Specialist Response Template – Fast-track Approvals Act 2024 – Substantive Application

Technical Specialist Memo - Economics

To:	Colin Hopkins – Lead Planner & Doug Fletcher – Principal Project Lead
From:	James Stewart – Economist (Chief Economist Unit, Auckland Council)
Qualifications & Relevant Experience:	I hold the qualification(s) of: **Bachelor of Commerce (Honours) in Economics** and have **7** years of experience as an **economist**. I have prepared expert evidence and technical assessments for resource consent applications, and fast-track applications.
Preparation in Accordance with the Code of Conduct:	I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (**Code**), and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.
Date:	19/09/2025

1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name:	Drury Quarry Expansion – Sutton Block
Fast-Track application number:	FTAA-2503-1037 (EPA reference) + BUN60449474 (Auckland Council reference)
Site address:	121 MacWhinney Drive, Drury; 1189 Ponga Road, Drury; 2113 and Ponga Road, Papakura

2.0 Executive Summary / Principal Issues

1. This is a review of an economic assessment[1] (**the report**). The report is in support of the Drury Quarry Sutton Block Expansion Fast-Track Approvals Act application to enable a Proposed Consent for continued use of Drury Quarry.
2. The report highlights the importance of aggregates which are a necessary product in the construction industry, particularly in roading and due to the nature of aggregates as heavy and bulky raw materials, they are expensive to move between locations.
3. The report makes some assumptions about the demand for aggregates that are, in my opinion, likely overstate the future demand for aggregates in Auckland. However, the report is convincing that demand for aggregates is both large and will continue to grow.
4. The report estimates the benefits of the Proposed Consent range between $2.45 billion to $5.4 billion over the life of the Consent. In my opinion these benefits are likely overstated because
    a. The underlying demand estimates are likely overstated.
    b. The choice of destination of aggregates is not representative of the market.
    c. The displacement of alternative aggregate sources being solely from out of region sources – ignoring potential Auckland-based sources.
5. There are some reasonably foreseeable costs arising from the Proposed Consent that were not addressed in the report, such as potential environmental costs from operation at the quarry site.
6. While I believe the avoided costs are likely overstated, they are probably still large. However, these benefits must be balanced against the costs that the Proposed Consent imposes and these costs have not been considered. It is therefore difficult to come to any conclusion as to whether the Proposed Consent represents a net benefit from a welfare perspective.
7. It is plausible that the Proposed Consent represents a significant regional benefit for Auckland as described in the FTAA, but again since the benefits have, in my opinion, been overstated and the costs have not been considered I find it difficult to conclude that the net present value of the Proposed Consent is large.

3.0 Documents Reviewed

- Market Economics (2025). Drury Quarry Extension – Economic Impact Assessment. Prepared for Stevenson Aggregate Ltd. Final report dated 20 February 2025.

4.0 Additional Reasons for Consent Not included in AEE

[1] Market Economics (2025). Drury Quarry Extension – Economic Impact Assessment. Prepared for Stevenson Aggregate Ltd. Final report dated 20 February 2025.

5.0 Specialist Assessment

Supply and demand of aggregates

8. The report outlines the importance of aggregates for Auckland and the New Zealand economy including the uses of aggregates in private sector construction and use in roading. Noting that due to the bulk and weight of aggregates, a primary cost is transport from quarries to processing facilities.
9. It is not entirely clear what formula was applied to calculate demand for aggregates in Table 3.5. The figures appear to be determined using the estimated population as a base. Attempting to work back the figures from the Median growth scenario, 15.4 Million tonnes in 2025, dividing by the Auckland population indicated (1.8 million), the amount of aggregate per person appears much higher (8.6 under medium growth and 8.8 under high growth) than what is indicated by the Auckland Median (6.1 tonnes / capita) or Auckland average (6.4 tonnes / capita). These higher numbers approximately align with the New Zealand Median (9.0 tonnes / capita) and Average (8.7 tonnes / capita).
10. This difference has the effect of potentially overstating the demand for aggregates in Auckland.
11. Table 3.6 demonstrates the estimated difference between aggregates produced in Auckland and aggregates sourced from outside Auckland. Under the Medium growth scenario Market Economics estimate a current (2025) shortfall of 4.2 million tonnes, rising to 6.9 million tonnes in 2048. Under high growth, the current (2025) estimated shortfall is 4.6 million tonnes, rising to 20.4 million tonnes.
12. Replacing these numbers with Auckland Median and Auckland average numbers lowers the total demand by 29% and 27%, respectively. Using the same population figures implied by the analysis results in a medium growth scenario shortfall of 1.7 million tonnes in 2048 and a high growth scenario shortfall of 11.9 million tonnes in 2048.
13. Moreover, based on a Waka Kotahi report[2], cited in the Market Economics report, the relationship between aggregates and population may not be as straightforward as implied by Property Economics. Figures 7.4 - 7.5 in the Waka Kotahi report indicate a weak relationship between aggregate usage and population growth on its own, with variation explained by other factors including construction sector output and investment in roads (“Transport accounts for approximately 50% of aggregate use in New Zealand” (Ibid p. 78))

[2] Wilson, D., Sharp, B., Sheng, M. S., Sreenivasan, A., Kieu, M., & Ivory, V. (2022). Aggregate supply and demand in New Zealand (Waka Kotahi NZ Transport Agency Research Report 693). University of Auckland in collaboration with WSP. https://www.nzta.govt.nz/

14. The regional shortfalls are contingent on the demand estimates being correct, which in my opinion is questionable, and no new suppliers in Auckland beginning operations and no existing suppliers expanding operations to output more aggregates. It is likely that demand for goods will be seen as an opportunity for the sector and will be taken up.
15. Notwithstanding these reservations of the underlying assumptions which could overstate the demand for aggregates in Auckland, the demand for aggregates is likely to continue to grow and additional sources of aggregates will need to be enabled to support growing demand.

Costs and benefits

16. The report establishes a counterfactual as the current consumption pattern of aggregates from around Auckland (excluding the Drury Quarry) with latent demand served by supply from Northland and Waikato regions. It is assumed that no other new suppliers would begin operations or expand operations, which in my opinion is a bold assumption.
17. The report makes a strong case that avoided transport costs are the largest benefit arising from the Proposed Consent. The report also notes that avoided emissions and avoided social harm benefits exist, which I agree with.
18. It is not clear why Penrose is chosen as the destination point for quarried aggregates. There appear to be other concrete plants to process aggregates which would be more efficient for Waikato or Northland based quarries, i.e., at lower transport cost.
19. The end users of the processed aggregate would still have to travel to and from this point. Penrose, being a relatively central regional location, may represent an efficient location when demand is uniformly distributed, but not when demand is heterogeneous. For example, aggregates sourced in Northland would likely be processed in Northland or more central to growth areas of Auckland in need of aggregates (particularly new roading areas).
20. The choice of Penrose as the sole processor of aggregates for Auckland has the effect of overstating the avoided costs.
21. It is assumed that no other Auckland quarries are able to increase production or act as substitutes but instead that substitutes must come from Waikato or Northland. This seems like an unreasonable assumption as existing quarries or new quarries (potentially in more advantageous locations) would be incentivised to increase production. This has the effect of overstating avoided costs from transporting aggregates.
22. The report estimates that costs of $29.4 million to $65.2 million per million tonnes of aggregate produced would be avoided from the Proposed Consent. And over the lifecycle of the development that this would result in avoided costs of $2.45 billion to $5.4 billion (using a discount rate of 5%).
23. In my opinion these numbers are likely overstated for three reasons:
    a. The estimated demand for aggregates in Auckland may be overstated.

b. The choice of Penrose as the only processing facility of aggregates.
c. The displacement of alternative aggregate sources being solely from out of region sources.

24. However, it is plausible that avoided costs would still be large even with more moderate assumptions.
25. No costs were identified in the report of maintaining the quarry in its current use for further resource extraction.
26. There are reasonably foreseeable environmental costs associated with quarrying activities that have not been addressed. While these may be small relative to the size of the ostensible benefits, these should have be noted in a cost-benefit analysis framework to ensure that these costs are not out of proportion with the stated benefits.
27. Although though the avoided costs are likely overstated, I do not think this makes them completely unreliable; they likely represent an upper bound of potential benefits arising from the Proposed Consent rather than a mid-point.
28. These benefits, however, need to be balanced against the costs that arise from the Proposed Consent. No costs have been identified which, in my opinion, is implausible.

Definition of '(significant) regional or national benefits'

29. The expressions 'significant regional or national benefits' (used in the purpose of the FTAA: section 3) and 'regional or national benefits' (used in sections 81 and 85 of the FTAA), are not defined in the legislation and I am not aware of any currently accepted metrics / quantitative thresholds that would inform this definition.
30. However, an independent expert commissioned by the IHP on an ongoing FTAA application[3], Dr Denne, has suggested four potential criteria to that Panel[4] as it relates to the economic implications of a project. Briefly, these are[5]:
    a. Large absolute size (as measured in terms of its net present value).
    b. Use of significantly underutilised resources.
    c. Produces large spillover effects.
    d. Has wider transformational effects.
31. Applying these criteria to the Proposed Consent may show that it is regionally significant. This is primarily because its net present value (total benefits less total costs in present value terms) is potentially large. However, the current estimates for the value of benefits are likely overstated and no costs have been identified, which in my opinion is implausible. This makes it difficult to assess the net present value of the Proposed Consent.

[3] Delmore BUN60444768
[4] These four criteria were included in Dr Denne's report to the Delmore FTAA Panel. The matter is ongoing. In its draft decision, the Panel has not adopted or applied these criteria explicitly, but instead accepted Dr Denne's advice that a cost–benefit analysis was the appropriate framework for assessing significant regional or national benefits.
[5] Denne, T. (2025). Delmore Fast Track Approvals Act Application – Review of Economic Analyses. 13 August 2025.

32. There may also be an argument for the Proposed Consent using significantly underutilised resources because in the absence of the Proposed Consent being granted the quarry would presumably not operate beyond its current life and leave aggregates where they are.

Summary

33. Aggregates are a necessary product in the construction industry, particularly in roading, which accounts for approximately 50% of aggregate use across the country. Additionally, because of their weight and bulk, aggregates are expensive to move; and sources of aggregate need to be located close to their use cases to be financially viable.
34. I have some reservations about how the report justifies demand for aggregates in Auckland and believe the report may have overstated the level of demand. This has implications for the total quantity of aggregate that need to be transported further under the counterfactual – where Drury Quarry ceases operations.
35. I believe the primary benefits (avoided costs) are likely overstated as a result. However, the report is convincing that the avoided costs will likely be large regardless of this potential overstatement.
36. No costs arising from the Proposed Consent being granted are assessed. There are reasonably foreseeable costs arising from the Proposed Consent that may be worth acknowledging.
37. Notwithstanding these reservations, in my opinion the Proposed Consent likely represents a welfare improvement (total benefits are larger than total costs) over a counterfactual where the quarry ceases operations.
38. In my opinion, the Proposed Consent could represent a significant regional benefit for Auckland as described in the FTAA. However, the benefits of the Proposed Consent are, in my opinion, overstated and no costs have been considered. This makes it difficult to come to any conclusion of the net present value of the Proposed Consent.

6.0 Section 67 Information Gap

At the time of writing this Memo I have identified the following information gaps:

Description of Missing Information

Overstating benefits [medium risk]

1. As identified in my Specialist Assessment above, I believe the value of the avoided costs in the Applicant's economic assessment may be overstated for three reasons:
    a. The underlying demand estimates may be overstated, and
    b. The choice of Penrose as the only processing facility of aggregates, and

c. The displacement of alternative aggregate sources being solely from out of region sources.

2. It would be useful if the Applicant's economic expert could provide a range of values for avoided costs with using more moderate assumptions for demand, more efficient locations for processing destinations depending on locations of displaced aggregates, and more reasonable scenarios of alternative locations of displacement of aggregates.

Non-identification of costs [high risk]

3. No costs were identified in the report but there are potentially very high costs, for example environmental costs, arising from the Proposed Consent. These costs should be identified for a balanced analysis of the net present value of the Proposed Consent to be able to conclude the Proposed Consent is net welfare enhancing over a counterfactual and whether the Proposed Consent represents a (significant) regional or national benefit.

Why is this Information Essential?

4. It is not possible to determine if the benefits of the Proposed Consent exceed the costs because the calculation of benefits appears to be overstated and the costs have not considered in the economic analysis.
5. It is not possible to determine if the Proposed Consent represents a significant regional or national benefit as not all resource trade-offs have been considered.

Information gap	Nature of deficiency	Decision-making impact	Risk / uncertainty created
1. Provide a greater range of tested scenarios for the calculation of benefits (avoided costs).	The estimate of benefits (from avoided costs) may be overstated and providing a greater range of tested scenarios on the calculation of benefits with different, plausible underlying assumptions. Only one scenario is presented (with two underlying views of demand) and this scenario appears to have a full range of optimistic settings where demand appears overstated, Penrose is the only facility for aggregate processing and displacement of alternative supplies is exclusively from out of region.	Cannot accurately assess the present value of the Proposed Consent's benefits from a welfare perspective – relative to the counterfactual of the Consent	It is not possible to weigh up the resource trade-offs arising from the Proposed Consent so can not reach a conclusion about net benefit or whether it is 'significant' as described by the FTAA.
2. Include an assessment of costs arising from the	No costs are cited in the report and it is unlikely that the Proposed Consent is costless in terms of	Cannot weigh up the costs alongside benefits of the Proposed Consent so	It is not possible to weigh up the resource trade-offs arising from

Proposed Consent	resources to society. The assessment is incomplete.	cannot determine if the Proposed Consent is net beneficial relative to the counterfactual	the Proposed Consent so can not reach a conclusion about net benefit or whether it is 'significant' as described by the FTAA.

7.0 Recommendation

8.0 Proposed Conditions

9.0 Supporting Documents