

Before the Expert Fast-track Panel

FTAA-2511-1150

Under the Fast-track Approvals Act 2024 (**FTAA**)

And

In the Matter of an application for approvals by **MCCALLUM BROTHERS LIMITED** for the Te Ākau Bream Bay Sand Extraction Project located at Te Ākau Bream Bay, Northland

**Evidence of Stephen Kenneth Brown on behalf of McCallum Brothers Limited in
Response to Minute 14 Further Information Request: RFI 1 (a) - (d)**

(Landscape Effects)

Dated 30th September 2026

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Introduction

1. My name is Stephen Kenneth Brown.
2. I am a Landscape Architect. I hold a Bachelor of Town Planning Degree and a postgraduate Diploma of Landscape Architecture.
3. I have 44 years' experience as a landscape architect, and I have undertaken both strategic landscape assessments – from the Far North District and Auckland Region to the West Coast Region – and I have been involved in assessing the effects of projects that include the following:
 - Port of Tauranga Berthage Expansion (2019-25)
 - Te Rere Hau Wind Farm Repowering and Aokautere Extension Projects (2018-2025)
 - Kennedy Point Marina Application (2017)
 - East West Link Review (2016/17)
 - Northern Corridor Improvements Review (2017)
 - MV Rena Shipwreck Assessment (2015)
 - Hagley Park Cricket Oval Application (2013)
 - Waterview Connection Project: SH16 and SH20 (2009 -2012)
 - Eden Park Rugby World Cup 2011 (2006 - 10)
 - Long Bay Structure Planning (1998-2005)
 - Sky Tower Assessment (1991)
 - Development of Concepts for the Viaduct Basin, and input to its special zone (1989-1994)
 - Site Selection Studies for Nuclear Power Stations at Trawsfynydd and Wylfa - North Wales (1984-6)
 - Channel Tunnel Railway Connections Study (1986)
4. I am currently involved in reviewing the effects of the Bendigo-Ophir Gold Mine for Central Otago District Council, assessing the effects of the proposed Queenstown Cable Car system, and assisting the EPA as an FTAA panel member addressing the effects of the Haldon, Point and Twizel Solar Farms in the Mackenzie Basin.
5. This evidence is provided as part of McCallum Brothers Limited's (**MBL**) response to questions raised by the Expert Consenting Panel (**Panel**) in its request for further information contained in Appendix One to Minute 14 (**RFI 1**) on the Te Ākau Bream Bay Sand Extraction Project (**Project**).

6. I prepared the following material lodged in support of MBL's application:

- 1) AEE Attachment 7: report titled *Assessment of Landscape and Natural Character Effects Assessment*, Brown NZ Ltd, August 2025.
- 2) AEE Attachment 7: *Figures 1-21, 22-42 and 43-62*, Brown NZ Ltd, July 2025.

Scope of Evidence

7. This statement responds to RFI Requests 1(a) – (d) in the Panel's Minute 14, which are set out as follows in Appendix One to the Minute:

- a) Statements are made within the August 2025 Landscape & Natural Character Effects Assessment that suggest the absence of an overflow sediment plume around the vessel, or that there is containment of the plume to underneath the vessel (see pages 9, 40, 43, 44 and 50). The Panel has had difficulty reconciling this with its understanding of the plume created, and other material before the Panel. This includes the video provided with Attachment 25 to the application (in particular at 0:19-0:29), and Photo 9 on page 3 of that Attachment. Could explanation or clarification be provided?
- b) Did Mr Brown have an opportunity to see the MV William Fraser while operating at Pakiri, and the creation of a plume from extraction activities?
- c) In section 8 (Biophysical Effects) it is not clear to the Panel why marine mammals are assessed, but not other ecology including for example fish and / or birds?
- d) Comparisons are made in relation to transport shipping movements, and the link to these movements "being part and parcel of" Bream Bay's character. While accepting that not all of the viewing audience will necessarily be able to distinguish the vessel as the MV William Fraser, some will (especially when tracks bring the vessel closest to shore). There can be visual similarities, but the vessel is undertaking a very different activity, and one which may be associated, for some viewers, with an adverse perception. What relevance does this hold in relation to an assessment of effects?

Code of Conduct

8. Although this is not a hearing before the Environment Court, I confirm that:
 - 1) I have read and am familiar with the Environment Court's Code of Conduct for Expert Witnesses as specified in the Environment Court's Practice Note 2023 (**Code**); and
 - 2) The reports and other relevant documents referred to above authored by me:
 - i. Are within my area of expertise (except where I state that I rely upon the technical reports of other expert witnesses provided in support of the application);
 - ii. Have been prepared in accordance with the Code; and
 - iii. I have not omitted to consider any material facts known to me that might alter or detract from the opinions expressed.

Executive Summary

9. I have reviewed RFI Requests 1(a) – (d) and, as a result, provided more detail about the scope and nature of my original AEE Assessment, including in relation to effects associated with the William Fraser's dredging plume and the bearing that the vessel's appearance had on my evaluation of effects. I also explain that my AEE did not address effects on fish and fisheries, or birdlife, as it was being completed in tandem with other specialist reports, and I was unable to use information from those related assessments that was still in draft form when I completed the main body of my AEE Report.
10. Having now considered the matters identified by the Panel, it is my opinion that:
 - 1) The effects of the dredging plume would remain of a typically low to low-moderate order, for the reasons set out in paragraph 14 of this statement, particularly so in relation to the more heavily used and visited public vantage points around the margins of Te Ākau Bream Bay. In reaching these conclusions, a clear distinction is drawn between elevated, high-level views from a drone looking down on the dredge and its operations (as shown in the video and Photo 9 found in Attachment

25), and the more common views captured from around the margins of the Bay – and across it – at a much lower angle of viewing.

- 2) The effects assessments undertaken in relation to Te Ākau Bream Bay’s fish life and fisheries (by R O Boyd), and its bird life (by NIWA) usefully add to the body of biophysical research that is addressed in Section 8.0 of my AEE Report. However, it does alter my overall assessment of effects of the sand extraction proposal on its biophysical character and values.
- 3) The issue of perception of the William Fraser – as distinct from other vessels within Te Ākau Bream Bay – is complex, and would be affected by a range of factors that are set out in paragraph 22 of this statement. These lead me to conclude that even though the vessel would be ‘known’ and would have adverse connotations for some Te Ākau Bream Bay ‘locals’, many others – including tourists and visitors to the coastline – would regard the William Fraser as a seemingly quite distant component of the local seascape and would not differentiate between it and other vessels within the Bay. As such, I do not consider that its effects would appreciably change from those identified in my AEE Report.

Response to RFI 1(a) and (b)

11. At 19-30 seconds of the video shown in Attachment 25, I agree that a lengthy tail of dredged material is evident behind the William Fraser in the aerial view shown. At the time the video was prepared, I had viewed the William Fraser traversing Te Ākau Bream as well as (previously) off Pakiri, but not while it was in the process of dredging. Furthermore, I had not viewed the video, which was prepared after my AEE Report (date August 2025) in December 2025 or Photo 9. I had, though, viewed part of that same video showing underwater extraction below the William Fraser.
12. Instead, my assessment of effects associated with the dredging plume was informed by seeing dredging operations within Tauranga Harbour at close-hand, as well as near Northport in Whangarei Harbour – from both the port margins (Marsden Point Beach’s lookout) and an elevated vantage point on Mt Aubrey above Reotahi.
13. The dredging in Tauranga Harbour involved the use of a trailing suction dredge, similar to the William Fraser, in 2022. I viewed it operating in the Maunganui Roads near the

mouth of Stella Passage (the main berthing area at the Port of Tauranga). In March 2017, I had also viewed a backhoe dredge operating near NZ Refining's oil terminal jetty, when evaluating the effects associated with the (then) proposed deepening and realignment of the navigation channel to that jetty. A photo taken from Mt Aubrey is shown overleaf, but I do not have a photo from Tauranga Harbour.

14. My experience in relation to both was that clear signs of dredging were apparent in close proximity to both dredges, but these became much more difficult to see over any distance. The level of plume visibility would also be reduced by flatter viewing angles – looking across the surface of the sea, rather than down on it – and would be influenced by other factors as well:
- (a) Wave heights;
 - (b) The strength of tidal flows;
 - (c) Wind ruffling the sea surface;
 - (d) Reflectivity of it – significantly impacted (in turn) by the angle of viewing relative to the sun; and
 - (e) Weather conditions.



A photo of backhoe dredging occurring off Marsden Point in March 2017, taken from Mt Aubrey

15. In relation to my assessment of the effects associated with a discharge plume, I therefore had to rely on my past experiences with dredging operations, my assessment

of the William Fraser's general visibility from a broad range of locations (including those addressed in my Figures 52-61) and SLR Consultants' January 2025 report, which addressed this matter as part of its assessment of water quality effects. The following extract, taken from that assessment, is extracted from the bottom of p.29 in my AEE Report (Attachment 7), continuing on p.30:

TSS [Total Suspended Sediment] and turbidity are likely to occur at the water's surface at the point of discharge of any overburden and dredge activity, but rapidly decline back to ambient levels over a short distance from the dredge vessel (i.e. at ~250m, and after reasonable mixing). Further, water quality was reported to return to ambient conditions after 26 minutes of plume sampling – representing a distance traversed of 2000m by the William Fraser.

Any plume generated by proposed sand extraction in Te Ākau Bay (Bream Bay) will be highly localised in terms of the temporal and spatial extent and limited plume intensity. Given the relatively exposed coastal setting of the wider Te Ākau Bay (Bream Bay) environment and natural fluctuations experienced in the bay, it is highly unlikely coastal water quality standards set out in NRCs Policy H.3.3 will be breached. On this basis, the overall level of effects of the proposed sand extraction to water quality in Te Ākau Bay (Bream Bay) are considered to be Low to Negligible.

16. On the basis of the Attachment 25 video and Photo 9, I have had to reconsider my finding at Point 2 on p.49 of my AEE Report, as the video and photo indicate that it would not always be difficult to see the dredge plume from nearby vessels. In particular, anyone on another vessel passing the William Fraser's stern might well see its suction plume, but as is shown in Shayne Elstob's Attachment 1 and described in paragraphs 24-29 of his statement, it would remain confined to that part of the sea close to the William Fraser, and it would be much more difficult to see the plume the plume when viewing it from an oblique (side-on) angle.
17. Overall, such exposure still has to be assessed with regard to a range of considerations, including:
 - a) The various factors identified above that would effectively limit exposure to, and awareness of, the dredging plume from the vast majority of Te Ākau Bream Bay's sea area and margins.
 - b) Most people living in and visiting Te Ākau Bream Bay would view the William Fraser from its much more heavily populated and visited shoreline, and in such views there would still be little to no awareness of the plume. Even when looking

towards the dredge from more elevated locations near Tāwharau Busby Point, Waipū Cove and Langs Beach (e.g. my Figures 5 and 46), the viewing angle would remain low, while viewing distances of 4.7km or more, reflection off the sea, and its naturally variable state, would combine to limit awareness of the plume.

- c) In weighing up the level of effect generated by the proposed dredging, more weight must therefore be attributed to the visual presence of the William Fraser, as is described for the various vantage points located and assessed in Section 9 of my AEE Report (Attachment 7).

18. While there would be greater awareness of the dredging plume from vessels passing relatively close to the William Fraser, this has to be balanced against the still limited nature of such effects in relation to all other receiving environments and audiences. Turning, therefore to Table 2 on p.49 of Attachment 7, I therefore anticipate that the effects ratings in relation to Viewpoints A – D would stay as already indicated at a Very Low to Low-Moderate level, whereas those in relation to more elevated parts of Waipū Cove and Langs Beach (not the beach and near-beach areas) might rise to a Low level in respect of both Landscape and Natural Character Effects.

Response to RFI 1(c)

19. At the beginning of Section 7 of my AEE Report (Attachment 7), it is stated that the evaluation of biophysical affects relies very largely on empirical / scientific research and assessment undertaken by other MBL experts. That is because even though the biophysical characteristics and values are components of both landscapes and the coastal environment (including the CMA), these are not matters that I have specialist expertise in. As a result, Section 8 of my AEE Report, in particular, relies on the input and findings of other experts. Although my report is dated August 2025, the main body of work found in it was completed in March 2025, with subsequent iterations focusing on 'tidying up of it', without material changes to its content. At that time, some specialist reports, including those addressing fish and birds, were either still in draft form at that time or not available. I was not, therefore, able to use those reports in my assessment of landscape and natural character effects.

20. I have, however, reviewed them since that time and note as follows:

- a) R O Boyd's *Assessment of Effects on Fish and Fisheries in Te Ākau Bream Bay* (Attachment 16, February 2025) concludes at Section 7.0 that the fish species found in Te Ākau Bream Bay are 'common', with no unique or threatened species present;
- b) That report also concludes that the proposed sand extraction would not have an impact on the mobile fish species found within the Bay, although a degree of uncertainty remains about the future of its scallop fishery.
- c) NIWA's assessment of *Potential Effects on Seabirds and Shorebirds* (Attachment 13, April 2025) determines in Section 5 that *"the risk posed by the proposed by sand extraction in Te Ākau Bay Bream Bay is low and impacts on seabirds and shorebirds will be less than minor, and for some potential effects negligible."* Although it is acknowledged that risks in relation to the tara iti fairy tern are of a low order but carry a high potential consequence, it is still concluded that, *"the proposal, including its various management plans, to extract sand from Te Ākau Bream Bay will not result in any adverse effects on seabirds and shorebirds , and will, therefore, satisfy Policy 11 of the NZCPS."*

21. Consequently, the findings of these additional assessments are consistent with the conclusions already outlined in relation to biophysical effects in Section 8 of my AEE Report.

Response to RFI 1(d)

22. The issue of visual perception of the William Fraser – as well as other vessels within Te Ākau Bream Bay – is a complex one. Key factors that have a bearing on just how the various audiences spread around Te Ākau Bream Bay would perceive the William Fraser include the following:

- 1) The Nature of the Viewing Audience: most visitors to Te Ākau Bream Bay – including those viewing it from the Langs Beach, Waipū Cove, Uretiti, Ruakākā and Marsden Point beachfronts – would have no idea that the William Fraser is a dredge. They would not automatically register the connection between a medium-sized vessel out in the middle of Te Ākau Bream Bay and sand extraction. Moreover, I anticipate that some locals wouldn't care about the presence or otherwise of the dredge. On the

other hand, many other locals – including local iwi and hapu members – would be much more sensitive to its presence and would see the William Fraser as the symbol or ‘signature’ of an activity that they strongly object to or are, at least, uncomfortable with.

- 2) The William Fraser’s Profile: when viewing the William Fraser located at the near edge of the proposed extraction area from various shoreline vantage points (on the 15th May 2024), it was possible to distinguish the dredge’s form from that of a medium-sized log carrier weighed at anchor beyond it. Yet, the difference was far from obvious. Both vessels displayed a long and low main superstructure/deck with an elevated bridge, and even though the William Fraser’s bow rose to a slightly higher degree, this wouldn’t always be the case when loaded with sand.
- 3) Viewing Distances: the William Fraser would typically be operating between 4.7km and 6.7km from that same coastline, a viewing distance, which, for the sake of comparison, is significantly greater than the 4.2km between Takapuna Beach in Auckland and the near edge of Rangitoto. Such distances would often mask or limit shoreline viewers’ ability to differentiate between the William Fraser and other vessels in the centre of Te Ākau Bream Bay, especially as those vessels range in size and appearance from immensely large Panamax and LR2 fuel tankers to fishing boats and a wide range of recreational vessels.
- 4) The Meaning Attached to Different Sea Vessels: although the William Fraser is the focus of the Panel’s questions, it also needs to be recognised that a range of other vessels ply their way in and out of Te Ākau Bream Bay and Whangarei Harbour, and these are often associated with other activities that have environmental effects. These include the log carriers often sitting at the anchoring points within the Bay, which are part of an extractive agricultural process that inexorably degrades Northland’s land resource and its freshwater stream systems, and the tankers delivering fuel to Marsden Point, which contribute to carbon use and greenhouse gas emissions. Although less directly linked to activities within the local CMA, large tuna boats also ply the waters of Bream Bay and are regularly refitted at the Port of Whangarei. Consequently, few of the vessels that occupy, and pass through, the open waters of Te Ākau Bream Bay are entirely benign from an environmental standpoint. We are simply more used to their presence.

23. To summarise, it is my opinion that most visitors to the margins of Te Ākau Bream Bay wouldn't distinguish between the William Fraser and other maritime vessels – of various kinds – traversing the Bay, while at many times it would be too distant to clearly differentiate from the smaller freighters also found within it. This would not resolve the concerns and 'focal nature' of the William Fraser for those who are more sensitised to the issue of 'sand mining', but I nevertheless consider that these various factors have been appropriately balanced in my assessment of the proposal's effects, including those that relate to the visual profile and presence of the William Fraser.

Conclusion

24. In conclusion, I understand the questions raised by the Panel in relation to the William Frasers dredging plume, the effects of the dredging process on Te Ākau Bream Bay's fish life, and the differences between the William Fraser and other vessels anchored in, and traversing the Bay. However, having considered these matters in more detail, I remain of the opinion that the proposed sand extraction's effects would typically remain at a low level for natural character and peak at a low-moderate to (at most) moderate level in relation to landscape effects.

Stephen Kenneth Brown

1st October 2026