Subject:	**Response to Transport Comments on Drury Metropolitan Centre Stage 2 (Fast Track)**	Ref: 25001
Noted By:	**Daryl Hughes**	26 August 2023

This memorandum responds to the key transport issues raised by New Zealand Transport Agency ("**NZTA**"), Auckland Transport ("**AT**") and Auckland Council's peer-reviewer ("**AC**") within the following documents:

- 'Drury Metropolitan Centre Fast Track' AC Specialist Memo, Annexure 3: AT, dated 11 August.
- 'Drury Metropolitan Centre Fast Track' AC Specialist Memo, Annexure 4: AC Trasport Planning, dated 11 August.
- Memorandum of NZTA on the Drury Metropolitan Centre Stage 1 and 2 Project, dated 11 August.

It also references the following previously submitted documents:

- The Drury Centre Stage 2 Fast Track ITA, dated 14 March 2025 ("**the ITA**").
- A post-lodgement modelling memo, dated 21 July 2025 ("**the 21 July Memo**").

1. Working from Home (WFH) adjustments to trip rates

Issue summary

AT and NZTA challenge the proposed WFH-related discounts (−8% residential, −1.5% retail). They cite an Auckland Forecasting Centre figure that ~39% of peak-period trips are work-related (from the AM peak) and argue that any WFH reduction should be applied only to the work-related share of peak travel—i.e., scaled down to roughly that proportion rather than applied to the full residential trip rate.

Where raised

- **NZTA: paras 3.3–3.4** (scope of discount and 39% commute share; request for sensitivity with land-use mix).
- **AT:** *Work From Home Trip Rates*, **paras 25–31** (concerns on method) and **paras 33–35** (recommendations).
- **AC:** Notes WFH effects should be addressed via conditions/sensitivity rather than headline discounts (un-numbered section).

Response

The points raised by AT and NZTA were reviewed, the additional Auckland Forecasting Centre (AFC) data (including the cited 39% work share) was considered, and further research analyses (including new local surveys) were undertaken. On that basis, it is maintained that the −8% residential and

−1.5% retail PM-peak adjustments adopted in the 21 July memo remain reasonable and conservative for Drury Centre (and applicable across the live-zoned Drury East precincts).

The key reasons for this are summarised below (each expanded in the subsections that follow) are:

- The "39%" work share raised by AT and NZTA is for the AM peak only and therefore does not relate to the key peak at Drury, which is PM-led.
- The 39% "work share" figure should not be used to reduce the WFH adjustment. Trip rates count all car trips in the peak hour. When people work from home, the commute trip does not happen, and other trips that day are more likely to occur outside the peak. The full 8% WFH reduction therefore acts as a reasonable proxy for fewer households showing up in the PM peak. Cutting it again by the 39% "work share" would count the same reduction twice.
- New Local evidence shows PM thinning. A new like-for-like Mellons Bay survey indicates a trip rate reduction of 4% AM and 16% PM since 2014, consistent with WFH/trip-chaining.
- The comparable emerging metropolitan centre of Albany indicates that the 8% is conservative.
- Retail is treated cautiously. A modest −1.5% "linked-trip" allowance is used despite a −2.2% current-inputs check appearing more realistic; Sylvia Park PM footfall per sqm is also down, with PM peak's weekly share slightly reduced.
- Very conservative internalisation inherent within the original SGA model remains, despite evidence that internalisation has been greatly underestimated, therefore any change to development mix will fall within that conservatism.
- Plan-change caps are unchanged. The 3,800/4,300 vph PM thresholds still govern; WFH only adjusts the mix within those fixed totals.
- Sensitivity testing confirms robustness. A precautionary stress test (−6% res / −1.5% retail) still yields ~3% of cap reductions; the Applicant's justifiable position (−8% / −1.5%) yields ~3.8%, both within the established trigger framework.

1.1 Drury's controlling peak is the PM, and the "39%" cited by reviewers is AM-only

The 39–40% "home-to-work" share that NZTA and AT raise is explicitly an AM peak figure provided by Auckland Forecasting Centre ("**AFC**", the jointly owned Authority that manages Auckland's Multi-Modal Strategic Model ("**MSM**")). However, Drury's critical constraint is the PM peak, when the Centre is most active and when residential "return-home" movements coincide with retail activity. Using an AM percentage to scale a PM-led assessment may misrepresent the proportion of peak car travel that is work-connected in the period that actually governs Drury's effects.

The WFH adjustment is applied as a simple proxy for reduced PM-peak presence. Trip rates measure all car trips occurring in the peak hour, not only work trips. However, when a household works from home, the commute by car does not occur, and any other trips are more discretionary and are therefore less likely to take place within the peak hour. On that basis, the full −8% residential adjustment has been applied to the PM trip rate. Applying the 39% "work-related" share to scale this down further would double-count the effect: the 8% already reflects fewer households appearing in the PM peak on WFH days, and the remaining discretionary trips are more likely to shift out of the peak. Accordingly, the use of the 39% work share to dilute the WFH adjustment is not accepted.

1.2 Congestion makes the PM peak more "work-heavy" than all-day averages suggest (mandatory vs discretionary)

At busy times, transport networks "self-regulate." Discretionary trips – such as shopping, leisure, some personal business – can and do avoid the worst hour (i.e. people leave earlier, go later, or avoid the trip), but work trips seldom have that flexibility. In Drury, where peak-hour delays are evident, this means the PM peak composition naturally skews toward work-connected travel, which is the main factor that relates to the WFH/hybrid reduction. Accordingly, the more congested the PM network gets, the larger the share of PM car traffic that is commute-related work trips (compared with the AM, interpeak or all-day average).

1.3 New residential trip rate data shows that the PM residential trip rate has thinned considerably since 2014

To ground the analysis in Auckland data, I have made use of research carried out in Mellons Bay in 2014 and compared those results with a replicated 2025 survey in the same location.

To that end, a new peak-hour cordon survey was replicated in Mellons Bay – a conventional, low-density residential suburb in east Auckland – using the same cordon and counting method first undertaken in 2014. The 2025 repeat found that AM per-household trips are down ~4%, while PM per-household trips are down ~16%. The below bullet points summarise what was done, the results, and how this important in the Drury context:

- Bleakhouse Road, north of its roundabout intersection with Macleans Road, is an effective cul-de-sac and is the only route for vehicles to access the wider network. There are various other roads that branch off this section of Bleakhouse Road, but these do not provide any other vehicular connection to the wider network. The land use along this section of Bleakhouse Road is all residential, predominantly single detached houses. There is no public transport connectivity along this section of Bleakhouse Road and there are few nearby amenities within walking distance. Hence this area is likely to have a high dependency on private vehicles.
- A survey was undertaken on Tuesday 26 August 2014 of this road near the roundabout intersection with MacLeans Road. A new survey was undertaken in the same location on Wednesday 13 August 2025 (7-9am and 4-6pm). Both days are considered to be typical weekdays free from effects of school/public holidays or any special events and a reasonable comparison can be made between the days in terms of how trips rates for residential activities have changed before and after COVID.
- In 2014, the land use was counted as 427 dwellings. It is noted that one property (215 Bleakhouse Road) is Foley Lodge Bible School. This is described as follows: *"The Lodge itself has grown from one large house and a small cottage to a sizeable community of 9 long term families who support the ministry, and other families and single people who are here to study."* Given that there are nine families residing in the lodge, it is considered to represent nine dwellings. Therefore, the number of dwellings served by Bleakhouse Road was taken as 436 units in 2014. In 2025, the number of dwellings has increased to 431, an increase of 4, with Fowey Lodge still considered as nine dwellings. The land use has therefore been taken as 440 dwellings.

- The table below summarises the results from the surveys and provides a comparison as the difference in trip rates with a negative number representing a reduction.

	2014	2025
Dwellings	436	440
AM Trips	374	364
AM Rate	0.86	0.83
Difference		**-4%**
PM Trips	374	317
PM Rate	0.86	0.72
Difference		**-16%**

- The table above establishes that there has been a 4% reduction in trip rate in the morning peak and a 16% reduction in the evening peak, an average reduction of 10%. The 2014 count was undertaken on a Tuesday compared to the 2025 count being undertaken on a Wednesday, and with traffic demands on a Wednesday tending to be higher than Tuesdays, the surveyed results and differences in trip rates are therefore considered to be robust.
- The results demonstrate that even in a car-oriented suburb with no on-site town-centre anchors, PM peak residential trip-making is notably lower than it was in 2014, while AM reduced slightly. This is as expected in a post-Covid, congested network: discretionary evening errands are often avoided, whereas work-connected movements mostly remain in the worst hour – and those are the movements that WFH/hybrid reduces.
- In the Drury context, if a stand-alone suburb like Mellons Bay shows a ~16% PM per-dwelling reduction over the period, then applying an 8% reduction to Drury's residential PM car demand (in a centre that also enables more internal walk/cycle and short on-site errands) is clearly reasonable and appropriate given the high level of conservatism involved. In fact, it could be justifiably argued that using the 16% PM residential trip rate reduction would be a simpler and more accurate method of applying the effect of the WFH travel pattern that has occurred post-covid.

1.4 Further analysis of changes to travel habits in a similarly situated emerging Metropolitan Centre indicates the 8% assumed is conservative

When considering comparable centres, Albany provides a particularly relevant reference point. Like Drury, Albany is identified as an emerging metropolitan centre under the Auckland Unitary Plan hierarchy. Despite its metropolitan zoning status, Albany is still relatively new in terms of its urban development maturity, with significant land supply yet to be built out and much of its surrounding catchment still in transition from greenfield to urban form.

The census evidence demonstrates that in the five-year period between 2018 and 2023, Albany experienced a marked increase in WFH activity, rising from 9% to 20% of its resident workforce. This represents an 11% increase, showing that even in a developing centre with significant commuting flows to the city centre and wider region, WFH uptake has accelerated rapidly as the urban structure has evolved and the pandemic has reshaped work patterns.

The Albany experience is instructive for Drury. Both centres are positioned as new metropolitan-scale nodes with substantial planned growth in residential, commercial, and employment activity. The fact that Albany has already demonstrated such a rapid increase in WFH reinforces the argument that assuming only 8% WFH for Drury is a conservative approach. Given that Drury is at an even earlier stage of its development pathway, it is reasonable to expect that its WFH levels could follow or exceed the Albany trajectory as the centre matures and as hybrid working consolidates as a long-term trend across Auckland.

1.5 Retail is discounted very cautiously (−1.5% is a conservative "linked-trip" allowance)

The analysis presented in the 21 July memo did not apply the full 8% WFH reduction to retail trips because WFH primarily affects commute frequency, not intrinsic shopping demand. Instead, only one specific mechanism was recognised, that of fewer commute days leading to fewer "on-the-way-home" shopping trips in the PM peak. To reflect that linked-trip suppression, a small −1.5% reduction was applied to retail PM trips.

This is considered a conservative assumption for two reasons:

- A simple proportional test says that if ~27% of daily household trips are for retail/entertainment purposes, then scaling the current 8% WFH effect (described in detail within the 21 July memo) by that purpose share gives ~2.2% (0.08 × 0.27). That was deliberately kept at −1.5% to sit well below that evidence-based value.
- Many short on-site shopping movements in a metropolitan centre will be walk, cycle, or very short vehicle hops that never touch the surrounding arterial network. By keeping the vehicle retail adjustment to −1.5%, the commute-link mechanism was acknowledged whilst avoiding any overstatement of the effects.

As wider context (and not inherent within the 1.5% retail WFH figure), recent e-commerce growth in New Zealand suggests a structural shift away from some in-person shopping trips, and the Mellons Bay repeat survey described above (2014 vs 2025) shows PM per-household trips down ~16% in a typical suburban area while AM changed little. Both directions of evidence support the idea that PM retail-timed movements have thinned since pre-Covid. This does not constitute double-counting in the model (as internalisation and pass-by treatments already sit elsewhere); they simply reinforce why treating retail conservatively at −1.5% is reasonable, and why a −2.2% "current inputs" sensitivity would also be robust.

To further explore this aspect, pedestrian footfall numbers entering Sylvia Park were compared between a 2014 base and 2025. Unfortunately, the survey numbers are commercially sensitive so cannot be shared in this document, however, it can be reported that the number of people entering the shopping centre during the 4-6pm peak period in 2014 was 10.2 people per sqm of GFA. That reduced to 6.76 people per sqm GFA in 2025, a reduction of a 33.7%. It is noted that the GFA of the centre increased during that time, which was taken into account in the calculations. This strong trend indicates a gradual reduction of on-site PM footfall consistent with post-Covid behaviour and ongoing e-commerce substitution. While footfall is not a direct comparison of vehicle trips (because it includes all travel modes and internal walk-ups), the direction and magnitude of the trend

supports the view that PM retail arrivals per unit of floorspace are under downward pressure. Against that backdrop, the −1.5% "linked-trip" retail adjustment (reflecting fewer on-the-way-home stops on WFH days) is clearly conservative.

The PM peak's share of weekly visitors at Sylvia Park was also compared. In 2014, the weekday 5–6 pm peak hour represented 5.7% of total weekly entries; in 2025 this was 5.5%, a 0.2% reduction (≈3.5% relative reduction). Taken with the 33.7% reduction in PM footfall per sqm over the same period, this indicates a smaller and slightly flatter PM peak. That pattern is consistent with work-from-home and trip-chaining changes (fewer "on-the-way-home" stops) and e-commerce trip replacement. Given this data, the proposed −1.5% PM retail adjustment remains conservative, and even the −2.2% sensitivity would also be reasonable.

Overall, the 1.5% reduction in retail trip rate is considered very conservative given the evidence provided to support it.

1.6 The Plan-Change trip generation thresholds remain fixed, therefore the WFH adjustment only changes the mix within those thresholds

To avoid remodelling, and recognising the significant work undertaken at plan change, the threshold trip generations at each infrastructure upgrade stage have been retained (with the exception of the single test required as a result of changes to infrastructure upgrade timing). The 3,800vph and 4,300vph Drury East (PM) thresholds that underpin staging do not change. The WFH adjustments simply reduce the residential car proportion that contributes to those totals. That means the proposed consent still sits within the exact same peak-hour thresholds tested and activated by the Plan Change. This exercise is merely documenting how today's travel behaviour spreads across the existing, fixed totals.

1.7 Sensitivity testing

The 21 July memo presented the proposed 8% residential and 1.5% retail trip rate discounts in terms of actual vehicle generation for the 3,800 / 4,300 vph thresholds. A precautionary stress test was carried out to quantify the changes to trip generation should an even more conservative residential WFH percentage of 6% be adopted. The results are set out below:

- **Current justifiable position (–8% res / –1.5% retail):**
  - Row (c) 3,800vph: reduction of **~143 vph**, i.e. **~3.8%** of the threshold.
  - Row (d) 4,300vph: reduction of **~162 vph**, i.e. **~3.9%** of the threshold.
- **Precautionary stress test (–6% res / –1.5% retail):**
  - Row (c) 3,800vph: reduction of **~117 vph**, i.e. **~3.1%** of the threshold.
  - Row (d) 4,300vph: reduction of **~131 vph**, i.e. **~3.0%** of the threshold.

The magnitude of change under either basis is modest, in the order of ~3–4% of the threshold, and entirely within the established trigger framework. It demonstrates that the current justifiable settings are appropriate and that even a tighter, precautionary set still yields a material PM reduction that recognises post-Covid travel habits.

1.8 Summary

Overall, given the further data presented it is maintained that the appropriate PM peak hour trip rate reductions are justifiably 8% residential and 1.5% retail. The analysis undertaken in the 21 July memo and the resulting Infrastructure / Development Threshold Table remains appropriate and conservative for Drury in 2025.

2. Land-use mix and internalisation

Issue summary

AT and NZTA have concerns as to whether the early predominance of retail may reduce assumed internal trip capture versus the Plan Change modelling basis.

Where raised

- **NZTA: paras 3.5–3.7** (internal trips and sensitivity with higher retail), **paras 3.8–3.9** (deferral of community activities).
- **AT:** *Trip Generation Assumptions* **paras 36–41** (higher retail share; internalisation), with recommendations following that section.
- **AC:** Seeks alignment to precinct-level internalisation assumptions and/or conditions tying mix to thresholds (un-numbered analysis section).

Response

Internalisation is the share of trips that begin and end within Drury East, so they don't load the wider road network. The Supporting Growth Appliance ("**SGA**") traffic modelling – that was adopted by Stantec in the Plan Change modelling and resulting plan change ITA and all subsequent assessments – set the vehicle internalisation at a very low 6% in the early years, rising to 12% as the centre matures. That choice was made even though a large slice of person trips inside a metropolitan centre are expected to be on foot or bike, and therefore not counted as internal vehicle trips. Accordingly, the Plan Change modelling set a very conservative baseline that tends to over-export traffic to the external network.

The NZTA and AT memos express concern that the updated staging (more retail up front; some community and commercial deferred; a small adjustment to dwellings) could reduce internalisation and result in an increase of external trips. That is not the case. The PM peak is the critical period for Drury Centre, and the land-use pairing that most strongly drives internal vehicle trips in the PM is residential to/from retail (supermarket/LFR). That combination is retained and strengthened in the early stages. International practice and observed studies show that mixed-use centres produce PM internalisation well above single digits, with the residential to/from retail combination the most critical. Against that evidence, keeping 6–12% for Drury's PM-peak vehicle internalisation remains on the very conservative side, even with the development mix changes now proposed.

In summary, the concern that the updated mix erodes internalisation is not supported by the evidence on how mixed-use centres actually function in the PM. The dominant PM pairing (residential to/from retail) remains in place, and the 6–12% internal vehicle used in the modelling is very low compared to observed PM outcomes. Consequently, the model already sits within a

healthy margin of conservatism and comfortably accommodates the modest staging refinements now proposed.

3. SH1 Direct Connection (SH1DC) timing

Issue Summary
AT and NZTA seek justification to delay the timing of the Stage Highway 1 Direct Connection ("**SH1DC**") by one additional row, beyond that already consented.

Where raised

- **AT memo**: paras 3, 47-54 (effects of deferring provision of the SH1DC), including the assertion in paras 52 and 54 that 7,000vpd would be accommodated by the SH1DC).
- **NZTA memo:** paras 3.10–3.12 (evidence request; DIFF says needed short and long term).

Response:
Background
The Drury Centre Precinct Thresholds for Subdivision and Development tables and Precinct Provisions require the provision of the SH1DC within row (c), at a trip generation threshold of 2,500vph. The Threshold table is provided as Table 9 of the ITA, provided below for ease of reference:

TABLE 9: PLAN CHANGE TRIGGER TABLE

Row	Transport Infrastructure	Level of Development enabled by Transport Infrastructure				
		Residential (Dwellings)	Retail (GFA)	Commercial (GFA)	Community (GFA)	Drury East Peak Hr Trip Gen
(a)	Interim Waihoehoe Road upgrade, incl interim signals at GSR / Waihoehoe Intersection	Up to 710 units	-	-	-	Up to 400 trips
(b)	SH1 Six-laning Papakura to Drury	710 to 1,300 units	Up to 24,000sqm	up to 6,400sqm	Up to 800sqm	400 to 2,000 trips
(c)	SH1 direct connection Drury Central Rail Station	1,300 to 1,800 units	24,000 to 32,000sqm	6,400 to 8,700sqm	800 to 1,000sqm	2,000 to 2,500 trips
(d)	Waihoehoe Road RoRS upgrade incl full GSR/Waihoehoe signalisation	1,800 to 3,300 units	32,000 to 56,000sqm	8,700 to 17,900sqm	1,000 to 2,000sqm	2,500 to 3,800 trips
(e)	Mill Road southern connection (Fitzgerald to SH1 (incl. Drury South Interchange)	3,300 to 3,800 units	56,000 to 64,000sqm	17,900 to 21,000sqm	2,000 to 2,400sqm	3,800 to 4,300 trips
(f)	Mill Road northern connection Opaheke northern link	3,800 to 5,800 units	64,000 to 97,000sqm	21,000 to 47,000sqm	2,400 to 10,000sqm	4,300 to 5,600 trips

Stage 1 Covid-19 Fast Track
The initial Stage 1 of the Drury Centre development was consented through the Covid-19 Recovery (Fast Track Consenting) Act 2020, supported by a Stantec ITA dated 23 November 2022 ("**the Nov 2022 ITA**"). That consent sought 24,000sqm GFA of retail alongside 13 residential superlots (but no actual dwellings) within Drury Centre precinct, but also assessed the effect of 605 dwellings that were being sought in adjacent Drury East precincts (because the development thresholds relate to all Drury East precinct activity). The traffic modelling utilised the same traffic model used for the

Plan Change (i.e., that initially created by SGA). Section 5 (Traffic Effects) of the Nov 2022 ITA describes the test that was undertaken to support the developments:

> *"…to ensure a robust analysis, the SATURN model was updated to reflect the yields and infrastructure assumptions within Row 3 (1,800 households residential, 32,000sqm GFA retail etc),* ***although the SH1 direct connection to the metropolitan centre was not included in that test****. As per the Plan Change modelling methodology, key intersections within Drury East and the surrounding area were modelled in Sidra utilising the traffic volumes from the SATURN model.*
> *The results of the modelling showed that all intersections performed satisfactorily and within the Network Capacity Criteria as outlined in Section 5.2 and therefore the proposed network is adequate to cater for the proposed Fast-Track development across the three sites."*

Therefore, as per the Thresholds for Subdivision and Development table, the infrastructure required to enable the 24,000sqm of retail and 605 dwellings in other neighbouring precincts were:

- The interim upgrades to Waihoehoe Road and its intersections;
- The SH1 six-laning; and
- The Drury Centre Rail Station.

The SH1DChad been assessed within the Nov 2022 ITA as not being required. Through the Covid-19 Fast Track process that involved several rounds of consultation with AC and AT, the consent was subsequently granted.

<u>Stage 1 subsequent resource consent</u>

A second Drury Centre Stage 1 consent (through a conventional AC consent application) for an additional 8,000sqm GFA of retail was subsequently lodged, with a supporting ITA dated 26 May 2023 ("**the May 2023 ITA**"). Using the same traffic model as previous applications, Section 4 (Traffic Effects) of the May 2023 ITA discusses the modelling methodology and results:

> *"****The SH1 direct connection*** *would require a separate resource consent application and Kiwi are currently working with Waka Kotahi to design this connection and lodge for resource consent thereafter.* ***As that upgrade is not yet confirmed, the traffic modelling was re-run to consider the network performance should that upgrade not be provided****.* ***Further, as there is currently no proposal to provide the commercial or community and uses permitted within line 3 of table 3, the model rerun also removed those development yields.***
> *This modelling rerun established that without the SH1 direct connection upgrade or any commercial or community land uses, the transport network could support a total yield of 35,000sqm GFA retail and 1,800 residential units.*
> *For the purposes of the Drury Centre Fast-Track consent, the modelling scenario presented in the FT ITA was for 32,000sqm GFA retail and 1,800 residential households (with the Drury Central Station but without the SH1 Direct connection). The FT ITA established that all intersections performed satisfactorily and therefore the proposed network is adequate to cater for the proposed Fast-Track developments across the three sites with the infrastructure proposed.*
> *As the current proposal adds 8,000sqm GFA retail to the Fast-Track GFA of 24,000sqm bringing the total retail yield up to 32,000sqm GFA, the traffic modelling results presented in the FT ITA therefore remain valid and do not need to be updated in this report. As such, it can be concluded that the proposal can be accommodated within the surrounding transport network (with the network performance being no worse than the Network Capacity Criteria described above), assuming that the necessary infrastructure is in place."*

Therefore, the May 2023 ITA modelled the effect of the full 32,000sqm GFA of retail alongside 1,800 dwellings within Drury East in the absence of the SH1DC and the commercial and community activities. Again, this conventional AC consent process involved several rounds of consultation with AC and AT, and the consent was subsequently granted.

Both of these granted consents successfully assessed and demonstrated that the SH1DC was not required at its previous threshold row (row (c) of Table 9 of the ITA shown above), and effectively pushed the upgrade into the next threshold row (row (d)), alongside the Ultimate Upgrade of Waihoehoe Road.

Further testing due to infrastructure timing changes

For the subject consent, traffic modelling was also carried out – prior to any adjustments to account for WFH effects or changes to development mix being made – to assess the effect of recent changes to the timing of proposed infrastructure upgrades, being the delay to the SH1 six-laning upgrade and the early implementation of the Ultimate Waihoehoe Upgrade.

As discussed within Section 5.3 of the ITA, this traffic modelling established a new threshold of 2,000vph for the network once the Ultimate Waihoehoe Road Upgrade is in place, but without the SH1 six-laning or the SH1DC, and the Sidra output for that test was provided as Appendix A to the ITA. To add further context to these results, the PM Sidra output is provided below, with some notes to explain the inputs and outputs.

MOVEMENT SUMMARY

Site: B0-40_PM [Signalized - PT Offset 10% - Background 0% - Drury (40%) (Site Folder: PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

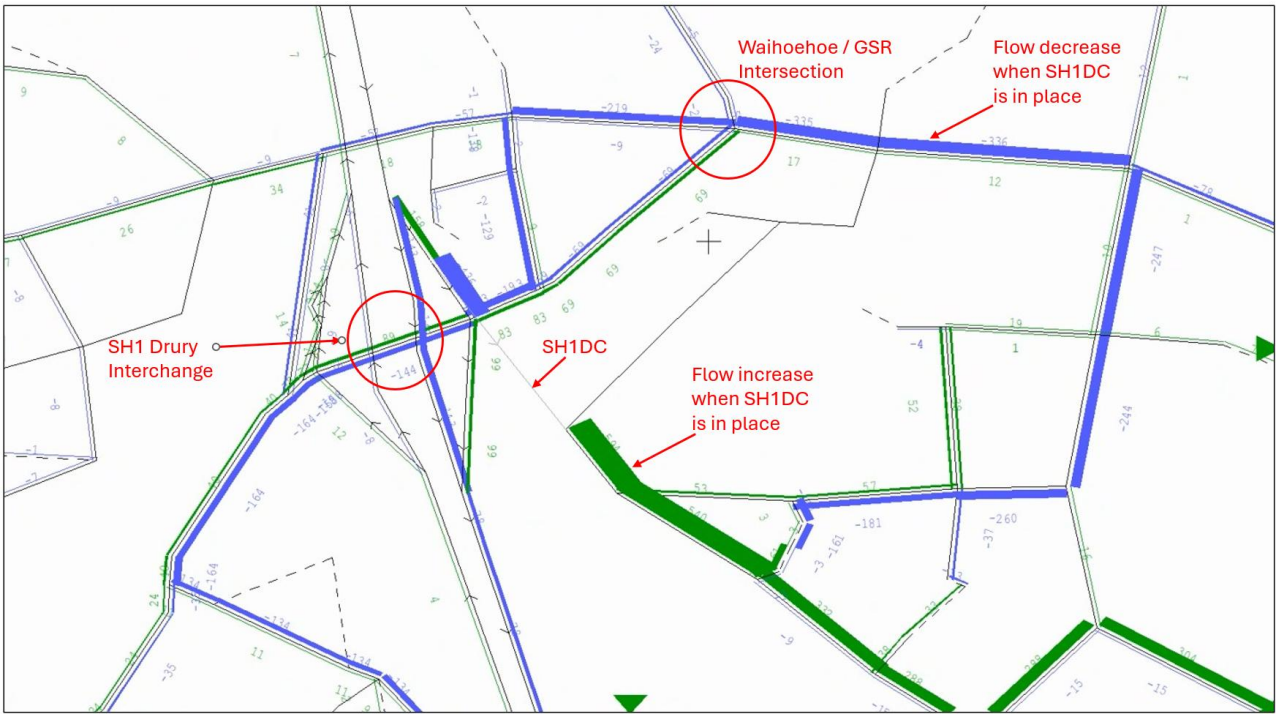
Signalized - PT Offset 10% - Background 0% - Drury (40%)
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Great South Rd															
1	L2	All MCs	23	9.1	23	9.1	0.150	38.2	LOS D	2.3	17.9	0.72	0.62	0.72	32.6
2	T1	All MCs	317	10.6	317	10.6	0.445	48.3	LOS D	6.6	50.6	0.79	0.67	0.79	35.3
3	R2	All MCs	124	11.0	124	11.0	0.759	67.1	LOS E	4.7	36.1	1.00	0.91	1.17	26.0
Approach			464	10.7	464	10.7	0.759	52.8	LOS D	6.6	50.6	0.84	0.73	0.89	32.1
East: Waihoehoe Rd															
4	L2	All MCs	300	6.7	300	6.7	*1.284	175.9	LOS F	33.4	240.9	0.92	1.43	1.80	14.5
5	T1	All MCs	239	1.8	239	1.8	1.284	325.4	LOS F	33.4	240.9	1.00	2.12	2.81	7.8
6	R2	All MCs	408	4.9	408	4.9	0.950	74.0	LOS E	13.8	100.8	0.98	1.03	1.29	24.8
Approach			947	4.7	947	4.7	1.284	169.7	LOS F	33.4	240.9	0.97	1.43	1.84	14.5
North: Great South Rd															
7	L2	All MCs	467	5.4	467	5.4	0.522	61.6	LOS E	6.3	46.4	0.74	0.78	0.74	40.0
8	T1	All MCs	752	6.4	752	6.4	*1.295	350.0	LOS F	66.6	491.7	1.00	2.40	2.81	9.4
9	R2	All MCs	196	6.5	196	6.5	1.195	282.5	LOS F	14.7	108.9	1.00	1.64	2.50	9.5
Approach			1415	6.1	1415	6.1	1.295	245.4	LOS F	66.6	491.7	0.91	1.76	2.08	12.7
West: Norrie Rd															
10	L2	All MCs	344	4.9	344	4.9	0.964	115.5	LOS F	11.8	86.3	1.00	1.25	1.45	23.1
11	T1	All MCs	278	1.9	278	1.9	*1.261	326.0	LOS F	25.3	179.6	1.00	2.12	2.74	8.2
12	R2	All MCs	22	0.0	22	0.0	1.261	330.5	LOS F	25.3	179.6	1.00	2.12	2.74	8.2
Approach			644	3.4	644	3.4	1.261	213.7	LOS F	25.3	179.6	1.00	1.65	2.05	12.5
All Vehicles			3471	5.8	3471	5.8	1.295	193.1	LOS F	66.6	491.7	0.93	1.51	1.85	14.4

Notes:

- The green circle shows the average queue length on Waihoehoe Road as 241m, which is within the 245m threshold to the Kath Henry Lane / Rail Station intersection, as per the required network capacity criteria. This represents a “pass” condition to the test.
- The red circles show the incoming traffic flows into Drury East from the south, north and west approaches to the intersection. Because the SH1DC is not in place in this scenario, some of the incoming traffic that it would have accommodated diverts onto those three movements, ensuring that all three are greater than would be the case if the SH1DC had been in place.
- It would be logical to assume that the Great South Road southern approach’s right turn into Waihoehoe would carry the significant burden of this extra traffic flow, however, as seen in the image below (showing the difference in traffic flows *with* the SH1 direct connection compared to *without*), the Saturn model diverts these trips throughout the network and in all directions, including: a diversion to the west through Firth Street and Norrie Road; to the south via SH1 Ramarama Interchange; and to the west via SH22, GSR (west), Quarry Road and Drury South:

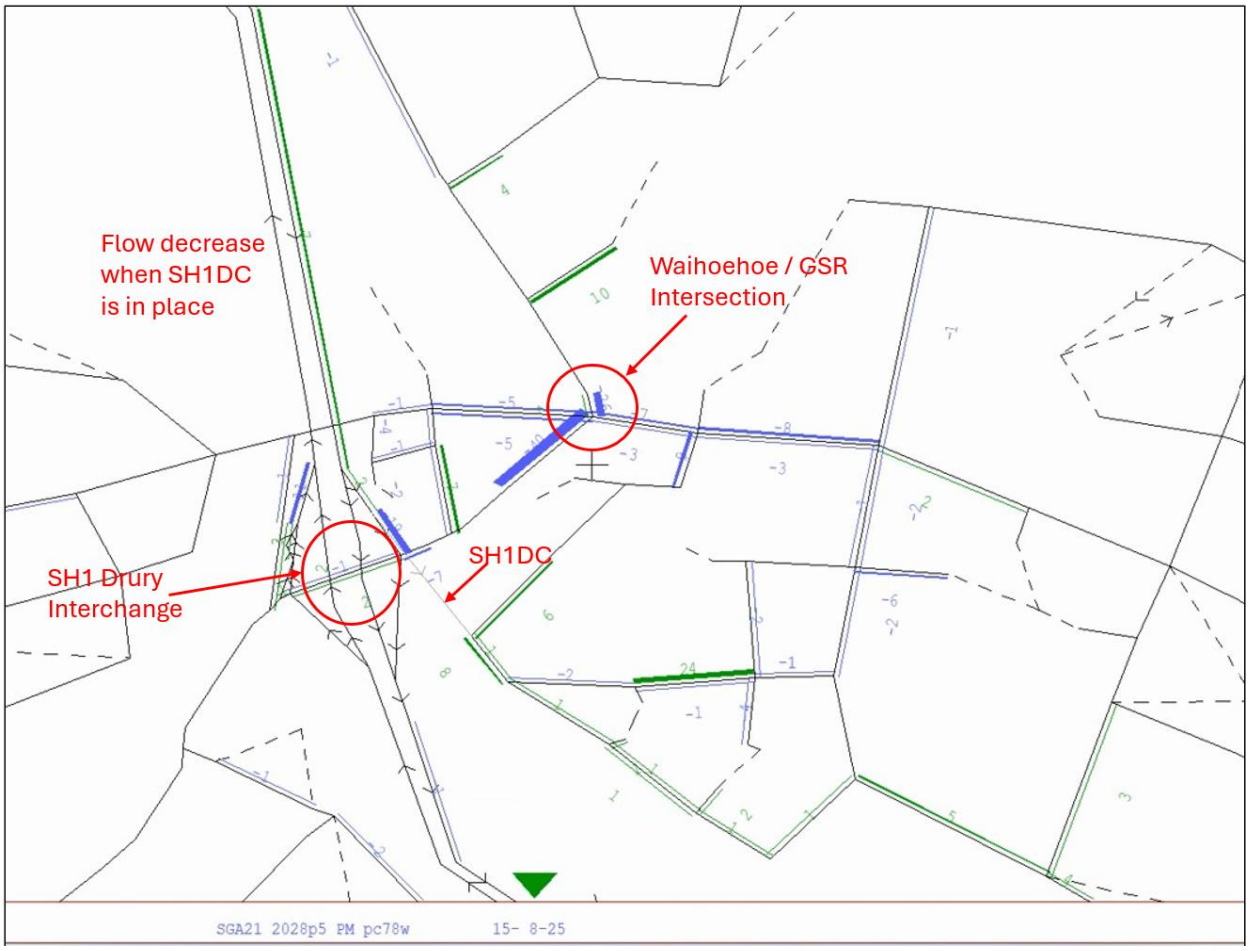


Saturn Output: Difference in flows when SH1DC is added (green=increase; blue=decrease)

- Accordingly, despite the redistributed traffic flows throughout the network when the SH1DC is not provided, the intersection works satisfactorily and a "pass" condition is achieved, demonstrating that the SH1DC is not required at this threshold stage.
- Also of note, the above image shows that the SH1DC would accommodate approx. 600vph (594 on the image, partially obscured by the green bandwidth line). That equates to approx. 6,000 vehicles per day (vpd), which broadly aligns with AT's assertion that the SH1DC would carry around 7,000vpd[1]. However, AT's assumption that this traffic flow would instead travel along Great South Road and Waihoehoe Road[2] is not realised in the modelling. As described above, the Saturn model distributes the traffic flows widely across the model, which minimises the direct effects on Waihoehoe Road.

Concerns have also been raised by AT about the performance of other intersections in the network without the SH1DC in place. The below image shows another Saturn output that shows the difference in delays *with* the SH1DC, compared to *without*:

[1] AT memo Para 52: *"A table with traffic volumes on roads within and without the Direct Connection indicated it would carry around 7,000 trips per day of southbound traffic from the southern motorway"*
[2] AT memo Para 54: *"Circa 7,000 trips per day being redistributed to Great South Road and Waihoehoe Road and respective intersections such as Kath Henry Lane and Fitzgerald Road which would have otherwise been captured by the SH1 off ramp."*



Saturn output: Difference in delays when SH1DC is added (green=increase; blue=decrease)

The image shows that:

- Most of the relatively minor decreases in delays that the SH1DC enables are at the GSR / Waihoehoe Road intersection, primarily on the southern (northbound) approach. That explains why the previous Saturn "flow difference" image shows the Firth Street, Norrie Road diversion as so attractive, as the model is diverting traffic to avoid the northbound queue to the intersection that is evident without the SH1DC.
- Despite the minor decreases in delay that the SH1DC supports, the intersection still performs adequately without it, as demonstrated in the Sidra output provided earlier. One reason for this is that the changes to delays are relatively minor, and also that the additional incoming traffic flows (shown in the red circles on the Sidra output image above) are not travelling in the critical direction for the PM peak – i.e., westbound along Waihoehoe Road, exiting Drury East.
- As expected, there are no significant additional delays observed anywhere else in the surrounding network.

<u>3,800 Threshold Test</u>

A similar modelling test was carried out to assess if the SH1DC is required at the next infrastructure threshold level, i.e., the threshold of 3,800vph, assuming that the SH1 six-laning and Waihoehoe

Road Ultimate upgrade are both in place (as per row(d) of the Plan Change threshold table shown above), but the SH1DC is not provided.

The Sidra output table below shows the intersection performance, with notes provided underneath:

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver Speed km/h
South: Great South Rd															
1	L2	All MCs	23	9.1	23	9.1	0.21	44.6	LOS D	3	23	0.81	0.67	0.81	30.2
2	T1	All MCs	276	8.2	276	8.2	0.34	36.2	LOS D	5.3	40	0.83	0.69	0.83	33.6
3	R2	All MCs	185	9.5	185	9.5	* 1.024	116.7	LOS F	9.6	73	1	1.29	1.77	19.2
	Approach		484	8.7	484	8.7	1.024	67.3	LOS E	9.6	73	0.89	0.91	1.19	26
East: Waihoehoe Rd															
4	L2	All MCs	504	4.3	504	4.3	0.704	38.1	LOS D	15.2	110	0.91	0.85	0.91	32.3
5	T1	All MCs	362	6	362	6	0.797	50.3	LOS D	12.9	95	1	0.93	1.09	27.1
6	R2	All MCs	737	5.7	737	5.7	* 1.082	119.3	LOS F	27.7	203	0.98	1.19	1.53	19.6
	Approach		1603	5.3	1603	5.3	1.082	78.2	LOS E	27.7	203	0.96	1.03	1.23	23.5
North: Great South Rd															
7	L2	All MCs	638	5.5	638	5.5	0.725	27.5	LOS C	11.5	85	0.86	0.95	0.86	38.8
8	T1	All MCs	515	7.8	515	7.8	* 1.093	162.7	LOS F	32.3	241	1	1.73	1.93	16.2
9	R2	All MCs	146	7.7	146	7.7	0.803	75.4	LOS E	5.6	42	1	0.94	1.21	23.1
	Approach		1300	6.7	1300	6.7	1.093	86.5	LOS F	32.3	241	0.93	1.26	1.32	22.5
West: Norrie Rd															
10	L2	All MCs	311	4.6	311	4.6	0.743	44.6	LOS D	5.8	42	0.99	0.9	1.03	32.3
11	T1	All MCs	295	4.2	295	4.2	* 1.085	167.3	LOS F	17.9	130	1	1.59	1.97	13.9
12	R2	All MCs	21	0	21	0	0.061	61	LOS E	0.6	4	0.86	0.69	0.86	27
	Approach		627	4.3	627	4.3	1.085	102.9	LOS F	17.9	130	0.99	1.22	1.47	18.2
All Vehicles			4013	6	4013	6	1.093	83.4	LOS F	32.3	241	0.95	1.12	1.29	22.6

Sidra output for 3,800vph threshold, without SH1DC (Waihoehoe Road avg Q <245m shown)

Notes:

- The green circle shows the average queue length on Waihoehoe Road as 203m, which is within the 245m threshold to the Kath Henry Lane / Rail Station intersection, as per the required network capacity criteria. This represents a “pass” condition to the test.
- The red circles show the incoming traffic flows into Drury East from the south, north and west approaches to the intersection. A discussed earlier, because the SH1DC is not in place in this scenario, the Saturn model diverts traffic throughout the local network, including away from this intersection. Some of the incoming traffic that the SH1DC would have accommodated is redistributed onto those three movements, ensuring that all three are greater than would be the case if the SH1DC had been in place. However, despite those redistributed flows, the intersection (and all others within the local network) works satisfactorily, and the “pass” condition is achieved.

As outlined above, despite the minor changes in flow directionality resulting from the SH1DC not being provided at the 3,800vph trigger threshold, the wide-ranging traffic redistribution that occurs in the Saturn model ensures that the intersection performs within the network capacity criteria.

Accordingly, to address the concerns of AT and NZTA over the proposed delay to the provision of the SH1DC by one row within the Threshold / trigger table, it is confirmed that without the SH1DC, the intersection will operate satisfactorily at the 3,800vph trigger threshold.

4. Potential "high trip-attractor" retail and trip-rate robustness

Issue Summary
AT and NZTA have concerns that a potential "high trip attractor" retail tenant would affect trip rates and resulting trigger thresholds

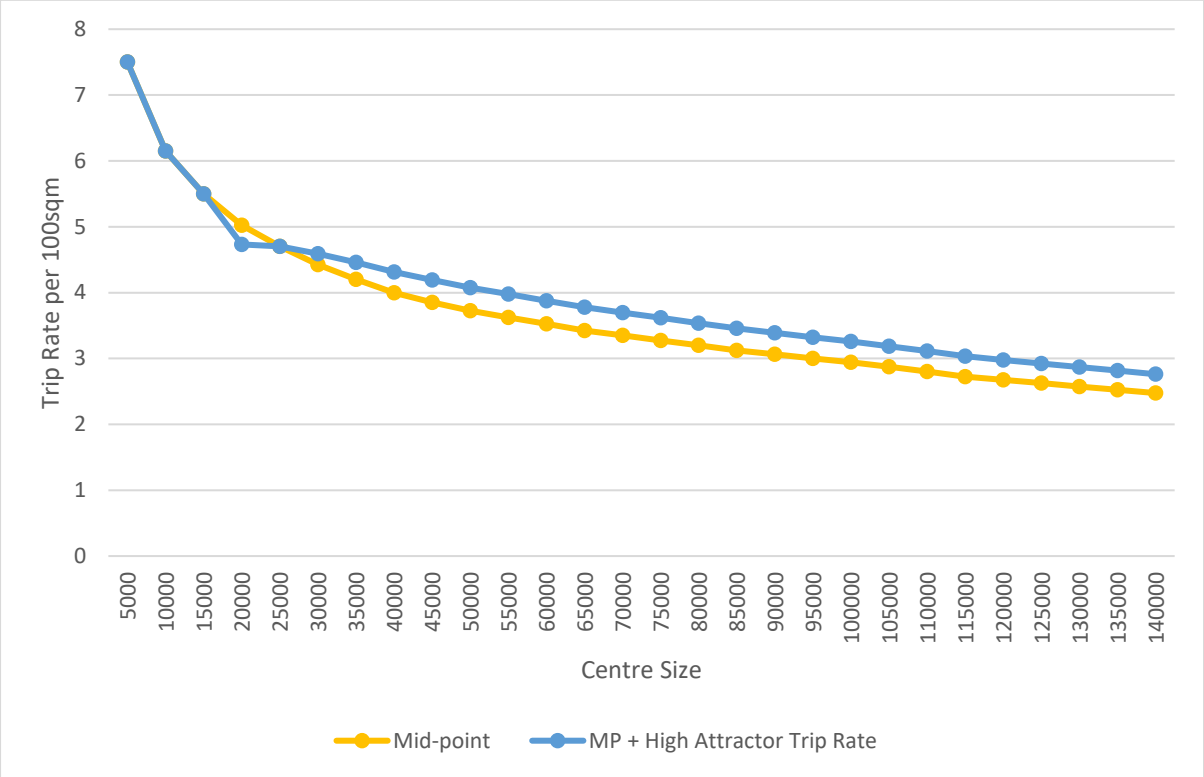
Where raised

- **AT memo:** paras 37–41 (variability for LFR and potential weekend/PM impacts), para 55 (risk of high-attractor retail drawing wider catchment beyond standard rates).

Response
Retail trip rates in the plan change and subsequent consent ITAs followed the SGA methodology that used the average of Sylvia Park survey rates and Institute of Transportation Engineers ("**ITE**") Shopping Centre rates, which already embed a conservative cushion for destination-style retail. That approach, and the decreasing-rate-with-size relationship were uncontested in the plan-change process and the subsequent granted consents.

However, in preparing the ITA – and revising the trigger thresholds to reflect changes to WFH and development mix – a high-attractor, large-format retail component was explicitly safeguarded by reserving its estimated GFA at a higher trip-rate. This trip rate used for this purpose was 4.7 trips per 100sqm GFA, which is consistent with the precedent assessment used for an example store, the Costco at Westgate. The SGA methodology was therefore altered to account for an 18,000sqm high-attractor store within the Drury Centre precinct.

The below graph shows the SGA shopping centre trip rates (the mid-point between Sylvia Park and ITE rates) in orange, and the changed trip rates that the assumed 18,000sqm GFA high-attractor would bring in blue:



This demonstrates that a high attractor has already been taken into account within the trip rate calculations within the ITA and the subsequent 21 July memo, which in turn has raised overall retail trip rates and therefore restrained the amount of other retail that could be accommodated at each of the trigger thresholds (remembering that the trip generation thresholds for each row remain fixed to maintain the integrity of the modelling results).

5. Inter-peak and public transport delay concerns

Issue summary

AT and NZTA are concerned that the inter-peaks are affected by recent changes to WFH methodology or changes to development mix.

Where raised

- **AT memo: para 53** (risk of affecting bus efficiency and inter-peak LOS), **para 54** (effects of deferring the Direct Connection and redistribution to Waihoehoe/Kath Henry/Fitzgerald), **para 55** (need for a conservative approach given potential for high-draw retail).
- **NZTA memo: para 3.3–3.4** (inter-peak trips by WFH households and need for sensitivity alongside land-use mix).

Response

The trigger framework used is unchanged from the plan-change base work. The hourly network thresholds in the Drury East trigger table remain fixed, and only the mix of land uses and applied WFH adjustments within those fixed peak-hour caps have been altered. That means the "tipping-point" volumes and performances that govern when upgrades are required are the same as in the

original modelling. This is described in the 21 July memo: rows (c)–(f) retain their original peak-hour vph thresholds, with only the composition of land uses updated, and the 2,000 vph Waihoehoe "ultimate-only" cap is explicitly retained.

AT's concern is that inter-peak congestion and PT delay could arise if the Direct Connection is later than anticipated and more traffic redistributes to Waihoehoe/Kath Henry/Fitzgerald. It is noted that this risk was already anticipated in the plan-change structure. The triggers intentionally limit peak-hour generation so that key intersections operate within the network capacity criteria until the next upgrade milestone. The ITA does not increase those hourly triggers, and the analysis continues to focus the decision points on the same thresholds. It is noted that in the various ITAs prepared for the plan change and subsequent consents, sidras summaries demonstrate that at the pass/fail point where each trigger is established that the inter-peak LOS remains no worse than LOS D. As the trip rate thresholds and network capacity criteria is retained in all assessments, those results are valid for every assessment iteration.

The potential delays to buses were an important topic during the Plan Change appeal process. At that time all parties involved in that process agreed that the introduction of bus lanes to both the interim and ultimate Waihoehoe Road upgrades would enable a level of bus reliability along the key network link regardless of any congestion that may occur. Addressing the bus performance in this manner was accepted at Plan Change and subsequent consents, and therefore as the trip rate thresholds are retained and the network performances will achieve the same network capacity criteria, then bus performance remains the same in the subject consent.

6. Weekend Testing

Issue Summary
AT questions if weekend traffic modelling testing is required to stress test the network.

Where raised

- **AT memo: para 43(a)** (seek sensitivity testing for higher retail, including weekend peaks).

Response
At the precinct or plan-enabled scale, Auckland's Transport decision framework is anchored to weekday peak-hour modelling (MSM/SATURN), and the AUP Drury Centre triggers are expressed against those weekday thresholds. The application retains those weekday peak-hour trigger volumes, and therefore the sequencing logic and performance parameters remain consistent with the plan-change base and normal traffic engineering practice. Creating a new traffic model to test the weekend network performance would be a complex and costly exercise, as there would be no MSM base from which to take initial input values.

Saturday traffic volumes on busy roads, especially near large retail centres, are generally accepted to experience congestion, but the Saturday peak hours are generally flatter throughout the mid-morning to late afternoon period and are considerably much less pronounced / "peaky" than normal weekday commuter peak hours.

7. Reliance on currently uncommitted / unfunded upgrades

Issue Summary
AT and NZTA are concerned that the latter stages of the application rely on currently uncommitted and unfunded infrastructure .

Where raised

- **AT memo (Exec Summary): paras 2–3, 5, 9** (concerns about reliance on unfunded upgrades and consenting beyond capacity of funded infrastructure);
- **AT memo: paras 71-75** (infrastructure currently not committed and funded);
- **NZTA memo: para 2.2** (notes some key projects not currently funded), paras 3.10–3.12 & **3.13–3.15** (preference to retain AUP-aligned staging/trigger logic and not defer the Access Ramp without detail).

Response
From a transport effects standpoint, the proposal does not increase the established peak-hour trigger volumes that control when upgrades must be in place. The same thresholds used in the plan-change modelling remain intact; only the land-use mix under those caps have been updated (with transparent WFH adjustments and a minor adjustment to the SH1 Direct Connection timing for the reasons explained). If the wider upgrade programme moves, the fixed vph thresholds still "hold the line" on when the next milestone is required to unlock additional development. This is how the Drury provisions were designed to manage staging across multiple consents.

Whether or not the Consent Conditions are sufficient to ensure that development does not proceed until the necessary upgrades are in place is ultimately a planning/legal matter, but my understanding is that they have been written to ensure that is the case.

8. Interaction with other Drury East consents / use of precinct "envelope"

Issue summary
AT and NZTA are concerned that the proposed Stage 2 consent "uses up" shared development allocation intended across three live zoned precincts.

Where raised

- **AT memo:** Executive Summary item 5 (consenting "well beyond the capacity of funded… upgrades" undermines trigger provisions and affects feasibility elsewhere.
- **NZTA memo: paras 3.13–3.15** (alignment with common precinct provisions; concern that consenting the full envelope now could "use up" shared capacity.

Response
This is primarily a planning/legal matter. From a traffic engineering perspective, the approach does not "bank" capacity, it preserves the integrity of the trigger regime by keeping all development subject to the same performance-based thresholds already tested in the precinct modelling.

9. Private roads / JOAL design, vesting and access management

Issue summary

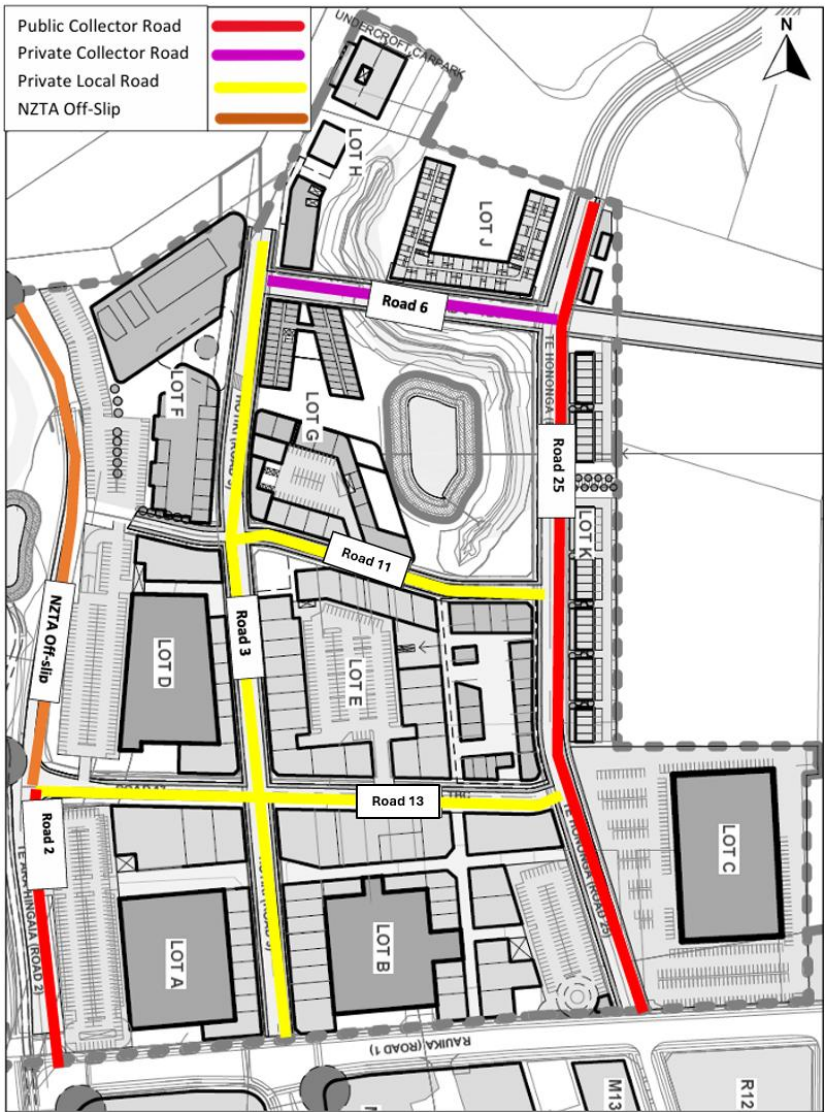
AT and AC prefer retaining many internal roads in private ownership to avoid operational problems.

Where raised

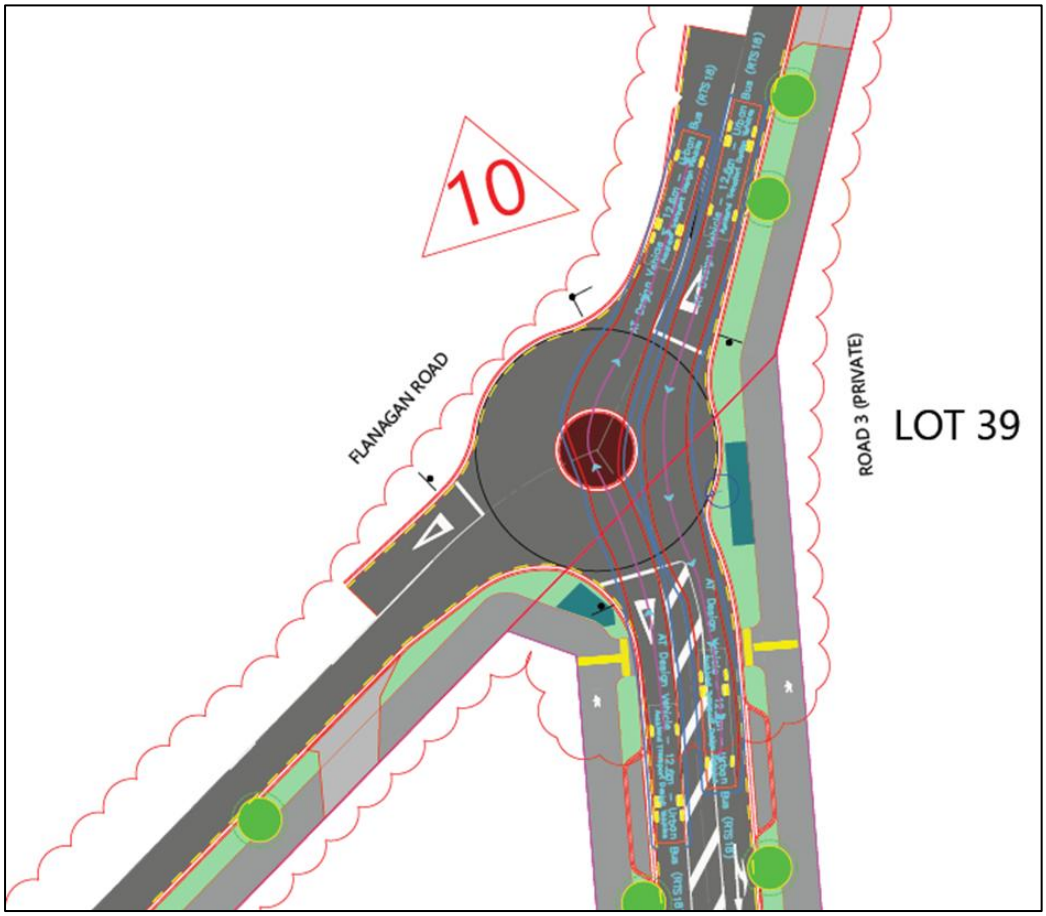
- **AT memo** – Proposed Private Roads: **paras 78–83** (PT using private roads; need for vesting/continuity). **Paras 90–92** (provide the 25–6–3 bus route early). **Para 88** (coordination so AT/ATOC can accept ownership/operation of signals).
- **AC memo**: "Private traffic signals" (EPA-stage resolution), and explicit requirement for Signals Layout Plans showing integration with ATOC; also "Public access to private roads" concern, noting Roads 3 and 6 are integral to wider PT/active network.

Proposed response:

To assist with context, the below plan shows the extent of the Stage 2 development, road and lot numbering, and colour coded with respect to ownership / hierarchy.



The use of Roads 3 and 6 by buses is an interim arrangement only, until such time as the extension of Road 25 to train station and planned bus interchange are delivered, noting that there is no bus service currently planned and no information as to when it will be developed. Vehicle tracking has been undertaken to confirm that buses can safely and efficiently operate on these routes in the interim, including a redesign of the Road 3 / Flanagan Road roundabout to ensure it can accommodate buses. The revised intersection design including vehicle tracking has been attached to this document, with the image below showing the bus tracking through the intersection.



Flanagan Road / Road 3 Proposed Roundabout – Including Bus Tracking

The proposed private road alignment provides a practical and workable alternative during the staging of the wider network, avoiding unnecessary delays in enabling bus access to the Drury Train Station and the proposed bus interchange

Importantly, Roads 3 and 6 are not the only means of access to the Drury Train Station and proposed bus interchange. In the unlikely event that there is any disruption or restriction to their operation, buses can still access the station via the existing public road network, including Road 25, Road 1, Fitzgerald Road, and Waihoehoe Road. This ensures continuity of service without creating an over-reliance on the interim bus route.

In terms of the ownership and operation of traffic signals serving private or part-private connections, signals layout plans will be provided at EPA showing:

- the signal locations and phasing,
- remote connection to ATOC/SCATS, and
- operating/maintenance responsibilities with AT/ATOC (including cabinet siting and power/comm links).

It is intended that ATOC will operate the signalisation assets. Maintenance, as required to maintain levels of service, is to be completed as required and on-charged to Kiwi Property. In situations where upgrades are sought, the Applicant (as asset owner) is to be consulted and these upgrades can be agreed and implemented with more flexibility in procurement, offering better value to both parties. The expectation is that a management contract will be agreed between the applicant and AToC.

10. Vehicle crossings and the fourth-leg connection at the Road 6 / Road 25 signalised intersection

Issue summary
AT and AC have raised several items in relation to the design of some site driveways.

Where raised

- **AT: paras 96–97** – Road 6 / Road 25 signals layout & operation (incl. 4th leg / active crossing / audit); **paras 94–95, 98–99** – other site driveways / vehicle crossings (widths, mountable kerbs, visibility splays, JOAL conflicts, confirm locations).
- **AC memo: Condition 39(iv)** and related EPA requirements; **RFI table para 35** Private signals integration / ATOC control (applies to Road 6 / Road 25) & intersection layout resolution. **para 89** Driveway design standards & controls (at-grade footpaths, movements, tracking, detailed roading plans): and Condition 39 (intro bullets).

Response:
The key issues raised as concerns are:

- Crossing width requirements for heavy vehicles and conflict with active modes.
- Road 6/Road25 signalised intersection and access to Lot K.
- Vehicle crossings adjacent to kerbside car parking bays

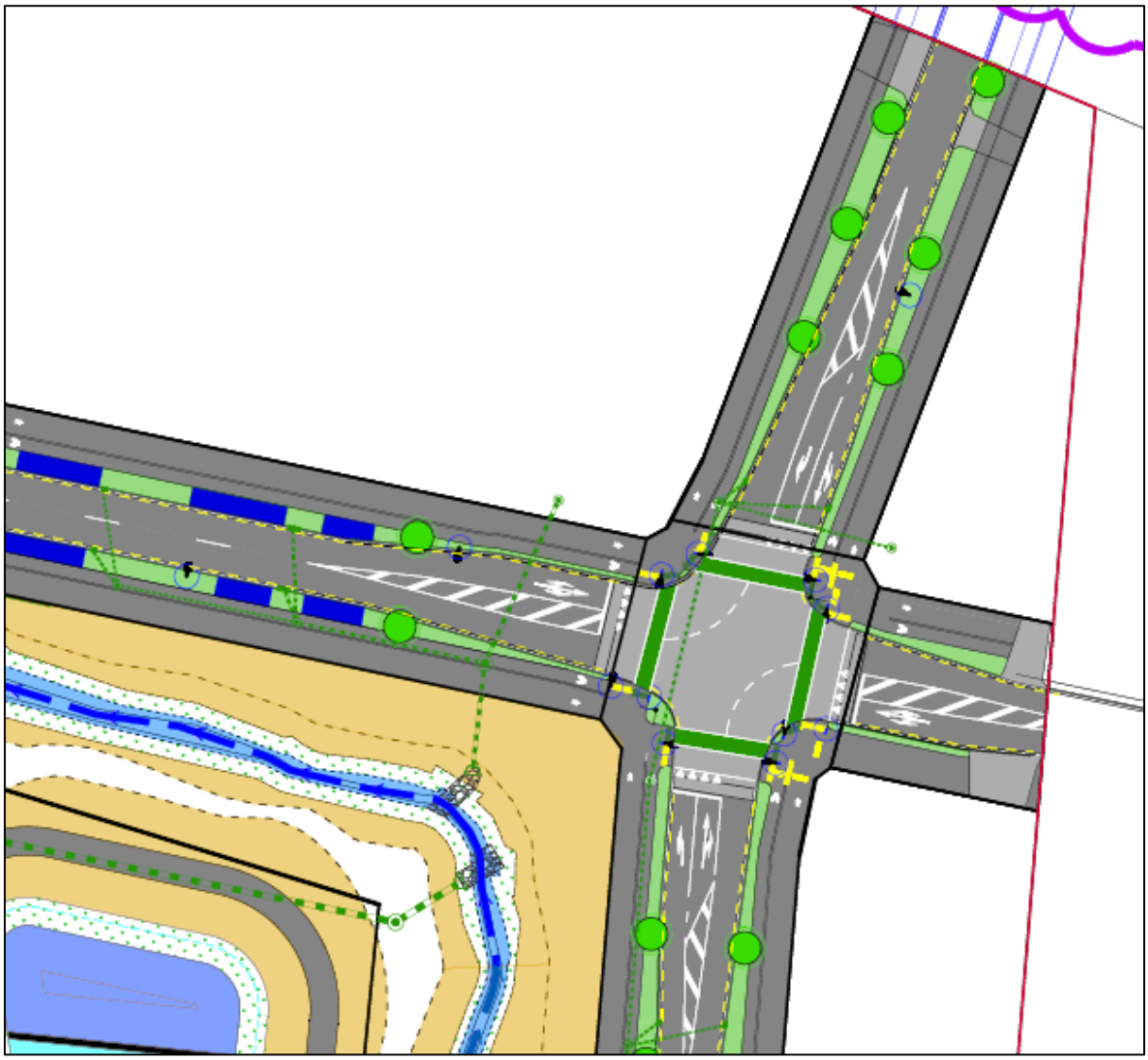
These matters are addressed below.

<u>Crossing width requirements for heavy vehicles and conflict with active modes</u>
Two wide vehicle crossings are proposed at the Road 13 access to Lot D and the Road 1 access to Lot A. This is to accommodate the swept path of large vehicles for the purposes of servicing the retail activities. AT has suggested providing mountable kerbs at the Road 13 access to Lot D and the Road 1 access to Lot A in order to reduce the available width for general vehicles. The design speeds within the Stage 2 areas are 30km/h, achieved through narrow lanes and geometry, raised intersections and raised pedestrian crossings. Signage will be provided in support of that speed limit

(as occurs at Sylvia Park). For this reason, providing additional mitigation at the vehicle crossings is not considered necessary from a speed management perspective.

Road 6/Road 25 Signalised intersection and access to Lot K

The Road 6/Road 25 intersection has been refined and as shown below. A full leg has been designed and includes active mode connections over the intersection. This redesign addresses the concerns raised by AT.



Road 6/Road 25 Signalised Intersection

Subdivision of Consented Residential Super Lots & Vehicle Crossings

Paragraph 99 of the AT memo refers to the vehicle crossings located in the residential super lots and that vehicle crossings serving the proposed JOALS intrude into kerbside car parking bays. It is confirmed that at EPA, all vehicle crossings will avoid conflict with indented kerbside parking bays. The bays are indicative and will be refined upon further assessment of vehicle crossings associated with lots not accessed via JOALS and locations will be agreed as part of the EPA process.

11. Loading bay provision and on-street loading risk

Issue summary

AT question if the loading provision is adequate to service the development.

Where raised

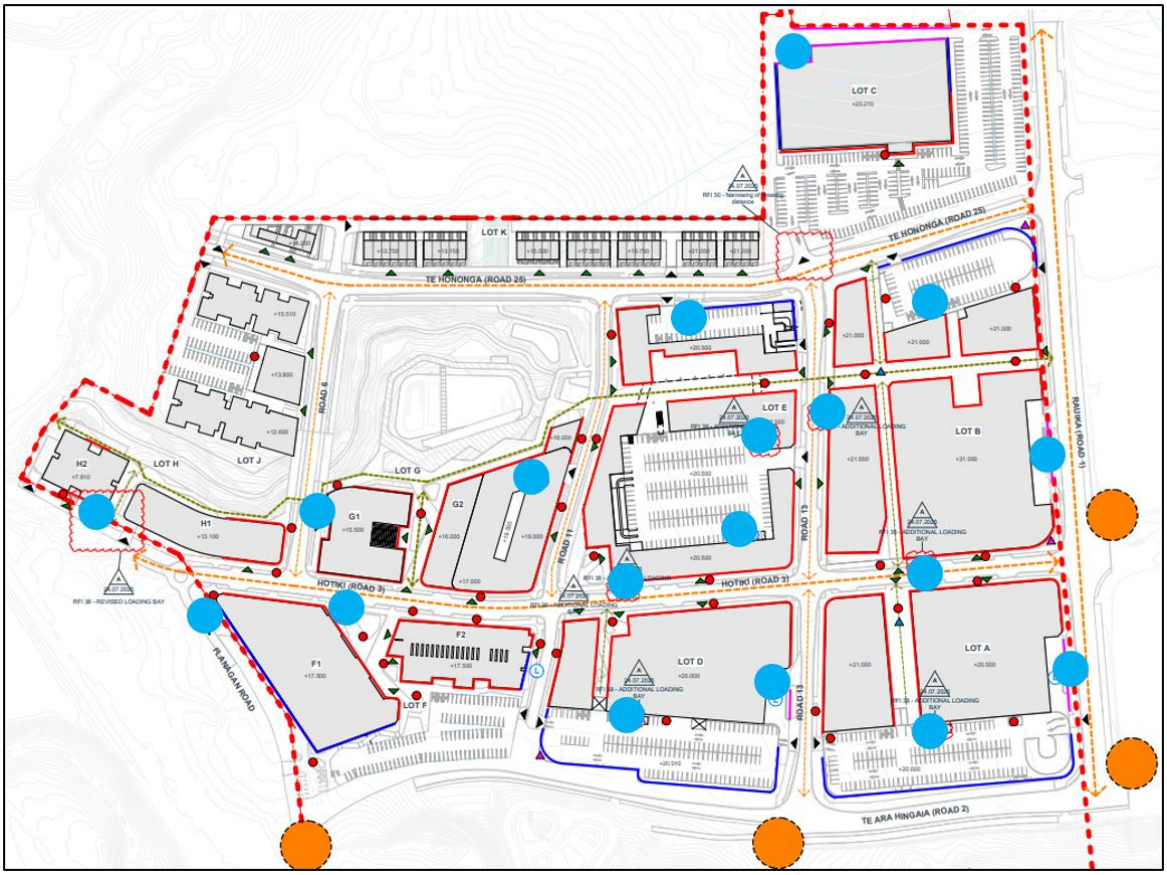
- **AT: paras 100–101** (quantum shortfall; require timed delivery condition outside peak trading and managed by each lot's body-corp).

Response:

The AT Memo references Table 7 of the ITA where a total of 14 loading spaces are proposed. Since the ITA was written, the architectural drawings have been updated to increase capacity for loading and there are now 19 dedicated loading spaces provided. The new locations of loading spaces are located on the following Roads or Lots:

- Road 3, kerbside to Lot B
- Road 3 adjacent to Lot E
- Road 13 adjacent to Lot B
- Lot H
- Lot D
- Lot A
- Lot E

The proposed locations are identified in blue on the image below:



An updated assessment table demonstrating compliance is shown below

Lot	Proposed Activity	GFA (sqm)	Loading Space Req	Loading space Provision (no. of spaces)	Compliance
A	Retail	8,971	2	2 consisting of one space (articulated truck) via Road 1 and one within car park of Lot A)	Two spaces required, two proposed.
	Commercial	2,523	-		
B	Retail	24,714	4	2 consisting of one space (articulated truck) via Road 1, two spaces kerbside to Lot B	Four spaces required, four provided.
	Commercial	4,200	-		
C	Retail	5,845	2	One space (11.5m truck) loading is to be undertaken back of house in Lot C and there is plenty of space for trucks (not marked)	Two spaces required, only one provided.
D	Retail	7,187	2	Two spaces (8m truck) within Lot D	Two spaces required, two spaces proposed.
	Commercial	2,422	-		
E	Retail	14,115	4	One informal space in the eastern carpark, and two formal spaces in the western carpark (both 8m truck) and one kerbside loading space on Road 3 adjacent to Lot E.	Three spaces required, four proposed.
	Commercial	4,966	-		
F	Community Centre (Aquatic Library)	6,938	1	One space (8m truck)	One space required, and three provided.
	Community Centre (Library)	3,278	-		
G	Visitor Accommodation	9,033	1	One space along Road 6 and in Lot G2 carpark (8m truck).	Three spaces required, only two provided.
	Retail	2,715	1		
	Commercial	12,652	1		
H	Visitor Accommodation	8,135	1	One space provided between buildings H1 and H2	Two spaces required one provided.
	Commercial	6,285	1		
J	Residential	64 units (6,211sqm)	1	One informal space within carpark	One space required, and space for 8.3m truck provided within manoeuvring aisle
K	Residential	38 units (4,996sqm)	-	No loading space required or provided.	No space required, and none provided.
	Total		21 required		19 provided

Four lots do not achieve compliance in terms of loading requirements and these are Lots C, G, H and J. Further consideration to the loading provision is described below.

Lot C

Lot C is provided with a full back-of-house loading area, offering extensive on-site stacking capacity for large trucks. Vehicle tracking confirms that the design accommodates the manoeuvring and operational needs of large-format retail. Although only one marked loading space is provided, the overall layout offers ample space for multiple large vehicles to load/unload simultaneously without impacting public roads. All loading for Lot C will occur within the site, with no kerbside loading anticipated and no overflow effects expected.

Lot G

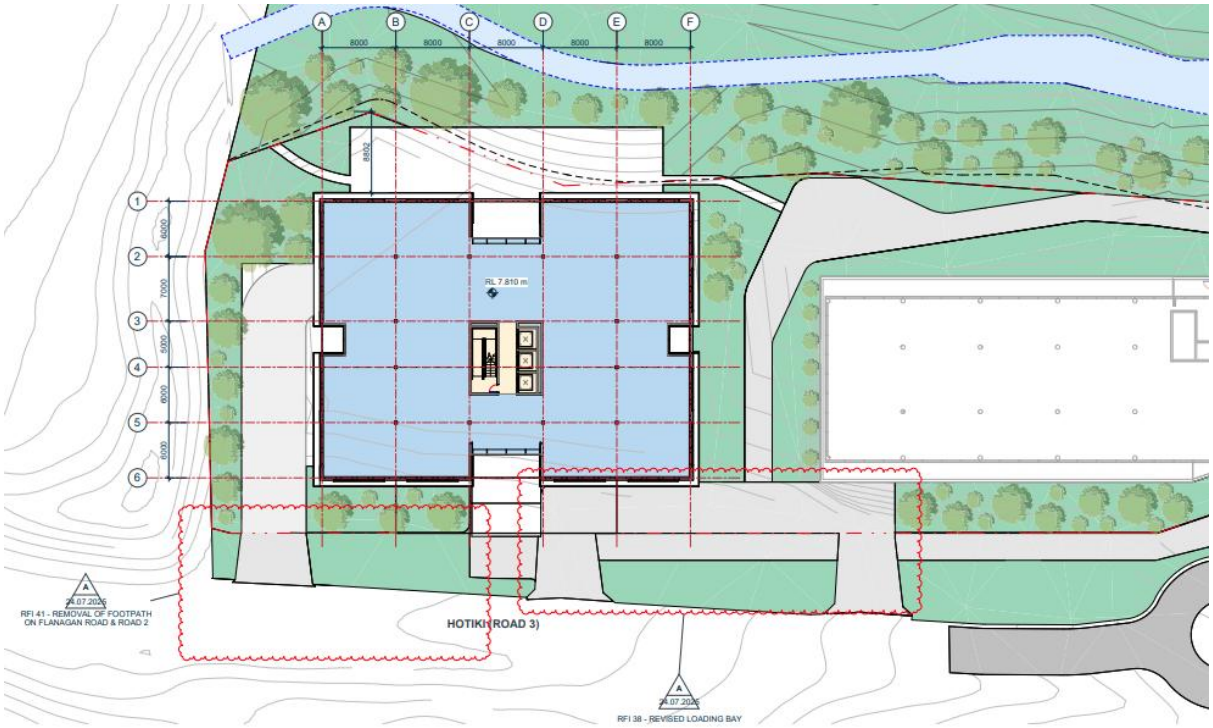
Building G1 will accommodate the proposed visitor accommodation (hotel), while Building G2 will accommodate the retail and commercial activities within the lot. Three loading spaces are required for Lot G (one per activity type). Two loading spaces are proposed:

- one kerbside space on Road 6, located adjacent to the hotel's main entrance, primarily for guest drop-off/pick-up and service vehicles such as rubbish collection, and
- one dedicated loading space within the G2 car park for the retail and commercial activities.

General truck loading associated with the visitor accommodation is expected to be minimal. Retail and commercial deliveries will be organised to optimise the use of the G2 loading space. No kerbside loading for these activities is anticipated, and no overflow effects are expected.

Lot H

Loading in a porte cochere style design has been accommodated between the buildings of H1 and H2, shown below. Similarly, the length of the loading area is proposed to be 38m and therefore effectively increases operational capacity beyond a single loading space, enabling concurrent loading/unloading for multiple vehicles. While a technical shortfall of one space remains, practical loading capacity is sufficient. Deliveries will be scheduled and managed to prevent operational conflicts. No overflow loading or on-street parking effects are anticipated for Lot H.



Lot H1, Floor Level, Loading arrangement

Lot J

Lot J accommodates residential units only and is required to provide one loading space. It is proposed that loading is undertaken within the manoeuvring aisle of the car park. As demonstrated in the image below, an 8.3m long rigid truck can enter the car park, turn around and leave in a forward-facing direction.

Lot J loading arrangement

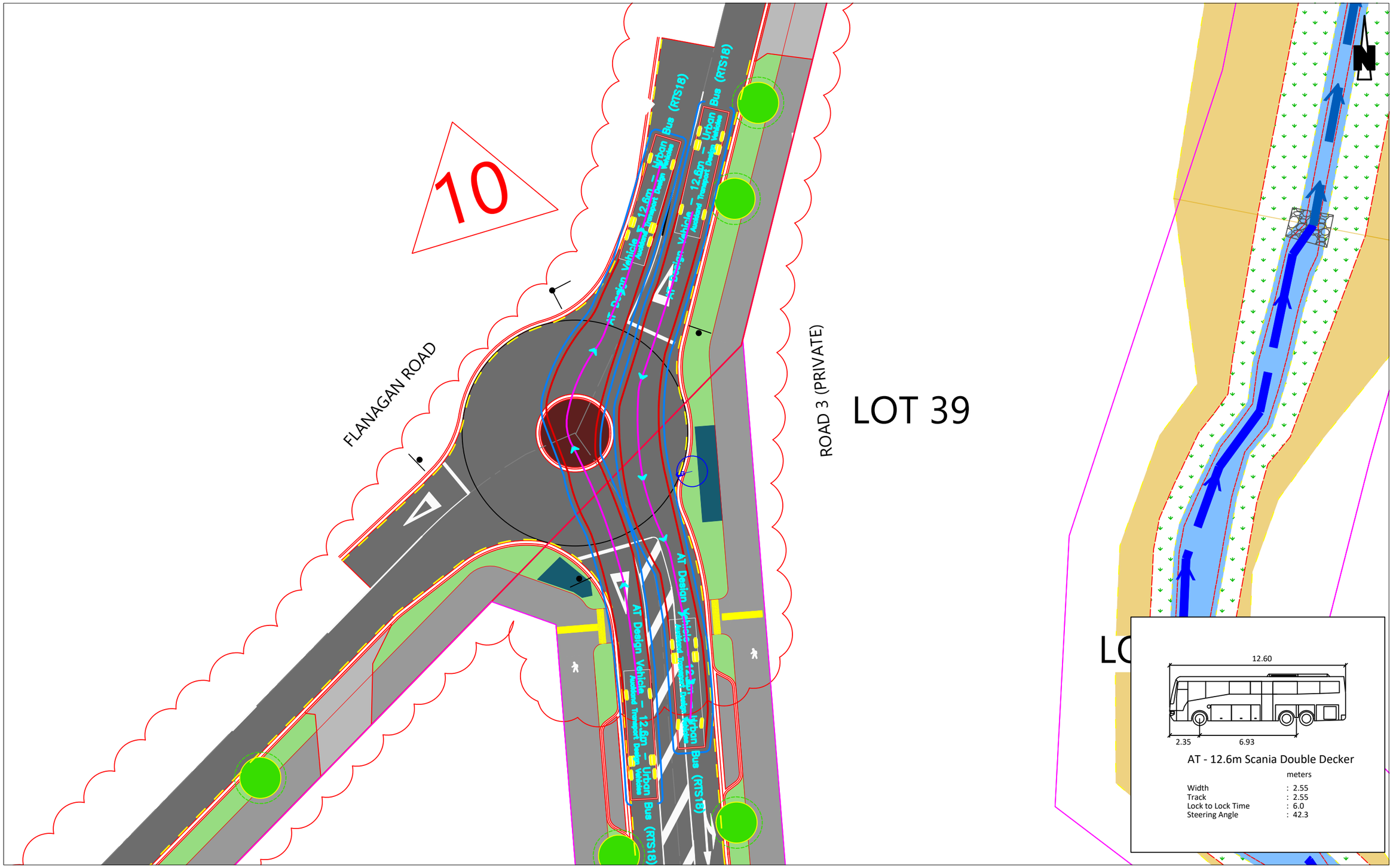
Servicing requirements for a residential development of this scale are typically limited to rubbish collection, deliveries or removal vans when moving in or out of the apartments. A typical compact urban rubbish truck is smaller than the 8.3m truck used in the vehicle tracking analysis and as such can part temporarily within the car park to undertake loading and unloading activities and these typically range from 6.5m to 7.5m in length.

In terms of deliveries, it is likely that there will be a busy period when tenants first move into the units, however after this period, demand for loading will be relatively low. The use of large delivery vans is unlikely to be required in the most instance and again, drivers can either park temporarily within the manoeuvring aisles or park kerbside in the parking bays available on Road 6 or Road 25.

Overall, an updated assessment results in a technical shortfall of two loading spaces across the Stage 2 development, however, all buildings are adequately provided for and no expected onflow parking effects in relation to loading are expected.

Daryl Hughes
Hughes Traffic & Transportation

Attachment: Updated Flanagan Road / Road 3 Roundabout including vehicle tracking



VEHICLE TRACKING SET

CKL
Planning | Surveying | Engineering | Environmental

OFFICE
Auckland
A: 25 Broadway, Auckland
P: 09 524 7029
E: Auckland@ckl.co.nz

DRURY CENTRE STAGE 2
KIWI PROPERTY
FOR RESOURCE CONSENT

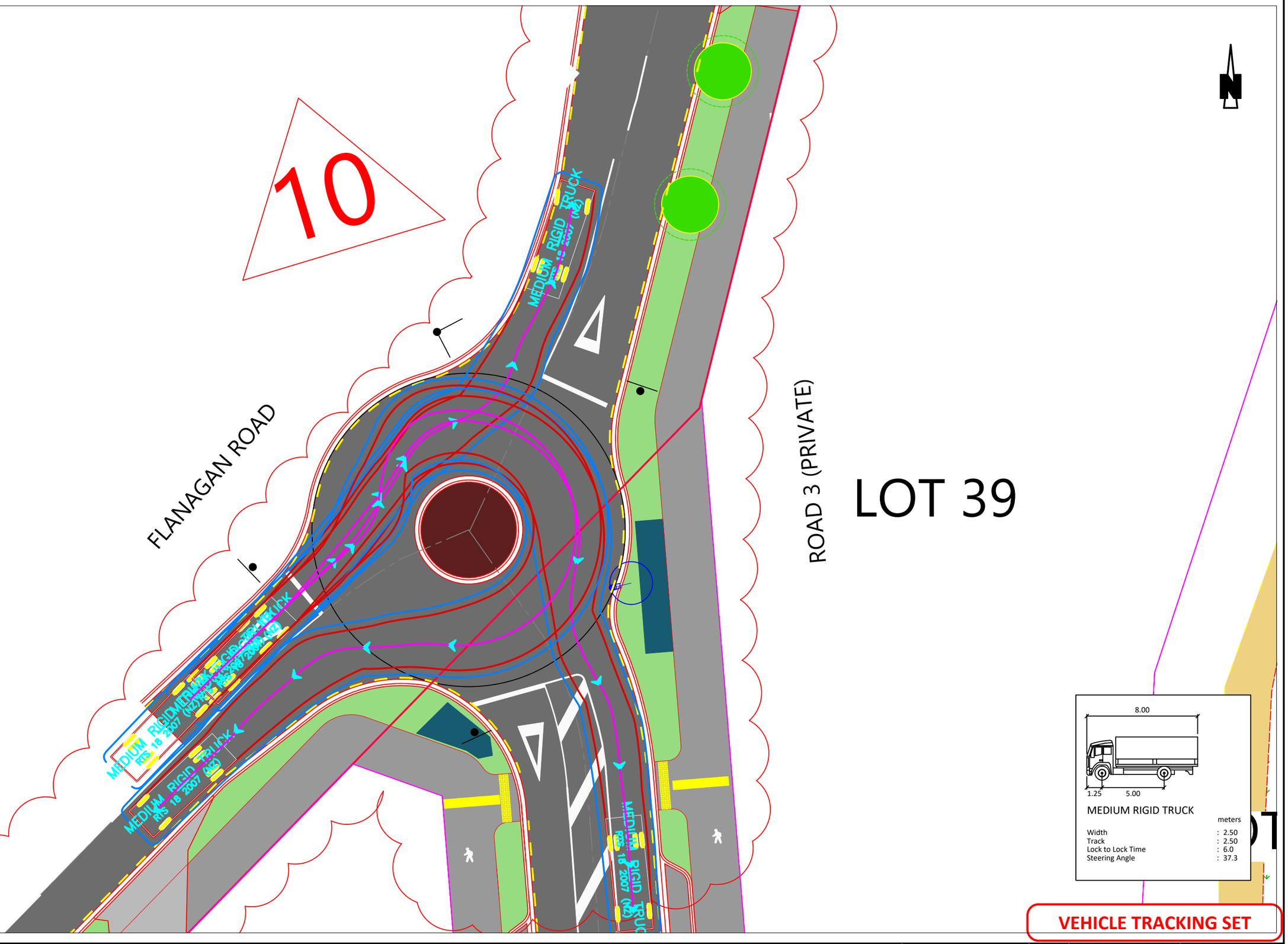
VEHICLE TRACKING SET
FLANAGAN ROAD / ROAD 3
SHEET 1 OF 4

Issue	Description	Checked	Date
1	VEHICLE TRACKING SET	DH	18.08.25

		Date
Designed:	AD	18.08.25
Drawn:	AD	18.08.25
Checked:	DH	18.08.25

Scale: **NTS** (A3 Original)

Job No: **A23016** Dwg No: **1** Rev: **1**



VEHICLE TRACKING SET

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DRURY CENTRE STAGE 2
KIWI PROPERTY
FOR RESOURCE CONSENT

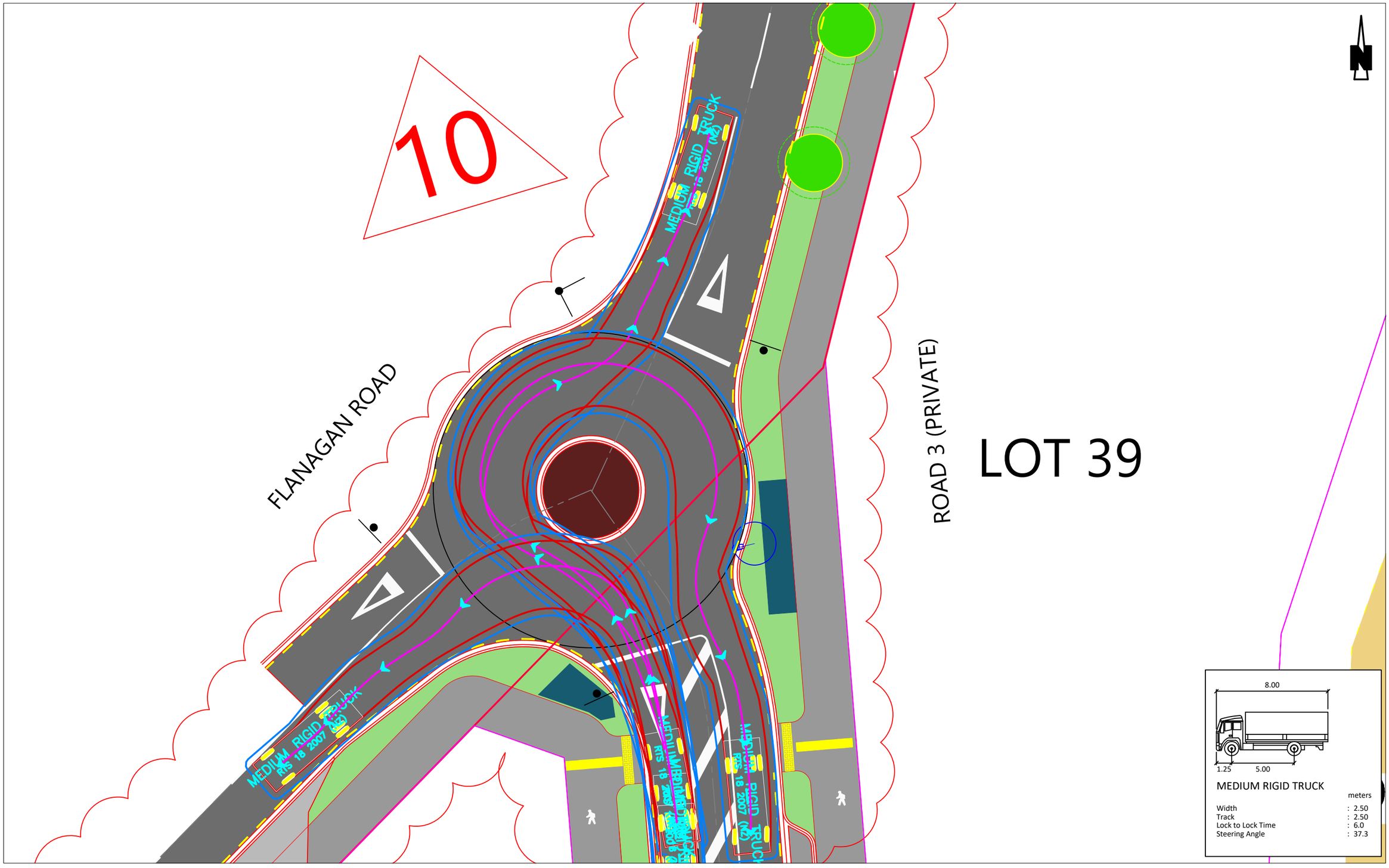
VEHICLE TRACKING SET
FLANAGAN ROAD / ROAD 3
SHEET 2 OF 4

Issue	Description	Checked	Date
1	VEHICLE TRACKING SET	DH	18.08.25

		Date
Designed:	AD	18.08.25
Drawn:	AD	18.08.25
Checked:	DH	18.08.25

Scale: **NTS** (A3 Original)

Job No: **A23016** Dwg No: **2** Rev: **1**



VEHICLE TRACKING SET

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DRURY CENTRE STAGE 2
KIWI PROPERTY
FOR RESOURCE CONSENT

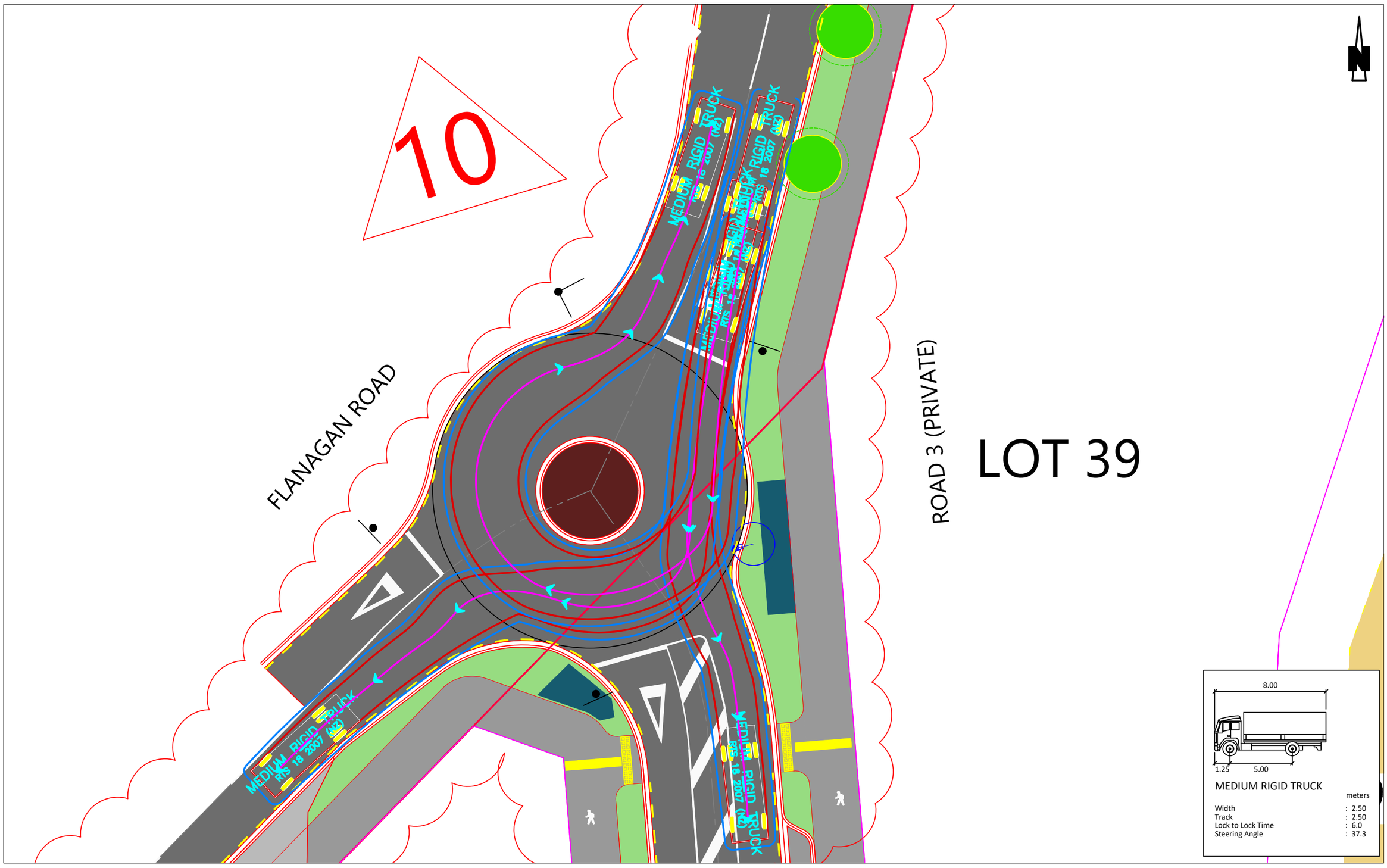
VEHICLE TRACKING SET
FLANAGAN ROAD / ROAD 3
SHEET 3 OF 4

Issue	Description	Checked	Date
1	VEHICLE TRACKING SET	DH	18.08.25

		Date
Designed:	AD	18.08.25
Drawn:	AD	18.08.25
Checked:	DH	18.08.25

Scale: **NTS** (A3 Original)

Job No: **A23016** Dwg No: **3** Rev: **1**



VEHICLE TRACKING SET

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DRURY CENTRE STAGE 2
KIWI PROPERTY
FOR RESOURCE CONSENT

VEHICLE TRACKING SET
FLANAGAN ROAD / ROAD 3
SHEET 4 OF 4

Issue	Description	Checked	Date
1	VEHICLE TRACKING SET	DH	18.08.2025

		Date
Designed:	AD	18.08.25
Drawn:	AD	18.08.25
Checked:	DH	18.08.25

Scale: **NTS** (A3 Original)

Job No: **A23016** Dwg No: **4** Rev: **1**