

Tangaratta Feedmill

Traffic Impact Assessment



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LIST OF ACRONYMS

AADT	Average Annual Daily Traffic
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ASD	Approach Sight Distance
BAL	Basic Left Treatment
BAR	Basic Right Treatment
HML	Higher Mass Limits
HV	Heavy Vehicle
LV	Light Vehicle
NSW	New South Wales
PSA	PSA Consulting
RAV	Restricted Access Vehicle
SISD	Sade Intersection Sight Distance
TIA	Traffic Impact Assessment
TfNSW	Transport for NSW
TRC	Tamworth Regional Council



1. INTRODUCTION

1.1 Background

PSA Consulting has been engaged by Baiada to provide traffic engineering advice and prepare a Traffic Impact Assessment (TIA) to accompany a Development Application (DA) for the proposed Tangaratta Feed Mill located at 771 Wallamore Road, Wallamore. The site locality plan is highlighted in Figure 1.



Figure 1: Site Locality Plan (Source: Nearmap, 2023)

1.2 Report Structure

This report addresses the relevant requirements of Tamworth Regional Council and includes the following sections:

- Existing Conditions.
- Development Profile.
- Traffic Impact Assessment.
- Service Vehicle Swept Path Assessment.
- On-site Parking requirements.



2. EXISTING CONDITIONS

2.1 Road Network

The proposed development is located at the north-west corner of Wallamore Road and Bowlers Lane, approximately 9km north-west of Tamworth, and approximately 2.5km east of the Oxley Highway. Wallamore Road is a two-lane, two-way road. The road surface is sealed with an approximate width of 8m. Wallamore Road is classified as a Local Road under the Transport for NSW Road Network Classification with a posted speed limit of 100km/h. The road network with respect to the development site is evidenced below in Figure 2.

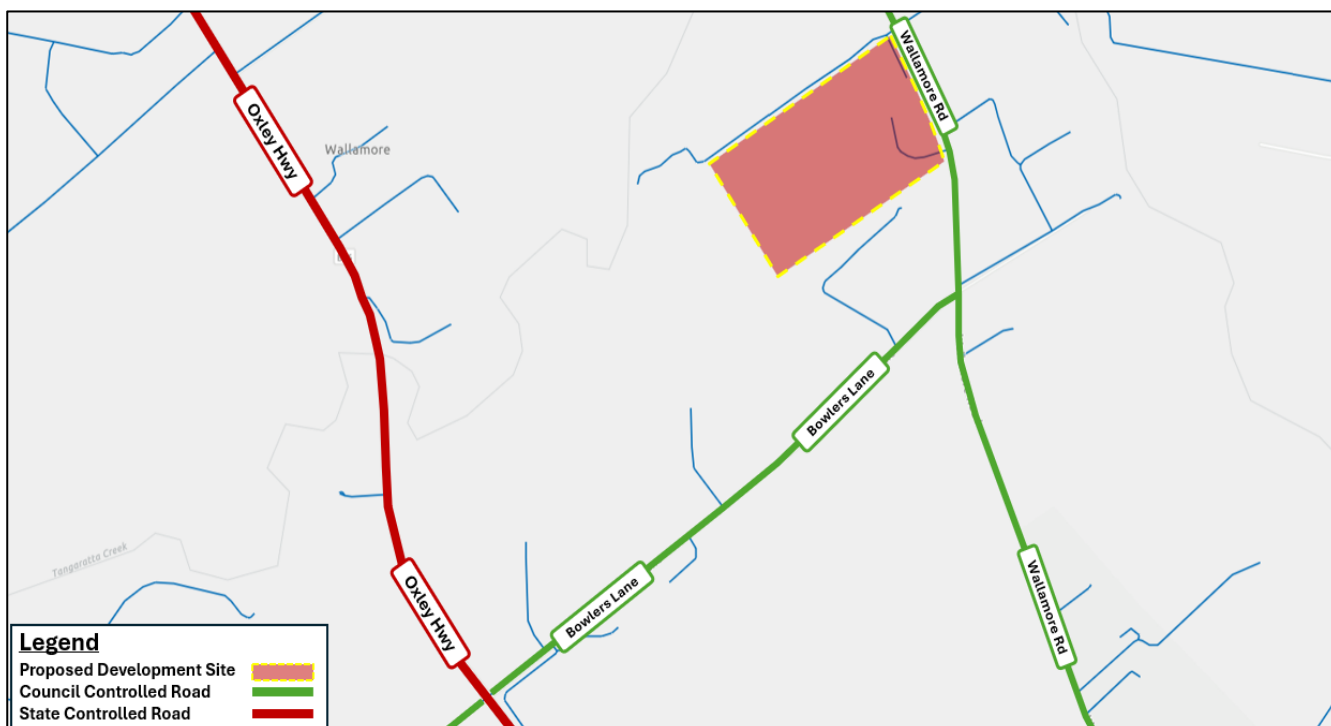


Figure 2: Road Classification (Source: Transport for NSW, PSA Consulting)

2.1.1 Freight Network

Wallamore Road falls under the approved 25/26m B-Double Routes as per the Transport for NSW Combined Higher Mass Limits (HML), General Mass Limit (GML) and Concessional Mass Limits (CML) Networks within the Restricted Access Vehicle (RAV) Map, as shown in Figure 3.

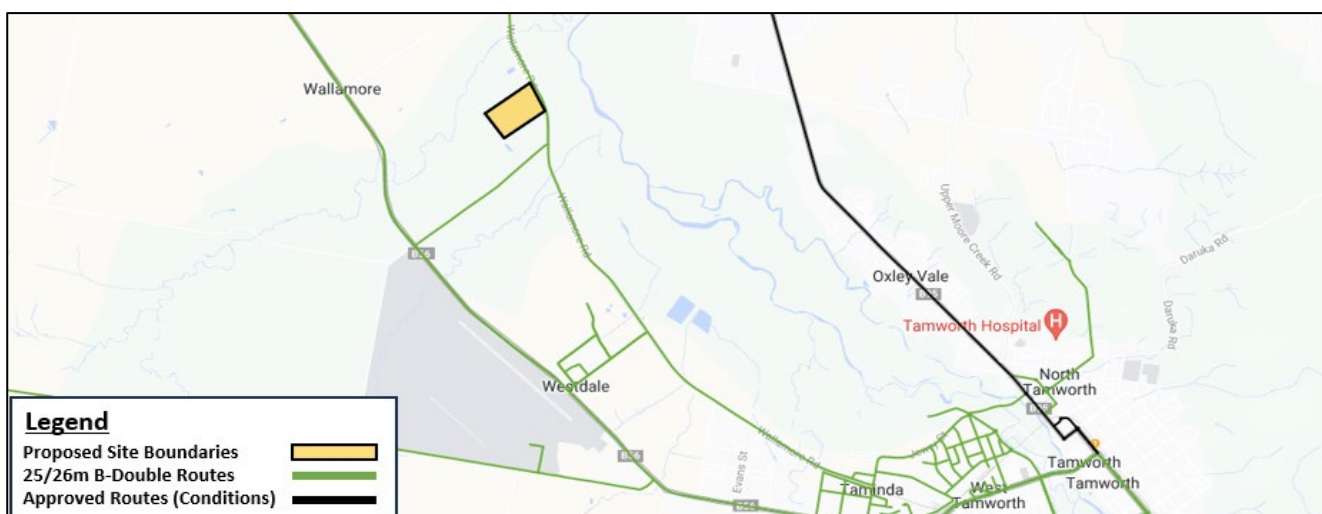


Figure 3: NSW Combined Higher Mass Limits (HML) and Restricted Access Vehicle (RAV) Map (Source: TfNSW)

2.2 Existing Site

The proposed development relates to land at 771 Wallamore Road, Wallamore which contains the current Tangaratta Stockfeeds mill. The site is formally described as Lot 4 on DP578865 and has an area of 40.62ha.

The development will also include Lot 1 on DP1077646 as the existing access driveway to the site traverses the Main Northern Rail Line Corridor. This is an unconstructed rail corridor running north / south along Wallamore Road owned by the NSW State Rail Authority and managed by UGL Regional Linx.

2.3 Background Traffic Volumes

Background traffic data was obtained in collaboration with Tamworth Regional Council (TRC). A temporary traffic counter was installed approximately 3.2 km southeast of the development site access along Wallamore Road, operating from 26 May 2022 to 9 June 2022. This device recorded vehicle movements (classified as Classes 1 through 12) on a 24-hour basis for the full survey period.

In addition, supplementary traffic data was sourced from Transport for New South Wales (TfNSW) via its Traffic Volume Viewer, where a permanent counter is located approximately 380m south of Bowlers Lane. Together, these datasets were compared to establish a robust understanding of background traffic volumes, distribution patterns, and the potential impacts on intersections surrounding the development site.

Figure 4 shows the location of the traffic counter with respect to the development site.

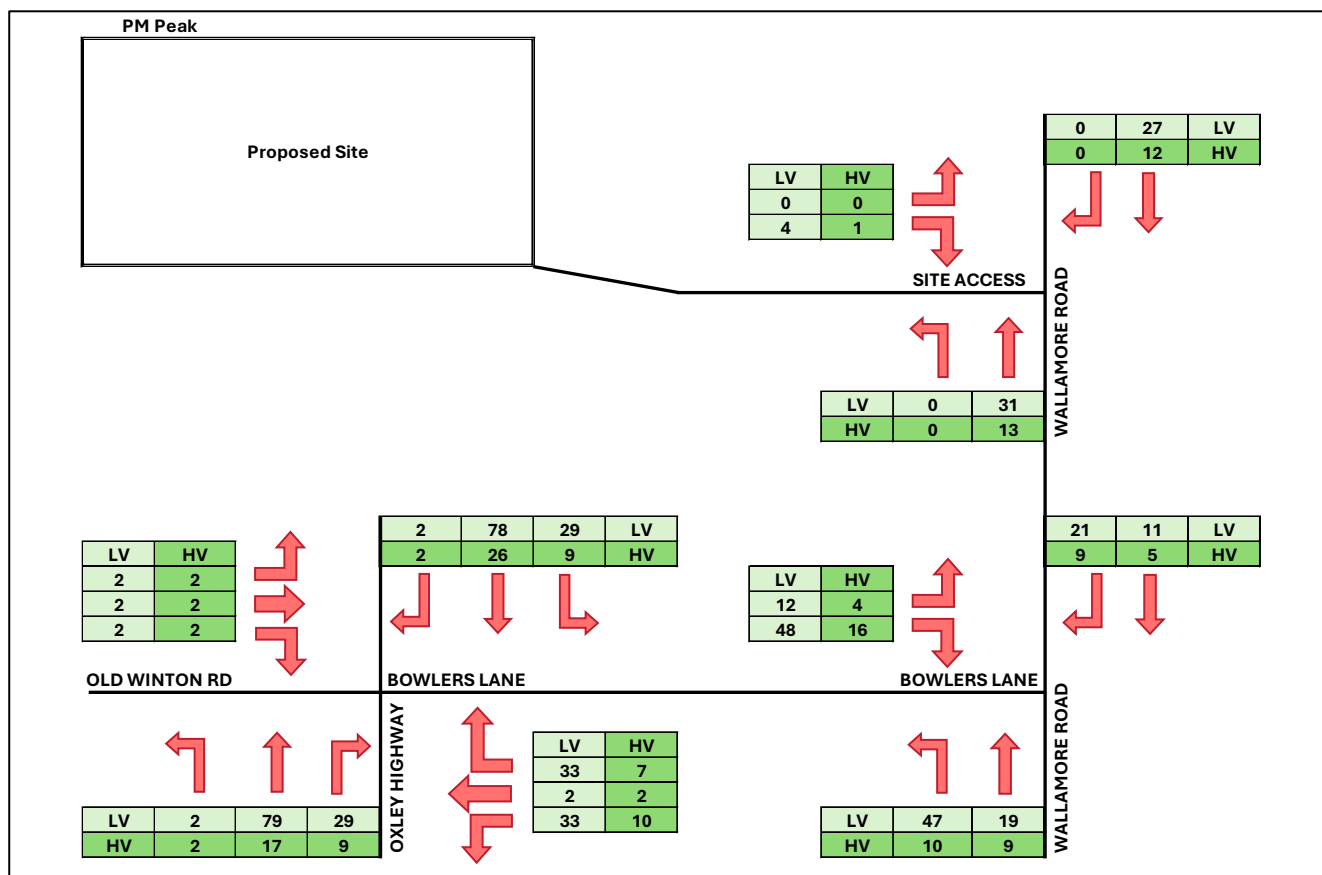
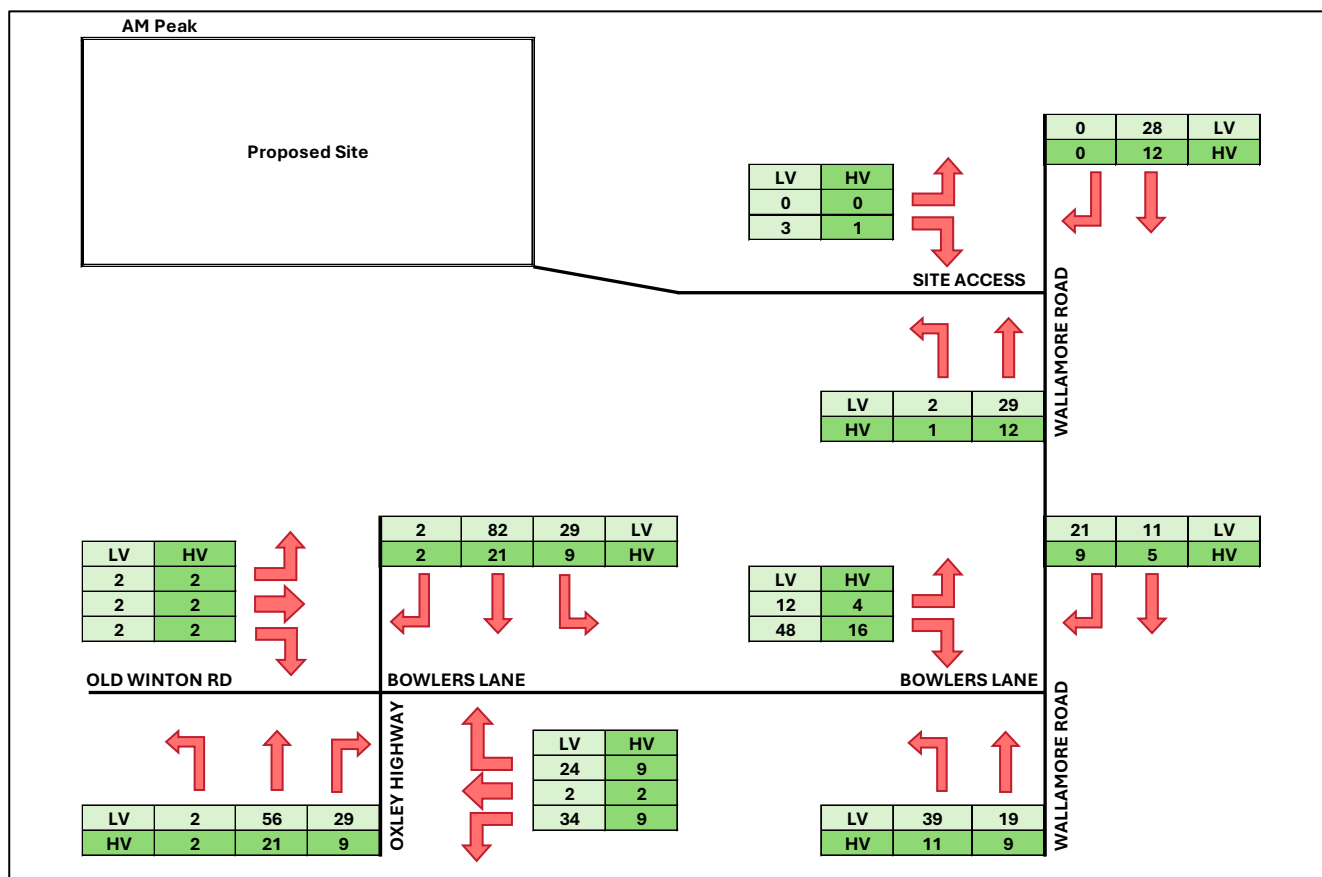


Figure 4: Traffic Count Location (Source: TfNSW, TRC)

Analysis of the survey data identified the following peak hours:

- Oxley Highway Counter: **AM peak** 8:00–9:00am; **PM peak** 2:00–3:00pm
- Wallamore Road Counter: **AM peak** 7:00–8:00am; **PM peak** 1:00–2:00pm

These peak periods have been graphically summarised in Figure 5 and Figure 6, which present the distribution of both light and heavy vehicles and their movement through the surrounding road network. This combined dataset provides the basis for determining the existing and future operational performance of the road network in the vicinity of the proposed development.





3. DEVELOPMENT PROFILE

3.1 Development Details

The proposed development involves the construction of a new, state of the art, poultry feed mill with, in conjunction with the existing mill, will have the capacity to produce up to 16,200 tonnes of poultry feed per week. This increase in production is required to support the projected growth in poultry production within the New England Region. The new mill will operate up to 24 hours per day 7 days per week. The existing mill will be retained in its current form and will produce up to 2,200T of poultry feed per week, operating during daylight hours only.

The proposed site layout is highlighted below, along with the orientation with respect to the existing Feed Mill.

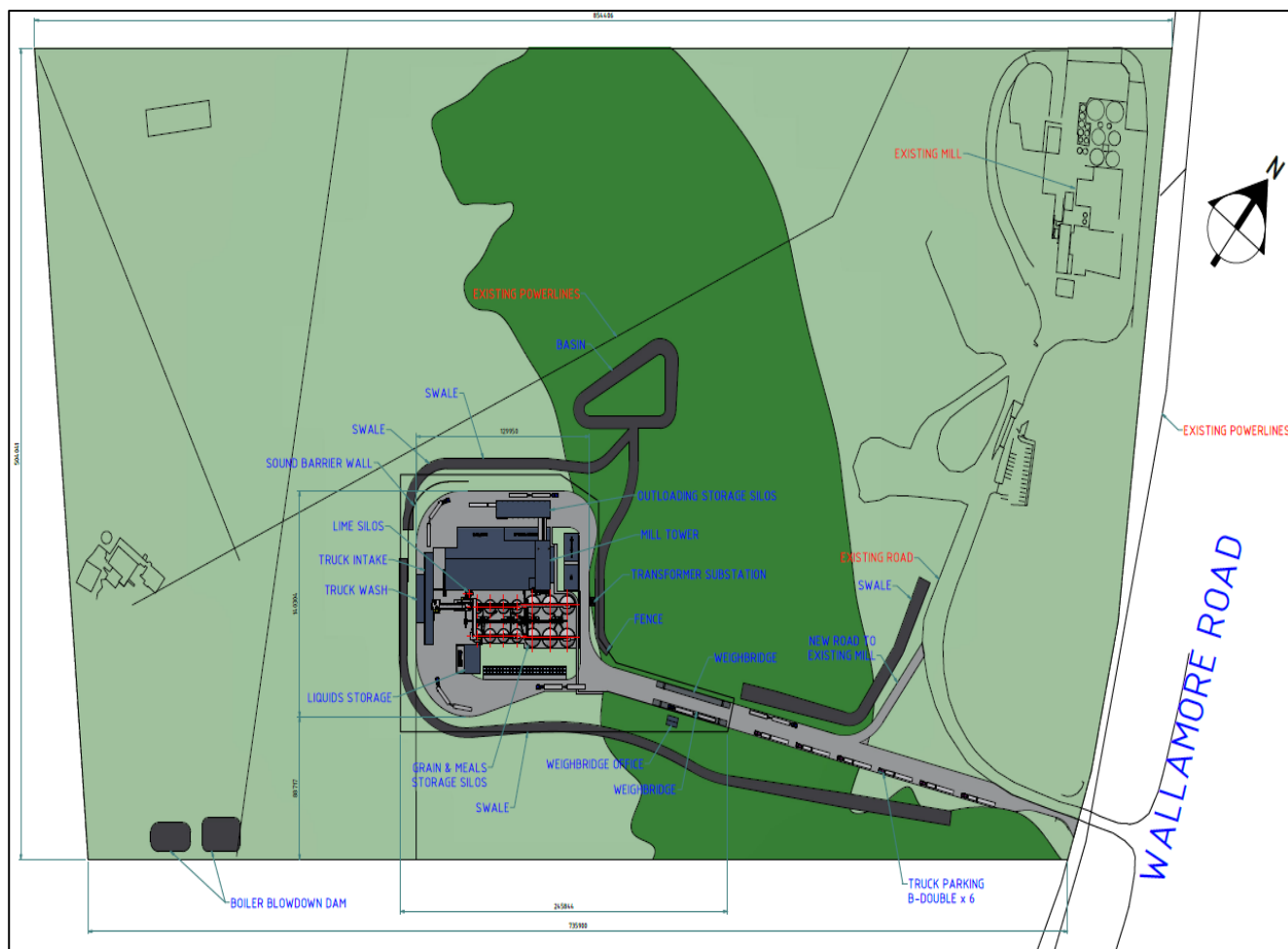


Figure 7: Proposed Site Layout Plan (Source: Baiada)

3.2 Development Traffic Generation and Distribution

3.2.1 Anticipated Light Vehicle Movement

The traffic generated by the proposed development has been determined through consultation with Baiada. Anticipated traffic flow during operations will follow a three-shift schedule, primarily consisting of light vehicle movements from shift workers, including staff, management, and maintenance personnel. There will be an increase in heavy vehicle movements, with these vehicles expected to enter and exit the site within an hour of arrival.

The three-shift operations will run as follows: Day shift from 6:00 am to 2:00 pm, afternoon shift from 2:00 pm to 10:00 pm, and night shift from 10:00 pm to 6:00 am. Employees are expected to arrive approximately 20 minutes before their shift starts and leave 20 minutes after it ends.



The distribution staff during the shifts is as follows:

- Day shift – 6 Staff (6 light vehicle)
- Afternoon shift – 5 Staff (5 light vehicles)
- Night shift – 4 Staff (4 light vehicles)

Maintenance will operate over two shifts between 7:00 am to 3:30 pm, while Management operates from 8:00 am to 4:30 pm. The distribution is as follows:

- Maintenance – 3 Staff (3 light vehicles)
- Management – 5 Staff (5 light vehicles)

It is assumed that as a conservative figure each staff member will be arriving and exiting the site in their own vehicle, therefore staff numbers will be reflective of light vehicle movements accessing the site.

Table 1: Staff Movement Table

Personal	Time	No.
Staff	6:00 am - 2:00 pm	6
	2:00 pm - 10:00 pm	5
	10:00 pm - 6:00 am	4
Management	7:00 am - 3:30 pm	3
Maintenance	8:00 am - 4:30 pm	5
Total		23

3.2.2 Anticipated Heavy Vehicle Movements

At full capacity, the proposed development will handle approximately 32,000 tonnes of material (feed and grain) per week, resulting in roughly 1,532 truck movements weekly. This is based on the assumption that each truck will have a load capacity of 42 tonnes. Each week, 16,200 tonnes of raw materials will be delivered to the feed mill, and an equal amount of finished feed will be distributed from the site. The estimated weekly truck move therefore includes both loaded and empty truck movements – specifically empty return trips after grain delivery and empty arrivals prior to feed distribution. An 80- 20% split of heavy vehicles is assumed with 80% of all heavy vehicles arriving between 6:00 am and 10:00pm and 20% of all heavy vehicles arriving between 10:00 pm and 6:00 am.

This distribution of operational production quantities and associated heavy vehicle movements has been summarised in Table 2 and Table 3.

Table 2: Operational Volumes and Heavy Vehicle Requirements (Source: Baiada)

Heavy Vehicle Requirements			
Operational Phase	Feed/Grain Volume (Tonnes per week)	Truck Movements Per Week (42 tonnes per load)	Truck Movements Per Day (7-day operation)
Existing	4410 tonnes (2250 in and 2250 out)	210 Heavy Vehicle Movements (In & Out)	30 Heavy Vehicle Movements
Proposed	32,400 tonnes (16.2k in and 16.2k out)	1543 Heavy Vehicle Movements (In & Out)	221 Heavy Vehicle Movements

Table 3: Heavy Vehicle Movements (Source: Baiada, PSA Consulting)

HEAVY VEHICLE MOVEMENTS							
Stage	Time	Split	Total HV per Week	Week	Total HV per Day	Day (7)	Hour
Proposed	6am - 10pm	80%	1543	1235	221	177	12
	10pm - 6am	20%		309		44	6



3.2.3 Development Traffic Distribution

Distribution of the development traffic has been provided through consultation with Baiada, where the following distributions have been concluded:

- Light Vehicles (Staff)
 - 95% arrive and exit from the south.
 - 5% arrive and exit from the north.
 - 70% turn into and from Bowlers Lane at Wallamore Road / Bowlers Lane intersection
 - 30% continue to and from Wallamore Road
 - At the Oxley Highway / Bowlers Lane / Old Winton Road intersection
 - 20% arrive and exit onto North Oxley Highway
 - 80% arrive and exit onto South Oxley Highway
- Heavy Vehicles
 - 95% arrive and exit from the south.
 - 5% arrive and exit from the north.
 - 65% turn into and from Bowlers Lane at Wallamore Road / Bowlers Lane intersection
 - 35% continue to and from Wallamore Road
 - At the Oxley Highway / Bowlers Lane / Old Winton Road intersection
 - 35% arrive and exit onto North Oxley Highway
 - 65% arrive and exit onto South Oxley Highway

These distribution splits across the development span have been illustrated below for both light and heavy vehicles in Figure 8.

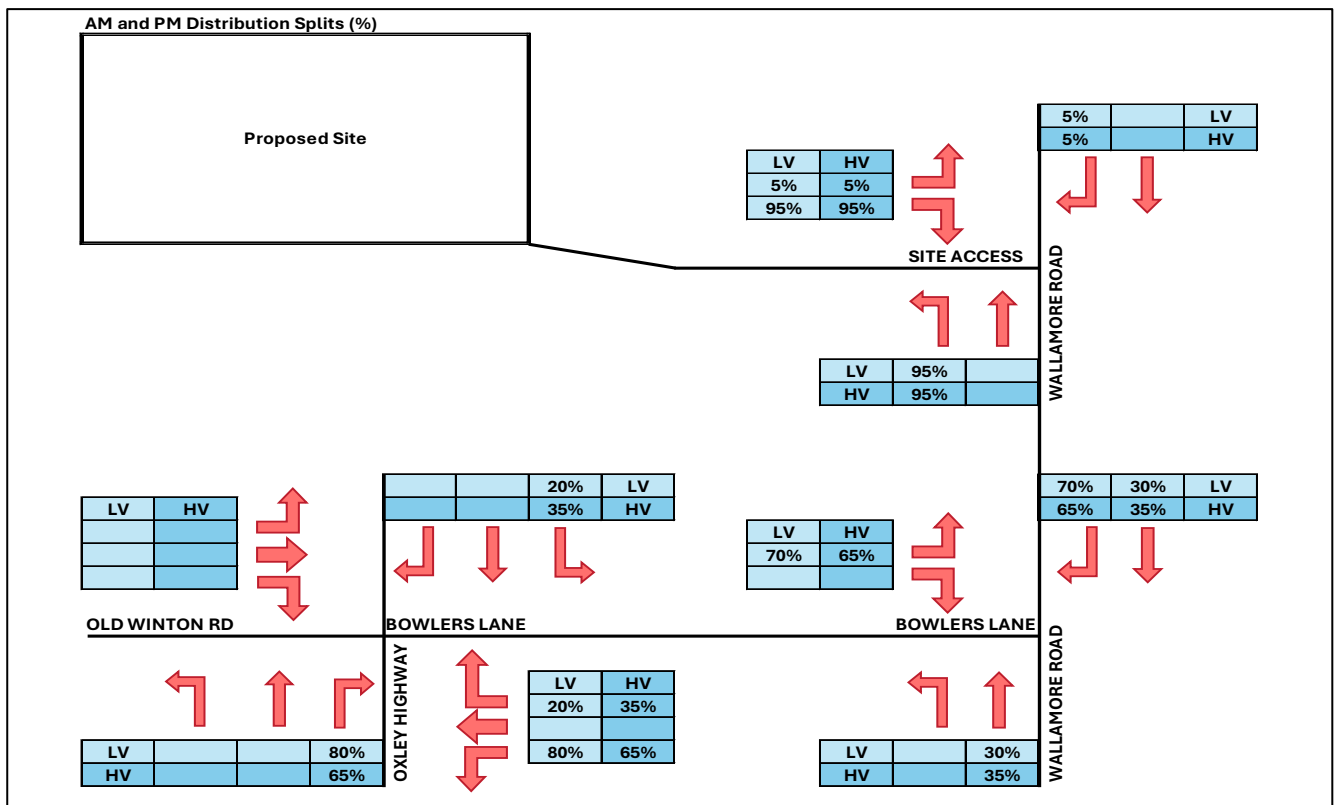


Figure 8: Turn Movement Distribution Split (Source: Baiada, PSA)



To establish the peak volume of vehicles entering and exiting the site, an hourly trip generation profile was developed through consultation with Baiada for both light and heavy vehicles. This breakdown provides a clear indication of how traffic activity is distributed across the day and enables identification of the periods of highest demand. The resulting hourly movements are summarised in Table 4 below.

Table 4: AM and PM Peak Hour Traffic Generation (Source: PSA Consulting)

Hour	Light Vehicle Movements			Heavy Vehicle Movements			Total Vehicle Count
	Arrive	Leave	Total	Arrive	Leave	Total	
5-6am	6	-	6	3	3	6	12
6-7am	3	4	7	6	6	12	19
7-8am	5	-	5	6	6	12	17
8-9am	-	-	0	6	6	12	12
9-10am	-	-	0	6	6	12	12
10-11am	-	-	0	6	6	12	12
11-12pm	-	-	0	6	6	12	12
12-1pm	-	-	0	6	6	12	12
1-2pm	5	-	5	6	6	12	17
2-3pm	-	6	6	6	6	12	18
3-4pm	-	3	3	6	6	12	15
4-5pm	-	5	5	6	6	12	17
5-6pm	-	-	0	6	6	12	12
6-7pm	-	-	0	6	6	12	12
7-8pm	-	-	0	6	6	12	12
8-9pm	-	-	0	6	6	12	12
9-10pm	4	-	4	6	6	12	16
10-11pm	-	5	5	3	3	6	11
11-12am	-	-	0	3	3	6	6
12-1am	-	-	0	3	3	6	6
1-2am	-	-	0	3	3	6	6
2-3am	-	-	0	3	3	6	6
3-4am	-	-	0	3	3	6	6
4-5am	-	-	0	3	3	6	6

From the assessment, two peak periods of combined light and heavy vehicle activity have been identified:

- **AM Peak** (6:00am–7:00am): A total of **19** vehicle movements (7 light, 12 heavy), representing the highest inbound activity for the day as operations commence and staff arrive.
- **PM Peak** (2:00pm–3:00pm): A total of **18** vehicle movements (6 light, 12 heavy), driven by a combination of outbound staff trips and regular heavy vehicle operations.

The distribution of development traffic during the AM and PM peak periods is shown in Figure 9 and Figure 10. These periods are considered the most critical for assessing the impact of the development on the surrounding road network, as they represent the times of highest concentrated activity.

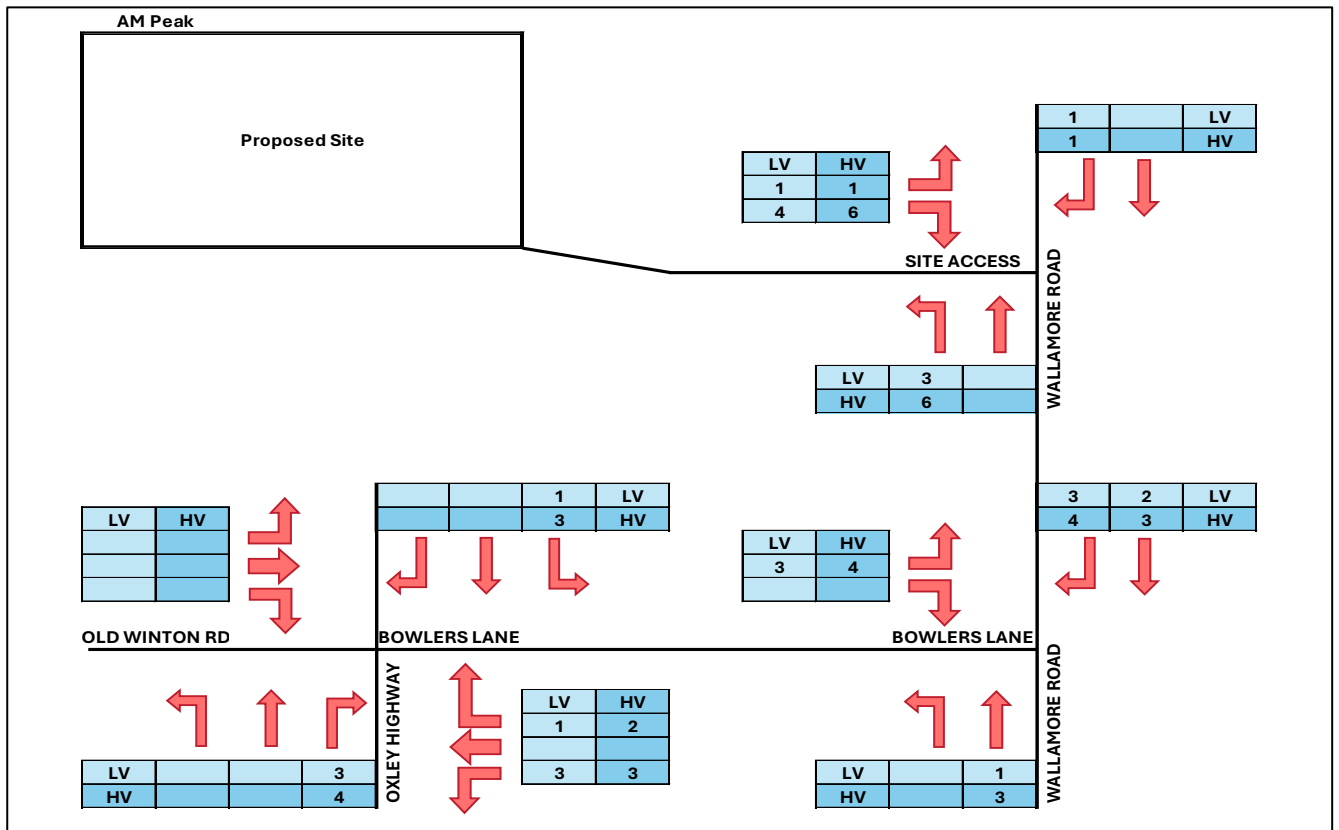


Figure 9: Development Traffic AM Peak (Source: PSA)

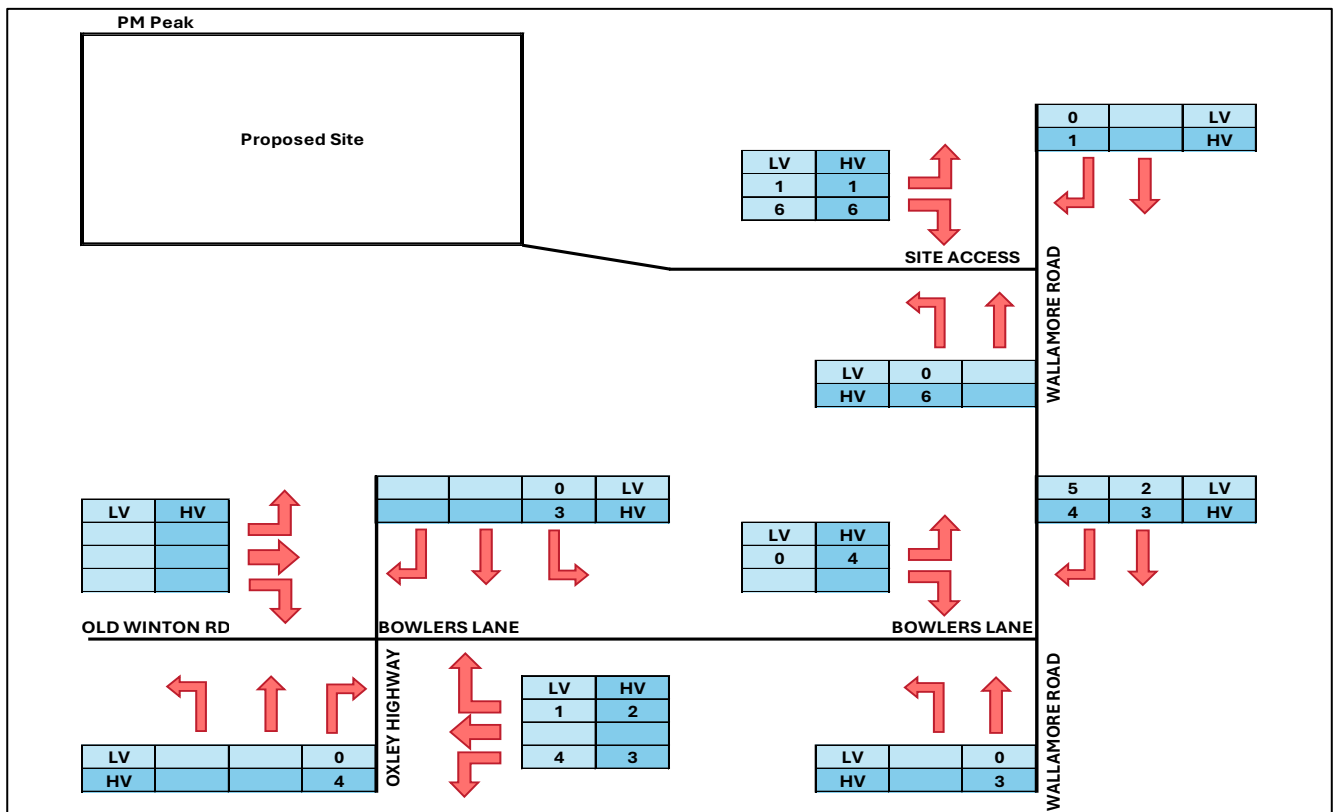


Figure 10: Development Traffic PM Peak (Source: PSA)



4. TRAFFIC IMPACT ASSESSMENT

4.1.1 Key Performance Factors

Three key measures of performance are generally used when assessing the operations of intersections. These include:

- Level of Service (LOS);
- Critical delay;
- Degree of Saturation (DOS) and practical capacity; and
- Queue Length for critical movements.

Allowable thresholds used for this study are defined in the following sections. These thresholds are based on standard practice adopted within New South Wales and form the basis of the determination of any deficiencies within the existing road network.

4.1.1.1 Level of Service and Delay

Levels of Service (LOS) and delay definitions are shown in Table 5. These values are industry accepted thresholds published by the NSW RTA.

Table 5: Level of Service and delay - all intersection types (Source: Roads and Traffic Authority)

LEVEL OF SERVICE	AVERAGE DELAY PER VEHICLE (SECS/VEH)	COMMENTS TRAFFIC SIGNAL AND ROUNDABOUT	COMMENTS GIVE WAY & STOP SIGN
A	$d \leq 14.5$	Good operation	Good operation
B	$14.5 < d \leq 28.5$	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	$28.5 < d \leq 42.5$	Satisfactory	Satisfactory, but accident study required
D	$42.5 < d \leq 55$	Nearing Capacity	Near capacity & accident study required
E	$55 < d \leq 70.5$	At capacity, requires upgrade or other control mode	At capacity, requires other control mode
F	$70.5 < d$		

4.1.1.2 Critical Delay

As outlined in the *Guide to Traffic Impact Assessment (GTIA)*, for priority-controlled intersections, where average peak hour delays for any turn movement exceeds 42 seconds (the LOS C / D threshold), the intersection should be upgraded for safety reasons, where it is practical to do so. If the delay at a priority-controlled intersection is worsened, the next logical upgrade works item such as an additional turn pocket or a median for two part turns, or then a complete intersection upgrade should be determined.

4.1.1.3 Degree of Saturation

The effect of differing levels of traffic flow on the operating performance of intersections has traditionally been assessed by dividing the intersection volume with its capacity – referred to as the DOS. As traffic volumes approach the capacity of the intersection, the DOS approaches the theoretical capacity of 1. The practical DOS thresholds which have been used for comparison in this study are presented in Table 6. These thresholds were originally published within the Department of TMR's *Guidelines for Assessment of Road Impacts of Development (GARID)*. It is noted that GARID is now superseded by the GTIA which specifies that most intersections have a DOS above these levels and average delay should be used to assist in determining intersection performance.



Table 6: Practical Degree of Saturation at intersections (Source: Roads and Maritime Services)

INTERSECTION TYPE	PRACTICAL DEGREE OF SATURATION (DOS)
Sign Controlled	0.8
Roundabout	0.85
Signalised Intersection	0.9

4.1.1.4 Queue Lengths

The SIDRA queue lengths reported herein are 95th percentile queues. This means that 95% of the time, queue lengths will not exceed the specified queue length. Queue lengths are deemed acceptable if queuing is contained with given storage areas. Where queuing exceeds the short lane capacity, queue lengths can also be deemed acceptable if queues do not impact upon major adjacent conflict points (e.g., an adjacent through lane).

4.1.2 Traffic Assessment Scenarios

The assessment considers two primary scenarios, the year the proposed development becomes operational and a 10-year design horizon. Specifically, following scenarios have been analysed:

- 2026 - Opening Year Design Traffic.
- 2036 - 10-year Horizon Design Traffic.

4.1.3 Future Background Traffic

Given the scope of the development, forecast future traffic volumes have been determined for the surrounding road network. To establish future background traffic volumes at the identified intersections, existing 2022 traffic survey data along with previous assessment conducted for the Oakburn Processing Facility (2019) has been projected forward using a conservative **3%** annual growth factor. This methodology provides estimated traffic volumes for the 2026 and 2036 assessment years, representing both expected year of peak operations and a 10-Year planning horizon for the development. These future background traffic volumes have been highlighted below in Figure 11 through Figure 14.

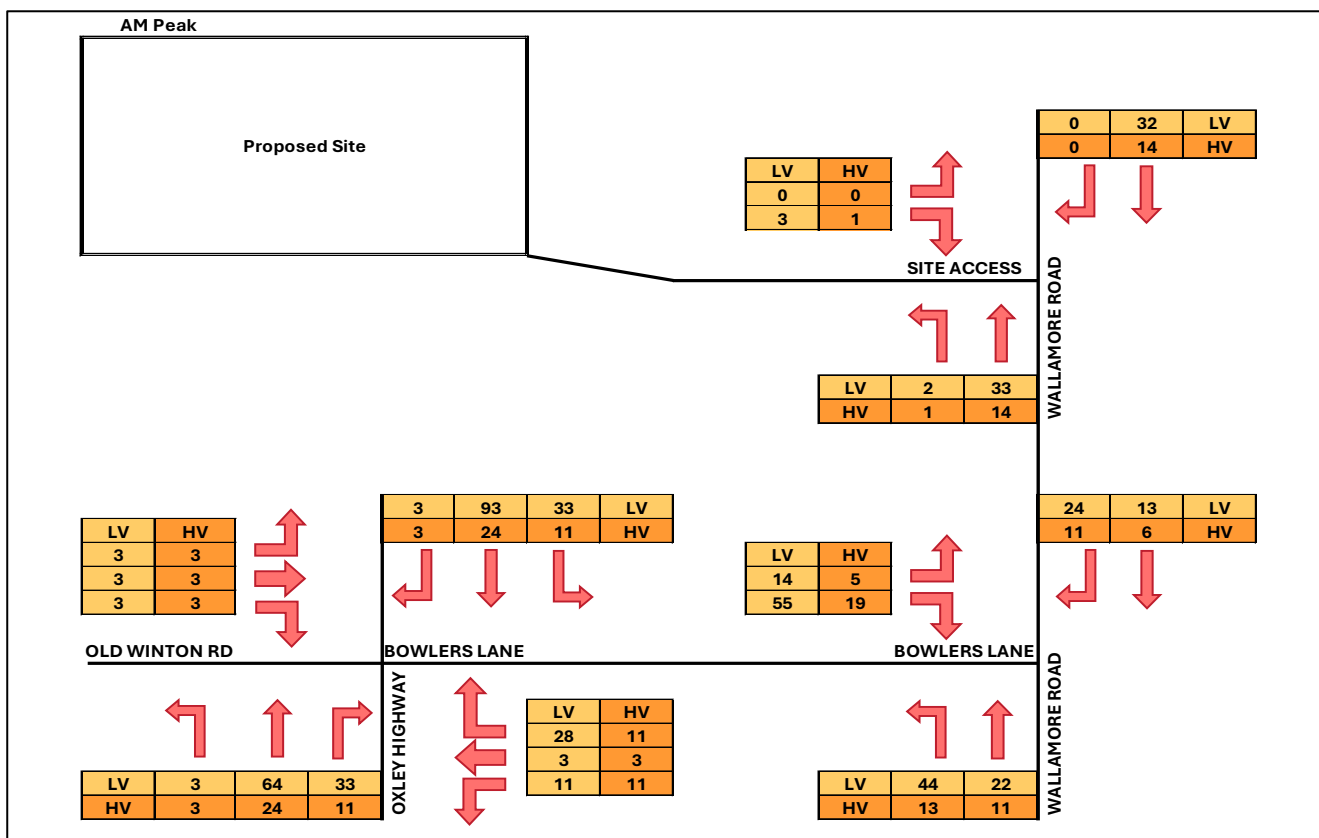


Figure 11: Background Traffic Volume 2026 AM Peak (Source: PSA)

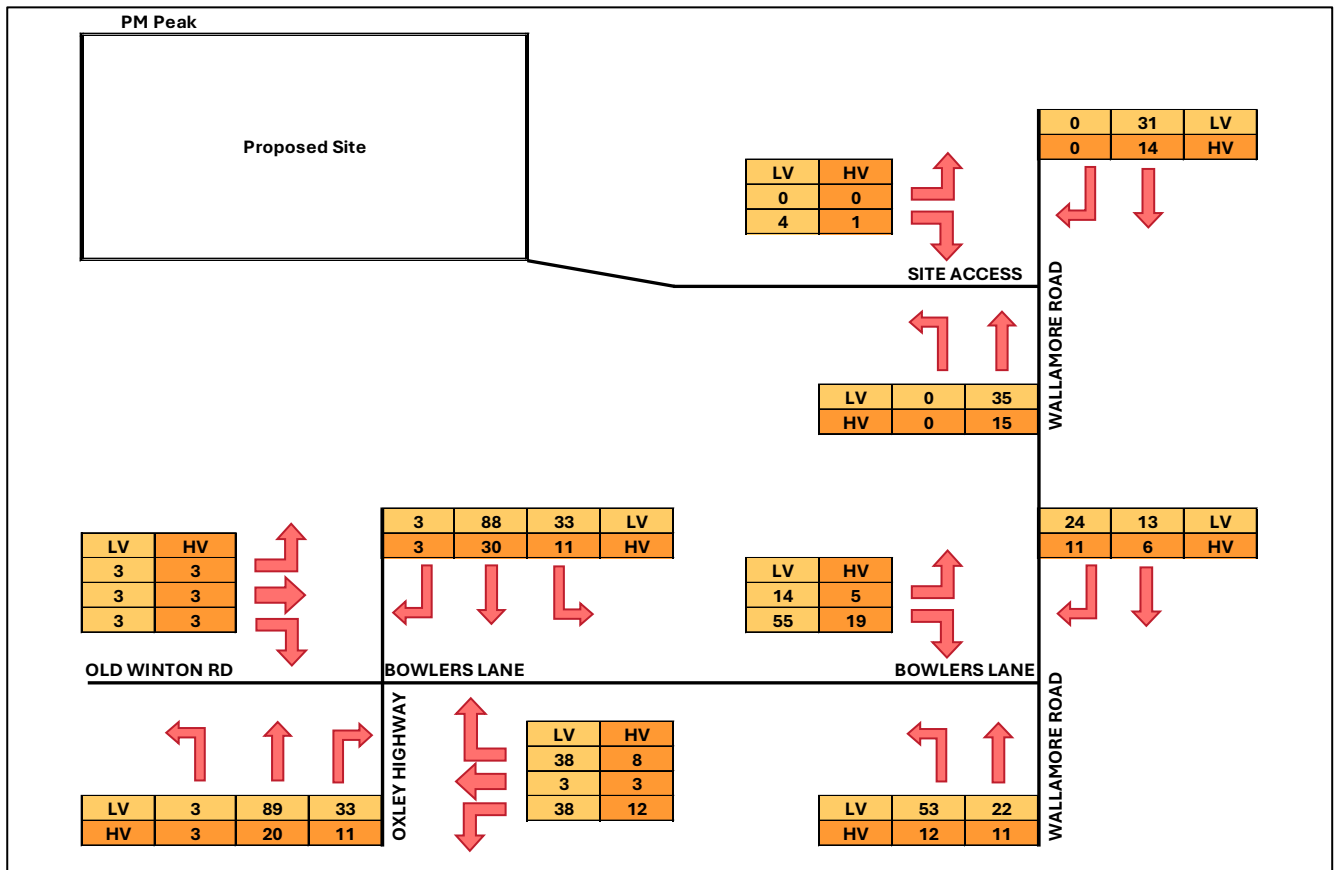


Figure 12: Background Traffic Volume 2026 PM Peak (Source: PSA)

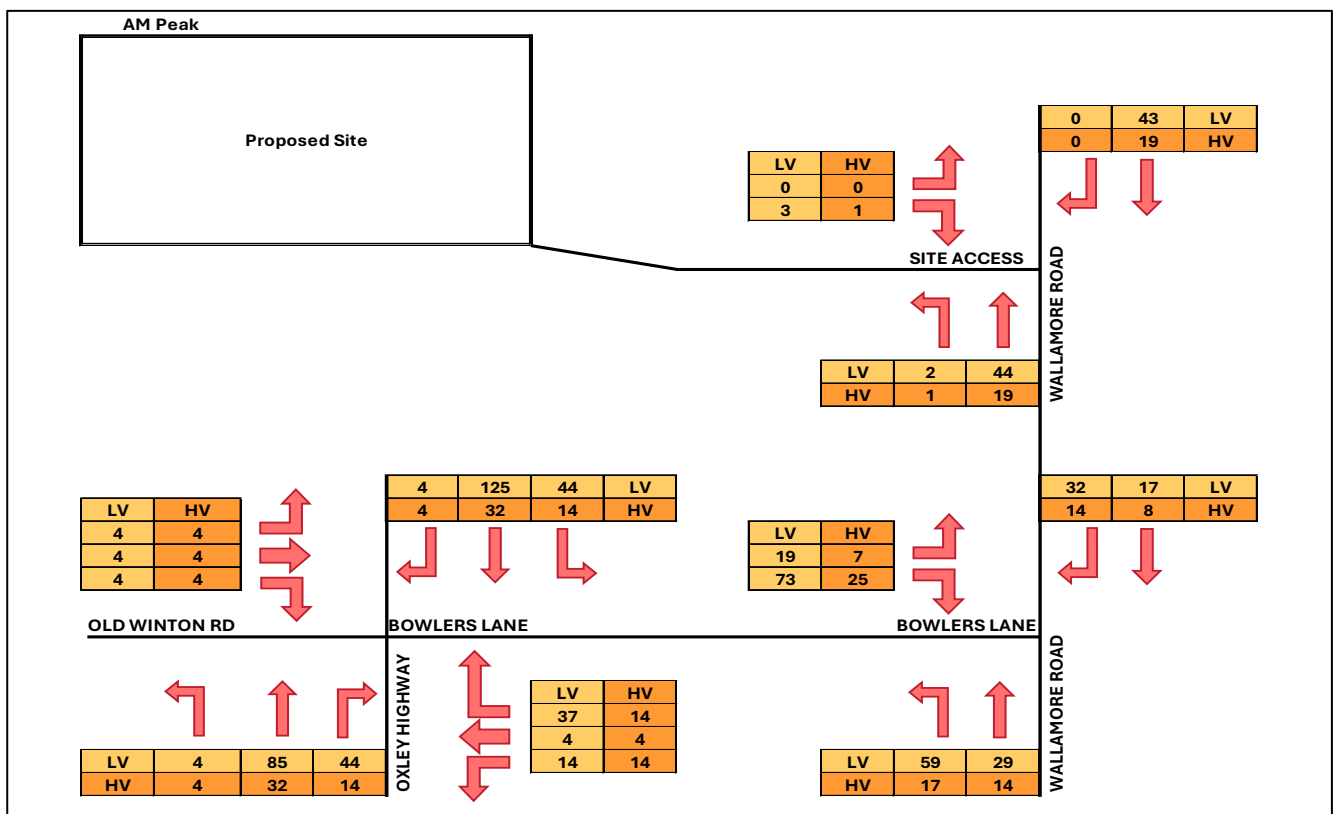


Figure 13: Background Traffic Volume 2036 AM Peak (Source: PSA)

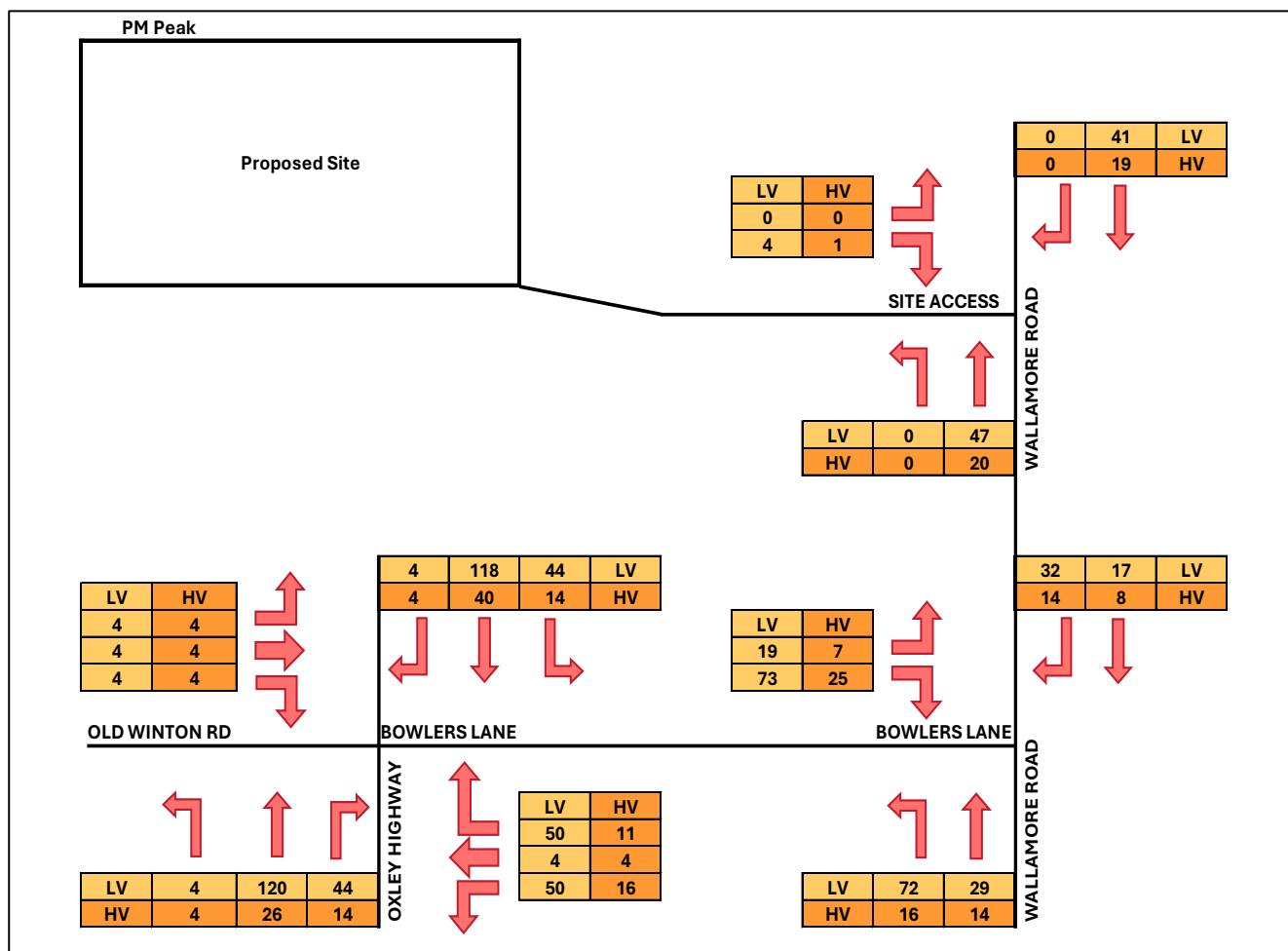


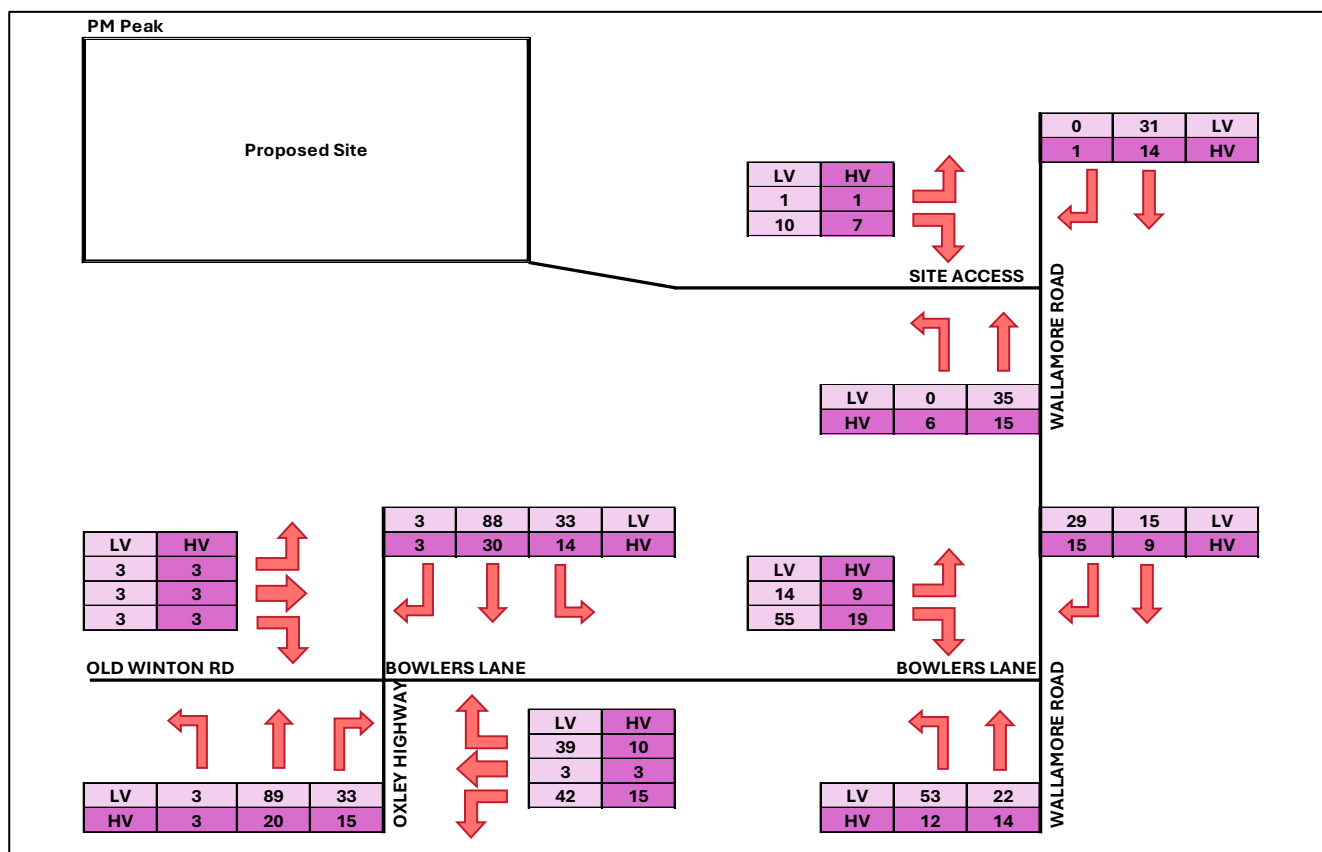
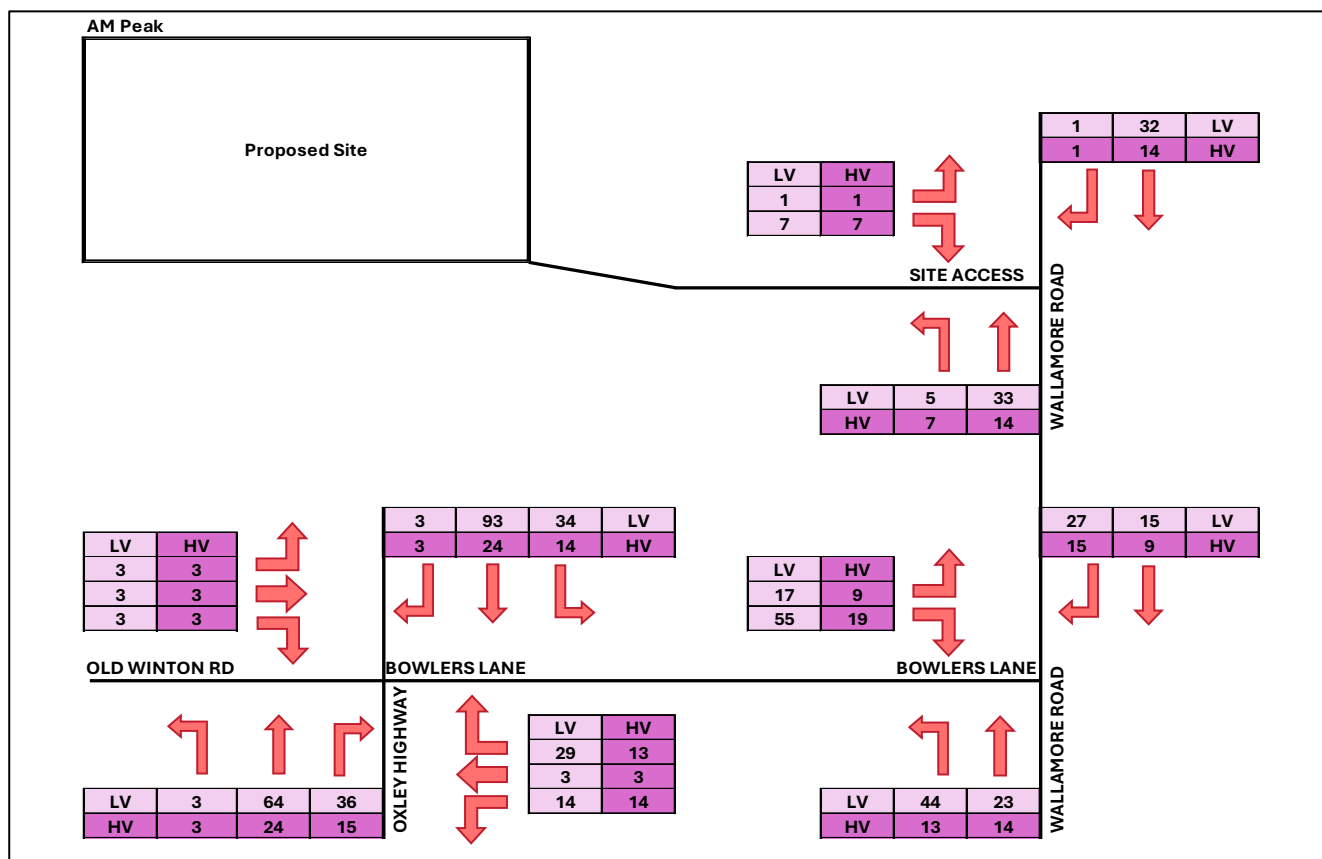
Figure 14: Background Traffic Volume 2036 PM Peak (Source: PSA)

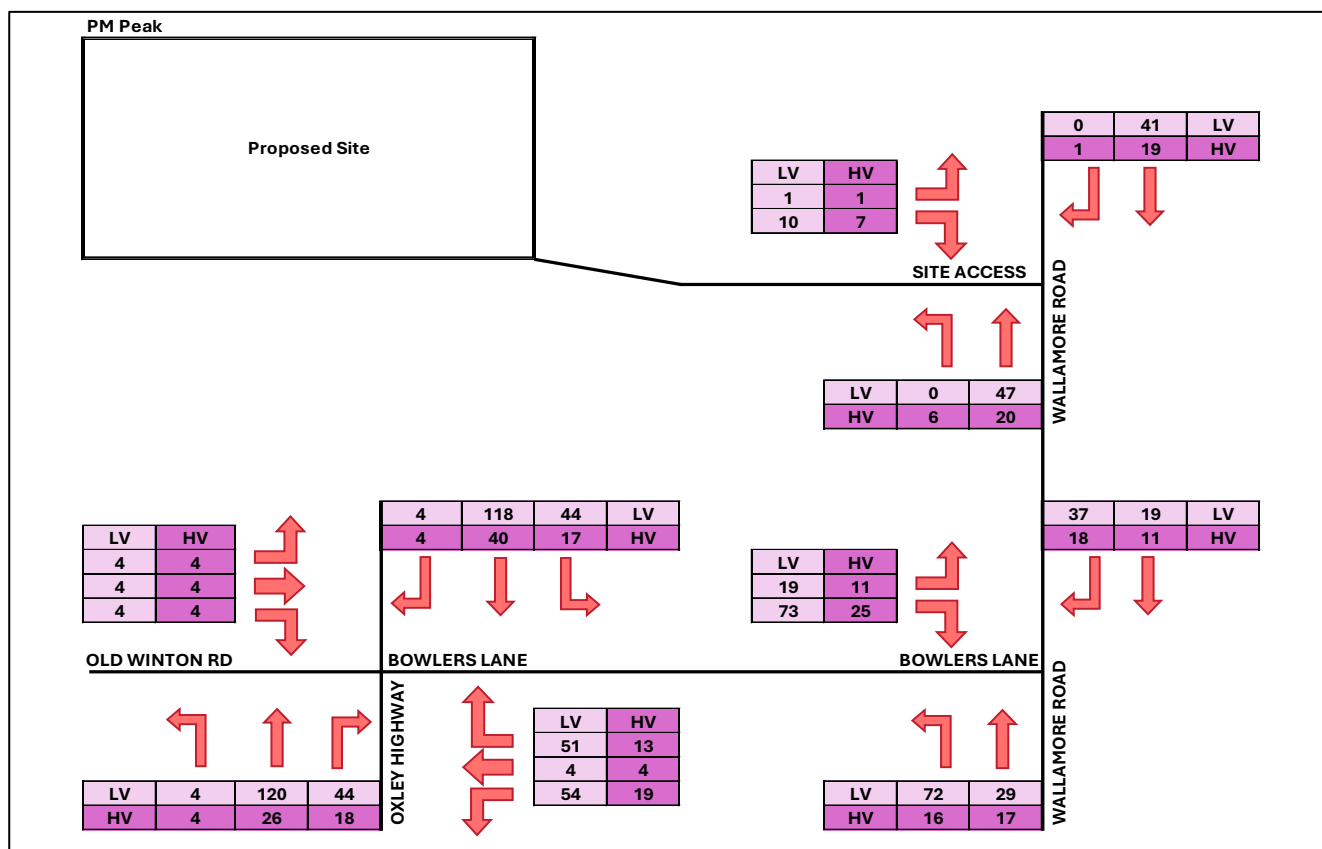
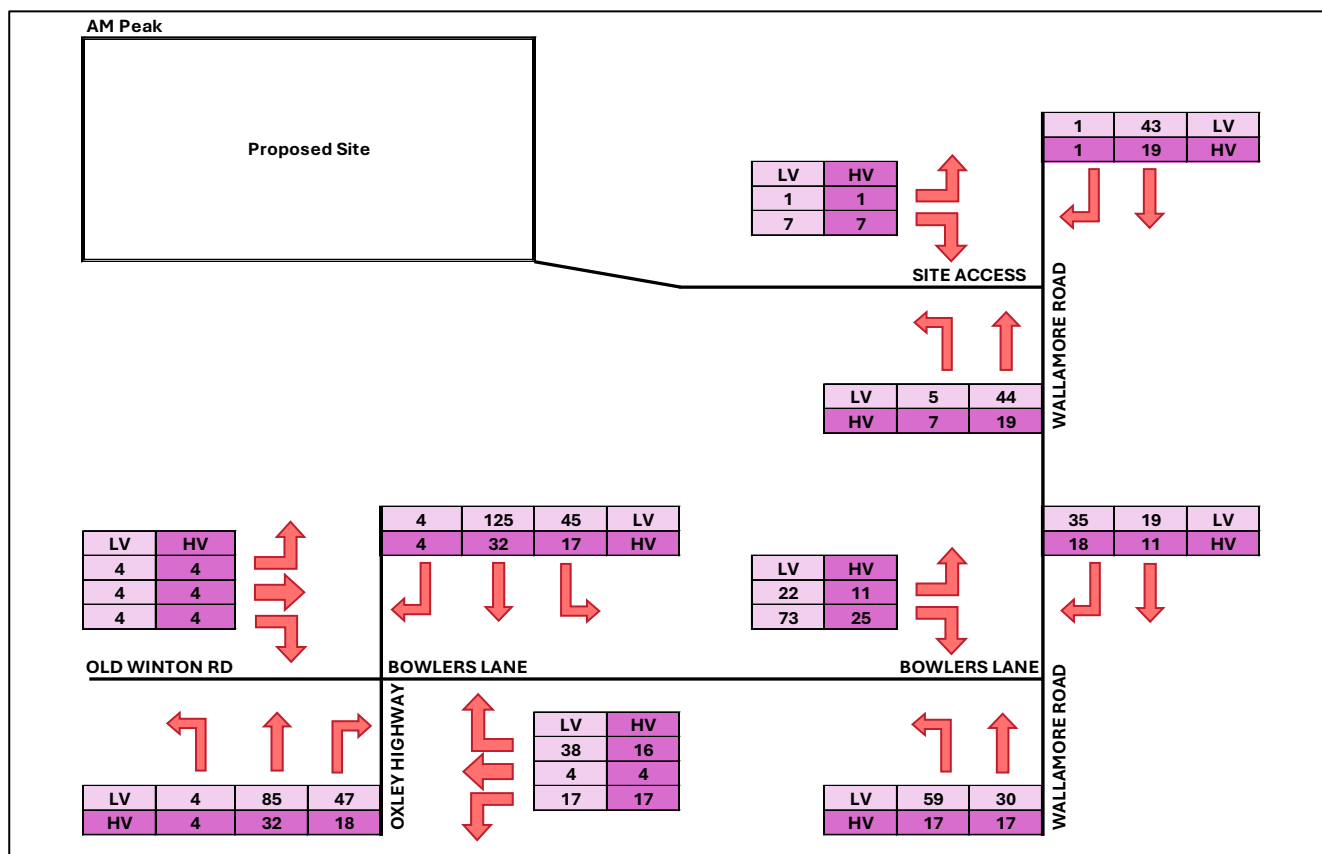
4.1.4 Design Traffic Volume

The background volumes have been amalgamated with the traffic volumes generated by the development to derive the design traffic volumes for this evaluation. The figures below depict the amalgamation of background and development-generated traffic generation for two primary scenarios.

These projected background traffic volumes have then been combined with the development-generated traffic volumes outlined in Section 3.2 to form the design traffic scenarios for assessment. It is noted that the peak operating hours of development traffic are expected to occur outside the background traffic peak hours. However, for robustness, the modelling has applied the peak development traffic volumes during the identified network peak periods. By basing the assessment on these higher background volumes, the analysis effectively tests a conservative, worst-case scenario.

This approach provides confidence that the external road network can accommodate the proposed development under the most critical conditions, ensuring that any potential impacts are fully captured and appropriately addressed. These amalgamated volumes have been graphically represented across the network below in Figure 15 through Figure 18.







4.2 SIDRA ANALYSIS

SIDRA intersection analysis was conducted to evaluate the potential impacts of increased traffic volumes generated by the proposed development.

4.2.1 Wallamore Road / Site Access

The SIDRA intersection Layout for Wallamore Road / Site Access is highlighted below in Figure 19.

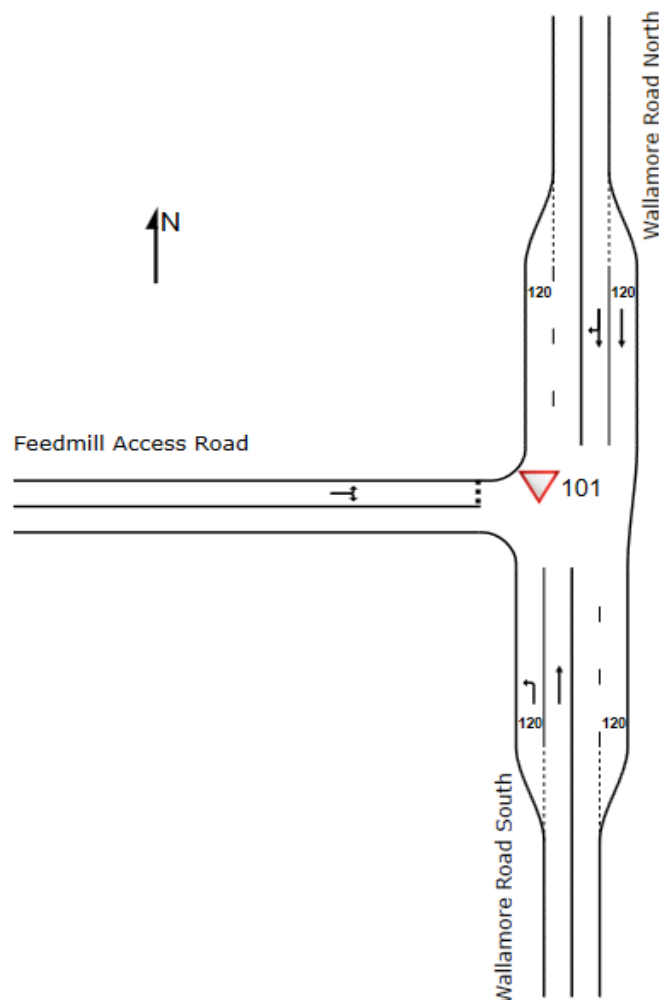


Figure 19: SIDRA Layout Site Access / Wallamore Road (Source: SIDRA, PSA)

Table 7: Wallamore Road / Site Access SIDRA Intersection Performance (Source: SIDRA, PSA)

Scenario	DOS		Average Delays (s)		LOS		Queue Length (m)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2026								
Background	0.029	0.031	0.6	0.5	NA	NA	0.2	0.2
Design	0.029	0.031	1.7	1.5	NA	NA	0.8	0.9
2036								
Background	0.039	0.041	0.4	0.4	NA	NA	0.2	0.2
Design	0.039	0.041	1.4	1.2	NA	NA	0.8	0.9

The results demonstrate that with the conservative combined background traffic volumes and the expected generated traffic volumes generated from the development, the intersection is forecast to remain within its current level of operation with all performance factors operating above satisfactory levels and fall under LOS A.



4.2.2 Wallamore Road / Bowlers Lane

The SIDRA Intersection Layout for the Wallamore Road / Bowlers Lane intersection is highlighted below in Figure 20.

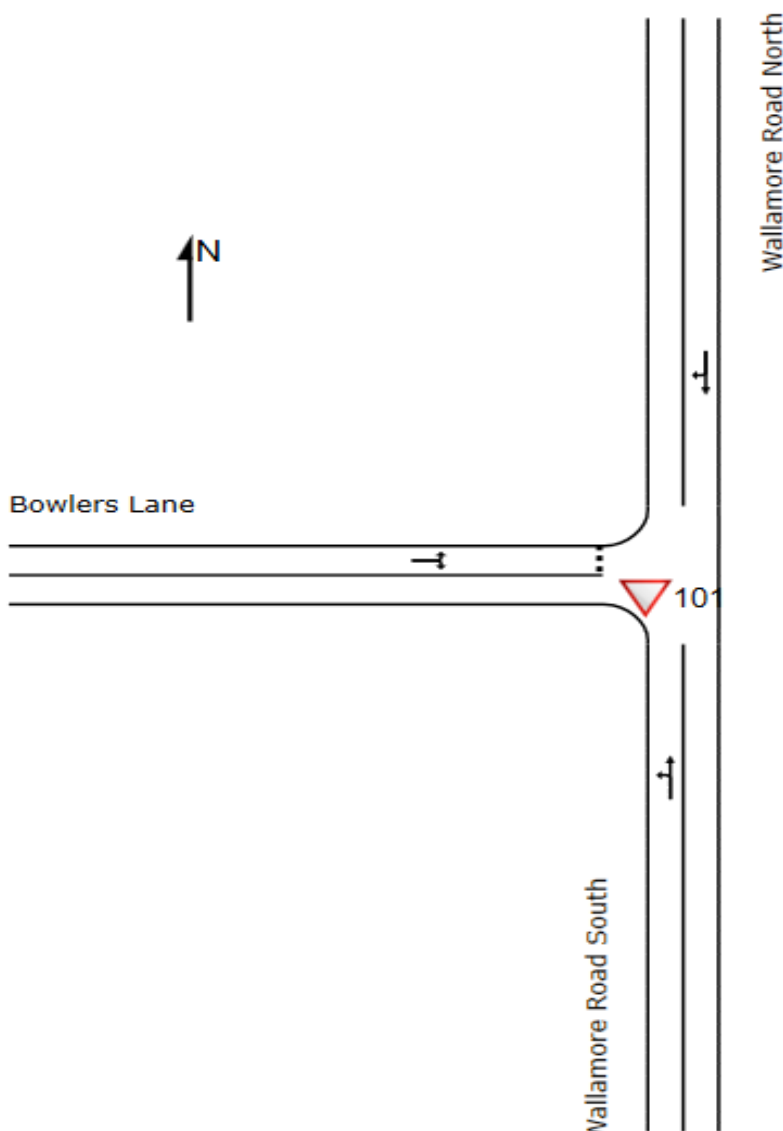


Figure 20: SIDRA Layout Bowlers Lane / Wallamore Road (Source: SIDRA, PSA)

Table 8: Wallamore Road / Bowlers Lane SIDRA Intersection Performance (Source: SIDRA, PSA)

Scenario	DOS		Average Delays (s)		LOS		Queue Length (m)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2026								
Background	0.088	0.088	4.8	4.9	NA	NA	2.6	2.6
Design	0.095	0.094	4.8	4.9	NA	NA	2.9	2.9
2036								
Background	0.121	0.122	5.0	5.0	NA	NA	3.7	3.7
Design	0.129	0.128	5.0	5.0	NA	NA	4.1	4.0

As indicated in Table 8, expected generated traffic from the proposed development is shown to have negligible impact on the Wallamore / Bowlers Lane intersection. All performance factors are projected to operate above satisfactory levels.



4.2.3 Oxley Highway / Bowlers Lane

The SIDRA Intersection Layout for the Oxley Highway / Bowlers Lane intersection is highlighted below in Figure 21.

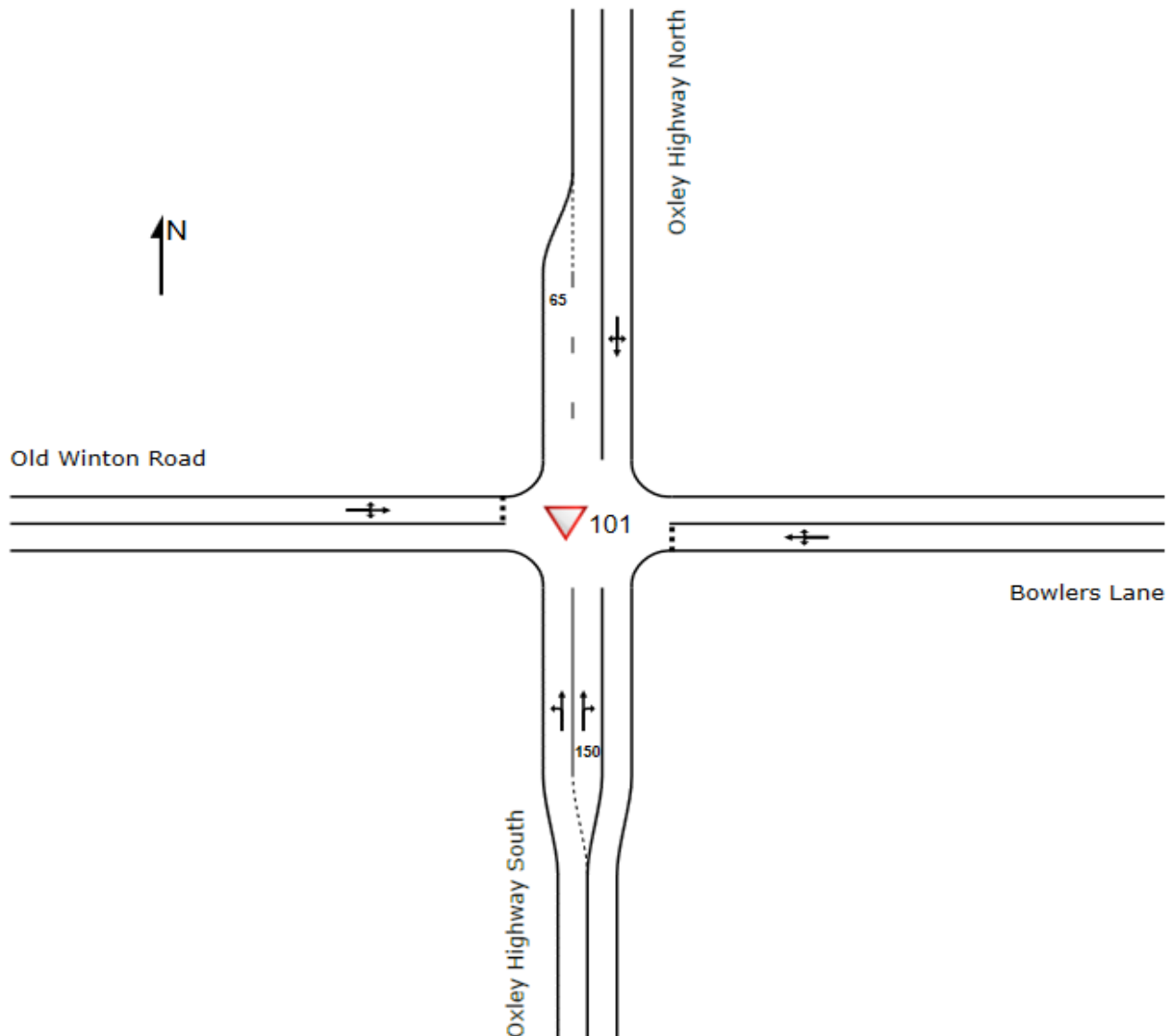


Figure 21: SIDRA Layout Oxley Highway / Bowlers Lane (Source: SIDRA, PSA)

Table 9: Oxley Highway / Bowlers Lane SIDRA Intersection Performance (Source: SIDRA, PSA)

Scenario	DOS		Average Delays (s)		LOS		Queue Length (m)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2026								
Background	0.103	0.129	3.6	3.7	NA	NA	3.6	4.3
Design	0.113	0.143	3.8	3.9	NA	NA	4.2	5.0
2036								
Background	0.152	0.200	3.9	4.1	NA	NA	5.5	6.9
Design	0.169	0.217	4.2	4.3	NA	NA	6.2	7.6

The results indicate that, even with the conservative background traffic volumes and the expected traffic generated by the development, the intersection is forecasted to maintain its current level of operation. All performance factors are projected to operate at or above satisfactory levels.



4.3 CRASH HISTORY

The vehicle crash history within the vicinity of the development and the primary expected travel routes within the vicinity of the development have been sourced from the TfNSW's LGA View Crashes Map which have occurred within a 5-year period (2019-2023) from this report as show in Figure 22.



Figure 22: Surrounding Development Crash Locations (Source: TfNSW)

The crash locations identified in Figure 22 have been further assessed by the characteristics of the crashes, the degree of injury and the number of individuals injured and summarised in Table 10. As highlighted the crashes identified display no trends or grouping which are expected to be amplified through the additional trips from the proposed development.

Table 10: Surrounding Crash Data Locations Characteristics (Source: TfNSW)

Year	Crash Location and Type	Crash Type	Degree of Crash	No. Injured
2019	Oxley Highway, T-Junction	Object on Road	Moderate Injury	1
2019	Oxley Highway, T-Junction	Left Rear	Serious Injury	2
2019	Old Winton Road, 2-Way Undivided	Struck Animal	Serious Injury	1
2019	Wallamore Road, 2-Way Undivided	Off Left/RT Bend > Object	Serious Injury	1
2019	Wallamore Road, 2-Way Undivided	Off Road Left > Object	Serious Injury	1
2020	Bowlers Lane, T-Junction	Off End of Road	Moderate Injury	1
2021	Oxley Highway, 2-Way Undivided	Rear End	No Injury	2
2022	Oxley Highway, 2-Way Undivided	Head On	Fatality, Serious Injury	2
2023	Oxley Highway, 4-Way Intersection	Crossing Traffic	Serious Injury	2



5. SITE ACCESS AND ON-SITE PARKING

5.1 PROPOSED DEVELOPMENT SITE ACCESS

Currently, all access to the existing Feed Mill is facilitated through a single driveway off Wallamore Road. The plan is to continue using this driveway for the operations of the proposed new feed mill. Given the effective utilisation of this access driveway by current heavy vehicle classes, it is expected that the same vehicle profiles will access the site and be accommodated through this driveway for the proposed development. Swept Path Analysis outlined in Section 5.5 will assess this in further detail.

5.2 DESKTOP SIGHT DISTANCE ASSESSMENT

A desktop safe sight distance assessment has been undertaken for the Wallamore Road / Site Access intersection. Wallamore Road has a posted speed limit of 100km/h and therefore the sight distance requirements for a 110km/h design speed in Austroads *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* are shown in Table 11.

Table 11: Wallamore Road / Site Access Sight Distance Requirements (Source: Austroads)

SCENARIO	ASD ^a	SISD ^b	MGSD ^c
Wallamore Road <i>Posted Speed: 100km/h</i> <i>Design Speed: 110km/h</i>	193m	285m	153m

^a Approach Sight Distance – Minimum sight distance required from Site access to the Wallamore Road / Site Access intersection

^b Safe Intersection Sight Distance – Minimum sight distance required from Wallamore Road / Site Access intersection

^c Minimum Gap Sight Distance – Minimum sight distance required at the intersection from the Site access to see vehicles on Wallamore Road

Sight distance triangles have been created using the SISD lengths as specified in Table 11 and are shown below in Figure 23.

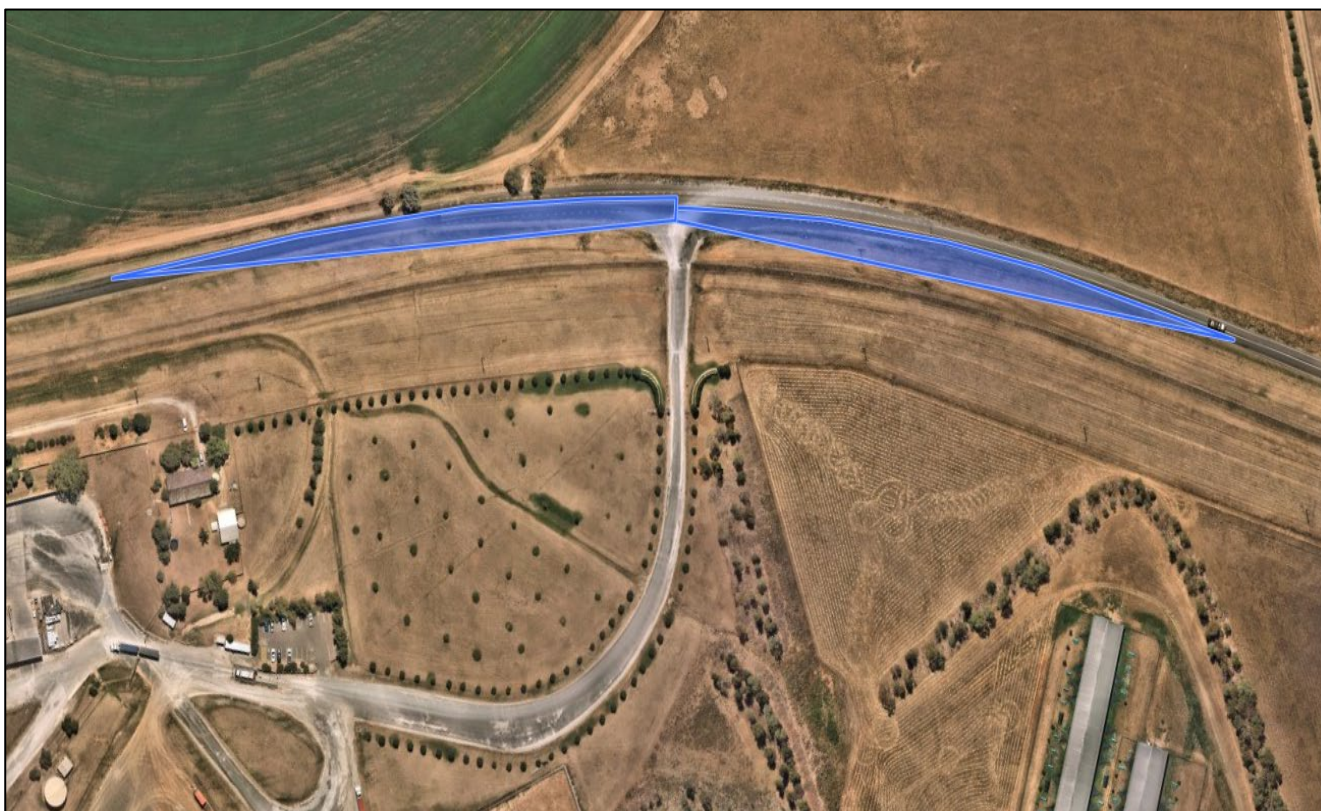


Figure 23: Wallamore Road / Site Access Sight Distance Triangles (Source: Nearmap, PSA)



Sight Distance images from Wallamore Road 285m north and south from the site access are provided below in Figure 24 and Figure 25 below. As demonstrated, the site access is visible from the required sight distance position on Wallamore Road.



Figure 24: Sight Distance at Sight Access Facing North (Source: Google 2024)



Figure 25: Sight Distance at Sight Access Facing South (Source: Google 2024)

As demonstrated in the desktop assessment and Figure 26 and Figure 27 below, the site access is visible from the required sight distance position on Wallamore Road, with no major obstructions noted within the field of view from both the site access and required position along Wallamore Road.



Figure 26: Sight Distance from Wallamore Road Facing North to Site Access (Source: Google, PSA)



Figure 27: Sight Distance from Wallamore Road Facing South to Site Access (Source: Google, PSA)

5.3 SITE ACCESS TURN WARRANTS ASSESSMENT

A turn warrants assessment has been carried out for the Wallamore Road and Site Access T-Intersection. Both the year of opening year 2026 and 10-year design horizon 2036 traffic volumes have been analysed as these will be considered the largest quantities of vehicle movements through the intersection at any one time. The turn warrants have been assessed using Figure 4A-10b – Warrants for turn treatments on the major road at unsignalized intersection from Austroads Guide to Road Design Part 4: Intersections and Crossings.

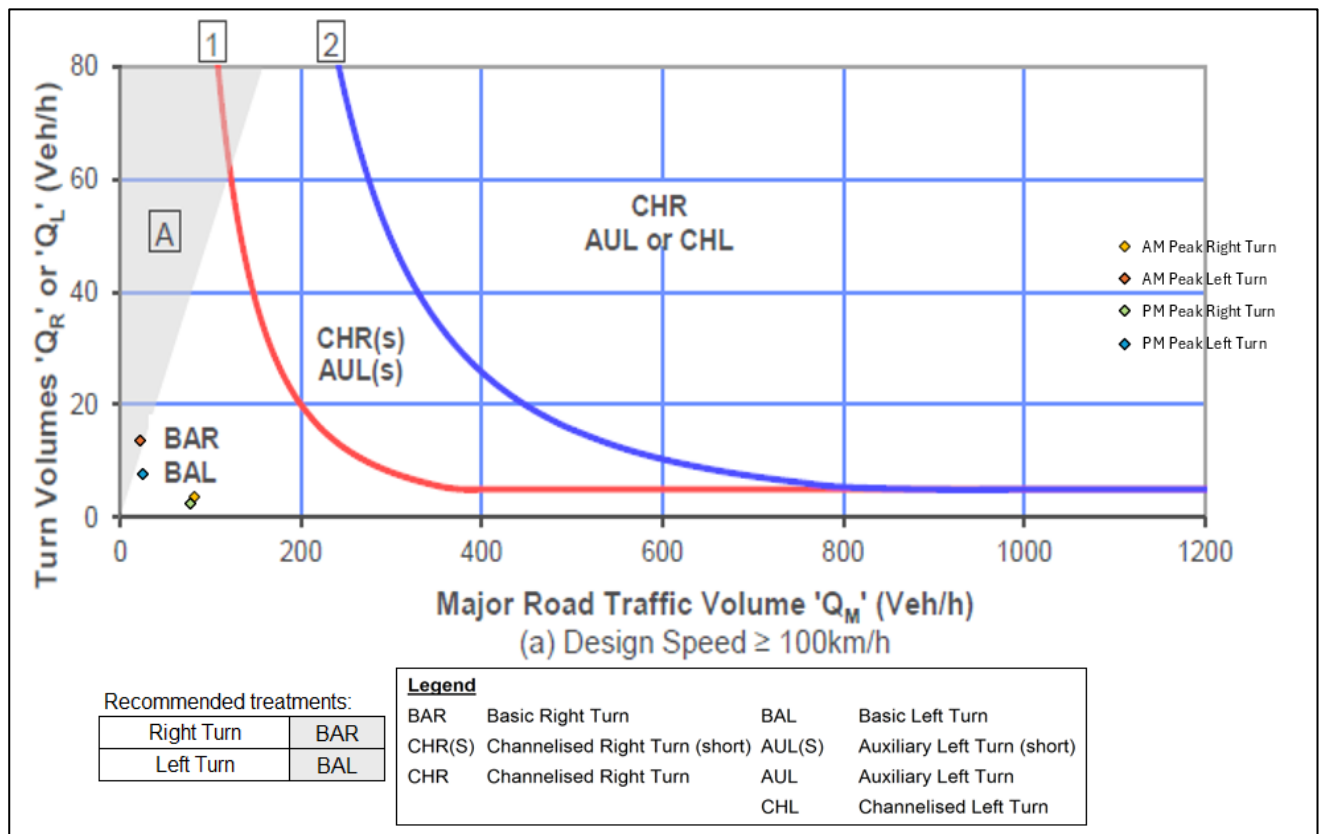


Figure 28: Turn Warrants Assessment - Wallamore Road / Site Access Design 2026 (Source: PSA)

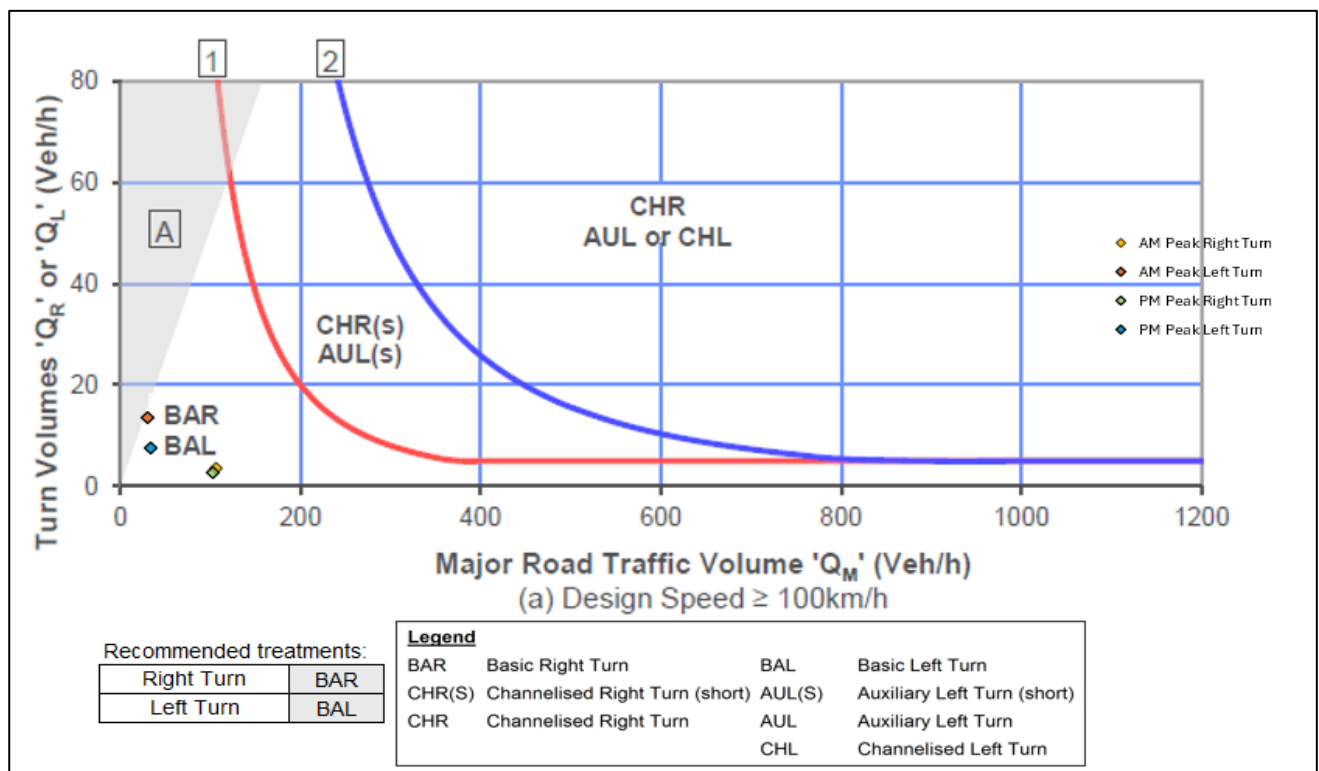


Figure 29: Turn Warrants Assessment - Wallamore Road / Site Access Design 2036 (Source: PSA)

As evidenced, the design specifications justify implementing a minimum of a Basic Left (BAL) and Basic Right (BAR) turn treatments. However, since the current site access driveway already caters to comparable vehicle profiles and incorporates Rural Basic Right (BAR) and Rural Basic Left (BAL) turn treatments, it is deemed unnecessary to undertake any further formal upgrades to the access points.



5.4 ON-SITE PARKING AND SERVICING REQUIREMENTS

Tamworth Regional Development Control Plan 2010 Step 3: General Development Specifications – Parking, Traffic and Access Controls, outlines parking requirements specific to an Industrial land use. Where:

- Parking and traffic requirements will be based on consideration of:
 - Likely peak usage times.
 - The availability of public transport.
 - Likely demand for off street parking generated by the development.
 - Existing traffic volumes on the surrounding street network.
 - Efficiency of existing parking provision in the location.
- Comply with *AS2890.1 Parking Facilities Off Street Car Parking* and *AS2890.6 Parking Facilities Off Street Parking for People with a Disability*.
- Manoeuvring areas within the development must be designed to accommodate a B99 vehicle under *AS2890.1 Parking Facilities Off Street Parking*.

The DCP does not prescribe a specific staff parking rate for Rural Industry uses. Instead, the parking provision is required to be determined through a supporting Traffic Assessment Report.

For this development, the proposed feed mill will operate with 22 full-time equivalent (FTE) staff, compared with 15 FTE staff at the existing mill. Upon completion, staff will transition into the expanded facility operations.

The proposed staff car parking area has been reviewed against the requirements of AS2890.1 (2004), based on a User Class 1 profile which reflects the typical use and operational characteristics of the site. A summary of the design review is presented in Table 12.

Table 12: Car Parking Review (Source: AS2890, TRC)

Design Requirement	AS2890.1 Minimum Requirement	Proposed	Compliant (Y/N)
Width	2.4m	62.6m <i>unmarked (max. 26 bays at 2.4m each)</i>	Yes
Length	5.4m	7.70m <i>minimum depth available</i>	Yes
Parking Aisle	6.2m	7.35m	Yes

To accommodate staff on site, an office and staff amenities building has been incorporated into the design, with space allocated for up to 26 parking bays, in addition to the 20 existing bays at the current mill. As shown in Figure 33, the combined provision is sufficient to meet the forecast peak parking demand generated by employees and visitors, in accordance with the relevant DCP and Australian Standards.

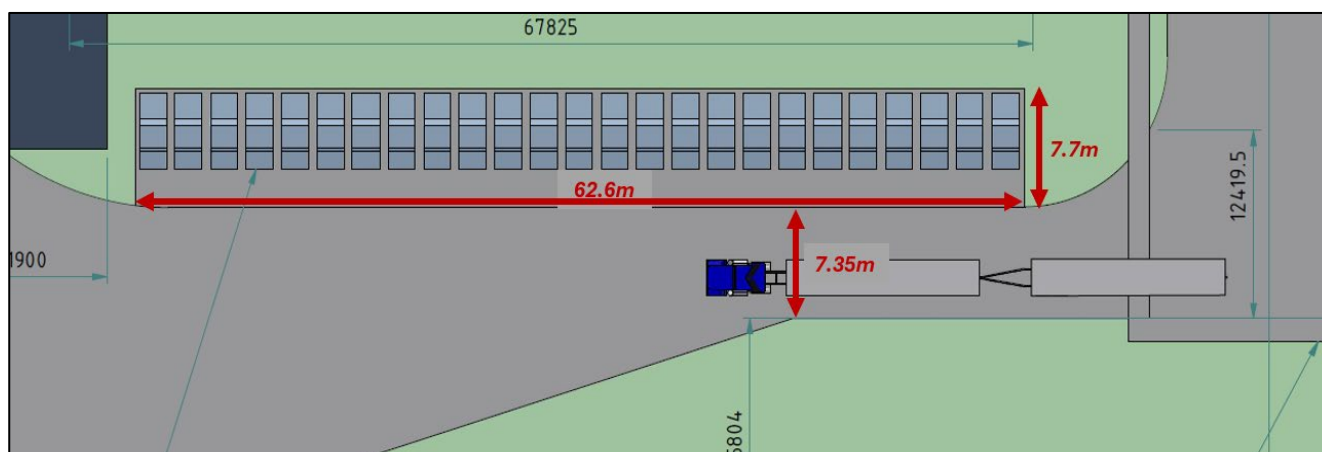


Figure 30: Site Parking Arrangements (Source: Baiada)



5.5 SWEPT PATH ANALYSIS

A comprehensive analysis of vehicle movements has been conducted for the proposed project, including an examination of both heavy and light vehicles expected to enter the site during all operational phases. The breakdown of anticipated vehicles includes:

- Semi-Trailer (for existing mill operations involving grain and meal deliveries).
- B-Double (for grain and meal deliveries).
- A-Double (for grain and meal deliveries).
- A-Triple (for grain deliveries).
- B99 and B85 (for staff).

It is important to note that the mill has been designed to accommodate A-Doubles, should their use be approved on Wallamore Road in the future. The use of A-Doubles is not proposed as part of this application, and all assumptions with respect to heavy vehicle use is based on B-Doubles.

Given that this Traffic Impact Assessment pertains to the development, the following specific vehicle paths have been identified for consideration:

- Access of B-Double vehicles to and from the site.
- Access of A-Double vehicles to and from the site.
- Access of A-Triple vehicles to and from the site.
- Manoeuvring of B-Double vehicles within the site.
- Manoeuvring of A-Double vehicles within the site.
- Manoeuvring of A-Triple vehicles within the site.
- Manoeuvring and car parking arrangement for B99 vehicles.

After conducting analysis using AutoCAD and AutoTURN modelling software, it was determined that both B-Doubles and A-Double vehicles could effectively manoeuvre within the development site and access it via the Wallamore Road entrance. A-Triples, which currently access the existing mill through the current driveway, will also use the same driveway for grain deliveries to the new development. It is advised that A-Triples access the site are staged to ensure safe navigation onto the premises without conflicts with exiting vehicles.

Refer to Appendix 2 for the complete swept path analysis.



6. SUMMARY

PSA Consulting has undertaken a detailed Traffic Impact Assessment (TIA) for the proposed Tangaratta Feed Mill development at 771 Wallamore Road, Wallamore. The assessment focused on analysing the traffic implications associated with the two development stages and their operational timeframes of the feed mill. Key findings from the assessment include:

- The proposed development is situated at the intersection of Wallamore Road and Bowlers Lane, approximately 9km northwest of Tamworth, with Wallamore Road serving as the primary access route.
- The development site falls within the approved B-Double (25/26m) freight network, facilitating the movement of heavy vehicles essential for the transportation of feed materials.
- Traffic generation estimates were derived with consultation with Baiada considering a three-shift operational schedule and anticipated light and heavy vehicle movements during full operation stages.
- The proposed development is expected to generate a maximum of 7 light vehicle trips during a peak hour period (inbound and outbound total) and 12 heavy vehicle trips during a peak hour period (inbound and outbound total). The peak hour traffic generation, expected to occur during two periods, with an AM Peak between 6:00am-7:00am and a PM Peak between 2:00pm-3:00pm.
- Distribution patterns for both light and heavy vehicles were determined through consultations with Baiada, with the majority of traffic expected to enter and exit the site from the south towards Tamworth.
- Future-year traffic volumes were projected based on a 3% annual growth rate, integrating both background traffic and development-generated traffic to determine design traffic volumes for 2026 and 2036.
- SIDRA intersection capacity analysis indicated that there were negligible impacts to the existing network based on future growth of background traffic and expected development traffic.
- Historic crash analysis also revealed no common trends within the expect network of the development traffic or expected impacts to the network road users.
- Site access and parking requirements were evaluated, confirming the suitability of the existing driveway for access of all vehicle profiles, and providing ample parking provisions for staff and visitors.
- Swept path analysis was conducted to ensure that heavy vehicles, including B-Doubles, A-Doubles and A-Triples, could safely manoeuvre within the development site and access the designated areas.

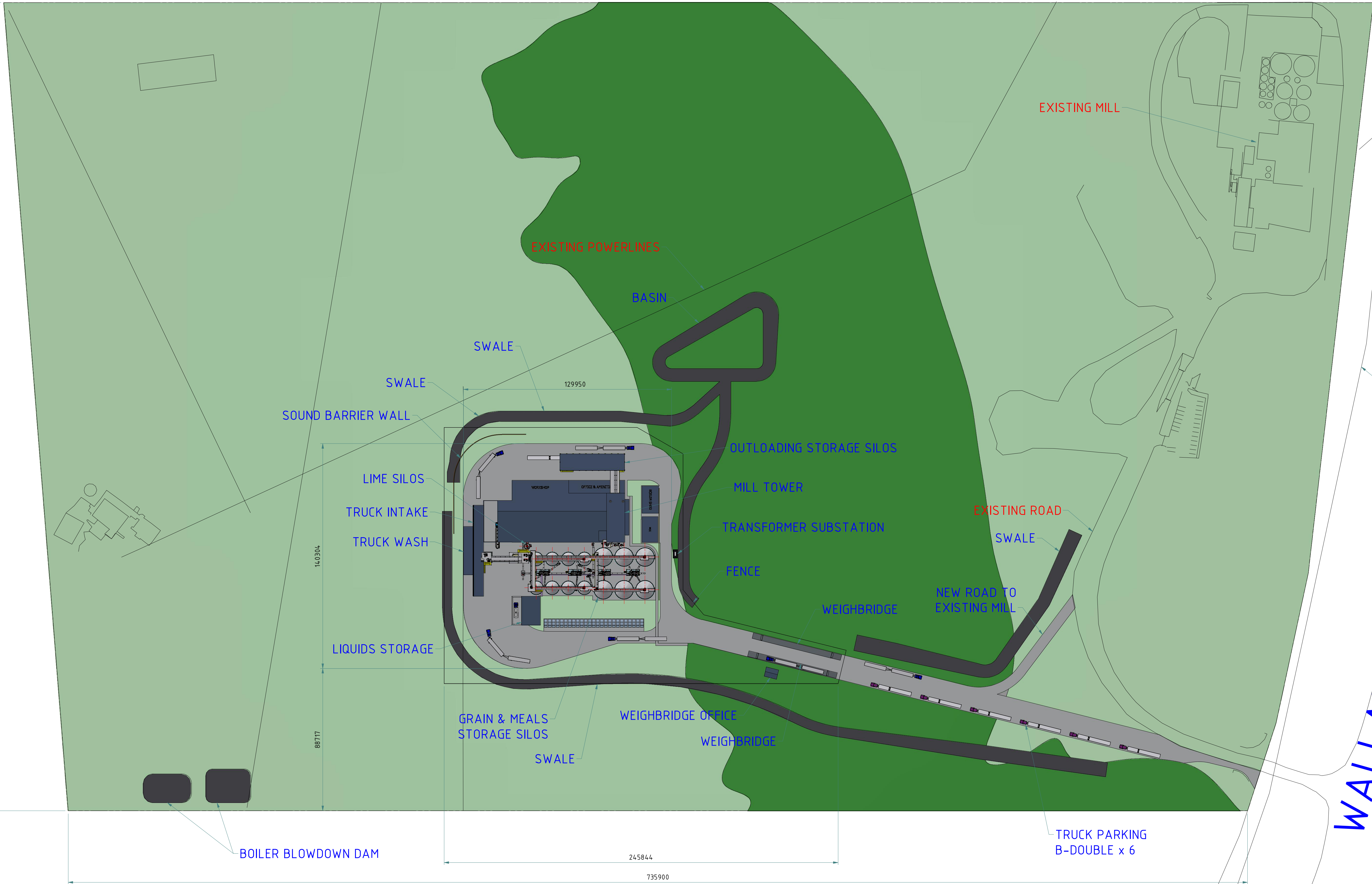
Overall, the assessment concludes that the proposed Tangaratta Feed Mill development will not result in any unacceptable traffic impacts, with appropriate measures in place to address access, parking, and manoeuvrability requirements.



APPENDIX 1 DEVELOPMENT PLANS

AP01

1 REVISION HISTORY		
REV	DESCRIPTION	DATE
A	GENERAL UPDATE	3/04/2025
B	GENERAL UPDATE	8/04/2025
C	ADDED SWALE, BASIN & BOILER BLOWDOWN DAMS	28/04/2025
D	MOVED BASIN INTO TREE AREA, AS PER CIVIL DWG	28/04/2025



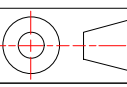
WALLAMORE ROAD



47-49 OVERSEAS DRIVE
NOBLE PARK, VIC 3174
PHONE: +61 (0)3 9702 4855
EMAIL: info@lgpm.com.au
WEBSITE: www.lgpm.com.au
PROCESS INNOVATION
Bulk Materials Handling & Processing Systems

MDL	SJG	1/04/2025
DRN	SJG	1/04/2025
CHK		

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN mm

THIRD ANGLE PROJECTION

CLIENT & PROJECT LOCATION
BAIADA TFM - TANGARATTA, NSW

SCALE
1: 1200

DRG No. 2752-0001-002

REV. D

SHT 1 OF 2

1 REVISION HISTORY		
REV	DESCRIPTION	DATE
A	GENERAL UPDATE	3/04/2025
B	GENERAL UPDATE	8/04/2025
C	ADDED SWALE, BASIN & BOILER BLOWDOWN DAMS	28/04/2025
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LGPM
PROCESS INNOVATION
Bulk Materials Handling & Processing Systems

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WEBSITE: www.lgpm.com.au

MDL
S.J.G
1/04/2025

DRN
S.J.G
1/04/2025

CHK

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN mm

THIRD ANGLE PROJECTION

SCALE
1:400

A1

CLIENT & PROJECT LOCATION
BAIADA TFM - TANGARATTA, NSW

250TPH FEED MILL PRE ENGINEERING
GENERAL SITE LAYOUT
NEW MILL OVERVIEW

DRG No. 2752-0001-002

REV. D

SHT 2 OF 2

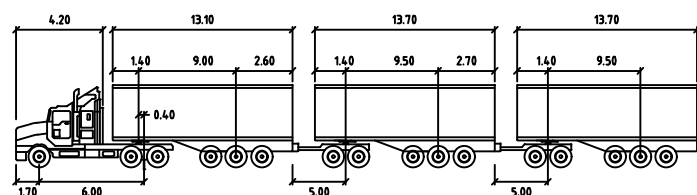


APPENDIX 2 SWEPT PATH ANALYSIS

AP02



SWEPT PATH DESIGN ATTRIBUTES: DESIGN SPEED - 10km/h
DESIGN BUFFER - 0.6m



A-TRIPLE

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	25.6
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

REVISION	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	H.F	21.02.2024
2	UPDATED PLANS	H.F	14.03.2025



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127 Creek Street Brisbane QLD 4000
Address: PO Box 10824
Adelaide Street, Brisbane QLD 4000
Website: www.psaconsult.com.au

DRAWING TITLE
CLIENT
PROJECT
LOCATION

SWEPT PATH ANALYSIS - SITE ENTRY NORTH & SOUTH (A-TRIPLE)
BAIADA POULTRY
TANGARATTA FEED MILL
771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE	MARCH 2025	DRAWN BY	H.F
ORIGINAL SIZE	A1	SCALE A3:	1:1000
SCALE		CHECKED BY	H.R
		APPROVED BY	H.R
		PROJECT NO.	1636
		DRAWING NO.	SK01
		REVISION	2



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SWEPT PATH ANALYSIS - SITE EXIT NORTH & SOUTH (A-TRIPLE)
BAIADA POULTRY
TANGARATTA FEED MILL
771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE	MARCH 2025	DRAWN BY	H.F
ORIGINAL SIZE	A1	SCALE A3:	1:1000
SCALE		CHECKED BY	H.R
		APPROVED BY	H.R
		PROJECT NO.	1636
		DRAWING NO.	SK02
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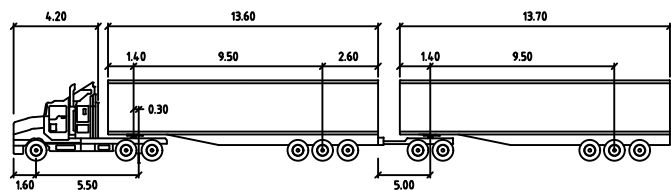
DRAWING TITLE
CLIENT
PROJECT
LOCATION

SWEPT PATH ANALYSIS - SITE ENTRY NORTH & SOUTH (A-DOUBLE)
BAIADA POULTRY
TANGARATTA FEED MILL
771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE	MARCH 2025	DRAWN BY	H.F
ORIGINAL SIZE	A1	SCALE A3:	1:1000
SCALE		CHECKED BY	H.R
		APPROVED BY	H.R
		PROJECT NO.	1636
		DRAWING NO.	SK03
		REVISION	2



SWEPT PATH DESIGN ATTRIBUTES: DESIGN SPEED - 10km/h
DESIGN BUFFER - 0.6m



A-DOUBLE

	Tractor Width	Trailer Width	Tractor Track	Trailer Track	Lock to Lock Time	Steering Angle	Articulating Angle
metres	: 2.50	: 2.50	: 2.50	: 2.50	: 6.0	: 23.4	: 70.0

REVISION	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	H.F	21.02.2024
2	UPDATED PLANS	H.F	14.03.2025



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SWEPT PATH ANALYSIS - SITE EXIT NORTH & SOUTH (A-DOUBLE)
BAIADA POULTRY
TANGARATTA FEED MILL
771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE	MARCH 2025	DRAWN BY	H.F
ORIGINAL SIZE	A1	SCALE A3:	1:1000
SCALE		CHECKED BY	H.R
		APPROVED BY	H.R
		PROJECT NO.	1636
		DRAWING NO.	SK04
		REVISION	2



SWEPT PATH DESIGN ATTRIBUTES: DESIGN SPEED - 5km/h
DESIGN BUFFER - 0.6m

B-DOUBLE 26M

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Tractor Length	: 2.50	Steering Angle	: 23.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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1	ORIGINAL ISSUE	H.F	21.02.2024
2	UPDATED PLANS	H.F	14.03.2025

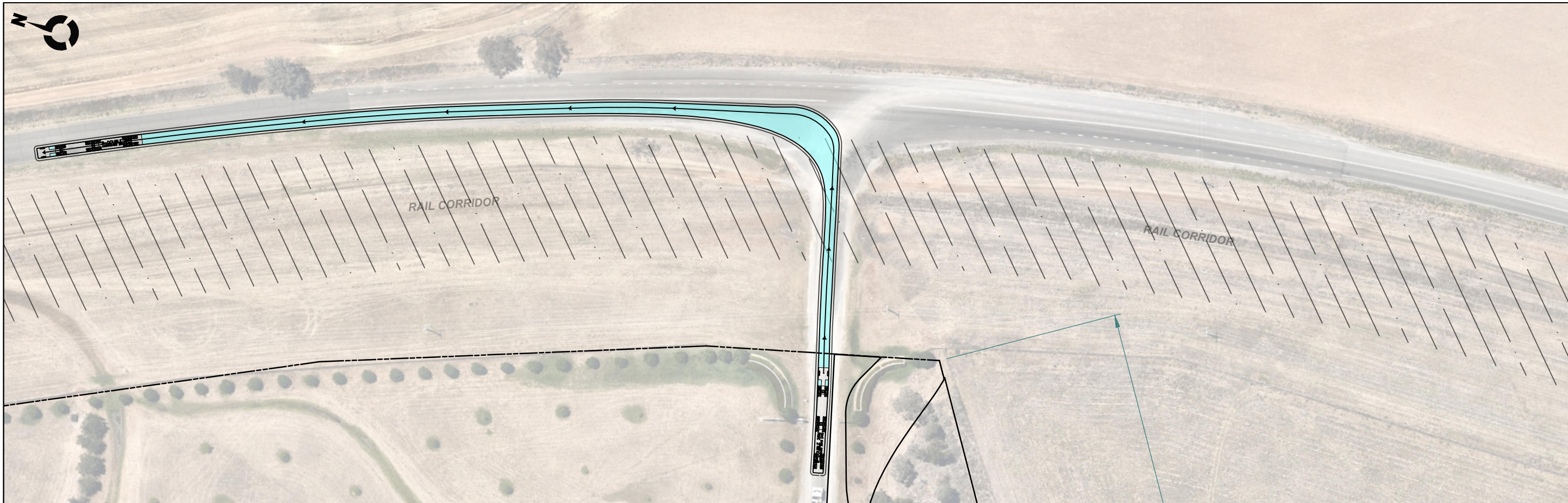
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DRAWING TITLE: SWEPT PATH ANALYSIS - SITE ENTRY NORTH & SOUTH (B-DOUBLE)
CLIENT: BAIADA POULTRY
PROJECT: TANGARATTA FEED MILL
LOCATION: 771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE: MARCH 2025
DRAWN BY: H.F.
CHECKED BY: H.R.
APPROVED BY: H.R.
PROJECT NO.: 1636
DRAWING NO.: SK05
REVISION: 2

ORIGINAL SIZE: A1 SCALE A3: 1:1000
SCALE: 0 10 20 30m
SCALE 1:500 (A1)



SWEPT PATH DESIGN ATTRIBUTES: DESIGN SPEED - 5km/h
DESIGN BUFFER - 0.6m

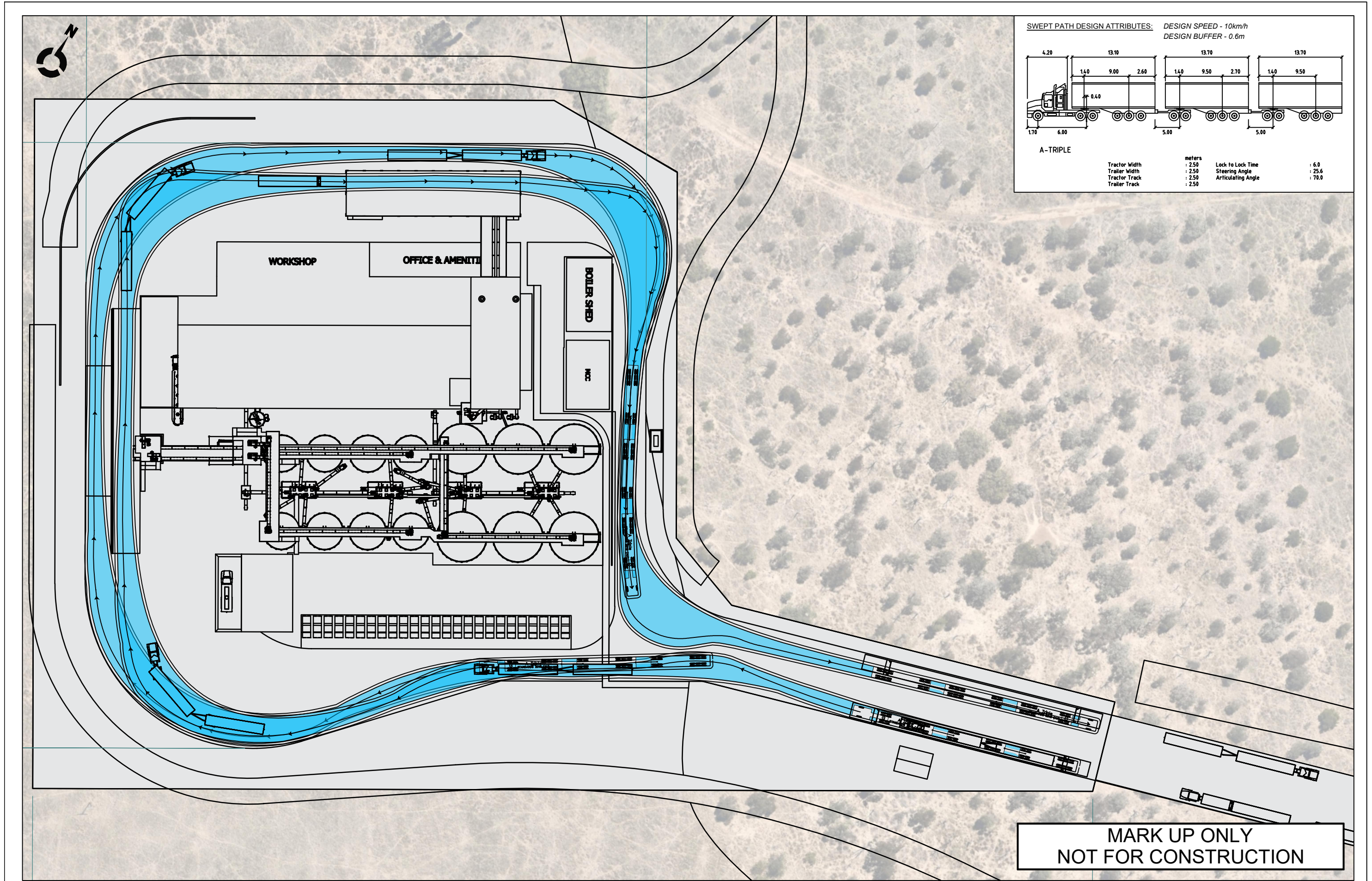
B-DOUBLE 26M

	Tractor Width	Tractor Length	Tractor Wheelbase	Tractor Wheel Offset	Tractor Offset	Trailer Wheel Offset	Trailer Offset
Dimensions (m)	3.00	8.05	1.40	4.50	0.00	0.45	9.15
Lock to Lock Time	: 6.0						
Steering Angle	: 23.6						
Articulating Angle	: 70.0						

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2	UPDATED PLANS	H.F	14.03.2025

	Telephone: 07 3220 0288	DRAWING TITLE SWEPT PATH ANALYSIS - SITE EXIT NORTH & SOUTH (B-DOUBLE)	DRAWING DATE MARCH 2025	DRAWN BY H.F
	Head Office: Level 20 127 Creek Street Brisbane QLD 4000		CLIENT BAIADA POULTRY	CHECKED BY H.R
	Address: PO Box 10524 Adelaide Street, Brisbane QLD 4000	PROJECT TANGARATTA FEED MILL	APPROVED BY PROJECT NO.	H.R
	Website: www.psaconsult.com.au	LOCATION 771 WALLAMORE ROAD, WALLAMORE 2340 NSW	SCALE 0 10 20 30m SCALE 1:500 (A1)	DRAWING NO. 1636
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SWEPT PATH DESIGN ATTRIBUTES: *DESIGN SPEED - 10km/h*
DESIGN BUFFER - 0.6m

4.20	13.10	13.70	13.70
1.70	1.40	1.40	1.40
6.00	9.00	9.50	9.50
2.60	2.70	5.00	5.00

A - TRIPLE

Tractor Width	meters	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 25.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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2	UPDATED PLANS	H.F	14.03.2025
3	UPDATED PLANS	B.G	29.07.2025



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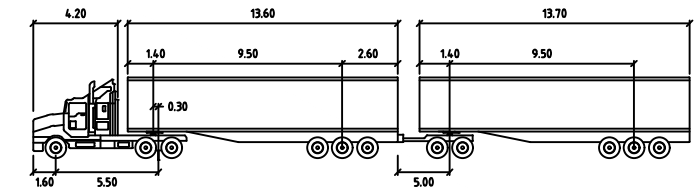
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CLIENT: BAIADA POULTRY
PROJECT: TANGARATTA FEED MILL
LOCATION: 771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE: JULY 2025
ORIGINAL SIZE: A1 SCALE A3: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)

DRAWN BY: B.G
CHECKED BY: H.R
APPROVED BY: H.R
PROJECT NO.: 1636
DRAWING NO.: SK07
REVISION: 3



SWEPT PATH DESIGN ATTRIBUTES: DESIGN SPEED - 10km/h
DESIGN BUFFER - 0.6m



A-DOUBLE

	Tractor Width	Trailer Width	Tractor Track	Trailer Track	Lock to Lock Time	Steering Angle	Articulating Angle
Tractor Width	: 2.50				: 6.0		
Trailer Width		: 2.50			: 23.4		
Tractor Track			: 2.50			: 70.0	
Trailer Track				: 2.50			

WORKSHOP

OFFICE & AMENITI

BOILER SHED

NCC

MARK UP ONLY
NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	H.F	21.02.2024
2	UPDATED PLANS	H.F	14.03.2025
3	UPDATED PLANS	B.G	29.07.2025



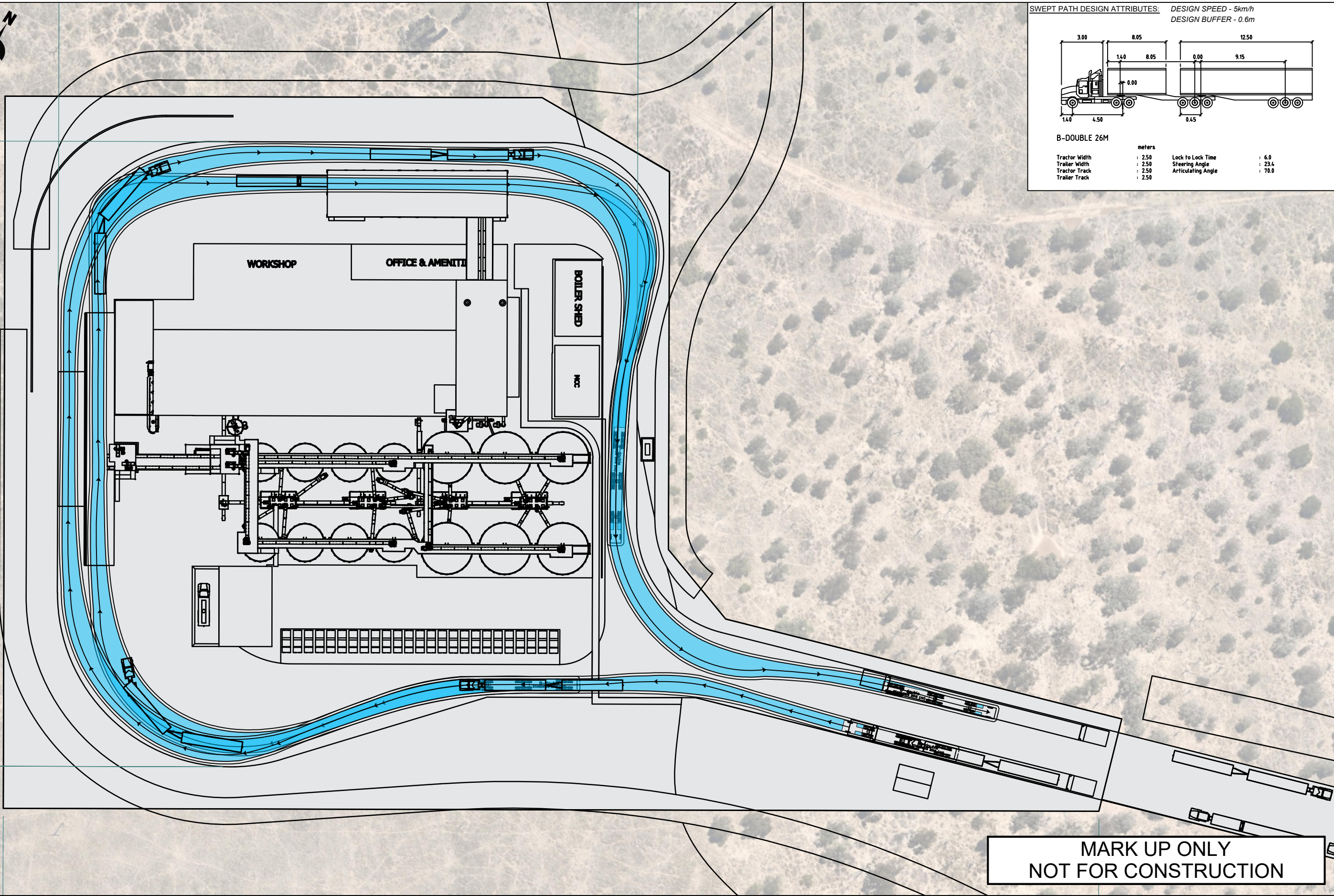
TOWN PLANNING | TRAFFIC ENGINEERING | TRANSPORT PLANNING | PROGRAM MANAGEMENT | INFRASTRUCTURE

Telephone: 07 3220 0288
Head Office: Level 20
127 Creek Street Brisbane QLD 4000
Address: PO Box 10824
Adelaide Street, Brisbane QLD 4000
Website: www.psaconsult.com.au

DRAWING TITLE
CLIENT
PROJECT
LOCATION

SWEPT PATH ANALYSIS - SITE MANOEUVRE (A-DOUBLE)
BAIADA POULTRY
TANGARATTA FEED MILL
771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE	JULY 2025	DRAWN BY	B.G
ORIGINAL SIZE	A1	SCALE A3	1:800
CHECKED BY	H.R	APPROVED BY	H.R
PROJECT NO.	1636	DRAWING NO.	SK08
REVISION	3		



SWEPT PATH DESIGN ATTRIBUTES: DESIGN SPEED - 5km/h
DESIGN BUFFER - 0.6m

B-DOUBLE 26M

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 78.0
Trailer Track	: 2.50		

MARK UP ONLY
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REVISION	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	H.F	21.02.2024
2	UPDATED PLANS	H.F	14.03.2025
3	UPDATED PLANS	B.G	29.07.2025



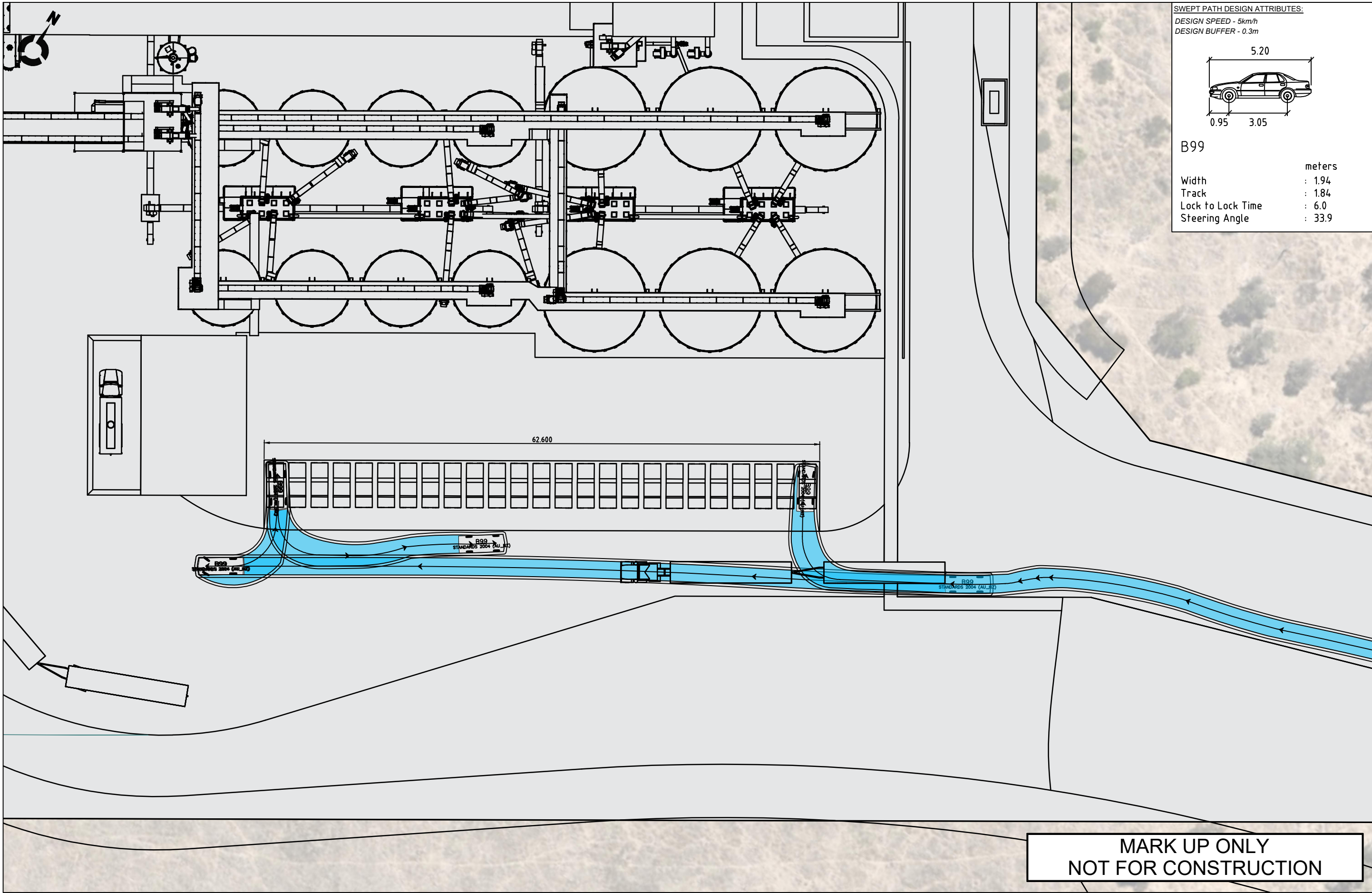
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DRAWING TITLE
CLIENT
PROJECT
LOCATION

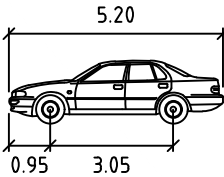
SWEPT PATH ANALYSIS - SITE MANOEUVRE (B-DOUBLE)
BAIADA POULTRY
TANGARATTA FEED MILL
771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE	JULY 2025	DRAWN BY	B.G
ORIGINAL SIZE: A1	SCALE A3: 1:800	CHECKED BY	H.R
SCALE	0 8 16 24m	APPROVED BY PROJECT NO.	H.R
SCALE 1:400 (A1)	1636	DRAWING NO.	SK09
		REVISION	3



SWEPT PATH DESIGN ATTRIBUTES:

DESIGN SPEED - 5km/h
DESIGN BUFFER - 0.3m



B99

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

REVISION	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	H.F	21.02.2024
2	UPDATED PLANS	H.F	14.03.2025
3	UPDATED PLANS	B.G	29.07.2025



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DRAWING TITLE
CLIENT
PROJECT
LOCATION

SWEPT PATH ANALYSIS - SITE MANOEUVRE AND PARKING (B99)
BAIADA POULTRY
TANGARATTA FEED MILL
771 WALLAMORE ROAD, WALLAMORE 2340 NSW

DRAWING DATE	JULY 2025	DRAWN BY	B.G
ORIGINAL SIZE	A1	SCALE A3:	1:400
SCALE	0 5 10 15m	CHECKED BY	H.R
APPROVED BY	H.R	DRAWING NO.	1636
PROJECT NO.	1636	REVISION	SK10 3



APPENDIX 3 SIDRA ANALYSIS

AP03

MOVEMENT SUMMARY

Site: 101 [Bowlers Lane - Oxley Highway AM Peak (Site Folder: Background 2022 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	95% 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: Oxley Highway South															
1	L2	All MCs	4	50.0	4	50.0	0.021	6.1	LOS A	0.0	0.0	0.00	0.07	0.00	54.7
2	T1	All MCs	77	27.3	77	27.3	0.057	0.3	LOS A	0.2	2.0	0.14	0.23	0.14	57.8
3	R2	All MCs	38	23.7	38	23.7	0.057	6.4	LOS A	0.2	2.0	0.23	0.32	0.23	53.2
Approach			119	26.9	119	26.9	0.057	2.4	NA	0.2	2.0	0.17	0.25	0.17	56.1
East: Bowlers Lane															
4	L2	All MCs	43	20.9	43	20.9	0.093	6.2	LOS A	0.4	3.2	0.33	0.58	0.33	50.9
5	T1	All MCs	4	50.0	4	50.0	0.093	8.0	LOS A	0.4	3.2	0.33	0.58	0.33	50.4
6	R2	All MCs	33	27.3	33	27.3	0.093	8.9	LOS A	0.4	3.2	0.33	0.58	0.33	50.3
Approach			80	25.0	80	25.0	0.093	7.4	LOS A	0.4	3.2	0.33	0.58	0.33	50.6
North: Oxley Highway North															
7	L2	All MCs	38	23.7	38	23.7	0.088	5.8	LOS A	0.1	0.5	0.02	0.17	0.02	55.0
8	T1	All MCs	103	20.4	103	20.4	0.088	0.0	LOS A	0.1	0.5	0.02	0.17	0.02	58.4
9	R2	All MCs	4	50.0	4	50.0	0.088	6.4	LOS A	0.1	0.5	0.02	0.17	0.02	53.6
Approach			145	22.1	145	22.1	0.088	1.7	NA	0.1	0.5	0.02	0.17	0.02	57.3
West: Old Winton Road															
10	L2	All MCs	4	50.0	4	50.0	0.017	6.4	LOS A	0.1	0.7	0.27	0.52	0.27	49.5
11	T1	All MCs	4	50.0	4	50.0	0.017	7.9	LOS A	0.1	0.7	0.27	0.52	0.27	50.2
12	R2	All MCs	4	50.0	4	50.0	0.017	9.9	LOS A	0.1	0.7	0.27	0.52	0.27	49.4
Approach			12	50.0	12	50.0	0.017	8.1	LOS A	0.1	0.7	0.27	0.52	0.27	49.7
All Vehicles			356	25.3	356	25.3	0.093	3.5	NA	0.4	3.2	0.15	0.30	0.15	55.0

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: 101 [Bowlers Lane - Oxley Highway PM Peak (Site Folder: Background 2022 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	4	50.0	4	50.0	0.023	6.1	LOS A	0.0	0.0	0.00	0.06	0.00	54.8
2	T1	All MCs	96	17.7	96	17.7	0.064	0.3	LOS A	0.2	2.0	0.14	0.21	0.14	58.1
3	R2	All MCs	38	23.7	38	23.7	0.064	6.4	LOS A	0.2	2.0	0.22	0.29	0.22	53.6
Approach			138	20.3	138	20.3	0.064	2.2	NA	0.2	2.0	0.16	0.23	0.16	56.7
East: Bowlers Lane															
4	L2	All MCs	43	23.3	43	23.3	0.103	6.3	LOS A	0.4	3.4	0.35	0.59	0.35	50.7
5	T1	All MCs	4	50.0	4	50.0	0.103	8.3	LOS A	0.4	3.4	0.35	0.59	0.35	50.3
6	R2	All MCs	40	17.5	40	17.5	0.103	8.7	LOS A	0.4	3.4	0.35	0.59	0.35	50.6
Approach			87	21.8	87	21.8	0.103	7.5	LOS A	0.4	3.4	0.35	0.59	0.35	50.6
North: Oxley Highway North															
7	L2	All MCs	38	23.7	38	23.7	0.090	5.9	LOS A	0.1	0.5	0.03	0.17	0.03	54.9
8	T1	All MCs	104	25.0	104	25.0	0.090	0.0	LOS A	0.1	0.5	0.03	0.17	0.03	58.4
9	R2	All MCs	4	50.0	4	50.0	0.090	6.5	LOS A	0.1	0.5	0.03	0.17	0.03	53.5
Approach			146	25.3	146	25.3	0.090	1.7	NA	0.1	0.5	0.03	0.17	0.03	57.3
West: Old Winton Road															
10	L2	All MCs	4	50.0	4	50.0	0.018	6.5	LOS A	0.1	0.7	0.29	0.52	0.29	49.4
11	T1	All MCs	4	50.0	4	50.0	0.018	8.2	LOS A	0.1	0.7	0.29	0.52	0.29	50.0
12	R2	All MCs	4	50.0	4	50.0	0.018	10.2	LOS B	0.1	0.7	0.29	0.52	0.29	49.2
Approach			12	50.0	12	50.0	0.018	8.3	LOS A	0.1	0.7	0.29	0.52	0.29	49.6
All Vehicles			383	23.5	383	23.5	0.103	3.4	NA	0.4	3.4	0.15	0.30	0.15	55.2

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: 101 [Bowlers Lane - Oxley Highway AM Peak (Site Folder: Background 2026 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	6	50.0	6	50.0	0.024	6.1	LOS A	0.0	0.0	0.00	0.09	0.00	54.6
2	T1	All MCs	88	27.3	88	27.3	0.067	0.4	LOS A	0.3	2.4	0.16	0.24	0.16	57.7
3	R2	All MCs	44	25.0	44	25.0	0.067	6.5	LOS A	0.3	2.4	0.25	0.34	0.25	53.0
Approach			138	27.5	138	27.5	0.067	2.6	NA	0.3	2.4	0.18	0.27	0.18	56.0
East: Bowlers Lane															
4	L2	All MCs	22	50.0	22	50.0	0.099	6.8	LOS A	0.4	3.6	0.42	0.63	0.42	49.1
5	T1	All MCs	6	50.0	6	50.0	0.099	8.6	LOS A	0.4	3.6	0.42	0.63	0.42	49.7
6	R2	All MCs	39	28.2	39	28.2	0.099	9.6	LOS A	0.4	3.6	0.42	0.63	0.42	49.5
Approach			67	37.3	67	37.3	0.099	8.6	LOS A	0.4	3.6	0.42	0.63	0.42	49.4
North: Oxley Highway North															
7	L2	All MCs	44	25.0	44	25.0	0.103	5.9	LOS A	0.1	0.7	0.04	0.18	0.04	54.8
8	T1	All MCs	117	20.5	117	20.5	0.103	0.0	LOS A	0.1	0.7	0.04	0.18	0.04	58.4
9	R2	All MCs	6	50.0	6	50.0	0.103	6.6	LOS A	0.1	0.7	0.04	0.18	0.04	53.5
Approach			167	22.8	167	22.8	0.103	1.8	NA	0.1	0.7	0.04	0.18	0.04	57.2
West: Old Winton Road															
10	L2	All MCs	6	50.0	6	50.0	0.028	6.5	LOS A	0.1	1.0	0.30	0.52	0.30	49.3
11	T1	All MCs	6	50.0	6	50.0	0.028	8.6	LOS A	0.1	1.0	0.30	0.52	0.30	49.9
12	R2	All MCs	6	50.0	6	50.0	0.028	10.3	LOS B	0.1	1.0	0.30	0.52	0.30	49.1
Approach			18	50.0	18	50.0	0.028	8.5	LOS A	0.1	1.0	0.30	0.52	0.30	49.4
All Vehicles			390	28.2	390	28.2	0.103	3.6	NA	0.4	3.6	0.16	0.30	0.16	54.9

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: 101 [Bowlers Lane - Oxley Highway PM Peak (Site Folder: Background 2026 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	6	50.0	6	50.0	0.027	6.1	LOS A	0.0	0.0	0.00	0.08	0.00	54.7
2	T1	All MCs	109	18.3	109	18.3	0.075	0.4	LOS A	0.3	2.4	0.15	0.22	0.15	58.0
3	R2	All MCs	44	25.0	44	25.0	0.075	6.5	LOS A	0.3	2.4	0.24	0.31	0.24	53.4
Approach			159	21.4	159	21.4	0.075	2.3	NA	0.3	2.4	0.17	0.24	0.17	56.5
East: Bowlers Lane															
4	L2	All MCs	50	24.0	50	24.0	0.129	6.4	LOS A	0.5	4.3	0.39	0.61	0.39	50.4
5	T1	All MCs	6	50.0	6	50.0	0.129	9.1	LOS A	0.5	4.3	0.39	0.61	0.39	50.0
6	R2	All MCs	46	17.4	46	17.4	0.129	9.5	LOS A	0.5	4.3	0.39	0.61	0.39	50.3
Approach			102	22.5	102	22.5	0.129	7.9	LOS A	0.5	4.3	0.39	0.61	0.39	50.3
North: Oxley Highway North															
7	L2	All MCs	44	25.0	44	25.0	0.105	5.9	LOS A	0.1	0.7	0.04	0.19	0.04	54.8
8	T1	All MCs	118	25.4	118	25.4	0.105	0.1	LOS A	0.1	0.7	0.04	0.19	0.04	58.3
9	R2	All MCs	6	50.0	6	50.0	0.105	6.8	LOS A	0.1	0.7	0.04	0.19	0.04	53.5
Approach			168	26.2	168	26.2	0.105	1.8	NA	0.1	0.7	0.04	0.19	0.04	57.2
West: Old Winton Road															
10	L2	All MCs	6	50.0	6	50.0	0.029	6.6	LOS A	0.1	1.1	0.33	0.53	0.33	49.0
11	T1	All MCs	6	50.0	6	50.0	0.029	9.0	LOS A	0.1	1.1	0.33	0.53	0.33	49.6
12	R2	All MCs	6	50.0	6	50.0	0.029	11.3	LOS B	0.1	1.1	0.33	0.53	0.33	48.8
Approach			18	50.0	18	50.0	0.029	8.9	LOS A	0.1	1.1	0.33	0.53	0.33	49.1
All Vehicles			447	24.6	447	24.6	0.129	3.7	NA	0.5	4.3	0.18	0.32	0.18	54.9

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: 101 [Bowlers Lane - Oxley Highway AM Peak (Site Folder: Background 2036 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	8	50.0	8	50.0	0.033	6.1	LOS A	0.0	0.0	0.00	0.09	0.00	54.6
2	T1	All MCs	117	27.4	117	27.4	0.091	0.6	LOS A	0.4	3.3	0.19	0.26	0.19	57.6
3	R2	All MCs	58	24.1	58	24.1	0.091	6.8	LOS A	0.4	3.3	0.30	0.37	0.30	52.9
Approach			183	27.3	183	27.3	0.091	2.8	NA	0.4	3.3	0.22	0.29	0.22	55.9
East: Bowlers Lane															
4	L2	All MCs	28	50.0	28	50.0	0.152	7.1	LOS A	0.6	5.5	0.51	0.69	0.51	48.1
5	T1	All MCs	8	50.0	8	50.0	0.152	10.6	LOS B	0.6	5.5	0.51	0.69	0.51	48.7
6	R2	All MCs	51	27.5	51	27.5	0.152	11.6	LOS B	0.6	5.5	0.51	0.69	0.51	48.6
Approach			87	36.8	87	36.8	0.152	10.0	LOS B	0.6	5.5	0.51	0.69	0.51	48.4
North: Oxley Highway North															
7	L2	All MCs	58	24.1	58	24.1	0.137	6.0	LOS A	0.1	1.0	0.04	0.19	0.04	54.9
8	T1	All MCs	157	20.4	157	20.4	0.137	0.1	LOS A	0.1	1.0	0.04	0.19	0.04	58.3
9	R2	All MCs	8	50.0	8	50.0	0.137	7.1	LOS A	0.1	1.0	0.04	0.19	0.04	53.5
Approach			223	22.4	223	22.4	0.137	1.9	NA	0.1	1.0	0.04	0.19	0.04	57.2
West: Old Winton Road															
10	L2	All MCs	8	50.0	8	50.0	0.044	6.7	LOS A	0.2	1.6	0.38	0.54	0.38	48.4
11	T1	All MCs	8	50.0	8	50.0	0.044	10.6	LOS B	0.2	1.6	0.38	0.54	0.38	49.0
12	R2	All MCs	8	50.0	8	50.0	0.044	12.6	LOS B	0.2	1.6	0.38	0.54	0.38	48.2
Approach			24	50.0	24	50.0	0.044	9.9	LOS A	0.2	1.6	0.38	0.54	0.38	48.5
All Vehicles			517	27.9	517	27.9	0.152	3.9	NA	0.6	5.5	0.20	0.33	0.20	54.6

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: 101 [Bowlers Lane - Oxley Highway PM Peak (Site Folder: Background 2036 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	8	50.0	8	50.0	0.037	6.1	LOS A	0.0	0.0	0.00	0.07	0.00	54.7
2	T1	All MCs	146	17.8	146	17.8	0.101	0.6	LOS A	0.4	3.4	0.18	0.25	0.18	57.9
3	R2	All MCs	58	24.1	58	24.1	0.101	6.8	LOS A	0.4	3.4	0.29	0.35	0.29	53.3
Approach			212	20.8	212	20.8	0.101	2.5	NA	0.4	3.4	0.20	0.27	0.20	56.5
East: Bowlers Lane															
4	L2	All MCs	66	24.2	66	24.2	0.200	6.6	LOS A	0.8	6.9	0.49	0.66	0.49	49.5
5	T1	All MCs	8	50.0	8	50.0	0.200	11.6	LOS B	0.8	6.9	0.49	0.66	0.49	49.1
6	R2	All MCs	61	18.0	61	18.0	0.200	11.7	LOS B	0.8	6.9	0.49	0.66	0.49	49.4
Approach			135	23.0	135	23.0	0.200	9.2	LOS A	0.8	6.9	0.49	0.66	0.49	49.4
North: Oxley Highway North															
7	L2	All MCs	58	24.1	58	24.1	0.140	6.0	LOS A	0.1	1.1	0.05	0.19	0.05	54.8
8	T1	All MCs	158	25.3	158	25.3	0.140	0.1	LOS A	0.1	1.1	0.05	0.19	0.05	58.3
9	R2	All MCs	8	50.0	8	50.0	0.140	7.3	LOS A	0.1	1.1	0.05	0.19	0.05	53.5
Approach			224	25.9	224	25.9	0.140	1.9	NA	0.1	1.1	0.05	0.19	0.05	57.1
West: Old Winton Road															
10	L2	All MCs	8	50.0	8	50.0	0.048	6.7	LOS A	0.2	1.7	0.42	0.55	0.42	47.9
11	T1	All MCs	8	50.0	8	50.0	0.048	11.2	LOS B	0.2	1.7	0.42	0.55	0.42	48.5
12	R2	All MCs	8	50.0	8	50.0	0.048	14.2	LOS B	0.2	1.7	0.42	0.55	0.42	47.7
Approach			24	50.0	24	50.0	0.048	10.7	LOS B	0.2	1.7	0.42	0.55	0.42	48.0
All Vehicles			595	24.4	595	24.4	0.200	4.1	NA	0.8	6.9	0.22	0.34	0.22	54.5

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: 101 [Bowlers Lane - Oxley Highway AM Peak (Site Folder: Design 2026 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	6	50.0	6	50.0	0.026	6.1	LOS A	0.0	0.0	0.00	0.08	0.00	54.6
2	T1	All MCs	88	27.3	88	27.3	0.072	0.5	LOS A	0.3	2.7	0.16	0.25	0.16	57.7
3	R2	All MCs	51	29.4	51	29.4	0.072	6.6	LOS A	0.3	2.7	0.28	0.37	0.28	52.6
Approach			145	29.0	145	29.0	0.072	2.9	NA	0.3	2.7	0.20	0.29	0.20	55.7
East: Bowlers Lane															
4	L2	All MCs	28	50.0	28	50.0	0.113	6.8	LOS A	0.4	4.2	0.42	0.63	0.42	49.0
5	T1	All MCs	6	50.0	6	50.0	0.113	8.9	LOS A	0.4	4.2	0.42	0.63	0.42	49.6
6	R2	All MCs	42	31.0	42	31.0	0.113	10.0	LOS A	0.4	4.2	0.42	0.63	0.42	49.4
Approach			76	39.5	76	39.5	0.113	8.7	LOS A	0.4	4.2	0.42	0.63	0.42	49.3
North: Oxley Highway North															
7	L2	All MCs	48	29.2	48	29.2	0.106	5.9	LOS A	0.1	0.7	0.03	0.19	0.03	54.6
8	T1	All MCs	117	20.5	117	20.5	0.106	0.0	LOS A	0.1	0.7	0.03	0.19	0.03	58.3
9	R2	All MCs	6	50.0	6	50.0	0.106	6.6	LOS A	0.1	0.7	0.03	0.19	0.03	53.5
Approach			171	24.0	171	24.0	0.106	1.9	NA	0.1	0.7	0.03	0.19	0.03	57.1
West: Old Winton Road															
10	L2	All MCs	6	50.0	6	50.0	0.028	6.5	LOS A	0.1	1.1	0.31	0.53	0.31	49.2
11	T1	All MCs	6	50.0	6	50.0	0.028	8.8	LOS A	0.1	1.1	0.31	0.53	0.31	49.8
12	R2	All MCs	6	50.0	6	50.0	0.028	10.6	LOS B	0.1	1.1	0.31	0.53	0.31	49.0
Approach			18	50.0	18	50.0	0.028	8.7	LOS A	0.1	1.1	0.31	0.53	0.31	49.3
All Vehicles			410	29.8	410	29.8	0.113	3.8	NA	0.4	4.2	0.18	0.32	0.18	54.6

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: 101 [Bowlers Lane - Oxley Highway PM Peak (Site Folder: Design 2026 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	6	50.0	6	50.0	0.028	6.1	LOS A	0.0	0.0	0.00	0.07	0.00	54.7
2	T1	All MCs	109	18.3	109	18.3	0.078	0.4	LOS A	0.3	2.8	0.16	0.23	0.16	58.0
3	R2	All MCs	48	31.3	48	31.3	0.078	6.7	LOS A	0.3	2.8	0.26	0.33	0.26	53.0
Approach			163	23.3	163	23.3	0.078	2.5	NA	0.3	2.8	0.18	0.25	0.18	56.3
East: Bowlers Lane															
4	L2	All MCs	57	26.3	57	26.3	0.143	6.4	LOS A	0.6	5.0	0.39	0.61	0.39	50.2
5	T1	All MCs	6	50.0	6	50.0	0.143	9.3	LOS A	0.6	5.0	0.39	0.61	0.39	50.0
6	R2	All MCs	49	20.4	49	20.4	0.143	9.8	LOS A	0.6	5.0	0.39	0.61	0.39	50.1
Approach			112	25.0	112	25.0	0.143	8.1	LOS A	0.6	5.0	0.39	0.61	0.39	50.1
North: Oxley Highway North															
7	L2	All MCs	47	29.8	47	29.8	0.108	6.0	LOS A	0.1	0.8	0.04	0.19	0.04	54.6
8	T1	All MCs	118	25.4	118	25.4	0.108	0.0	LOS A	0.1	0.8	0.04	0.19	0.04	58.3
9	R2	All MCs	6	50.0	6	50.0	0.108	6.8	LOS A	0.1	0.8	0.04	0.19	0.04	53.5
Approach			171	27.5	171	27.5	0.108	1.9	NA	0.1	0.8	0.04	0.19	0.04	57.0
West: Old Winton Road															
10	L2	All MCs	6	50.0	6	50.0	0.030	6.6	LOS A	0.1	1.1	0.34	0.53	0.34	48.9
11	T1	All MCs	6	50.0	6	50.0	0.030	9.1	LOS A	0.1	1.1	0.34	0.53	0.34	49.5
12	R2	All MCs	6	50.0	6	50.0	0.030	11.5	LOS B	0.1	1.1	0.34	0.53	0.34	48.7
Approach			18	50.0	18	50.0	0.030	9.1	LOS A	0.1	1.1	0.34	0.53	0.34	49.0
All Vehicles			464	26.3	464	26.3	0.143	3.9	NA	0.6	5.0	0.19	0.33	0.19	54.6

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: 101 [Bowlers Lane - Oxley Highway AM Peak (Site Folder: Design 2036 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	8	50.0	8	50.0	0.035	6.1	LOS A	0.0	0.0	0.00	0.08	0.00	54.6
2	T1	All MCs	117	27.4	117	27.4	0.096	0.6	LOS A	0.4	3.7	0.19	0.27	0.19	57.6
3	R2	All MCs	65	27.7	65	27.7	0.096	6.9	LOS A	0.4	3.7	0.33	0.40	0.33	52.6
Approach			190	28.4	190	28.4	0.096	3.0	NA	0.4	3.7	0.23	0.31	0.23	55.6
East: Bowlers Lane															
4	L2	All MCs	34	50.0	34	50.0	0.169	7.1	LOS A	0.7	6.2	0.51	0.69	0.51	48.0
5	T1	All MCs	8	50.0	8	50.0	0.169	10.9	LOS B	0.7	6.2	0.51	0.69	0.51	48.6
6	R2	All MCs	54	29.6	54	29.6	0.169	12.1	LOS B	0.7	6.2	0.51	0.69	0.51	48.4
Approach			96	38.5	96	38.5	0.169	10.2	LOS B	0.7	6.2	0.51	0.69	0.51	48.3
North: Oxley Highway North															
7	L2	All MCs	62	27.4	62	27.4	0.140	6.0	LOS A	0.1	1.0	0.04	0.19	0.04	54.7
8	T1	All MCs	157	20.4	157	20.4	0.140	0.1	LOS A	0.1	1.0	0.04	0.19	0.04	58.3
9	R2	All MCs	8	50.0	8	50.0	0.140	7.0	LOS A	0.1	1.0	0.04	0.19	0.04	53.5
Approach			227	23.3	227	23.3	0.140	1.9	NA	0.1	1.0	0.04	0.19	0.04	57.1
West: Old Winton Road															
10	L2	All MCs	8	50.0	8	50.0	0.045	6.7	LOS A	0.2	1.7	0.40	0.55	0.40	48.2
11	T1	All MCs	8	50.0	8	50.0	0.045	10.9	LOS B	0.2	1.7	0.40	0.55	0.40	48.8
12	R2	All MCs	8	50.0	8	50.0	0.045	12.9	LOS B	0.2	1.7	0.40	0.55	0.40	48.1
Approach			24	50.0	24	50.0	0.045	10.2	LOS B	0.2	1.7	0.40	0.55	0.40	48.4
All Vehicles			537	29.1	537	29.1	0.169	4.2	NA	0.7	6.2	0.21	0.34	0.21	54.4

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: 101 [Bowlers Lane - Oxley Highway PM Peak (Site Folder: Design 2036 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley Highway South															
1	L2	All MCs	8	50.0	8	50.0	0.038	6.1	LOS A	0.0	0.0	0.00	0.07	0.00	54.7
2	T1	All MCs	146	17.8	146	17.8	0.106	0.6	LOS A	0.5	3.8	0.19	0.25	0.19	57.9
3	R2	All MCs	62	29.0	62	29.0	0.106	7.0	LOS A	0.5	3.8	0.31	0.37	0.31	53.0
Approach			216	22.2	216	22.2	0.106	2.6	NA	0.5	3.8	0.22	0.28	0.22	56.3
East: Bowlers Lane															
4	L2	All MCs	73	26.0	73	26.0	0.217	6.7	LOS A	0.9	7.6	0.50	0.66	0.50	49.3
5	T1	All MCs	8	50.0	8	50.0	0.217	11.9	LOS B	0.9	7.6	0.50	0.66	0.50	49.0
6	R2	All MCs	64	20.3	64	20.3	0.217	12.2	LOS B	0.9	7.6	0.50	0.66	0.50	49.2
Approach			145	24.8	145	24.8	0.217	9.4	LOS A	0.9	7.6	0.50	0.66	0.50	49.2
North: Oxley Highway North															
7	L2	All MCs	61	27.9	61	27.9	0.143	6.0	LOS A	0.1	1.1	0.05	0.19	0.05	54.6
8	T1	All MCs	158	25.3	158	25.3	0.143	0.1	LOS A	0.1	1.1	0.05	0.19	0.05	58.3
9	R2	All MCs	8	50.0	8	50.0	0.143	7.3	LOS A	0.1	1.1	0.05	0.19	0.05	53.5
Approach			227	26.9	227	26.9	0.143	1.9	NA	0.1	1.1	0.05	0.19	0.05	57.1
West: Old Winton Road															
10	L2	All MCs	8	50.0	8	50.0	0.049	6.7	LOS A	0.2	1.8	0.43	0.56	0.43	47.7
11	T1	All MCs	8	50.0	8	50.0	0.049	11.4	LOS B	0.2	1.8	0.43	0.56	0.43	48.3
12	R2	All MCs	8	50.0	8	50.0	0.049	14.6	LOS B	0.2	1.8	0.43	0.56	0.43	47.6
Approach			24	50.0	24	50.0	0.049	10.9	LOS B	0.2	1.8	0.43	0.56	0.43	47.9
All Vehicles			612	25.7	612	25.7	0.217	4.3	NA	0.9	7.6	0.23	0.35	0.23	54.3

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: 101 [Site Access - Wallamore Road AM Peak (Site Folder: Background 2022 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	3	33.3	3	33.3	0.002	5.9	LOS A	0.0	0.0	0.00	0.57	0.00	49.8
2	T1	All MCs	41	29.3	41	29.3	0.025	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			44	29.5	44	29.5	0.025	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.3
North: Wallamore Road North															
8	T1	All MCs	40	30.0	40	30.0	0.016	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
9	R2	All MCs	1	0.0	1	0.0	0.016	5.5	LOS A	0.0	0.1	0.01	0.02	0.01	56.3
Approach			41	29.3	41	29.3	0.016	0.2	NA	0.0	0.1	0.01	0.02	0.01	59.7
West: Feedmill Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.005	5.7	LOS A	0.0	0.2	0.20	0.54	0.20	50.7
12	R2	All MCs	4	25.0	4	25.0	0.005	6.5	LOS A	0.0	0.2	0.20	0.54	0.20	49.4
Approach			5	20.0	5	20.0	0.005	6.3	LOS A	0.0	0.2	0.20	0.54	0.20	49.6
All Vehicles			90	28.9	90	28.9	0.025	0.6	NA	0.0	0.2	0.01	0.06	0.01	59.0

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: 101 [Site Access - Wallamore Road PM Peak (Site Folder: Background 2022 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.4
2	T1	All MCs	44	29.5	44	29.5	0.027	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			45	28.9	45	28.9	0.027	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
North: Wallamore Road North															
8	T1	All MCs	39	30.8	39	30.8	0.015	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	59.8
9	R2	All MCs	1	0.0	1	0.0	0.015	5.5	LOS A	0.0	0.1	0.01	0.03	0.01	56.3
Approach			40	30.0	40	30.0	0.015	0.2	NA	0.0	0.1	0.01	0.02	0.01	59.7
West: Feedmill Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.007	5.7	LOS A	0.0	0.2	0.21	0.54	0.21	50.7
12	R2	All MCs	5	20.0	5	20.0	0.007	6.4	LOS A	0.0	0.2	0.21	0.54	0.21	49.6
Approach			6	16.7	6	16.7	0.007	6.3	LOS A	0.0	0.2	0.21	0.54	0.21	49.8
All Vehicles			91	28.6	91	28.6	0.027	0.6	NA	0.0	0.2	0.02	0.05	0.02	59.1

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: 101 [Site Access - Wallamore Road AM Peak (Site Folder: Background 2026 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	3	33.3	3	33.3	0.002	5.9	LOS A	0.0	0.0	0.00	0.57	0.00	49.8
2	T1	All MCs	47	29.8	47	29.8	0.029	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			50	30.0	50	30.0	0.029	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
North: Wallamore Road North															
8	T1	All MCs	46	30.4	46	30.4	0.018	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
9	R2	All MCs	1	0.0	1	0.0	0.018	5.5	LOS A	0.0	0.1	0.01	0.02	0.01	56.4
Approach			47	29.8	47	29.8	0.018	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.7
West: Feedmill Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.006	5.7	LOS A	0.0	0.2	0.22	0.54	0.22	50.7
12	R2	All MCs	4	25.0	4	25.0	0.006	6.6	LOS A	0.0	0.2	0.22	0.54	0.22	49.3
Approach			5	20.0	5	20.0	0.006	6.4	LOS A	0.0	0.2	0.22	0.54	0.22	49.6
All Vehicles			102	29.4	102	29.4	0.029	0.6	NA	0.0	0.2	0.01	0.05	0.01	59.1

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: 101 [Site Access - Wallamore Road PM Peak (Site Folder: Background 2026 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	95% 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: Wallamore Road South															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.4
2	T1	All MCs	50	30.0	50	30.0	0.031	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			51	29.4	51	29.4	0.031	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
North: Wallamore Road North															
8	T1	All MCs	45	31.1	45	31.1	0.017	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
9	R2	All MCs	1	0.0	1	0.0	0.017	5.5	LOS A	0.0	0.1	0.01	0.02	0.01	56.4
Approach			46	30.4	46	30.4	0.017	0.2	NA	0.0	0.1	0.01	0.01	0.01	59.7
West: Feedmill Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.007	5.7	LOS A	0.0	0.2	0.22	0.54	0.22	50.6
12	R2	All MCs	5	20.0	5	20.0	0.007	6.5	LOS A	0.0	0.2	0.22	0.54	0.22	49.5
Approach			6	16.7	6	16.7	0.007	6.4	LOS A	0.0	0.2	0.22	0.54	0.22	49.7
All Vehicles			103	29.1	103	29.1	0.031	0.5	NA	0.0	0.2	0.02	0.04	0.02	59.2

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: 101 [Site Access - Wallamore Road AM Peak (Site Folder: Background 2036 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	3	33.3	3	33.3	0.002	5.9	LOS A	0.0	0.0	0.00	0.57	0.00	49.8
2	T1	All MCs	63	30.2	63	30.2	0.039	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			66	30.3	66	30.3	0.039	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
North: Wallamore Road North															
8	T1	All MCs	62	30.6	62	30.6	0.024	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
9	R2	All MCs	1	0.0	1	0.0	0.024	5.6	LOS A	0.0	0.1	0.01	0.02	0.01	56.5
Approach			63	30.2	63	30.2	0.024	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.8
West: Feedmill Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.006	5.8	LOS A	0.0	0.2	0.26	0.54	0.26	50.5
12	R2	All MCs	4	25.0	4	25.0	0.006	6.9	LOS A	0.0	0.2	0.26	0.54	0.26	49.2
Approach			5	20.0	5	20.0	0.006	6.7	LOS A	0.0	0.2	0.26	0.54	0.26	49.4
All Vehicles			134	29.9	134	29.9	0.039	0.4	NA	0.0	0.2	0.01	0.04	0.01	59.3

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: 101 [Site Access - Wallamore Road PM Peak (Site Folder: Background 2036 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	95% 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: Wallamore Road South															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.4
2	T1	All MCs	67	29.9	67	29.9	0.041	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			68	29.4	68	29.4	0.041	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.9
North: Wallamore Road North															
8	T1	All MCs	60	31.7	60	31.7	0.023	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
9	R2	All MCs	1	0.0	1	0.0	0.023	5.6	LOS A	0.0	0.1	0.01	0.02	0.01	56.5
Approach			61	31.1	61	31.1	0.023	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.8
West: Feedmill Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.007	5.8	LOS A	0.0	0.2	0.27	0.54	0.27	50.5
12	R2	All MCs	5	20.0	5	20.0	0.007	6.8	LOS A	0.0	0.2	0.27	0.54	0.27	49.4
Approach			6	16.7	6	16.7	0.007	6.7	LOS A	0.0	0.2	0.27	0.54	0.27	49.6
All Vehicles			135	29.6	135	29.6	0.041	0.4	NA	0.0	0.2	0.01	0.03	0.01	59.4

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: 101 [Site Access - Wallamore Road AM Peak (Site Folder: Design 2026 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	12	58.3	12	58.3	0.009	6.2	LOS A	0.0	0.0	0.00	0.57	0.00	48.7
2	T1	All MCs	47	29.8	47	29.8	0.029	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			59	35.6	59	35.6	0.029	1.3	NA	0.0	0.0	0.00	0.12	0.00	57.7
North: Wallamore Road North															
8	T1	All MCs	46	30.4	46	30.4	0.019	0.1	LOS A	0.0	0.2	0.02	0.03	0.02	59.7
9	R2	All MCs	2	50.0	2	50.0	0.019	6.3	LOS A	0.0	0.2	0.03	0.05	0.03	53.3
Approach			48	31.3	48	31.3	0.019	0.3	NA	0.0	0.2	0.02	0.03	0.02	59.5
West: Feedmill Access Road															
10	L2	All MCs	2	50.0	2	50.0	0.021	6.4	LOS A	0.1	0.8	0.26	0.55	0.26	48.2
12	R2	All MCs	14	50.0	14	50.0	0.021	7.2	LOS A	0.1	0.8	0.26	0.55	0.26	48.0
Approach			16	50.0	16	50.0	0.021	7.1	LOS A	0.1	0.8	0.26	0.55	0.26	48.0
All Vehicles			123	35.8	123	35.8	0.029	1.7	NA	0.1	0.8	0.04	0.14	0.04	57.1

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: 101 [Site Access - Wallamore Road PM Peak (Site Folder: Design 2026 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	95% 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: Wallamore Road South															
1	L2	All MCs	6	100.0	6	100.0	0.006	6.7	LOS A	0.0	0.0	0.00	0.56	0.00	46.1
2	T1	All MCs	50	30.0	50	30.0	0.031	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			56	37.5	56	37.5	0.031	0.7	NA	0.0	0.0	0.00	0.06	0.00	58.4
North: Wallamore Road North															
8	T1	All MCs	45	31.1	45	31.1	0.018	0.1	LOS A	0.0	0.1	0.01	0.01	0.01	59.7
9	R2	All MCs	1	100.0	1	100.0	0.018	6.9	LOS A	0.0	0.1	0.02	0.03	0.02	50.7
Approach			46	32.6	46	32.6	0.018	0.2	NA	0.0	0.1	0.01	0.02	0.01	59.6
West: Feedmill Access Road															
10	L2	All MCs	2	50.0	2	50.0	0.024	6.4	LOS A	0.1	0.9	0.25	0.55	0.25	48.3
12	R2	All MCs	17	41.2	17	41.2	0.024	7.0	LOS A	0.1	0.9	0.25	0.55	0.25	48.5
Approach			19	42.1	19	42.1	0.024	7.0	LOS A	0.1	0.9	0.25	0.55	0.25	48.4
All Vehicles			121	36.4	121	36.4	0.031	1.5	NA	0.1	0.9	0.05	0.12	0.05	57.3

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: 101 [Site Access - Wallamore Road AM Peak (Site Folder: Design 2036 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	12	58.3	12	58.3	0.009	6.2	LOS A	0.0	0.0	0.00	0.57	0.00	48.7
2	T1	All MCs	63	30.2	63	30.2	0.039	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			75	34.7	75	34.7	0.039	1.0	NA	0.0	0.0	0.00	0.09	0.00	58.2
North: Wallamore Road North															
8	T1	All MCs	62	30.6	62	30.6	0.025	0.1	LOS A	0.0	0.2	0.02	0.02	0.02	59.8
9	R2	All MCs	2	50.0	2	50.0	0.025	6.4	LOS A	0.0	0.2	0.03	0.04	0.03	53.4
Approach			64	31.3	64	31.3	0.025	0.3	NA	0.0	0.2	0.02	0.02	0.02	59.6
West: Feedmill Access Road															
10	L2	All MCs	2	50.0	2	50.0	0.022	6.5	LOS A	0.1	0.8	0.30	0.56	0.30	47.9
12	R2	All MCs	14	50.0	14	50.0	0.022	7.7	LOS A	0.1	0.8	0.30	0.56	0.30	47.7
Approach			16	50.0	16	50.0	0.022	7.5	LOS A	0.1	0.8	0.30	0.56	0.30	47.7
All Vehicles			155	34.8	155	34.8	0.039	1.4	NA	0.1	0.8	0.04	0.11	0.04	57.7

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: 101 [Site Access - Wallamore Road PM Peak (Site Folder: Design 2036 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	6	100.0	6	100.0	0.006	6.7	LOS A	0.0	0.0	0.00	0.56	0.00	46.1
2	T1	All MCs	67	29.9	67	29.9	0.041	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			73	35.6	73	35.6	0.041	0.6	NA	0.0	0.0	0.00	0.05	0.00	58.8
North: Wallamore Road North															
8	T1	All MCs	60	31.7	60	31.7	0.024	0.1	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
9	R2	All MCs	1	100.0	1	100.0	0.024	7.0	LOS A	0.0	0.1	0.02	0.02	0.02	50.8
Approach			61	32.8	61	32.8	0.024	0.2	NA	0.0	0.1	0.01	0.01	0.01	59.6
West: Feedmill Access Road															
10	L2	All MCs	2	50.0	2	50.0	0.026	6.6	LOS A	0.1	0.9	0.30	0.57	0.30	48.0
12	R2	All MCs	17	41.2	17	41.2	0.026	7.4	LOS A	0.1	0.9	0.30	0.57	0.30	48.2
Approach			19	42.1	19	42.1	0.026	7.3	LOS A	0.1	0.9	0.30	0.57	0.30	48.2
All Vehicles			153	35.3	153	35.3	0.041	1.2	NA	0.1	0.9	0.04	0.10	0.04	57.8

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: 101 [Wallamore Road - Bowlers Lane AM Peak (Site Folder: Background 2022 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	50	22.0	50	22.0	0.049	5.8	LOS A	0.0	0.0	0.00	0.37	0.00	53.3
2	T1	All MCs	28	32.1	28	32.1	0.049	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	56.5
Approach			78	25.6	78	25.6	0.049	3.7	NA	0.0	0.0	0.00	0.37	0.00	54.4
North: Wallamore Road North															
8	T1	All MCs	16	31.3	16	31.3	0.031	0.3	LOS A	0.1	1.2	0.19	0.39	0.19	56.0
9	R2	All MCs	30	30.0	30	30.0	0.031	6.2	LOS A	0.1	1.2	0.19	0.39	0.19	52.2
Approach			46	30.4	46	30.4	0.031	4.1	NA	0.1	1.2	0.19	0.39	0.19	53.4
West: Bowlers Lane															
10	L2	All MCs	16	25.0	16	25.0	0.074	6.0	LOS A	0.3	2.2	0.17	0.57	0.17	51.4
12	R2	All MCs	64	25.0	64	25.0	0.074	6.3	LOS A	0.3	2.2	0.17	0.57	0.17	51.1
Approach			80	25.0	80	25.0	0.074	6.2	LOS A	0.3	2.2	0.17	0.57	0.17	51.2
All Vehicles			204	26.5	204	26.5	0.074	4.8	NA	0.3	2.2	0.11	0.45	0.11	52.9

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: 101 [Wallamore Road - Bowlers Lane PM Peak (Site Folder: Background 2022 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	57	17.5	57	17.5	0.052	5.8	LOS A	0.0	0.0	0.00	0.39	0.00	53.4
2	T1	All MCs	28	32.1	28	32.1	0.052	0.0	LOS A	0.0	0.0	0.00	0.39	0.00	56.3
Approach			85	22.4	85	22.4	0.052	3.9	NA	0.0	0.0	0.00	0.39	0.00	54.3
North: Wallamore Road North															
8	T1	All MCs	16	31.3	16	31.3	0.031	0.3	LOS A	0.1	1.2	0.20	0.39	0.20	56.0
9	R2	All MCs	30	30.0	30	30.0	0.031	6.2	LOS A	0.1	1.2	0.20	0.39	0.20	52.1
Approach			46	30.4	46	30.4	0.031	4.1	NA	0.1	1.2	0.20	0.39	0.20	53.4
West: Bowlers Lane															
10	L2	All MCs	16	25.0	16	25.0	0.074	6.0	LOS A	0.3	2.2	0.17	0.57	0.17	51.4
12	R2	All MCs	64	25.0	64	25.0	0.074	6.3	LOS A	0.3	2.2	0.17	0.57	0.17	51.1
Approach			80	25.0	80	25.0	0.074	6.2	LOS A	0.3	2.2	0.17	0.57	0.17	51.2
All Vehicles			211	25.1	211	25.1	0.074	4.8	NA	0.3	2.2	0.11	0.46	0.11	52.9

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 (Akcelik 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: 101 [Wallamore Road - Bowlers Lane AM Peak (Site Folder: Background 2026 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	57	22.8	57	22.8	0.056	5.8	LOS A	0.0	0.0	0.00	0.37	0.00	53.3
2	T1	All MCs	33	33.3	33	33.3	0.056	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	56.5
Approach			90	26.7	90	26.7	0.056	3.7	NA	0.0	0.0	0.00	0.37	0.00	54.5
North: Wallamore Road North															
8	T1	All MCs	19	31.6	19	31.6	0.037	0.4	LOS A	0.2	1.5	0.21	0.40	0.21	56.0
9	R2	All MCs	35	31.4	35	31.4	0.037	6.2	LOS A	0.2	1.5	0.21	0.40	0.21	52.1
Approach			54	31.5	54	31.5	0.037	4.2	NA	0.2	1.5	0.21	0.40	0.21	53.4
West: Bowlers Lane															
10	L2	All MCs	19	26.3	19	26.3	0.088	6.0	LOS A	0.3	2.6	0.19	0.57	0.19	51.3
12	R2	All MCs	74	25.7	74	25.7	0.088	6.4	LOS A	0.3	2.6	0.19	0.57	0.19	51.0
Approach			93	25.8	93	25.8	0.088	6.3	LOS A	0.3	2.6	0.19	0.57	0.19	51.1
All Vehicles			237	27.4	237	27.4	0.088	4.8	NA	0.3	2.6	0.12	0.45	0.12	52.9

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: 101 [Wallamore Road - Bowlers Lane PM Peak (Site Folder: Background 2026 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
South: Wallamore Road South															
1	L2	All MCs	65	18.5	65	18.5	0.060	5.8	LOS A	0.0	0.0	0.00	0.39	0.00	53.3
2	T1	All MCs	33	33.3	33	33.3	0.060	0.0	LOS A	0.0	0.0	0.00	0.39	0.00	56.3
Approach			98	23.5	98	23.5	0.060	3.8	NA	0.0	0.0	0.00	0.39	0.00	54.3
North: Wallamore Road North															
8	T1	All MCs	19	31.6	19	31.6	0.037	0.4	LOS A	0.2	1.5	0.22	0.40	0.22	56.0
9	R2	All MCs	35	31.4	35	31.4	0.037	6.3	LOS A	0.2	1.5	0.22	0.40	0.22	52.1
Approach			54	31.5	54	31.5	0.037	4.2	NA	0.2	1.5	0.22	0.40	0.22	53.4
West: Bowlers Lane															
10	L2	All MCs	19	26.3	19	26.3	0.088	6.0	LOS A	0.3	2.6	0.19	0.57	0.19	51.3
12	R2	All MCs	74	25.7	74	25.7	0.088	6.4	LOS A	0.3	2.6	0.19	0.57	0.19	51.0
Approach			93	25.8	93	25.8	0.088	6.3	LOS A	0.3	2.6	0.19	0.57	0.19	51.1
All Vehicles			245	26.1	245	26.1	0.088	4.9	NA	0.3	2.6	0.12	0.46	0.12	52.8

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 (Akcelik 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: 101 [Wallamore Road - Bowlers Lane AM Peak (Site Folder: Background 2036 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	76	22.4	76	22.4	0.074	5.8	LOS A	0.0	0.0	0.00	0.37	0.00	53.3
2	T1	All MCs	43	32.6	43	32.6	0.074	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	56.5
Approach			119	26.1	119	26.1	0.074	3.7	NA	0.0	0.0	0.00	0.37	0.00	54.4
North: Wallamore Road North															
8	T1	All MCs	25	32.0	25	32.0	0.050	0.5	LOS A	0.2	2.0	0.25	0.41	0.25	55.8
9	R2	All MCs	46	30.4	46	30.4	0.050	6.4	LOS A	0.2	2.0	0.25	0.41	0.25	52.0
Approach			71	31.0	71	31.0	0.050	4.3	NA	0.2	2.0	0.25	0.41	0.25	53.3
West: Bowlers Lane															
10	L2	All MCs	26	26.9	26	26.9	0.121	6.1	LOS A	0.4	3.7	0.23	0.58	0.23	51.2
12	R2	All MCs	98	25.5	98	25.5	0.121	6.6	LOS A	0.4	3.7	0.23	0.58	0.23	50.9
Approach			124	25.8	124	25.8	0.121	6.5	LOS A	0.4	3.7	0.23	0.58	0.23	51.0
All Vehicles			314	27.1	314	27.1	0.121	5.0	NA	0.4	3.7	0.15	0.46	0.15	52.8

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: 101 [Wallamore Road - Bowlers Lane PM Peak (Site Folder: Background 2036 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
South: Wallamore Road South															
1	L2	All MCs	88	18.2	88	18.2	0.080	5.8	LOS A	0.0	0.0	0.00	0.39	0.00	53.3
2	T1	All MCs	43	32.6	43	32.6	0.080	0.0	LOS A	0.0	0.0	0.00	0.39	0.00	56.3
Approach			131	22.9	131	22.9	0.080	3.9	NA	0.0	0.0	0.00	0.39	0.00	54.3
North: Wallamore Road North															
8	T1	All MCs	25	32.0	25	32.0	0.050	0.5	LOS A	0.2	2.0	0.26	0.42	0.26	55.8
9	R2	All MCs	46	30.4	46	30.4	0.050	6.4	LOS A	0.2	2.0	0.26	0.42	0.26	52.0
Approach			71	31.0	71	31.0	0.050	4.4	NA	0.2	2.0	0.26	0.42	0.26	53.3
West: Bowlers Lane															
10	L2	All MCs	26	26.9	26	26.9	0.122	6.1	LOS A	0.4	3.7	0.23	0.58	0.23	51.2
12	R2	All MCs	98	25.5	98	25.5	0.122	6.7	LOS A	0.4	3.7	0.23	0.58	0.23	50.9
Approach			124	25.8	124	25.8	0.122	6.5	LOS A	0.4	3.7	0.23	0.58	0.23	51.0
All Vehicles			326	25.8	326	25.8	0.122	5.0	NA	0.4	3.7	0.14	0.47	0.14	52.8

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: 101 [Wallamore Road - Bowlers Lane AM Peak (Site Folder: Design 2026 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	57	22.8	57	22.8	0.059	5.8	LOS A	0.0	0.0	0.00	0.35	0.00	53.4
2	T1	All MCs	37	37.8	37	37.8	0.059	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	56.6
Approach			94	28.7	94	28.7	0.059	3.5	NA	0.0	0.0	0.00	0.35	0.00	54.6
North: Wallamore Road North															
8	T1	All MCs	24	37.5	24	37.5	0.047	0.4	LOS A	0.2	1.9	0.22	0.40	0.22	56.0
9	R2	All MCs	42	35.7	42	35.7	0.047	6.3	LOS A	0.2	1.9	0.22	0.40	0.22	51.9
Approach			66	36.4	66	36.4	0.047	4.2	NA	0.2	1.9	0.22	0.40	0.22	53.3
West: Bowlers Lane															
10	L2	All MCs	26	34.6	26	34.6	0.095	6.1	LOS A	0.3	2.9	0.20	0.57	0.20	51.0
12	R2	All MCs	74	25.7	74	25.7	0.095	6.5	LOS A	0.3	2.9	0.20	0.57	0.20	51.0
Approach			100	28.0	100	28.0	0.095	6.4	LOS A	0.3	2.9	0.20	0.57	0.20	51.0
All Vehicles			260	30.4	260	30.4	0.095	4.8	NA	0.3	2.9	0.13	0.45	0.13	52.8

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: 101 [Wallamore Road - Bowlers Lane PM Peak (Site Folder: Design 2026 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	65	18.5	65	18.5	0.063	5.8	LOS A	0.0	0.0	0.00	0.37	0.00	53.3
2	T1	All MCs	36	38.9	36	38.9	0.063	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	56.3
Approach			101	25.7	101	25.7	0.063	3.7	NA	0.0	0.0	0.00	0.37	0.00	54.4
North: Wallamore Road North															
8	T1	All MCs	24	37.5	24	37.5	0.048	0.4	LOS A	0.2	2.0	0.23	0.40	0.23	55.9
9	R2	All MCs	44	34.1	44	34.1	0.048	6.3	LOS A	0.2	2.0	0.23	0.40	0.23	51.9
Approach			68	35.3	68	35.3	0.048	4.3	NA	0.2	2.0	0.23	0.40	0.23	53.2
West: Bowlers Lane															
10	L2	All MCs	23	39.1	23	39.1	0.094	6.2	LOS A	0.3	2.9	0.20	0.57	0.20	50.8
12	R2	All MCs	74	25.7	74	25.7	0.094	6.5	LOS A	0.3	2.9	0.20	0.57	0.20	51.0
Approach			97	28.9	97	28.9	0.094	6.4	LOS A	0.3	2.9	0.20	0.57	0.20	50.9
All Vehicles			266	29.3	266	29.3	0.094	4.9	NA	0.3	2.9	0.13	0.45	0.13	52.8

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: 101 [Wallamore Road - Bowlers Lane AM Peak (Site Folder: Design 2036 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Wallamore Road South															
1	L2	All MCs	76	22.4	76	22.4	0.077	5.8	LOS A	0.0	0.0	0.00	0.36	0.00	53.4
2	T1	All MCs	47	36.2	47	36.2	0.077	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	56.5
Approach			123	27.6	123	27.6	0.077	3.6	NA	0.0	0.0	0.00	0.36	0.00	54.5
North: Wallamore Road North															
8	T1	All MCs	30	36.7	30	36.7	0.060	0.5	LOS A	0.3	2.5	0.26	0.41	0.26	55.8
9	R2	All MCs	53	34.0	53	34.0	0.060	6.5	LOS A	0.3	2.5	0.26	0.41	0.26	51.8
Approach			83	34.9	83	34.9	0.060	4.3	NA	0.3	2.5	0.26	0.41	0.26	53.2
West: Bowlers Lane															
10	L2	All MCs	33	33.3	33	33.3	0.129	6.2	LOS A	0.5	4.1	0.24	0.58	0.24	50.9
12	R2	All MCs	98	25.5	98	25.5	0.129	6.8	LOS A	0.5	4.1	0.24	0.58	0.24	50.9
Approach			131	27.5	131	27.5	0.129	6.6	LOS A	0.5	4.1	0.24	0.58	0.24	50.9
All Vehicles			337	29.4	337	29.4	0.129	5.0	NA	0.5	4.1	0.16	0.46	0.16	52.7

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: 101 [Wallamore Road - Bowlers Lane PM Peak (Site Folder: Design 2036 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wallamore Road South															
1	L2	All MCs	88	18.2	88	18.2	0.083	5.8	LOS A	0.0	0.0	0.00	0.38	0.00	53.3
2	T1	All MCs	46	37.0	46	37.0	0.083	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	56.3
Approach			134	24.6	134	24.6	0.083	3.8	NA	0.0	0.0	0.00	0.38	0.00	54.3
North: Wallamore Road North															
8	T1	All MCs	30	36.7	30	36.7	0.061	0.6	LOS A	0.3	2.5	0.27	0.42	0.27	55.7
9	R2	All MCs	55	32.7	55	32.7	0.061	6.5	LOS A	0.3	2.5	0.27	0.42	0.27	51.8
Approach			85	34.1	85	34.1	0.061	4.4	NA	0.3	2.5	0.27	0.42	0.27	53.1
West: Bowlers Lane															
10	L2	All MCs	30	36.7	30	36.7	0.128	6.2	LOS A	0.5	4.0	0.24	0.58	0.24	50.8
12	R2	All MCs	98	25.5	98	25.5	0.128	6.8	LOS A	0.5	4.0	0.24	0.58	0.24	50.9
Approach			128	28.1	128	28.1	0.128	6.7	LOS A	0.5	4.0	0.24	0.58	0.24	50.9
All Vehicles			347	28.2	347	28.2	0.128	5.0	NA	0.5	4.0	0.16	0.47	0.16	52.7

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.

SITE LAYOUT

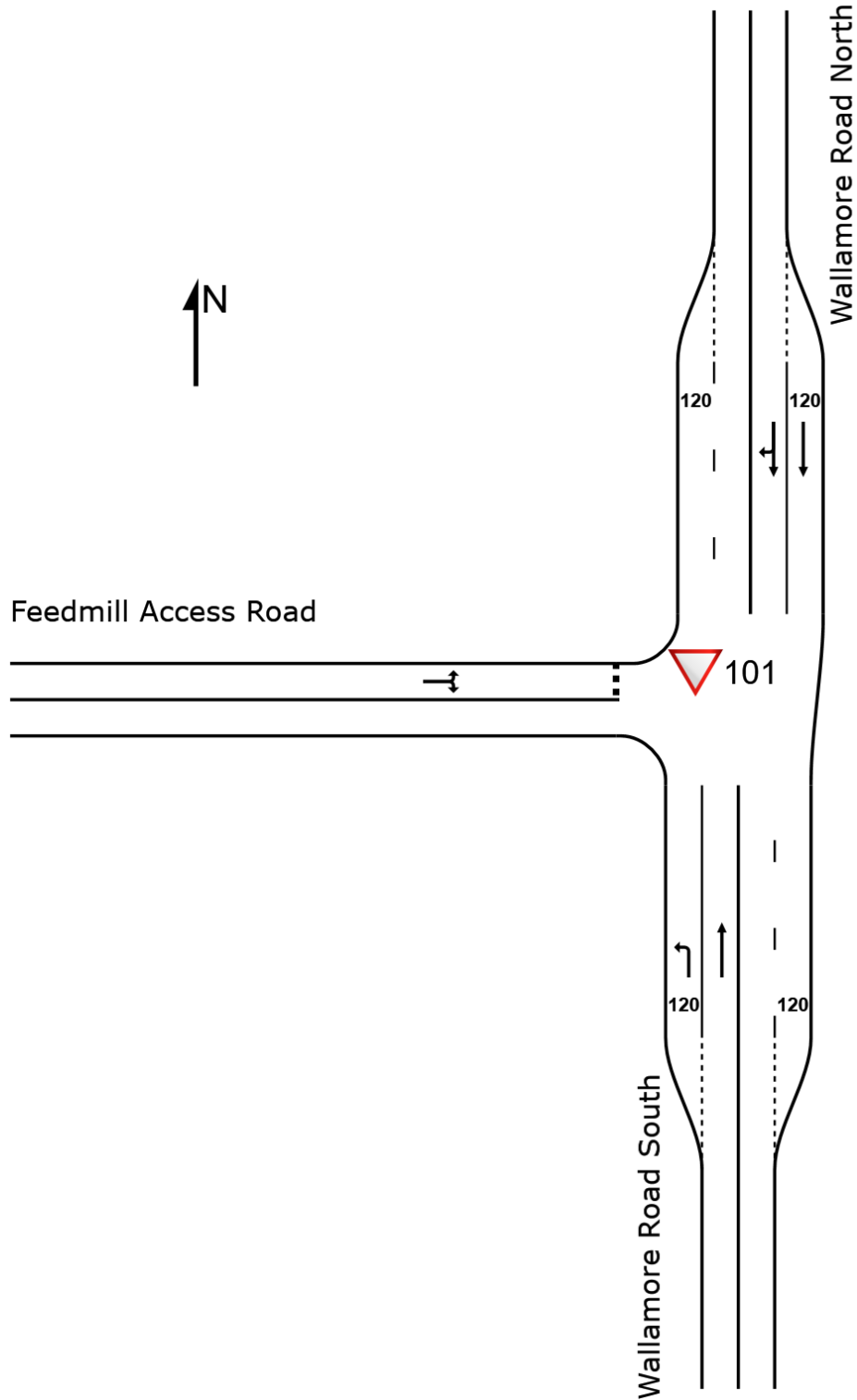
▼ Site: 101 [Site Access - Wallamore Road AM Peak (Site
Folder: Background 2022 AM Peak)]

New Site

Site Category: (None)

Give-Way (Two-Way)

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



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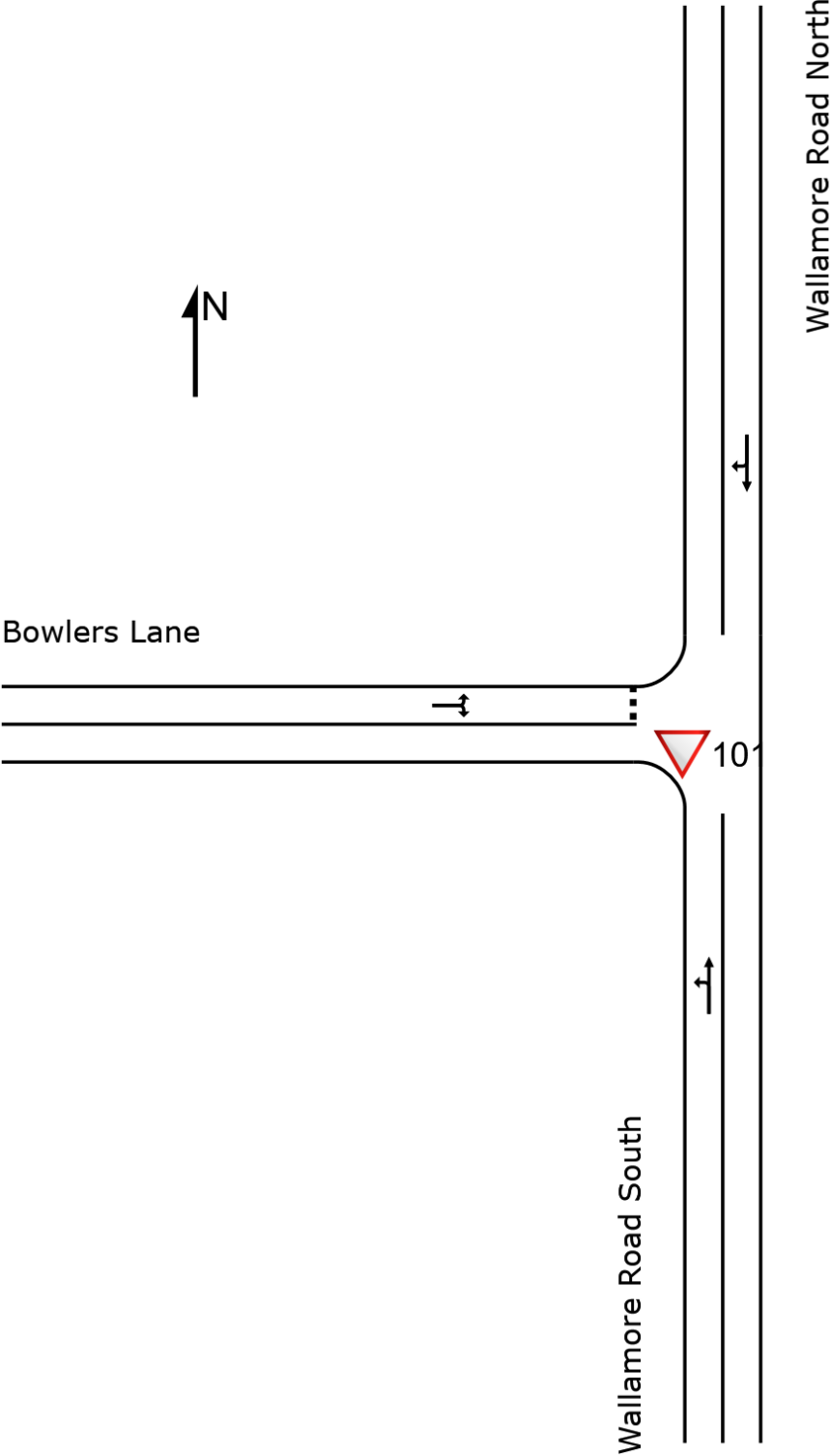
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SITE LAYOUT

 **Site: 101 [Wallamore Road - Bowlers Lane AM Peak (Site Folder: Background 2022 AM Peak)]**

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

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Feedmill_SIDRA_250723_V2.sip9

SITE LAYOUT

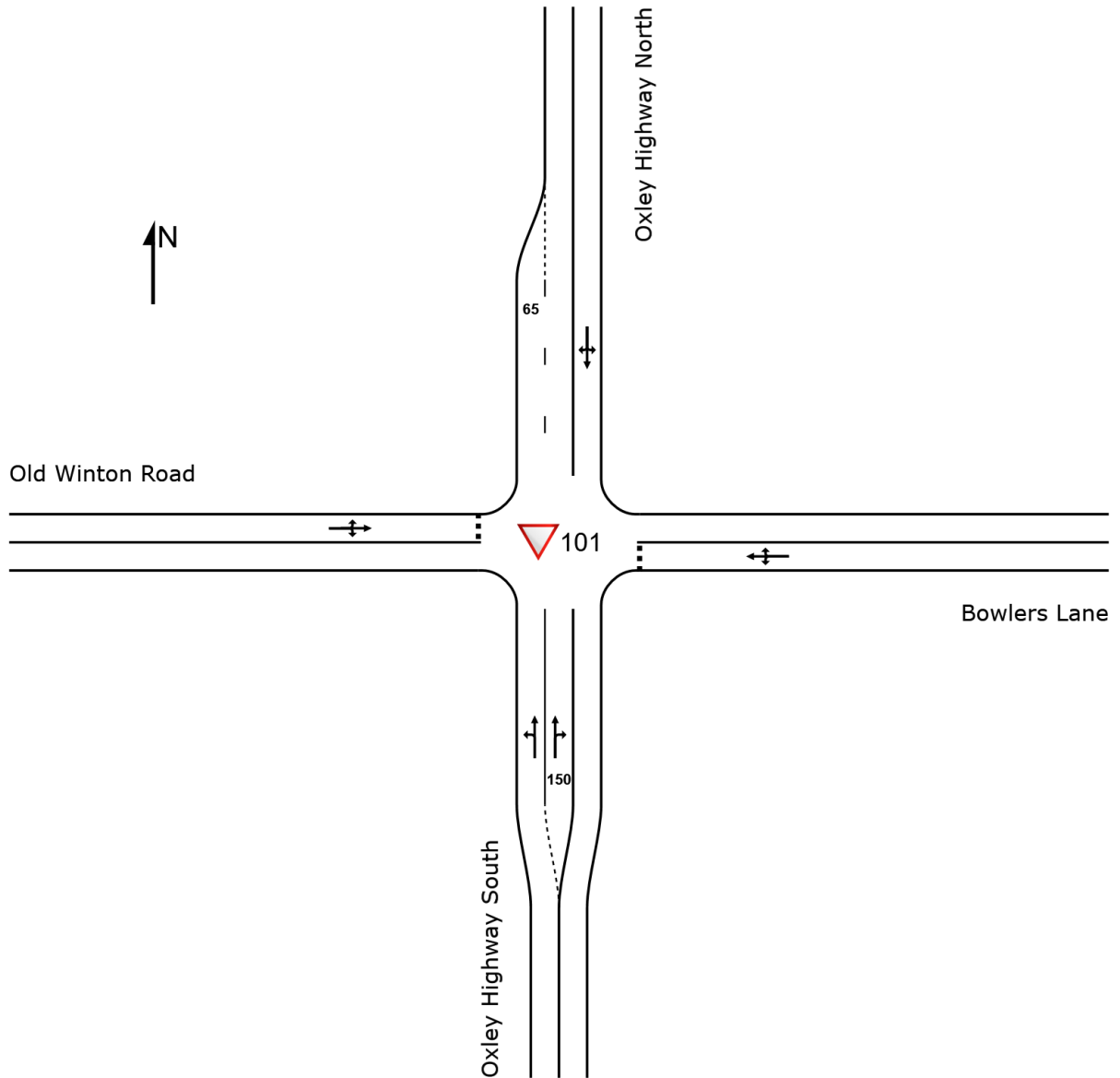
▽ Site: 101 [Bowlers Lane - Oxley Highway AM Peak (Site
Folder: Background 2022 AM Peak)]

New Site

Site Category: (None)

Give-Way (Two-Way)

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