

UNDER THE Resource Management Act 1991

IN THE MATTER OF A Joint Application by Hirock Limited to
Palmerston North City Council LU 6962 and
Manawatu - Whanganui Regional Council
APP-2022203991.00 to Expand Linton
Quarry

STATEMENT OF EVIDENCE OF JOSEPH ADAM PHILLIPS

INTRODUCTION

1. My full name is Joseph Adam Phillips.
2. I have a B Eng (Hons) Civil Engineering from Nottingham Trent University (1998). I am a Member of Engineering New Zealand and the Resource Management Law Association.
3. I currently hold the position of Principal at Beca Limited (Beca). I have over 20 years' experience in traffic and transportation with core experience in transport planning and traffic engineering. I have prepared and reviewed Integrated Transport Assessments and transport assessments for a wide range of land development and infrastructure projects across New Zealand. I have provided expert evidence on numerous occasions for Council hearings regarding plan changes and resource consent applications.
4. I have previously provided transport expert evidence in relation to the resource consents by Watercare Services Limited (Watercare) for the Huia replacement water treatment plant and new reservoirs, which considered the movement of heavy trucks for spoil removal within a semi-rural and suburban environment on the fringes of Auckland. This identified an appropriate mitigation package for the proposed activities.
5. I have previously been involved in the preparation of the transport assessments undertaken by Beca in relation to the Runciman Reservoirs project, undertaken by Watercare. My role included reviewing the transport reporting and transport evidence for the resource consents associated with the construction and operation of that project.

6. I have provided expert evidence for the 36th America's Cup Base Infrastructure (AC36) project in the Environment Court, which considered the construction, operation and events associated with the AC36 project. In particular, this considered the effects associated with construction vehicles operating within the busy Wynyard Precinct and adjacent City Centre environment, and identified an appropriate package of mitigation (including management plans) to address the potential adverse effects, so these were considered acceptable.
7. In addition, many of the land development and transport infrastructure projects I have been involved with have required consideration of heavy vehicle movements and construction traffic. I have been involved in several projects for industrial land use activities, which require consideration of the operational effects of heavy vehicles on the project site and surrounding transport network.
8. The original resource consent application was submitted prior to my involvement in the Linton Quarry Expansion project (the Project). The Traffic Impact Assessment report accompanying that original resource consent application was prepared by Tessa Lin and Caron Greenough for Beca Ltd and dated 13 January 2021. Following the original resource consent submission, a transport review was undertaken by Harriet Fraser on behalf of Palmerston North City Council (PNCC), dated 22 September 2021.
9. I have been involved in the Project since September 2022, leading the transport advice provided to Hirock Ltd. I have reviewed the previous transport report and the subsequent transport review by Harriet Fraser Traffic Engineering & Transportation Planning (Harriet Fraser) and been involved in the subsequent discussions with PNCC and Waka Kotahi New Zealand Transport Agency (Waka Kotahi) in relation to the variation to the resource consent. This has included reviewing the further information request from PNCC on the resource consent variation, reviewing the proposed conditions and attending a meeting with PNCC and Waka Kotahi on 3 October 2022. I visited the site during the daytime on Tuesday 20th September 2022. I will also be visiting the site again prior to the hearing date, noting Kendalls Line has been resealed since my previous visit.
10. I have also been involved in the preparation of the Joint Witness Statement on transport matters dated 15th May 2023. The expert conferencing involved online meetings on the following days as well as email correspondence:
 - a. Monday 8th May 2023
 - b. Thursday 11th May 2023
11. I attended the conferencing with Ms Harriet Fraser for PNCC.

12. The only unresolved matter arising from the conferencing is related to addressing the concern raised by submitters during the pre-hearing meeting on 5th May 2023, which I attended. This regards trucks crossing the centreline, as they turn left to enter Kendalls Line from SH57.
13. Waka Kotahi did not attend the conferencing, but I have been involved in subsequent discussions with Waka Kotahi relating to this matter, which I discuss in section 0 of my evidence.

CODE OF CONDUCT

14. While this consent is not before the Environment Court, I have read and am familiar with the Code of Conduct for Expert Witnesses in Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this evidence and will follow it when presenting evidence at the hearing.
15. The data, information, facts and assumptions I have considered in forming my opinions are set out in my evidence to follow. The reasons for the opinions expressed are also set out in my evidence to follow.
16. Unless I state otherwise, my evidence is within my sphere of expertise, and I have not omitted to consider material facts known to me that might after or detract from the opinions that I express.

SCOPE OF EVIDENCE

17. My evidence addresses the following:
 - a. Existing transport environment;
 - b. Project description, as relevant to my evidence;
 - c. Effects of operational traffic and mitigation;
 - d. Response to submissions;
 - e. Response to s42A officer's report.

SUMMARY

18. In my opinion, the proposed conditions with the minor amendments identified in the Joint Witness Statement, as well as the new proposed condition relating to safety improvements at the Kendalls Line intersection with SH57, will satisfactorily address any adverse transport effects on the safe and efficient operation of the roading network arising from the proposed quarry expansion and associated activities.

EXISTING TRANSPORT ENVIRONMENT

19. The Traffic Impact Assessment dated 13 January 2021 outlined the existing transport environment in detail. However, below, I have highlighted the key information that is relevant to the Project and key traffic effects discussed in my evidence.
20. Linton Quarry is located at 167 Kendalls Line, Linton, which is the end of Kendalls Line. Kendalls Line is a cul-de-sac and can only be accessed via State Highway 57 (SH57). Kendalls Line is a 1.6km long straight two-way rural road. The width of the carriageway is about 5.5 to 6.0m. A speed limit of 70km/h and a warning sign of "Quarry Traffic" are installed at the western end of Kendalls Line. A "Caution Children" warning sign is installed within 100m of the SH57 / Kendalls Line intersection.
21. There are approximately 10 lifestyle and farm properties along the road, eight of which have their accesses located within the first 600m of Kendalls Line from SH57. Currently, there is no footpath on either side of Kendalls Line to serve these properties.
22. A traffic survey was conducted at the SH57 / Kendalls Line intersection on Tuesday 13 February 2020 from 6:30 am to 6:30 pm. The survey identified there were 259 vehicle movements accessing Kendalls Line during the survey period, and 147 of these vehicle movements were identified to be by heavy trucks. Of these heavy trucks, only 12 were observed turning right into Kendalls Line from SH57.
23. The current resource consent allows the quarry to operate from 7.00am to 7.30pm Monday to Saturday (including public holidays).
24. According to NZTA's State Highway Traffic Volume Datasheet, the average annual daily traffic volume for SH57 was nearly 5,000 vehicles per day in 2018, of which 10% vehicles were heavy vehicles.

25. The current speed limit on SH57 through the intersection with Kendalls Line is 100 kilometres per hour (km/h). The SH57 / Kendalls Line intersection is "Give Way" controlled, and a wide shoulder is provided, catering for vehicles turning left into Kendalls Line. The intersection is located on a moderate curve with an advisory approach speed to the curve of 85 km/h.
26. Waka Kotahi's Crash Analysis System (CAS) was used to review the ten-year crash record from 2010 to 2019 within the Traffic Impact Assessment. The crash record showed that all crashes at the intersection were lost-control type crashes and associated with the curve alignment on SH57. There was only one crash involving a truck, and it was a non-injury crash on Kendalls Line.
27. I have obtained further crash records from Waka Kotahi's CAS for the period from January 2020 to September 2022. In this period, there were two additional crashes near the Kendalls Line and SH57 intersection. Neither crash involved vehicles turning to and from Kendalls Line and one involved minor injury.
28. In my opinion, the crash history shows that the current number of trucks accessing the site has not resulted in any significant safety issues.

PROJECT DESCRIPTION

29. The Project is comprehensively described in the AEE. I have therefore highlighted below the key information that is related to the consideration of traffic effects in my evidence.
30. The current resource consent allows 27 trucks (or 54 truck movements) to visit the Linton Quarry at the end of Kendalls Line. The Project proposes to increase the production to supply a number of large projects, resulting in an increase in the number of truck movements per day on an annual rolling average. As a result of that, truck movements of 200 per day (as an average) with a peak of 250 per day are proposed in the resource consent variation.
31. As discussed in section 4.2 of the Beca Traffic Impact Assessment dated 13 January 2021, sufficient space is provided on site for parking up to 20 cars, as well as to provide for loading, manoeuvring and access space associated with the quarry activities.

EFFECTS OF OPERATIONAL TRAFFIC AND MITIGATION

32. The Traffic Impact Assessment dated 13 January 2021 concluded that the traffic effects of the proposed expansion of the Linton Quarry would be no more than minor. However, I note that concerns regarding the increased number of truck movements were raised by Harriet Fraser in the transport review on behalf of PNCC. In particular, this related to adverse traffic effects for vulnerable road users at the western end of Kendalls Line near SH57, effects on the road pavement condition and traffic safety effects at the SH57 / Kendalls Line intersection.
33. Following my involvement in the Project, I reviewed the previous Traffic Impact Assessment and the transport review by Harriett Fraser. I agreed with some of the concerns raised by Harriett Fraser in relation to the traffic effects of the Project. As a result, I recommended conditions, which are now included in the proposed conditions, which address the adverse transport effects identified by Harriett Fraser in the review. I have addressed the two key transport matters below.
34. I note the effects of the Project on the road pavement condition are not within my area of expertise and have been addressed separately with a proposed condition relating to this matter.

Vulnerable Road Users on Kendalls Line

35. Currently, there is no footpath on the western end of Kendalls Line. The Project proposes to increase truck movements on Kendalls Line from the current operational truck movements of 54 per day to 200 per day (as an average), or 250 per day as a maximum. There is an existing "Quarry Traffic" warning sign and a "Caution Children" warning sign within 100m of the start of Kendalls Line, which will both be retained.
36. There is no walking and cycling data available on Kendalls Line. Based on my site visit and the number of properties along the road, I consider there would be a low number of people walking and cycling on Kendalls Line. As such, I expect the proposed increase in truck movements to result in a minor increase in potential conflict with any pedestrians and cyclists on Kendalls Line. However, given the type of heavy trucks operating along Kendalls Line, I consider that the potential safety effects could be more than minor.
37. As such, I consider it appropriate to provide a facility for pedestrians and cyclists that would allow them to walk or cycle along Kendalls Line with some physical from heavy trucks accessing the Linton Quarry.

38. Condition 4 of the proposed conditions requires Hirock to provide a separated minimum 1.0m wide lime chip path along the northern side of Kendalls Line between 4 and 75 Kendalls Line. This will connect the majority of properties and accesses along the road and provide separation between vehicles and vulnerable road users.
39. In addition, a reduction in the courtesy speed limit reduction for heavy trucks is proposed on Kendalls Line, which will reduce the advisory speed limit from the current 70km/h to 50km/h. With the reduced courtesy speed limit, the required truck stopping distance will be reduced, and I consider this will assist heavy truck drivers by providing them more time to respond to unexpected situations, should pedestrians or cyclists be crossing the road to access the proposed facility. I also understand that Hirock proposes to update its existing Traffic Management Plan, so all truck drivers are informed about new safe vehicle speeds of 50km/h for heavy trucks accessing the Linton Quarry and this is provided for through the proposed conditions.
40. I therefore consider that, with the proposed conditions the adverse safety effects on vulnerable road users on Kendalls Line can be appropriately managed, such that any effects will be minor or less.

SH57 / Kendalls Line Intersection

41. The Harriett Fraser review identified concerns with the safety of the SH57 and Kendalls Line intersection. The review requested that a safety audit of the intersection of SH57 and Kendalls Line be undertaken.
42. I note that the crash records for the intersection over the last ten years to twelve years (to 2022) did not identify any significant safety issues associated with heavy trucks entering or exiting Kendalls Line. As such, I do not consider that a safety audit for this intersection is necessary, as part of this Project.
43. However, I consider that the increase in truck movements has the potential to increase the risk for all road users at the intersection and, therefore, the number of heavy truck movements to and from the Linton Quarry should be limited.
44. Condition 5 and Condition 10 of the proposed conditions will limit the average daily heavy truck movements to 200 per day and the maximum daily truck movements to and from the site to 250 per day, as well as the number of movements in any hour. The conditions also include specific restrictions in relation to the number of right turn movements from SH57 into Kendalls Line and associated monitoring requirements.

45. I consider that, with the proposed conditions to limit and monitor the number of heavy trucks movements on Kendalls Line and at the intersection, the potential adverse safety effects at the Kendalls Line and SH57 intersection will be appropriately managed, so any adverse traffic effects will be less than minor.

Transport Effects Summary

46. I have reviewed the relevant Section 9 of the Palmerston North City Council District Plan (May 2018) relating to activities in the Rural zone. The assessment criteria in section 9.8.3 of the Plan include transport criteria relating to quarrying as a discretionary activity.
47. The two relevant transport criteria in section 9.8.3 are parts a. and b., covering:
- a. any adverse effects on the safe and efficient operation of the roading network associated with traffic movements, plus
 - b. the provision of adequate on-site parking, loading, manoeuvring and access space to avoid this taking place on roads.
48. For the reasons I have discussed above, and subject to the minor amendments to the proposed condition and the additional condition I have discussed later in my evidence, it is my opinion that:
- a. The identified adverse transport effects on the safe operation of the roading network can be satisfactorily mitigated, so these will be minor or less.
 - b. There will be adequate on-site provision to avoid roads being used for parking, loading, manoeuvring and access space associated with quarry activities.

RESPONSE TO SUBMISSIONS

49. Four submissions have been provided, all of which oppose the Project, with concerns on matters relating to noise, dust and vibration effects. These are from the residents at the properties at Nos. 11, 15, 39 and 42 Kendalls Line. The submission by Brent and Jude Vautier from [REDACTED] is the only submission that raises concerns with traffic matters in terms of safety effects.
50. More specifically, Brent and Jude Vautier have raised concerns around the number of trucks proposed and proposed restricting the truck numbers to no more than the current consent.

51. For the reasons I have discussed in my evidence, I consider the proposed limits on truck movements identified in the proposed conditions, together with the other proposed conditions, will satisfactorily provide for the safe operation of Kendalls Line.
52. As identified in paragraph 12 of my evidence, an additional matter was raised by submitters during the pre-hearing meeting on 5th May 2023. This regards trucks crossing the centreline, as they turn left to enter Kendalls Line from SH57.
53. I have investigated this concern and undertaken vehicle tracking analysis. The Beca Drawing No. 3823296-TA-1003 Revision B illustrating the vehicle tracking and the current road layout is included in Annexure A of my evidence.
54. The vehicle tracking confirms that, at present, there is a risk that if an entering truck and trailer vehicle follows close to the SH57 edge line into Kendalls Line, the truck and trailer vehicle will cross into the oncoming traffic lane (i.e. for traffic exiting Kendalls Line). The sight lines between a truck driver and an exiting vehicle are restricted by vegetation, some of which is in the road reserve. There is also a historic stock trough and associated tank, as illustrated on the Beca drawing, which I understand cannot be readily relocated, which prevents further widening on the north side of the intersection.
55. Having further reviewed this situation and considered the proposed number of daily heavy trucks, I consider that some mitigation to reduce the risk of conflict between heavy trucks turning left into Kendalls Line and vehicles approaching SH57 on Kendalls Line.
56. The Joint Witness Statement on transport matters dated 15th May 2023 identified a possible solution to change the road markings at the intersection to better guide the travel path of heavy trucks turning left in. This was accompanied by recommended removal of vegetation in the road reserve, particularly around the historic stock trough and adjacent water tank. The reduction in the courtesy speed limit for heavy trucks was also identified to assist with managing the potential conflict.
57. Following the preparation of the Joint Witness Statement, a meeting was held with Waka Kotahi on the 18th May 2023 to discuss the proposed mitigation measures. At this meeting, it was identified by Waka Kotahi that there was a potential risk associated with heavy trucks turning left into Kendalls Line needing to stop if a conflict with an exiting vehicle occurred. In this situation, with the proposed road markings, the back trailer of the heavy truck (particularly a truck and trailer vehicle) would still be obstructing traffic travelling southbound vehicles on SH57.

58. I acknowledge that this would be a risk with the proposed changes to the road markings identified in the Joint Witness Statement. As such, I have considered an alternative proposal to reduce the risk of conflict at this location. The proposed mitigation includes widening the road carriageway on the southern side of Kendalls Line approaching the intersection with SH57. The improvements also include changes to the road centreline and edgeline markings, consistent with the vehicle tracking analysis. This is accompanied by recommended removal of vegetation in the road reserve, particularly around the historic stock trough and adjacent water tank., as previously identified in the Joint Witness Statement. The proposed mitigation is illustrated on Beca Drawing No. 3823296-TA-1005 Revision B included in Annexure A of my evidence.
59. In my opinion, the proposed road carriageway widening accompanied by the improvements to sightlines between left turning heavy trucks and vehicles exiting Kendalls Line will satisfactorily address potential conflict situations. The improved sight lines will facilitate earlier awareness of other vehicles and any potential conflict, whilst the identified widening will provide sufficient space for exiting vehicles to avoid a potential conflict, should this be necessary. I consider that this will satisfactorily address this matter, so any adverse safety effects will be less than minor.
60. During the course of reviewing this matter, I have noted that current road markings at the intersection have been worn away over time. As illustrated on the Beca Drawing No. 3823296-TA-1005 Revision B, I also recommend that the current road markings are reinstated and then maintained by PNCC.
61. On the basis of the above, I recommend that an additional condition be included within the proposed conditions to provide for the implementation of these intersection improvements, as illustrated on Drawing No. 3823296-TA-1005 Revision B. This proposed condition is discussed further in the planning evidence of Ms. Hilderink-Johnson on behalf of the Applicant.

RESPONSE TO S42A OFFICER'S REPORT

62. I have reviewed the Section 42A report prepared by Ms. Natasha Adsett, as well as the specialist transport report prepared by Ms Harriett Fraser for PNCC.
63. In paragraphs 81 to 84 of the Section 42A report, Ms Adsett notes that the Joint Witness Statement demonstrates agreement the respective traffic experts on most transport matters and to the proposed conditions offered by the applicant, with the minor amendments that are identified in the Joint Witness Statement.

64. In paragraphs 85 to 86, Ms Adsett notes the additional matters raised by submitters that was unresolved at the time of the completion of the Joint Witness Statement, which is also discussed in Ms Fraser's evidence.
65. Ms Frasers specialist report, in Appendix F of the Section 42A report, concludes that with the minor amendments to the proposed Conditions (identified in her report and the Joint Witness Statement), she is generally satisfied that the traffic effects associated with the application are suitably minimised and mitigated.
66. Ms Fraser also notes that this is subject to safety improvements being provided on Kendalls Line in the vicinity of the intersection with SH57 that address the matters that was unresolved at the time of the completion of the Joint Witness Statement.
67. I have addressed this matter in paragraphs 52 to 61 of my evidence. As stated previously, I recommend that an additional condition is provided and consider that this will satisfactorily address this matter.

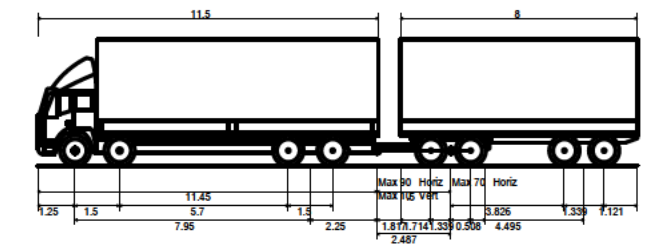
CONCLUSIONS

68. In my opinion, the proposed conditions with the minor amendments identified in the Joint Witness Statement, as well as the new proposed condition relating to safety improvements at the Kendalls Line intersection with SH57, will satisfactorily address any adverse transport effects on the safe and efficient operation of the roading network arising from the proposed quarry expansion and associated activities.

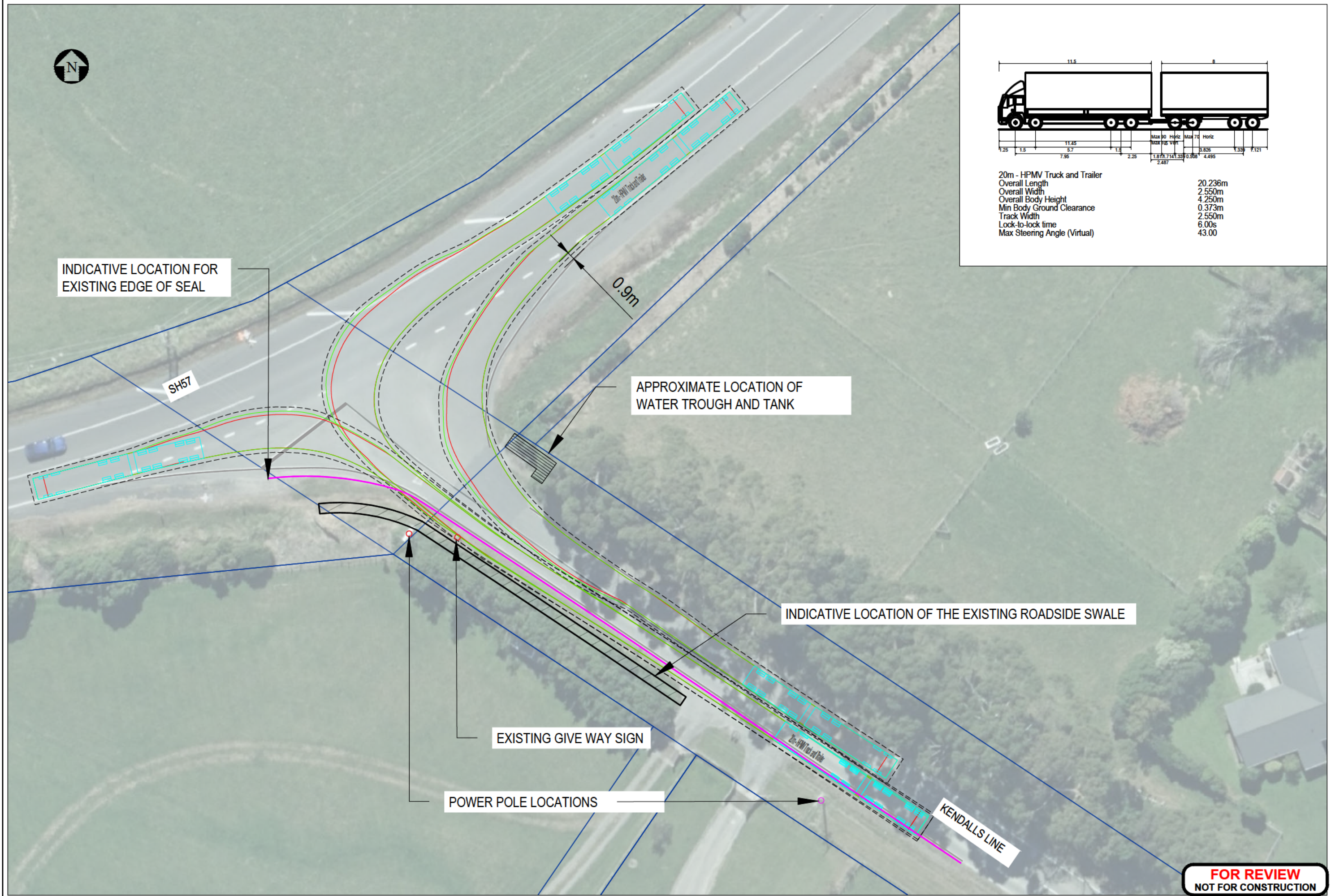


Joseph Adam Phillips

6 June 2023



20m - HPMV Truck and Trailer	20.236m
Overall Length	20.236m
Overall Width	2.550m
Overall Body Height	4.250m
Min Body Ground Clearance	0.373m
Track Width	2.550m
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	43.00



FOR REVIEW
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	FOR REVIEW	TL	PA	JP	30.05.23
A	FOR INFORMATION	TL	PA	JP	16.05.23

Original Scale (A1)	1:200
Design	T.LIN 16.05.23
Drawn	T.LIN 16.05.23
Design Verifier	J.PHILLIPS 16.05.23
Design Check	P.AUGUSTINE 16.05.23
Approved For Construction*	
Date	



Client: HIROCK LIMITED

Project: LINTON QUARRY

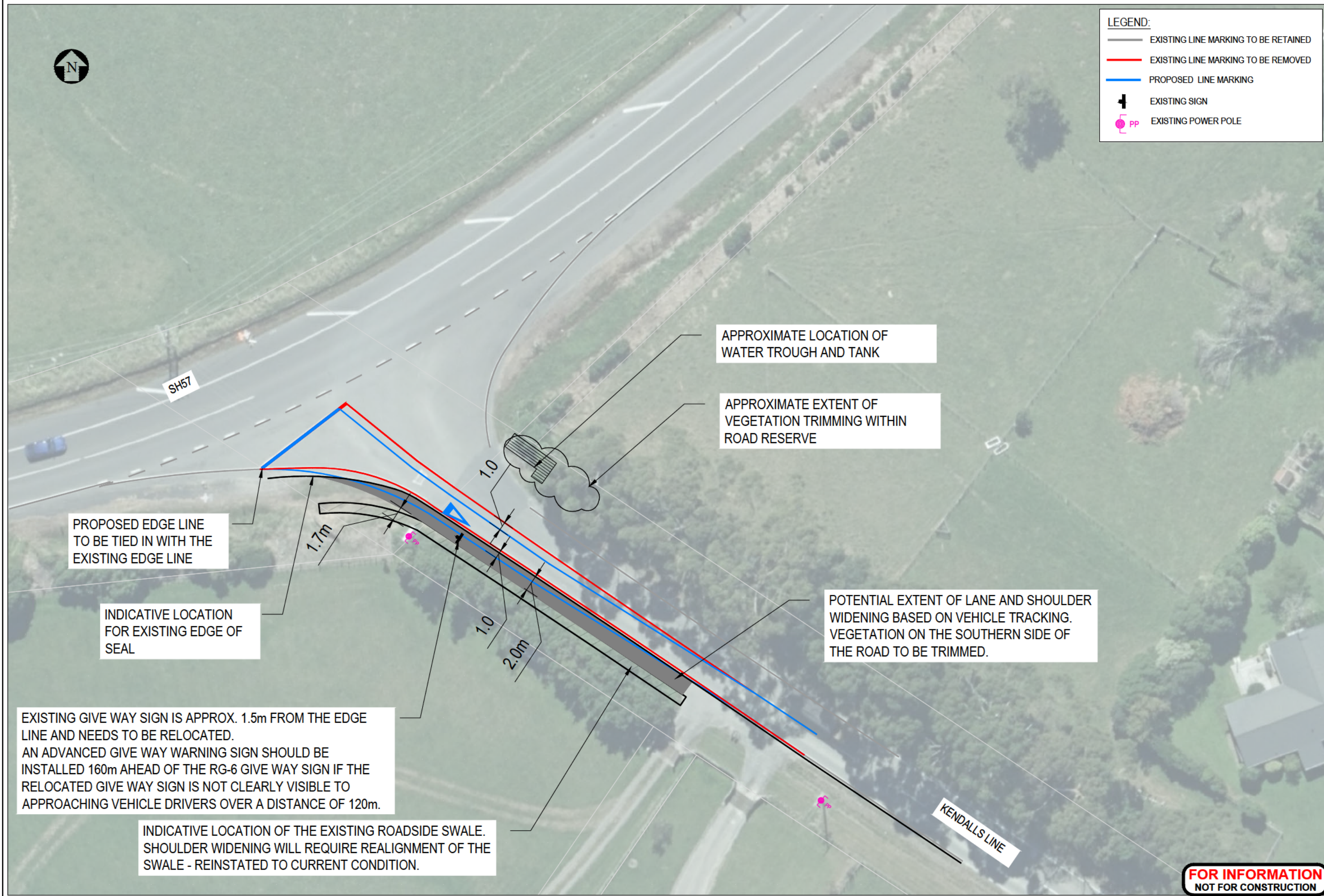
Title: VEHICLE TRACKING TRUCK AND TRAILER EXISTING ARRANGEMENT

Discipline: TRANSPORT ADVISORY
Drawing No: 3823296-TA-1003
Rev: B



LEGEND:

- EXISTING LINE MARKING TO BE RETAINED
- EXISTING LINE MARKING TO BE REMOVED
- PROPOSED LINE MARKING
- EXISTING SIGN
- EXISTING POWER POLE



EXISTING GIVE WAY SIGN IS APPROX. 1.5m FROM THE EDGE LINE AND NEEDS TO BE RELOCATED.
 AN ADVANCED GIVE WAY WARNING SIGN SHOULD BE INSTALLED 160m AHEAD OF THE RG-6 GIVE WAY SIGN IF THE RELOCATED GIVE WAY SIGN IS NOT CLEARLY VISIBLE TO APPROACHING VEHICLE DRIVERS OVER A DISTANCE OF 120m.

INDICATIVE LOCATION OF THE EXISTING ROADSIDE SWALE. SHOULDER WIDENING WILL REQUIRE REALIGNMENT OF THE SWALE - REINSTATED TO CURRENT CONDITION.

**FOR INFORMATION
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
B	FOR INFORMATION	TL	PA	JP	02.06.23
A	FOR REVIEW	TL	PA	JP	30.05.23

Original Scale (A1)	Design	T.LIN	29.05.23	Approved For Construction*
1:200	Drawn	T.LIN	29.05.23	
Reduced Scale (A3)	Design Verifier	J.PHILLIPS	30.05.23	Date
1:400	Design Check	P.AUGUSTINE	30.05.23	

* Refer to Revision 1 for Original Signature



Client: HIROCK LIMITED

Project: LINTON QUARRY

Title: KENDALLS LINE/SH57 INTERSECTION PROPOSED IMPROVEMENTS

Discipline: TRANSPORT ADVISORY
 Drawing No.: 3823296-TA-1005
 Rev.: B