Level 8 / 369 Ann Street
Brisbane City QLD 4000

Colliers International Engineering & Design (TTMC) Pty Ltd

3 July 2025
Our Ref: 24BRT0559
Council Ref: ROL/2024/116

Attention: John Warlow / Richard Sefton

Norfolk Estates Pty Ltd ATF The Solander Investments Unit Trust
C/- QM Properties
10 / 345 Ann Street
Brisbane QLD 4000

Dear John and Richard,

Re: 41-53 Courtney Drive, Upper Coomera – Residential ROL Council Information Request

1 Background

Colliers International Engineering and Design (TTMC) Pty Ltd (previously TTM Consulting Pty Ltd.) have been engaged by QM Properties to provide a response to traffic engineering items raised in City of Gold Coast (CoGC) Council's Information Request (IR) letter dated 28 January 2025.

Colliers have reviewed transport-related items in the IR letter pertaining to Council Items 6b, 9, 10, 13a-d, 27a-f, 40a-d and provide the relevant responses in the following sections.

2 Transport Engineering Items

2.1 Council IR Item 6b

> *The application supporting material does not include an indicative road network plan, nor is the external road network considered in the Traffic Impact Assessment (TIA). In accordance with the assessment benchmarks (including the Overall outcomes of the Reconfiguring a lot code and the Transport system efficiency element of the Strategic framework), the applicant is requested to provide the following:*
>
> ***(b)*** *Estimated daily traffic volumes should be shown on all proposed public roads and section of Courtney Drive at frontage of the site based on a scenario of post subdivisions within Lots 182 on RP156422, 184 on RP173727, 187 on RP173728, Lot 58 on SP191940 (proposed 73 town houses) and including property of existing ROL approval (COM/2019/82). Information of estimated daily traffic volumes should be provided by a RPEQ specialising in traffic engineering*

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Colliers Response to- Council IR Item 6b

To estimate the traffic generation expectations of the proposed land uses, reference is made to the TfNSW 'Guide to Transport Impact Assessment' (2024). This indicates the following traffic generation rates – in 'vehicles per hour' (vph) - should be adopted for:

Low density residential (single dwelling houses)

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

Regarding directional splits, in line with generally accepted traffic engineering practice this is estimated to be:

- AM Peak Hour: 25% inbound / 75% outbound
- PM Peak Hour: 61% inbound / 39% outbound

Medium density residential (townhouses)

- AM/PM Peak Hour: 0.65vph per dwelling

Regarding directional splits, in line with generally accepted traffic engineering practice this is estimated to be:

- AM Peak Hour: 25% inbound / 75% outbound
- PM Peak Hour: 61% inbound / 39% outbound

Colliers have considered traffic generated from the following developments in the estimation of daily traffic volumes:

- Subject Development (ROL/2024/16) – 188 single dwelling (low density) units across BMR and Courtney Drive
- Adjacent Development (COM/2024/317) – 73 townhouse (medium density) units
- Committed Development (COM/2019/82) – 196 single dwelling units
- Future Subdivision Scenario of Lot 182/RP156422 – based on an estimate of 60 single dwelling units, 60% entering/exiting through Courtney Drive
- Future Subdivision Scenario of Lot 187/RP173728 – based on an estimate of 15 single dwelling units along Courtney Drive

Application of the above generation rates and directional splits to the committed, base growth and development traffic would result in 2037 peak hour traffic volume estimates as shown in Figure 1.

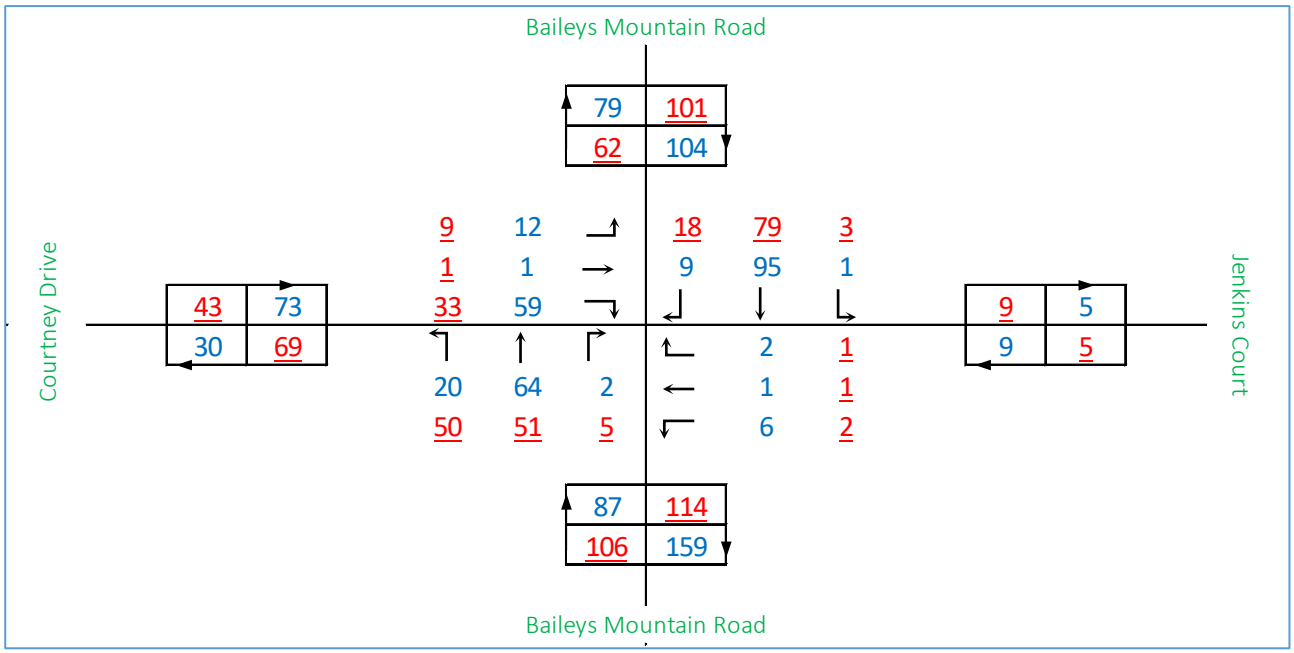


Figure 1: 2037 Project Case (Development + Committed + Base Growth Traffic)

The results of the volumes indicate that inclusive of future successful subdivision scenarios, the current development and committed developments, there will be a maximum of 112 vph peak hour traffic (PM) generated at the Courtney Drive site frontage. This equates to 1,120 vehicles per day (vpd), taking into account a conservative estimate of daily vehicle traffic being ten times (10x) observed during peak hours.

Traffic Network Diagrams have been attached in **Attachment C** displaying anticipated traffic movements throughout Courtney Drive.

2.2 Council IR Item 9

The proposed road upgrade for Courtney Drive will be a 5.5m wide carriage way and 0.75 between invert of kerb & channel and edge of the 5.5m wide carriage way. The proposed geometry profile of Courtney Drive does not comply with standard geometry profile requirement of Performance outcome PO15 and Performance outcome PO16 of the Reconfiguring a lot code or Specific outcome 3.6.1 (7) of the Improving transport outcomes element of the Strategic Framework.

The justification for this geometry in the Traffic Impact Assessment is not supported. It is noted that the road profile is not consistent with approved profile of existing cul-de-sac head of Courtney Drive (refer to Council's reference number: COM/2019/82). The applicant is requested to provide an amended typical cross section for Courtney Drive showing a 7.5m wide pavement (measuring from invert of new barrier

kerb & channel (subdivision side) to edge of the new 7.5m wide pavement) and a 1m wide seal shoulder with line marking (opposite side).

Additionally, the Traffic Impact Assessment states that "Courtney Drive at the full frontage of the site will be Residential Access Street classification". Officers do not support this outcome with regard to pavement depths. Traffic volume at subject section of Courtney Drive will be more than 751 VPD. In order to comply with the abovementioned benchmarks and relevant Specific outcomes of Strategic Frameworks, the section of Courtney Drive at the subject site should meet a Residential Collector Street classification for the purpose of pavement depth design.

Colliers Response to Council IR Item 9

As previously outlined in **Colliers Response – Council IR Item 6b)**, Courtney Drive is expected to accommodate more than 751 vpd volume of traffic but significantly less than 3,000 vpd.

Courtney Drive borders between rural and urban zoning, with the northern / southern lots classified as 'Emerging community' zone. The Council definition (6.2.16 Emerging community zone code) for this use is to '*manage the timely conversion of non-urban land to urban purposes*' amongst other planning definitions. Furthermore, land along Courtney Drive is under consideration for development, including the current proposal and there are no plans currently for the northern Courtney Drive lots to be developed.

On this basis, it is within reason that Courtney Drive can be classified as a 'rural residential access road,' in line with Council's 'City Plan Policy – Land development guidelines' Table 2.11. A typical cross section has been extracted from Council's standard roadworks series below, displayed in Figure 2.

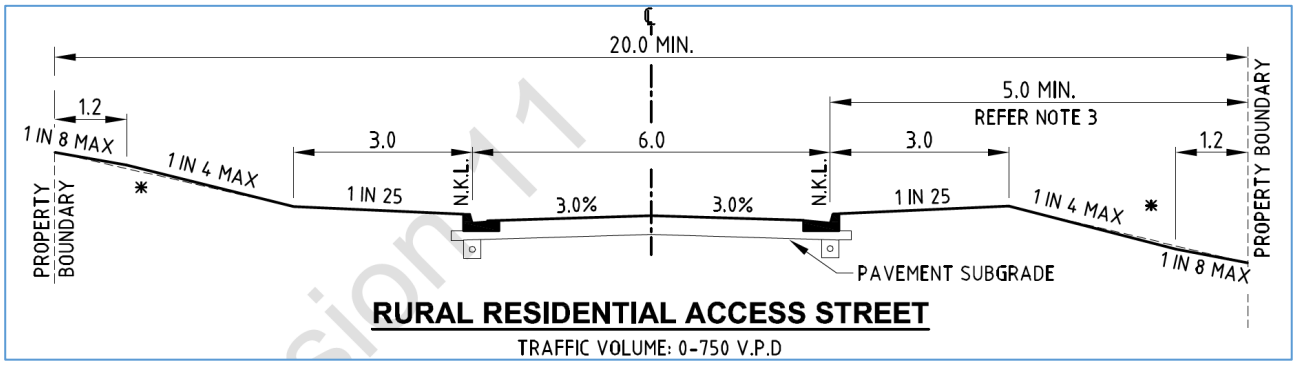


Figure 2: Cross Section – Rural Residential Access Street
Source: City of Gold Coast (2015)

Colliers notes that for a 'rural residential access road,' while there is no change in typical cross section as per CoGC's "05-02-001" standard drawing, a change in pavement depth design to the 'rural residential collector street' classification is required corresponding to CoGC's City Plan policy – Land development guidelines "Table 2.11" in consideration for future road upgrades.

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A revised Courtney Drive cross-section design, prepared by OSKA Consulting Group, indicates a 0.75m with installation of kerb & channel on the southern side of Courtney Drive fronting the subject development as shown in Figure 3. The revised typical cross section illustrates an interim pavement width of 6.25m with provisions for Courtney Drive to ultimately be widened to 7.5m with a 1.0m wide shoulder on the northern side.

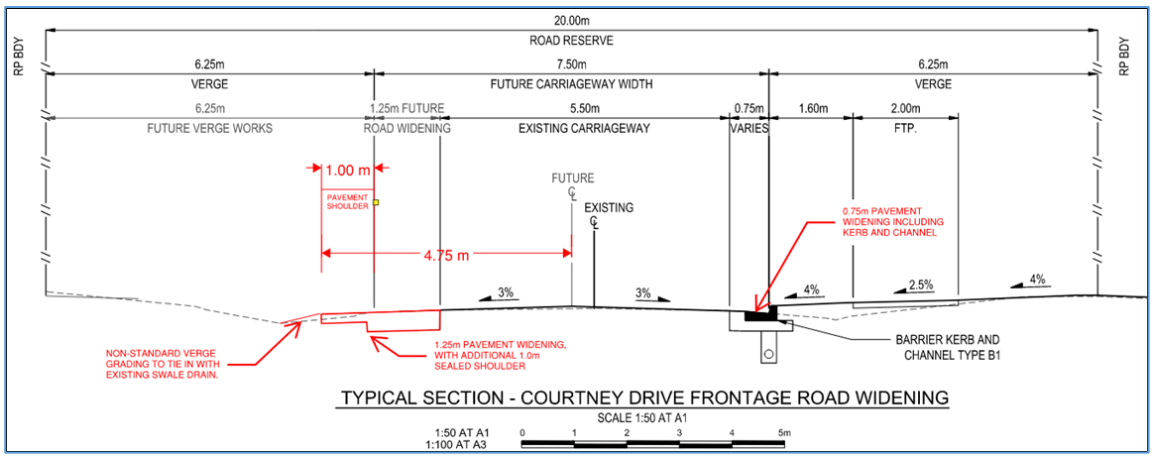


Figure 3: Courtney Drive Cross-section - Proposed for Subject Development

Source: OSKA Consulting

Whilst this is not technically in line with Council's request, greater than 6.0m pavement width is achieved and the estimated traffic volumes indicate the suitability of the road classification. It is also noted that to mitigate additional overland flow ponding along Courtney Drive, there will be sections that have flush edge restraint (rather than kerb and channel) when adjacent to the existing waterway – see Figure 4. Please refer to the Hydraulic Impact Assessment, prepared by Biome Consulting, for additional details.

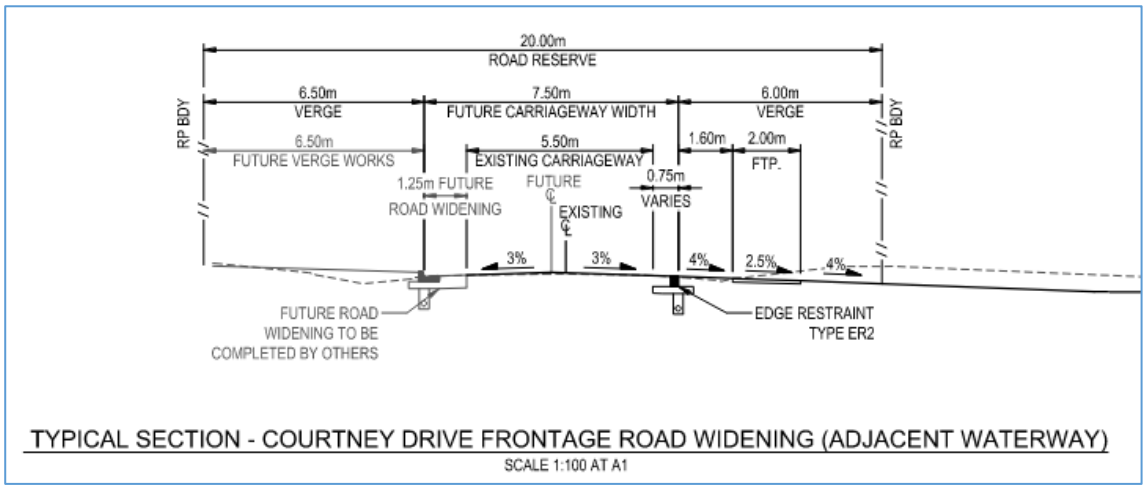


Figure 4: Courtney Drive Cross-section – Adjacent to waterway

Source: OSKA Consulting

As the edge restraint sections are to be implemented where no development occurs in relation to the subject site, such as lot frontages, there are no significant traffic implications with its introduction.

It is to be noted that only the construction of the new kerb & channel (southern side), implementation of an edge restraint to combat ponding, and road extension to a minimum of 6.0m (6.25m typical) will be undertaken at the site frontage by the developer (QM Properties).

2.3 Council IR Item 10

The typical section for proposed Road 2 (CH158.220 to CH.315.635) shows a 4.5m wide southern verge (standard verge profile), a 5.75m wide pavement and a 6.25m wide northern verge (table drainage with temporary 1 in 2 batter) on a 16.5m wide road.

Proposed 5.75m wide pavement and table drainage with temporary 1 in 2 batter do not comply with the standard geometry profile requirement of Residential Street classification, as required by Performance outcome PO15 of the Reconfiguring a lot code or Specific outcome 3.6.1 (7) of the Improving transport outcomes element of the Strategic Framework.

In order to comply with the abovementioned benchmarks and relevant Specific outcomes of the Strategic Framework, the application is requested to submit amended typical cross sections for Road 2 showing standard geometry in accordance with a Residential Street classification.

Colliers Response to Council IR Item 10

The development plans have been revised, though with the 3/4 road being in the approximate same location as the original DA plans. In the revised development plans, a 6.0m width carriageway within a 16.5m verge is proposed, with a standard 4.25m verge (southern end) and 6.0m verge (northern end), where the batter is to be implemented. Whilst the carriageway width is not strictly compliant with Council's width of 7.5m required, it is to be noted that:

- The 6.0m tapers back out to an ultimate 7.5m width at the internal road T-intersection to the south-west. This T-intersection has been designed to prioritise traffic circulating within the greater network, linking the western area of the site to Baileys Mountain Road access.
- To the north-east end of this section of road, it will taper back out to a standard 7.5m width when the bend concludes. Swept paths have been conducted, indicating that a 12.5m HRV is able to manoeuvre around the bend (both directions) and no issues with the design - see Figure 5 and Figure 6 overleaf.

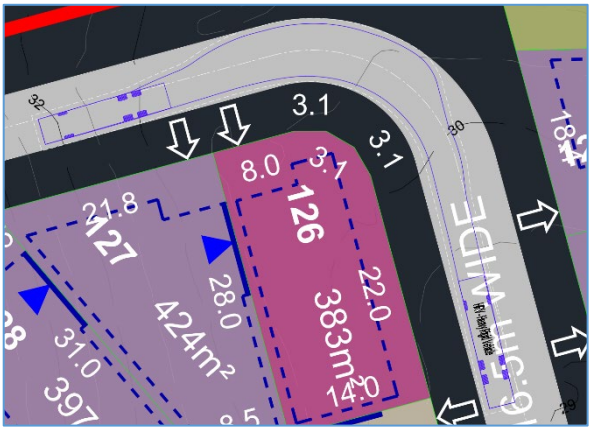


Figure 5: HRV movement (anti-clockwise circulation)

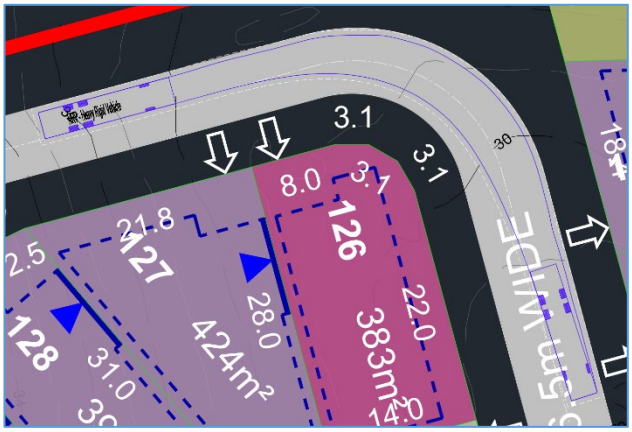


Figure 6: HRV movement (clockwise circulation)

- The function of the road will primarily be to provide access to Lots 127 – 134. Therefore, it is appropriate to classify this stretch of road as a 'rural residential access street' as an interim whilst the adjacent lot (Lot 182/RP156422) is unacquired. As outlined in the Colliers response to Council RFI Item 9 response, this cross-section features a 6.0m carriageway width with 3.0m verge widths either side.
- The 3/4 road will be an interim solution and will eventually be constructed to the full 7.5m width carriageway, with 4.25m verges either side. Subsequently, there are provisions for the road to be widened to 7.5m width between intersection to the south-west will be converted into a priority-controlled T-intersection as well as the bend to the north-east.

Overall, given that the arrangements will be temporary and the road design will have minimal impact on the operability of the site, the arrangements are considered suitable from a traffic engineering standpoint.

2.4 Council IR Item 13 a - d

The proposed site plan shows a proposed 1.5m wide footpath on one side of the proposed public roads. This is not consistent with nearby approvals (refer to COM/2019/82). In this instance, all proposed footpaths should be 2m in width (except proposed short stub roads such as proposed road 5).

Proposed Road 6 will be a 287m long cul-de-sac head road which has 287m walking distance from the cul-de-sac head to Courtney Drive. This footpath will be a poor permeable street network design for pedestrians. It does not comply with:

- *AO15 (b), PO15 (a), (c) and 9.4.8.2 (2) (d) Overall Outcomes of the ROL code;*
- *3.3.4.1 (8) (b) (Specific outcomes) of Element (New Communities);*
- *3.6.1 (5) (Specific outcomes) of Improving transport outcomes;*
- *3.6.3.1 (4) (Specific outcomes) of Element (Enhanced access and mobility);*

- *3.6.4.1 (2) (Specific outcomes) of Element (Transport System efficiency); and*
- *The Walkable neighbourhood requirements of the Planning Regulations 2017.*

In order to comply with the abovementioned benchmarks, the applicant is requested to submit a Pedestrian Networking Plan showing:

a) *2m wide footpath along both sides of proposed Roads which will be identified as Residential Collector Street (estimated traffic volumes will be more than 751 VPD);*

b) *2m wide footpath along one side of all other proposed Roads (estimated traffic volumes will be up to 750 VPD) (except proposed short stub roads); and*

c) *1.5m wide footpath along one side of proposed short stub roads adjacent tor proposed Lots 8 – 10 and adjacent to proposed Lots 54 – 55.*

d) *Footpath connection between the relocated cul-de-sac head adjacent to Courtney Drive (as requested in item 7 of this information request) and the proposed footpath within the southern verge of Courtney Drive.*

Colliers Response to Council IR Item 13a

Colliers have reviewed the internal road layout for pedestrian connectivity and have developed a proposed road cross-section classification for the development internal roads, which is illustrated in Figure 7 overleaf. Within the proposed road classification, the 3/4 internal road has been identified in its ultimate, full design.

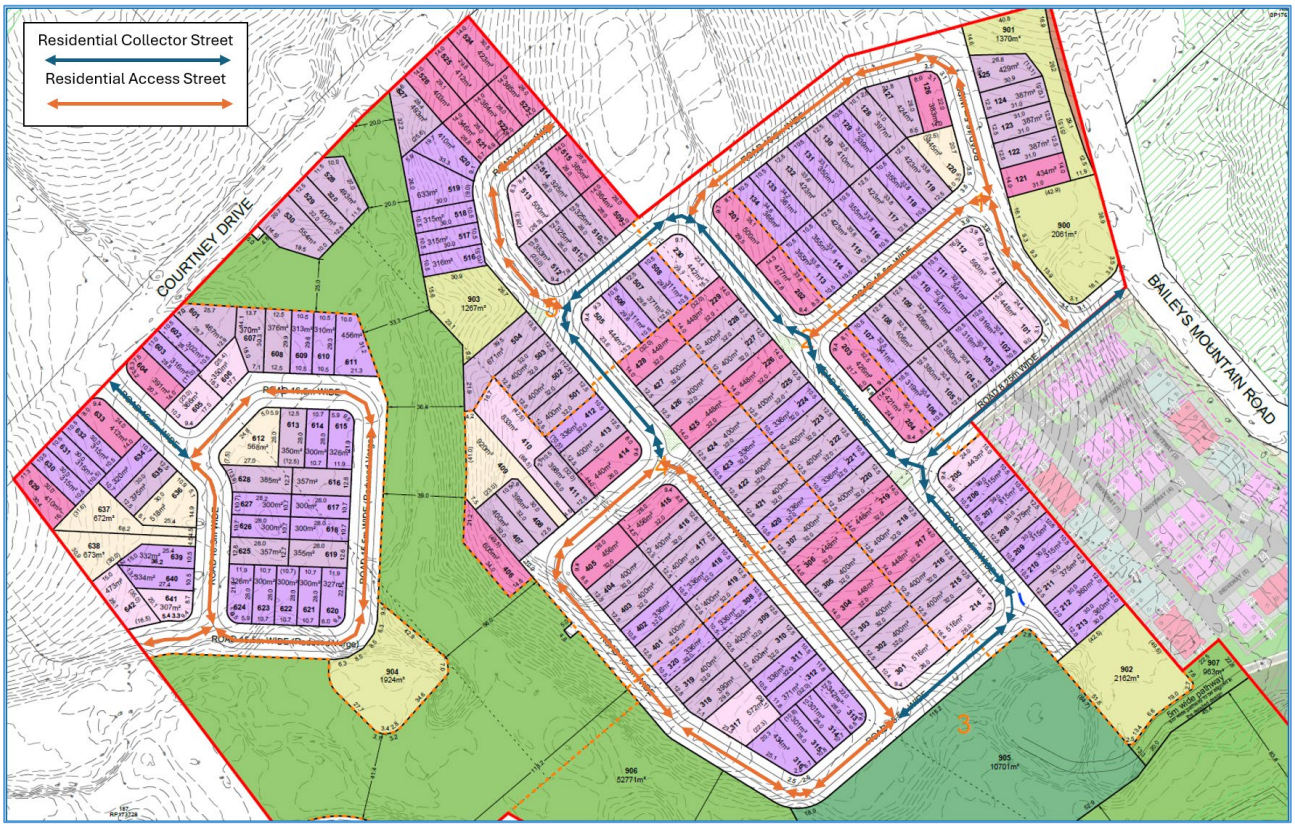


Figure 7: Internal Road Classification
Source: Saunders Havill Group (2025)

The resulting layout enables better permeability considering for both vehicles and pedestrians, enhanced safety for all users and retaining operability of the local road network. This complies with AO15(b) of the ROL code and other outcomes such as 3.3.4.1 (8) of the overall 'Creating liveable places' framework and 3.6.1 (5), 3.6.3.1 (4), 3.6.4.1 (2) specific outcomes of the overall 'Improving transport outcomes' framework, with the following notes regarding the road classification:

- Residential Collector Streets connecting traffic from the Baileys Mountain Road access through to the lower order Residential Access Streets at the outer edges of the development site.
- At the intersection near Lot 201, the arrangement would better be arranged to circulate traffic between the western and southern approaches.
- Considering the addition of chicanes through Lots 414 – 504, it would be better served to have footpaths on either side of the street, resulting in a "Collector" road classification.

Colliers Response to Council IR Item 13b

Regarding Council's requested items, it is to be noted that Council's 'SC6.12 City Plan policy – Land development guidelines (LDG)' Table 2.6 states the following:

- Residential collector (> 751 vpd): pathways on the development side of the street (1.5m width min.)
- Residential access (=< 750 vpd): pathways on one side of the street (1.5m width min.)

Therefore, irrespective of nearby approvals, such as Council Refence COM/2019/82, a 1.5m width footpath has been retained across all internal roads.

Colliers Response to Council IR Item 13c

Footpaths have not been provided on the stub road (Lots 211 – 213), due to its classification as a "Residential Laneway." As per Council's LDG Table 2.6, no pedestrian pathways within verge areas are required for residential laneways.

Colliers Response to Council IR Item 13d

The revised development layout has been amended to remove the cul-de-sac head and eliminate concerns about isolation & connection for pedestrians to Courtney Drive.

Overall, the arrangements of the revised development plan are consistent with Council outcomes / requirements with regards to pedestrian connectivity.

2.5 Council IR Item 27

To demonstrate compliance with Performance Outcome PO16 of the Reconfiguring a lot code, the following assessments shall be undertaken:

(a) *Demonstrate the required form of intersection for the proposed new public road with Baileys Mountain Road. The physical configuration of the intersection shall be suitable, and provide sufficient capacity, to accommodate the 'ultimate' traffic demands intended to use this intersection (i.e. not only the subject development proposal, but other developments intended to use the proposed access location). The proposed intersection design shall be supported by an Austroads turning warrants assessment (if a priority-controlled intersection is appropriate), and also by SIDRA Intersection assessment based on 'ultimate' traffic volumes. Appropriate growth rates shall also be applied to background traffic volumes on Baileys Mountain Road (as per the table provided, below). Of note, the Transport Engineering Report does not sufficiently address intersection design as it does not quantify 'ultimate' traffic demands or demonstrate the results of a turning warrants assessment; additionally, the proposal for the provision of 'basic' left and right turning treatments, as identified in Section 7-1 of the report, has not been substantiated (it is also*

noted that this item remains unresolved as part of development application COM/2024/317, which is referenced in the applicant's report). To be clear, the 'ultimate' intersection design must be identified at this stage so that appropriate infrastructure can be provided (in addition to any land dedication required). A revised, fully-dimensioned functional layout drawing showing the required intersection design, endorsed by an RPEQ Traffic Engineer, shall be submitted.

Background traffic growth – Baileys Mountain Road (source: City of Gold Coast)

2-way flow	*2021*	*2026*	*2031*	*2036*	*2041*
Baily Mountain Road	*3991*	*6209*	*6297*	*8904*	*8905*
Absolute Growth (from 2021)	***2021***	***2026***	***2031***	***2036***	***2041***
Baily Mountain Road		*56%*	*58%*	*123%*	*123%*
CAGR (from 2021)	***2021***	***2026***	***2031***	***2036***	***2041***
Baily Mountain Road		***9.2%***	***4.7%***	***5.5%***	***4.1%***

(b) *Demonstrate, through fully-dimensioned, functional layout drawings (endorsed by an RPEQ Traffic Engineer), any upgrades required to the existing Baileys Mountain Road / Courtney Drive intersection with the addition of proposed development traffic.*

(c) *Undertake a turning warrants assessment (in accordance with Austroads guidelines) for the proposed access intersection in Courtney Drive ('Stage 4' of development). Of note, 'through' traffic volumes on Courtney Drive shall consider other development approvals granted with access from Courtney Drive. Submit a fully-dimensioned, functional layout drawing (endorsed by an RPEQ Traffic Engineer) for the required intersection design at this location.*

(d) *All functional layout drawings must demonstrate that the proposed works achieve full compliance with all relevant design standards (including Council's standards and Austroads guidelines) - this includes (but is not limited to) intersection geometries, horizontal alignments, lane widths, verge widths, corner truncations, etc. In addition, it must be demonstrated that the proposed works align with any Council road planning for the respective roads / intersections (for example, upgrades planned along Baileys Mountain Road).*

(e) *Submit swept paths demonstrating that all proposed intersections have suitable geometric configurations to accommodate movements by the relevant 'design service vehicle'.*

(f) *Demonstrate compliant sight distances for all proposed intersections / access points, including:*

- *i. New public road / Baileys Mountain Road.*
- *ii. New intersection in Courtney Drive ('Stage 4').*
- *iii. Lots with direct access to Courtney Drive (in particular, lots 139 & 140).*

Colliers Response to Council IR Item 27a

As requested in Council's RFI items, a turning warrants assessment has been conducted of the proposed site access off Baileys Mountain Road. Colliers have applied compound annual growth rates (CAGR) to background traffic volumes as per Council's request.

It is to be noted that Colliers have undertaken surveys along Baileys Mountain Road (BMR), specifically at the BMR / Courtney Drive intersection and the BMR / Old Coach Road intersection. The observed peak hour traffic volumes are summarised in Figure 8 overleaf, 'southbound' referring to travel from the BMR / Courtney Drive intersection to the BMR / Reserve Road intersection and 'northbound' the reverse.



Figure 8: Traffic Volume Counts – Baileys Mountain Road (2025)

Considering an annual growth rate of 5.5% for the 2037 design horizon to existing surveyed traffic volumes, results in the following:

- **AM Peak Hour Total:** 245 vph
  Northbound: 76 vph
  Southbound: 169 vph
- **PM Peak Hour Total:** 201 vph
  Northbound: 87 vph
  Southbound: 114 vph

Colliers have considered traffic generated from the following developments in the traffic assessment:

- Current Development (COM/2024/317) – 73 townhouse units
- Adjacent Development (ROL/2024/16) – 188 single dwelling units across BMR and Courtney Drive
- Committed Development (COM/2019/82) – 196 single dwelling units
- Future Subdivision Scenario of Lot 182/RP156422 – based on 60 single dwelling units
- Future Subdivision Scenario of Lot 187/RP173728 – based on 28 single dwelling units

Based on the through traffic volumes along Baileys Mountain Road for the 2037 design horizon and the proposed turning movements to/from the site access, the turn treatment assessment results are outlined in Figure 9 and Figure 10 overleaf. Directional splits of the proposed development volumes have been estimated based off review / observations on the surrounding catchment areas and attractors.

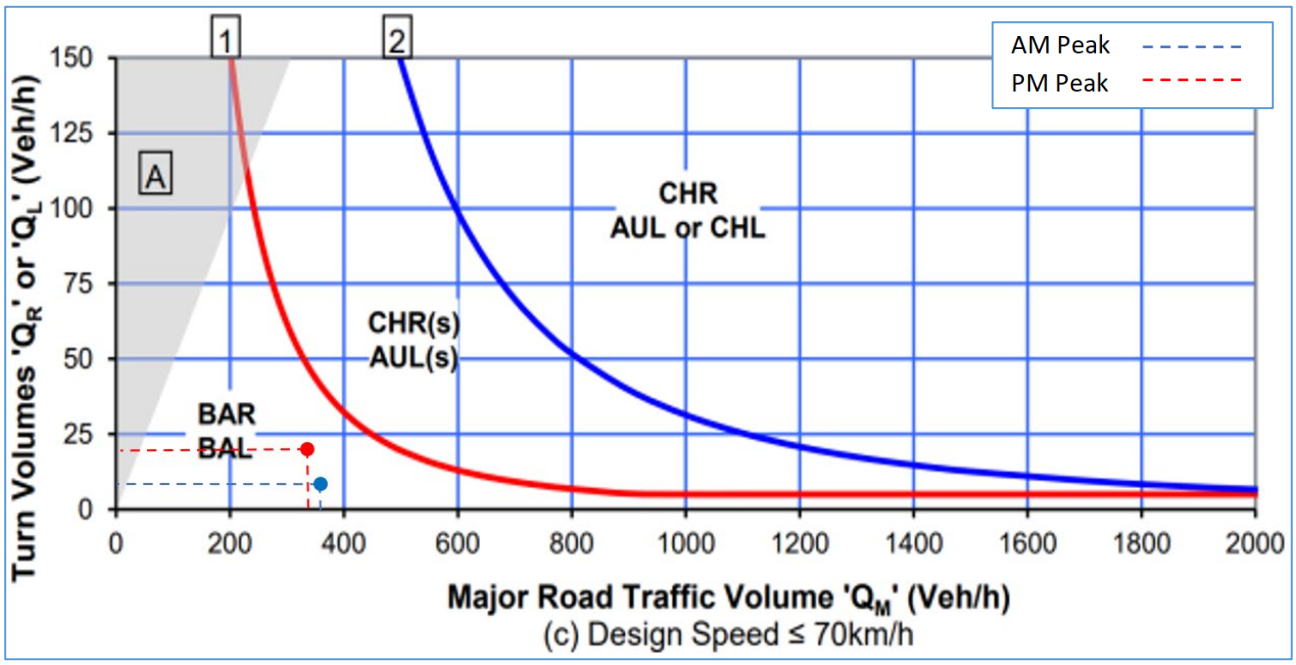


Figure 9: Turn Treatment Warrant Assessment – Right-turn into Subject Site

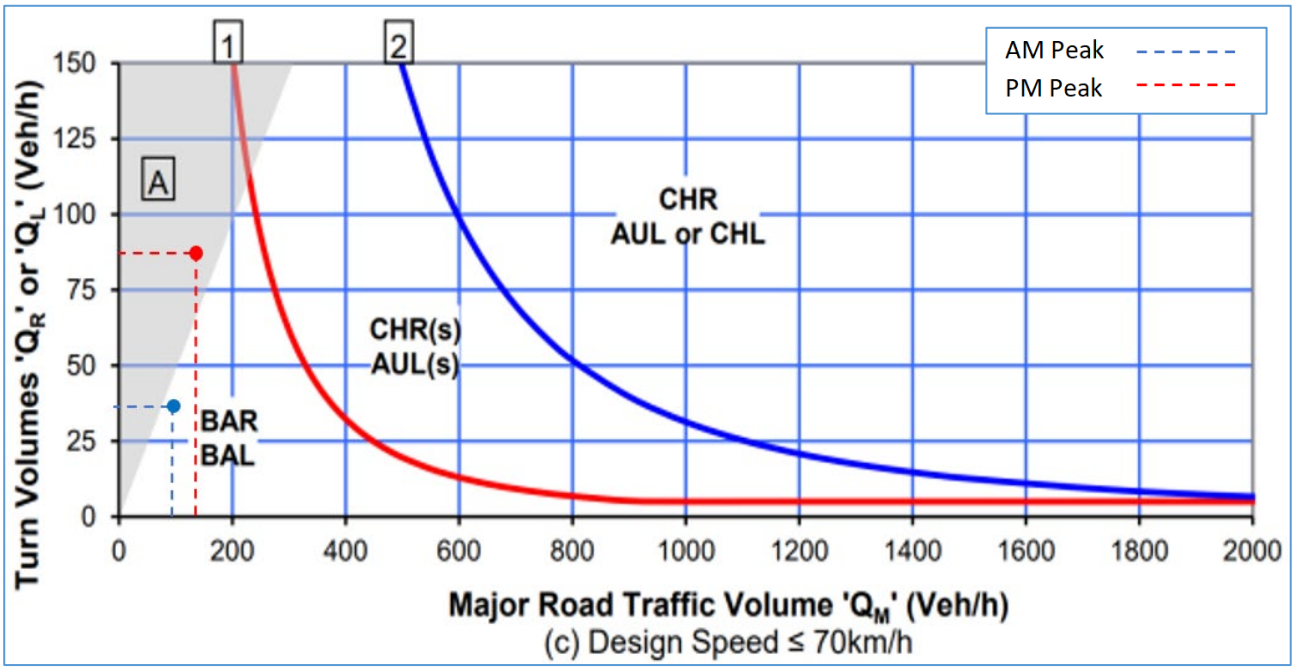


Figure 10: Turn Treatment Warrant Assessment – Left-turn into Subject Site

As shown above, the turn warrants assessment indicate that the following:

- A BAR treatment identified for right-turn from the Baileys Mountain Road north approach.
- A BAL treatment identified for the left-turn from the Baileys Mountain Road south approach.

It is to be noted that as part of the previous concept intersection layout / arrangement, an auxiliary left-turn lane (AUL[s]) and basic right-turn (BAR) treatment was proposed for the Baileys Mountain Road site access. Both turn treatments had been designed based on Austroads *Guide to Road Design Part 4A Unsignalised and Signalised Intersections*, with the appropriate distances, tapers and widths being used.

Colliers propose to retain the arrangement of the adjacent site, BAR and AUL(s), for the current development proposal. The access will be used by both the current development and the adjoining development (ROL/2024/116). This is considered sufficient to meet 'ultimate' traffic demands. Comparing the 'ultimate' intersection design against the proposed road upgrade works to Baileys Mountain Road indicates generally appropriate tie-in into the future works, refer to Figure 11 overleaf.

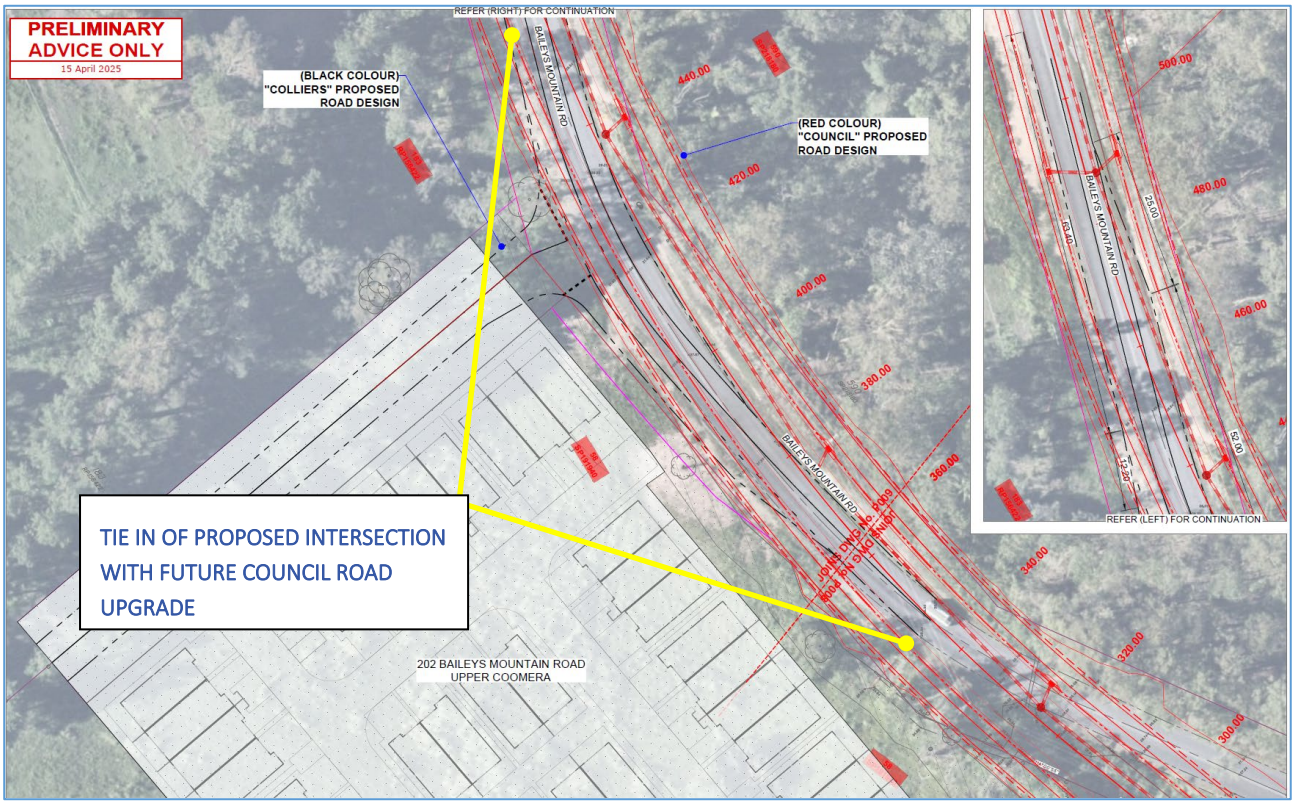


Figure 11: Tie in with turn treatment (functional layout) at Baileys Mountain Road with Council proposed road upgrade

Based on the concept design provided, it is expected that no land dedication will be required for the proposed access intersection concept design proposed.

Colliers Response to Council IR Item 27b

Colliers have conducted a capacity / operation assessment of the Baileys Mountain Road / Courtney Drive intersection, with input through SiDRA intersection analysis software (version 9.1). For these purposes, no changes are proposed to the existing road network configuration.

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

- 2025 Survey Scenario: To establish base operations of surrounding road network, based on the existing road configuration, to compare future operations against.
- 2027/2037 Base Case Scenario: To establish base operations at opening year and the design horizon, considering base traffic growth, committed traffic demands and any changes to the road network. Future subdivision scenarios not approved by Council have not been taken into account. This will be used to compare the net impact of the proposed development traffic demands against.
- 2027/2037 Base + Development Case Scenario: This will be used to determine road network operations with inclusion of the proposed development at opening year and the design horizon. Future subdivision

scenarios not approved by Council have not been taken into account. Comparison to Base Case scenarios determine the overall impact of the proposed development and potential mitigation works.

While the background traffic growth values from Council's IR Item 27a are noted, background growth rates to obtained traffic volumes have been applied to all Council intersections in line with Council's LGIP population estimation & growth table for consistency's sake, outlined in Table 1.

Table 1: City of Gold Coast Population Growth Estimations

Description	Base (2020)	2021	2026	2031	2036	2041	Ultimate
Willow Vale – Upper Coomera	35,817	36,714	40,761	43,258	44,962	45,077	50,781

Based on the projections outlined in Table 1, background traffic growth factors of 2.12% per annum (2021 to 2026) and 0.99% per annum (2026 to 2036) have been applied to determine the 2027 and 2037 Base (without development) scenarios respectively.

The summary results of the SiDRA intersection analysis are provided in Table 2 below.

Table 2: SiDRA Intersection Assessment – Baileys Mountain Road / Courtney Drive intersection

Scenario	DOS	Average Delay		LOS	95th Percentile Critical Queue (m)			
		Overall	Worst Movement		South (BMR)	West (Courtney Drive)	North (BMR)	East (Jenkins Court)
AM Peak Hour								
2025 Survey	4%	1 sec	8 sec (West Left)	A	1m	1m	1m	1m
2027 Base	5%	3 sec	8 sec (East Left / Through and West Through / Right)	A	1m	1m	1m	1m
2037 Base	5%	2 sec	8 sec (East Through and West Through/Right)	A	1m	1m	1m	1m
2027 Base + Development	9%	3 sec	9 sec (West Through/Right)	A	> 2m	1m	1m	1m
2037 Base + Development	9%	3 sec	9 sec (West Right)	A	> 2m	1m	1m	1m
PM Peak Hour								
2025 Survey	3%	2 sec	8 sec (West Left)	A	1m	1m	1m	1m
2027 Base	4%	3 sec	8 sec (East Through and West Through)	A	1m	1m	1m	1m
2037 Base	4%	3 sec	8 sec (East Through and West Through)	A	1m	1m	1m	1m
2027 Base + Development	6%	3 sec	9 sec (East Through)	A	> 1m	1m	1m	1m
2037 Base + Development	6%	3 sec	9 sec (East Through and West Through/Right)	A	> 1m	1m	1m	1m

The analysis indicates that the intersection is expected to operate at suitable levels up to the 2037 design horizon, with development traffic included, with a worst cast DOS 6% and LOS A, occurring at the AM peak.

Colliers have also conducted a turning warrants assessment (in accordance with Austroads guidelines) of the Baileys Mountain Road / Courtney Drive intersection, results in Figure 12 and Figure 13.

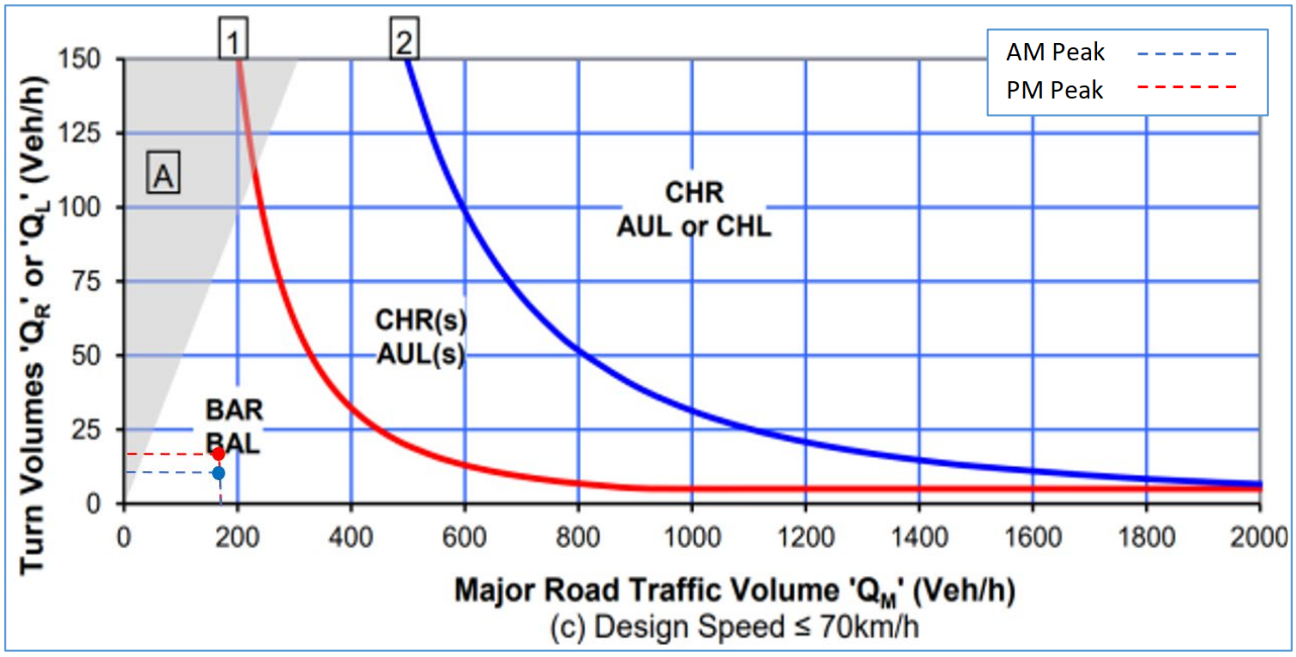


Figure 12: Turn Treatment Assessment – Right into Courtney Drive

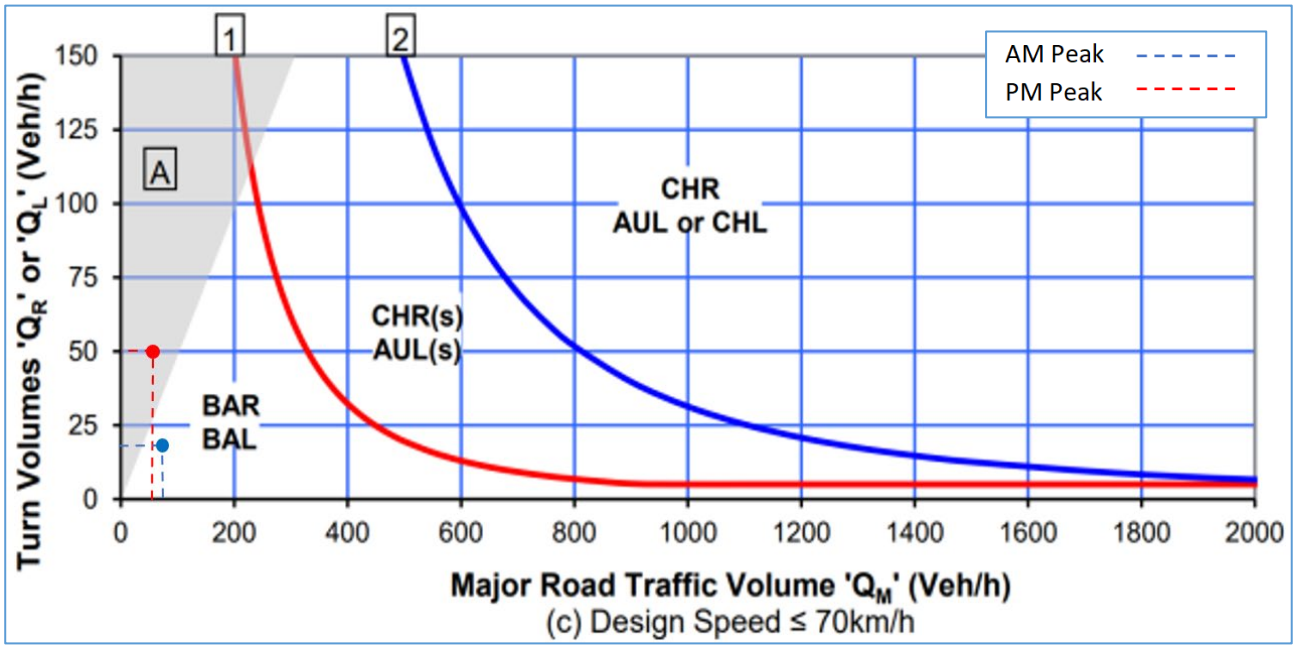


Figure 13: Turn Treatment Assessment – Left into Courtney Drive

The results of the SiDRA assessment determine that the current intersection arrangements are sufficient, though a BAR / BAL treatment is recommended. It is understood that Council has plans to upgrade the Courtney Drive / Baileys Mountain Road intersection into a roundabout, with the inclusion of Jenkins Court for conversion into a roundabout. The outputs of the SiDRA modelling have been attached in **Attachment D**.

To better cater for Council RCV movements turning into Courtney Drive, a minimum Basic Left (BAL) from BMR has been incorporated, involving pavement widening at the south-west corner of the Courtney Drive / BMR bend – refer to **Attachment B – 24BRT0559-13**. A Basic Right (BAR) has not been incorporated given the negligible development-related right-turn traffic from BMR to Courtney Drive. Ultimately, this intersection will be upgraded to a roundabout to accommodate the transport needs in the future.

Overall, with the addition of the proposed development traffic and committed / subdivision scenarios,

Colliers Response to Council IR Item 27c

As requested by Council, Colliers have conducted a turning warrants assessment (in accordance with Austroads guidelines) of the Courtney Drive site access. It is to be noted that background growth rates to traffic volumes obtained by traffic counts have been applied in accordance with Council's population growth estimation (LGIP). The observed 2025 AM / PM peak hour traffic volumes are represented in Figure 14.

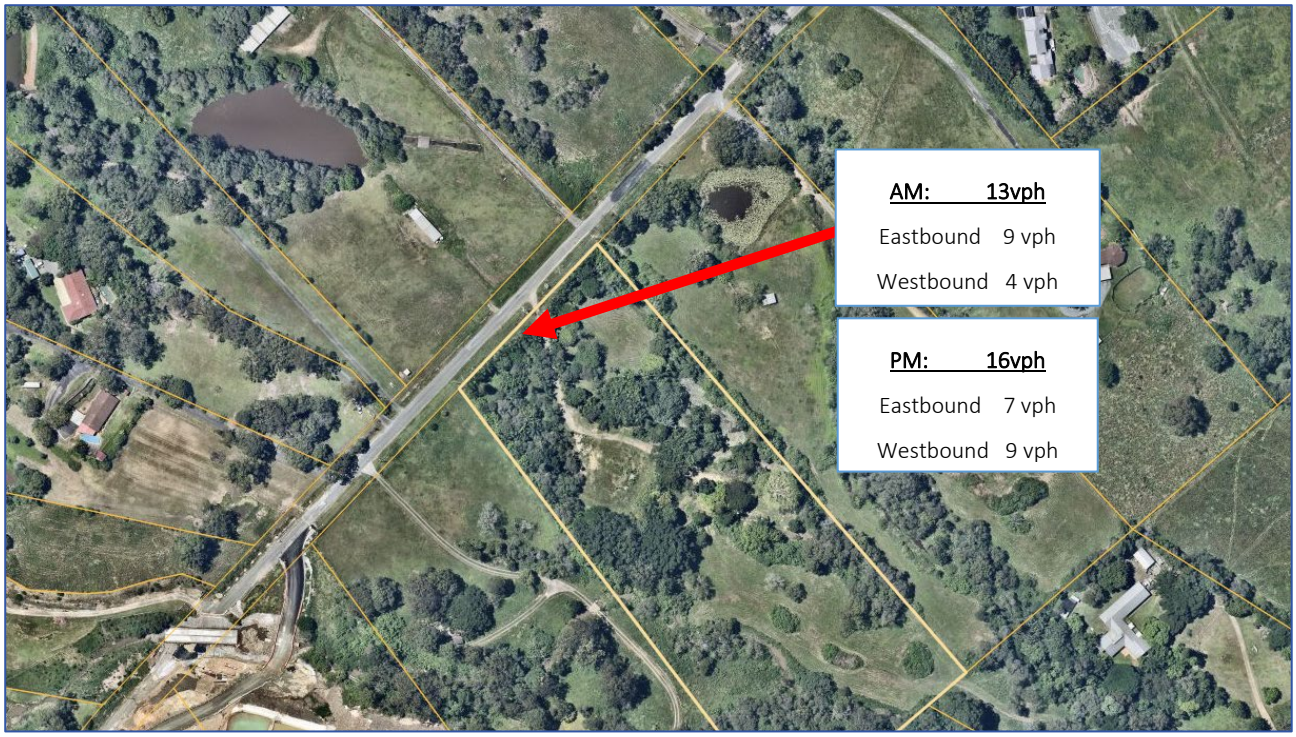


Figure 14: Traffic Volume Counts – Courtney Drive

The outcomes of the turn warrant assessment are outlined in Figure 15 and Figure 16.

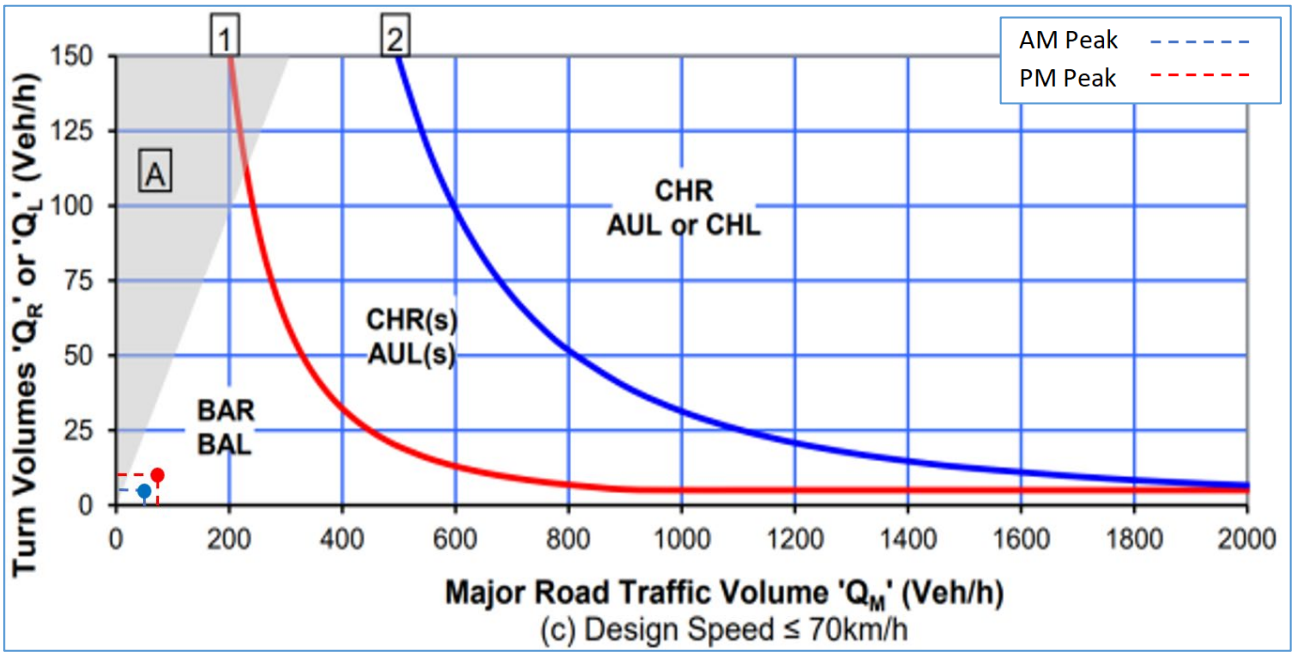


Figure 15: Turn Treatment Assessment – Right Turn into Site

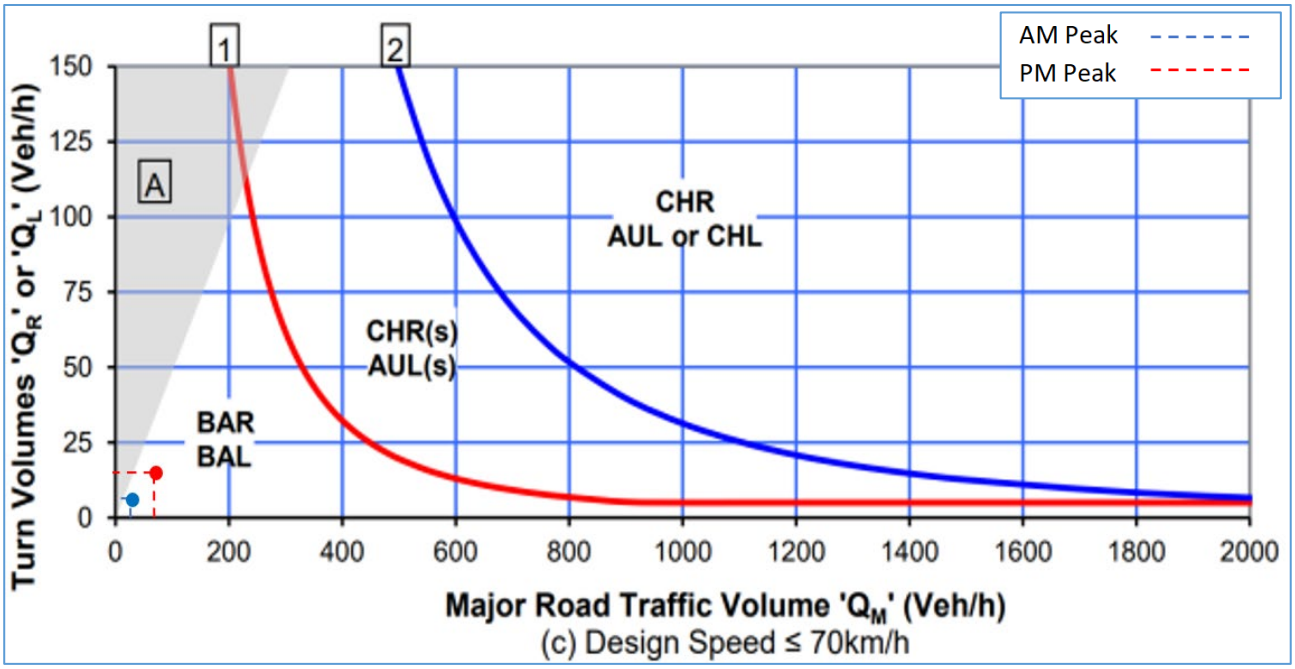


Figure 16: Turn Treatment Assessment – Left Turn into Site

As shown above, the turn warrants assessment indicates the following:

- A BAR treatment on the Courtney Drive west approach.
- A BAL treatment on the Courtney Drive east approach.

Given the nature of Courtney Drive as a rural residential road with low traffic volumes and unposted speed limit of 50 km/h, it is determined that turn treatments are not strictly required.

Notwithstanding, the road access intersection plans have been revised to include both a Basic Right (BAR) leading into the Courtney Drive site access. The inclusion of the BAR treatment has been incorporated as a mitigation measure for the constrained sight distances for vehicles travelling eastbound from the crest to the west that are compliant for Minimum Gap Sight Distance (MGSD) and Safe Stopping Distance (SSD), but do not quite achieve Safe Intersection Sight Distance (SISD). Please refer to functional layouts that have been included in **Attachment B – 24BRT0559-11-12**.

This is considered to be compliant with Council's request.

Colliers Response to Council IR Item 27d

Colliers confirms that all functional layout drawings (**Attachment B – 24BRT0559-10-13**) have been designed to the relevant design standards, generally in line with Austroads '*Guide to Road Design Part 4A – Unsignalised and Signalised Intersections*' and Council guidelines. Where non-compliances with design guidelines occur, appropriate mitigation measures have been identified.

Colliers Response to Council Item 27e

Colliers have conducted a revised swept path of the updated site layout provided by Saunders Havill - refer to **Attachment B – 24BRT0559-13-17**.

Colliers Response to Council Item 27fi-iii

The site layout has been updated since the issue of the Council IR letter, with Lots 132 – 143 having been updated to now front / gain direct access to Courtney Drive. Colliers have assessed sight distance for the key proposed intersections / access points, listed with details in the subsequent sections:

- Baileys Mountain Road site access - **Council RFI Item (f)i.**
- Courtney Drive site access - **Council RFI Item (f)ii.**
- Lots 524 – 530, 601 – 603, and 629 - 632 (direct access to Courtney Drive) – **Council RFI Item(f)iii.**

Baileys Mountain Road site access

To assess sight distance at the Baileys Mountain Road / new public road intersection, Colliers have undertaken a site visit at the proposed site access. As the public road access is to be shared with the adjacent development (Council Ref: COM/2024/317), a reiteration of the sight distance assessment has been provided following.

The site visit identified the following conditions present on Baileys Mountain Road:

- Baileys Mountain Road is a two-way, two-lane road with a carriageway width of approximately 6.5m.
- Posted speed limit of 60 km/h.
- Proposed site access is located at the boundary between Lot 183/RP156422 and Lot 58/SP191940, directly opposite of the power pole at the boundary intersection on the opposing side of the road.

As per Austroads '*Guide to Road Design – Part 4A: Signalised and Unsignalised Intersections*', a design speed of 70 km/h was taken into consideration. Figure 17 and Figure 18 show the available sight distances to the east and west of the proposed intersection location respectively.



Figure 17: View to the east of the proposed intersection



Figure 18: View to the west from the proposed intersection

A summary of the sight distance requirements, observations, location and compliance is provided in Table 3 below. This assumes a 2.0 second reaction time, in line with Austroads guidelines for an unsignalized T-intersection.

Table 3: Access Location, Separation Requirements and Provisions Summary

Direction	Location	Min. SISD Requirement (m)	Proposed Provision (m)	Compliance
Entering sight distance	Measured along the existing centreline of the road	151m	105m (existing eastbound lane) 114m (proposed eastbound lane)	See below
Exiting sight distance	Measured approximately 5m and 7m from the edge of the traffic lane	151m	126m (existing eastbound lane) >200m (existing westbound lane)	See below

The results of the sight distance assessment indicate constrained (technically non-compliant) sight distances to the east and west of the proposed intersection of the new public road / Baileys Mountain Road. However, Colliers have undertaken a further review exploring the sight distance factors.

Sight distance to the west (exiting vehicle)

Assessment of sight distance indicates there is greater than 200m sight distance to the west of the intersection, greater than the requirement of 151m. At both 5m and 7m offsets from the proposed intersection and carriageway realignment, sight distance is somewhat obstructed by existing vegetation (e.g., grasses) - see Figure 19.



Figure 19: Grasses Limiting Sight Lines

It is expected that as part of delivery of the access road connection to Baileys Mountain Road, the kerbside vegetation will be appropriately managed to ensure sufficient sight distance to the west of the intersection is able to be achieved.

Sight distance to the east (exiting & entering vehicle)

It is noted that vegetation needs to be removed along the eastbound lane site frontage to maximise sight distance. The results of the sight distance for an exiting vehicle indicate there is greater than 126m sight distance to the east of the intersection, less than the requirement of 151m. For an entering vehicle, there is 106m sight distance along the existing eastbound lane and 114m sight distance if measured at the future proposed eastbound lane (into current verge). Although not strictly compliant with the Austroads guidelines, the following considerations / comments are provided:

- Stopping Sight Distance (SSD) of 92 metres is achieved in both directions on Baileys Mountain Road
- Minimum Gap Sight Distance (MGSD) of 97 metres is achieved in both directions on Baileys Mountain Road.
- Adequate Safe Intersection Sight Distance (SISD) of ~151m is provided to the north / west of the road intersection location.
- While it is noted that sight lines are constrained to the south / east of the road intersection location, the following mitigation factors are considered relevant:
  - The current constrained pavement width (as well as uphill gradient) of this section of Baileys Mountain Road will naturally lower travel speeds on the south / east approach;
  - Advanced warning signage – such as W2-4(L) to provide indication of the new road on the south / east approach to the new road intersection to advise drivers; and
  - Clearing of roadside vegetation (as part of verge maintenance) north of Baileys Mountain Road to maintain maximum sight lines within the corridor.

Overall, sight distances are considered to generally comply with Austroads guidelines, with mitigation measures outlined. Ultimately, the future upgrade of Baileys Mountain Road will provide an improved overall road design within the corridor.

Courtney Drive site access

The site visit identified the following conditions present along Courtney Drive:

- Courtney Drive is a two-way, two-lane undivided road with a carriageway width of approximately 6.25m.
- Unposted speed limit of 50 km/h.
- Proposed site access is located approximately 40m offset from the western property boundary of Lot 186/RP173728.

As per Austroads *Guide to Road Design – Part 4A: Signalised and Unsignalised Intersections* a design speed of 60 km/h was taken into consideration. Figure 20 and Figure 21 show the available sight distances to the east and west of the proposed intersection location respectively.



Figure 20: View to the west of the proposed intersection



Figure 21: View to the east of the proposed intersection

A summary of the sight distance requirements, observations, location and compliance is provided in Table 4. This assumes a 2.0 second reaction time, in line with Austroads guidelines for an unsignalized T-intersection.

Table 4: Access Location, Separation Requirements and Provisions Summary

Direction	Location	Min. SISD Requirement (m)	Proposed Provision (m)	Compliance
West (Exiting the site)	Measurement taken roughly 5m from the estimated centre of adjacent lane	123m	106m	Non-compliant, see below
East (Exiting the site)	Measurement taken roughly 5m from the estimated centre of adjacent lane	123m	Ample sight distance >123m	Compliant

The results of the sight distance assessment indicate non-compliant sight distances to the west of the proposed intersection and compliant sight distance to the east. Where non-compliant, further breakdown is provided in the sections following.

Sight distance to the west

As outlined, though the proposed intersection location provides more than adequate safe intersection sight (SISD) distance to the east, the SISD to the west is only 106m, less than the stated Austroads minimum. Resulting, discussions had taken place of the optimal location, noting the increased difficulty of access relocation to the east due to flooding risk at the sag of the road.

The ultimate Courtney Drive site access was relocated near the location of the existing crossover to Lot 186/RP173728. At this location, the SISD to the west is 106m. Whilst not strictly compliant with Austroads guidelines (required 123m), the following mitigation measures are considered relevant:

- Intersection location and available sight distance achieves (and exceeds) MGSD and SSD (safe stopping distance) minimum distance parameters.
- Wider pavement at the intersection has been implemented – in the form of a Basic Right (BAR) turn treatment. This will dissipate any vehicle queues for right turning vehicles into the access and provide a bypass opportunity for eastbound through vehicles; and
- Advanced warning signage – such as W2-4(L) along with an advisory (yellow) 40 km/h secondary sign to advise drivers of the development road approach to the new intersection as well as indicating that reducing speed over the crest.

With the implementation of control measures, risks associated with the constrained sight distance to the west of the new Courtney Drive access road intersection are considered to be appropriately mitigated. Overall, the proposed relocated Courtney Drive site access is considered to function safely and efficiently.

Lots with direct access to Courtney Drive

Noting that access for these lots will be to single dwelling houses, the AS2890.1:2004 standard has been referred to for sight distance (SSD) requirements. The Australian Standard states that for a 50 km/h posted speed limit, the SSD requirement is 40m for "domestic property access" (applicable up to 80 km/h roads with a reaction time of 1.5s).

An assessment of sight distance for the outer (end) lots of each side for the lots fronting Courtney Drive has been conducted, lot 629 (left of Courtney Drive site access) and Lot 524 (right of Courtney Drive site access). It is to be noted that that the lots in between these extreme ends sit on relatively flat sections, with greater sight lines in either direction compared to the outer (end) lots.

At Lot 629, the sight distance measured was approximately 42m to the west with ample sight distance to the east, which meets and exceeds the minimum AS2890.1:2004 requirement and is therefore compliant. At Lot 524, the sight distance measured was approximately 135m to the east, with ample sight distance to the west, and is therefore also compliant with AS2890.1 requirements.

Overall, the key intersections / access points are considered to have adequate sight distances.

2.6 Council IR Item 40a

Council acknowledges the provided RCV swept path diagrams by TTM Consulting, which show multiple dead-end points in the road network where the CoGC RCV is required to undertake a 3-point turn. It is unclear how the proposed layout (with dead ends) will facilitate safe and efficient access for the RCV in these areas. The applicant is therefore requested to address the items below in order to demonstrate compliance with Performance outcome PO15 of the Reconfiguring a lot code:

- ***(a)*** *Demonstrate how the proposed temporary turning areas withing lots 24, 44, 73, & 98 will ensure a smooth transition into the proposed roadways to facilitate the proposed RCV turning movements. Furthermore, provide to Council an indication of how long these temporary turning arrangements are planned to be in place, noting that it is always Council's preference that 18m diameter cul-de-sac heads are provided to facilitate RCV turning on site.*
- ***(b)*** *Amend the RCV Swept Path diagrams to include vehicle specifications in accordance with the 'City Plan Policy – Solid Waste Management' including the kerb-to-kerb turning radius as nominated in Appendix C of SC6.15 City plan policy – solid waste management code.*
- ***(c)*** *Manoeuvring clearances in accordance with AS2890.2 must be clearly depicted on drawings and demonstrate no obstructions exist for all waste servicing manoeuvres.*
- ***(d)*** *Ensure all RCV Swept Paths are signed by an appropriately qualified RPEQ.*

Colliers Response to Council Item 40a

Colliers notes that the internal site layout has been updated with the acquisition of Lot 184/RP173727, reducing the number of dead-end road sections from three (3) to one (1) within the Baileys Mountain Road

lots. For compliance with other Council requests / requirements, previous Lots 181-182 (now Lots 515 – 523) and the Courtney Drive internal road layout have been updated with a single dead-end road section.

As outlined in TTM's (now Colliers) traffic engineering report, temporary turnaround areas on vacated lots were to be utilised to facilitate the turnaround of refuse collection vehicles (RCV). Colliers proposes to retain this methodology at two (2) of the dead-end roads: within the Richardson Crescent road extension and Baileys Mountain Road lots. Revised swept paths have been conducted – refer to **Attachment B – 24BRT0559-18,** indicating that an RCV is able to satisfactorily make a turnaround manoeuvre with the use of the temporary turnaround pads. In the event that the adjacent lot is acquired, the temporary turnaround areas will be removed or repurposed into driveways for the vacant lots and internal roads will be completed.

For the Courtney Drive dead-end road, the intended refuse strategy for RCV turnaround (and to switch sides) involves the Council RCV completing a reverse manoeuvre onto the dead-end road to perform kerbside refuse collection duties. As the vehicle will be reversing less than 20m and based on the fact that this will be an interim solution affecting only two (2) lots at maximum, this is deemed to be an acceptable solution in lieu of 18m cul-de-sac heads.

Colliers considers these arrangements adequate to address Performance Outcome 15 of Council's "Reconfiguring a lot" code, noting that the arrangements will facilitate the "safe and efficient" access of RCVs during refuse collection.

Colliers Response to Council Item 40b

Colliers have updated all swept paths (**Attachment B – 24BRT0559-12-18**) to include vehicle specifications in accordance with Council's 'City Plan Policy – Solid Waste Management' including the specified kerb-to-kerb turning radius of 10.5m / wall-to-wall turning radius of 11.5m.

Colliers Response to Council Item 40c

Colliers have updated all swept paths to include manoeuvring clearances of 500mm (either side) for RCV and service vehicles, and 300mm (either side) for B99 vehicles. Colliers notes that "Appendix C – Waste Collection Vehicle Clearances" of Council's City Plan specifies a 300mm clearance either side to ensure safe access and unimpeded operation of service vehicles. The swept paths indicate that no obstructions exist for any / all waste servicing manoeuvres.

Colliers Response – Council Item 40d

The sign-off of the previously submitted Transport Engineering Report and subsequently, contents of this traffic engineering letter by a traffic-qualified RPEQ, extends to the sign-off of all attached Colliers drawings.

3 Summary

We trust the information contained herein will be sufficient to progress the application with Council. If there are any queries in relation to the information provided, please contact the undersigned.

Yours sincerely,



Isaac Ahn
Consultant – Transport
Colliers International Engineering & Design Pty Ltd

Yours sincerely,



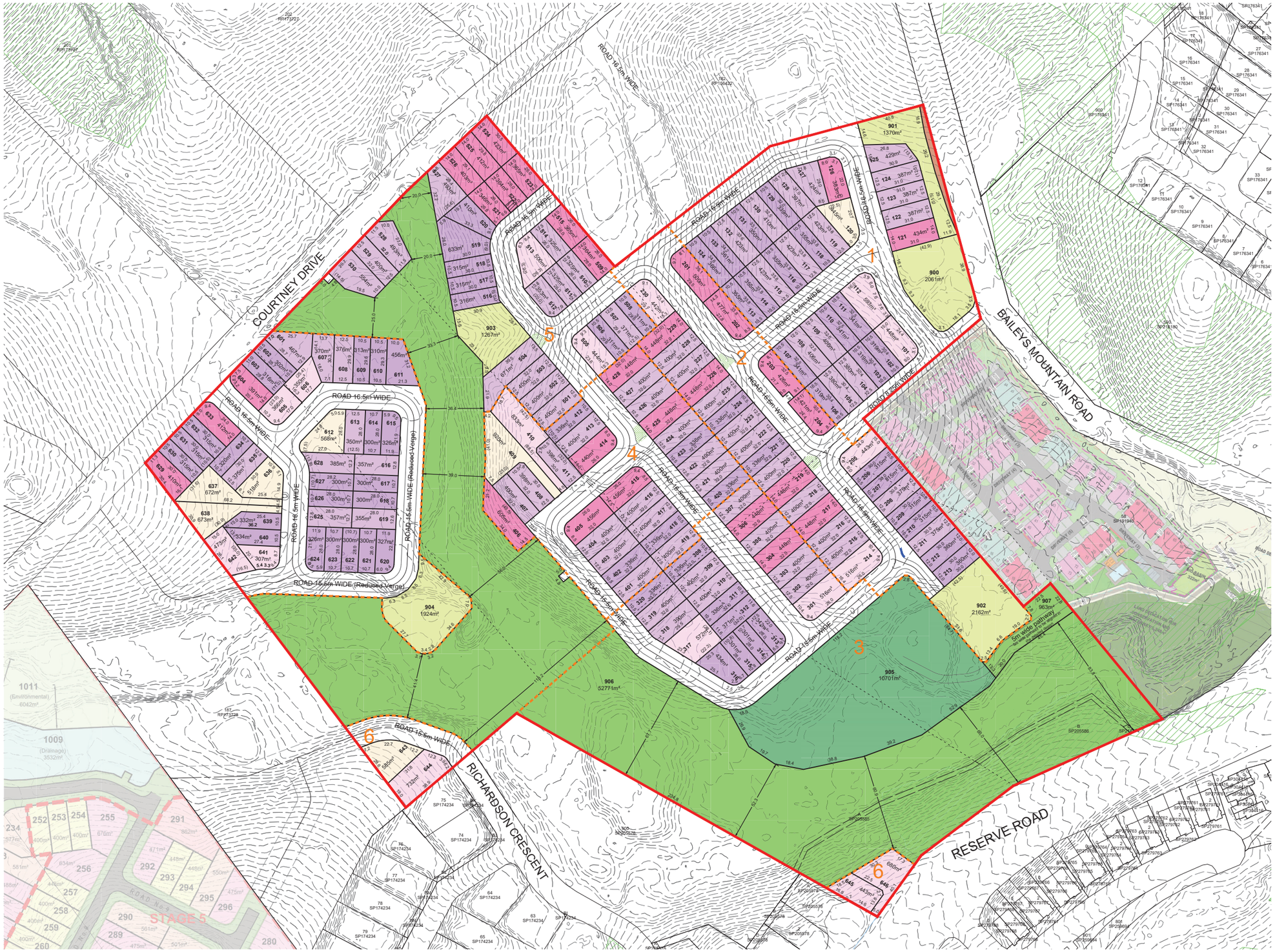
Darryl Watkins | RPEQ # 23854
Associate Director – Transport
Colliers International Engineering & Design Pty Ltd

Attachments

Attachment A – Development Plan
Attachment B – Colliers Drawings
Attachment C – Traffic Network Diagrams
Attachment D – SiDRA Outputs

Attachment A – Development Plans

CONCEPT PLAN



NOT TO BE USED FOR ENGINEERING DESIGN OR CONSTRUCTION

NOTES

This plan was prepared as a conceptual layout only. The information on this plan is not suitable for any other purpose.

Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions.

No reliance should be placed on the information on this plan for detailed subdivision design or for any financial dealings involving the land.

Pavements and centrelines shown are indicative only and are subject to Engineering Design.

Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

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PROJECTION: GDA2020 MGA56

SUBJECT BOUNDARIES: LOT CALCULATIONS BY LANDPARTNERS DATED 25/11/2024

LEGEND

- Site Boundary
- Major Contour (1.0m interval)
- Minor Contour (0.5m interval)
- Vegetation Management
- Traffic Calming & Landscape Treatment
- Proposed Temporary Turnaround Easement
- Indicative Binpad Location
- Stage Boundary
- 1 Stage No.

DEVELOPMENT STATISTICS			
RESIDENTIAL ALLOTMENTS	**No. Lots**	**%**	**Net Area**
10.5m - 12.49m Frontage	64	34.0%	2.152 ha
12.5m - 13.99m Frontage	71	37.8%	2.851 ha
14m - 14.99m Frontage	29	15.4%	1.244 ha
> 15m Frontage	17	9.0%	0.866 ha
Irregular Frontage	7	3.7%	0.439 ha
Total Residential Allotments	**188**	**100.0%**	**7.552 ha**

Land Budget	**Area (Ha)**	**%**	
Area of Subject Site / Stage	18.266 ha		
Net Residential Area (no roads)	7.552 ha	41.3%	
Detention / Drainage	0.881 ha	4.8%	
Local Park	1.070 ha	5.9%	
Environmental Open Space	5.280 ha	28.9%	
Road Widening	0.025 ha	0.1%	
Road Areas	3.458 ha	18.9%	
Total	**18.266 ha**	**100.0%**	

RP DESCRIPTION: Lot 185 on RP173727, Lot 186 on RP173728, Lot 57 on SP214370 & Lot 56 on RP162858, Lot 58 on SP191940

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saunders havill group

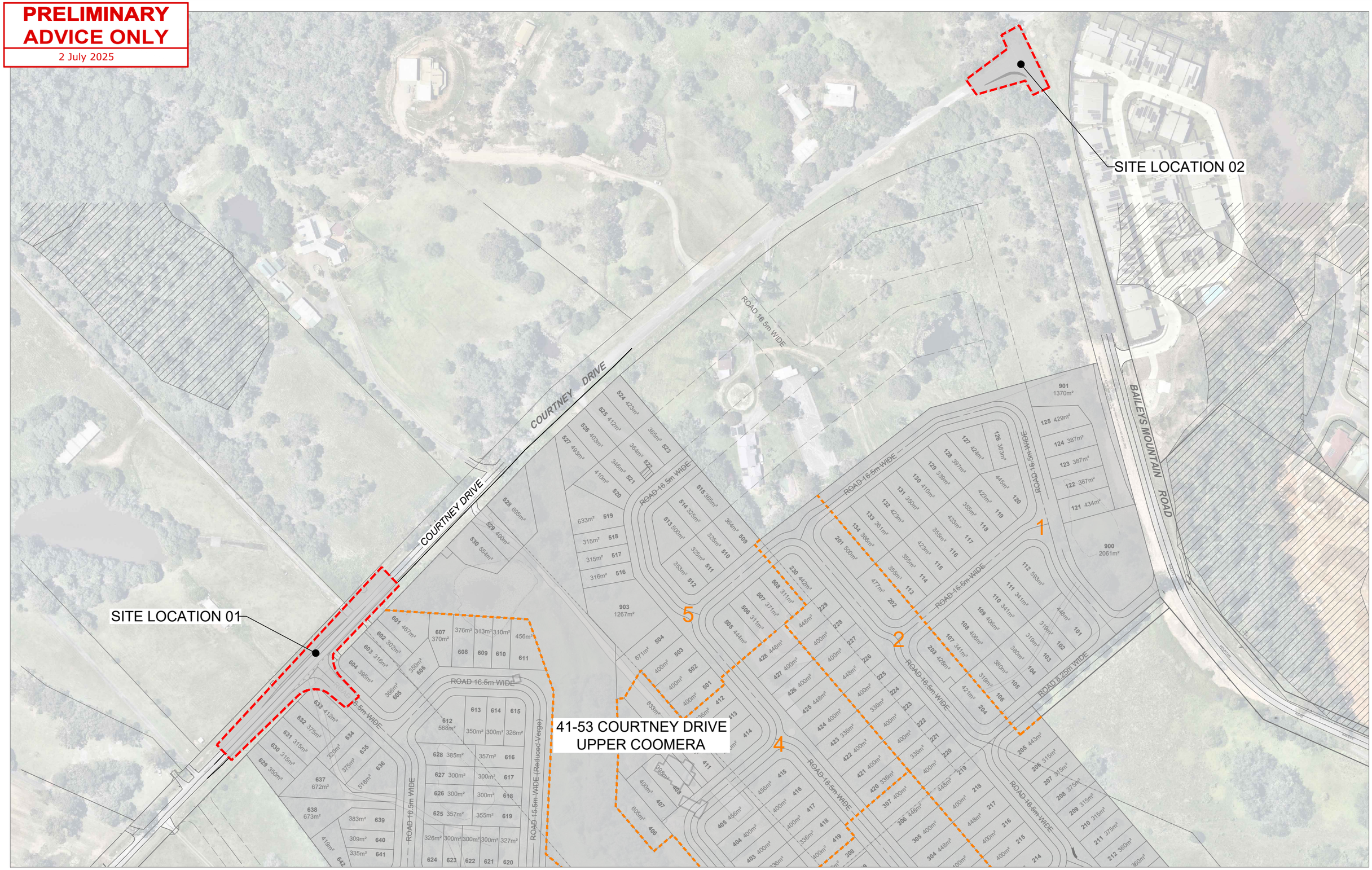
NORFOLK ESTATES PTY LTD ATF SOLANDER INVESTMENT UNIT TRUST

41 - 53 COURTNEY DRIVE , UPPER COOMERA • 26/06/2025 • 11694 P 11 Rev N - CON 01

Attachment B – Colliers Drawings

PRELIMINARY ADVICE ONLY

2 July 2025



REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
B	02-07-25	GENERAL AMENDMENTS	AA	IA	DW
A	04-06-25	ORIGINAL ISSUE	AA	IA	DW

SCALE 0 20 40 60 80 100m

SCALE 1:2000 AT ORIGINAL SIZE

NORTH

CLIENT

QM PROPERTIES PTY LTD

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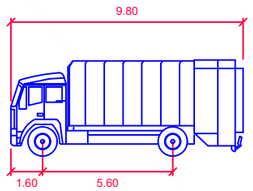
PROJECT
41-53 COURTNEY DRIVE, UPPER COOMERA

DRAWING TITLE
SITE DEVELOPMENT
OVERALL PLAN

PROJECT NUMBER	ORIGINAL SIZE
24BRT0559	A3
DRAWING NUMBER	REVISION
24BRT0559-10	B
DATE	SHEET
2 Jul 2025	1 OF 1

SITE LOCATION 01

VEHICLE PROFILES



GCCC Side RCV

	meters
Width	: 2.50
Kerb to Kerb Turning Radius	: 10.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.3
Design Speed Forward	: 5.0km/h
Clearance Envelope	: 0.500m

PRELIMINARY ADVICE ONLY

2 July 2025

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
B	02-07-25	GENERAL AMENDMENTS	AA	IA	DW
A	04-06-25	ORIGINAL ISSUE	AA	IA	DW

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SCALE 1:500 AT ORIGINAL SIZE

NORTH

CLIENT

QM PROPERTIES PTY LTD

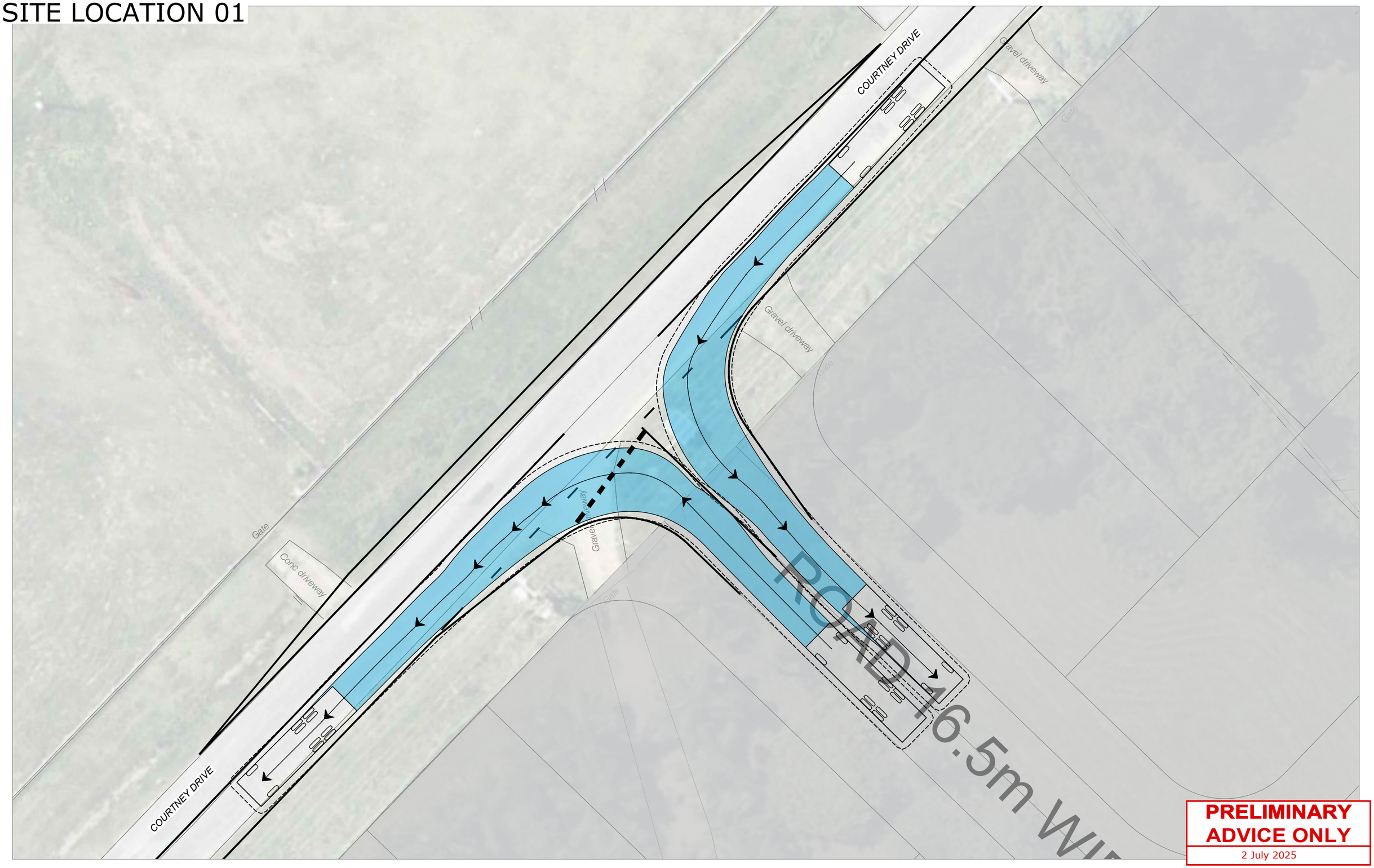
Colliers International Engineering & Design (TTMC) Pty Ltd
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PROJECT
41-53 COURTNEY DRIVE, UPPER COOMERA

DRAWING TITLE
CONCEPT LAYOUT
BASIC RIGHT (BAR) TURN AND RURAL BASIC LEFT (BAL) TREATMENTS
SITE LOCATION 01

PROJECT NUMBER	ORIGINAL SIZE
24BRT0559	A3
DRAWING NUMBER	REVISION
24BRT0559-11	B
DATE	SHEET
2 Jul 2025	1 OF 1

SITE LOCATION 01



PRELIMINARY
ADVICE ONLY
2 July 2025

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
B	02-07-25	GENERAL AMENDMENTS	AA	IA	DW
A	04-06-25	ORIGINAL ISSUE	AA	IA	DW

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SCALE 1:250 AT ORIGINAL SIZE

NORTH

CLIENT
QM PROPERTIES PTY LTD

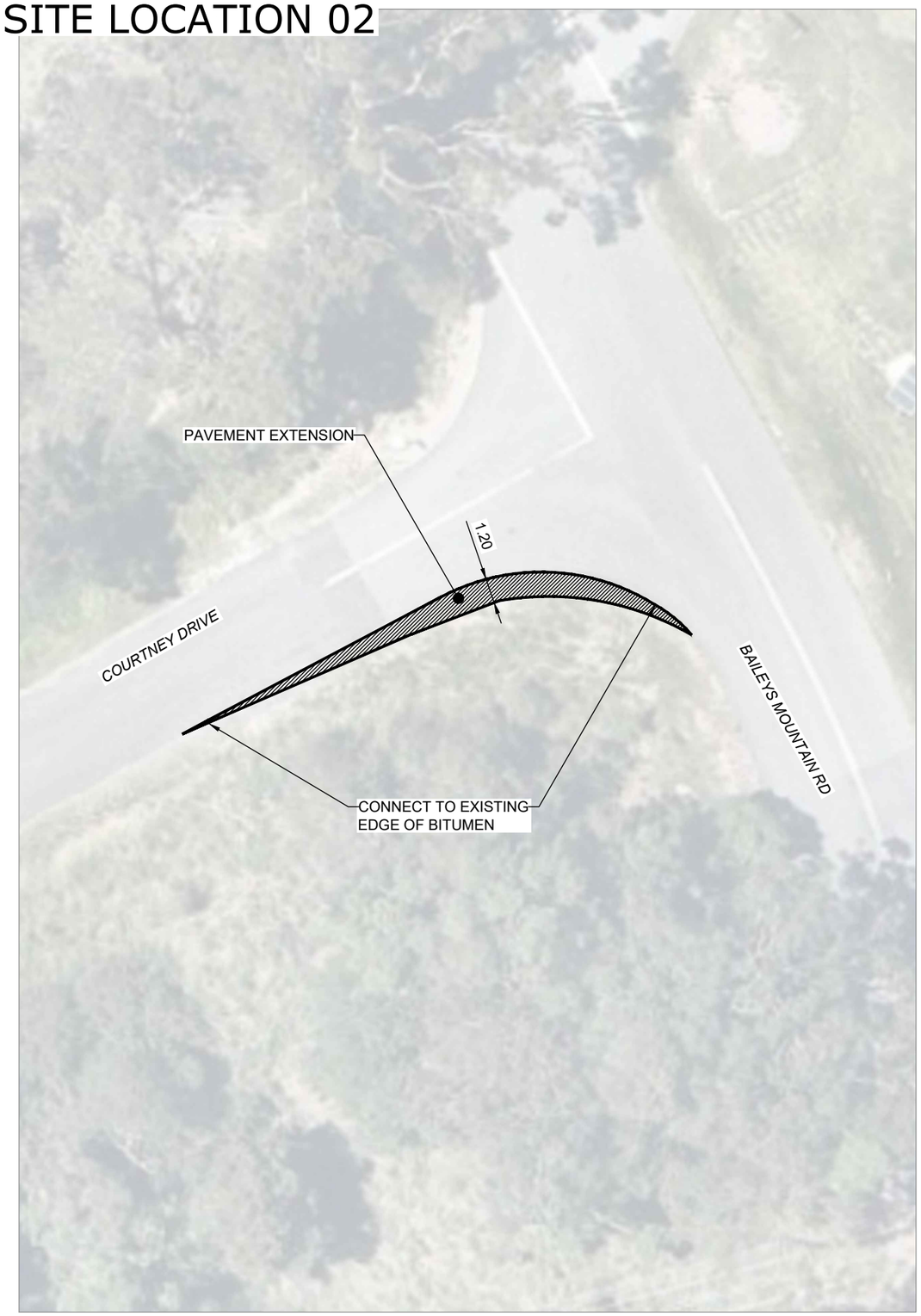
Colliers International Engineering & Design (TTMC) Pty Ltd
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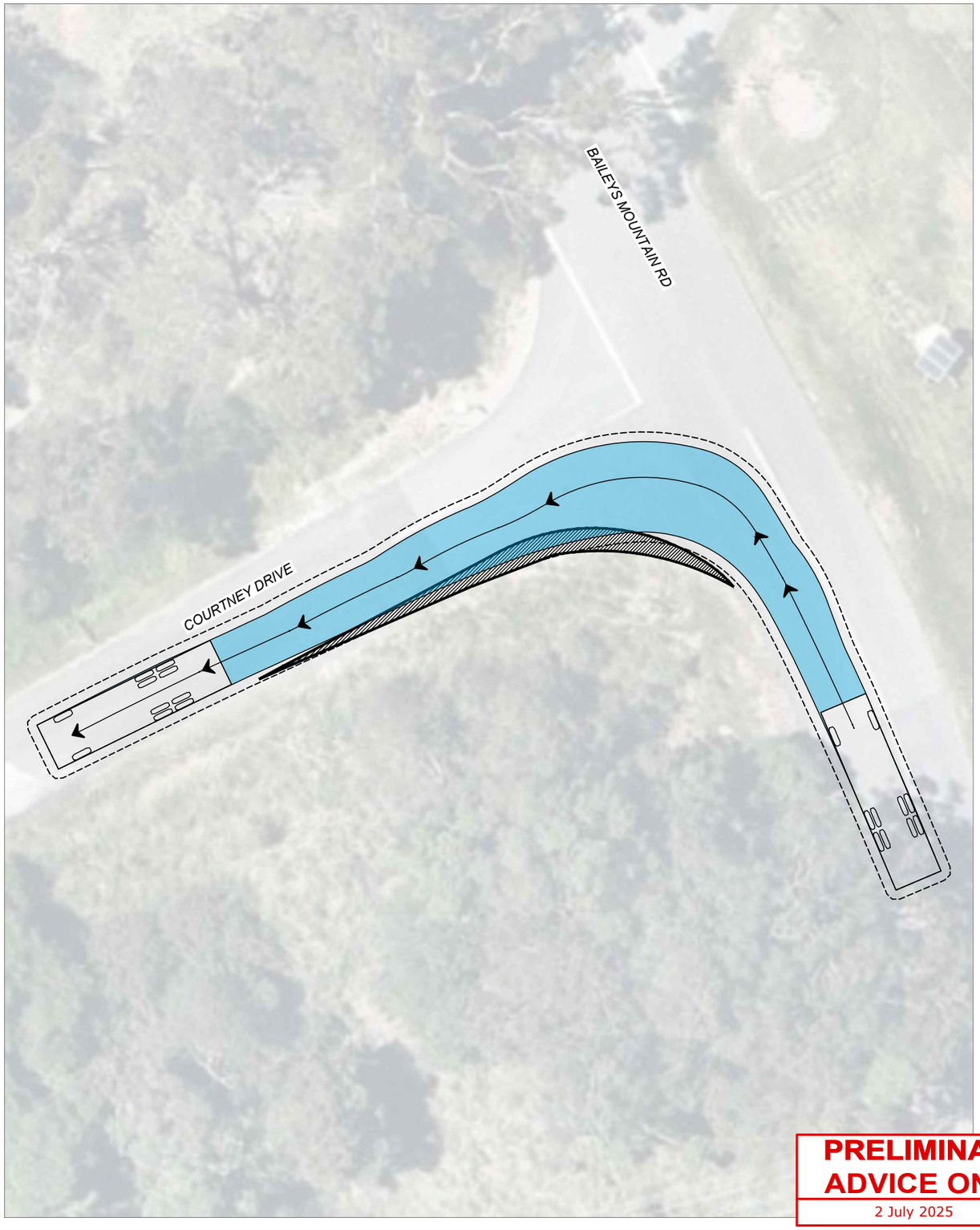
PROJECT
41-53 COURTNEY DRIVE, UPPER COOMERA

DRAWING TITLE
CONCEPT LAYOUT
SWEPT PATHS - 9.80m GCCC SIDE LOADING RCV
SITE LOCATION 01

PROJECT NUMBER	24BRT0559
ORIGINAL SIZE	A3
DRAWING NUMBER	24BRT0559-12
REVISION	B
DATE	2 Jul 2025
SHEET	1 OF 1

SITE LOCATION 02





PRELIMINARY
ADVICE ONLY
2 July 2025

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
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A	04-06-25	ORIGINAL ISSUE	AA	IA	DW

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

NORTH

CLIENT
QM PROPERTIES PTY LTD

Colliers International Engineering & Design (TTMC) Pty Ltd
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E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT
41-53 COURTNEY DRIVE, UPPER COOMERA

DRAWING TITLE
CONCEPT LAYOUT
ROAD WIDENING DETAILS
SWEPT PATHS - 9.80m GCCC SIDE LOADING RCV - SITE LOCATION 02

PROJECT NUMBER	ORIGINAL SIZE
24BRT0559	A3
DRAWING NUMBER	REVISION
24BRT0559-13	B
DATE	SHEET
2 Jul 2025	1 OF 1



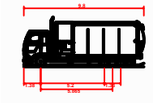
SITE PLAN - OVERALL RCV CIRCULATION

SCALE 1:2500

PRELIMINARY ADVICE ONLY

27 June 2025

VEHICLE PROFILES



GCC Side Loader 9.8m	
Overall Length	9.800m
Overall Width	2.472m
Overall Body Height	4.050m
Min Body Ground Clearance	0.150m
Track Width	2.472m
Lock-to-lock time	6.00s
Kerb to Kerb Turning Radius	10.500m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	27-06-24	ORIGINAL ISSUE	IA	DW	DW

SCALE 0 25 50 75 100 125m

SCALE 1:2500 AT ORIGINAL SIZE

NORTH

CLIENT: QM PROPERTIES

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

PROJECT: **41-53 COURTNEY DRIVE - UPPER COOMERA**

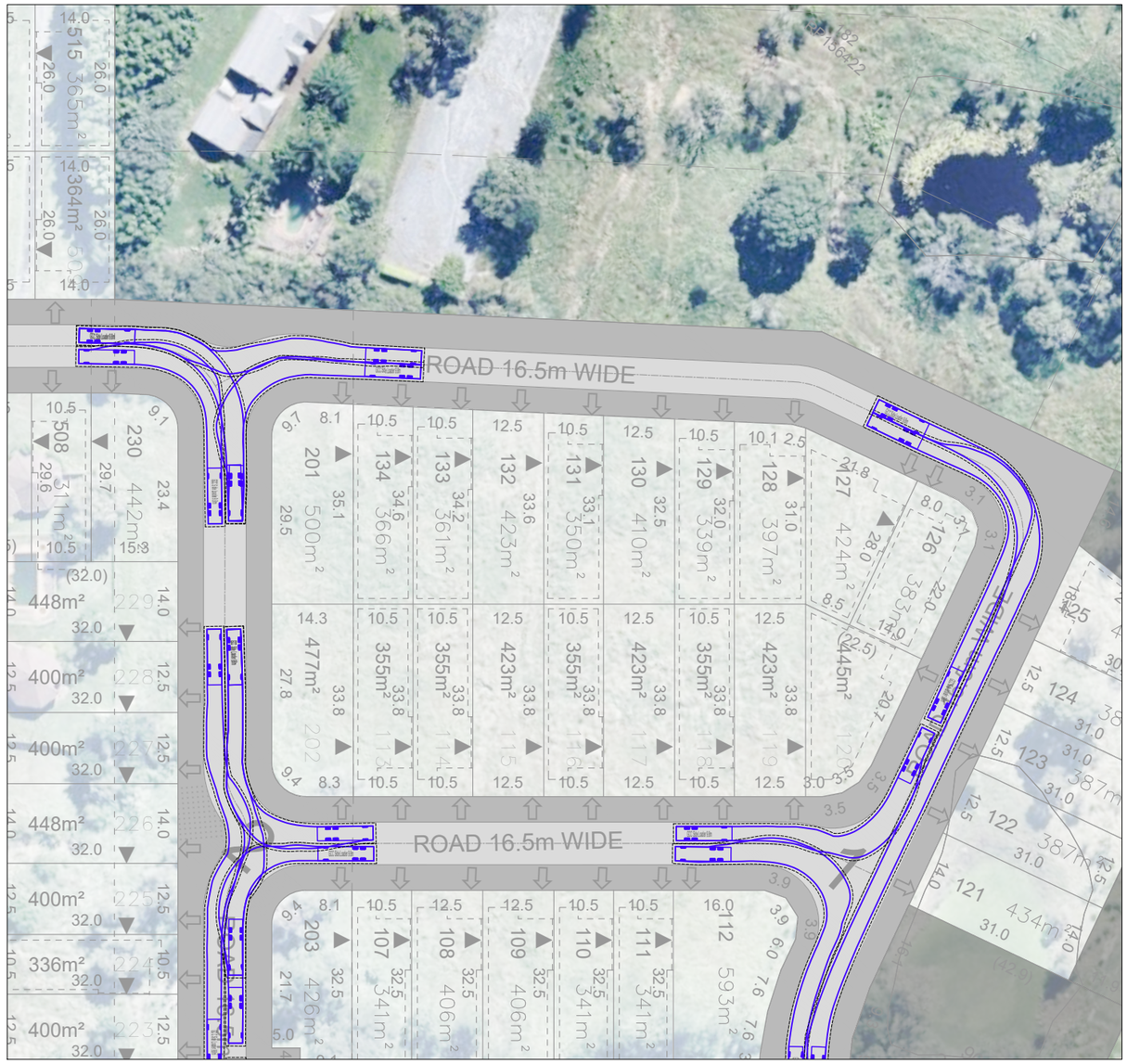
DRAWING TITLE: **SITE PLAN**
GOLD COAST COUNCIL RCV OVERALL CIRCULATION

PROJECT NUMBER	ORIGINAL SIZE
24BRT0559	A3
DRAWING NUMBER	REVISION
24BRT0559-14	A
DATE	SHEET
27 June 2025	1 OF 1



RCV CIRCULATION - AREA 01

SCALE 1:1000



RCV CIRCULATION - AREA 02

SCALE 1:1000

PRELIMINARY ADVICE ONLY

27 June 2025

VEHICLE PROFILES



GCC Side Loader 9.8m	
Overall Length	9.800m
Overall Width	2.472m
Overall Body Height	4.050m
Min Body Ground Clearance	0.150m
Track Width	2.472m
Lock-to-lock time	6.00s
Kerb to Kerb Turning Radius	10.500m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	27-06-24	ORIGINAL ISSUE	IA	DW	DW

SCALE 0 10 20 30 40 50m

SCALE 1:1000 AT ORIGINAL SIZE

NORTH

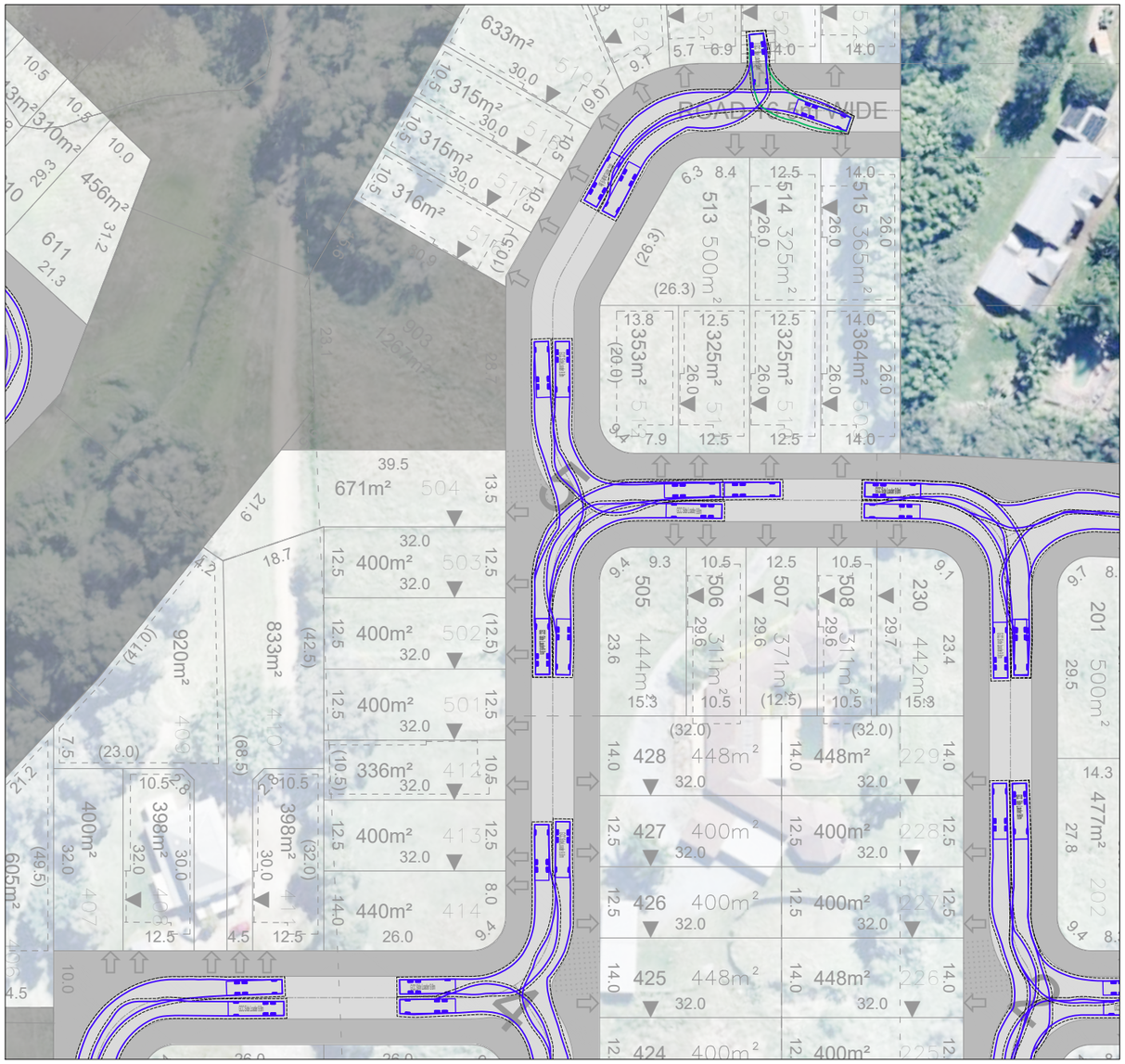
CLIENT: QM PROPERTIES

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

PROJECT: **41-53 COURTNEY DRIVE - UPPER COOMERA**

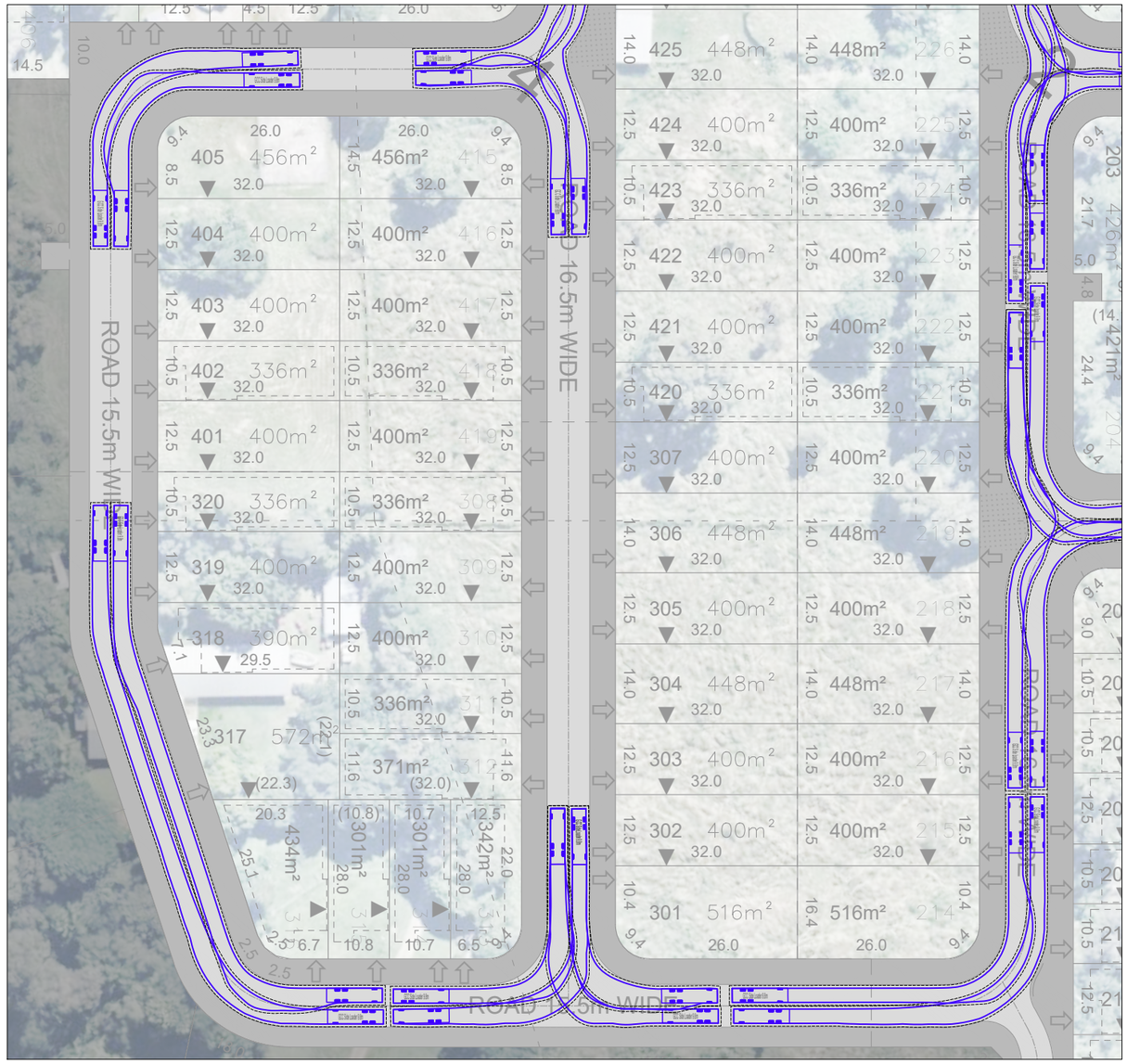
DRAWING TITLE: **SWEPT PATH ASSESSMENT**
GOLD COAST COUNCIL RCV - AREA 01 & 02

PROJECT NUMBER	ORIGINAL SIZE
24BRT0559	A3
DRAWING NUMBER	REVISION
24BRT0559-15	A
DATE	SHEET
27 June 2025	1 OF 1



RCV CIRCULATION - AREA 03

SCALE 1:1000



RCV CIRCULATION - AREA 04

SCALE 1:1000

PRELIMINARY ADVICE ONLY

27 June 2025

VEHICLE PROFILES



GCC Side Loader 9.8m	
Overall Length	9.800m
Overall Width	2.472m
Overall Body Height	4.050m
Min Body Ground Clearance	0.150m
Track Width	2.472m
Lock-to-lock time	6.000
Kerb to Kerb Turning Radius	10.500m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	27-06-24	ORIGINAL ISSUE	IA	DW	DW

SCALE 0 10 20 30 40 50m

SCALE 1:1000 AT ORIGINAL SIZE

NORTH

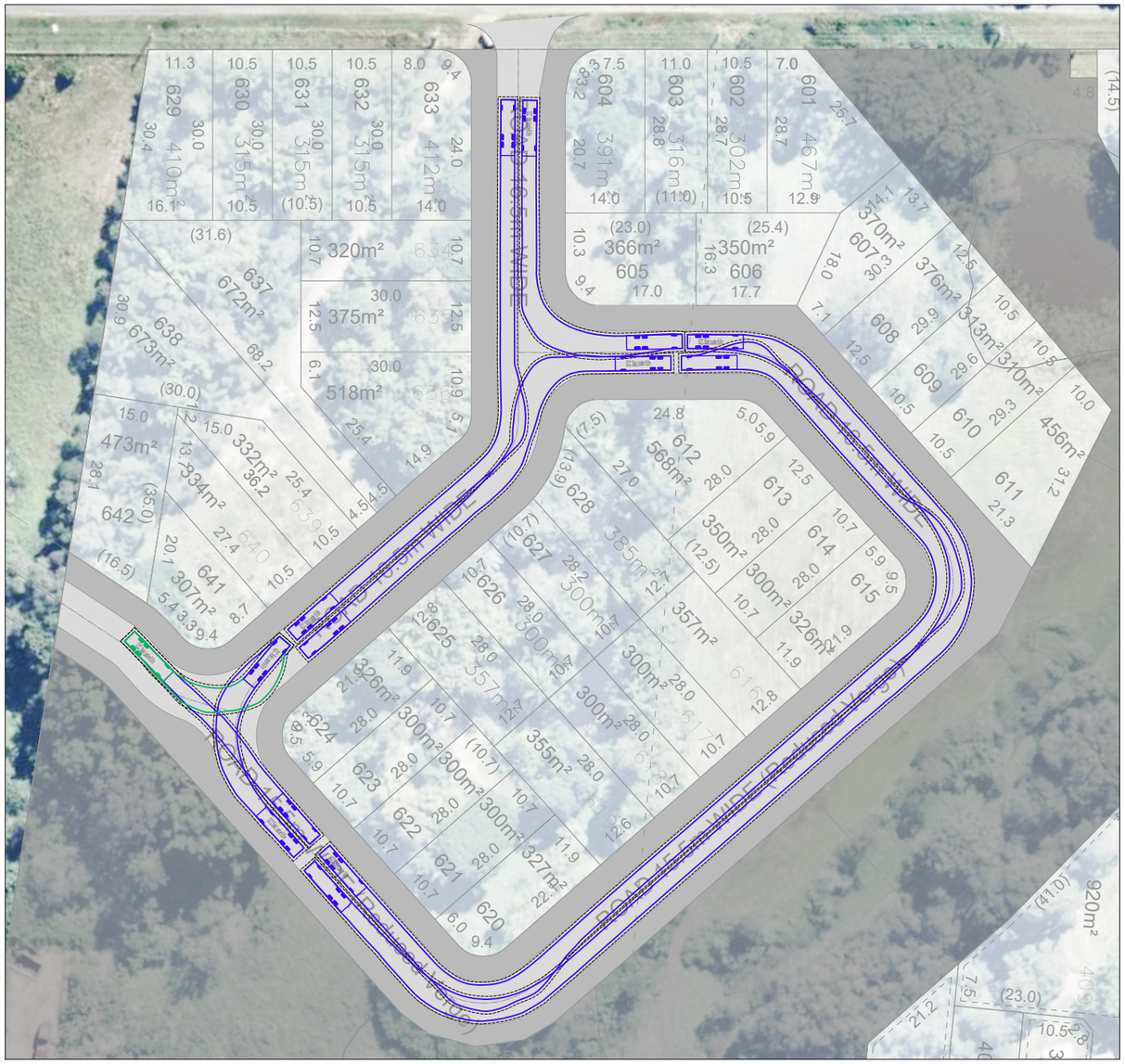
CLIENT: QM PROPERTIES

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

PROJECT: **41-53 COURTNEY DRIVE - UPPER COOMERA**

DRAWING TITLE: **SWEPT PATH ASSESSMENT**
GOLD COAST COUNCIL RCV - AREA 03 & 04

PROJECT NUMBER	ORIGINAL SIZE
24BRT0559	A3
DRAWING NUMBER	REVISION
24BRT0559-16	A
DATE	SHEET
27 June 2025	1 OF 1

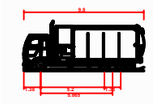


RCV CIRCULATION - AREA 05

SCALE 1:1000

PRELIMINARY
ADVICE ONLY
27 June 2025

VEHICLE PROFILES



GCC Side Loader 9.8m	
Overall Length	9.800m
Overall Width	2.472m
Overall Body Height	4.050m
Min Body Ground Clearance	0.150m
Track Width	2.472m
Lock-to-lock time	6.00s
Kerb to Kerb Turning Radius	10.500m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	27-06-24	ORIGINAL ISSUE	IA	DW	DW

SCALE 0 10 20 30 40 50m
SCALE 1:1000 AT ORIGINAL SIZE

NORTH

CLIENT
QM PROPERTIES

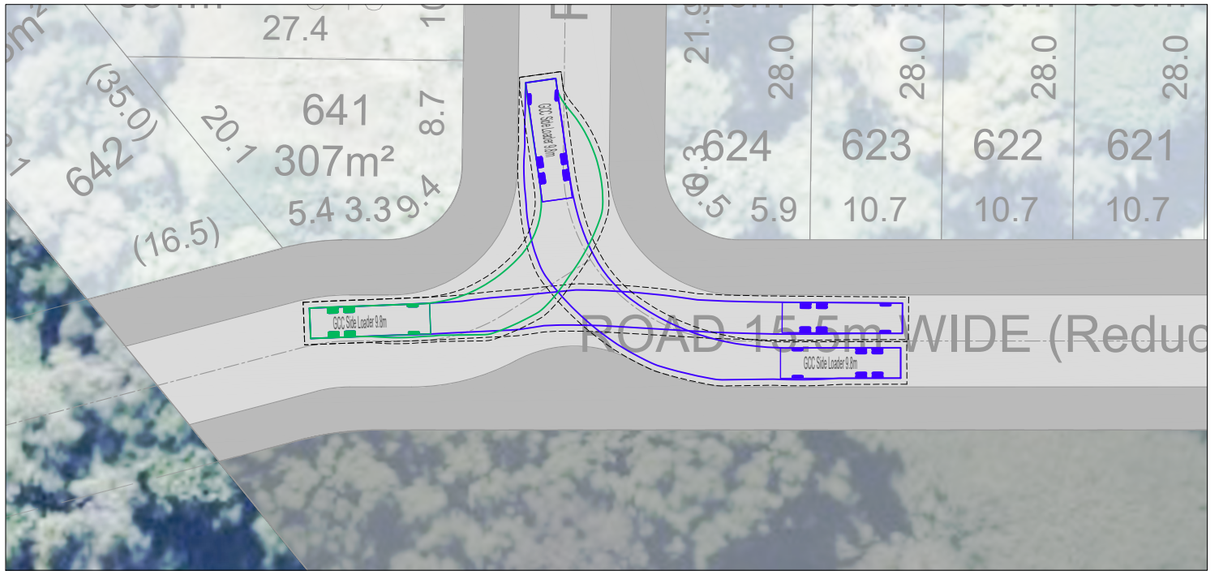
Colliers International Engineering & Design (TTMC) Pty Ltd
ABN 65 010 868 621
LEVEL 8, 369 Ann Street, BRISBANE QLD 4000
P.O. BOX 12015, BRISBANE QLD 4003

T: (07) 3327 9500 F: (07) 3327 9501
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT
41-53 COURTNEY DRIVE - UPPER COOMERA

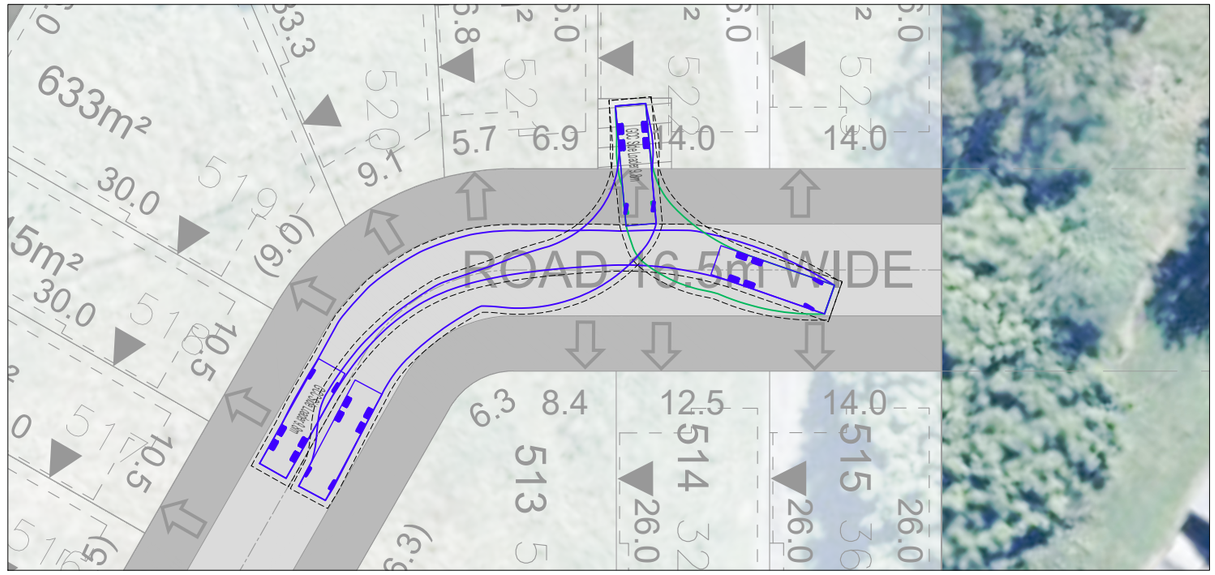
DRAWING TITLE
SWEPT PATH ASSESSMENT
GOLD COAST COUNCIL RCV - AREA 05

PROJECT NUMBER	ORIGINAL SIZE
24BRT0559	A3
DRAWING NUMBER	REVISION
24BRT0559-17	A
DATE	SHEET
27 June 2025	1 OF 1



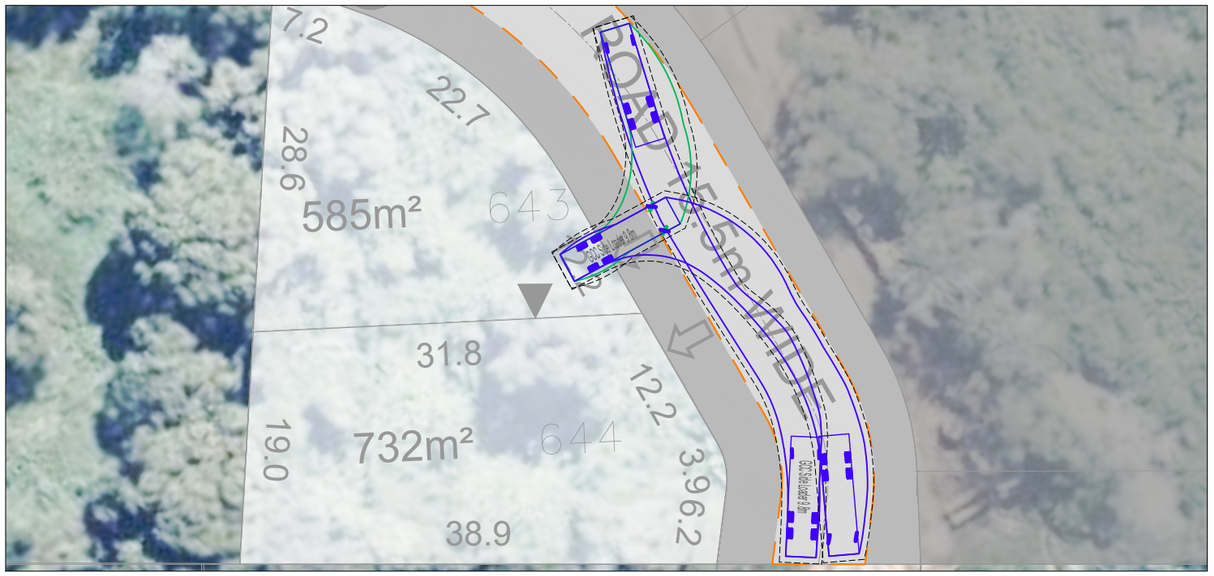
RCV CIRCULATION - COURTNEY DR. TURNAROUND

SCALE 1:500



RCV CIRCULATION - BMR INTERNAL TURNAROUND

SCALE 1:500



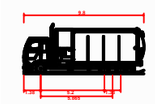
RCV CIRCULATION - RICHARDSON CR. TURNAROUND

SCALE 1:500

PRELIMINARY ADVICE ONLY

27 June 2025

VEHICLE PROFILES



GCC Side Loader 9.8m	
Overall Length	9.800m
Overall Width	2.472m
Overall Body Height	4.050m
Min Body Ground Clearance	0.150m
Track Width	2.472m
Lock-to-lock time	6.00s
Kerb to Kerb Turning Radius	10.500m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	27-06-24	ORIGINAL ISSUE	IA	DW	DW

SCALE 0 5 10 15 20 25m

SCALE 1:500 AT ORIGINAL SIZE

NORTH

CLIENT: QM PROPERTIES

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

PROJECT: **41-53 COURTNEY DRIVE - UPPER COOMERA**

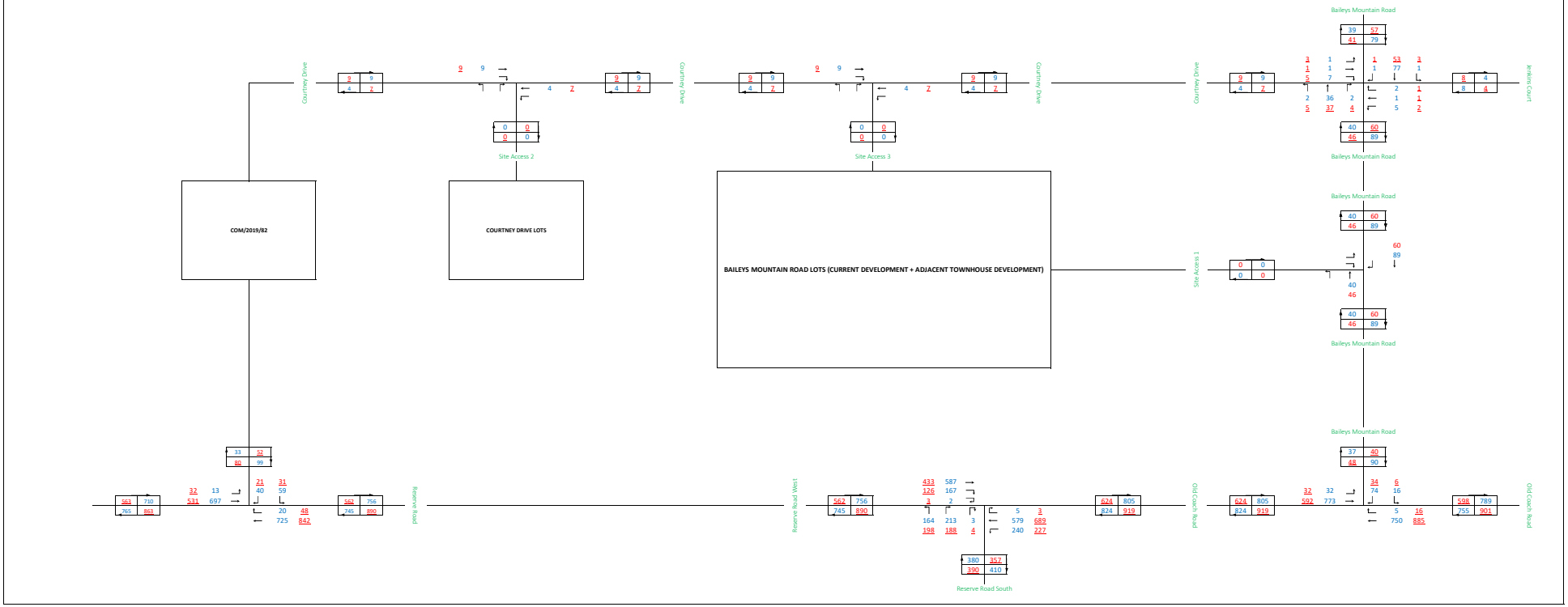
DRAWING TITLE: **SWEPT PATH ASSESSMENT**
GOLD COAST COUNCIL RCV - TURNAROUND AREAS

PROJECT NUMBER	ORIGINAL SIZE
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DRAWING NUMBER	REVISION
24BRT0559-18	A
DATE	SHEET
27 June 2025	1 OF 1

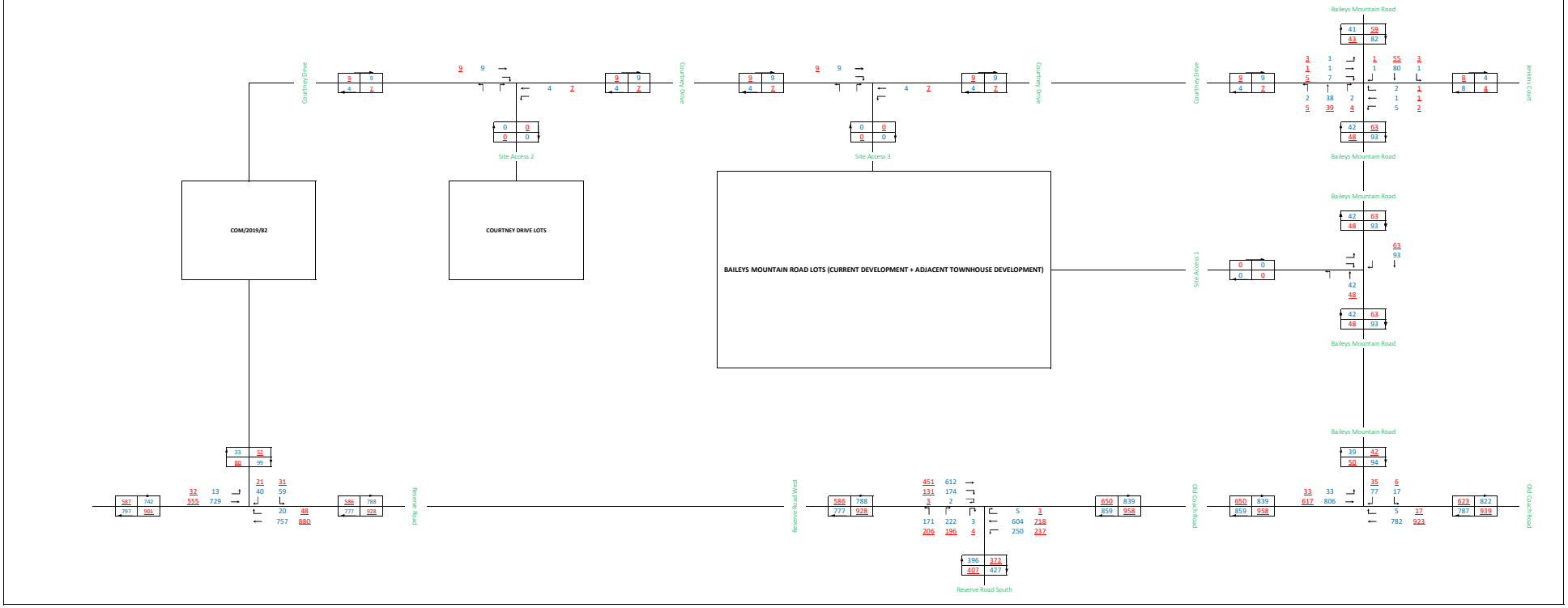
Level 8 / 369 Ann Street
Brisbane City QLD 4000

Attachment C – Traffic Network Diagram

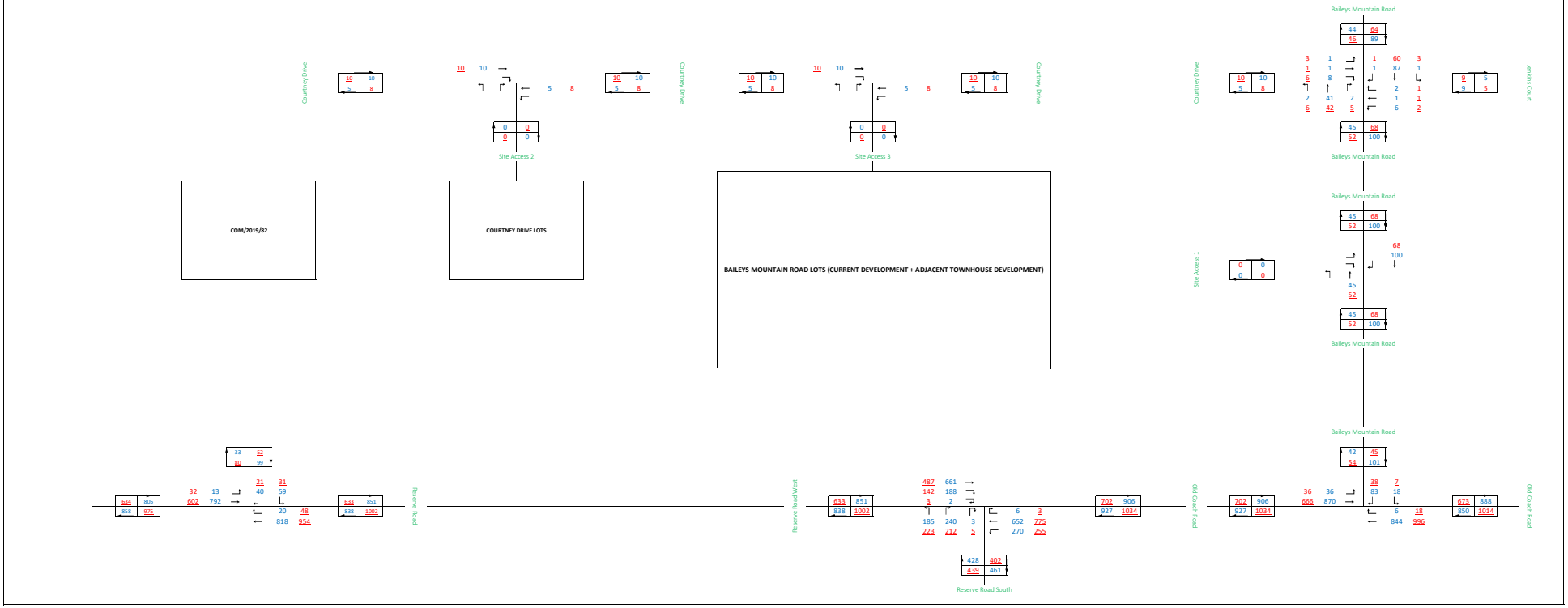
2025 SURVEYED VOLUMES

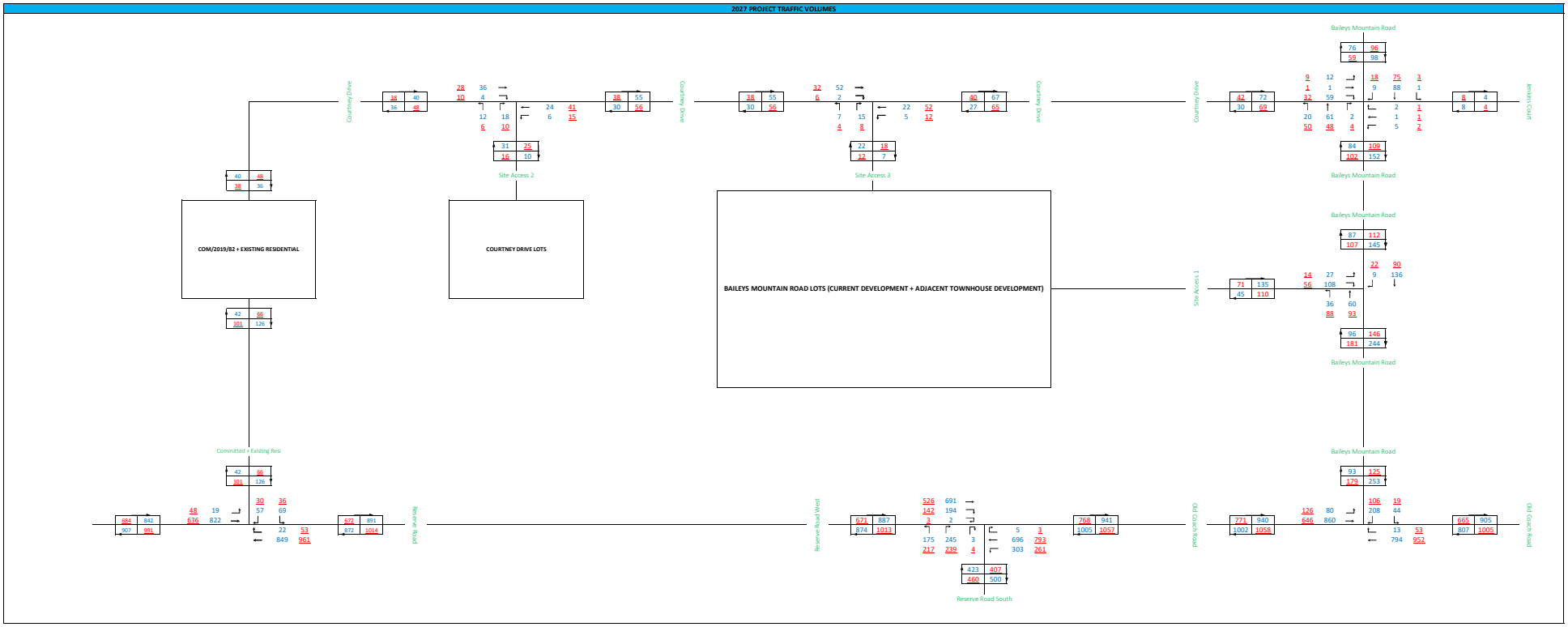


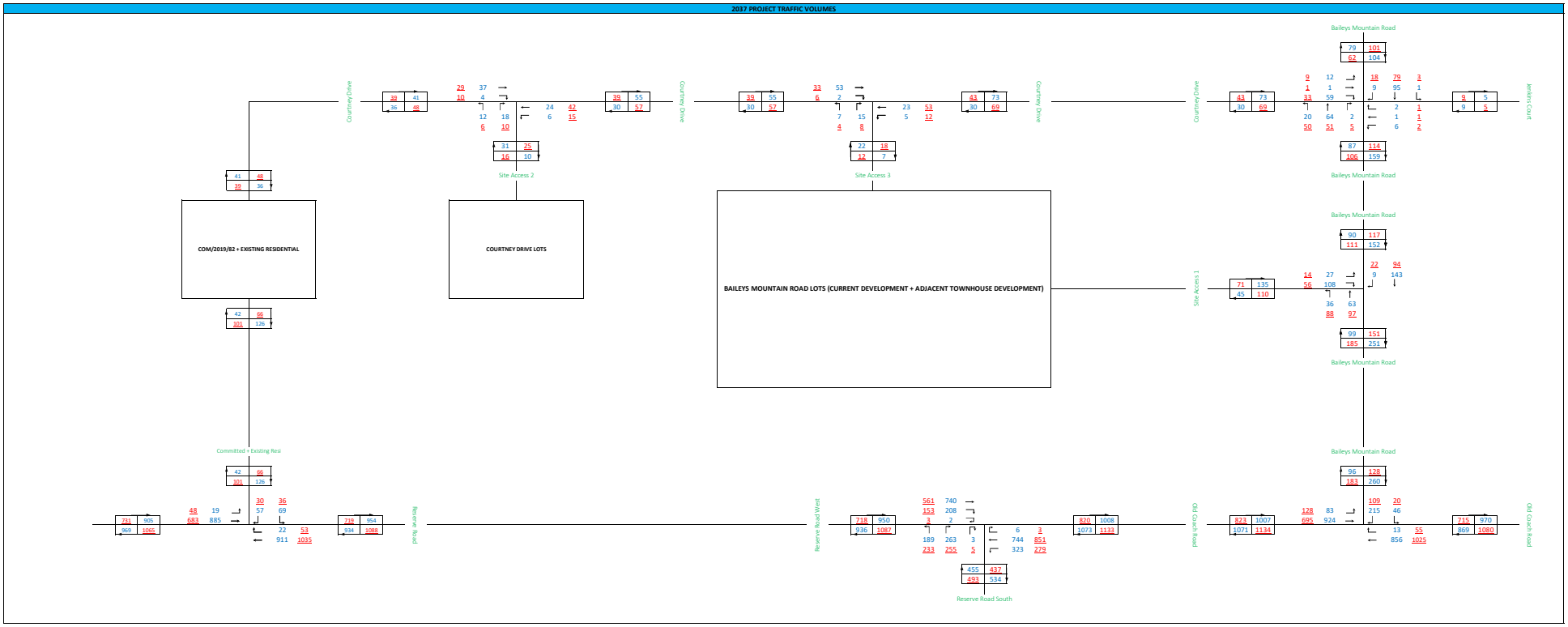
2027 BASE CASE VOLUMES



2037 BASE CASE VOLUMES




2027 PROJECT TRAFFIC VOLUMES
COM/2019/82 + EXISTING RESIDENTIAL
COURTNEY DRIVE LOTS
BAILEYS MOUNTAIN ROAD LOTS (CURRENT DEVELOPMENT + ADJACENT TOWNHOUSE DEVELOPMENT)
Courtney Drive
Site Access 2
Site Access 3
Site Access 1
Baileys Mountain Road
Committed + Existing Resi
Reserve Road
Reserve Road West
Reserve Road South
Old Coach Road


2037 PROJECT TRAFFIC VOLUMES
COM/2019/82 + EXISTING RESIDENTIAL
COURTNEY DRIVE LOTS
BAILEYS MOUNTAIN ROAD LOTS (CURRENT DEVELOPMENT + ADJACENT TOWNHOUSE DEVELOPMENT)
Courtney Drive
Site Access 2
Site Access 3
Site Access 1
Baileys Mountain Road
Committed + Existing Resi
Reserve Road
Reserve Road West
Reserve Road South
Old Coach Road

Attachment D – SiDRA Outputs

MOVEMENT SUMMARY

Site: 101 [AM Peak (2025 Survey) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	2	0.0	2	0.0	0.022	5.5	LOS A	0.0	0.1	0.03	0.06	0.03	56.9
2	T1	All MCs	38	3.0	38	3.0	0.022	0.0	LOS A	0.0	0.1	0.03	0.06	0.03	59.3
3	R2	All MCs	2	0.0	2	0.0	0.022	5.8	LOS A	0.0	0.1	0.03	0.06	0.03	56.6
Approach			42	2.7	42	2.7	0.022	0.6	NA	0.0	0.1	0.03	0.06	0.03	59.1
NorthEast: Jenkins Court															
4	L2	All MCs	5	0.0	5	0.0	0.007	8.3	LOS A	0.0	0.2	0.19	0.89	0.19	51.2
5	T1	All MCs	1	0.0	1	0.0	0.007	8.2	LOS A	0.0	0.2	0.19	0.89	0.19	51.2
6	R2	All MCs	2	0.0	2	0.0	0.007	8.1	LOS A	0.0	0.2	0.19	0.89	0.19	50.9
Approach			8	0.0	8	0.0	0.007	8.2	LOS A	0.0	0.2	0.19	0.89	0.19	51.1
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	1	0.0	1	0.0	0.044	5.5	LOS A	0.0	0.1	0.00	0.02	0.00	57.3
8	T1	All MCs	81	3.0	81	3.0	0.044	0.0	LOS A	0.0	0.1	0.00	0.02	0.00	59.8
9	R2	All MCs	1	0.0	1	0.0	0.044	5.5	LOS A	0.0	0.1	0.00	0.02	0.00	57.0
Approach			83	2.9	83	2.9	0.044	0.1	NA	0.0	0.1	0.00	0.02	0.00	59.8
SouthWest: Courtney Drive															
10	L2	All MCs	1	0.0	1	0.0	0.010	8.1	LOS A	0.0	0.2	0.21	0.89	0.21	51.2
11	T1	All MCs	1	0.0	1	0.0	0.010	8.2	LOS A	0.0	0.2	0.21	0.89	0.21	51.2
12	R2	All MCs	7	0.0	7	0.0	0.010	8.1	LOS A	0.0	0.2	0.21	0.89	0.21	51.0
Approach			9	0.0	9	0.0	0.010	8.1	LOS A	0.0	0.2	0.21	0.89	0.21	51.0
All Vehicles			143	2.5	143	2.5	0.044	1.3	NA	0.0	0.2	0.03	0.14	0.03	58.3

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 [AM Peak (2027 Growth) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	2	0.0	2	0.0	0.023	5.5	LOS A	0.0	0.1	0.03	0.06	0.03	56.9
2	T1	All MCs	40	3.0	40	3.0	0.023	0.0	LOS A	0.0	0.1	0.03	0.06	0.03	59.4
3	R2	All MCs	2	0.0	2	0.0	0.023	5.8	LOS A	0.0	0.1	0.03	0.06	0.03	56.6
Approach			44	2.7	44	2.7	0.023	0.5	NA	0.0	0.1	0.03	0.06	0.03	59.1
NorthEast: Jenkins Court															
4	L2	All MCs	5	0.0	5	0.0	0.007	8.3	LOS A	0.0	0.2	0.20	0.88	0.20	51.2
5	T1	All MCs	1	0.0	1	0.0	0.007	8.2	LOS A	0.0	0.2	0.20	0.88	0.20	51.2
6	R2	All MCs	2	0.0	2	0.0	0.007	8.1	LOS A	0.0	0.2	0.20	0.88	0.20	50.9
Approach			8	0.0	8	0.0	0.007	8.2	LOS A	0.0	0.2	0.20	0.88	0.20	51.1
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	1	0.0	1	0.0	0.045	5.5	LOS A	0.0	0.1	0.00	0.01	0.00	57.4
8	T1	All MCs	84	3.0	84	3.0	0.045	0.0	LOS A	0.0	0.1	0.00	0.01	0.00	59.8
9	R2	All MCs	1	0.0	1	0.0	0.045	5.5	LOS A	0.0	0.1	0.00	0.01	0.00	57.0
Approach			86	2.9	86	2.9	0.045	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.8
SouthWest: Courtney Drive															
10	L2	All MCs	1	0.0	1	0.0	0.010	8.1	LOS A	0.0	0.2	0.21	0.88	0.21	51.2
11	T1	All MCs	1	0.0	1	0.0	0.010	8.2	LOS A	0.0	0.2	0.21	0.88	0.21	51.2
12	R2	All MCs	7	0.0	7	0.0	0.010	8.2	LOS A	0.0	0.2	0.21	0.88	0.21	51.0
Approach			9	0.0	9	0.0	0.010	8.2	LOS A	0.0	0.2	0.21	0.88	0.21	51.0
All Vehicles			148	2.5	148	2.5	0.045	1.2	NA	0.0	0.2	0.03	0.13	0.03	58.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [AM Peak (2037 Growth) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	2	0.0	2	0.0	0.025	5.5	LOS A	0.0	0.1	0.02	0.06	0.02	56.9
2	T1	All MCs	43	3.0	43	3.0	0.025	0.0	LOS A	0.0	0.1	0.02	0.06	0.02	59.4
3	R2	All MCs	2	0.0	2	0.0	0.025	5.8	LOS A	0.0	0.1	0.02	0.06	0.02	56.6
Approach			47	2.7	47	2.7	0.025	0.5	NA	0.0	0.1	0.02	0.06	0.02	59.2
NorthEast: Jenkins Court															
4	L2	All MCs	6	0.0	6	0.0	0.008	8.3	LOS A	0.0	0.2	0.20	0.88	0.20	51.2
5	T1	All MCs	1	0.0	1	0.0	0.008	8.3	LOS A	0.0	0.2	0.20	0.88	0.20	51.1
6	R2	All MCs	2	0.0	2	0.0	0.008	8.2	LOS A	0.0	0.2	0.20	0.88	0.20	50.9
Approach			9	0.0	9	0.0	0.008	8.3	LOS A	0.0	0.2	0.20	0.88	0.20	51.1
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	1	0.0	1	0.0	0.049	5.5	LOS A	0.0	0.1	0.00	0.01	0.00	57.4
8	T1	All MCs	92	3.0	92	3.0	0.049	0.0	LOS A	0.0	0.1	0.00	0.01	0.00	59.9
9	R2	All MCs	1	0.0	1	0.0	0.049	5.5	LOS A	0.0	0.1	0.00	0.01	0.00	57.0
Approach			94	2.9	94	2.9	0.049	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.8
SouthWest: Courtney Drive															
10	L2	All MCs	1	0.0	1	0.0	0.011	8.2	LOS A	0.0	0.3	0.22	0.88	0.22	51.2
11	T1	All MCs	1	0.0	1	0.0	0.011	8.3	LOS A	0.0	0.3	0.22	0.88	0.22	51.2
12	R2	All MCs	8	0.0	8	0.0	0.011	8.2	LOS A	0.0	0.3	0.22	0.88	0.22	50.9
Approach			11	0.0	11	0.0	0.011	8.2	LOS A	0.0	0.3	0.22	0.88	0.22	51.0
All Vehicles			161	2.5	161	2.5	0.049	1.2	NA	0.0	0.3	0.04	0.13	0.04	58.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [PM Peak (2025 Survey) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	5	0.0	5	0.0	0.025	5.5	LOS A	0.0	0.2	0.04	0.12	0.04	56.4
2	T1	All MCs	39	0.0	39	0.0	0.025	0.0	LOS A	0.0	0.2	0.04	0.12	0.04	58.8
3	R2	All MCs	4	0.0	4	0.0	0.025	5.7	LOS A	0.0	0.2	0.04	0.12	0.04	56.1
Approach			48	0.0	48	0.0	0.025	1.1	NA	0.0	0.2	0.04	0.12	0.04	58.3
NorthEast: Jenkins Court															
4	L2	All MCs	2	0.0	2	0.0	0.004	8.2	LOS A	0.0	0.1	0.16	0.90	0.16	51.2
5	T1	All MCs	1	0.0	1	0.0	0.004	8.1	LOS A	0.0	0.1	0.16	0.90	0.16	51.2
6	R2	All MCs	1	0.0	1	0.0	0.004	8.0	LOS A	0.0	0.1	0.16	0.90	0.16	51.0
Approach			4	0.0	4	0.0	0.004	8.1	LOS A	0.0	0.1	0.16	0.90	0.16	51.1
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	3	0.0	3	0.0	0.031	5.5	LOS A	0.0	0.1	0.01	0.04	0.01	57.1
8	T1	All MCs	56	0.0	56	0.0	0.031	0.0	LOS A	0.0	0.1	0.01	0.04	0.01	59.6
9	R2	All MCs	1	0.0	1	0.0	0.031	5.5	LOS A	0.0	0.1	0.01	0.04	0.01	56.8
Approach			60	0.0	60	0.0	0.031	0.4	NA	0.0	0.1	0.01	0.04	0.01	59.4
SouthWest: Courtney Drive															
10	L2	All MCs	3	0.0	3	0.0	0.009	8.1	LOS A	0.0	0.2	0.16	0.90	0.16	51.2
11	T1	All MCs	1	0.0	1	0.0	0.009	8.1	LOS A	0.0	0.2	0.16	0.90	0.16	51.2
12	R2	All MCs	5	0.0	5	0.0	0.009	8.0	LOS A	0.0	0.2	0.16	0.90	0.16	51.0
Approach			9	0.0	9	0.0	0.009	8.1	LOS A	0.0	0.2	0.16	0.90	0.16	51.1
All Vehicles			122	0.0	122	0.0	0.031	1.5	NA	0.0	0.2	0.04	0.17	0.04	57.9

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 [PM Peak (2027 Growth) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	5	0.0	5	0.0	0.026	5.5	LOS A	0.0	0.2	0.04	0.12	0.04	56.4
2	T1	All MCs	41	0.0	41	0.0	0.026	0.0	LOS A	0.0	0.2	0.04	0.12	0.04	58.8
3	R2	All MCs	4	0.0	4	0.0	0.026	5.7	LOS A	0.0	0.2	0.04	0.12	0.04	56.1
Approach			51	0.0	51	0.0	0.026	1.1	NA	0.0	0.2	0.04	0.12	0.04	58.4
NorthEast: Jenkins Court															
4	L2	All MCs	2	0.0	2	0.0	0.004	8.2	LOS A	0.0	0.1	0.17	0.90	0.17	51.2
5	T1	All MCs	1	0.0	1	0.0	0.004	8.1	LOS A	0.0	0.1	0.17	0.90	0.17	51.2
6	R2	All MCs	1	0.0	1	0.0	0.004	8.0	LOS A	0.0	0.1	0.17	0.90	0.17	51.0
Approach			4	0.0	4	0.0	0.004	8.1	LOS A	0.0	0.1	0.17	0.90	0.17	51.1
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	3	0.0	3	0.0	0.032	5.5	LOS A	0.0	0.1	0.01	0.04	0.01	57.1
8	T1	All MCs	58	0.0	58	0.0	0.032	0.0	LOS A	0.0	0.1	0.01	0.04	0.01	59.6
9	R2	All MCs	1	0.0	1	0.0	0.032	5.5	LOS A	0.0	0.1	0.01	0.04	0.01	56.8
Approach			62	0.0	62	0.0	0.032	0.4	NA	0.0	0.1	0.01	0.04	0.01	59.4
SouthWest: Courtney Drive															
10	L2	All MCs	3	0.0	3	0.0	0.009	8.1	LOS A	0.0	0.2	0.16	0.90	0.16	51.2
11	T1	All MCs	1	0.0	1	0.0	0.009	8.1	LOS A	0.0	0.2	0.16	0.90	0.16	51.2
12	R2	All MCs	5	0.0	5	0.0	0.009	8.0	LOS A	0.0	0.2	0.16	0.90	0.16	51.0
Approach			9	0.0	9	0.0	0.009	8.1	LOS A	0.0	0.2	0.16	0.90	0.16	51.1
All Vehicles			126	0.0	126	0.0	0.032	1.5	NA	0.0	0.2	0.04	0.16	0.04	58.0

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 [PM Peak (2037 Growth) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	6	0.0	6	0.0	0.029	5.5	LOS A	0.0	0.3	0.04	0.13	0.04	56.3
2	T1	All MCs	44	0.0	44	0.0	0.029	0.0	LOS A	0.0	0.3	0.04	0.13	0.04	58.7
3	R2	All MCs	5	0.0	5	0.0	0.029	5.8	LOS A	0.0	0.3	0.04	0.13	0.04	56.0
Approach			56	0.0	56	0.0	0.029	1.2	NA	0.0	0.3	0.04	0.13	0.04	58.2
NorthEast: Jenkins Court															
4	L2	All MCs	2	0.0	2	0.0	0.004	8.2	LOS A	0.0	0.1	0.18	0.90	0.18	51.2
5	T1	All MCs	1	0.0	1	0.0	0.004	8.2	LOS A	0.0	0.1	0.18	0.90	0.18	51.2
6	R2	All MCs	1	0.0	1	0.0	0.004	8.0	LOS A	0.0	0.1	0.18	0.90	0.18	51.0
Approach			4	0.0	4	0.0	0.004	8.2	LOS A	0.0	0.1	0.18	0.90	0.18	51.1
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	3	0.0	3	0.0	0.035	5.5	LOS A	0.0	0.1	0.01	0.04	0.01	57.2
8	T1	All MCs	63	0.0	63	0.0	0.035	0.0	LOS A	0.0	0.1	0.01	0.04	0.01	59.6
9	R2	All MCs	1	0.0	1	0.0	0.035	5.5	LOS A	0.0	0.1	0.01	0.04	0.01	56.8
Approach			67	0.0	67	0.0	0.035	0.3	NA	0.0	0.1	0.01	0.04	0.01	59.5
SouthWest: Courtney Drive															
10	L2	All MCs	3	0.0	3	0.0	0.010	8.2	LOS A	0.0	0.2	0.18	0.89	0.18	51.2
11	T1	All MCs	1	0.0	1	0.0	0.010	8.2	LOS A	0.0	0.2	0.18	0.89	0.18	51.2
12	R2	All MCs	6	0.0	6	0.0	0.010	8.1	LOS A	0.0	0.2	0.18	0.89	0.18	51.0
Approach			11	0.0	11	0.0	0.010	8.1	LOS A	0.0	0.2	0.18	0.89	0.18	51.1
All Vehicles			138	0.0	138	0.0	0.035	1.5	NA	0.0	0.3	0.04	0.17	0.04	57.9

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 [AM Peak (2027 Dev + Base) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	21	0.0	21	0.0	0.046	5.5	LOS A	0.0	0.1	0.02	0.16	0.02	56.1
2	T1	All MCs	64	3.0	64	3.0	0.046	0.0	LOS A	0.0	0.1	0.02	0.16	0.02	58.5
3	R2	All MCs	2	0.0	2	0.0	0.046	5.7	LOS A	0.0	0.1	0.02	0.16	0.02	55.8
Approach			87	2.2	87	2.2	0.046	1.5	NA	0.0	0.1	0.02	0.16	0.02	57.8
NorthEast: Jenkins Court															
4	L2	All MCs	5	0.0	5	0.0	0.008	8.3	LOS A	0.0	0.2	0.22	0.87	0.22	51.1
5	T1	All MCs	1	0.0	1	0.0	0.008	8.5	LOS A	0.0	0.2	0.22	0.87	0.22	51.1
6	R2	All MCs	2	0.0	2	0.0	0.008	8.4	LOS A	0.0	0.2	0.22	0.87	0.22	50.9
Approach			8	0.0	8	0.0	0.008	8.4	LOS A	0.0	0.2	0.22	0.87	0.22	51.0
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	1	0.0	1	0.0	0.055	5.5	LOS A	0.1	0.4	0.04	0.07	0.04	56.8
8	T1	All MCs	93	3.0	93	3.0	0.055	0.0	LOS A	0.1	0.4	0.04	0.07	0.04	59.3
9	R2	All MCs	9	0.0	9	0.0	0.055	5.9	LOS A	0.1	0.4	0.04	0.07	0.04	56.5
Approach			103	2.7	103	2.7	0.055	0.6	NA	0.1	0.4	0.04	0.07	0.04	59.0
SouthWest: Courtney Drive															
10	L2	All MCs	13	0.0	13	0.0	0.085	8.3	LOS A	0.3	2.1	0.27	0.89	0.27	51.0
11	T1	All MCs	1	0.0	1	0.0	0.085	8.6	LOS A	0.3	2.1	0.27	0.89	0.27	51.0
12	R2	All MCs	62	0.0	62	0.0	0.085	8.6	LOS A	0.3	2.1	0.27	0.89	0.27	50.8
Approach			76	0.0	76	0.0	0.085	8.5	LOS A	0.3	2.1	0.27	0.89	0.27	50.8
All Vehicles			275	1.7	275	1.7	0.085	3.3	NA	0.3	2.1	0.10	0.35	0.10	55.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [PM Peak (2027 Dev + Base) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	53	0.0	53	0.0	0.057	5.5	LOS A	0.0	0.3	0.02	0.31	0.02	54.9
2	T1	All MCs	51	0.0	51	0.0	0.057	0.0	LOS A	0.0	0.3	0.02	0.31	0.02	57.2
3	R2	All MCs	4	0.0	4	0.0	0.057	5.7	LOS A	0.0	0.3	0.02	0.31	0.02	54.6
Approach			107	0.0	107	0.0	0.057	2.9	NA	0.0	0.3	0.02	0.31	0.02	55.9
NorthEast: Jenkins Court															
4	L2	All MCs	2	0.0	2	0.0	0.004	8.3	LOS A	0.0	0.1	0.21	0.88	0.21	51.1
5	T1	All MCs	1	0.0	1	0.0	0.004	8.6	LOS A	0.0	0.1	0.21	0.88	0.21	51.1
6	R2	All MCs	1	0.0	1	0.0	0.004	8.3	LOS A	0.0	0.1	0.21	0.88	0.21	50.9
Approach			4	0.0	4	0.0	0.004	8.4	LOS A	0.0	0.1	0.21	0.88	0.21	51.1
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	3	0.0	3	0.0	0.054	5.5	LOS A	0.1	0.9	0.09	0.15	0.09	56.1
8	T1	All MCs	79	0.0	79	0.0	0.054	0.0	LOS A	0.1	0.9	0.09	0.15	0.09	58.5
9	R2	All MCs	19	0.0	19	0.0	0.054	6.1	LOS A	0.1	0.9	0.09	0.15	0.09	55.8
Approach			101	0.0	101	0.0	0.054	1.3	NA	0.1	0.9	0.09	0.15	0.09	57.9
SouthWest: Courtney Drive															
10	L2	All MCs	9	0.0	9	0.0	0.048	8.2	LOS A	0.2	1.2	0.23	0.88	0.23	51.1
11	T1	All MCs	1	0.0	1	0.0	0.048	8.5	LOS A	0.2	1.2	0.23	0.88	0.23	51.0
12	R2	All MCs	34	0.0	34	0.0	0.048	8.5	LOS A	0.2	1.2	0.23	0.88	0.23	50.8
Approach			44	0.0	44	0.0	0.048	8.4	LOS A	0.2	1.2	0.23	0.88	0.23	50.9
All Vehicles			257	0.0	257	0.0	0.057	3.3	NA	0.2	1.2	0.09	0.36	0.09	55.6

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 [AM Peak (2037 Dev + Base) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	21	0.0	21	0.0	0.048	5.5	LOS A	0.0	0.1	0.02	0.15	0.02	56.2
2	T1	All MCs	67	3.0	67	3.0	0.048	0.0	LOS A	0.0	0.1	0.02	0.15	0.02	58.5
3	R2	All MCs	2	0.0	2	0.0	0.048	5.7	LOS A	0.0	0.1	0.02	0.15	0.02	55.8
Approach			91	2.2	91	2.2	0.048	1.4	NA	0.0	0.1	0.02	0.15	0.02	57.9
NorthEast: Jenkins Court															
4	L2	All MCs	6	0.0	6	0.0	0.008	8.4	LOS A	0.0	0.2	0.22	0.87	0.22	51.1
5	T1	All MCs	1	0.0	1	0.0	0.008	8.6	LOS A	0.0	0.2	0.22	0.87	0.22	51.1
6	R2	All MCs	2	0.0	2	0.0	0.008	8.5	LOS A	0.0	0.2	0.22	0.87	0.22	50.8
Approach			9	0.0	9	0.0	0.008	8.4	LOS A	0.0	0.2	0.22	0.87	0.22	51.0
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	1	0.0	1	0.0	0.059	5.5	LOS A	0.1	0.4	0.04	0.07	0.04	56.9
8	T1	All MCs	100	3.0	100	3.0	0.059	0.0	LOS A	0.1	0.4	0.04	0.07	0.04	59.3
9	R2	All MCs	9	0.0	9	0.0	0.059	5.9	LOS A	0.1	0.4	0.04	0.07	0.04	56.5
Approach			111	2.7	111	2.7	0.059	0.6	NA	0.1	0.4	0.04	0.07	0.04	59.0
SouthWest: Courtney Drive															
10	L2	All MCs	13	0.0	13	0.0	0.086	8.3	LOS A	0.3	2.1	0.28	0.88	0.28	51.0
11	T1	All MCs	1	0.0	1	0.0	0.086	8.6	LOS A	0.3	2.1	0.28	0.88	0.28	51.0
12	R2	All MCs	62	0.0	62	0.0	0.086	8.7	LOS A	0.3	2.1	0.28	0.88	0.28	50.7
Approach			76	0.0	76	0.0	0.086	8.6	LOS A	0.3	2.1	0.28	0.88	0.28	50.8
All Vehicles			286	1.8	286	1.8	0.086	3.2	NA	0.3	2.1	0.10	0.34	0.10	56.0

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 [PM Peak (2037 Dev + Base) (Site Folder: Baileys Mountain Road / Courtney Drive)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Baileys Mountain Road South															
1	L2	All MCs	53	0.0	53	0.0	0.059	5.5	LOS A	0.0	0.3	0.03	0.31	0.03	54.9
2	T1	All MCs	54	0.0	54	0.0	0.059	0.0	LOS A	0.0	0.3	0.03	0.31	0.03	57.2
3	R2	All MCs	5	0.0	5	0.0	0.059	5.8	LOS A	0.0	0.3	0.03	0.31	0.03	54.6
Approach			112	0.0	112	0.0	0.059	2.9	NA	0.0	0.3	0.03	0.31	0.03	56.0
NorthEast: Jenkins Court															
4	L2	All MCs	2	0.0	2	0.0	0.004	8.3	LOS A	0.0	0.1	0.22	0.88	0.22	51.1
5	T1	All MCs	1	0.0	1	0.0	0.004	8.6	LOS A	0.0	0.1	0.22	0.88	0.22	51.1
6	R2	All MCs	1	0.0	1	0.0	0.004	8.4	LOS A	0.0	0.1	0.22	0.88	0.22	50.9
Approach			4	0.0	4	0.0	0.004	8.4	LOS A	0.0	0.1	0.22	0.88	0.22	51.0
NorthWest: Baileys Mountain Road North															
7	L2	All MCs	3	0.0	3	0.0	0.056	5.5	LOS A	0.1	0.9	0.09	0.15	0.09	56.1
8	T1	All MCs	83	0.0	83	0.0	0.056	0.0	LOS A	0.1	0.9	0.09	0.15	0.09	58.5
9	R2	All MCs	19	0.0	19	0.0	0.056	6.2	LOS A	0.1	0.9	0.09	0.15	0.09	55.8
Approach			105	0.0	105	0.0	0.056	1.3	NA	0.1	0.9	0.09	0.15	0.09	57.9
SouthWest: Courtney Drive															
10	L2	All MCs	9	0.0	9	0.0	0.050	8.2	LOS A	0.2	1.2	0.24	0.88	0.24	51.0
11	T1	All MCs	1	0.0	1	0.0	0.050	8.6	LOS A	0.2	1.2	0.24	0.88	0.24	51.0
12	R2	All MCs	35	0.0	35	0.0	0.050	8.6	LOS A	0.2	1.2	0.24	0.88	0.24	50.8
Approach			45	0.0	45	0.0	0.050	8.5	LOS A	0.2	1.2	0.24	0.88	0.24	50.8
All Vehicles			266	0.0	266	0.0	0.059	3.3	NA	0.2	1.2	0.09	0.35	0.09	55.7

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