	0.77	0.76	29.6
All Vehicles			1777	1.1	1777	1.1	0.597	15.3	LOS B	4.0	28.4	0.79	0.73	0.80	26.2

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - MIDDAY (Site Folder: 2035 Future Base)]  Network: 4 [MIDDAY (Network Folder: 2035 Future Base)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site Practical Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4085 - UGCT

Input Phase Sequence: A, B\*, C, D, E, F, G, G1\*, G2\*

Output Phase Sequence: A, C, D, E, F, G

Reference Phase: Phase A

(\* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					m				
South: Windsor Road														
1	L2	All MCs	24	0.0	24	0.0	*0.596	17.2	LOS B	15.7	111.8	0.67	0.67	35.1
2	T1	All MCs	2024	2.1	2024	2.1	0.596	18.8	LOS B	15.8	112.5	0.67	0.67	49.9
3	R2	All MCs	642	0.0	642	0.0	*0.896	52.2	LOS D	10.1	70.5	1.00	1.23	16.2
Approach			2691	1.6	2691	1.6	0.896	26.8	LOS B	15.8	112.5	0.75	0.73	39.9
East: White Hart Drive														
4	L2	All MCs	363	0.6	363	0.6	0.306	28.3	LOS B	4.2	29.6	0.80	0.76	25.4
5	T1	All MCs	8	0.0	8	0.0	*0.934	87.5	LOS F	7.4	51.5	1.00	1.09	7.8
6	R2	All MCs	289	0.0	289	0.0	0.934	91.9	LOS F	7.4	51.5	1.00	1.09	15.1
Approach			661	0.3	661	0.3	0.934	56.9	LOS E	7.4	51.5	0.89	0.91	18.5
North: Windsor Road														
7	L2	All MCs	286	0.0	286	0.0	0.212	13.2	LOS A	2.8	19.4	0.30	0.69	50.8
8	T1	All MCs	2178	2.9	2178	2.9	*0.909	59.2	LOS E	31.4	225.4	1.00	1.09	29.3
9	R2	All MCs	1	0.0	1	0.0	0.008	85.7	LOS F	0.0	0.3	0.95	0.59	19.4
Approach			2465	2.5	2465	2.5	0.909	53.8	LOS D	31.4	225.4	0.92	1.04	28.5
West: Cemetary Boulevard														
10	L2	All MCs	56	0.0	56	0.0	0.572	85.3	LOS F	3.2	22.2	1.00	1.00	20.7
11	T1	All MCs	25	0.0	25	0.0	0.572	100.9	LOS F	3.2	22.2	1.00	1.00	7.3
12	R2	All MCs	53	0.0	53	0.0	0.631	105.1	LOS F	2.3	15.9	1.00	1.04	14.6
Approach			134	0.0	134	0.0	0.631	96.1	LOS F	3.2	22.2	1.00	1.02	12.5
All Vehicles			5951	1.8	5951	1.8	0.934	42.9	LOS D	31.4	225.4	0.84	0.89	30.5

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					veh	m			
East: White Hart Drive														
5	T1	All MCs	635	0.7	635	0.7	0.193	0.0	LOS A	0.0	0.0	0.00	0.00	49.9
Approach			635	0.7	635	0.7	0.193	0.0	NA	0.0	0.0	0.00	0.00	49.9
North: Tempus Street														
7	L2	All MCs	163	0.6	163	0.6	0.163	6.2	LOS A	0.3	2.1	0.41	0.59	31.9
Approach			163	0.6	163	0.6	0.163	6.2	LOS A	0.3	2.1	0.41	0.59	31.9
West: White Hart Drive														
10	L2	All MCs	152	0.7	152	0.7	0.250	4.6	LOS A	0.0	0.0	0.00	0.17	41.3
11	T1	All MCs	811	0.5	811	0.5	0.250	0.0	LOS A	0.0	0.0	0.00	0.07	45.6
Approach			962	0.5	962	0.5	0.250	0.7	NA	0.0	0.0	0.00	0.09	44.1
All Vehicles			1760	0.6	1760	0.6	0.250	1.0	NA	0.3	2.1	0.04	0.10	44.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

**Site: TCS 4105 [3. White Hart Drive / Civic Way] Network: 4 [MIDDAY (Network Folder: 2035 - MIDDAY (Site Folder: 2035 Future Base) Future Base)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4105 - UGCT

Input Phase Sequence: A, B\*, C\*, D, E, F, F1\*, F2\*

Output Phase Sequence: A, D, E, F

Reference Phase: Phase A

(\* Variable Phase)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue Prop.		Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]	Que		km/h	
			veh/h		veh/h					veh	m				
South: Civic Way															
1	L2	All MCs	52	0.0	52	0.0	0.366	33.5	LOS C	2.2	15.1	0.94	0.76	0.94	10.0
2	T1	All MCs	29	0.0	29	0.0	*0.366	40.7	LOS C	2.2	15.1	0.94	0.76	0.94	14.3
3	R2	All MCs	15	0.0	15	0.0	0.366	45.3	LOS D	2.2	15.1	0.94	0.76	0.94	10.0
Approach			96	0.0	96	0.0	0.366	37.5	LOS C	2.2	15.1	0.94	0.76	0.94	11.4
East: White Hart Drive															
4	L2	All MCs	25	0.0	25	0.0	0.280	17.1	LOS B	2.2	15.9	0.85	0.74	0.85	23.4
5	T1	All MCs	229	1.8	229	1.8	0.280	29.3	LOS C	2.5	18.0	0.86	0.71	0.86	20.2
6	R2	All MCs	98	1.1	98	1.1	*0.609	45.7	LOS D	2.4	17.3	1.00	0.81	1.07	17.2
Approach			353	1.5	353	1.5	0.609	33.0	LOS C	2.5	18.0	0.90	0.74	0.92	19.3
North: Civic Way															
7	L2	All MCs	128	0.8	128	0.8	0.555	18.1	LOS B	4.7	32.8	0.91	0.84	0.91	10.5
8	T1	All MCs	43	0.0	43	0.0	*0.555	30.9	LOS C	4.7	32.8	0.91	0.84	0.91	18.2
9	R2	All MCs	354	0.0	354	0.0	0.555	33.9	LOS C	5.5	38.4	0.92	0.82	0.92	9.2
Approach			525	0.2	525	0.2	0.555	29.8	LOS C	5.5	38.4	0.91	0.82	0.91	10.3
West: White Hart Drive															
10	L2	All MCs	139	0.8	139	0.8	0.584	19.9	LOS B	5.9	41.3	0.92	0.80	0.92	16.1
11	T1	All MCs	403	1.0	403	1.0	*0.584	33.8	LOS C	5.9	41.3	0.93	0.79	0.93	12.1
12	R2	All MCs	57	0.0	57	0.0	0.350	44.0	LOS D	1.4	9.6	0.98	0.74	0.98	14.1
Approach			599	0.9	599	0.9	0.584	31.5	LOS C	5.9	41.3	0.94	0.79	0.94	13.4
All Vehicles			1573	0.7	1573	0.7	0.609	31.7	LOS C	5.9	41.3	0.92	0.79	0.92	14.0

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

**Site: TCS 4104 [4. White Hart Drive / Caddies Boulevard - MIDDAY (Site Folder: 2035 Future Base)]**    **Network: 4 [MIDDAY (Network Folder: 2035 Future Base)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 50 seconds (Site User-Given Cycle Time)

**Timings based on settings in the Site Phasing & Timing dialog**

**Phase Times determined by the program**

**Downstream lane blockage effects included in determining phase times**

**Phase Sequence: SCATS TCS 4104 - UGCT**

**Input Phase Sequence: A, B, C**

**Output Phase Sequence: A, B, C**

**Reference Phase: Phase A**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m			km/h	
South: Caddies Boulevard															
1	L2	All MCs	155	1.4	155	1.4	0.394	6.2	LOS A	1.9	13.3	0.78	0.71	0.78	22.6
2	T1	All MCs	211	1.0	211	1.0	*0.394	20.0	LOS B	1.9	13.3	0.87	0.73	0.87	24.0
3	R2	All MCs	1	0.0	1	0.0	0.394	26.1	LOS B	1.7	12.3	0.94	0.74	0.94	17.1
Approach			366	1.1	366	1.1	0.394	14.2	LOS A	1.9	13.3	0.83	0.72	0.83	23.6
East: White Hart Drive															
4	L2	All MCs	7	0.0	7	0.0	0.043	19.6	LOS B	0.2	1.7	0.77	0.60	0.77	19.4
5	T1	All MCs	14	0.0	14	0.0	0.043	14.9	LOS B	0.2	1.7	0.77	0.60	0.77	11.4
6	R2	All MCs	12	0.0	12	0.0	0.034	19.3	LOS B	0.1	0.9	0.77	0.65	0.77	18.3
Approach			33	0.0	33	0.0	0.043	17.5	LOS B	0.2	1.7	0.77	0.62	0.77	16.3
North: Caddies Boulevard															
7	L2	All MCs	8	0.0	8	0.0	0.551	16.4	LOS B	4.3	29.9	0.88	0.76	0.88	16.1
8	T1	All MCs	225	0.0	225	0.0	0.551	10.9	LOS A	4.3	29.9	0.88	0.76	0.88	23.7
9	R2	All MCs	323	0.7	323	0.7	*0.551	26.3	LOS B	4.3	29.9	0.92	0.79	0.92	14.1
Approach			557	0.4	557	0.4	0.551	20.0	LOS B	4.3	29.9	0.90	0.78	0.90	18.2
West: White Hart Drive															
10	L2	All MCs	396	0.5	396	0.5	0.357	10.1	LOS A	3.0	21.4	0.54	0.71	0.54	34.3
11	T1	All MCs	23	0.0	23	0.0	0.046	15.2	LOS B	0.3	1.8	0.78	0.56	0.78	30.1
12	R2	All MCs	234	0.9	234	0.9	*0.561	22.8	LOS B	3.2	22.6	0.92	0.80	0.92	25.8
Approach			653	0.6	653	0.6	0.561	14.8	LOS B	3.2	22.6	0.68	0.74	0.68	30.6
All Vehicles			1608	0.7	1608	0.7	0.561	16.5	LOS B	4.3	29.9	0.80	0.75	0.80	25.2

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - PM (Site Folder: 2035 Future Project)]

 Network: 5 [PM (Network Folder: 2035 Future Project)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4085 - UGCT - Import

Input Phase Sequence: A, C\*, D, E, F, G, G2\*

Output Phase Sequence: A, C\*, D, E, F, G

Reference Phase: Phase A

(\* Variable Phase)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m			km/h	
South: Windsor Road															
1	L2	All MCs	6	0.0	6	0.0	*0.612	18.4	LOS B	13.4	96.4	0.72	0.71	0.72	35.3
2	T1	All MCs	1956	2.9	1956	2.9	0.612	18.7	LOS B	13.5	96.6	0.72	0.71	0.72	50.0
3	R2	All MCs	600	0.9	600	0.9	*0.815	42.3	LOS C	7.6	53.4	1.00	0.88	1.11	19.1
Approach			2562	2.4	2562	2.4	0.815	24.2	LOS B	13.5	96.6	0.78	0.75	0.81	42.1
East: White Hart Drive															
4	L2	All MCs	279	0.4	279	0.4	0.220	24.4	LOS B	2.8	19.6	0.75	0.74	0.75	27.5
5	T1	All MCs	2	0.0	2	0.0	*0.584	67.0	LOS E	4.5	31.4	1.00	0.79	1.00	9.6
6	R2	All MCs	215	0.0	215	0.0	0.584	71.3	LOS F	4.5	31.4	1.00	0.79	1.00	18.2
Approach			496	0.2	496	0.2	0.584	44.9	LOS D	4.5	31.4	0.86	0.76	0.86	21.7
North: Windsor Road															
7	L2	All MCs	255	0.0	255	0.0	0.188	10.8	LOS A	2.4	16.7	0.29	0.69	0.29	51.0
8	T1	All MCs	1996	2.6	1996	2.6	*0.856	45.4	LOS D	22.5	160.9	0.98	1.02	1.03	33.8
9	R2	All MCs	8	0.0	8	0.0	0.049	79.2	LOS F	0.3	2.3	0.94	0.67	0.94	19.9
Approach			2259	2.3	2259	2.3	0.856	41.7	LOS C	22.5	160.9	0.90	0.98	0.95	33.3
West: Cemetary Boulevard															
10	L2	All MCs	18	0.0	18	0.0	0.088	48.4	LOS D	0.7	4.7	0.91	0.69	0.91	23.5
11	T1	All MCs	2	0.0	2	0.0	0.088	70.4	LOS E	0.7	4.7	0.91	0.69	0.91	8.5
12	R2	All MCs	17	0.0	17	0.0	0.159	75.0	LOS F	0.7	4.9	0.98	0.69	0.98	14.9
Approach			37	0.0	37	0.0	0.159	61.8	LOS E	0.7	4.9	0.94	0.69	0.94	18.5
All Vehicles			5354	2.2	5354	2.2	0.856	33.7	LOS C	22.5	160.9	0.84	0.85	0.87	35.4

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Queue	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					m				
East: White Hart Drive														
5	T1	All MCs	495	0.9	495	0.9	0.128	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach			495	0.9	495	0.9	0.128	0.0	NA	0.0	0.0	0.00	0.00	50.0
North: Tempus Street														
7	L2	All MCs	198	0.0	198	0.0	0.183	5.7	LOS A	0.3	2.4	0.36	0.56	32.3
Approach			198	0.0	198	0.0	0.183	5.7	LOS A	0.3	2.4	0.36	0.56	32.3
West: White Hart Drive														
10	L2	All MCs	184	4.0	184	4.0	0.230	4.6	LOS A	0.0	0.0	0.00	0.23	39.8
11	T1	All MCs	684	1.5	684	1.5	0.230	0.0	LOS A	0.0	0.0	0.00	0.08	44.9
Approach			868	2.1	868	2.1	0.230	1.0	NA	0.0	0.0	0.00	0.11	42.7
All Vehicles			1561	1.4	1561	1.4	0.230	1.3	NA	0.3	2.4	0.05	0.13	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4105 - UGCT - Import

Input Phase Sequence: A, D, E, F, F1

Output Phase Sequence: A, D, E, F, F1

Reference Phase: Phase A

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back	Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. veh	Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Civic Way															
1	L2	All MCs	31	0.0	31	0.0	0.305	29.4	LOS C	1.7	11.8	0.93	0.74	0.93	10.2
2	T1	All MCs	33	0.0	33	0.0	*0.305	40.3	LOS C	1.7	11.8	0.93	0.74	0.93	14.6
3	R2	All MCs	13	0.0	13	0.0	0.305	44.8	LOS D	1.7	11.8	0.93	0.74	0.93	10.2
Approach			76	0.0	76	0.0	0.305	36.7	LOS C	1.7	11.8	0.93	0.74	0.93	12.2
East: White Hart Drive															
4	L2	All MCs	23	0.0	23	0.0	0.278	17.9	LOS B	1.6	11.5	0.90	0.76	0.90	23.0
5	T1	All MCs	166	0.0	166	0.0	0.278	32.6	LOS C	2.0	14.2	0.90	0.73	0.90	19.0
6	R2	All MCs	105	0.0	105	0.0	*0.648	46.1	LOS D	2.7	18.6	1.00	0.84	1.11	17.2
Approach			295	0.0	295	0.0	0.648	36.3	LOS C	2.7	18.6	0.94	0.77	0.98	18.5
North: Civic Way															
7	L2	All MCs	173	0.6	173	0.6	0.512	16.3	LOS B	3.9	27.2	0.88	0.80	0.88	12.5
8	T1	All MCs	45	0.0	45	0.0	*0.512	27.0	LOS B	3.9	27.2	0.88	0.80	0.88	20.9
9	R2	All MCs	297	1.4	297	1.4	0.512	32.1	LOS C	5.1	36.3	0.90	0.81	0.90	9.5
Approach			515	1.0	515	1.0	0.512	26.3	LOS B	5.1	36.3	0.89	0.81	0.89	11.4
West: White Hart Drive															
10	L2	All MCs	81	1.3	81	1.3	0.630	17.9	LOS B	6.0	42.4	0.95	0.81	0.95	15.7
11	T1	All MCs	461	1.8	461	1.8	*0.630	33.7	LOS C	6.0	42.8	0.95	0.80	0.95	11.8
12	R2	All MCs	68	1.5	68	1.5	0.272	39.3	LOS C	1.5	10.8	0.93	0.75	0.93	15.2
Approach			611	1.7	611	1.7	0.630	32.2	LOS C	6.0	42.8	0.95	0.80	0.95	12.9
All Vehicles			1496	1.1	1496	1.1	0.648	31.2	LOS C	6.0	42.8	0.93	0.79	0.94	13.9

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

**Site: TCS 4104 [4. White Hart Drive / Caddies Boulevard - PM (Site Folder: 2035 Future Project)]**

**Network: 5 [PM (Network Folder: 2035 Future Project)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site User-Given Cycle Time)

**Timings based on settings in the Site Phasing & Timing dialog**

**Phase Times determined by the program**

**Downstream lane blockage effects included in determining phase times**

**Phase Sequence: SCATS TCS 4104 - UGCT - Import**

**Input Phase Sequence: A, B, C**

**Output Phase Sequence: A, B, C**

**Reference Phase: Phase A**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m			km/h	
South: Caddies Boulevard															
1	L2	All MCs	202	0.0	202	0.0	0.451	8.2	LOS A	2.7	19.2	0.77	0.71	0.77	20.6
2	T1	All MCs	305	2.8	305	2.8	*0.451	18.4	LOS B	2.9	20.7	0.85	0.72	0.85	24.7
3	R2	All MCs	1	0.0	1	0.0	0.451	25.9	LOS B	2.9	20.7	0.88	0.73	0.88	19.4
Approach			508	1.7	508	1.7	0.451	14.4	LOS A	2.9	20.7	0.82	0.72	0.82	23.4
East: White Hart Drive															
4	L2	All MCs	7	0.0	7	0.0	0.037	17.1	LOS B	0.2	1.6	0.71	0.56	0.71	21.2
5	T1	All MCs	15	0.0	15	0.0	0.037	12.5	LOS A	0.2	1.6	0.71	0.56	0.71	12.9
6	R2	All MCs	14	0.0	14	0.0	0.036	16.8	LOS B	0.1	1.0	0.71	0.65	0.71	19.7
Approach			36	0.0	36	0.0	0.037	15.1	LOS B	0.2	1.6	0.71	0.60	0.71	17.9
North: Caddies Boulevard															
7	L2	All MCs	13	0.0	13	0.0	0.469	14.9	LOS B	3.5	24.7	0.78	0.67	0.78	18.3
8	T1	All MCs	229	0.0	229	0.0	0.469	9.6	LOS A	3.5	24.7	0.78	0.67	0.78	27.5
9	R2	All MCs	263	0.0	263	0.0	*0.469	19.8	LOS B	3.5	24.7	0.88	0.74	0.88	16.5
Approach			505	0.0	505	0.0	0.469	15.0	LOS B	3.5	24.7	0.83	0.71	0.83	21.7
West: White Hart Drive															
10	L2	All MCs	434	0.5	434	0.5	0.469	13.5	LOS A	4.3	30.3	0.70	0.77	0.70	31.5
11	T1	All MCs	23	0.0	23	0.0	0.037	12.7	LOS A	0.2	1.7	0.71	0.51	0.71	32.2
12	R2	All MCs	283	3.0	283	3.0	*0.575	20.6	LOS B	3.7	26.6	0.88	0.81	0.88	27.0
Approach			740	1.4	740	1.4	0.575	16.2	LOS B	4.3	30.3	0.77	0.77	0.77	29.6
All Vehicles			1789	1.1	1789	1.1	0.575	15.3	LOS B	4.3	30.3	0.80	0.74	0.80	26.3

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

# USER REPORT FOR NETWORK SITE

 Project: P2502 Tempus Street

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Template: Default Site User Report

 Site: TCS 4085 [1. White Hart Drive / Windsor Road - MIDDAY (Site Folder: 2035 Future Project)]  Network: 6 [MIDDAY (Network Folder: 2035 Future Project)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4085 - UGCT - Import

Input Phase Sequence: A, B\*, C, D, E, F, G, G1\*, G2\*

Output Phase Sequence: A, C, D, E, F, G

Reference Phase: Phase A

(\* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh ]	[ Dist ] m			km/h
South: Windsor Road														
1	L2	All MCs	24	0.0	24	0.0	*0.590	17.4	LOS B	16.6	118.2	0.66	0.66	34.5
2	T1	All MCs	2024	2.1	2024	2.1	0.590	19.5	LOS B	16.7	118.9	0.66	0.66	49.2
3	R2	All MCs	649	0.0	649	0.0	*0.904	56.1	LOS D	11.1	77.6	1.00	1.22	15.3
Approach			2698	1.6	2698	1.6	0.904	28.3	LOS B	16.7	118.9	0.74	0.72	38.8
East: White Hart Drive														
4	L2	All MCs	363	0.6	363	0.6	0.307	30.3	LOS C	4.6	32.1	0.80	0.77	24.4
5	T1	All MCs	8	0.0	8	0.0	*0.924	90.6	LOS F	7.7	54.1	1.00	1.07	7.6
6	R2	All MCs	289	0.0	289	0.0	0.924	94.9	LOS F	7.7	54.1	1.00	1.07	14.7
Approach			661	0.3	661	0.3	0.924	59.4	LOS E	7.7	54.1	0.89	0.90	17.9
North: Windsor Road														
7	L2	All MCs	295	0.0	295	0.0	0.166	9.8	LOS A	0.7	5.0	0.06	0.63	57.2
8	T1	All MCs	2178	2.9	2178	2.9	*0.900	59.2	LOS E	32.9	235.7	1.00	1.07	29.5
9	R2	All MCs	1	0.0	1	0.0	0.008	91.8	LOS F	0.0	0.3	0.94	0.60	18.6
Approach			2474	2.5	2474	2.5	0.900	53.3	LOS D	32.9	235.7	0.89	1.02	28.6
West: Cemetary Boulevard														
10	L2	All MCs	56	0.0	56	0.0	0.574	93.8	LOS F	3.4	23.8	1.00	1.00	19.8
11	T1	All MCs	25	0.0	25	0.0	0.574	110.6	LOS F	3.4	23.8	1.00	1.00	6.9
12	R2	All MCs	53	0.0	53	0.0	0.639	114.1	LOS F	2.4	17.0	1.00	1.04	14.0
Approach			134	0.0	134	0.0	0.639	105.0	LOS F	3.4	23.8	1.00	1.02	11.6
All Vehicles			5966	1.8	5966	1.8	0.924	43.8	LOS D	32.9	235.7	0.83	0.87	30.1

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h
			veh/h		veh/h					veh	m			
East: White Hart Drive														
5	T1	All MCs	635	0.7	635	0.7	0.204	0.0	LOS A	0.0	0.0	0.00	0.00	49.9
Approach			635	0.7	635	0.7	0.204	0.0	NA	0.0	0.0	0.00	0.00	49.9
North: Tempus Street														
7	L2	All MCs	163	0.6	163	0.6	0.165	6.2	LOS A	0.3	2.1	0.41	0.60	31.9
Approach			163	0.6	163	0.6	0.165	6.2	LOS A	0.3	2.1	0.41	0.60	31.9
West: White Hart Drive														
10	L2	All MCs	152	0.7	152	0.7	0.254	4.6	LOS A	0.0	0.0	0.00	0.17	41.4
11	T1	All MCs	826	0.5	826	0.5	0.254	0.0	LOS A	0.0	0.0	0.00	0.07	45.7
Approach			978	0.5	978	0.5	0.254	0.7	NA	0.0	0.0	0.00	0.08	44.2
All Vehicles			1776	0.6	1776	0.6	0.254	1.0	NA	0.3	2.1	0.04	0.10	44.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

**Site: TCS 4105 [3. White Hart Drive / Civic Way] Network: 6 [MIDDAY (Network Folder: 2035 - MIDDAY (Site Folder: 2035 Future Project)) Future Project]]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: SCATS TCS 4105 - UGCT - Import

Input Phase Sequence: A, B\*, C\*, D, E, F, F1\*, F2\*

Output Phase Sequence: A, D, E, F

Reference Phase: Phase A

(\* Variable Phase)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue Prop.		Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]	Que		km/h	
			veh/h		veh/h					veh	m				
South: Civic Way															
1	L2	All MCs	52	0.0	52	0.0	0.366	33.5	LOS C	2.2	15.1	0.94	0.76	0.94	10.0
2	T1	All MCs	29	0.0	29	0.0	*0.366	40.7	LOS C	2.2	15.1	0.94	0.76	0.94	14.3
3	R2	All MCs	15	0.0	15	0.0	0.366	45.3	LOS D	2.2	15.1	0.94	0.76	0.94	10.0
Approach			96	0.0	96	0.0	0.366	37.5	LOS C	2.2	15.1	0.94	0.76	0.94	11.4
East: White Hart Drive															
4	L2	All MCs	25	0.0	25	0.0	0.280	17.1	LOS B	2.2	15.9	0.85	0.74	0.85	23.4
5	T1	All MCs	229	1.8	229	1.8	0.280	29.3	LOS C	2.5	18.0	0.86	0.71	0.86	20.2
6	R2	All MCs	98	1.1	98	1.1	*0.609	45.7	LOS D	2.4	17.3	1.00	0.81	1.07	17.2
Approach			353	1.5	353	1.5	0.609	33.0	LOS C	2.5	18.0	0.90	0.74	0.92	19.3
North: Civic Way															
7	L2	All MCs	128	0.8	128	0.8	0.555	18.1	LOS B	4.7	32.8	0.91	0.84	0.91	10.5
8	T1	All MCs	43	0.0	43	0.0	*0.555	30.9	LOS C	4.7	32.8	0.91	0.84	0.91	18.2
9	R2	All MCs	354	0.0	354	0.0	0.555	33.9	LOS C	5.5	38.4	0.92	0.82	0.92	9.2
Approach			525	0.2	525	0.2	0.555	29.8	LOS C	5.5	38.4	0.91	0.82	0.91	10.3
West: White Hart Drive															
10	L2	All MCs	139	0.8	139	0.8	0.602	20.2	LOS B	6.1	43.0	0.94	0.81	0.94	15.8
11	T1	All MCs	419	1.0	419	1.0	*0.602	34.2	LOS C	6.1	43.0	0.94	0.80	0.94	12.0
12	R2	All MCs	57	0.0	57	0.0	0.350	44.0	LOS D	1.4	9.6	0.98	0.74	0.98	14.1
Approach			615	0.9	615	0.9	0.602	31.9	LOS C	6.1	43.0	0.94	0.79	0.94	13.2
All Vehicles			1588	0.7	1588	0.7	0.609	31.8	LOS C	6.1	43.0	0.92	0.79	0.93	14.0

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

**Site: TCS 4104 [4. White Hart Drive / Caddies Boulevard - MIDDAY (Site Folder: 2035 Future Project)]**    **Network: 6 [MIDDAY (Network Folder: 2035 Future Project)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 50 seconds (Site User-Given Cycle Time)

**Timings based on settings in the Site Phasing & Timing dialog**

**Phase Times determined by the program**

**Downstream lane blockage effects included in determining phase times**

**Phase Sequence: SCATS TCS 4104 - UGCT - Import**

**Input Phase Sequence: A, B, C**

**Output Phase Sequence: A, B, C**

**Reference Phase: Phase A**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ]			km/h	
			veh/h		veh/h					veh	m				
South: Caddies Boulevard															
1	L2	All MCs	155	1.4	155	1.4	0.394	6.2	LOS A	1.9	13.3	0.78	0.71	0.78	22.6
2	T1	All MCs	211	1.0	211	1.0	*0.394	20.0	LOS B	1.9	13.3	0.87	0.73	0.87	24.0
3	R2	All MCs	1	0.0	1	0.0	0.394	26.1	LOS B	1.7	12.3	0.94	0.74	0.94	17.1
Approach			366	1.1	366	1.1	0.394	14.2	LOS A	1.9	13.3	0.83	0.72	0.83	23.6
East: White Hart Drive															
4	L2	All MCs	7	0.0	7	0.0	0.043	19.6	LOS B	0.2	1.7	0.77	0.60	0.77	19.4
5	T1	All MCs	14	0.0	14	0.0	0.043	14.9	LOS B	0.2	1.7	0.77	0.60	0.77	11.4
6	R2	All MCs	12	0.0	12	0.0	0.035	19.3	LOS B	0.1	0.9	0.77	0.65	0.77	18.3
Approach			33	0.0	33	0.0	0.043	17.5	LOS B	0.2	1.7	0.77	0.62	0.77	16.3
North: Caddies Boulevard															
7	L2	All MCs	8	0.0	8	0.0	0.551	16.4	LOS B	4.3	29.9	0.88	0.76	0.88	16.1
8	T1	All MCs	225	0.0	225	0.0	0.551	10.9	LOS A	4.3	29.9	0.88	0.76	0.88	23.7
9	R2	All MCs	323	0.7	323	0.7	*0.551	26.3	LOS B	4.3	29.9	0.92	0.79	0.92	14.1
Approach			557	0.4	557	0.4	0.551	20.0	LOS B	4.3	29.9	0.90	0.78	0.90	18.2
West: White Hart Drive															
10	L2	All MCs	404	0.5	404	0.5	0.365	10.1	LOS A	3.1	22.0	0.55	0.71	0.55	34.3
11	T1	All MCs	23	0.0	23	0.0	0.046	15.2	LOS B	0.3	1.8	0.78	0.56	0.78	30.1
12	R2	All MCs	241	0.9	241	0.9	*0.578	22.9	LOS B	3.3	23.5	0.92	0.81	0.93	25.7
Approach			668	0.6	668	0.6	0.578	14.9	LOS B	3.3	23.5	0.69	0.74	0.69	30.5
All Vehicles			1624	0.6	1624	0.6	0.578	16.5	LOS B	4.3	29.9	0.80	0.75	0.80	25.3

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.