Colliers

Transport Engineering Report

Proposed Child Care Centre

At 241-249 Bridge Street, Newton

On behalf of Development Holdings Pty Ltd

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Revision Record

No.	Author	Reviewed/Approved	Description	Date
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3.				
4.				

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1 Introduction

1.1. Purpose

Colliers International Engineering and Design (TTMC) Pty Ltd has been engaged by Development Holdings Pty Ltd to prepare a Transport Engineering Report (TER) investigating a proposed childcare centre at 241-249 Bridge Street in Newtown. It is understood that this report will accompany a Development Application (DA) to be lodged with the Toowoomba Regional Council ('Council').

A copy of the development plans, provided by ON ARCHITECTURE, is included in **Appendix A**.

1.2. Scope

This report examines the transport-related aspects of the proposed development. The scope of the investigation includes the following:

- Reviewing the prevailing traffic and transport conditions surrounding the site.
- Identifying the car parking supply required to cater for development demands.
- Assessing the parking layout, to provide efficient and safe internal circulation and manoeuvring.
- Assessing the access and servicing arrangements.
- Identification of likely traffic volumes and traffic distribution from the development.

To assess the proposed transport arrangements, the development plans have been assessed against the following guidelines and planning documents:

- Toowoomba Regional Council (TRC) Planning Scheme Version 28 (v28.0)
  - Section 9.4.6 Transport, Access and Parking Code
- Australian Standards AS2890 series.
- Guide to Transport Impact Assessment - Technical guidance for transport practitioners (TS 00085 Version 1.1)

2. Site Location

The subject site comprises of three lots, situated on the corner of the Hillview Avenue and Brim Street intersections with Bridge Street, at 241-249 Bridge Street in Newtown, as shown in Figure 2-1 and Figure 2-2.

The site has road frontages to Hillview Avenue to the west, Bridge Street to the south and Brim Street to the east. The property description is Lot 1 on RP51161, Lot 2 on RP60061 and Lot 1 on RP17060.

Figure 2-1: Site location in relation to the surrounding road environment

Figure 2-2: Location of site in relation to surrounding road network (Source: Nearmap, 2026)

The site occupies a range of land uses, including two residential dwellings at the western end and commercial premises (a hair salon and convenience store) in the central and eastern portions. Vehicle access is currently provided via two (2) access points on Hillview Avenue and Brim Street, respectively. No vehicle access is currently provided from Bridge Street.

The site is zoned '*Low Density Residential*' and has a total area of 2,730 m^2.

3. Site Travel Environment

3.1. The Road Network

3.1.1. Road Hierarchy

The hierarchy and characteristics of roads in the immediate vicinity of the site are shown in Table 3-1.

Table 3-1: Road Network Hierarchy

Road	Speed Limit (km/h)	Road Reserve Width (m) (Approx.)	Lanes	Carriageway width (m) approx.	Classification (Council Controlled)
Hillview Avenue	50km/h*	14.8m	Two-way carriageway, undivided, kerbside parking permitted on both sides, excluding near the intersection with Bridge Street, no line marking	7.3m	Local Road
Brim Street	50km/h*	12.6m	Two-way carriageway, undivided, kerbside parking permitted on both sides, no line marking	6.8m	Local Road
Bridge Street	60km/h	18.5m	2 lanes in each direction (total 4 lanes), divided by centerline	14.0m	Regional Arterial

*Default speed limit on unsigned roads in built-up areas in Queensland.

The Hillview Avenue / Edmund Street / Bridge Street intersection operates as a priority-controlled (Stop) crossroad intersection with the staggered side approaches.

The intersection of Brim Street and Bridge Street operates as an uncontrolled intersection (no formal signs and line marking) with priority afforded to vehicles along Bridge Street.

3.1.2. Existing Traffic Volumes

Colliers have conducted traffic surveys at the Hillview Avenue / Edmund Street / Bridge Street intersection on Tuesday, 21st April 2026, during the morning (6:00-10:00 am) and afternoon (2:00-6:00 pm) peak hours. From this data, the weekday AM and PM peak hour periods for the above-mentioned intersection were determined to be:

- AM peak: 7:45-8:45 am
- PM Peak: 3:00-4:00 pm

The above peak periods are expected to be influenced by school trips and also align with the expected peak operation of a child care centre. A summary of the morning and afternoon peak hour (vehicles per hour (vph)) traffic volumes at the Hillview Avenue / Edmund Street / Bridge Street intersection are shown in Figure 3-1 below.

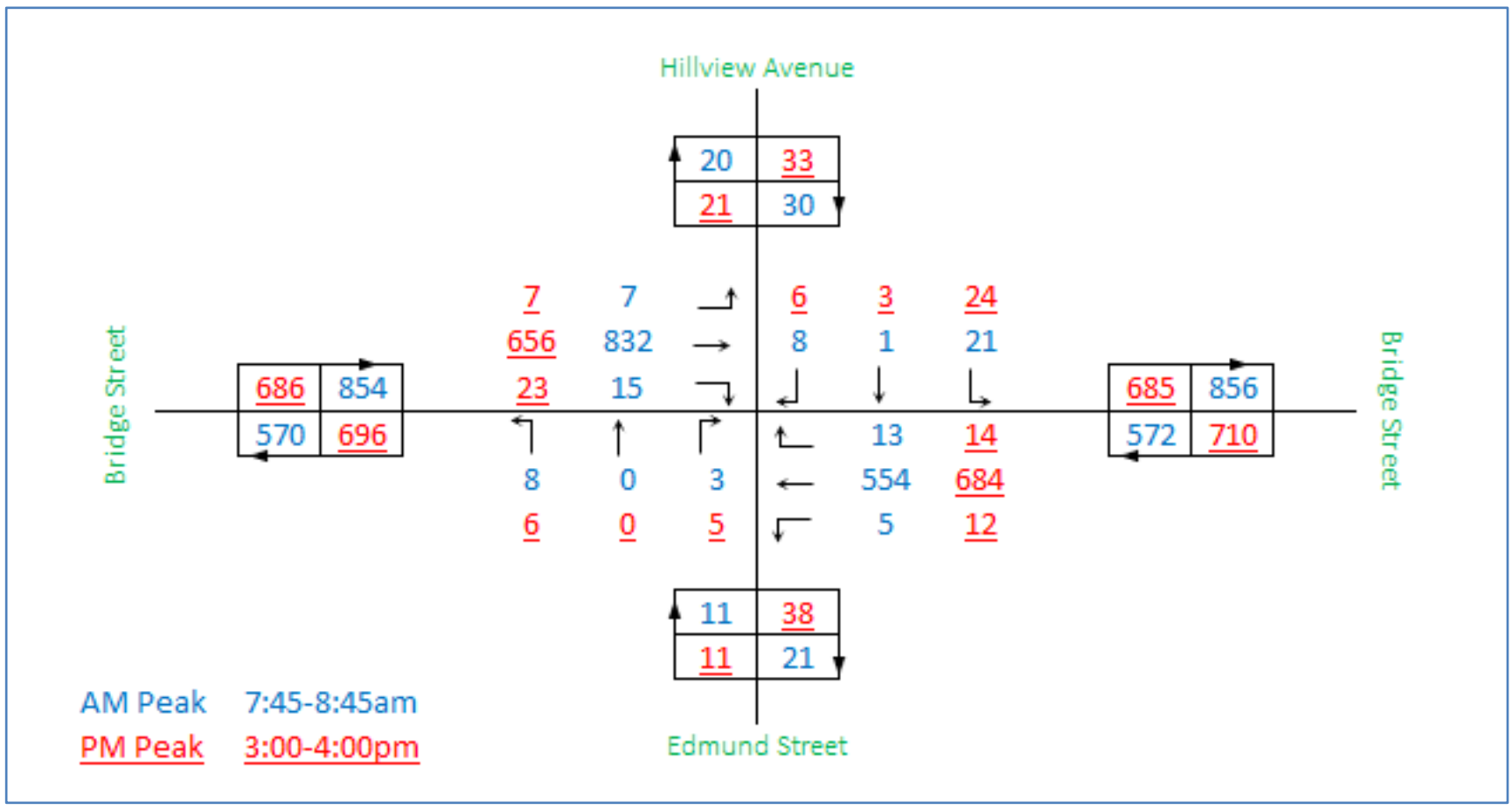


Figure 3-1: Existing Survey Volumes (April 2026)

A copy of the traffic count data has been included in **Appendix B**.

3.1.3. Existing Road Network Performance

To evaluate the existing road network performance, modelling of the Hillview Avenue / Edmund Street / Bridge Street intersection was conducted using the SIDRA Intersection 10.0 software package.

The primary performance measures used to determine the operational performance of intersections were intersection Degree of Saturation (DOS), overall intersection and worst movement average delays, Level of Service (LOS) and queuing.

A summary of the SIDRA analysis using the existing surveyed volumes and the standard SIDRA parameters is included in Table 3-2. It is noted that a bunching factor of 20% has been applied on the eastern leg only, given the proximity to the intersection with West Street (signalised).

Table 3-2: Surrounding Road Network Existing Performance – SIDRA Results Summary

Scenario	DOS	Average Delay		LOS	95th Percentile Critical Queue (m)			
		Overall	Worst Movement		South	East	North	West
2026 AM Peak Hour	24%	1 sec	71.0 sec (LOS F)		2m	2m	4m	2m
2026 PM Peak Hour	20%	1 sec	58.0 sec (LOS F)		2m	2m	3m	3m

Based on the above assessment, the existing intersection currently operates well below capacity with a maximum degree of saturation of 24% during the morning peak hour and most movements operating at LOS

A or B. This excludes the right turn movements occurring on the side approaches which operate at LOS F with average delays up to 70 seconds during the morning peak hour and LOS E/F during the evening peak hour (average delays of 60 seconds). Notably, SIDRA modelling indicates that under the current intersection configuration, even a single right turn movement from the side roads operates at LOS F. These results are corroborated by field observations, which revealed instances of extended delay and vehicles rerouting to avoid right turns. Further details relating to the performance of the intersection are outlined in Section 7 below.

A copy of the SIDRA movement summaries is provided in **Appendix C**.

3.2. Transport Planning

A review of the Toowoomba Regional Planning Scheme v28 Local Government Infrastructure Plan (LGIP) maps confirms that Bridge Street is identified as an Existing Trunk Road. It is understood that there are no works proposed along this corridor in the vicinity of the site which will impact upon or be impacted by the proposed development.

3.3. Public transport Provisions

A pair of bus stops are located within a 60 m (1-minute) walking distance to the west of the site on Bridge Street. These stops service Route 907, connecting Wilsonton Heights to UniSQ via City including stops at Wilsonton and Clifford Gardens Shopping centre's (SC), Toowoomba bus station, Grand Central SC and Toowoomba Plaza. This route operates at 30–35-minute frequencies during the weekday peak hours with hourly off-peak and weekend (Saturday) frequencies.

3.4. Active Mode Provisions

With reference to Walk Score website, the Newtown suburb is identified as the 4th most walkable neighbourhood in Toowoomba.

Pedestrian footpaths are provided along both sides of Bridge Street (near the vicinity of the site) and along the western side of Hillview Avenue (opposite the site).

There are no formal cycle paths provided near the vicinity of the site along Bridge Street, however, bike boxes are provided on all approaches at the intersection of West Street and Bridge Street.

4. The Proposed Development

The proposal intends to construct a childcare development at the subject site, catering for a total of 123 children and 20 staff.

This assessment is based on the architectural development plans prepared by ON Architecture and civil plans prepared by RECOR. A copy of these plans is included in **Appendix A**.

4.1. Access

Vehicle access to the site is proposed via a single 6.2m wide (two-way) crossover on Hillview Avenue, connecting to an at-grade carpark extending east into the site. No vehicle access is proposed via Brim Street and/or Bridge Street, respectively, thereby reducing the number of crossovers along the road frontages.

Pedestrian access to the site will be provided via a separate connection, located directly south of the crossover.

Further details regarding the proposed access arrangements are included in **Section 8**.

4.2. Parking

The development proposal includes a parking supply of 37 spaces, including:

- 19 x 2.4-2.6m wide 'STAFF' spaces, including 13 spaces in tandem configuration
- 18 x 2.6m wide standard spaces to serve as a dual purpose for Staff and Visitors (on an as-needed basis)
- One (1) PWD bay
- A turnaround bay for visitors when the carpark is full

Further details regarding the proposed car parking provisions are included in **Section 9**.

4.3. Servicing

No formal loading provisions are provided to the subject site, nor is any required. In this regard, the largest design vehicle anticipated to access the site is a refuse collection vehicle (RCV), with all waste collection proposed to occur on-site.

General refuse collection is proposed to occur on weekends using Council's 10.19 m Overhead Loader (OHL) RCV, while more frequent (daily) collections, such as nappy waste, are expected to occur using a Small Rigid Vehicle (SRV). During weekdays, servicing vehicles are expected to utilise visitor parking spaces when manoeuvring to and from the site. On weekends, the car park is anticipated to be vacant, allowing the OHL RCV to utilise the full parking area for manoeuvring.

All servicing vehicles are anticipated to enter and exit the site in a forward gear.

Further details regarding the servicing arrangements are provided in **Section 10** and the Operational Waste Management Plan.

5. Development Transport Demands

5.1. Existing Site Traffic Demands

The site currently comprises two (2) residential dwellings located at the western end, a commercial premises (dog grooming salon) within the central portion, and a former convenience store at the eastern end.

It is noted that the convenience store appears to be closed, with access previously provided solely via Brim Street. As such, all movements associated with this use were assumed to occur at the Brim Street / Bridge Street intersection.

For the purpose of this assessment, the existing commercial premises (dog grooming salon) is estimated to generate an average of 4 - 6 vph during the peak periods.

In relation to the existing residential land use and with reference to the Transport for NSW South Wales 'Guide to Transport Impact Assessment' (TfNSW GTIA) 2024, the following trip generation rates apply for a '*low density residential dwelling'*:

- AM Peak Hour: 0.83vph per dwelling
- PM Peak Hour: 0.84vph per dwelling

Based on the above rates, the existing dwellings are expected to generate 2 vph during the morning and afternoon peak hours, respectively.

Based on the above, the subject site is estimated to generate in the order of 6-8 vph during the AM and PM peak hours. Given that vehicle access to these sites is provided via both Brim Street and Hillview Avenue, it is anticipated that the existing volumes are evenly split between these intersections (up to 4 vph at each intersection).

5.2. Development Traffic Demands

5.2.1. Traffic Generation

To estimate the traffic generation expectations of the proposed development, reference is made to the TfNSW GTIA. This indicates the following traffic generation rates should be adopted for childcare development during the network peak hour:

- Weekday AM peak hour: 0.81 vph per child.
- Weekday PM peak hour: 0.80 vph per child.
- Daily: 2.97 vpd per child.

5.2.2. Directional Splits

Directional splits are estimated to be as follows, in line with generally accepted traffic engineering practice and the nature of the land use's typical operations:

- Weekday AM peak hour: 50% inbound / 50% outbound.
- Weekday PM peak hour: 50% inbound / 50% outbound.

Application of the above generation rates and directional splits would result in proposed development traffic demand estimates as shown in Table 5-1.

Table 5-1: Traffic Generation Estimate

Land Use	Yield	Generation Rate per licensed child care place	AM Peak Hour			PM Peak Hour			Daily Traffic
			In	Out	Total	In	Out	Total	
Child Care Development	123 places	AM peak hour - 0.81vph PM peak hour - 0.80vph Daily - 2.97	50vph	50vph	100vph	49vph	49vph	98vph	366vpd
Total			50vph	50vph	100vph	49vph	49vph	98vph	366vpd

Based on the above, the development volumes are expected to be in the order of 100 vph and 98 vph during the morning peak hour and afternoon peak hour, respectively. As outlined above, the existing site is expected to generate up to 8 vph therefore, the additional development volumes are expected to be in the order of 90-92 vph.

Considering the surrounding locality, it is anticipated that approximately 10% of the additional development traffic will comprise pass-by trips, associated with existing through traffic along Bridge Street.

5.2.3. Trip Distribution

Vehicle access to the site is proposed via Hillview Avenue only. Accordingly, Colliers has undertaken an assessment of the nearby Hillview Avenue / Bridge Street / Edmund Street intersection, as detailed in the sections below.

The proposed traffic distribution has been developed based on a review of the surrounding road network and observed survey data collected at the Hillview Avenue / Bridge Street / Edmund Street intersection. Analysis of existing traffic movements indicates that approximately 30% of vehicles (on average) accessing the site are expected to originate from the west, with the remaining 70% from the east.

Traffic distribution has been included in **Appendix B**. It is noted that no site-generated traffic is expected to access or egress via Edmund Street, due to the availability of more convenient connections and the existing delays associated with movements to and from this road – noting that no through movements were recorded from Edmund Street to Hillview Avenue during the peak hours.

6. Future Traffic Demands

6.1. Assessment Years and Traffic Growth

The applicant has indicated that the targeted completion date for the development is 2028. On this basis, the following assessment years have been considered:

- Opening Year (Full Completion): 2028
- Design Horizon (Opening + 10 years): 2038

To assess future traffic demands at 2028 and 2038, a compound annual growth rate (CAGR) of 0.94% has been applied to the through volumes along Bridge Street to determine the base traffic volumes in line with Table SC3.1:9 (Existing and projected demand for the transport demand) of Council's PSP.

6.2. Future Year Scenarios

The following future year scenarios have been derived for the purposes of the TIA:

- 2028/2038 Base Case Scenario
- 2028/2038 Base + Development Case Scenario

Appendix B outlines the existing survey volumes and estimated volumes at the Hillview Avenue / Bridge Street / Edmund Street intersection during the morning and afternoon peak hours, without and with the proposed development volumes.

7. Traffic Impact Assessment

An assessment of the Hillview Avenue / Bridge Street / Edmund Street intersection has been undertaken for the Opening Year (2028) and 10-Year Design Horizon (2038) scenarios outlined above using SIDRA Intersection 10.0 software package, with and without the proposed development volumes.

It is noted that the proposed development will remove all access from Brim Street. It is expected that this will remove a small quantum of traffic from the Brim Street/Bridge Street intersection. This impact is not part of the detailed impact of the proposed development. However, it is noted that the removal of this traffic will have a benefit to the operating road environment, particularly noting that the Brim Street intersection is closer to the signalised intersection to the east, compared to the Hillview Avenue intersection.

Figure 7-1 shows the configuration of the Hillview Avenue / Bridge Street / Edmund Street intersection adopted in the SIDRA analysis.

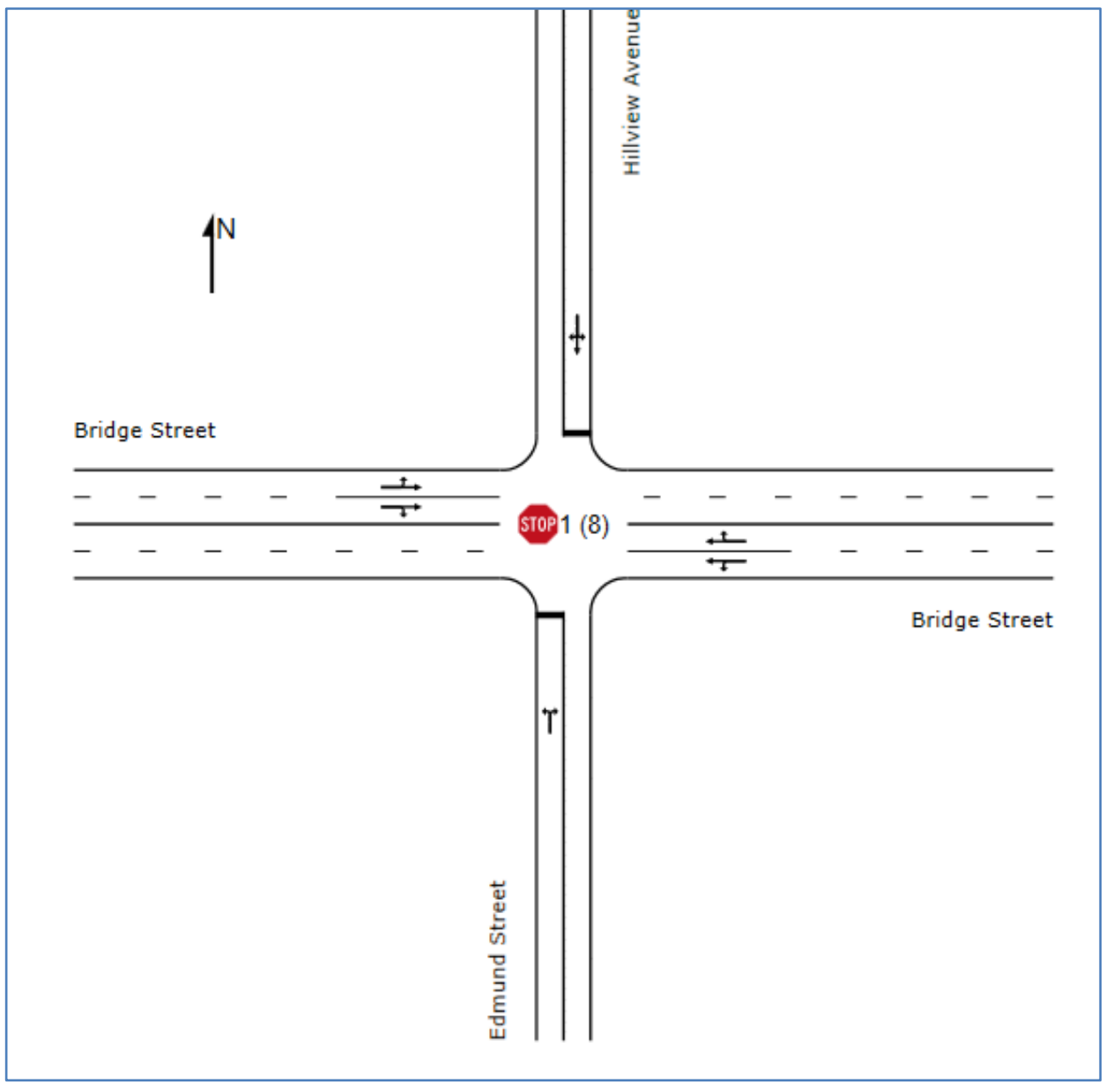


Figure 7-1: Hillview Avenue / Bridge Street / Edmund Street intersection– SIDRA Layout

The results of the SIDRA analysis under the 2028 and 2038 Base + Development scenarios are summarised in Table 7-1 below. Detailed SIDRA output data is also included in **Appendix C**. It is noted that the practical degree of saturation for a priority-controlled intersection is 0.8.

Table 7-1: Hillview Avenue / Bridge Street / Edmund Street Intersection – SIDRA Results Summary

Scenario	DOS	Average Delay		95th Percentile Critical Queue (m)			
		Overall	Worst Movement	South	West	North	West
AM							
2026 Existing	24%	1 sec	71 sec (LOS F)	2m	2m	4m	2m
2028 Base	24%	1 sec	75 sec (LOS F)	2m	2m	4m	2m
2028 Base + Dev	53%	3 sec	92 sec (LOS F)	2m	7m	15m	2m
2038 Base	27%	2 sec	104 sec (LOS F)	2m	3m	6m	2m
2038 Base + Dev	71%	4 sec	136 sec (LOS F)	2m	8m	22m	2m
PM							
2026 Existing	20%	1 sec	58 sec (LOS F)	2m	2m	3m	3m
2028 Base	20%	1 sec	61 sec (LOS F)	2m	2m	3m	3m
2028 Base + Dev	43%	3 sec	77 sec (LOS F)	2m	5m	13m	3m
2038 Base	22%	2 sec	80 sec (LOS F)	2m	2m	4m	4m
2038 Base + Dev	57%	4 sec	107 sec (LOS F)	3m	6m	17m	4m

Based on the above assessment, the intersection is expected to operate below capacity in all assessment years with a maximum degree of saturation of 71% and 57% during the morning and evening peak hour, respectively. Consistent with the performance outlined in Section 3, the majority of movements are expected to operate at acceptable levels of service (LOS A, B or D). The only exceptions are the right-turn and through movements from the side roads, which are assessed to operate at LOS F under both existing and future conditions, independent of the proposed development.

Importantly, while average delays for these movements are estimated to be approximately two (2) minutes per vehicle (136 seconds) in the 10-year design horizon (with development), they remain within the practical operating limits of a priority-controlled intersection, with a degree of saturation (DoS) not exceeding 71%.

Importantly, the surrounding road network forms a grid-like network, allowing alternative connections to the wider area to the north, west and east with an additional travel time in the order of 1-minute. It is therefore reasonable to assume that as the Bridge Street volumes increase and the delay for the right turn/through manoeuvre increases during peak periods, drivers will naturally redistribute to these alternative routes. This behaviour is expected to occur regardless of the proposed development and would be expected from vehicles already operating in the Hillview Ave catchment. Moreover, survey footage at the intersection indicates that eastbound vehicles along Bridge Street queue past this intersection (presumably from the intersection with

West Street). This allows drivers to provide gaps for right-turn and through traffic from Hillview Avenue thereby offering minimum departure rates.

On this basis, the proposed development is not expected to fundamentally change the performance of the local road network and therefore no further mitigation is considered necessary.

That said, the development will allow for a corner truncation (3m x 3m) at both intersections with Bridge Street on the site frontage. This will significantly improve sight distances at the intersection to approaching vehicles and pedestrians operating in the area, While not assisting with capacity, these arrangements will improve the safety for vehicles operating at the site frontage.

Additionally, a 1.5m wide pedestrian footpath will be constructed along the eastern side of Hillview Avenue (fronting the site) as part of the proposal. This will be constructed within the existing verge width and is expected to connect to the footpath on Bridge Street. Again, this will improve the safety of the Hillview Ave road environment as well as encouraging active transport associated with the site and the neighbouring residential uses.

8. Site Access Arrangements

8.1. Vehicle Access Arrangements

Vehicle access to the site is proposed via a 6.2m wide all-movement crossover onto Hillview Avenue.

The proposed design characteristics of the site access are specified in Table 8-1.

Table 8-1: Driveway Requirements for Access

Design Aspect	TRC/AS2890 Provision	Proposed Provision	Compliance
Width / Crossover Type • Cars[1][2] • Service Vehicles[3]	6.0 to 9.0m 6.5m (RS-051)	6.2m wide RS-051	AS2890.1 Compliant – see notes below
Sight Distance	69m (based on a speed of 50km/h given the proximity to the intersection)	Up to the intersection with Bridge Street (South)[4] >85m to the north	Generally AS2890.1 Compliant
Driveway Sight Splays	2.0m wide x 2.5m deep (on exit)	2.0m wide x 2.5m deep on exit	AS2890.1 Compliant [5]
Minimum Queuing Provisions	2 vehicles / 12m (measured from the boundary to the first internal parking space	2.6m	Performance Solution – see notes below
Maximum Driveway grade	1:20 (5%) within first 6.0m or longest vehicle wheelbase	Generally 1:20 (5%) across the access	Performance Solution – see notes below

[1] Based on Hillview Avenue being classed as a 'minor road' and default speed limit of 50km/h.

[2] Based on the access servicing ~37 car parking spaces.

[3] Based on the access servicing service vehicles up to the size of an RCV.

[4]Assuming visibility around/past vehicles parked within the existing informal on-street parking spaces.

[5] All landscaping /fencing/retaining within the pedestrian visibility splay zone as per AS2890.1:2004 requirement will need to be limited to a maximum height of 0.6m (max)

The proposed access arrangements generally comply with Council's and/orAS2890.1:2004 requirements. Further details in relation to the vehicular access design aspects resolved with performance solutions are provided as follows.

Crossover Over design type / grade

The development plans provide a 6.2m wide driveway crossover at the site's boundary. The provisions fall below the AS2890.2 recommendations for the servicing vehicle, but fall within the requirements for the AS2890.1 requirements for cars.

In this regard, considering that the driveway will be used occasionally by refuse collection vehicles only and that the Colliers Drawing 26BRT0148-01 in **Appendix D** demonstrates that a 10.19m OHL RCV design vehicle can access the site, the proposed crossover width is considered acceptable.

Queueing Provisions

The site caters for fewer than 100 parking spaces; therefore, queuing provision for a minimum of two (2) vehicles (12m) is required. The site currently provides approximately 2.6m of queuing space between the property boundary and the first ('*Staff*') parking space.

It is noted that all parking spaces located along the entry side of the driveway, within the 12m internal queueing length, will be allocated to staff. Similarly, the first two (2) spaces on the exit side will be allocated to staff, with the first visitor parking space located approximately 7.6 m (equivalent to one (1) vehicle length) from the site boundary.

This arrangement minimises turnover within the critical queueing area on the entry side. Furthermore, vehicles exiting parking spaces are expected to give way to entering traffic before entering the internal aisle, which will mitigate the potential vehicle conflicts during peak pick-up and drop-off periods.

Maximum Driveway Grade

Whilst a driveway grade of 1 in 20 (5%) is outlined within AS2890.1:2004 for the first 6m length, measured from the site boundary into the site, a maximum of 1 in 8 (12.5%) grade can be considered provided the following is met:

- The grade is a downgrade for traffic leaving the property and entering the frontage road.
- The user class is Class 1, 1 A or 2 only.
- The maximum car park size is 100 spaces where entry is via a local road

Based on civil plans provided, the proposed driveway grade varies within the first 6m, up to ~5.7% (downhill to the boundary) for the first 2.4m from the boundary into the site, with a shallower grade (no more than 5.0%) provided for the remaining length. Additionally, the proposed carpark serves 37 parking spaces.

While staff spaces align with a User Class 1&1A space, the pick-up/drop-off function introduces higher turnover spaces, typical of User Class 3. However, the operational characteristics of a childcare centre differ from conventional short-term parking facilities where movements occur at low speeds, and users are predominantly parents or carers who are familiar with the site layout and access arrangements, resulting in more cautious driving behaviour compared to typical short-stay parking environments.

On this basis, and given a grade of less than 10% is proposed (appropriate for queuing on as per AS2890.1), the proposed grade is considered acceptable.

9. Parking Arrangements

9.1. Parking Supply

9.1.1. Car parking

The proposed car parking provision for the site has been assessed using parking rates approved for childcare centres. A rate of 1 space per 3.4 children has been adopted for this assessment. This rate is supported by a review of five (5) approved (and constructed) childcare centres within the Toowoomba Region which comprise a parking provision typically ranging from 1 space per 5 children to 1 space per 3.6 children. The adopted rate of 1 space per 3.4 children therefore sits at the upper end of what has been provided locally, representing a conservative and robust approach.

Based on the above rate, a minimum of 37 spaces is required.. The proposed layout provides a minimum of 37 spaces, including:

- 19 x 2.4-2.6m wide 'STAFF' spaces, including 12 spaces in tandem configuration
- 18 x 2.6m wide standard spaces to serve as a dual purpose for Staff and Visitors (on an as-needed basis)
- One (1) PWD bay

While this supply aligns with the adopted rate, it falls short of Council's standard by one (1) space. Council's requirement is based on a rate of 1 space per 7 children for visitors and 1 space per staff member (FTE), resulting in a total requirement of 38 spaces.

It is important to recognise that peak parking demand for staff and parents occurs at different times. Parent demand is typically highest before 8:00 AM and after 4:00 PM, while staff demand peaks during the middle of the day (generally between 9:00 AM and 2:30 PM). This staggered demand means that some spaces can effectively serve both users at different times, improving overall efficiency. In this regard, despite this minor shortfall, the layout still performs well when assessed against the most critical demand scenario - visitor parking during peak drop-off and pick-up periods. In that instance, the proposal allows for the required 18 visitor spaces in accordance with Council's rate.

On this basis, the proposed car parking supply is considered appropriate.

A copy of the architectural plans prepared by ON Architecture are provided in **Attachment A**.

9.1.2. PWD Parking

The above parking supply includes 1 PWD parking space located adjacent to the main building entry. This is in accordance with 1 PWD space per 50 carparking spaces identified by the Australian Building Codes (BCA) for a Class 6 building.

The proposed PWD bay must be designed to comply with AS2890.6:2022 requirements (include gradients). With the recommendations outlined above, the proposed PWD parking provision is considered appropriate for the proposed development.

9.2. Parking Layout

Table 9-1 identifies the characteristics of the proposed parking layouts with respect to the Council's Planning Scheme requirements, which generally defers to AS2890.

Table 9-1: AS2890 Parking Design Requirements and Proposed Provisions

Design Aspect	AS2890 Requirement	Proposed Provision	Compliance
Car Parking			
Parking space length: – Staff spaces (Class 1) – Visitor spaces (Class 3) – PWD spaces (Class 4)	 5.4m (min) 5.4m (min) 5.4m (min)	 5.4m + 5.4m 5.4m 5.4m	 AS2890.1:2004 compliant AS2890.1:2004 compliant AS2890.6:2022 compliant
Parking space width: – Staff spaces (Class 1) – Visitor spaces (Class 3) – PWD spaces (Class 4)	 2.4m (min) 2.6m (min) 2.4m (min) + 2.4m 'shared area'	 2.4-2.6m 2.6m 2.4m+ 2.4m 'shared area'	 AS2890.1:2004 compliant AS2890.1:2004 compliant AS2890.1:2004 compliant
Parking aisle width	5.8m (min)	6.2m	AS2890.1:2004 compliant
Blind aisle extension	1.0m (min)	1.1m	AS2890.1:2004 compliant
Turnaround bay provisions	Turnaround bay where dead-end module exceeds 6 spaces in length	2.6m wide turn around bay provided	AS2890.1:2004 compliant
Maximum Gradient: – PWD parking – General parking bay	 1:40 (2.5%) 1:20 (5.0%)	 Generally flat Generally flat	 AS2890.1:2004 compliant AS2890.1:2004 compliant
Height clearance: – General minimum – PWD parking	 6.35m (Overhead Loader RCV – servicing height) 2.5m (min)	 Open to sky Open to sky	 Council PSP compliant AS2890.6:2022 compliant

Based on the above assessment, the development parking layout is generally consistent with the provisions of Council's PSP and/or AS2890.1:2004.

10. Service Vehicle Arrangements

10.1. Council Requirements

Table 9.4.6:3 *Vehicle Provision Rate – Transport Access and Parking Code* stipulates the requirement for service vehicles. For a childcare development, there is nil requirement for service vehicles therefore no formal loading bay is provided for.

It is however noted that refuse collection is anticipated to occur on-site, therefore the largest design vehicle is expected to be a 10.19m in length Overhead Loader (OHL) Refuse collection vehicle (RCV).

10.2. Proposed Loading Provisions

10.2.1. Refuse Collection Provisions

The development scheme allows for on-site standing for vehicles up to the size of an OHL RCV / SRV within the carpark.

General refuse collection will be via a 10.19m OHL RCV with specialist refuse (nappy collections) anticipated to occur via a VAN or SRV. It is proposed for specialist refuse to occur during weekdays (on a daily basis) with general waste collection occurring once during weekends.

Swept path analysis using a 10.19m OHL RCV and 6.4m SRV is illustrated in Colliers figures in **Appendix D**. This demonstrates that there is sufficient space for servicing vehicles to manoeuvre around on-site and access to/from the site in a forward gear.

It is recommended that any weekday collections occur outside of peak pick-up and drop-off hours and therefore can utilise the visitor car parking spaces to manoeuvre around. General refuse collection is proposed to occur during weekends and therefore an OHL RCV can utilise the entire parking area to manoeuvre around.

Further details on the refuse collection provisions are included in the Operational Waste Management Plan.

Overall, with the recommendations outlined above, Colliers considers the proposed service vehicle arrangements for the development to be acceptable.

11. Summary and Conclusions

11.1. Proposed Development

The proposed development includes a childcare centre with a capacity to accommodate 123 children and an anticipated staff of 20. The total Gross Floor Area (GFA) of the development is 805m².

A copy of the development plans, provided by ON ARCHITECTURE, is included in **Appendix A**.

11.2. Traffic Impact Assessment

The site is expected to generate an additional 96vph during the morning peak hour and 94vph during the afternoon peak hour.

Based on the assessment of the Hillview Avenue / Bridge Street / Edmund Street intersection, the intersection is expected to operate below the practical capacity threshold for a priority-controlled intersection (DoS of 0.80) during peak periods under all scenarios.

This excludes the right turn and through movements from the side roads which operate at LOS F, irrespective of the proposed development. In all scenarios, these movements are expected to operate below the practical threshold for a priority-controlled intersection (DoS of 0.80), operating at a DoS of 0.74 with average delays of up to two (2) minutes.

Given the availability of alternative routes within the surrounding grid road network (generally requiring approximately one (1) minute of additional travel time), it is reasonable to expect that drivers will redistribute to these routes to avoid delays. This behaviour is anticipated to occur independently of the proposed development.

11.3. Access Arrangements

Access to the development is proposed via a 6.2m wide RS-051 (Type B) Crossover onto Hillview Avenue.

While the proposed crossover width of 6.2m does not strictly comply with the AS2890.2:2018 requirement (6.5m), swept path analysis using a 10.19m OHL RCV and SRV, demonstrates that there is sufficient space for an RCV to access to/from the site in a forward direction.

Pedestrian access to the site will be provided via a separate connection, located directly south of the crossover.

Overall, with the recommendations outlined within this report, the proposed access arrangements are considered suitable for the development.

11.4. Parking Arrangements

A total of 37 carparking spaces are proposed to support the development and will be contained within an at-grade carpark. The proposed parking supply aligns with already approved (and constructed) carparking rates for a child care centre within the Toowoomba Region.

The car parking layout, with recommendations outlined within this report, is generally compliant with AS2890 requirements and is considered acceptable.

11.5. Service Vehicle Arrangements

The largest design service vehicle expected to access the site is a 10.19m OHL RCV for refuse collection, as per Council's requirements.

General refuse collection is proposed to occur on weekends using Council's 10.19 m OHL RCV, while more frequent (daily) collections, such as nappy waste, will be undertaken by a SRV. During weekdays, servicing vehicles are expected to utilise visitor parking spaces when manoeuvring to and from the site. On weekends, the car park is anticipated to be vacant, allowing the RCV to utilise the full parking area for manoeuvring. All servicing vehicles are anticipated to enter and exit the site in a forward gear.

It is recommended that weekday collections occur outside of peak pick-up/drop-off times.

Overall, subject to the above, the proposed service vehicle arrangements are considered acceptable to meet the needs of the proposed development.

11.6. Conclusion

Based on the assessment contained within this report, including recommendations, Colliers see no traffic engineering reason why the relevant approvals should not be granted.

Appendix A Development Plans

P L A N N I N G

Rev	Amendment	Date

ARCH DRAWING SCHEDULE

No.	Sheet Name
DA01	FRONT COVER DRAWING SCHEDULE
DA02	SITE PLAN
DA03	PROPOSED GROUND FLOOR
DA04	PROPOSED ROOF PLAN
DA05	BUILDING ELEVATIONS
DA06	BUILDING ELEVATIONS
DA07	BUILDING ELEVATIONS WITH FENCE
DA08	BUILDING ELEVATIONS WITH FENCE
DA09	CONCEPT IMAGE

ON ARCHITECTURE

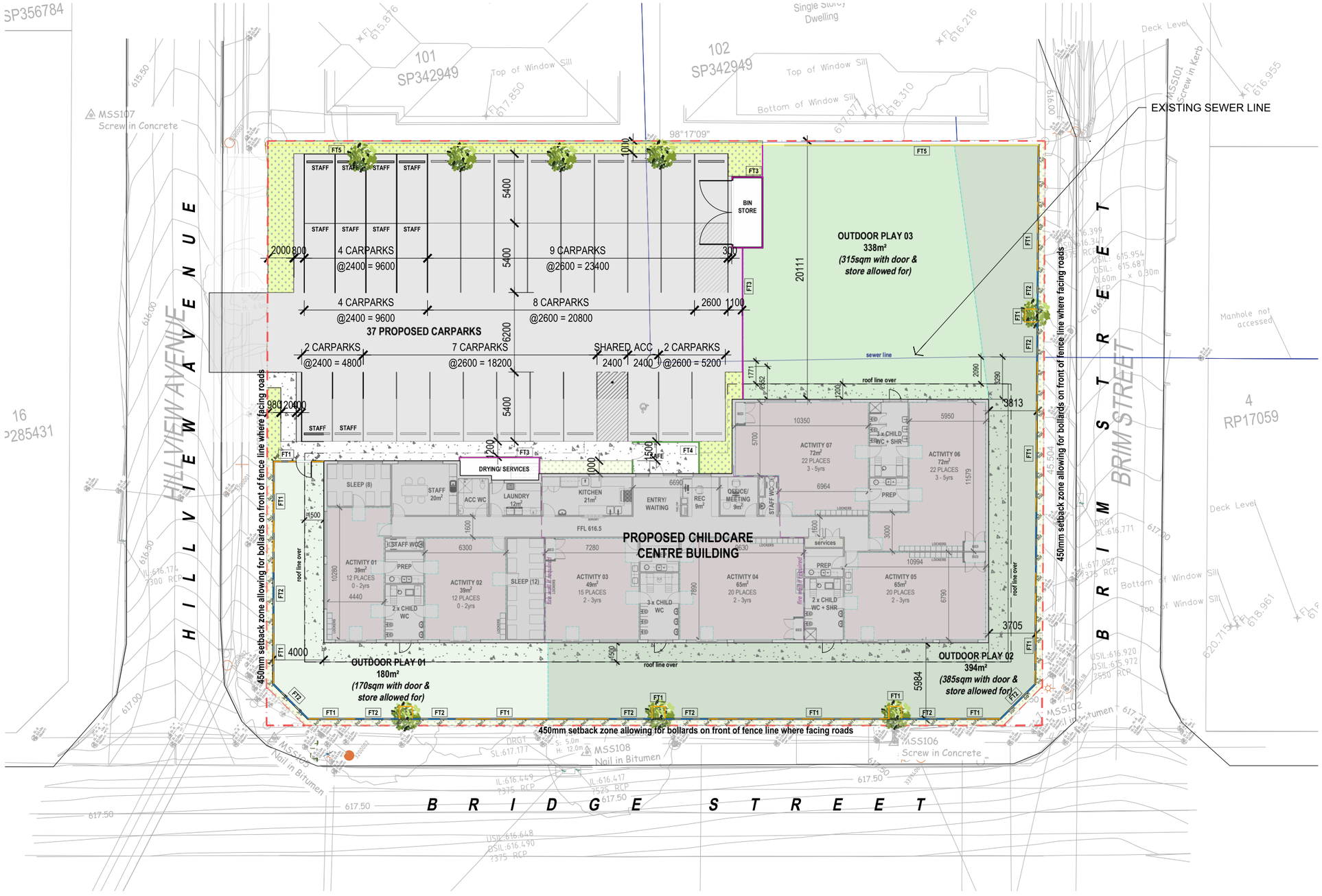
Project
123 PLACE CHILD CARE
241-249 Bridge Street, Newtown,
Queensland

Drawing
COVER/ DRAWING SCHEDULE

Scale	As indicated	Drawn	LO
Client	-		
Date	29/05/2026		
Job No.	202600022		
Dwg No.	**DA01**	Rev:	- A3 SHEET

PLANNING

Rev	Amendment	Date



FENCE TYPE KEY

FT1	2000h TIMBER BATTEN FENCE ON TOP OF RETAINING WALL
FT2	2000h CONCRETE BLOCK FENCE ON TOP OF RETAINING WALL
FT3	1800h COLORBOND FENCE
FT4	1500h ALUMINIUM BATT FENCE
FT5	2200h COLORBOND FENCE ON TOP OF RETAINING WALL

SITE PLAN
1:300

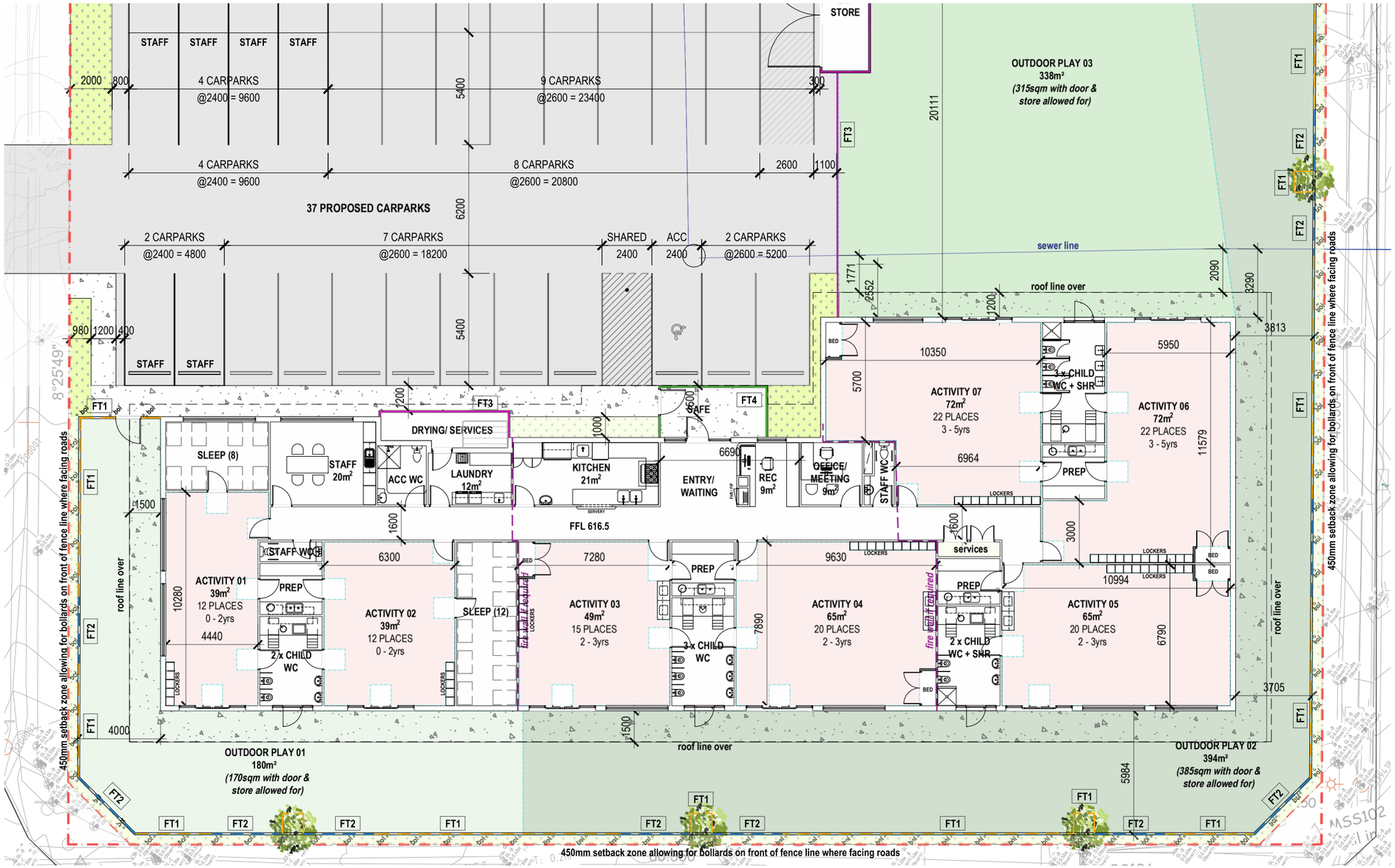
SITE DATA	
SITE AREA	2750sqm
BUILDING AREAS (GFA)	805sqm = 6.54sqm PER CHILD
PROPOSED CHILD CARE PLACES	123 Places
SITE COVER	805sqm = 29.2% OF SITE
REQUIRED CARPARKING	1 Carpark per 3.4 Places = 36.2
PROPOSED CARPARKING	37 Carparks

ON ARCHITECTURE

Project
123 PLACE CHILD CARE
241-249 Bridge Street, Newtown, Queensland

Drawing
SITE PLAN

Scale	As indicated	Drawn	LO	
Client	-			
Date	29/05/2026			
Job No.	202600022			
Dwg No.	**DA02**	Rev:	-	A3 SHEET



GROUND FLOOR PLAN

1:200

ACTIVITY AREA SCHEDULE								
ROOM	PLACES	AGE	STAFF RATIO	STAFF No.	AREA REQ	UNENCUMBERED AREA	ENCUMBERED AREA	TOTAL AREA PROVIDED
ROOM 1	12	0-2	1:4	2	39	40sqm	7sqm	47sqm
ROOM 2	12	0-2	1:4	3	39	42sqm	7sqm	49sqm
ROOM 3	15	2-3	1:5	3	48.8	49sqm	8sqm	57sqm
ROOM 4	20	2-3	1:5	4	65	65sqm	9sqm	74sqm
ROOM 5	20	2-3	1:5	4	65	67sqm	9sqm	76sqm
ROOM 6	22	3-5	1:11	2	71.5	73sqm	9sqm	82sqm
ROOM 7	22	3-5	1:11	2	71.5	72sqm	9sqm	81sqm
TOTALS	123			20	399.8	408qm	58qm	466sqm

OUTDOOR PLAY AREA SCHEDULE					
ROOMS	PLACES	AREA REQ	UNENCUMBERED AREA	ENCUMBERED AREA	TOTAL AREA PROVIDED
ROOM 1 ROOM 2 ROOM 3 ROOM 4 ROOM 5 ROOM 6 ROOM 7	12 12 15 20 20 22 22	861	892sqm	13sqm	905sqm
TOTALS	123				

PLANNING

Rev	Amendment	Date

FENCE TYPE KEY

- FT1 — 2000h TIMBER BATTEN FENCE ON TOP OF RETAINING WALL
- FT2 — 2000h CONCRETE BLOCK FENCE ON TOP OF RETAINING WALL
- FT3 — 1800h COLORBOND FENCE
- FT4 — 1500h ALUMINIUM BATT FENCE
- FT5 — 2200h COLORBOND FENCE ON TOP OF RETAINING WALL

ON ARCHITECTURE

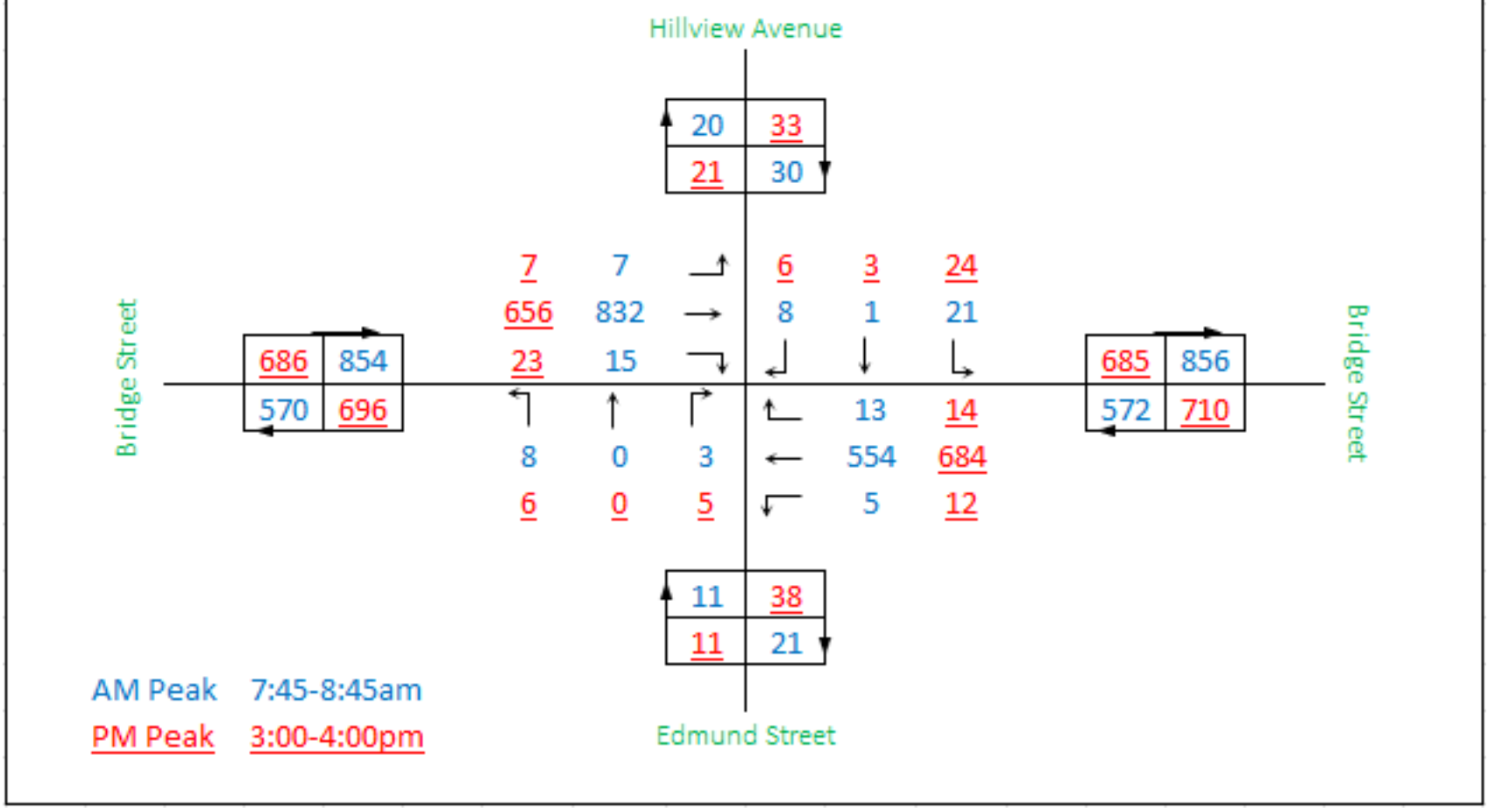
Project
123 PLACE CHILD CARE
241-249 Bridge Street, Newtown, Queensland

Drawing
GROUND FLOOR PLAN

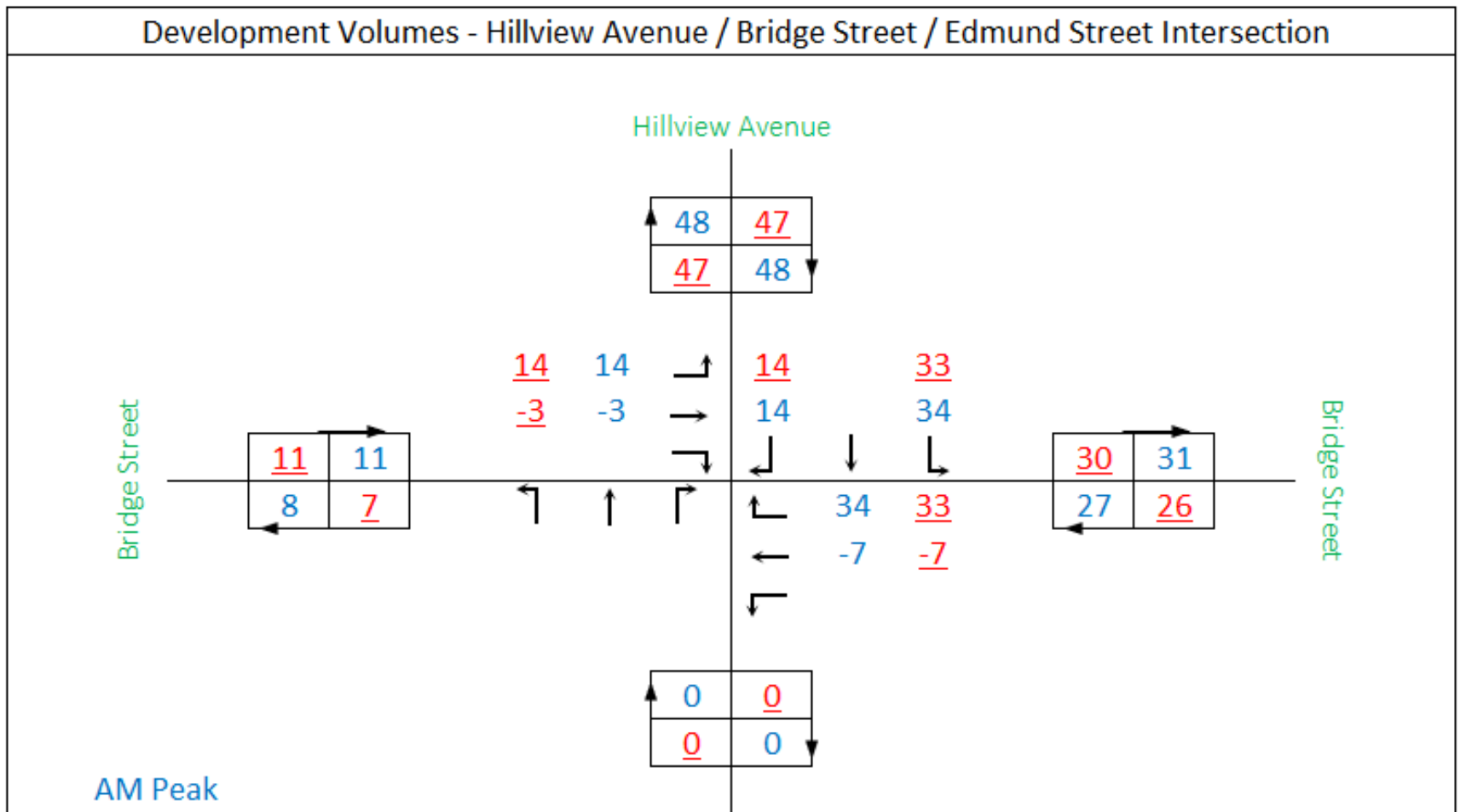
Scale	As indicated	Drawn	LO	
Client	-			
Date	29/05/2026			
Job No.	202600022			
Dwg No.	**DA03**	Rev:	-	A3 SHEET

Appendix B Traffic Network Diagrams

Survey Year (2026) - Hillview Avenue / Bridge Street / Edmund Street Intersection

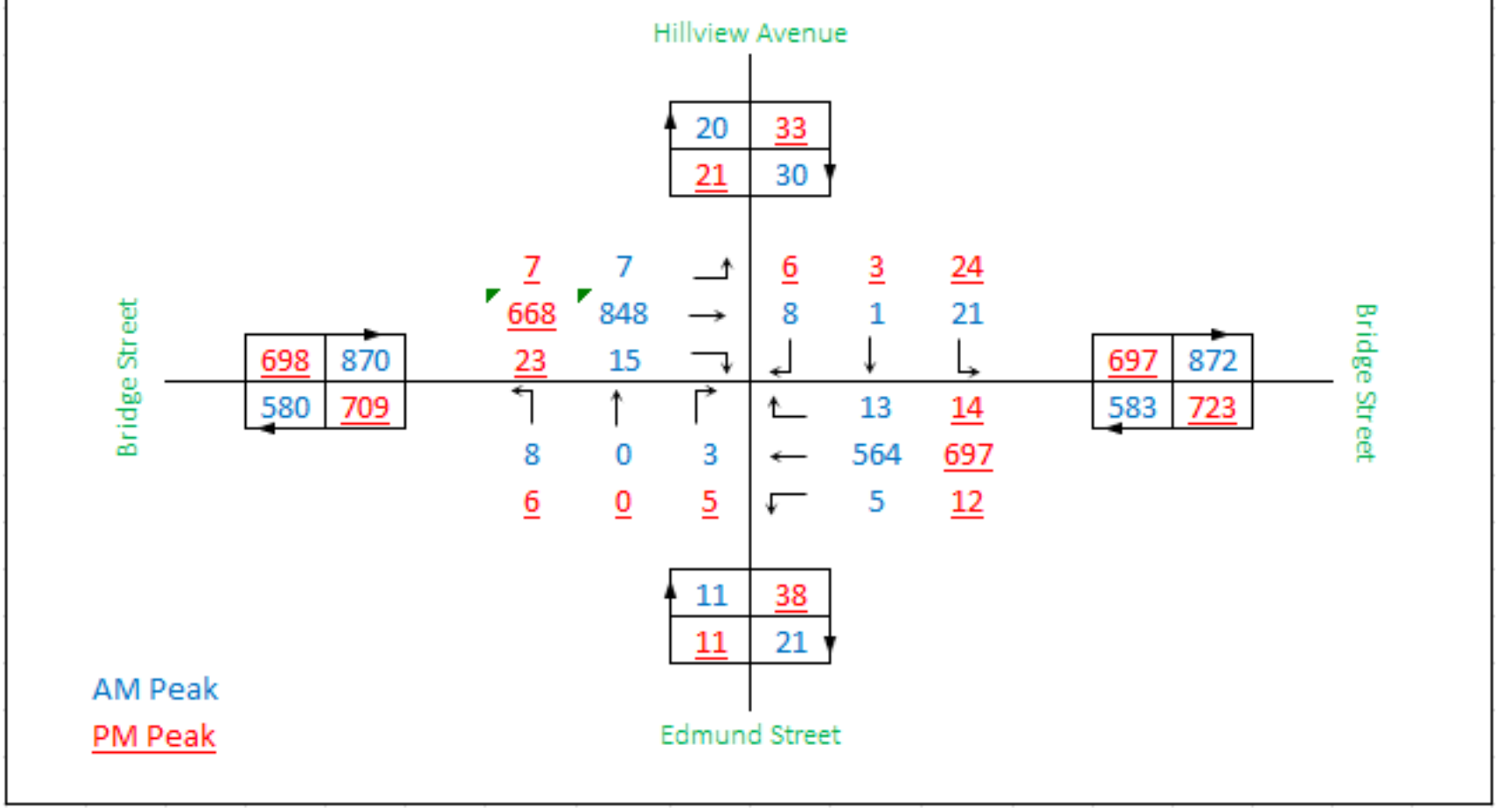


Development Volumes - Hillview Avenue / Bridge Street / Edmund Street Intersection

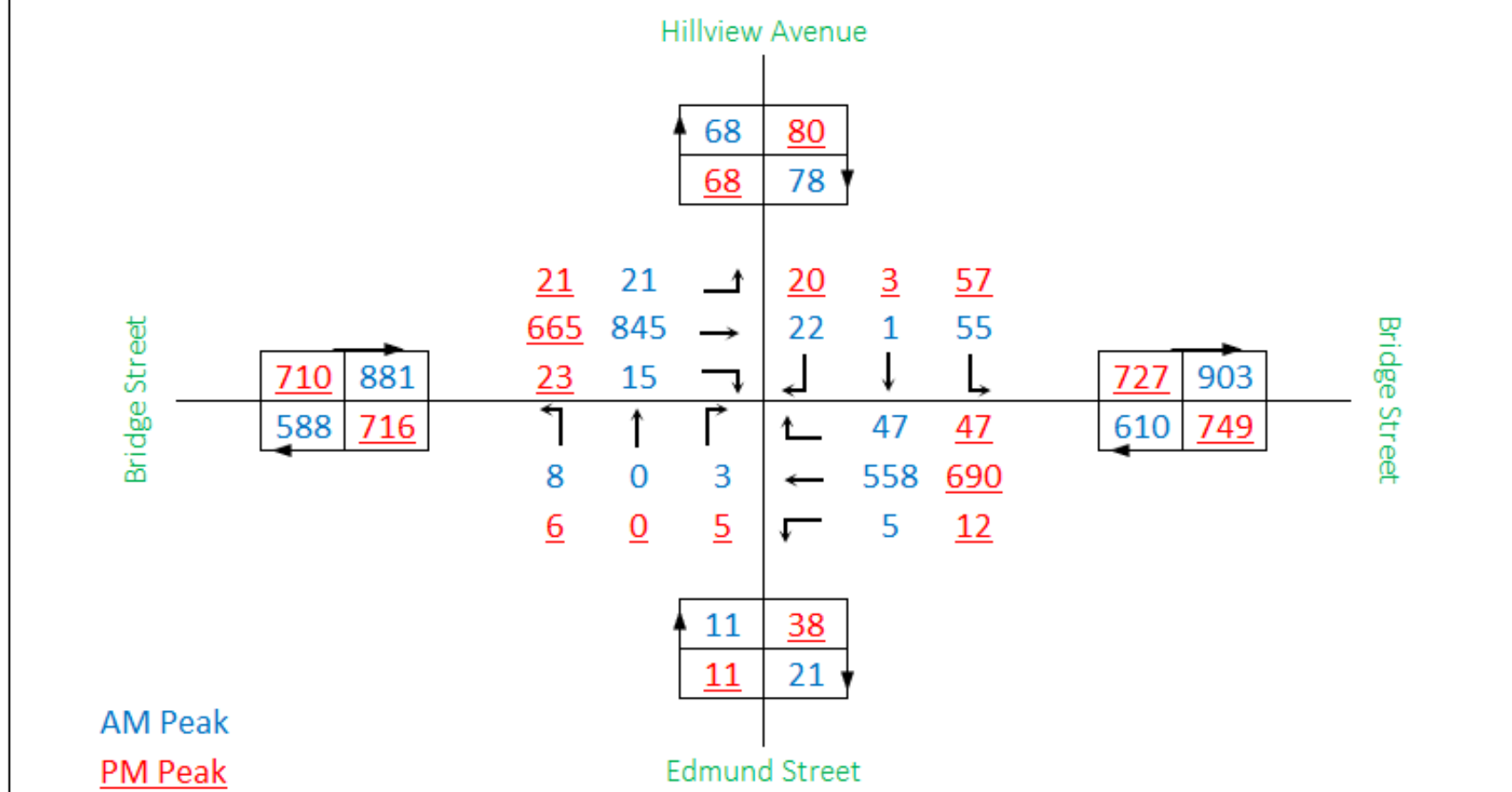


Negative values represent pass-by trips to the site (removed from the Bridge Street through volumes)

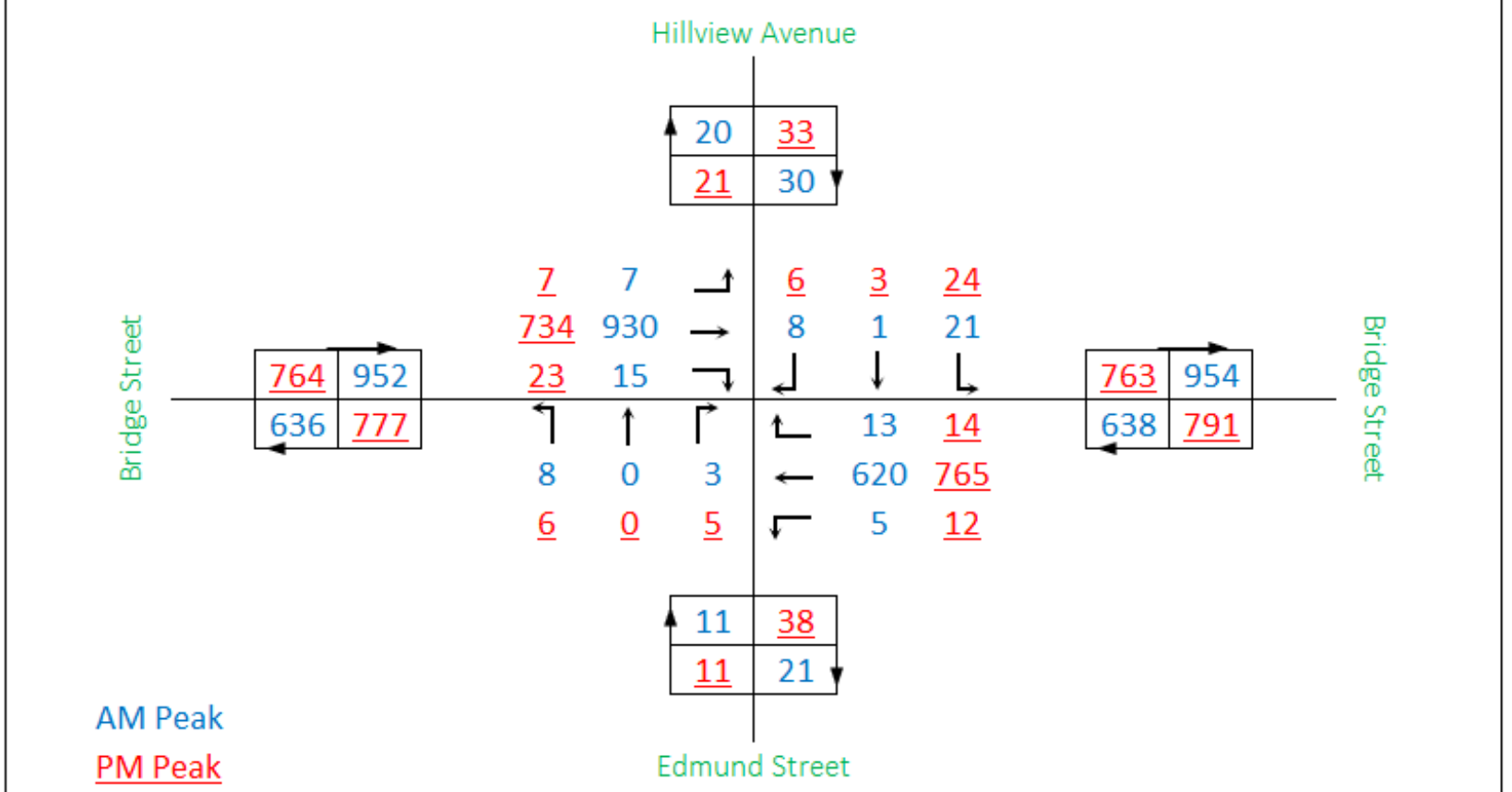
Opening Year (2028 - BASE) - Hillview Avenue / Bridge Street / Edmund Street Intersection



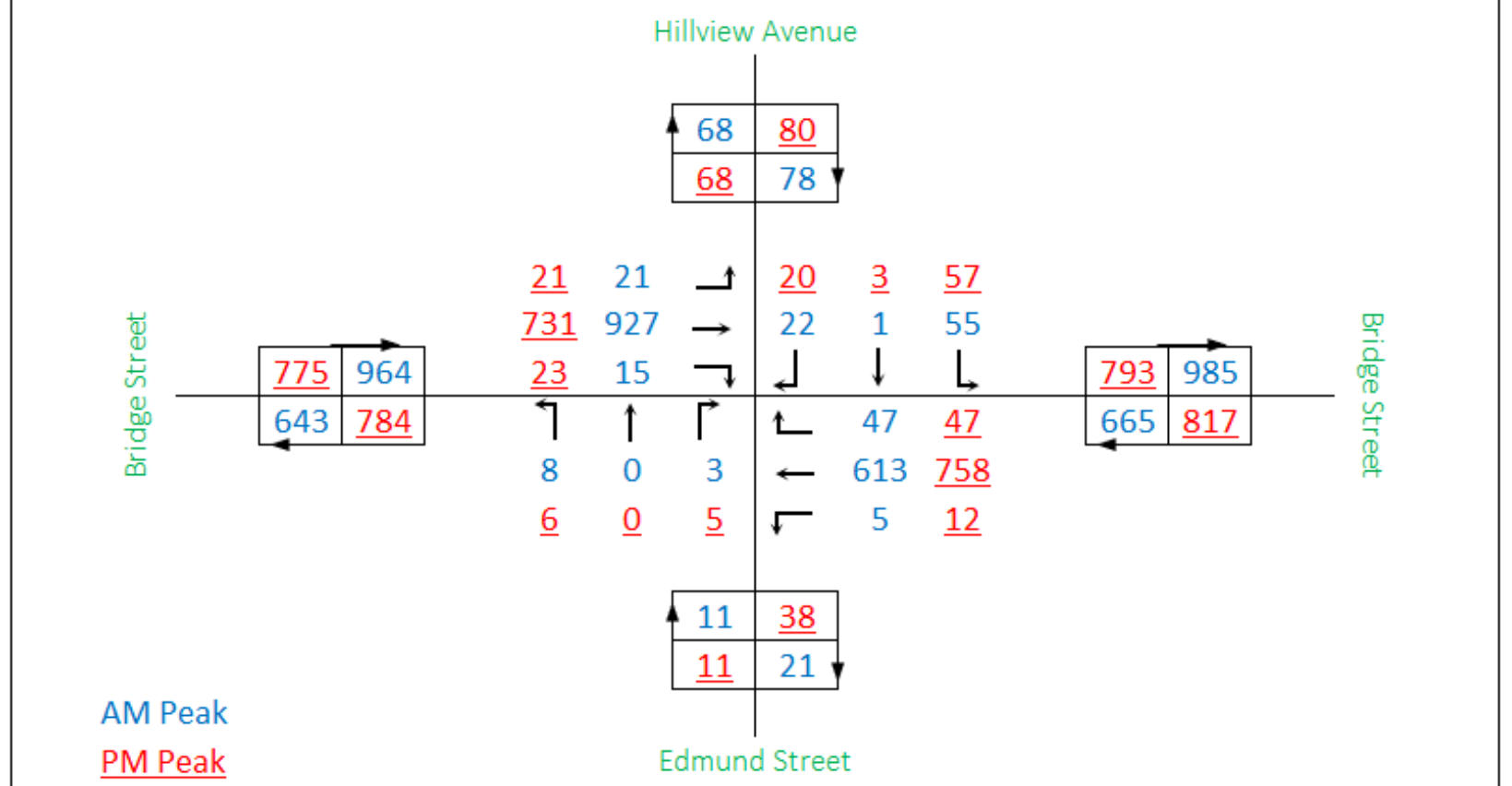
Opening Year (2028 - PROPOSED) - Hillview Avenue / Bridge Street / Edmund Street Intersection



Design Horizon (2038 - BASE) - Hillview Avenue / Bridge Street / Edmund Street Intersection



Design Horizon (2038 - PROPOSED) - Hillview Avenue / Bridge Street / Edmund Street Intersection



Appendix C SIDRA Output Reports

SITE LAYOUT

Site: [1 (12)] Opening Year_Proposed 2038 PM (Hillview Avenue / Edmund Street / Bridge Street intersection - Copy)

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

MOVEMENT SUMMARY

Site: [1] SURVEY 2026 AM (Hillview Avenue / Edmund Street / Bridge Street intersection)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	8	13.0	8	13.0	0.065	10.4	LOS B	0.2	1.5	0.79	0.82	0.79	41.2
3	R2	All MCs	3	0.0	3	0.0	0.065	69.0	LOS F	0.2	1.5	0.79	0.82	0.79	41.5
Approach			12	9.5	12	9.5	0.065	26.4	LOS D	0.2	1.5	0.79	0.82	0.79	41.3
East: Bridge Street															
4	L2	All MCs	5	0.0	5	0.0	0.169	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
5	T1	All MCs	583	5.0	583	5.0	0.169	0.4	LOS A	0.3	2.1	0.05	0.07	0.05	59.3
6	R2	All MCs	14	0.0	14	0.0	0.169	11.8	LOS B	0.3	2.1	0.11	0.14	0.11	56.2
Approach			602	4.8	602	4.8	0.169	0.7	NA	0.3	2.1	0.05	0.07	0.05	59.2
North: Hillview Avenue															
7	L2	All MCs	22	0.0	22	0.0	0.184	11.2	LOS B	0.6	4.0	0.79	1.00	0.82	40.4
8	T1	All MCs	1	0.0	1	0.0	0.184	55.2	LOS F	0.6	4.0	0.79	1.00	0.82	40.4
9	R2	All MCs	8	0.0	8	0.0	0.184	70.5	LOS F	0.6	4.0	0.79	1.00	0.82	40.3
Approach			32	0.0	32	0.0	0.184	28.5	LOS D	0.6	4.0	0.79	1.00	0.82	40.4
West: Bridge Street															
10	L2	All MCs	7	0.0	7	0.0	0.239	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
11	T1	All MCs	876	2.0	876	2.0	0.239	0.1	LOS A	0.2	1.7	0.03	0.04	0.03	59.6
12	R2	All MCs	16	0.0	16	0.0	0.239	8.6	LOS A	0.2	1.7	0.06	0.07	0.06	56.9
Approach			899	1.9	899	1.9	0.239	0.3	NA	0.2	1.7	0.03	0.04	0.03	59.6
All Vehicles			1544	3.1	1544	3.1	0.239	1.2	NA	0.6	4.0	0.06	0.08	0.06	58.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (5)] Opening Year_BASE 2028 AM (Hillview Avenue / Edmund Street / Bridge Street intersection)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	8	13.0	8	13.0	0.068	10.5	LOS B	0.2	1.6	0.81	0.83	0.81	40.7
3	R2	All MCs	3	0.0	3	0.0	0.068	73.1	LOS F	0.2	1.6	0.81	0.83	0.81	41.0
Approach			12	9.5	12	9.5	0.068	27.5	LOS D	0.2	1.6	0.81	0.83	0.81	40.8
East: Bridge Street															
4	L2	All MCs	5	0.0	5	0.0	0.172	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
5	T1	All MCs	594	5.0	594	5.0	0.172	0.4	LOS A	0.3	2.1	0.05	0.07	0.05	59.3
6	R2	All MCs	14	0.0	14	0.0	0.172	12.1	LOS B	0.3	2.1	0.12	0.14	0.12	56.1
Approach			613	4.8	613	4.8	0.172	0.7	NA	0.3	2.1	0.05	0.07	0.05	59.2
North: Hillview Avenue															
7	L2	All MCs	22	0.0	22	0.0	0.195	11.6	LOS B	0.6	4.3	0.80	1.01	0.84	39.8
8	T1	All MCs	1	0.0	1	0.0	0.195	58.3	LOS F	0.6	4.3	0.80	1.01	0.84	39.7
9	R2	All MCs	8	0.0	8	0.0	0.195	74.9	LOS F	0.6	4.3	0.80	1.01	0.84	39.7
Approach			32	0.0	32	0.0	0.195	30.0	LOS D	0.6	4.3	0.80	1.01	0.84	39.7
West: Bridge Street															
10	L2	All MCs	7	0.0	7	0.0	0.243	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
11	T1	All MCs	893	2.0	893	2.0	0.243	0.1	LOS A	0.2	1.7	0.03	0.04	0.03	59.6
12	R2	All MCs	16	0.0	16	0.0	0.243	8.7	LOS A	0.2	1.7	0.06	0.07	0.06	56.9
Approach			916	1.9	916	1.9	0.243	0.3	NA	0.2	1.7	0.03	0.04	0.03	59.6
All Vehicles			1572	3.1	1572	3.1	0.243	1.3	NA	0.6	4.3	0.06	0.08	0.06	58.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (6)] Opening Year_Proposed 2028 AM (Hillview Avenue / Edmund Street / Bridge Street intersection)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	8	13.0	8	13.0	0.076	10.9	LOS B	0.2	1.7	0.82	0.87	0.82	39.7
3	R2	All MCs	3	0.0	3	0.0	0.076	80.0	LOS F	0.2	1.7	0.82	0.87	0.82	40.0
Approach			12	9.5	12	9.5	0.076	29.8	LOS D	0.2	1.7	0.82	0.87	0.82	39.8
East: Bridge Street															
4	L2	All MCs	5	0.0	5	0.0	0.204	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
5	T1	All MCs	587	5.0	587	5.0	0.204	1.2	LOS A	0.9	6.6	0.14	0.17	0.14	58.2
6	R2	All MCs	49	0.0	49	0.0	0.204	12.3	LOS B	0.9	6.6	0.41	0.47	0.41	53.2
Approach			642	4.6	642	4.6	0.204	2.1	NA	0.9	6.6	0.16	0.19	0.16	57.8
North: Hillview Avenue															
7	L2	All MCs	58	0.0	58	0.0	0.526	18.6	LOS C	2.2	15.1	0.87	1.14	1.32	35.9
8	T1	All MCs	1	0.0	1	0.0	0.526	72.9	LOS F	2.2	15.1	0.87	1.14	1.32	35.9
9	R2	All MCs	23	0.0	23	0.0	0.526	92.4	LOS F	2.2	15.1	0.87	1.14	1.32	35.8
Approach			82	0.0	82	0.0	0.526	40.1	LOS E	2.2	15.1	0.87	1.14	1.32	35.9
West: Bridge Street															
10	L2	All MCs	22	0.0	22	0.0	0.247	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.1
11	T1	All MCs	889	2.0	889	2.0	0.247	0.1	LOS A	0.2	1.8	0.03	0.05	0.03	59.5
12	R2	All MCs	16	0.0	16	0.0	0.247	8.8	LOS A	0.2	1.8	0.06	0.07	0.06	56.9
Approach			927	1.9	927	1.9	0.247	0.4	NA	0.2	1.8	0.03	0.05	0.03	59.4
All Vehicles			1663	2.9	1663	2.9	0.526	3.2	NA	2.2	15.1	0.13	0.16	0.15	56.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (7)] Design Year_Base 2038 AM (Hillview Avenue / Edmund Street / Bridge Street intersection)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	8	13.0	8	13.0	0.093	10.7	LOS B	0.3	2.0	0.87	0.86	0.87	37.6
3	R2	All MCs	3	0.0	3	0.0	0.093	100.1	LOS F	0.3	2.0	0.87	0.86	0.87	37.8
Approach			12	9.5	12	9.5	0.093	35.1	LOS E	0.3	2.0	0.87	0.86	0.87	37.7
East: Bridge Street															
4	L2	All MCs	5	0.0	5	0.0	0.189	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
5	T1	All MCs	653	5.0	653	5.0	0.189	0.5	LOS A	0.3	2.5	0.06	0.07	0.06	59.2
6	R2	All MCs	14	0.0	14	0.0	0.189	13.3	LOS B	0.3	2.5	0.12	0.14	0.12	56.0
Approach			672	4.9	672	4.9	0.189	0.8	NA	0.3	2.5	0.06	0.07	0.06	59.1
North: Hillview Avenue															
7	L2	All MCs	22	0.0	22	0.0	0.266	14.0	LOS B	0.8	5.8	0.86	1.03	0.98	35.8
8	T1	All MCs	1	0.0	1	0.0	0.266	79.1	LOS F	0.8	5.8	0.86	1.03	0.98	35.8
9	R2	All MCs	8	0.0	8	0.0	0.266	104.3	LOS F	0.8	5.8	0.86	1.03	0.98	35.8
Approach			32	0.0	32	0.0	0.266	40.2	LOS E	0.8	5.8	0.86	1.03	0.98	35.8
West: Bridge Street															
10	L2	All MCs	7	0.0	7	0.0	0.266	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
11	T1	All MCs	979	2.0	979	2.0	0.266	0.2	LOS A	0.3	1.9	0.03	0.04	0.03	59.6
12	R2	All MCs	16	0.0	16	0.0	0.266	9.2	LOS A	0.3	1.9	0.06	0.07	0.06	56.9
Approach			1002	2.0	1002	2.0	0.266	0.3	NA	0.3	1.9	0.03	0.04	0.03	59.6
All Vehicles			1717	3.1	1717	3.1	0.266	1.5	NA	0.8	5.8	0.06	0.08	0.06	58.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (8)] Design Year_Proposed 2038 AM (Hillview Avenue / Edmund Street / Bridge Street intersection)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	8	13.0	8	13.0	0.103	11.3	LOS B	0.3	2.2	0.87	0.92	0.87	36.5
3	R2	All MCs	3	0.0	3	0.0	0.103	108.8	LOS F	0.3	2.2	0.87	0.92	0.87	36.7
Approach			12	9.5	12	9.5	0.103	37.9	LOS E	0.3	2.2	0.87	0.92	0.87	36.6
East: Bridge Street															
4	L2	All MCs	5	0.0	5	0.0	0.227	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
5	T1	All MCs	645	5.0	645	5.0	0.227	1.4	LOS A	1.1	7.9	0.15	0.17	0.15	58.0
6	R2	All MCs	49	0.0	49	0.0	0.227	13.6	LOS B	1.1	7.9	0.43	0.49	0.43	52.6
Approach			700	4.6	700	4.6	0.227	2.3	NA	1.1	7.9	0.17	0.20	0.17	57.6
North: Hillview Avenue															
7	L2	All MCs	58	0.0	58	0.0	0.713	31.9	LOS D	3.1	22.0	0.94	1.24	1.72	29.5
8	T1	All MCs	1	0.0	1	0.0	0.713	106.9	LOS F	3.1	22.0	0.94	1.24	1.72	29.5
9	R2	All MCs	23	0.0	23	0.0	0.713	136.1	LOS F	3.1	22.0	0.94	1.24	1.72	29.5
Approach			82	0.0	82	0.0	0.713	62.2	LOS F	3.1	22.0	0.94	1.24	1.72	29.5
West: Bridge Street															
10	L2	All MCs	22	0.0	22	0.0	0.270	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.1
11	T1	All MCs	976	2.0	976	2.0	0.270	0.2	LOS A	0.3	1.9	0.03	0.05	0.03	59.5
12	R2	All MCs	16	0.0	16	0.0	0.270	9.3	LOS A	0.3	1.9	0.06	0.07	0.06	56.9
Approach			1014	1.9	1014	1.9	0.270	0.4	NA	0.3	1.9	0.03	0.05	0.03	59.4
All Vehicles			1807	2.9	1807	2.9	0.713	4.2	NA	3.1	22.0	0.13	0.16	0.17	55.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (4)] SURVEY 2026 PM (Hillview Avenue / Edmund Street / Bridge Street intersection - Copy)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	6	0.0	6	0.0	0.081	10.0	LOS A	0.2	1.7	0.82	0.91	0.82	39.1
3	R2	All MCs	5	0.0	5	0.0	0.081	57.6	LOS F	0.2	1.7	0.82	0.91	0.82	39.0
Approach			12	0.0	12	0.0	0.081	31.6	LOS D	0.2	1.7	0.82	0.91	0.82	39.1
East: Bridge Street															
4	L2	All MCs	13	17.0	13	17.0	0.201	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	56.4
5	T1	All MCs	720	1.0	720	1.0	0.201	0.2	LOS A	0.2	1.6	0.04	0.05	0.04	59.5
6	R2	All MCs	15	0.0	15	0.0	0.201	9.9	LOS A	0.2	1.6	0.08	0.09	0.08	56.6
Approach			747	1.3	747	1.3	0.201	0.5	NA	0.2	1.6	0.04	0.05	0.04	59.4
North: Hillview Avenue															
7	L2	All MCs	25	0.0	25	0.0	0.146	10.2	LOS B	0.5	3.3	0.75	0.94	0.75	43.4
8	T1	All MCs	3	0.0	3	0.0	0.146	47.0	LOS E	0.5	3.3	0.75	0.94	0.75	43.4
9	R2	All MCs	6	0.0	6	0.0	0.146	57.6	LOS F	0.5	3.3	0.75	0.94	0.75	43.3
Approach			35	0.0	35	0.0	0.146	22.2	LOS C	0.5	3.3	0.75	0.94	0.75	43.4
West: Bridge Street															
10	L2	All MCs	7	0.0	7	0.0	0.199	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
11	T1	All MCs	691	2.0	691	2.0	0.199	0.3	LOS A	0.4	3.1	0.06	0.08	0.06	59.3
12	R2	All MCs	24	4.0	24	4.0	0.199	9.7	LOS A	0.4	3.1	0.14	0.16	0.14	56.0
Approach			722	2.0	722	2.0	0.199	0.7	NA	0.4	3.1	0.07	0.08	0.07	59.2
All Vehicles			1516	1.6	1516	1.6	0.201	1.3	NA	0.5	3.3	0.07	0.09	0.07	58.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (9)] Opening Year_Base 2028 PM (Hillview Avenue / Edmund Street / Bridge Street intersection - Copy)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	6	0.0	6	0.0	0.085	10.0	LOS B	0.3	1.8	0.83	0.92	0.83	38.5
3	R2	All MCs	5	0.0	5	0.0	0.085	60.5	LOS F	0.3	1.8	0.83	0.92	0.83	38.5
Approach			12	0.0	12	0.0	0.085	33.0	LOS D	0.3	1.8	0.83	0.92	0.83	38.5
East: Bridge Street															
4	L2	All MCs	13	17.0	13	17.0	0.204	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	56.4
5	T1	All MCs	734	1.0	734	1.0	0.204	0.2	LOS A	0.2	1.7	0.04	0.05	0.04	59.5
6	R2	All MCs	15	0.0	15	0.0	0.204	10.1	LOS B	0.2	1.7	0.08	0.09	0.08	56.6
Approach			761	1.2	761	1.2	0.204	0.5	NA	0.2	1.7	0.04	0.05	0.04	59.4
North: Hillview Avenue															
7	L2	All MCs	25	0.0	25	0.0	0.153	10.3	LOS B	0.5	3.4	0.76	0.94	0.76	43.0
8	T1	All MCs	3	0.0	3	0.0	0.153	49.2	LOS E	0.5	3.4	0.76	0.94	0.76	43.0
9	R2	All MCs	6	0.0	6	0.0	0.153	60.5	LOS F	0.5	3.4	0.76	0.94	0.76	43.0
Approach			35	0.0	35	0.0	0.153	22.9	LOS C	0.5	3.4	0.76	0.94	0.76	43.0
West: Bridge Street															
10	L2	All MCs	7	0.0	7	0.0	0.202	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
11	T1	All MCs	703	2.0	703	2.0	0.202	0.3	LOS A	0.4	3.1	0.06	0.08	0.06	59.3
12	R2	All MCs	24	4.0	24	4.0	0.202	9.8	LOS A	0.4	3.1	0.14	0.16	0.14	56.0
Approach			735	2.0	735	2.0	0.202	0.7	NA	0.4	3.1	0.07	0.08	0.07	59.2
All Vehicles			1542	1.6	1542	1.6	0.204	1.4	NA	0.5	3.4	0.07	0.09	0.07	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (10)] Opening Year_Proposed 2028 PM (Hillview Avenue / Edmund Street / Bridge Street intersection - Copy)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	6	0.0	6	0.0	0.099	10.3	LOS B	0.3	2.1	0.84	0.96	0.84	36.8
3	R2	All MCs	5	0.0	5	0.0	0.099	70.0	LOS F	0.3	2.1	0.84	0.96	0.84	36.7
Approach			12	0.0	12	0.0	0.099	37.5	LOS E	0.3	2.1	0.84	0.96	0.84	36.8
East: Bridge Street															
4	L2	All MCs	13	17.0	13	17.0	0.230	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	56.4
5	T1	All MCs	726	1.0	726	1.0	0.230	0.7	LOS A	0.7	5.2	0.10	0.14	0.10	58.8
6	R2	All MCs	49	0.0	49	0.0	0.230	10.2	LOS B	0.7	5.2	0.26	0.31	0.26	55.0
Approach			788	1.2	788	1.2	0.230	1.3	NA	0.7	5.2	0.11	0.14	0.11	58.5
North: Hillview Avenue															
7	L2	All MCs	60	0.0	60	0.0	0.432	14.6	LOS B	1.8	12.6	0.86	1.06	1.19	39.0
8	T1	All MCs	3	0.0	3	0.0	0.432	62.7	LOS F	1.8	12.6	0.86	1.06	1.19	39.0
9	R2	All MCs	21	0.0	21	0.0	0.432	76.8	LOS F	1.8	12.6	0.86	1.06	1.19	38.9
Approach			84	0.0	84	0.0	0.432	32.0	LOS D	1.8	12.6	0.86	1.06	1.19	39.0
West: Bridge Street															
10	L2	All MCs	22	0.0	22	0.0	0.206	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.1
11	T1	All MCs	700	2.0	700	2.0	0.206	0.3	LOS A	0.4	3.2	0.07	0.09	0.07	59.2
12	R2	All MCs	24	4.0	24	4.0	0.206	9.9	LOS A	0.4	3.2	0.14	0.16	0.14	56.0
Approach			746	2.0	746	2.0	0.206	0.8	NA	0.4	3.2	0.07	0.09	0.07	59.0
All Vehicles			1631	1.5	1631	1.5	0.432	2.9	NA	1.8	12.6	0.14	0.17	0.15	57.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (11)] Opening Year_Base 2038 PM (Hillview Avenue / Edmund Street / Bridge Street intersection - Copy)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	6	0.0	6	0.0	0.114	10.3	LOS B	0.3	2.3	0.86	0.97	0.86	35.3
3	R2	All MCs	5	0.0	5	0.0	0.114	79.7	LOS F	0.3	2.3	0.86	0.97	0.86	35.2
Approach			12	0.0	12	0.0	0.114	41.8	LOS E	0.3	2.3	0.86	0.97	0.86	35.2
East: Bridge Street															
4	L2	All MCs	13	17.0	13	17.0	0.224	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	56.4
5	T1	All MCs	805	1.0	805	1.0	0.224	0.3	LOS A	0.3	1.9	0.04	0.06	0.04	59.5
6	R2	All MCs	15	0.0	15	0.0	0.224	10.8	LOS B	0.3	1.9	0.08	0.10	0.08	56.6
Approach			833	1.2	833	1.2	0.224	0.5	NA	0.3	1.9	0.04	0.06	0.04	59.4
North: Hillview Avenue															
7	L2	All MCs	25	0.0	25	0.0	0.198	11.1	LOS B	0.6	4.4	0.81	0.98	0.85	40.4
8	T1	All MCs	3	0.0	3	0.0	0.198	63.6	LOS F	0.6	4.4	0.81	0.98	0.85	40.4
9	R2	All MCs	6	0.0	6	0.0	0.198	80.2	LOS F	0.6	4.4	0.81	0.98	0.85	40.4
Approach			35	0.0	35	0.0	0.198	28.5	LOS D	0.6	4.4	0.81	0.98	0.85	40.4
West: Bridge Street															
10	L2	All MCs	7	0.0	7	0.0	0.222	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
11	T1	All MCs	773	2.0	773	2.0	0.222	0.4	LOS A	0.5	3.5	0.06	0.08	0.06	59.3
12	R2	All MCs	24	4.0	24	4.0	0.222	10.5	LOS B	0.5	3.5	0.14	0.16	0.14	55.9
Approach			804	2.0	804	2.0	0.222	0.7	NA	0.5	3.5	0.07	0.08	0.07	59.1
All Vehicles			1683	1.6	1683	1.6	0.224	1.5	NA	0.6	4.4	0.07	0.09	0.07	58.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

MOVEMENT SUMMARY

Site: [1 (12)] Opening Year_Proposed 2038 PM (Hillview Avenue / Edmund Street / Bridge Street intersection - Copy)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

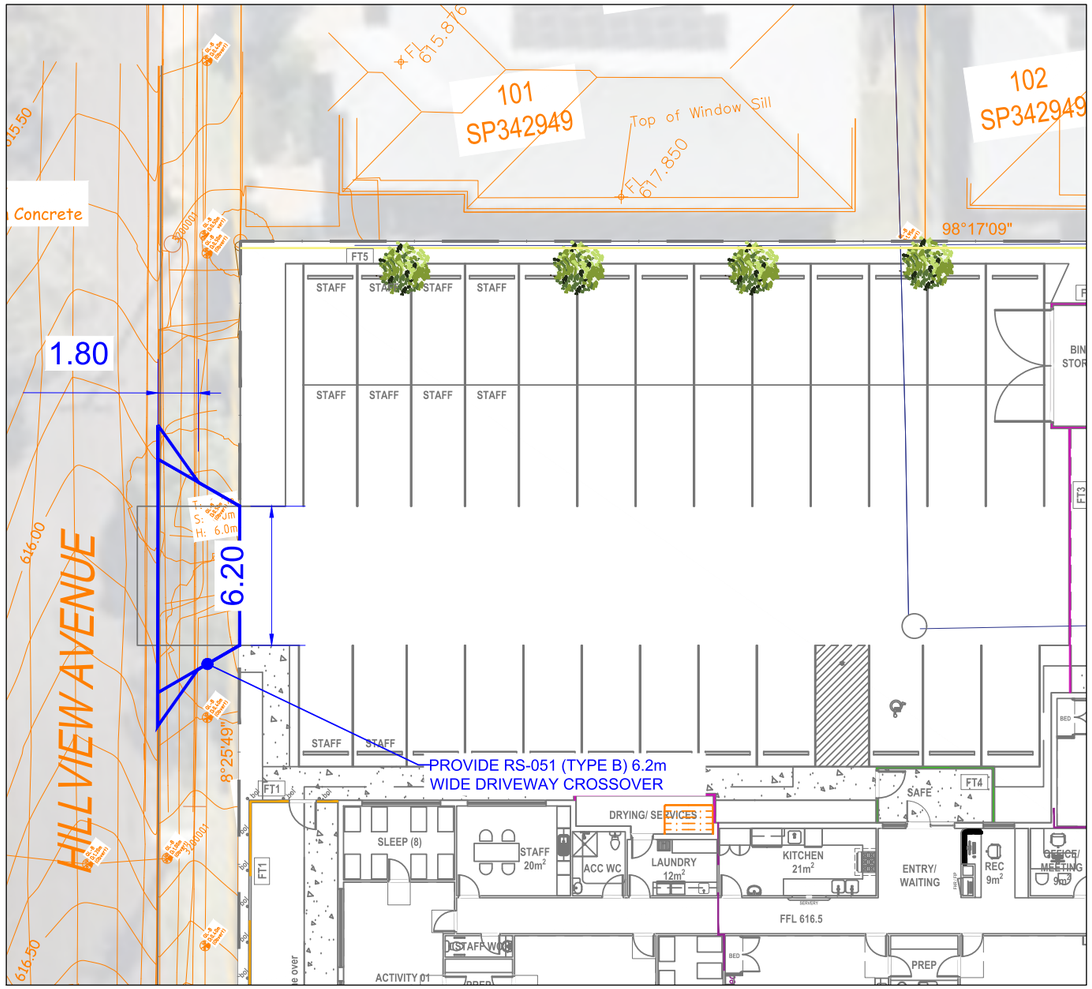
New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

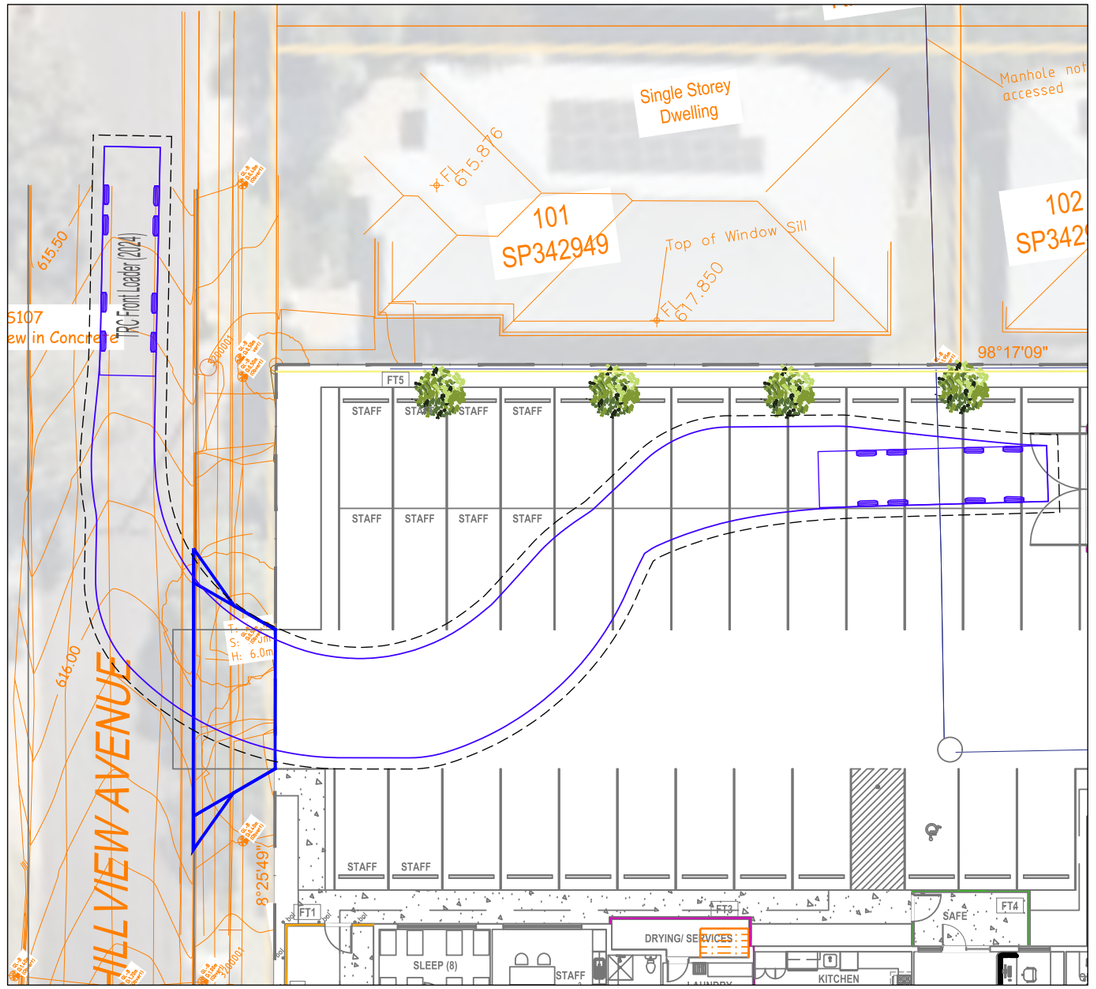
Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Edmund Street															
1	L2	All MCs	6	0.0	6	0.0	0.135	10.7	LOS B	0.4	2.7	0.87	1.00	0.87	33.2
3	R2	All MCs	5	0.0	5	0.0	0.135	93.7	LOS F	0.4	2.7	0.87	1.00	0.87	33.1
Approach			12	0.0	12	0.0	0.135	48.4	LOS E	0.4	2.7	0.87	1.00	0.87	33.1
East: Bridge Street															
4	L2	All MCs	13	17.0	13	17.0	0.252	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	56.4
5	T1	All MCs	798	1.0	798	1.0	0.252	0.7	LOS A	0.8	5.9	0.11	0.14	0.11	58.7
6	R2	All MCs	49	0.0	49	0.0	0.252	11.0	LOS B	0.8	5.9	0.27	0.32	0.27	54.8
Approach			860	1.2	860	1.2	0.252	1.4	NA	0.8	5.9	0.12	0.15	0.12	58.4
North: Hillview Avenue															
7	L2	All MCs	60	0.0	60	0.0	0.571	20.3	LOS C	2.5	17.3	0.91	1.14	1.45	34.5
8	T1	All MCs	3	0.0	3	0.0	0.571	86.0	LOS F	2.5	17.3	0.91	1.14	1.45	34.4
9	R2	All MCs	21	0.0	21	0.0	0.571	106.9	LOS F	2.5	17.3	0.91	1.14	1.45	34.4
Approach			84	0.0	84	0.0	0.571	44.4	LOS E	2.5	17.3	0.91	1.14	1.45	34.4
West: Bridge Street															
10	L2	All MCs	22	0.0	22	0.0	0.225	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.1
11	T1	All MCs	769	2.0	769	2.0	0.225	0.4	LOS A	0.5	3.5	0.07	0.09	0.07	59.2
12	R2	All MCs	24	4.0	24	4.0	0.225	10.6	LOS B	0.5	3.5	0.14	0.16	0.14	55.9
Approach			816	2.0	816	2.0	0.225	0.8	NA	0.5	3.5	0.07	0.09	0.07	59.0
All Vehicles			1772	1.5	1772	1.5	0.571	3.5	NA	2.5	17.3	0.14	0.17	0.16	56.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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.

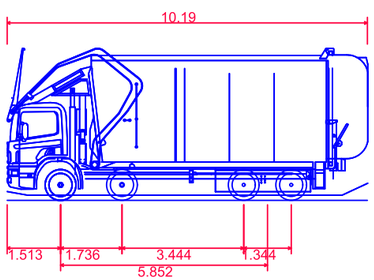
Appendix D Colliers Figures





RCV - ENTRY MANOEUVRE

VEHICLE PROFILES



TRC Front Loader (2024)	
Overall Length	10.190m
Overall Width	2.490m
Overall Body Height	4.298m
Min Body Ground Clearance	0.148m
Track Width	2.490m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.300m

PRELIMINARY ADVICE ONLY
3 June 2026

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	03-06-26	ORIGINAL ISSUE - FOR DA SUBMISSION	NS	NS	SC

SCALE 0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

NORTH

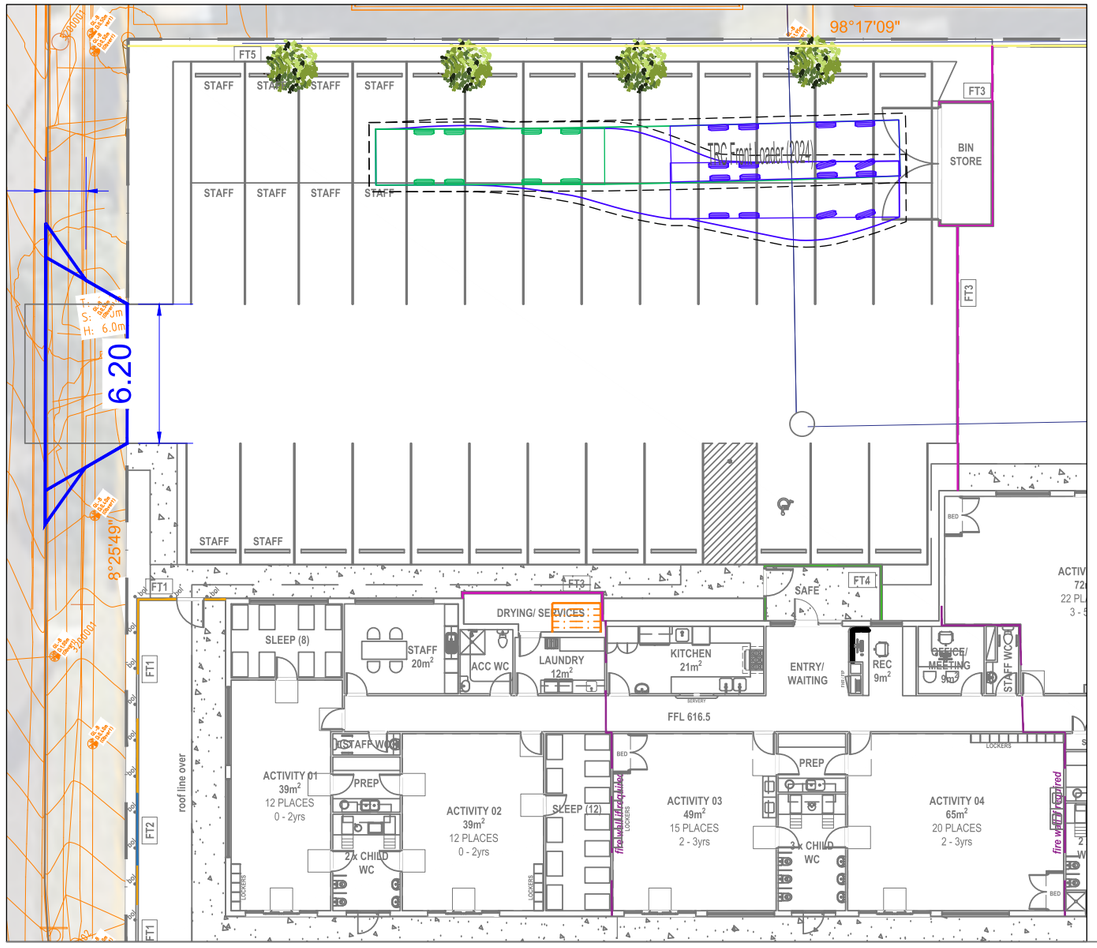
CLIENT: DEVELOPMENT HOLDINGS PTY

Colliers International Engineering & Design (TTMC) Pty Ltd
ABN 65 010 868 621
LEVEL 8, 369 Ann Street, BRISBANE QLD 4000
P.O. BOX 12015, BRISBANE QLD 4003
T: (07) 3327 9500 F: (07) 3327 9501
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

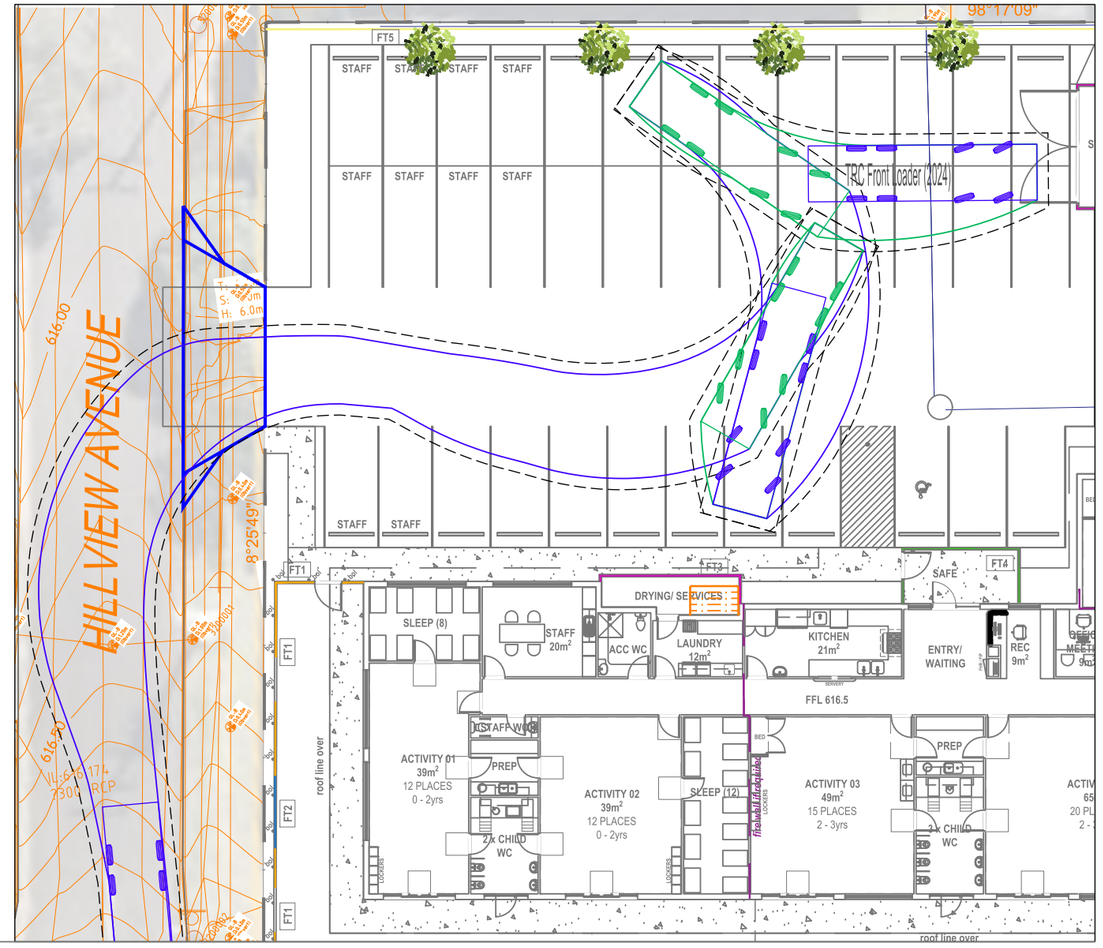
PROJECT: **26BRT0148 - 241-249 BRIDGE STREET, NEWTOWN**

DRAWING TITLE: **SWEPT PATH ANALYSIS - SITE ACCESS**
10.19m OVERHEAD LOADING REFUSE COLLECTION VEHICLE

PROJECT NUMBER	ORIGINAL SIZE
26BRT0148	A3
DRAWING NUMBER	REVISION
26BRT0148-01	A
DATE	SHEET
3 Jun 2026	1 OF 3

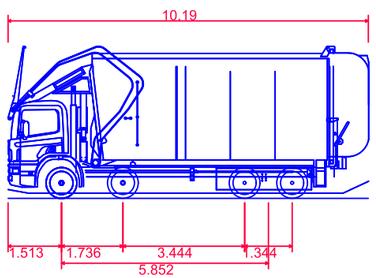


RCV - ON-SITE MANOEUVRING



RCV - EXIT MANOEUVRE

VEHICLE PROFILES



TRC Front Loader (2024)

Overall Length	10.190m
Overall Width	2.490m
Overall Body Height	4.298m
Min Body Ground Clearance	0.148m
Track Width	2.490m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.300m

PRELIMINARY ADVICE ONLY
3 June 2026

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	03-06-26	ORIGINAL ISSUE - FOR DA SUBMISSION	NS	NS	SC

SCALE 0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

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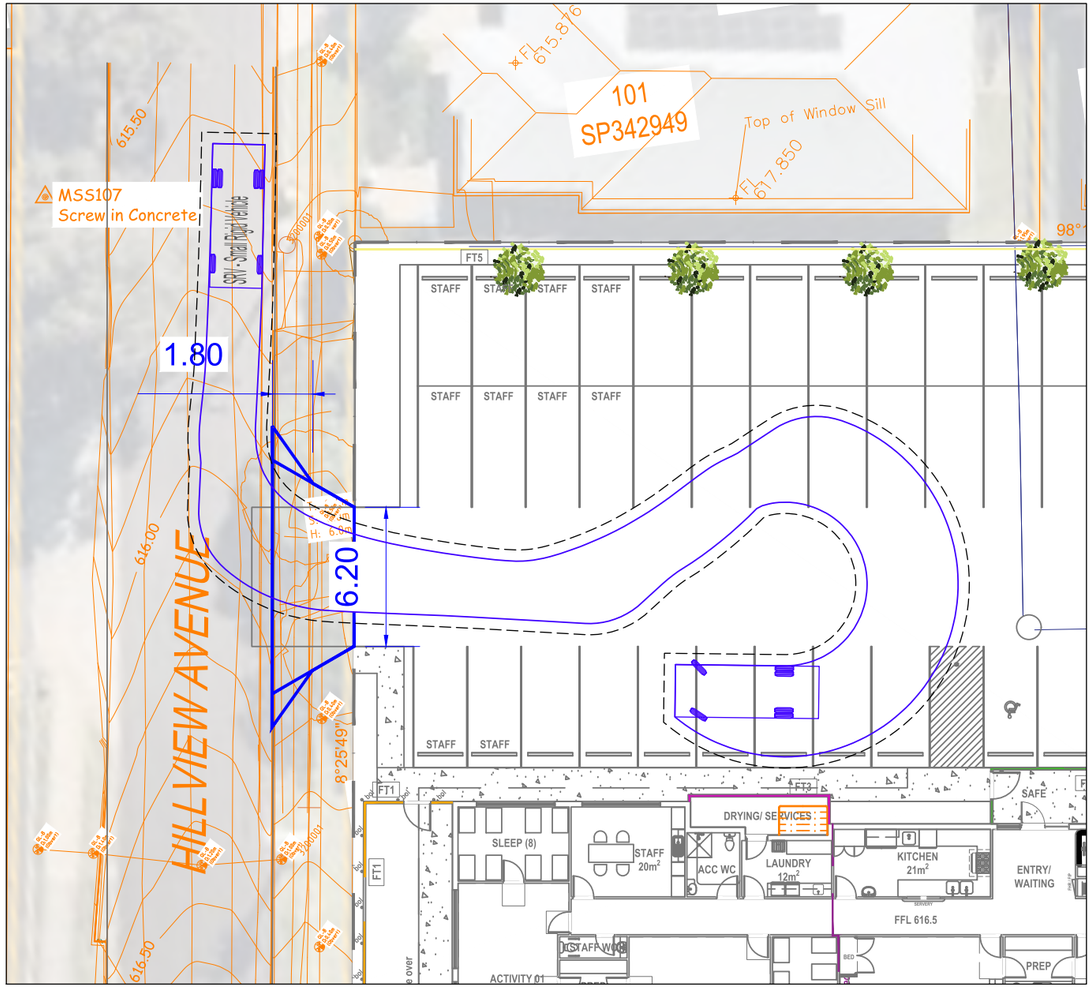
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

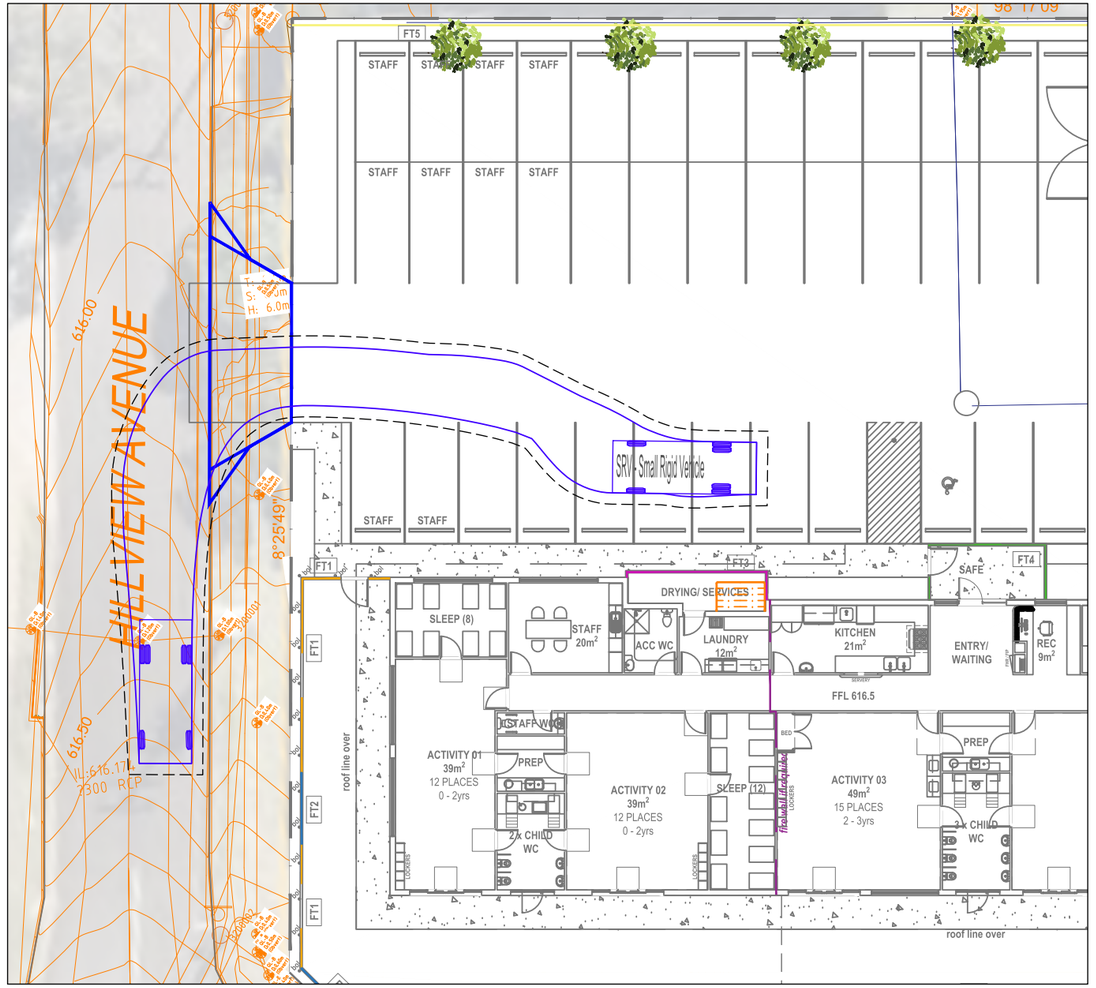
PROJECT: **26BRT0148 - 241-249 BRIDGE STREET, NEWTOWN**

DRAWING TITLE: **SWEPT PATH ANALYSIS - INTERNAL MANOEUVRING**
10.19m OVERHEAD LOADING REFUSE COLLECTION VEHICLE

PROJECT NUMBER	26BRT0148
ORIGINAL SIZE	A3
DRAWING NUMBER	26BRT0148-01
REVISION	A
DATE	3 Jun 2026
SHEET	2 OF 3

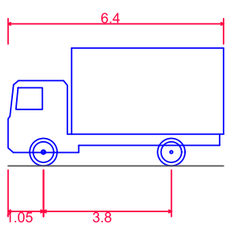


SRV - ENTRY MANOEUVRE



SRV - EXIT MANOEUVRE

VEHICLE PROFILES



SRV - Small Rigid Vehicle

Overall Length	6.400m
Overall Width	2.330m
Overall Body Height	3.500m
Min Body Ground Clearance	0.398m
Track Width	2.330m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	7.100m
Design Speed Forward	5.00km/h
Clearance Envelope	0.500m

PRELIMINARY ADVICE ONLY
3 June 2026

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	03-06-26	ORIGINAL ISSUE - FOR DA SUBMISSION	NS	NS	SC

SCALE 0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

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E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT
26BRT0148 - 241-249 BRIDGE STREET, NEWTOWN

DRAWING TITLE
SWEPT PATH ANALYSIS - INTERNAL MANOEUVRING
6.4m SMALL RIGID VEHICLE (SRV)

PROJECT NUMBER	26BRT0148
ORIGINAL SIZE	A3
DRAWING NUMBER	26BRT0148-01
REVISION	A
DATE	3 Jun 2026
SHEET	3 OF 3