

**Before a Hearings Commissioner appointed by
the Kāpiti Coast District Council**

Under the Resource Management Act 1991
(Act)

And

In the Matter of an application under section 88 of
the Act by Kapiti Retail Holdings
Limited for the construction and
operation of a Countdown
supermarket at 160 Kāpiti Road,
Paraparaumu (RM210151)

Joint Witness Statement: Transportation

Dated: 29 April 2022

INTRODUCTION

1. At the direction of the Hearings Commissioner, expert conferencing on transportation planning matters took place (on-line) on Thursday 28 April 2022 between 9am and 10.30am, with subsequent email exchanges to clarify matters of detail. This occurred without involvement of an independent facilitator.
2. This Joint Witness Statement (**JWS**) responds to paragraph 2.3(b) of Minute 4 (dated 5 April 2022) associated with the Kāpiti Retail Holdings Limited (The Applicant) proposal for a Countdown supermarket on the site at 160 Kāpiti Road, Paraparaumu.
3. The following expert witnesses attended the conferencing session (together the Experts) and have jointly prepared this JWS:
 - Tim Kelly (**TK**) engaged by the Applicant;
 - Neil Trotter (**NT**) employee of the Kāpiti Coast District Council;
 - Andy Carr (**AC**) engaged by Templeton Kāpiti Limited; and
 - Michael Nixon (**MN**) engaged by Young Supermarkets Limited and Modern Merchants Limited.
4. The Experts confirm that the session has been conducted in accordance with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and this JWS has been prepared in accordance with Appendix 3 to that document.

PROCEDURAL MATTERS

5. TK records that he supplied a Memo (dated 21 April 2022, attached as **Annexure A**) to the other transportation experts which reported upon:
 - the ability to accommodate an additional traffic lane on the Kāpiti Road (NW) approach;

- the reliability of the rates of background traffic growth adopted for the analysis and the consequences of this for the conclusions drawn regarding the effects of the Proposal;
 - the possibility of further development occurring within the Kāpiti Landing area and the consequences of this for the conclusions drawn regarding the effects of the Proposal; and
 - the effects of any planned or known changes to the road network, upon traffic volumes in the Kāpiti Road corridor, including the potential effects of the (now opened) Transmission Gully project.
6. While TK acknowledges this goes beyond the specific questions raised by Minute 4, he considers this represents a more efficient means of providing the information necessary for the decision-making process.
7. AC, MN and NT considered however that conferencing should more closely adhere to the specific questions raised in Minute 4 (as set out in paragraphs 10, 11 and 12 below). AC considers that the Commissioner needs to consider a number of matters before further analysis is carried out and mitigation measures are devised. TK considers that the Proposal has now been the subject of extensive investigations with clearly identified mitigation measures, and that all of the information is now available to enable a decision to be made.

ISSUES DISCUSSED

8. The experts discussed the following matters raised in Minute 4.
9. **Issue 1:** what is a realistic growth rate to apply to Kāpiti Road in addition to nil growth taking into account:
- (a) realistic growth that may occur as Kāpiti grows with no changes to the network; and
 - (b) traffic volumes that may arise with planned or known changes to the network (including the links identified in Mr Trotter's statement of evidence).
10. **Issue 2:** what is an appropriate growth rate at the Friendship Place roundabout (based on the information from the planning conferencing):

- (a) if you took into account the permitted development at the Kāpiti landing site;
 - (b) if you took into account the permitted and controlled development at the Kāpiti landing site;
 - (c) if you took into account the permitted, controlled and restricted discretionary development at the Kāpiti landing site.
11. **Issue 3:** any other matters of relevance for the Commissioners' assessment of the Proposal.

ISSUE 1(A)

Clarification

- 12. Issue 1 makes reference to 'nil' growth. The experts **agree** that this was only applied to the modelled Saturday peak period and not the modelled weekday PM peak period.
- 13. Nonetheless, the experts will address Issue 1 in the context of growth applied for both of the modelled time periods.
- 14. The experts **agree** that 'growth' refers to growth applied to the 2018 observed traffic volumes to adjust these to the 2026 assessment year of the Proposal and note that the current year is already half-way through this period.
- 15. The experts **agree** that the growth also relates only to the modelled time period (being the identified hour of maximum traffic volume within the peak period) and only to the Kāpiti Road corridor (and not, for example, the wider Kāpiti district).

Realistic Growth Rates

- 16. TK considers that the growth rates adopted in his assessment are realistic (as described in his Statement of Evidence, dated 24 February 2022), especially in the context of the effects of Covid, lockdowns, working from home and more recent fuel price increases.
- 17. But TK acknowledges that growth rates are subject to uncertainty, and this was addressed in the assessments with a proposal for monitoring and

mitigation if required, noting that the Applicant has now volunteered to provide this mitigation prior to the operation of the Proposal.

18. AC notes that from the traffic data presented in TK's initial Transportation Assessment, traffic growth between August 2017 and August 2019 equates to 1.2% per annum in the weekday evening peak hour and 0.6% per annum in the Saturday peak hour (expressed as a percentage of the 2017 traffic flows). In his view, these are not unreasonable to apply to generate future volumes, and the lower rate of growth on a weekday is aligned with what would intuitively be expected.
19. AC does not consider that the November 2020 data should be used for any assessment of traffic growth, because the traffic count was carried out in a month when traffic flows would naturally be expected to be lower (as set out in more detail in AC's evidence and the Templeton Kapiti Limited submission), Consequently these rates of traffic growth should be applied to the August 2019 recorded volumes and not to the November 2020 traffic volumes.
20. TK **disagrees**, as he has carefully reviewed the validity and relevance of the November data (as reported at paragraph 65 of his Statement of Evidence dated 24 February 2022). Regardless, TK notes that the calculations by AC suggest a slightly lower growth rate for the weekday period and a slightly higher growth rate for the Saturday period.
21. MN considers the weekday growth used in TK's assessment to be reasonable and in the absence of data demonstrating a significant increase in Saturday peak hour volumes over time, is comfortable with the 0% growth rate for Saturday. NT would **agree** with the 0.6%pa growth rate for Saturday if this is what the data shows.
22. TK considers that the Commissioner is wishing to understand how the assessment of the Countdown proposal might be affected by differing growth scenarios, and the response to this has been provided in the (attached) Memo.
23. The analysis reported in the Memo adopted a notional growth rate of 2%pa for both time periods. The experts **agreed** that this could be regarded as an 'outer bound' for growth rates.

ISSUE 1(B)

24. The experts **agreed** that the planned or known changes to the network are the Paraparaumu Town Centre link (to Arawhata Road), the extension of Ihakara Street (to service development on the airport land) and Transmission Gully.
25. NT advised that the completion of the Paraparaumu Town Centre link was expected to result in a small reduction in weekday interpeak traffic volumes in the Kāpiti Road corridor and confirmed that this was likely to be in place prior to 2026 (identified for completion by 2024 in Council's 2021-2041 Long Term Plan). NT's opinion is that due to the small reductions in 2026 weekday traffic flows (forecast by the Kāpiti Traffic Model Version 4 (SATURN)), that this would show little difference to the roundabout Level of Service if used in the assessment for the year 2026. The experts **agreed** that this was therefore of no material relevance to an assessment for the year 2026.
26. The experts **agreed** that the extension of Ihakara Street is unlikely to occur prior to 2026 and while this would potentially remove a more significant volume of traffic from the Kāpiti Road corridor, this would only be constructed as part of the wider development of the Airport area.
27. AC considers that it is difficult to be prescriptive in any response to this question, because the effects of adding or removing links can largely only be forecast with the use of a transportation model. This is because as new routes open, there can be widespread effects (both positive and negative) on the transport networks as people shift which routes they use. Further as set out in NT's evidence, there is no such traffic model available for one of the two peak periods needing to be assessed (the Saturday peak period).
28. AC considers that the approach used by TK in the initial assessment of the Proposal was to base traffic growth on historic rates and therefore the assessment did not allow for increases or decreases in traffic flows due to new road links being formed.
29. TK notes that a wider area traffic model (SATURN) has been used to assess the effects of the Paraparaumu town centre link and the Ihakara Street extension. Whilst it is agreed that this model only relates to the weekday PM peak period, in the view of TK, there is no reason to expect traffic volumes to increase in the Kapiti Road corridor as a result of either road link or in either

modelled period. For this reason, TK considers the traffic figures used as the basis of the assessments to be conservative.

30. Regarding Transmission Gully (which opened to traffic on 31 March), the experts **agreed** that this is of little relevance to the Countdown assessment, for the reasons described in the Memo.
31. Overall, the experts **agreed** that the 'planned or known changes' to the road network do not alter their views regarding the traffic growth rates and forecasts described above (under 'Realistic Growth Rates' at paragraphs 16-23).

ISSUE 2

32. The experts **agreed** that the relevant issue is the growth in traffic volumes to/from the Friendship Place approach to the roundabout (the established percentage growth rates previously discussed are appropriate to be applied to through traffic movements on Kāpiti Road).
33. TK considered that growth could only be reliably calculated if the starting point (in terms of existing developed GFA within Kāpiti Landing) is known, noting the planners' discussion (paragraphs 25-28 of the JWS Planning) that no schedule of completed development had been made available.
34. But the experts **agreed** that the statement by Kay Panther Knight that the total constructed GFA is understood to be approximately 22,000m² GFA is likely to be of the right order and does not appear to be in dispute.

Permitted Activities

35. Regarding **Permitted** Activities, the experts note the agreed position of the planners (paragraph 36 of JWS Planning) that no GFA can be undertaken as a Permitted activity within the Kāpiti Landing Development Area.
36. The experts **agreed** that a consent for a Saturday market has recently been granted by Council (RM210258), with access from both Friendship Place and Lodestar Place and that this should now be considered as part of the consented baseline. TK noted that this consent had not been granted at the time of the Countdown assessments (and therefore the traffic volumes associated with this activity on Friendship Place have not been included in the traffic modelling).

Restricted Discretionary Activities

37. The experts **agreed** that as **Restricted Discretionary** activities require a transportation assessment and (if appropriate) mitigation, that no account needed to be taken of such activities in the assessment of the Countdown proposal.
38. TK, NT and MN also **agreed** that Permitted activities exceeding the vehicular activity thresholds of Rule TR-R2 would trigger Restricted Discretionary activity status with a requirement for a transportation assessment.

Controlled Activities

39. The experts acknowledge the JWS Planning (paragraph 23) which states that Controlled activity status applies to development within the Airport Mixed Use Precinct up to a cumulative GFA of 102,900m².
40. The experts **agreed** that for Controlled Activities, the Council has to grant consent but that this can be subject to mitigation which is within the control of the Applicant and the Council (if within road reserve). This means that making allowance for any Controlled activity development in modelling of the Countdown proposal would also require assumptions to be made about the associated mitigation, which TK, MN and NT consider would mean that full details of the intended development would be required which would be difficult to identify. AC considers that this approach is no different to the standard approach for assessing the transportation effects of proposed private plan changes.
41. The experts **agree** that (as stated in the JWS Planning paragraph 23(i)) that for any development exceeding 43,050m², a transport assessment must be carried out which considers the impact of the cumulative development of the area on the safety and efficiency of the transport network.
42. The experts **agree** that, as a consequence, if the developed GFA is taken to be 22,000m², then a further 21,050m² GFA could be developed without triggering the requirement that a transportation assessment must be undertaken.
43. However, TK notes that (as recorded in the Planning JWS paragraph 29) the matters of control include the expected traffic generation from the Airport Zone

and his view is that this provides an ability to review traffic effects (and by implication, to require mitigation if needed). In this respect, an assessment was made (by TK) of the transportation effects of the proposed extension of the Mitre10 Mega store. Furthermore, TK understands that Rule TR-R2 is applicable, and would trigger consideration as a Restricted Discretionary activity (requiring a transportation assessment) for any development generating more than 100 vehicle movements/day (being broadly equivalent to the traffic generation which might be associated with around 13 dwellings or 100m² GFA of food retail or 250m² of large format retail activity). Taken together, it is the view of TK that the practical effect of the district plan rules is that any Controlled activity would trigger consideration of transportation issues. NT considers this to be outside his area of expertise and so defers to the planning experts.

44. By way of background, TK notes that the GFA thresholds in the district plan were based upon assessments undertaken in 2007/8 associated with Plan Change 73 (**PC73**). The traffic modelling at this time related to a road environment which presumed completion of the Western Link Road (**WLR**) proposal and the Ihakara Street connection (including an intersection with the WLR). The replacement of the WLR with the Expressway with reduced connectivity to local roads has placed an increased reliance upon Kāpiti Road as the sole access to the Expressway in this area. Despite these significant changes in the roading environment, the thresholds were carried forward to the updated district plan without change. It is the view of TK that the crafting of the rules at the time of PC73 was very intentionally to provide an ability to review transportation effects throughout the development of the Kāpiti Landing area, given the sensitivity of the Kāpiti Road corridor receiving environment.
45. The experts **disagreed** regarding the need for detail of any Controlled Activity development scenario. TK considers that, even if a given GFA of development was identified, details would be required of the nature of the activities, their operating details and catchment areas etc in order to make be able to make realistic allowances in the modelling. In his view, the underlying issue is the extent to which any development within the Kāpiti Landing area might affect the assessment of the Countdown supermarket, and in this respect, results for an assumed doubling of traffic to/from Friendship Place have been presented in the (attached) Memo.

46. AC **disagrees** with TK and considers that if Controlled activities are to be taken into account, that:
- the provisions of the district plan would allow a development to occur within Kāpiti Landing which results in queues and delays increasing at the Friendship Place roundabout;
 - these queues and delays could increase to such an extent that mitigation is required through conditions of consent, which, if within road reserve or the control of the applicant, would be appropriate to impose for a controlled activity; and
 - it is therefore a scenario of (a) development within Kāpiti Landing of no more than 102,900m² GFA plus (b) necessary mitigation of the Friendship Place roundabout to support such a level of development, that forms the receiving environment for the assessment of the supermarket proposal.
47. TK **disagrees**, on the basis that an assessment of this nature would be reliant upon a speculative approach regarding the development that might occur and also the specific mitigation measures that might be required. In his view, if the effects at the roundabout were to be mitigated, then the baseline would be broadly that which has already been assumed in the reported assessments and (as stated above) an assessment has already been undertaken (described in the Memo) which quantifies the effects of the supermarket assuming a broad doubling of development / traffic activity associated with the Kāpiti Landing area. TK considers this approach to be preferable to that described by AC which he considers would be unduly complex.
48. MN noted that he would have undertaken the assessment of the Countdown proposal in exactly the way undertaken by TK. MN also noted that the results presented indicate that the Countdown proposal broadly mitigates its own effects (by way of the mitigation proposed on both the Friendship Place and Kāpiti Road NW approaches) – in much the same way that any Controlled activity on the Kāpiti Landing site would be required to mitigate its effects. TK agreed. AC **disagrees**, considering that the appropriate analysis to draw this conclusion has not yet been undertaken.
49. MN's interpretation of Controlled activity within the Kāpiti Landing site is that 'expected traffic generation' and 'effects on the transport network' are specific matters of control (and therefore mitigation measures may be conditioned to

address any adverse transport effects). TK **agreed**. MN and NT consider it would be helpful if this interpretation could be confirmed, or otherwise, by the planning / legal experts.

50. The experts **agreed** that it would be helpful if legal advice was to be provided regarding the ability for Controlled activities to form part of the baseline for the assessments. TK notes however, that these arguments could become rather academic if the results reported in his Memo are accepted.

Rule TR-R2

51. TK noted that there was disagreement between the planners regarding the application of Rule TR-R2 (paragraphs 31-35 of the JWS Planning) in terms of the interpretation of “all public vehicle access” and considered that the experts should address this. AC **disagreed**, on the basis that if the planning experts were not able to reach agreement, it should not be the role of the traffic experts to speculate on the intent or meaning of a planning rule
52. TK considers that intent of the rule relates to potential effects upon Kāpiti Road and therefore the issue is the extent to which any additional traffic movements will utilise Kāpiti Road. With Friendship Place and Lodestar Place being cul-de-sacs, all additional traffic would have to use Kāpiti Road and therefore the 100vpd threshold is relevant. MN and NT **agreed**. AC declined to comment for the reasons above.

ISSUE 3

Provision of Additional Lane on Kāpiti Road (NW) Approach

53. TK considered that the experts should be in a position to assist the Commissioner regarding the feasibility of achieving the proposed additional traffic lane on the Kāpiti Road (NW) approach to the roundabout, as plans were included with the Memo. To confirm, the Applicant has now agreed to provide this mitigation measure without a requirement for monitoring.
54. The view of TK is that the plans supplied demonstrate that the additional lane is able to be provided within road reserve and would operate safely.
55. AC **disagreed** and considers the provision of such an additional lane to be irrelevant as the information is not available to determine if this is the appropriate mitigation measure. He notes that, as this was not a specific issue

raised in the Commissioner's Minute 4, it is beyond the scope of the expert witness conferencing, and as such, has not turned his mind to it. Consequently, AC considers that he is not in a position to state whether the plans included as Appendix A to the Memo demonstrate adequate mitigation.

56. MN noted the measure would be subject to future road safety audit and detailed design processes and therefore in principle, it is acceptable. MN noted however that the acceptability of the mitigation measures hinges on what existing and future development within Kāpiti Landing needs to be accounted for in the roundabout traffic modelling. NT indicated that a geometric check in accordance with Austroads Guide to Road Design Part 4B: Roundabouts on the design would be required.

Tim Kelly

Tim Kelly

N.S. Trotter

Neil Trotter

Andy Carr

Andy Carr

Michael Nixon

Michael Nixon

ANNEXURE A: Memo regarding Additional Transportation Assessments (21 April 2022)

Date: 21 April 2022
Project: RM210151: Kāpiti Retail Holdings Ltd
Subject: Additional Transportation Assessments

1 Context

Kāpiti Retail Holdings Ltd proposes to construct and operate a Countdown supermarket and associated retail tenancies on land adjacent to Kāpiti Road in Paraparaumu.

The associated application for resource consent (RM210151) is currently the subject of a hearing before a Commissioner appointed by the Kāpiti Coast District Council (**KCDC**).

At the hearing on 22 March 2022, a key issue was the performance of the Kāpiti Road / Friendship Place roundabout under alternative future traffic scenarios. Minute 4 from the Commissioner (dated 5th April 2022) requested that the expert traffic witnesses confer to determine:

- at least two realistic growth rates to apply in addition to nil growth – taking account of firstly realistic growth that may occur as Kāpiti grows with no changes to the network and secondly traffic volumes that may arise with planned or known changes to the network (including links identified in Mr Trotter’s statement of evidence); and
- appropriate growth rates at the roundabout based on the information to be provided by the planners.

From issues raised at the hearing and in the Minute, assistance is required with respect to:

- the ability for an additional traffic lane to be provided on the Kāpiti Road (North-West) approach to the roundabout;
- the reliability of the rates of background traffic growth adopted for the analysis and the consequences of this for the conclusions drawn regarding the effect of the Proposal;
- the possibility of further development occurring with the Kāpiti Landing area and the consequences of this for the conclusions drawn regarding the effect of the Proposal;
- the effects of any planned or known changes to the road network, upon traffic volumes in the Kāpiti Road corridor, including the potential effects of the (now opened) Transmission Gully project.

2 Purpose of Memo

It is not the purpose of the information in this memo to pre-empt the discussion which will take place during conferencing.

Rather, the purpose is to focus conferencing upon those issues where the Commissioner has indicated that assistance is required and to provide a combined response to other matters raised during the hearing.

3 Additional Lane on Kāpiti Road (North-West) Approach

At paragraph 43 of my evidence-in-chief, I described how mitigation was available, if needed, in the form of the provision of an additional lane on the Kāpiti Road North West approach to the Friendship Place roundabout. I explained how, in my view, this could be readily provided within

road reserve and modelling indicated that this would address the possibility of higher traffic volumes experienced, especially for the assessed Saturday peak period.

At the hearing, submitters raised concerns that no plans had been provided to demonstrate the feasibility of this mitigation measure.

The plans at **Appendix A** provide this information.

These plans demonstrate that plenty of room is available to accommodate the additional approach lane. The turning paths of vehicles at the roundabout would not be compromised.

In my view, this roundabout configuration will operate safely. The additional lane would be dedicated to left-turning movements only and through movements would be restricted to a single lane.

This measure was originally proposed to be constructed only if triggered by monitoring of traffic volumes as a condition of consent. The Applicant has now volunteered to construct this additional lane prior to the operation of the development.

Relevance to conferencing: subject to discussion and agreement, the experts should be in a position to advise the Commissioner / hearing that the additional approach lane is able to be provided and will operate safely.

4 Growth of Background Traffic Volumes

Background

The modelling assessments relate to a weekday PM peak period and a Saturday mid-day peak period.

The modelling involved the development of a SIDRA intersection model for the Kāpiti Road corridor. The Council SATURN model was not used because this does not enable modelling of a Saturday peak period and does not offer the same degree of refinement for simulating delays and queuing at intersections.

The base model utilised (pre-Covid) count information for 2018. A design year for the purposes of evaluating the Proposal of 2026 was selected.

The growth factors adjust from the 2018 base volumes to 2026, a period of eight years.

For both the weekday PM peak period and the Saturday mid-day peak period, the growth factors were based upon trend growth in observed traffic counts for Kāpiti Road for a location between the Expressway and Arawhata Road intersection. A Council-operated automatic counter at this location offered detailed year-on-year data (disaggregated by direction / day / hour). This location was considered to provide a representative indication of traffic volume trends for the Kāpiti Road corridor.

The data supplied by Council related to August 2017, August 2018, August 2019 and November 2020. While November 2020 fell within the Covid period, an assessment of Expressway traffic volumes for this month provided no evidence that the November 2020 data would result in any under-statement of traffic growth. On the contrary, it appears that this may have resulted in an over-statement of growth rates, with forecast volumes for 2026 then being over-estimated. This was reported in the 9 December 2021 response to Council.

Based on this approach, the modelling assessment adopted a growth rate of 1.4%pa for the weekday PM peak period. This resulted in an uplift of the 2018 volumes by 11.2% over the eight year period in order to give 2026 forecast volumes.

For the Saturday peak period, observed volumes exhibited a declining trend and using the same process, the calculated growth rates was negative. At the request of Council, a zero growth rate was adopted as an agreed 'worst-case' scenario.

Higher Growth Rate Testing

In response to the request from the Commissioner, the performance of the Kāpiti Road / Friendship Place roundabout has been assessed for a higher growth scenario.

For this scenario, a growth rate of 2%pa for both peak periods has been adopted.

It is stressed that this relates to the entire eight-year period (i.e. increasing 2%pa results in an increase in volume by 16% in total over that period), despite the effects of Covid (lockdowns, restrictions, increased working from home, etc) and more recently fuel price increases within this period. For these reasons, this rate of growth is considered to be unrealistically high in this time period (noting there remains only 4 years of the 8 year period), with outturn traffic volumes in 2026 likely to be well below the levels implied by this assessment. Again, it is considered therefore that the growth rate adopted for this stress testing is conservative at best and, at worst, entirely hypothetical.

The tests have been run to identify the roundabout operating conditions for:

- Do-Minimum (2%pa growth, no Proposal, no mitigation measures); and
- Proposal (2%pa growth, with supermarket and both mitigation measures).

The results of these tests are summarised at **Appendix B Table 1**, with results for the weekday PM peak period shown by rows 1-5 and those for the Saturday peak period at rows 6-10.

For the weekday PM peak period:

- without the Proposal or associated mitigation (row 4), the application of a 2%pa growth rate would result in the right-turn movement from Friendship Place deteriorating to LOS D; and
- the combined effect of the Proposal and mitigation (row 5) would be to marginally increase overall average delays, but the distribution of these delays would result in all turning movements operating at an acceptable LOS A-C. Effects would be particularly beneficial for the Friendship Place approach, which would see average delays drop from 33s/veh to 20s/veh.

For the Saturday peak period:

- without the Proposal or associated mitigation (row 9), the application of a 2%pa growth rate would result in high delays (LOS F) on the Friendship Place approach;
- the combined effect of the Proposal and mitigation (row 10) would be to substantially reduce overall delays (from 80s/veh to 49s/veh); and
- while both the Friendship Place and supermarket approaches would operate at LOS F, the extent of the delays would be significantly reduced as result of the Proposal and mitigation (for example, average delays from Friendship Place would reduce from 260s/veh to 84s/veh).

In summary, the roundabout would fail during the Saturday peak period irrespective of the Proposal, necessitating measures to address poor performance.

Relevance to conferencing: subject to discussion and agreement, the experts should

be in a position to advise the Commissioner / hearing that :

- rates of traffic growth are governed by a wide range of local, national and even international factors and consequently these are subject to significant uncertainty;
- progressively increasing traffic demands along the Kāpiti Road corridor will eventually lead to the failure of the Friendship Place roundabout;
- changing the assumed rate of background growth only moves the point in time at which the roundabout will fail backwards or forwards in time; and
- a failure of the roundabout will occur irrespective of and not because of the Proposal and associated mitigation.

Kāpiti Landing Growth Testing

Arguments have been made that account should be taken of development within the Airport Mixed Use Precinct (**AMUP**).

Planning conferencing on this matter was reported in a Joint Witness Statement Planning (**JWSP**) dated 14 April 2022.

Notwithstanding this, tests have been run to very broadly mimic the effects of significant further development within the Kāpiti Landing area. In these tests, the volume of traffic entering and leaving the roundabout by means of the Friendship Place arm has been doubled.

The tests have been run to identify the roundabout operating conditions for:

- Do-Minimum (double Friendship Place traffic movements, no Proposal, no mitigation measures); and
- Proposal (double Friendship Place traffic movements, with supermarket and both mitigation measures).

The results of these tests are summarised at **Appendix B Table 2**, with results for the weekday PM peak period shown by rows 1-5 and those for the Saturday peak period at rows 6-10.

For the weekday PM peak period:

- without the Proposal or associated mitigation (row 4), a doubling of traffic movements to/from Friendship Place would result in the Friendship Place approach suffering substantial delays at LOS F; and
- while the combined effect of the Proposal and mitigation (row 5) would be to significantly reduce overall average delays (from 287s/veh to 93s/veh), the distribution of these delays would result in both the Friendship Place and Kāpiti Road (SE) approaches operating at LOS F.

For the Saturday peak period:

- without the Proposal or associated mitigation (row 9), a doubling of traffic movements to/from Friendship Place would result in high delays (LOS F) on both the Friendship Place and Kāpiti Road (NW) approaches; and
- while the combined effect of the Proposal and mitigation (row 10) would be to substantially reduce overall delays, a redistribution of delays would lead to LOS F conditions on three approaches to the roundabout.

In summary, the effects of doubling traffic activity to/from Friendship Place would lead to extensive delays at the roundabout irrespective of the Proposal, necessitating measures to address poor performance. The combined effect of the Proposal with mitigation measures would be to reduce overall levels of delay at the roundabout.

Relevance to conferencing: subject to discussion and agreement, the experts should be in a position to advise the Commissioner / hearing that :

- there is disagreement regarding the extent of development within the AMUP that has permitted, controlled or RDA status, or that would be subject to a requirement for a transportation assessment;
- regardless, any significant increase in traffic activity to/from Friendship Place will result in the failure of the roundabout; and
- a failure of the roundabout will occur irrespective of and not because of the Proposal and associated mitigation.

5 Effects of Other Roading Projects

The Commissioner has requested information regarding the effects of planned or known changes to the road network upon growth rates.

Paraparaumu Town Centre Link & Ihakara Street Extension

The evidence of Neil Trotter (13.3(c)) indicates that the combined effect of these road connections are expected to result in an overall reduction in vehicles per day on the sections of Kāpiti Road to the east and west of the Friendship Place roundabout. This is based upon forecasts from the KCDC Saturn traffic model (which only relates to weekdays).

Previous modelling of development within the airport area has indicated that the inclusion of a local connection to Ihakara Street would remove a significant volume of traffic from Kāpiti Road because this offers a more direct and convenient alternative route.

The SIDRA modelling for the Proposal has not taken these effects into account. Forecast volumes are based solely upon observed volumes which have been adjusted for growth and the effects of the Proposal.

For this reason, the forecast volumes which form the basis of the assessments are considered to represent a worst-case.

Relevance to conferencing: subject to discussion and agreement, the experts should be in a position to advise the Commissioner / hearing that :

- no specific allowance was made for the effects of the Paraparaumu Town Centre Link or the Ihakara Street extension in the assessments of the Proposal;
- allowance for these projects would reduce future traffic demands at the roundabout;
- for this reason, assessments of the Proposal can be considered to represent a 'worst-case'.

Transmission Gully

This project opened to traffic on 31 March 2022.

Tim Kelly was responsible for the transportation evaluations of the TG project in 2011/12. These indicated that the primary and more immediate effects of TG would occur as a result of the re-routing of traffic away from the coastal route.

Secondary and longer-term effects will be associated with a re-distribution of trips. This results from the locational decisions of households and businesses responding to the changes in accessibility over a period of years. For example, some households may decide to move further out from Wellington.

This change in accessibility is likely to increase traffic demands along the State Highway 1 corridor. However, for connecting routes such as Kāpiti Road, the effects will be governed by the locations of any specific developments which respond to increasing demands for residential or commercial activity as a result of the TG project.

Any such developments would be subject to the prevailing requirements in the district plan requiring assessments of transportation impacts where the relevant thresholds are exceeded. As such, it is not appropriate for the assessment of the Proposal to speculate where, when and in what form any such developments might occur.

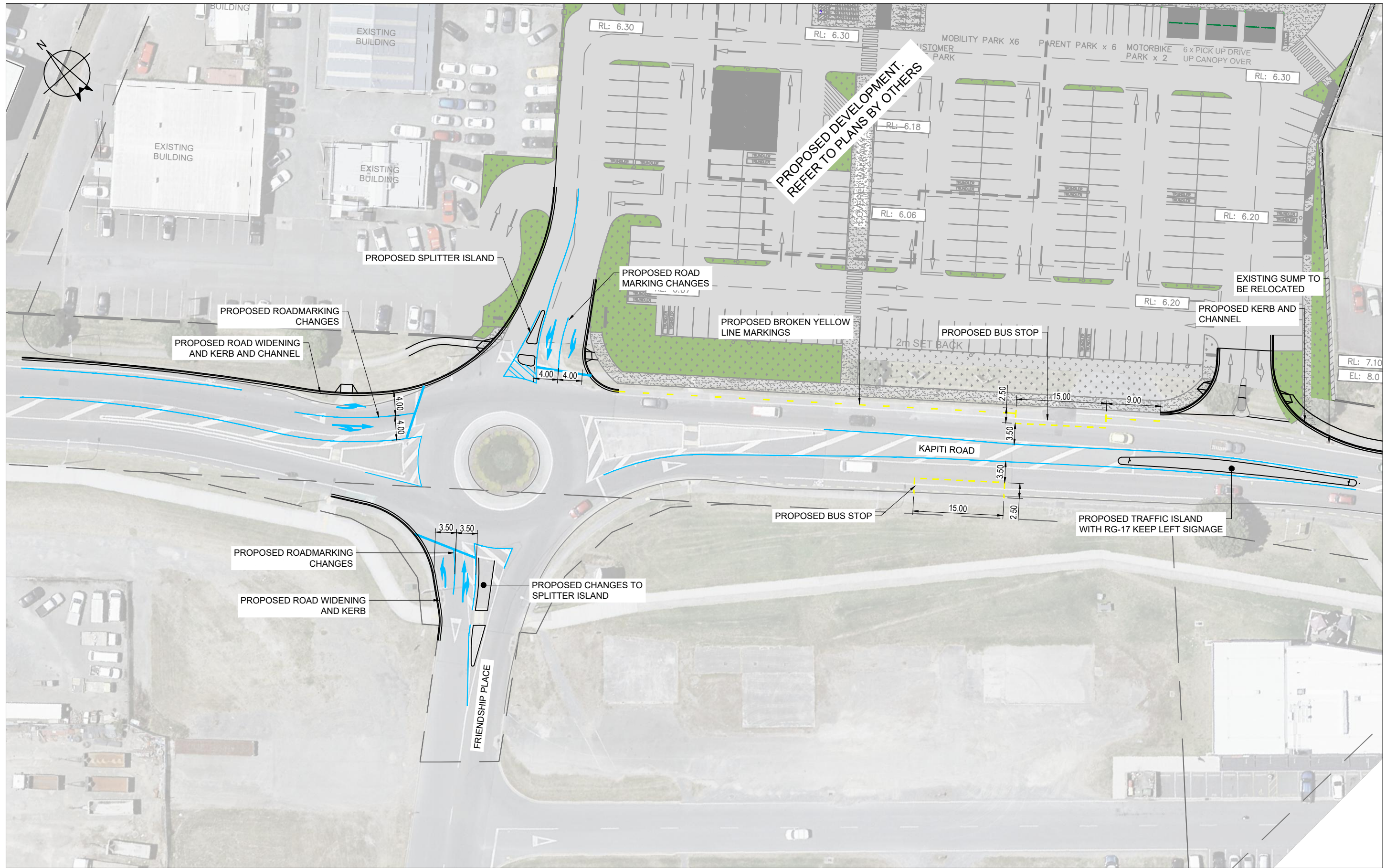
Relevance to conferencing: subject to discussion and agreement, the experts should be in a position to advise the Commissioner / hearing that :

- Transmission Gully will improve accessibility to/from the Kāpiti district;
- this can be expected to increase the demand for residential and commercial developments in the longer term;
- any development responding to this demand will be subject to the prevailing controls in the district plan;
- for developments having access to Kāpiti Road, a requirement for a transportation assessment would be triggered by any development generating more than 100 vehicle movements/day.

APPENDIX A: PLAN SHOWING PROPOSED ADDITIONAL LANE ON KĀPITI ROAD (NW) APPROACH TO ROUNDABOUT

APPENDIX B: RESULTS OF GROWTH TESTING

APPENDIX A



PROPOSED DEVELOPMENT.
REFER TO PLANS BY OTHERS

NOT FOR CONSTRUCTION

REV	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE	APPROVED
E	ADDITIONAL LANE ADDED TO NORTHWESTERN APPROACH	JO	TK		31.03.22	DESIGNED
D	DESIGN REVISED TO AVOID LAND TAKE	JO	TK		03.12.21	DESIGNED
C	LAND TAKE AREA ADDED	JO	TK		01.12.21	DRAWN
B	23m B-TRAIN TRACKING ADDED	JO	TK		29.09.21	REVIEWED
A	ISSUED FOR DISCUSSION	JO	TK		28.09.21	REVIEWED

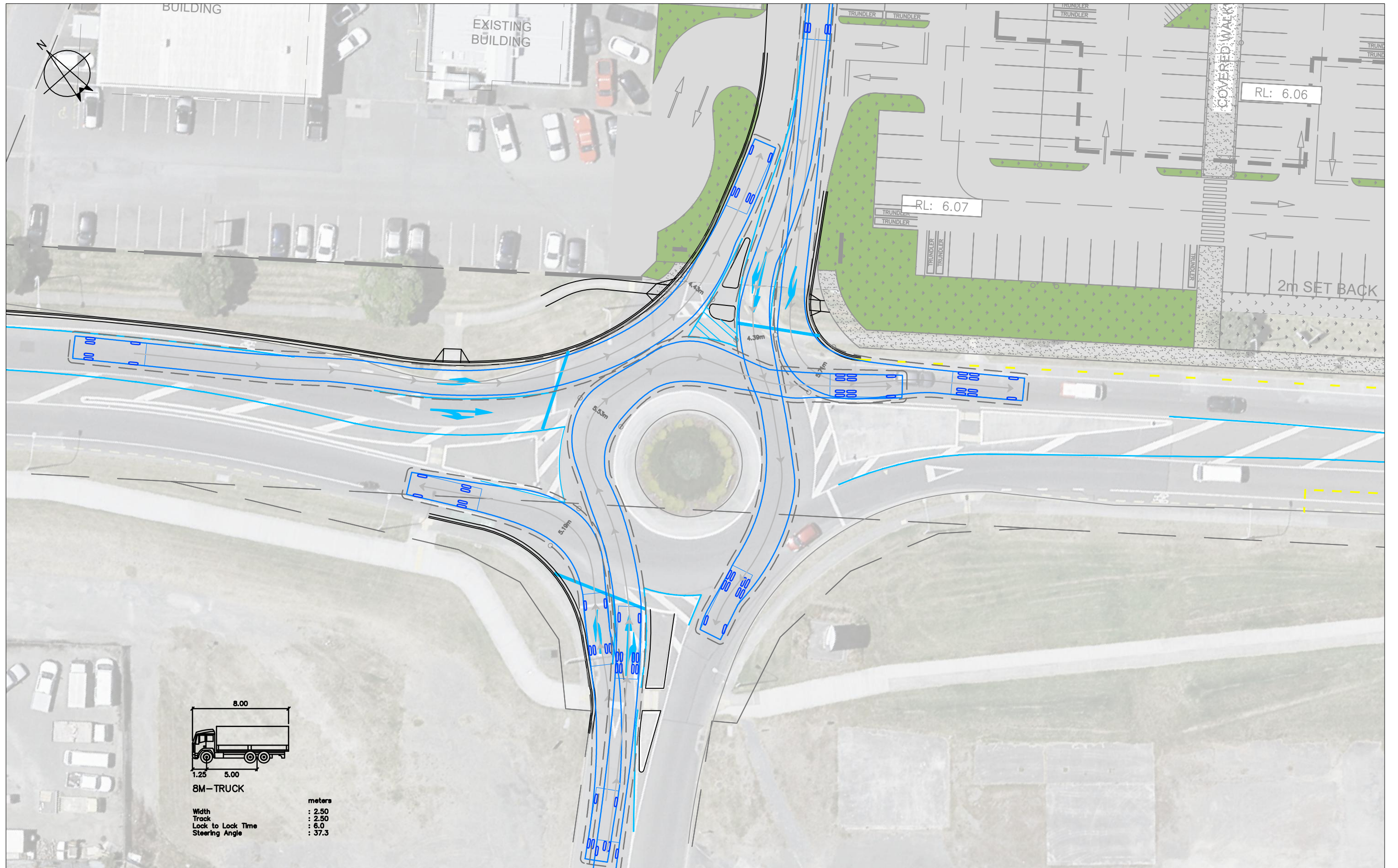
NAME
J. ORRINGE
J. ORRINGE
T. KELLY



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josh@ctdesign.co.nz
027 641 6653

TIM KELLY TRANSPORTATION PLANNING LIMITED
COUNTDOWN KAPITI ROAD, PARAPARAUMU
INDICATIVE ROAD LAYOUT CHANGES

DRAWING STATUS: CONCEPT	
PLOT DATE: 01.04.2022	SCALE AT A1: 1:300
DRAWING NO. 21-005-SK001	REV E



NOT FOR CONSTRUCTION

REV	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE	APPROVED	NAME
E	ADDITIONAL LANE ADDED TO NORTHWESTERN APPROACH	JO	TK		31.03.22	DESIGNED	J. ORRINGE
D	DESIGN REVISED TO AVOID LAND TAKE	JO	TK		03.12.21	DESIGNED	J. ORRINGE
C	LAND TAKE AREA ADDED	JO	TK		01.12.21	DRAWN	J. ORRINGE
B	23m B-TRAIN TRACKING ADDED	JO	TK		29.09.21	REVIEWED	T. KELLY
A	ISSUED FOR DISCUSSION	JO	TK		28.09.21	REVIEWED	T. KELLY

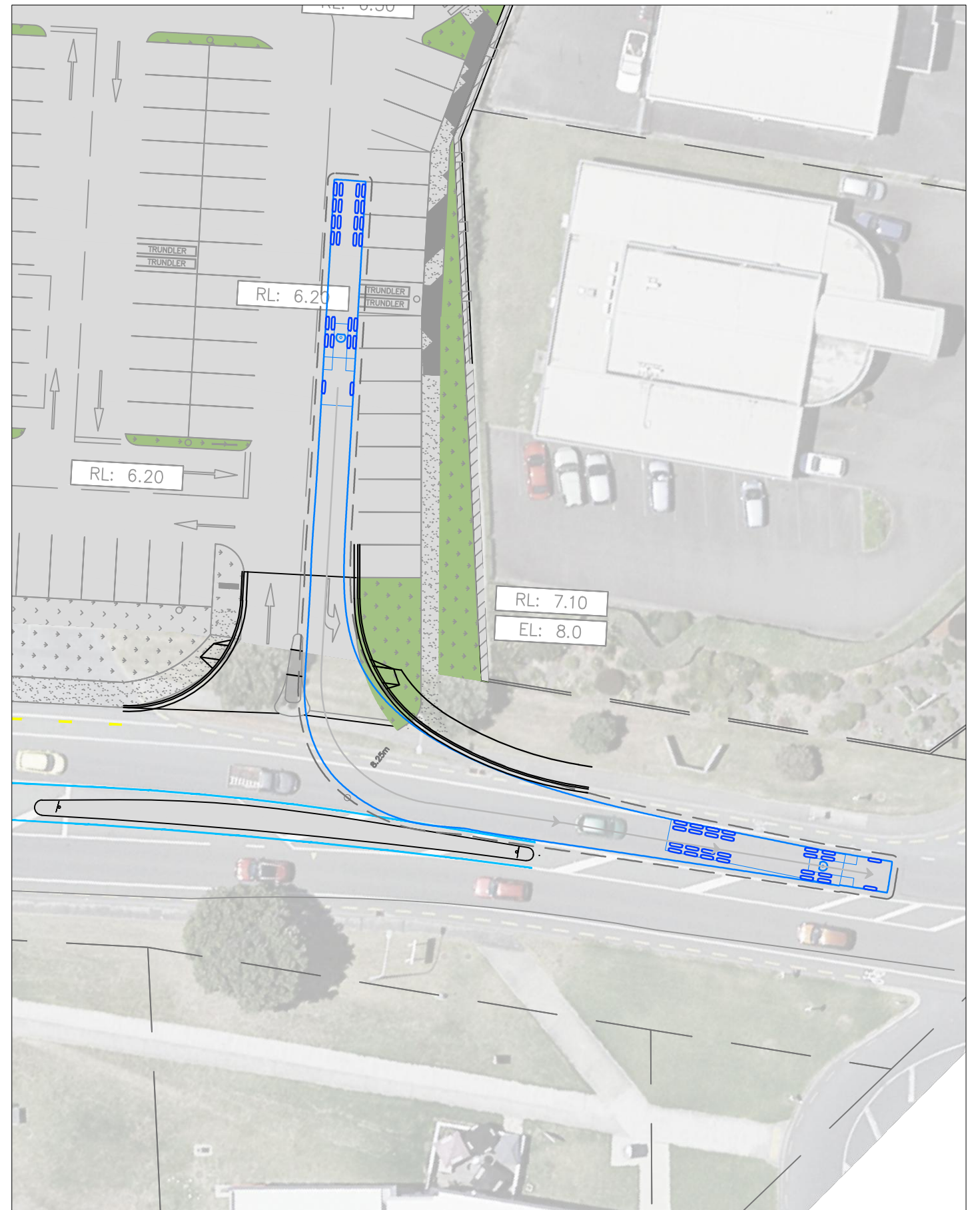
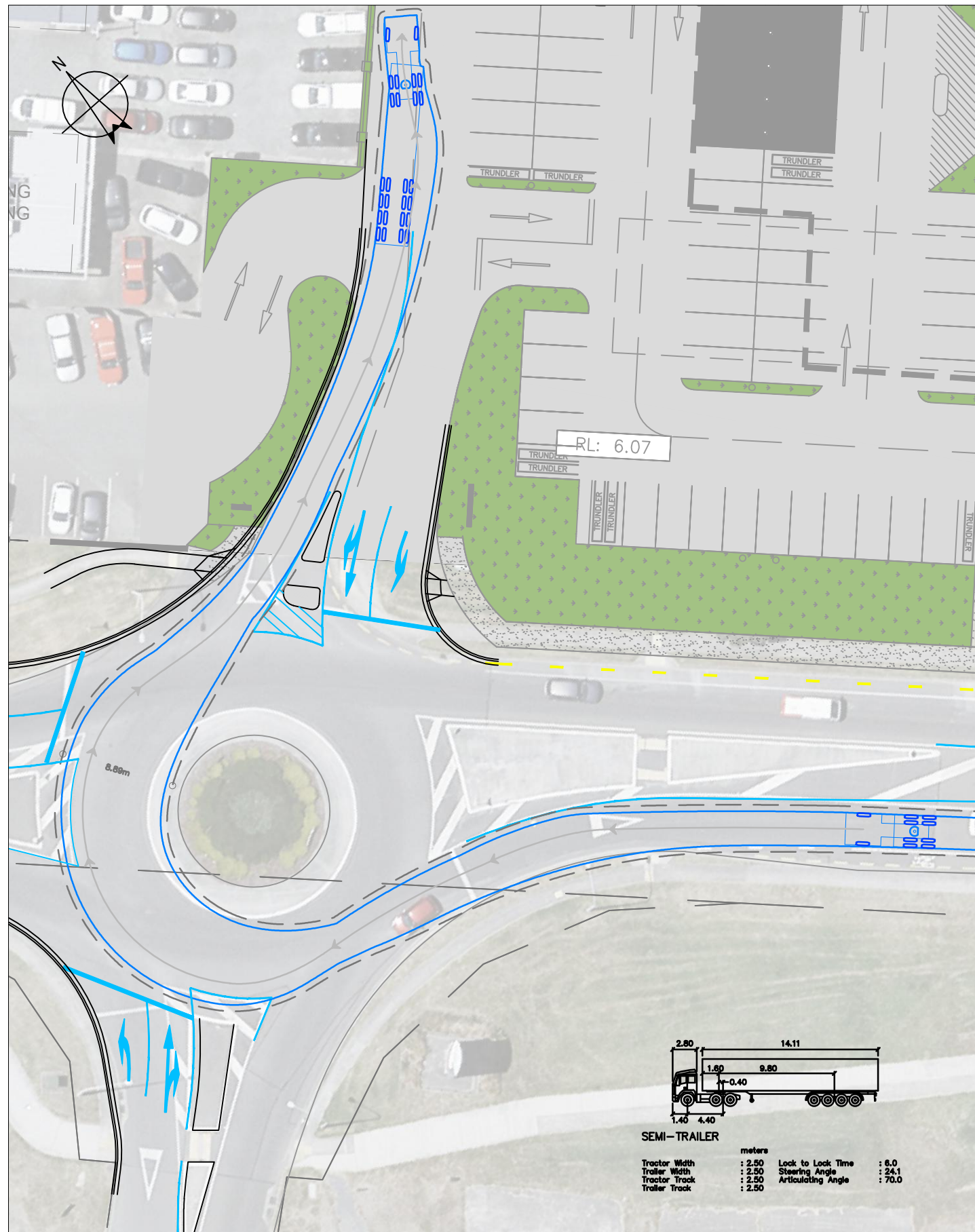
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VEHICLE TRACKING PLAN
8m MEDIUM RIGID TRUCK

DRAWING STATUS:	
CONCEPT	
PLOT DATE: 01.04.2022	SCALE AT A1: 1:200
DRAWING NO. 21-005-SK002	REV E



NOT FOR CONSTRUCTION

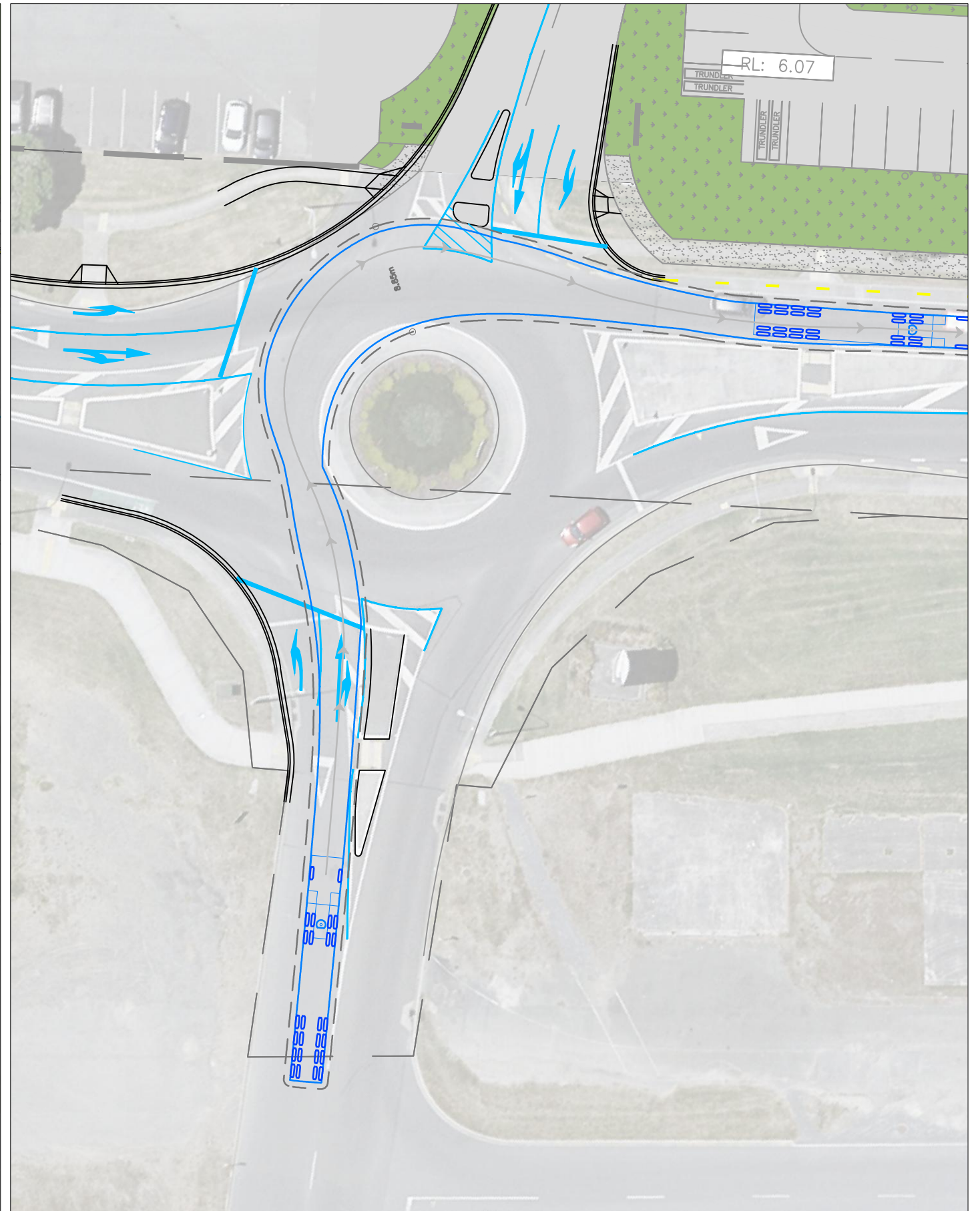
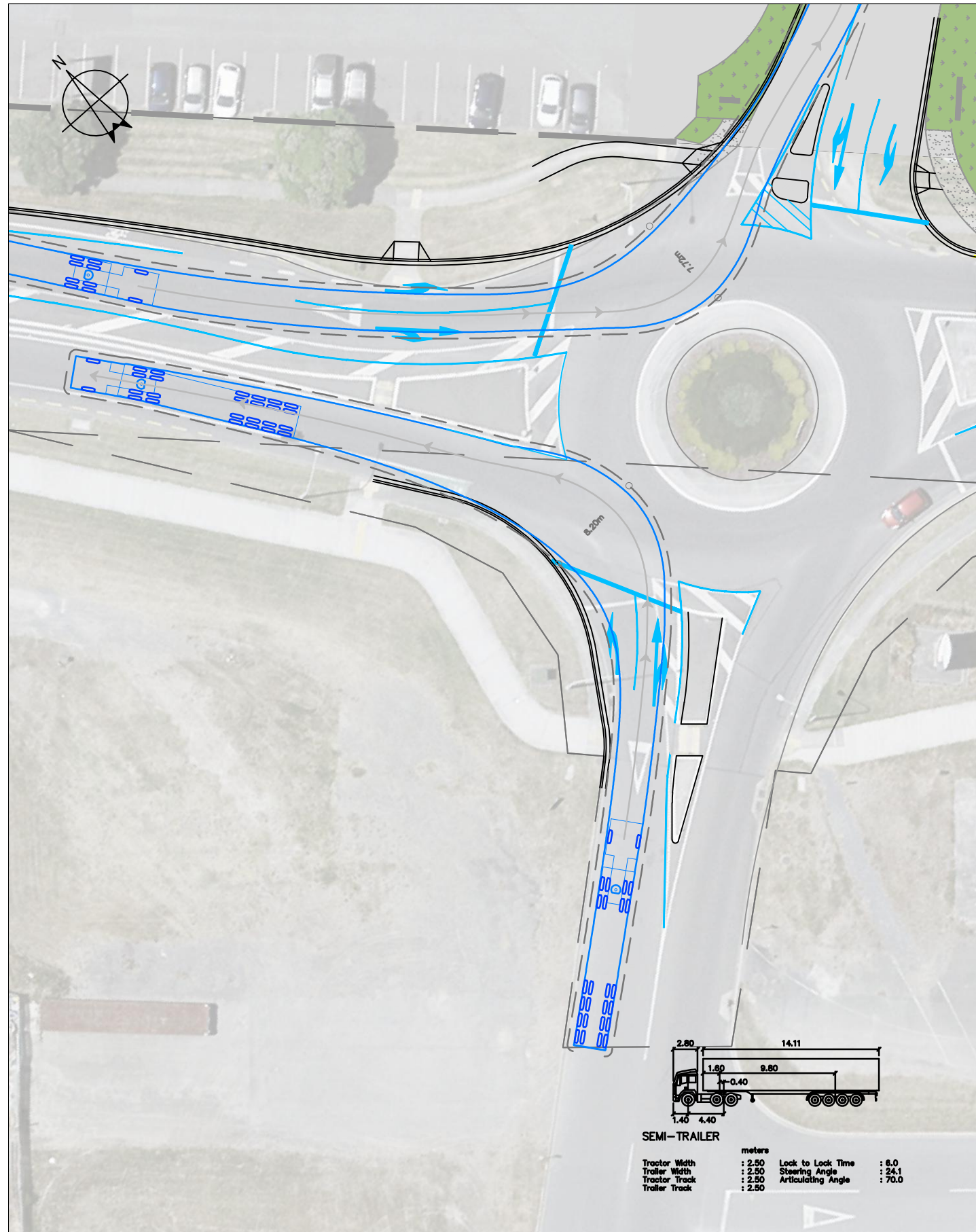
REV	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE	APPROVED	NAME
E	ADDITIONAL LANE ADDED TO NORTHWESTERN APPROACH	JO	TK		31.03.22	DESIGNED	J. ORRINGE
D	DESIGN REVISED TO AVOID LAND TAKE	JO	TK		03.12.21		
C	LAND TAKE AREA ADDED	JO	TK		01.12.21	DRAWN	J. ORRINGE
B	23m B-TRAIN TRACKING ADDED	JO	TK		29.09.21	REVIEWED	T. KELLY
A	ISSUED FOR DISCUSSION	JO	TK		28.09.21		

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VEHICLE TRACKING PLAN
SEMI - TRAILER TRACKING

DRAWING STATUS:	
CONCEPT	
PLOT DATE: 01.04.2022	SCALE AT A1: 1:200
DRAWING NO. 21-005-SK003	REV E



NOT FOR CONSTRUCTION

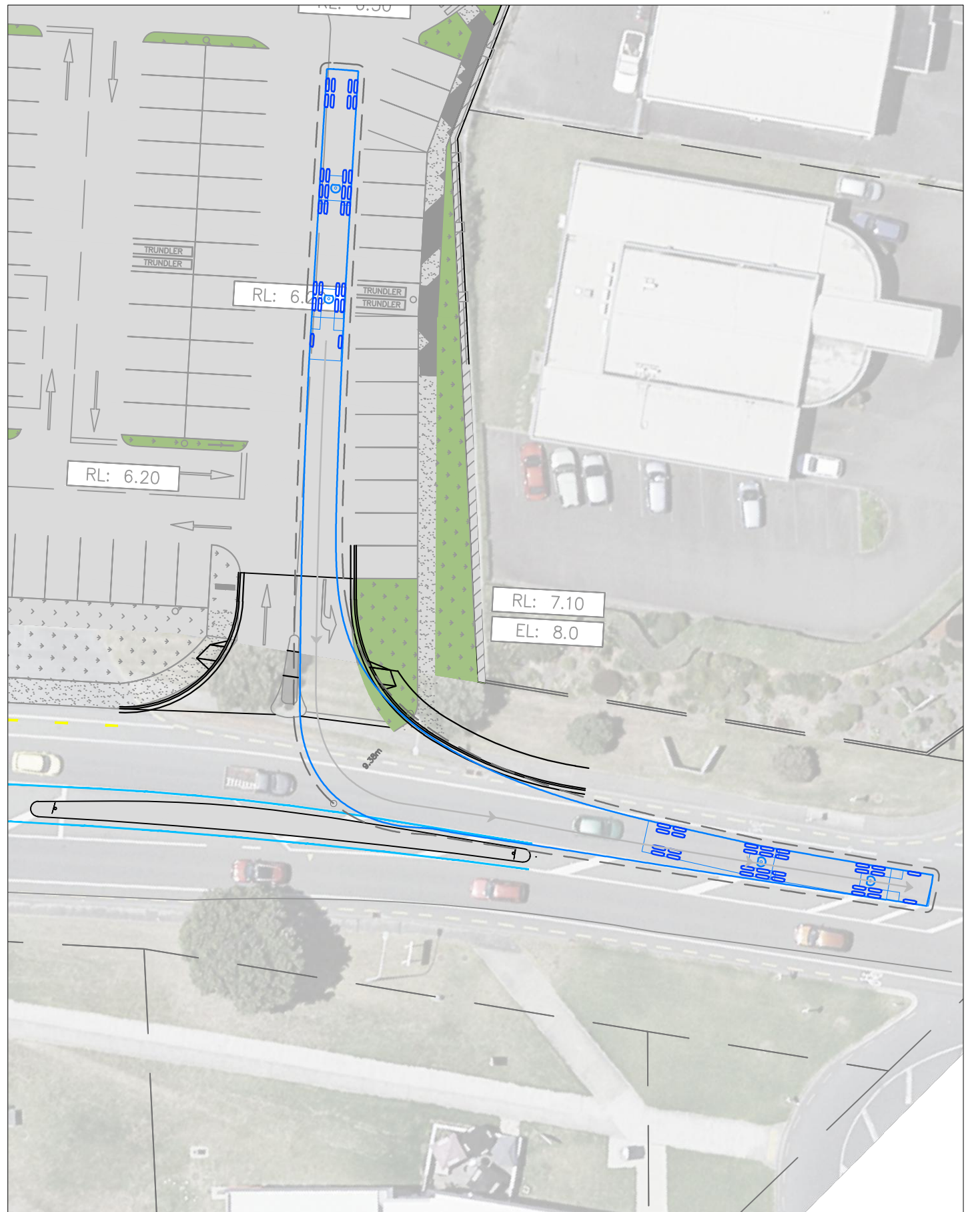
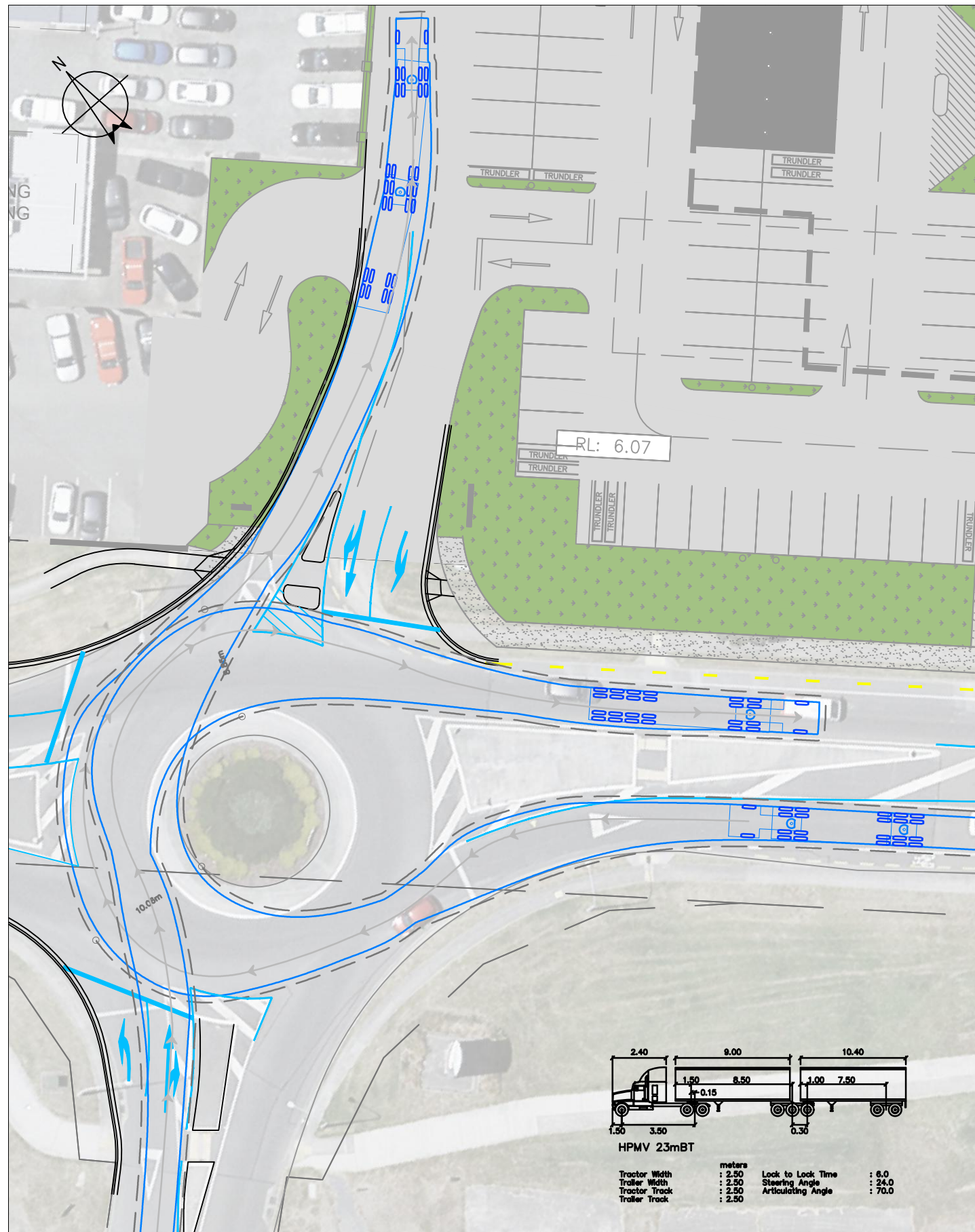
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D	DESIGN REVISED TO AVOID LAND TAKE	JO	TK		03.12.21	DRAWN	J. ORRINGE
C	LAND TAKE AREA ADDED	JO	TK		01.12.21	REVIEWED	T. KELLY
B	23m B-TRAIN TRACKING ADDED	JO	TK		29.09.21		
A	ISSUED FOR DISCUSSION	JO	TK		28.09.21		

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VEHICLE TRACKING PLAN
SEMI TRAILER

DRAWING STATUS:	
CONCEPT	
PLOT DATE: 01.04.2022	SCALE AT A1: 1:200
DRAWING NO. 21-005-SK004	REV E



NOT FOR CONSTRUCTION

REV	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE	APPROVED	NAME
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D	DESIGN REVISED TO AVOID LAND TAKE	JO	TK		03.12.21		
C	LAND TAKE AREA ADDED	JO	TK		01.12.21	DRAWN	J. ORRINGE
B	23m B-TRAIN TRACKING ADDED	JO	TK		29.09.21	REVIEWED	T. KELLY
A	ISSUED FOR DISCUSSION	JO	TK		28.09.21		

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VEHICLE TRACKING PLAN
23m B-TRAIN

DRAWING STATUS:	
CONCEPT	
PLOT DATE: 01.04.2022	SCALE AT A1: 1:200
DRAWING NO. 21-005-SK005	REV E

APPENDIX B

REF #	Year	Time Period	Growth (2018 - 2026)	Countdown Development	Mitigation	LOS - Delays (secs/veh)																Intersection
						From: Kapiti Road (SE)				From: Friendship Place (SW)				From: Kapiti Road (NW)				From: Access / Countdown (NE)				
						Left	Ahead	Right	Approach	Left	Ahead	Right	Approach	Left	Ahead	Right	Approach	Left	Ahead	Right	Approach	
1	2018	WkDy PM Peak	n/a	No	No	5	5	9	5	12	12	16	14	4	4	8	5	8	8	12	9	7
2	2026	WkDy PM Peak	1.4% pa	No	No	6	6	10	6	20	20	24	22	5	5	9	6	10	10	14	11	9
3	2026	WkDy PM Peak	1.4% pa	Yes	Yes	15	15	19	15	12	15	19	15	6	5	9	6	10	10	14	13	12
4	2026	WkDy PM Peak	2.0% pa	No	No	7	7	11	7	31	31	35	33	6	5	10	6	10	10	14	12	12
5	2026	WkDy PM Peak	2.0% pa	Yes	Yes	19	19	23	20	14	22	26	20	6	6	10	6	12	12	16	14	14
6	2018	Saturday	n/a	No	No	5	5	9	5	24	24	28	26	13	12	17	13	14	14	18	15	14
7	2026	Saturday	0% pa	No	No	5	5	9	5	24	24	28	26	13	12	17	13	14	14	18	15	14
8	2026	Saturday	0% pa	Yes	Yes	11	11	15	12	13	12	16	14	6	11	16	12	21	21	25	24	13
9	2026	Saturday	2.0% pa	No	No	8	8	12	9	258	258	262	260	36	36	40	37	18	18	22	19	80
10	2026	Saturday	2.0% pa	Yes	Yes	28	28	32	28	78	86	90	84	7	41	45	37	87	87	91	90	49

TABLE 1: Kapiti Road / Friendship Place Roundabout Performance (2% pa growth test)

KEY: Level of Service					
A	B	C	D	E	F

REF #	Year	Time Period	Growth (2018 - 2026)	Countdown Development	Mitigation	LOS - Delays (secs/veh)																Intersection
						From: Kapiti Road (SE)				From: Friendship Place (SW)				From: Kapiti Road (NW)				From: Access / Countdown (NE)				
						Left	Ahead	Right	Approach	Left	Ahead	Right	Approach	Left	Ahead	Right	Approach	Left	Ahead	Right	Approach	
1	2018	WkDy PM Peak	n/a	No	No	5	5	9	5	12	12	16	14	4	4	8	5	8	8	12	9	7
2	2026	WkDy PM Peak	1.4% pa	No	No	6	6	10	6	20	20	24	22	5	5	9	6	10	10	14	11	9
3	2026	WkDy PM Peak	1.4% pa	Yes	Yes	15	15	19	15	12	15	19	15	6	5	9	6	10	10	14	13	12
4	2026	WkDy PM Peak	Double FP Traffic	No	No	21	21	25	21	811	811	815	812	8	7	12	9	14	13	17	14	287
5	2026	WkDy PM Peak	Double FP Traffic	Yes	Yes	119	120	124	120	144	200	204	172	6	13	17	13	36	36	40	39	93
6	2018	Saturday	n/a	No	No	5	5	9	5	24	24	28	26	13	12	17	13	14	14	18	15	14
7	2026	Saturday	0% pa	No	No	5	5	9	5	24	24	28	26	13	12	17	13	14	14	18	15	14
8	2026	Saturday	0% pa	Yes	Yes	11	11	15	12	13	12	16	14	6	11	16	12	21	21	25	24	13
9	2026	Saturday	Double FP Traffic	No	No	13	13	17	14	775	75	779	777	87	87	91	88	19	18	23	20	334
10	2026	Saturday	Double FP Traffic	Yes	Yes	60	60	64	60	377	422	426	405	7	109	113	99	93	93	97	95	192

TABLE 2: Kapiti Road / Friendship Place Roundabout Performance (Double Friendship Place Volumes Test)

KEY: Level of Service					
A	B	C	D	E	F