

RESPONSE DOCUMENT

FOR THE SMITH BAY WHARF DRAFT EIS AND ADDENDUM

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PREFACE

The Australian plantation forest sector is recognised globally for its strong investment characteristics and environmental credentials. The seeds of this success were sown decades ago by successive state and federal governments which supported forestry development, including the foundational National Forest Policy Statement (1992) which promoted forestry for the economic diversity and environmental benefits it brings to rural communities. These benefits, and the prosperity that flows from the industry, are clear for all to see in the southeast of South Australia, the so-called green triangle.

Over the last twenty years, the sector has transformed, with the introduction of institutional investors (predominantly superannuation and pension funds), that demand increasingly higher levels of social and environmental standards on behalf of their investors. This raises the bar for a sector that, like its cousins in the agricultural sector, already operates under the highest standards of Australian federal and state laws and regulations.

The majority of plantations now owned by Kangaroo Island Plantation Timbers, and the 12 independent growers on Kangaroo Island, were promoted by initiatives of state and federal governments that saw the long-term benefits for the island community.

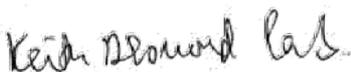
The plantations of Kangaroo Island are amongst some of the best yielding in Australia, with an average rate of growth one-third higher than the average of the mainland, and a more sustained growing period. The plantations are now almost all fully mature and ready to be harvested. It is for this reason the proposed Kangaroo Island Seaport at Smith Bay is essential not only for the plantation owners, but the future prosperity of the island community.

Kangaroo Island Plantation Timbers is the only pure-play plantation company listed on the Australian Stock Exchange (ASX:KPT). Although many of our equity partners are institutional investors, the listing allows a greater diversity of shareholders than is common across the rest of the forestry sector. The Company is owned by many hundreds of individual shareholders and, through its institutional owners, by many smaller investors who hold units in various managed funds. Our investors, like the community of Kangaroo Island, have shown great commitment to the Kangaroo Island plantation project, and it was therefore a great shock that the plantations, along with the agriculture and tourism sectors, have been subject to the recent wildfires of December 2019-January 2020.

About 95 per cent of Kangaroo Island's timber plantations have been fire-affected to some degree. KIPT is, however, well insured and remains committed to realising the full potential of its investments on Kangaroo Island.

Despite the damage to KIPT's plantations, there remains the basis for a commercially viable and environmentally sustainable plantation timber industry on Kangaroo Island, provided the large volumes of fire-affected timber products in the current crop can be exported from the Island in a timely and efficient manner. The proposed KI Seaport at Smith Bay will unlock the benefits of forestry on Kangaroo Island; it is the essential foundation which will enable the industry to recover from the bushfires.

Building this missing piece of infrastructure also provides a much-needed capital works project; one that will be beneficial both in its own right and because of the resilience that a deep-water port will add to the Island's economy and its other industries.



Keith Lamb
Managing Director
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PART ONE

**KIPT RESPONSE AND
CONCLUSIONS**

PART ONE

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KIPT RESPONSE AND CONCLUSIONS

This section of the response document has been written by KIPT. It summarises the case for approving the development in the light of all of the feedback received, and directly addresses the submissions from Kangaroo Island Council and Yumbah Aquaculture, and the most important issues raised by departments and agencies of the South Australian government and the community members.

1. KANGAROO ISLAND COUNCIL

1.1 KANGAROO ISLAND COUNCIL SUBMISSIONS

The Kangaroo Island Council made two submissions, the first in response to the Draft EIS and the second in response to the Addendum. Both submissions have been endorsed by the elected members and represent the Council's official position.

The endorsed version of the first submission was largely written by the Council's elected members. The original draft of that submission, written by Council's planning staff, remains on the public record and is available on the Council's website¹.

1.2 KANGAROO ISLAND COUNCIL'S OFFICIAL POSITION

The Kangaroo Island Council opposes the development at Smith Bay because:

- **It is not consistent with the Kangaroo Island Development Plan (KIDP):** The Kangaroo Island Council says it has assessed the development against the various provisions of the KIDP, and acknowledges the proposal demonstrates some merit without providing any insight about the factors which support that assessment. The Council, however, argues the proposal is not in accord with the provisions of the Coastal Conservation Zone and therefore concludes that Smith Bay is not the appropriate location for the Seaport.
- **Impacts on Yumbah Aquaculture:** Council is concerned about the impact on Yumbah Aquaculture, that the economic impact if Yumbah closes has not been quantified, and that the Draft EIS does not quantify the impact on Yumbah's allegedly stalled expansion plans, and states there is no way KIPT can guarantee its operations would not affect Yumbah.
- **Road transport impacts:** The Kangaroo Island Council is concerned about road transport impacts on Kangaroo Island and says the Draft EIS fails to adequately address how to get timber products to Smith Bay and the impacts this would have on the central island zone. Council says the route used for heavy forestry haulage should avoid existing tourism routes and major domestic routes; the "physiological and safety issues" have not been effectively addressed;

¹ <https://www.kangarooisland.sa.gov.au/__data/assets/pdf_file/0020/310871/Smith-Bay-Major-Proposal-Comment-response-to-SCAP-V4-Final.pdf>.

the cost of constructing and maintaining the Council road network is a “*deeply serious concern*”; and ratepayers should not be required to meet the cost of upgrading and maintaining the roads used to access the Seaport at Smith Bay.

The Kangaroo Island Council says its response reflects the views of elected members, which it claims also reflect community sentiment.

The Kangaroo Island Council says it supports the development of a seaport to export timber products but only in a north coast location west of Stokes Bay, that is to say at an unspecified location within either the Western Kangaroo Island Marine Park or the Southern Spencer Gulf Marine Park.

In its second submission, the Kangaroo Island Council acknowledges and welcomes the changes to the design of the in-water structures (i.e. extending the jetty to eliminate the need for dredging and replacing the solid causeway section with an open-piled jetty structure). However, the Council says “...it *vehemently contends that the location of the proposed development at Smith Bay remains inappropriate,*” and restates its position that the development should be further west on the north coast, west of Stokes Bay. Again, no particular location is specified.

1.3 KIPT’S RESPONSE

Consistency with the Kangaroo Island Development Plan

The draft submission prepared by Council’s professional planning staff provides relevant detail not presented in the official submission and useful insights into the assessment of the proposed development against provisions of the KIDP which were not proffered by the elected members.

The draft submission says:

- Smith Bay is a suitable location for further commercialisation
- access to power infrastructure may present an issue at sites other than Smith Bay, which is the end of the three-phase power network along Kangaroo Island’s north coast
- development at Smith Bay would have merit because it avoids commercialising other undeveloped coastal locations
- development at Smith Bay would avoid development along more important tourist routes on the north coast of Kangaroo Island
- the Smith Bay site is substantially clear of native vegetation and the relatively flat topography suits the development
- the KIDP supports orderly economic development, which includes substantial scale commercial development, including transport and bulk handling which can only be established at a coastal interface
- the development would lead to employment opportunities and substantial economic benefits, and would revitalise the central and western Kangaroo Island’s population and social structure
- the development ‘*presents an attractive opportunity for Kangaroo Island*’ and the benefits from forestry on Kangaroo Island are substantial
- the development will stimulate rural productivity and population growth
- the concept of a multi-user port presents economic opportunities for Kangaroo Island, and the potential for bulk commodities or containerised freight to be brought to Kangaroo Island via the seaport has considerable merit
- diverting heavy transport to Smith Bay and away from Penneshaw and its ferry links to the mainland has ‘significant merit’ given the increasing pressure [on Hog Bay Road] from transport, tourism and domestic traffic.

None of these factors favouring Smith Bay were mentioned by elected members; all have been ignored in their assessment and their submission.

1.3.1 IMPACTS ON YUMBAB AQUACULTURE

The Kangaroo Island Council expresses its concerns about impacts on Yumbah but presents no new evidence to substantiate the claims it makes. The Council's submission overlooked Yumbah's existing operations at Portland, Victoria, and its new proposal to construct a world-scale on-land aquaculture facility at a site in closer proximity to the largest hardwood export terminal in the world. This proposal is well publicised by Yumbah on its website, and in local Portland media, and it is difficult to reconcile how Council cannot make mention of the apparent contradiction in balancing its concern for Yumbah's position on Kangaroo Island, and Yumbah's own position in promoting its new development at Portland.

In any event, the matters raised by Council have been discussed extensively throughout the Draft EIS, the Addendum to the Draft EIS, in **Section 2** below, and elsewhere in this response document.

1.3.2 TRAFFIC AND TRANSPORT IMPACTS

The Kangaroo Island Council's response to the traffic and transport issues is difficult to substantiate, given the long history and frequent attempts by KIPT to engage with Council on this matter.

KIPT began working with the Kangaroo Island Council in mid-2017 to explore options to minimise and mitigate the impacts associated with transporting timber products to Smith Bay. Specifically:

- KIPT commissioned six studies which were all provided to the Council. This work is discussed in Ch 21 of the Draft EIS, and the full studies are published in Appendix P of the Draft EIS. All of these studies are aimed at identifying the safest option for transporting timber products to Smith Bay with the least impact on other road users (especially tourists), neighbouring land users, the environment, the Council and the community. In other words, all of the issues of concern to Kangaroo Island Council including the cost of upgrading and maintaining the roads are addressed in detail in these studies. The Kangaroo Island Council is well aware of this.
- KIPT had regular meetings with the CEO and the Mayor to discuss the substantive traffic and transport issues, the results of the work as it progressed, and seek their advice about how the company should engage with elected members about these matters.
- Following their advice, KIPT made two presentations to the full Council about these matters.

The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT. These issues are discussed more fully in **Section 3**.

1.3.3 COMMUNITY SENTIMENT

The elected members say the views presented in the two submissions reflect community sentiment.

We note the Kangaroo Island Council has a public consultation policy² which is intended to ensure "...all views are considered in planning and decision-making,"³ and "...increase public confidence in Council and its management of local resources".⁴ The policy says the Council will document all consultation processes.⁵

² Kangaroo Island Council Governance Management System, Public Consultation Policy, File number 18.8.1.

³ Ibid p 2.

⁴ Ibid p 3.

⁵ Ibid p 4.

Despite Council's claims to the contrary, it has not actually consulted with the community about the proposed development. If it had, there would be a record of the consultation processes used; there is no such record.

Clearly, there is no basis consistent with Council's own policy requirements upon which elected members can claim their views reflect the views of the community.

1.3.4 ALTERNATIVE LOCATIONS

KIPT used a multi-criterion, two-staged process to evaluate a number of site options before purchasing the Smith Bay site.⁶

Before acquiring the Smith Bay site, KIPT consulted with the Council and the former Kangaroo Island Futures Authority (among others) and was advised by both to refer to the KIDP. After acquiring the Smith Bay site, the Council's administration then said the Council would actually prefer to see Ballast Head developed as an export facility for timber products, and that the Council's capital works program had already factored in road upgrades to enable Ballast Head to operate. KIPT was told the proposal to develop at Smith Bay had "*queered the pitch*".

After further discussions with both the CEO and the Mayor, KIPT was advised that the Kangaroo Island Council had decided that it had no view about the merits of the Smith Bay site relative to other sites, and that the Council would support the major projects assessment process.

It was only after KIPT completed the Draft EIS that the Kangaroo Island Council indicated that it opposed the development at Smith Bay.

The Kangaroo Island Council has had more than 20 years to consider where a deep-water port could be located on Kangaroo Island and amend the KIDP accordingly to allow such a development. It has done nothing. The only official policy that suggests that some locations may be preferable to others is the State Government's marine park regime, which Council has chosen to disregard in advocating an unspecified site somewhere to the west of Stokes Bay.

As noted above, having previously favoured Ballast Head and then been carefully agnostic on the question of location, the Kangaroo Island Council now says the Seaport should be located somewhere on the north coast of Kangaroo Island west of Stokes Bay. The fact that the entire north coast west of Stokes Bay is also within the Coastal Conservation Zone (like Smith Bay, and indeed, virtually all of the coast of Kangaroo Island), and the two marine parks, would appear to have been overlooked by elected members. It is the view of KIPT that no responsible business could advocate for a facility within a marine park, or expect a government to support it, when there are better sites available that do not involve this conflict.

The wildfire events of 2007 and January 2020 show that the Kangaroo Island Council is advocating the seaport be built in a more fire-prone part of Kangaroo Island, surrounded by unmanaged vegetation in national parks, where the risk of fire losses to both KIPT and the Kangaroo Island community is greater than Smith Bay.

1.4 CONCLUSION

The KI Seaport would be the largest single private infrastructure investment on Kangaroo Island. When invited to express its views, the Kangaroo Island Council has submitted two submissions that:

- are deliberately silent about the merits of the proposed KI Seaport that are evident to its own professional planners
- assert the development would threaten a neighbouring land use without tabling any evidence to support that claim and despite acknowledging the fact that the neighbour's principal concerns have been addressed

⁶ see Draft EIS sections 3.2, 3.3, 3.4 and 3.5.

- present a position on the traffic and transport implications that fails to acknowledge KIPT has been working with the Kangaroo Island Council for more than two years to reach an acceptable outcome – and that these efforts have stalled because of the Council's intransigence
- claim to represent community sentiment although the Kangaroo Island Council has failed to comply with its own policy that requires it to consult with the community
- advocate the KI Seaport be developed at a suboptimal and unspecified site within a marine park, in the most fire-prone part of Kangaroo Island.

Unlike the KI Seaport, and unlike the draft prepared by its professional officers, neither official Council submission has merit.

2. YUMBAH AQUACULTURE

2.1 YUMBAH AQUACULTURE'S SUBMISSIONS

Like the Kangaroo Island Council, Yumbah made two submissions. The first in response to the Draft EIS is 140 pages with another 100 pages of appendices and the second in response to the Addendum is a further 70 pages.

Yumbah opposes the development at Smith Bay. In both submissions it argues that the development poses an existential threat to its business on Kangaroo Island; that the development would have a direct and immediate effect on its business; and that the port and an aquaculture business cannot co-exist at Smith Bay.

While Yumbah opposes the development of the seaport by KIPT at Smith Bay, it proposes to build a new facility at Nyamat, Victoria, immediately adjacent to the largest hardwood woodchip export terminal in the world. The volume of trade in woodchip and log products at Portland is approximately 10 times greater than proposed at Smith Bay. Nevertheless, Yumbah argues that the two sectors can co-exist amicably enough at Portland to allow it to develop its proposed new facility despite substantial concerns from local community and business interests who have cited the objections raised by Yumbah to any port development at Smith Bay.

Yumbah also refers to other impacts which do not affect its operations, such as the impact on traffic and transport, and the impact on whales.

This section addresses the claim that the development poses an existential threat to Yumbah. All other matters raised by Yumbah about other impacts are addressed elsewhere and do not need to be repeated here.

2.2 YUMBAH'S RESPONSE TO THE SMITH BAY WHARF DRAFT ENVIRONMENTAL IMPACT STATEMENT

In its first submission Yumbah argues (inter alia) that:

- The construction of a rock-armoured causeway extending 250 metres offshore would block and modify oceanic currents, reduce tidal flows in Smith Bay and increase water temperatures near Yumbah's intake pipes, all of which pose a mortal threat to abalone.
- The proposal to dredge in Smith Bay (for construction and operations) would create an unmanageable risk that sediments released into the nearshore waters of Smith Bay would be entrained in Yumbah's intake pipes, and this would pose a mortal threat to abalone.
- Any risk that marine pests and diseases could be introduced to Smith Bay is unacceptable.

- The seaport would generate airborne dust which would adversely affect air quality to the detriment of Yumbah.
- Light spill from the seaport would affect abalone feeding and harm abalone production rates.
- Elevated noise levels during construction and operations would adversely affect the ‘...well-being of highly sensitive abalone.’

2.3 KIPT’S RESPONSE TO YUMBAH’S FIRST SUBMISSION

In its first submission Yumbah presented new information not previously available to KIPT regarding the effects of discharge water from Yumbah Aquaculture’s operation, which, in certain conditions, increases nearshore seawater temperatures in Smith Bay by approximately 2.0°C. The submission highlighted the potential impact of the solid causeway on coastal processes, upon which Yumbah is reliant to ameliorate the impact of the discharge water from its own facility. The inference was that the causeway could allow the entrainment of the abalone farm discharge water into the intake pipes, thereby becoming a source of pollution.

Other submissions received during the first public consultation period also expressed concerns about the potential impacts of the development on the marine environment of Smith Bay during construction and operations.

In response, KIPT commissioned a review of the proposed design to determine whether there was an alternative design that would eliminate these concerns altogether.

A number of design options were considered, and the KIPT Board agreed to vary the marine design by abandoning the dredge and causeway design in favour of a suspended deck design extending approximately 650 metres out to sea to achieve a berth face at the natural -13.8 m depth contour.

In coming to this decision, the Board was particularly mindful that Yumbah Aquaculture said in its submission that “[t]he causeway is the most concerning physical feature of the seaport for Yumbah.”⁷ because it would compromise the oceanic conditions [in Smith Bay] upon which Yumbah claims the abalone are so reliant. Yumbah also said, clearly and unambiguously, that “[t]he only option to protect coastal currents is an open-piled jetty with the berth pocket extended further offshore.”⁸

KIPT believes the decision to abandon the solid causeway design in favour of an open-piled jetty, as explicitly recommended by Yumbah, addresses all of the concerns that the wharf development would adversely affect coastal processes in Smith Bay.

Similarly, the decision to extend the jetty further out to sea to eliminate dredging altogether, as explicitly recommended by Yumbah, eliminates all of the risks to land-based aquaculture (i.e. all of the mortal threats) associated with elevated suspended sediment loads, the mobilisation of toxicants, pollutants or other contaminants, the risks of elevated pathogen levels and changes in the nutrient status of the waters of Smith Bay.

The combined effect of these changes is to add approximately \$9.0 million to the cost of construction.

The assessment of the impacts of the changes to the in-water structures was published in the Addendum to the Smith Bay Draft EIS in November 2019.

2.4 YUMBAH’S RESPONSE TO THE SMITH BAY WHARF ADDENDUM

In its second submission Yumbah acknowledges the revised design addresses some of their concerns, “...but by no means [does it] satisfy all concerns.” Yumbah claims that the revised design somehow ‘...substantially raises the stakes with new issues and risks specific to Yumbah’s operations at Smith Bay’.

⁷ Smith Bay Wharf Draft Environmental Impact Statement Response by Yumbah Aquaculture, p 30.

⁸ Ibid, p 83.

Yumbah claims the revised design does not remove the existential threat to the abalone farm and it refers specifically to new concerns:

- the impact of construction and operation on marine ecology
- the impact on water quality from chemicals used in anti-corrosion marine paint applied to the steel piles
- the impact on coastal processes in Smith Bay from a 30-50 per cent reduction in wave heights in the lee of the pontoon which forms the berth.

Yumbah also refers to other issues raised in the first submission (e.g. the impact on the marine environment from the on-land operations, the risk to Yumbah posed by third parties using the seaport, biosecurity, noise, lighting and the impact on visual amenity).

Yumbah also claims that the revised design poses an even greater risk to southern right whales (which is a matter of national environmental significance (MNES)) and devotes seven pages of its second submission to this matter (more than any other issue). Whilst the impact on MNES is a concern for the Commonwealth Government, it would have no impact whatsoever on Yumbah's operations.

2.5 KIPT'S RESPONSE

2.5.1 BIOSECURITY – THE RISK OF MARINE PESTS AND DISEASE

Yumbah claims the risk of introducing exotic invasive pest species and diseases to Smith Bay is the single biggest hazard for Yumbah KI, and its livelihood;⁹ there is no acceptable level that can be demonstrated as having no negative impact on the abalone farm;¹⁰ and ballast water exchange is a major risk¹¹. These claims are repeated in Yumbah's second submission.

Yumbah fails to acknowledge that it is apparently comfortable with the substantially higher level of international shipping at Portland, Victoria, where it currently operates and is proposing to develop a new facility. It also overlooks new biosecurity standards for international shipping introduced in 2019¹², which replace the process-based approach to managing ballast water with an outcomes approach in which the pathogens in ballast water such as the *Vibrio* bacterium (the significant biosecurity threat to abalone) must not exceed defined standards which are so low as to reduce the risk to a level which is inconsequential.

These new mandatory standards are being phased in over a period of four years and will apply to all international vessels by 2024; all new vessels must comply with these new standards; and every ship must comply with these standards to be issued with a Certificate of Survey (which all commercial vessels must have to operate in Australia).

Despite Yumbah's assertion, these new standards will reduce the biosecurity risk to an acceptable level. It should also be noted that Investigator Strait is already an established route for international vessels, which can be observed from Smith Bay on most days.

⁹ Smith Bay Wharf Draft Environmental Impact Statement Response, June 2019, p 50.

¹⁰ Ibid, p 50.

¹¹ Ibid, p 50.

¹² Government of Australia 2019 Ballast Water Management Phase-Out Schedule. Published by Department of Agriculture September 2019.

2.5.2 AIR QUALITY

Yumbah claims that fine airborne dust would compromise the health and productivity of abalone¹³; that cumulative dust gathering on the shade cloth covering the abalone farm is the biggest issue¹⁴; and that mass mortality events are likely when heavy rains wash the dust from the shade cloth into the farm's raceways¹⁵.

The analysis presented in the Draft EIS refutes these claims.

The background levels of airborne dust deposited on the shade cloth are low – approximately 2g/m²/month. The extra dust from the seaport would add no more than 20 per cent to this volume, which is trivial in terms of additional or absolute impact.

Even in the worst case scenario, where the dust would accumulate in still conditions and be washed into the raceways with rain, the risk of harm would still be negligible: the rate at which the water in the raceways flows (up to 2,000 litres per second) means the wood-dust would not have time to become suspended in the water column within the raceways. The ecotoxicology study presented in the Draft EIS demonstrated that, even if this dust were to become suspended, there is nothing in wood dust which is harmful to abalone even at 10 times the levels likely to be experienced, over considerably longer periods than would occur in a first flush rainfall event.

2.5.3 LIGHT SPILL

Yumbah claims “...*abalone are extremely sensitive and largely intolerant to night-time light*”. Yumbah says literature indicating abalone's sensitivity to light is missing from the draft EIS. Helpfully, Yumbah provides references to this literature¹⁶ although Yumbah has demonstrably mis-represented what the literature actually says.

None of the papers cited by Yumbah (or the SA Government's EPA), provide any support to the claim that light adversely affects abalone. Rather, the published evidence shows:

- there is no difference in abalone growth rates or mortality rates when abalone are subject to a cycle of 12 hours of light and 12 hours of dark (i.e. the typical regime used at Yumbah's Smith Bay farm) versus a regime of continuous exposure to light (i.e. 24 hours of light)
- while abalone grow better when they are grown in the dark (i.e. a continuous 24-hour cycle of total darkness i.e. no light) this requires raceways to be covered in opaque materials (not shade-cloth as used by Yumbah) and such materials would then block out all light (including daylight and any incidental light spill from the port operations).

Therefore, there is no substance to the argument that an increase in night-time light near Yumbah's Smith Bay facility would have an adverse effect on abalone feeding, growth or mortality. Indeed, the Yumbah facility is itself already lit at night.

In any event, Yumbah fails to acknowledge that the shade-cloth which shrouds its facility reduces the intensity of the day-time light to which the abalone are exposed by about 70 per cent, to simulate light levels at approximately five metres below the sea. It follows that the impact of any extraneous light at night would be similarly reduced and thus be effectively mitigated.

Moreover, there are a number of simple engineering solutions (e.g. light baffles) which could be implemented by KIPT to manage light spill. When all of these factors are considered collectively, there is no reasonable possibility of any impact from light spill on the Yumbah operations.

¹³ Ibid, p 66.

¹⁴ Ibid, p 67.

¹⁵ Ibid, p 67.

¹⁶ Smith Bay Wharf Draft Environmental Impact Statement Response, June 2019, Appendix 2 – Global Marine Resource Management Response to EIS, McShane, 2019.

Finally, the Yumbah proposal to develop a new facility at Nyamat, Victoria, immediately adjacent to an unregulated residential area, is in our view, a riskier proposition for light spill than the proposed Smith Bay seaport which would be subject to planning controls by federal, state and local government.

2.5.4 NOISE

Yumbah express concerns about noise impacts on its staff and *implies* that abalone would also be adversely affected by noise generated during the construction and operation of the KI Seaport.

No evidence has been provided to show abalone are affected by noise. No evidence exists in the literature. Abalone in the wild typically live in nearshore areas where the noise of breaking waves is significant, an environmental factor that is replicated within onshore abalone farms, as water is tipped into raceways.

Yumbah says:

“The very nature of abalone farming creates minimal noise, equivalent to ambient in the marine environment and does not impact amenity. There are a number of noise sources within an abalone farm that create isolated noise within close proximity to the source, but generally noise is comparable to background.”¹⁷

The most significant ongoing noise source from Yumbah’s operations are the pumps used to draw seawater into the on-land farm, which operate 24 hours a day, seven days a week. The noise from the Smith Bay onshore abalone farm can be easily heard at the front door of Molly’s Run, which is approximately 400 metres to the south. Staff working in the vicinity of the pumps would require hearing protection to comply with WHS standards. This noise is punctuated by the sporadic tipping of water into the raceways.

In 2019 Yumbah published a series of studies to support its application to build a new on-land abalone farm at Nyamat near Portland in Victoria¹⁸. A comparison of the noise which would be generated by this operation (which is similar to Yumbah’s Smith Bay operation) and the proposed KI Seaport shows:

- it is likely Yumbah’s Smith Bay operation would produce more noise than the KI Seaport
- to the extent that Yumbah’s Smith Bay operation may experience noise from the Seaport, both the abalone and Yumbah’s staff would experience more noise generated by Yumbah than noise generated by the KI Seaport.

2.5.5 IMPACT ON MARINE ECOLOGY

Yumbah’s primary concern about the impact on marine ecology is actually the impact of noise and light on southern right whales. This does not pose any threat to Yumbah, however it features prominently in Yumbah’s response because, as their advisors have made clear, they have little else to rely on in objecting to the revised seaport design.

The Review of Water Quality and Coastal Process Impacts published in Yumbah’s second response says:

“Again the weak link in the revised KIPT design/proposal is underwater noise impacts.....In my view this is likely to be the most fruitful line of enquiry to challenge KIPT ... as their revised design has mitigated/designed many of the previous unpalatable impacts to a negligible status.”¹⁹ (emphasis added)

It would appear from the foregoing that Yumbah simply does not want the development in its backyard, even though it and its professional advisors are aware that there would be no impact on its operations. The effects of the development on marine ecology and on whales in particular are of no consequence to Yumbah’s business. As detailed in the Addendum and this

¹⁷ Ibid, p 106.

¹⁸ Insert reference.

¹⁹ Smith Bay Wharf Addendum Response, Yumbah Aquaculture, December 2019, Appendix 4 – Addendum Review of Water Quality and Coastal Processes, Romero, 2019, p 3.

Response Document, the effects on marine ecology and whales are minor, manageable and pose no threat to Yumbah, existential or otherwise.

2.5.6 IMPACT ON MARINE WATER QUALITY

The use of anti-corrosion chemicals

Yumbah claims that the new risks to marine water quality introduced by the redesign include chemicals in anti-corrosion marine paint necessary for steel piles²⁰.

The Addendum clearly says:

- the steel piles (used to construct the jetty) would be painted with anti-corrosion paint offsite to remove the need to paint the piles at Smith Bay
- that anti-fouling coating would not be applied to the steel piles to encourage marine growth on the pylons.

Therefore, the use of anti-fouling chemicals would not present a risk to the marine environment of Smith Bay.

Potential toxicity from timber chemicals

Yumbah claims the EIS Addendum fails to address the potential toxicity to the marine environment from timber chemicals such as herbicides, fumigants and preservatives.²¹

The issue of chemicals used in the wood production processes is detailed in Chapter 4 of the Draft EIS. Woodchips would not need to be fumigated and while logs may need insecticidal fumigation (depending on customer requirements), this would not take place at Smith Bay but at another port, such as Portland in Victoria.

Although common agricultural herbicides and pesticides are used within the plantation forests at the early stages of the lifecycle, it is uncommon to apply chemicals at harvest age and none would be applied at Smith Bay. Since leaf and bark are removed at the logging sites, there would be no possibility that historically applied chemicals would enter the marine environment at Smith Bay.

Fuel spills

Yumbah claims fuel spills from shipping vessels pose a significant risk to any aquaculture farm in close proximity and that the threat of fuel spills is unacceptable.²²

The last appendix attached to Yumbah's second submission (Appendix 4), however, clearly says the assessment of the risk of fuel/oil spills is appropriate and KIPT has adopted an industry standard response to this impact.²³ The author specifically says "*...these are reasonably industry-standard types of commitments for such port operations.*"²⁴

The author suggests the proposed mitigation measures to reduce the likelihood of hydrocarbon spills should be commitments in the EPA licence for the seaport.²⁵ KIPT agrees with this conclusion and would willingly adhere to such a commitment in the EPA licence for the seaport. Yumbah also stores fuel on its premises and is presumably subject to similar commitments.

²⁰ Smith Bay Wharf Addendum Response, Yumbah Aquaculture, December 2019, p 7.

²¹ Ibid, p 19.

²² Ibid, p 19.

²³ Appendix 4 – Addendum Review of Water Quality and Coastal Processes, Romero, 2019, p 2.

²⁴ Ibid p 3.

²⁵ Ibid p 3.

2.5.7 IMPACT ON COASTAL PROCESSES

Having said in its first submission that an open-piled jetty with the berth pocket extended further offshore was the *only option* which would protect coastal currents, Yumbah presents a contradictory stance in the second submission and says that the impact on coastal processes must be addressed with further scientific modelling and additional assessment.

The author of the report on coastal processes commissioned by Yumbah²⁶ however, does not agree. He says:

"I agree with BMT's assessment of minor turbid plumes generated from driving or 'drilling/driving in hard rock' of other piles. Further, the commitment in the draft EIS that for the 'drilling/driving' approach that all cuttings and sediments will be captured in the piles, transferred onto barge and disposed elsewhere, will indeed generate negligible turbidity. Hence a very small turbid source will occur from either piling method and it can be concurred that there is no need for modelling to demonstrate this obvious inference. I also agree that any turbidity from associated construction mechanisms (e.g. anchoring, construction vessel movements) is negligible and does not require any further reassessment.

Similarly, BMT's assessment of sediment deposition, mobilisation of contaminants and the risk of fuel/oil spills are all appropriate and industry-standard positions for such impacts.

I agree with BMT's assessment of potential operational wash impacts on the TSS climate of the Yumbah KI intake water quality. Their reassessment is reasonable.

I agree with BMT's assessment of negligible effects of the revised KIPT design on water levels, currents, water temperatures, Smith Creek plumes, waves, sediment transport and seagrass wrack.

I agree ...that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks to a negligible consequence"²⁷(emphasis added)

Yumbah's claim that further scientific modelling and assessment is required is explicitly refuted by the expert it engaged.

2.6 CONCLUSION

Yumbah's many and various arguments that the impacts of the proposed KI Seaport pose a mortal threat to abalone and an existential threat to Yumbah's Smith Bay operations are supported by neither the expert evidence provided in its two submissions, nor the proposal by Yumbah to develop a new facility in proximity to one of the world's largest timber hardwood woodchip export terminal at Portland Victoria. At best Yumbah has overstated the risk of the proposed Smith Bay seaport to its operating environment. It is unfortunate that in its two submissions Yumbah makes numerous false statements that are directly contradicted by the objective evidence presented in the appendices or literature references included with their submissions.

With the changes to the design of the in-water structures, the evidence presented in the Draft EIS and the Addendum confirms the KI Seaport and Yumbah's on-land aquaculture operation can co-exist at Smith Bay.

On any reasonable judgement, Yumbah's argument that the Minister for Planning has a binary choice – us (KIPT) or them (Yumbah) – is not supported by the evidence. Yumbah has threatened to exit Kangaroo Island while promoting a new development within 3 nmi of the largest hardwood woodchip terminal in the world at Portland Victoria. It is reasonable to conclude that if Yumbah decides to follow through with its threat to close its Kangaroo Island operations once approval is granted, that would not be due to the presence of Smith Bay seaport, but for some other reasons entirely. KIPT's preference continues to be that the two operations co-exist at Smith Bay and KIPT remains committed to working constructively with Yumbah's management to ensure a harmonious co-existence.

²⁶ Ibid,

²⁷ Ibid, pp 2-3.

3. TRAFFIC AND TRANSPORT

3.1 KEY ISSUES

3.1.1 PUBLIC SUBMISSIONS

Unsurprisingly, concerns about traffic and transport have generated a large number of responses. There is an over-arching concern about road safety, and the most common issues raised are:

- the frequency of truck movements
- operating hours, with opposition to the notion that trucks could operate 24 hours per day, 7 days per week, if KIPT use general mass vehicles such as standard semi-trailers
- the use of high productivity vehicles (HPV) given the condition of the roads on Kangaroo Island
- the damage to the roads which trucks will cause, and concerns about funding the necessary road upgrades and maintenance
- the socio-economic impacts of the haulage operation, such as dust, noise, the impacts on neighbouring land uses, the interaction with other users including tourists and school buses, the movement of livestock along roads etc
- the environmental impacts including the impacts on native vegetation, wildlife and pollution on Kangaroo Island.

3.1.2 DPTI'S SUBMISSION

The Department of Planning, Transport and Infrastructure (DPTI) supports the use of a defined transport route and, in principle, supports the preferred option presented in the Draft EIS (Option 1).

However, DPTI argues KIPT should fund all road improvements and the ongoing road maintenance. DPTI says:

“This approach is based upon the principle that if infrastructure is required to accommodate traffic increases (whether that be traffic volume, vehicle types etc.) resulting from the development, and hence is specific and direct benefit to the development, then the proponent should fund this infrastructure.”

3.2 KIPT'S RESPONSE

3.2.1 ROAD SAFETY

KIPT agrees safety is the highest priority in considering the various options for transporting timber products to Smith Bay.

There is no traffic and transport option which would have no impact, just as there is no option where the growth of tourism and tourist numbers (for example) would not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities. No road users, no road safety authorities, neither the Kangaroo Island Council nor the South Australian Government expect to *eliminate* entirely the risk of crashes and harm that occurs on public roads from current or future usage. That is not the standard. The challenge is to determine what is the best way to manage and mitigate these risks and impacts.

3.2.2 TRUCK FREQUENCY, OPERATING HOURS AND THE USE OF HIGH PRODUCTIVITY (HPV) VEHICLES

The frequency of truck movements, operating hours and the use of HPV are inter-related issues.

The frequency of truck movements is a function of several factors such as the volume of timber product to be delivered to Smith Bay, vehicle size and capacity, and operating hours.

KIPT does not favour the use of standard semi-trailers (i.e. 19m general mass vehicles). The use of 26m B Doubles would increase payload by 54 per cent and reduce the total number of truck movements by one third. The use of 36.5m road trains (A Doubles) would increase the payload by 100 per cent and halve the number of vehicle movements.

KIPT would accept some limit on operating hours if that is a genuine community preference. However, limiting operating hours increases the frequency of truck movements during the operating hours. For example, limiting operating hours to 12 hours a day 5 days a week (i.e. 60 hours in total) reduces total operating hours by 65 per cent. The frequency of truck movements would triple if operations were restricted in this way.

3.2.3 FUNDING ROAD UPGRADES AND MAINTENANCE

Response to DPTI

DPTI's argument that KIPT should fund the cost of upgrading and maintaining the roads used to haul timber to Smith Bay is based on a misunderstanding about who benefits from the development of the seaport and imposes an inequitable burden on private investment on Kangaroo Island, which discourages investment and growth.

The analysis presented in Chapter 20 (Economic Environment) shows most of the benefits from the development would actually be costs to KIPT; they include wages and salaries, payments to sub-contractors and other suppliers for goods and services, rates, taxes and charges, etc. Moreover, most of these costs would be income (i.e. benefits) for individuals, businesses and governments on Kangaroo Island or elsewhere in Australia.

These costs far outweigh the benefit to KIPT shareholders. Our argument is that it is inequitable that KIPT shareholders should pay to fix and maintain the roads when most of the benefit accrues to others.

The funding principle which DPTI espouses is a constraint on private investment in South Australia. It significantly increases the cost of investing and reduces the returns from such investment.

Moreover, this principle biases investment towards metropolitan Adelaide (where there is a well-established, government-funded road network), and is especially punitive for South Australia's regional economies where growth is already constrained because of the lack of similar public investment in road infrastructure.

In effect, DPTI is arguing private investors in metropolitan Adelaide should continue to benefit from a government funded road network, but this benefit should not be available outside Adelaide. We see that as inequitable and discouraging regional development. This approach does not encourage growth and economic development in South Australia and does not support State Government policy to achieve its goal of achieving 3 per cent annual growth.

Moreover, the approach is inconsistent with the way in which timber haulage is treated in other parts of the State and in other states of Australia. For example, the DPTI recently funded a significant road upgrade near Penola, at the behest of the forestry industry. The approach is also inconsistent with the provision of high-quality public roads on all key routes used by the tourism and agriculture industries on Kangaroo Island, at no direct cost to that industry. It is inconsistent with the provision by the government of high-quality roads serving all other ports in South Australia, including Penneshaw, and including all privately owned and privately operated facilities.

The approach suggested by DPTI would leave KIPT with only two options: concentrate all traffic on high-quality key tourism roads as far as possible and/or use 19m general mass vehicles which have unrestricted access to all public roads no matter how poor their condition. Neither of these outcomes is desirable for the public, the owners of the road network or KIPT.

It also leaves unresolved the issue of whether the government would require payment for the road network by independent tree growers, even though it does not expect other individual or corporate freight users on Kangaroo Island (or indeed the rest of

South Australia) to make a specific contribution to use a public road. Similarly, unresolved is the question of whether other parties, using a part of the road network paid for by forestry, would be required to make a payment to KIPT. This is not how road funding works in South Australia. Instead, public funds are provided where the greatest economic benefit and safety dividend can be realised. This practice should continue.

Nor is the approach espoused by DPTI informed by the fact that KIPT is seeking approval to build a key piece of missing public infrastructure whose functionality is significantly in excess of that required for its own operations and that this requirement for a multi-user facility is a capital cost incurred by KIPT at the behest of government.

3.2.4 IMPROVING ROAD TRANSPORT FOR AGRICULTURE INDUSTRY PROJECT

In 2014, the South Australian Government initiated the Improving Road Transport for Agriculture Industry project, a partnership between Primary Producers SA (PPSA) DPTI and Primary Industries and Regions SA (PIRSA) to plan a road transport system that meets the existing and future needs of agriculture in South Australia. Two surveys were completed to identify the critical issues, and more than 70 projects were completed generating more than \$80 million in benefits across South Australia's primary industries sector.

In 2018 PIRSA, DPTI and PPSA initiated the Improving Road Transport for Forestry Project, which aims to promote the forestry industry's growth, productivity and competitiveness. A targeted survey was initiated to identify and address the needs of South Australia's plantation forestry and forest products industry.

The forestry survey identified 32 issues covering the major forestry regions in South Australia, including:

- **The use of HPV:** PIRSA and DPTI acknowledge the use of HPV increases productivity and raises the level of safety for both the operator and other road users. Opportunities to streamline the permit application process and to make Performance Based Standards (PBS) additions to existing routes would allow the use of HPV such as 26m B doubles and 36.5m road trains (A doubles).
- **Deficiencies in the road network limiting route access:** details of specific routes were provided where infrastructure deficiencies limit access or constrain the ability of operators to use the safest and most efficient vehicles. The survey acknowledged a number of road improvements are required on Kangaroo Island to facilitate harvesting.

Some issues have already been resolved. For example:

- Freight vehicles up to 30m and 36.5m are now permitted on a number of public roads on the Limestone Coast.
- Improvement works at key junctions in the Green Triangle have improved access and safety.
- DPTI and various councils have been actively assisting forestry operators to assess and approve commodity routes to worksites.

PIRSA says the remaining issues raised in the forestry project survey are being reviewed and prioritised as part of the State Government's work to improve road freight productivity and ensure South Australia's road transport network remains safe and efficient for all road users.

KIPT supports this initiative and would welcome PIRSA taking a leading role in resolving the issues which constrain productivity and safety on the Kangaroo Island road network.

3.2.5 ROAD FUNDING OPTIONS

A dedicated route minimises the total cost of upgrading and maintaining the roads

One of the principle arguments in favour of defining a core route for hauling timber products to Smith Bay and upgrading that road so that it is suitable for use by HPV is to minimise the total cost of upgrading and maintaining the road infrastructure, including the cost of repairing intersections, bridges, culverts and drainage.

Who funds road upgrades and maintenance?

The funds to upgrade and maintain the public road network in SA come from three specific sources; council rates, (local government's funding source), motor vehicle registration fees (the State government's source) and fuel excises (the Commonwealth's source).

Every council relies on grant funds from the other tiers of government to supplement ratepayer funds to maintain the road network. No council can afford to manage its roads solely from ratepayer funds, and country councils are far more dependent on these grant funds than metropolitan councils. This is especially the case in areas with high levels of tourism, where a significant proportion of road use is generated by non-residents. No council is expected to manage road upgrades and maintenance solely from ratepayers' funds. The Kangaroo Island Council, for example, receives a special grant of \$2.0m per annum from the State Government (i.e. South Australian taxpayers) to upgrade and maintain the roads on Kangaroo Island. These funds are generally not in the form of tied grants. However, there is no reason why they could not be allocated to particular parts of the road network considered by the State Government to represent a priority.

Should ratepayers fund the upgrades and maintenance?

KIPT agrees with the general proposition that Kangaroo Island ratepayers should not be solely responsible for maintaining the roads which would be used to transport timber products to Smith Bay. From the outset of the EIS process KIPT has made this clear to the Council. However, KIPT is also one of the largest ratepayers on the Island (if not the largest), and the company can see no reason why these funds at least could not be spent on the roads it would use.

Similarly, from the outset, KIPT has made it clear that it would bear the cost of restoring feeder roads to pre-harvest condition. This is normal forestry practice, although it is not an obligation that other crop producers typically accept.

Are there other funding sources?

Significant grant funds are available from both the State and Commonwealth Governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.

Tourism and agriculture also damage the roads on Kangaroo Island and yet there has been a considerable injection of funds from the Commonwealth, State and Local Governments to support the growth of both industries, including investment in road upgrades, because of the significant economic contribution each industry makes to the regional and state economy.

Given the economic benefits which would flow from forestry, KIPT remains of the view that it is neither unreasonable nor unrealistic to argue that it is in the public interest that similar government funds be provided to address the traffic and transport issues raised in the public consultation process.

In the 2018 state election, the Liberal Party committed to establishing a dedicated state funding stream to fund new and substantially improved regional road projects, and their ongoing maintenance. The commitment was to use this funding stream and other sources of funding, including leveraging federal funding, to deliver the greatest possible benefits and highest quality infrastructure for regional communities in South Australia.

In the 2019 budget the Marshall Government announced \$1.1 bn would be spent over eight years on regional road and infrastructure projects to honour this commitment.

3.2.6 SOCIO-ECONOMIC IMPACTS

One of the principle arguments in favour of Option 1 as a core route for hauling timber products to Smith Bay is that it would minimise the impacts on neighbouring land uses, movement of stock, other road users, tourists and tourism etc. KIPT is willing to consider alternatives to the option presented in the Draft EIS if it can be shown these impacts would be further reduced.

3.2.7 ENVIRONMENTAL IMPACTS

Impact on flora and fauna

The Kangaroo Island Council, the South Australian Government, the Commonwealth Government and the tourism industry on Kangaroo Island have a common goal of increasing visitor numbers to Kangaroo Island, which would inevitably mean growth in road use. There is no acknowledgement in any of the public submissions of the impact of tourism on native flora and fauna, and no responsibility has been accepted by the industry for taking action to mitigate these impacts. There should be no place for such double standards in the assessment of the Smith Bay development.

KIPT would be responsible for a small increase in the total volume of traffic on Kangaroo Island. There is no evidence to suggest heavy vehicles are disproportionately responsible for roadkill, even allowing for such variables as the time of day at which vehicles are travelling.

The preferred route to Smith Bay presented in the Draft EIS has the least impact on native vegetation of the options considered.

Pollution

Although Kangaroo Island promotes its clean and green image, few businesses actually acknowledge and account for their contribution to carbon emissions and climate change.

Trees sequester or store carbon which has been emitted into the atmosphere. The amount of carbon stored is measured in terms of the equivalent amount of atmospheric carbon dioxide (CO₂-e.) The Draft EIS shows²⁸ KIPT's plantations sequester approximately 6.8 million tonnes of CO₂-e. This amount remains relatively stable over the life of the plantations as individual plantations would be replanted or coppiced (i.e. grow again from the stumps) after harvest.

The Draft EIS estimates KIPT would generate 1360 tonnes of CO₂-e of greenhouse gas emissions from operating the port (i.e. direct or Scope 1 emissions), and 340 tonnes of CO₂-e of greenhouse gas emissions from transporting timber products by road to Smith Bay (i.e. indirect or Scope 3 emissions). The total emissions represent 0.00025 per cent of the carbon captured in the plantation timber.

Rather than detracting from Kangaroo Island's clean and green image, plantation forestry gives meaning and credibility to that claim.

3.3 CONCLUSION

It is not surprising that traffic and transport concerns attracted so many responses in the public consultation period.

The best option to address these concerns is to establish a core route to Smith Bay, and upgrade and maintain this route to a standard which would enable HPV to deliver timber products safely and efficiently.

KIPT is willing to consider alternatives to the preferred route described in the Draft EIS if it can be shown such alternatives would further mitigate the associated impacts.

²⁸ See pp 432–433.

The funding principle advocated by DPTI, which would require KIPT's shareholders to pay the cost of upgrading and maintaining the roads needs further thought, especially because significant grant funds are available from both the state and Commonwealth Governments which could be used to upgrade and maintain the roads, and the Marshall Government has committed to spend \$1.1 bn on regional road and infrastructure projects over the next eight years.

KIPT supports the State Government's Improving Road Transport for Forestry project. A task force focussed on the specific needs of forestry on Kangaroo Island should be established to address these matters and ensure there is a safe and efficient road transport solution in place when the KI Seaport commences operations.

4. THE CASE FOR THE KANGAROO ISLAND SEAPORT

4.1 CONTEXT – PLANTATION TIMBER OF KANGAROO ISLAND

The development of large-scale plantation forests on Kangaroo Island is the consequence of supportive State and Commonwealth Government policies which actively encouraged farm forestry and private-sector investment. Taxation vehicles known as Managed Investment Schemes were effective mechanisms to encourage private investments into timber and other agricultural enterprises. These policies gave effect to the commitments embodied in the 1992 National Forest Policy Statement, which was a national agreement signed by the Commonwealth and all state and territory governments. The objective of the agreement was to protect native forests from logging and create jobs and diversified economic activity in rural communities across Australia.

The failure of the Management Investment Schemes caused disruption in several regions around the country including Green Triangle Region of South Australia. However, in the Green Triangle and other regions such as Southern West Western Australia and Northern Tasmania, the sector has been recapitalised and has prospered. The legacy of dissatisfaction on Kangaroo Island continues because the lack of infrastructure has prevented the sector reaching financial maturity. KIPT had nothing to do with the failure of the previous companies, but like the companies which have recapitalised formerly distressed assets elsewhere, will be able, through the KI Seaport, to realise the value of the assets for the community and its shareholders.

The average rate of biological growth of the plantation trees on Kangaroo Island is one-third higher than the average of the Australian mainland. Kangaroo Island is now proven to be one of the best locations in Australia to grow plantation timber.

4.2 THE BENEFITS OF THE PROPOSED DEVELOPMENT

There is no port on Kangaroo Island suitable for exporting timber products directly to markets in north Asia. The KI Seaport at Smith Bay would realise the benefits of plantation timber for Kangaroo Island, which would become a new sustainable industry on the island. This remains the situation, despite the impact of the recent fires. A route to export markets is imperative and urgent.

Once operations begin, the KI Seaport would have a substantial positive economic impact on Kangaroo Island; even after the fires the impact would be equivalent to many years of economic growth at current rates. In addition, the development would stimulate population growth, increase the demand for new housing and make the Kangaroo Island economy more resilient, particularly in the face of the seasonal and cyclical economic variations that affect all small regional economies.

4.3 WHY SMITH BAY?

Smith Bay has a number of advantages that make it the best site on Kangaroo Island for a deep-water port:

- It is the only site which can accommodate the export of both logs and woodchips without significant extra costs associated with on-site roadworks and constructing the in-sea components of the facility.

- It is the closest practicable sheltered north coast site to the timber resource that is suitable for deep-draft ocean-going vessels to transport timber products directly to Asian markets.
- Deep water (necessary to berth large ocean-going vessels) is relatively close to the shore.
- The adjacent land is relatively flat, which makes it suitable for storing logs, woodchips and other cargo safely and securely, and for transferring material from the stockpile to ships efficiently.
- The area is already industrialised and the site itself is cleared and degraded.
- There are no significant conflicts with tourism or marine parks.
- It is the only extant development proposal and the only site to which private capital is committed.

Arguments presented by the Kangaroo Island Council, Yumbah and others about the merits of other sites are not relevant to the planning assessment, which is about determining whether the Smith Bay site is a suitable site, not whether other parties believe there are better sites.

In any event, a number of submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, and anywhere west of Stokes Bay. There is no consensus about a preferred alternative location among opponents of the development, and no supporting analysis to prove their case. In contrast, KIPT has analysed the merits of numerous sites, including those mentioned above, and has selected Smith Bay as clearly the best site.

4.4 CONCLUSION

The KI Seaport will unlock the potential for a sustainable plantation industry on Kangaroo Island, and we commend this proposal to the Minister for his consideration and approval.

Keith Lamb
Managing Director

23 March 2020

PART TWO
RESPONSES TO
SUBMISSIONS

PART TWO

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Addendum to Environmental Noise Impact Assessment

EXECUTIVE SUMMARY

PURPOSE OF PART TWO OF THE RESPONSE DOCUMENT

Part Two of this Response Document has been compiled to detail and respond to issues and concerns expressed by government agencies and members of the public during formal Public Consultation on the Draft EIS and the Addendum to the Draft EIS which were prepared for the Smith Bay Wharf (now referred to as the KI Seaport).

PUBLIC CONSULTATION PROCESS

The Department of Planning, Transport and Infrastructure (DPTI) received a total of 1372 submissions on the Draft EIS during the public consultation period. Of these, 1264 were opposed to the proposed project and 106 were supportive.

Of the submissions opposing the proposal, the vast majority (87 per cent) were form letters prepared by the 'Save Smith Bay' campaign group. There were four such form letters, as well as a postcard style submission circulated during the public consultation sessions by campaign members. Some opponents of the proposed development have criticised the stakeholder engagement process as being inadequate. KIPT notes that the public consultation process conducted by DPTI significantly exceeded regulatory requirements and therefore believes that such criticisms should be set aside.

PROJECT JUSTIFICATION

The two main issues raised were the justification for a multi-use facility, and an argument that the EIS should assess the impact of third party uses/users.

JUSTIFICATION FOR MULTI-USE/MULTI-USER FACILITY

The South Australian Government requires the port be a multi-use/multi-user facility. However, the commercial viability of the port is underpinned by the export of timber products and does not depend on other uses or users. Accordingly, the DPTI and other government agencies have agreed that KIPT is not required to identify other prospective uses or users in the assessment process.

IMPACT OF THIRD-PARTY USE

There would be considerable spare capacity available for third parties to use the port, should they choose to do so. Third party users would have to obtain all necessary planning approvals and the implications of these uses would be addressed at that time.

PROJECT ALTERNATIVES

ALTERNATIVE LOCATIONS

A number of submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, Penneshaw and anywhere west of Stokes Bay. There is no consensus about a preferred alternative location among opponents of the development, and no supporting or useful analysis has been provided to support their respective cases.

The Draft EIS (see Chapter 3) summarises the process used to select Smith Bay. KIPT stands by this analysis; Smith Bay is the best location for the development.

ALTERNATIVE DESIGNS

Yumbah argued a solid causeway represented an elevated threat to its operations, and the mitigation options suggested (i.e. open culverts or bridge sections) offered no benefit. They argued the only option to protect coastal currents was an open-piled jetty to a wharf located further offshore. Yumbah also presented numerous arguments about the harm posed by dredging.

KIPT has modified the design of the in-water structures in response to Yumbah's feedback to include an open-piled jetty (in place of the causeway) extending further offshore to a depth where dredging would not be required. These changes will add a further \$9.0M to the cost of construction. The changes, and the assessment of their impacts, are the subject of the Addendum to the Draft EIS.

POTENTIAL IMPACTS

THE PHYSICAL ENVIRONMENT

Marine water quality

Responses were received expressing concerns about possible fuel and chemical spills, sediment plumes from piling, the veracity of conclusions from water quality modelling, and the risk of contamination to the marine environment from wood dust and associated leachate (i.e. tannin leachates would lead to ocean acidification, and other leachates would be toxic to the marine environment).

Impact of dredging and the solid causeway

Concerns about the impact of dredging and the solid causeway have been effectively addressed by the decision to revise the design of the in-water structures, such that dredging, and construction of the causeway will no longer occur, as assessed in the Addendum to the Draft EIS.

Sediment plumes, fuel and chemical spills, and veracity of conclusions

The 'Revised Water Quality and Coastal Process Impact Assessment' (see Addendum to the Draft EIS, Appendix C1) prepared by British Maritime Technology (BMT) assessed the residual risk (i.e. after management/mitigation measures) of hydrocarbon and other chemical spills during construction and operations as low.

BMT conclude that jetty construction would have such minor effects on water quality that additional water quality monitoring was not warranted. BMT also conclude that any effects on water quality at Yumbah's intakes would be negligible and indistinguishable from natural variation.

Wood dust and tannin leachates

Tannins leaching from the small amount of wood chips and dust blown into Smith Bay would be rapidly diluted and buffered to such an extent that it is inconceivable that this could have any measurable effect on the pH or the seawater quality of Smith Bay.

The risk of leachate from woodchip and log stockpiles entering groundwater or run-off is negligible as the stockpiles would be bunded and have impervious bases. Leachate and stormwater run-off would be captured and treated in suitably sized ponds and constructed wetlands.

Coastal processes

Most of the issues raised (e.g. changes to currents, the accumulation of seagrass wrack, the risk of algal blooms, reduced flushing and elevated seawater temperatures in Smith Bay etc) have been resolved by the changes to the design of the in-water structures that will result in dredging and construction of the causeway no longer occurring.

Yumbah asserts that further hydrodynamic modelling is required to quantify the effects of the jetty on coastal processes. The expert opinion of coastal engineers from BMT, however, was that the effects of the jetty on coastal processes in Smith Bay would be so insignificant that hydrodynamic modelling would be incapable of showing any effect.

Air quality

There were a number of issues raised about air quality, including questions about the veracity of the air quality modelling presented in the Draft EIS, and the impact of dust on amenity and on Yumbah's abalone farm (which Yumbah argue places it at severe risk).

Air quality modelling

The review of the air quality impacts commissioned by Yumbah (Yumbah 2009) (See Appendix 6) notes that the assessment in the Draft EIS is consistently "overly conservative". The EPA has expressed its satisfaction with the conservative nature of the air quality assessment which shows no significant adverse impacts are likely to occur.

Impact of dust on amenity

An assessment of dust impacts associated with the timber haulage fleet of vehicles was presented in Chapter 21 of the Draft EIS. Vehicles travelling on unsealed roads on Kangaroo Island often generate dust. Existing dust emissions are at times frequent and intense, e.g. with the movement of harvested grains during the drier summer months.

The Draft EIS assessment acknowledged that the increase in vehicle traffic would reduce amenity for some residences adjacent to roads that are currently infrequently used. KIPT would continue discussions with the Kangaroo Island Council and DPTI with a view to reducing dust impacts through the use of high-productivity vehicles, appropriate road maintenance, potentially including the watering of unsealed roads as appropriate, and the use of a defined road transport route.

Impact of dust on abalone

The impact of additional dust deposition on the Yumbah facility was addressed in the Draft EIS (see Section 11.5.5 and associated Appendices). The information presented in the Draft EIS provided a quantitative analysis of the existing and expected rates of dust deposition onto the farming infrastructure and then assessed a worst-case scenario of the potential impact that dust deposition (at the expected rates) may have on the farming system.

The analysis concluded that:

- During construction and operations, eighty to ninety percent of the dust deposited on farm infrastructure would be from background (ambient) sources (i.e. would not be associated with the construction or operation of the KI Seaport). There is no available evidence to suggest that the Yumbah farming systems are currently affected by atmospheric dust deposition and none has been presented by Yumbah. It is unlikely that a relatively small (10-20 per cent) increase in deposition rates would create new problems for the farm.
- If and when it made its way through the shade cloth covering the facility, much of the dust that would be deposited on Yumbah's infrastructure would float on the surface of the water flowing through the abalone farm (rather than become suspended in the water), and quickly discharged to Smith Bay with Yumbah's effluent seawater. This conclusion was based on direct experimental studies undertaken as part of ecotoxicology studies by Intertek for the Draft EIS.
- The ecotoxicology studies using fine hard-wood dust concluded that even if all of the dust was able to immediately become suspended in the water, it was highly unlikely that farmed abalone would be affected because there was no detectable impact of wood-dust on animal survival at concentrations 10 times higher (35 mg/L) than the most extreme concentrations that could possibly occur (3.5 mg/L).

- Furthermore, taking into account the time taken for wood-dust to leach tannins, the experimental exposure was likely to have been 100 to 1,000 times higher than the practical exposure levels that would occur in the farm.
- Rainfall events resulting in the sudden wash-through of dust that may have accumulated on the shade cloth covering the farm during long periods of dry weather are relatively infrequent, typically occurring on less than nine days per year. The frequency of such events would not be affected by the seaport. Therefore, the risk, if any, of dust to the farm is likely to be similar to the existing situation.

Noise and light

Respondents expressed concerns about the impact of noise and light, particularly the impact of construction noise on whales, and the impact of noise on Yumbah, and light spill on abalone.

Impact of noise on nearby residences

The noise assessment in the Draft EIS predicted that operational noise levels at the KI Seaport would comply with the daytime and night-time rural living noise criteria at the two closest residential receiver locations and, without appropriate controls, slightly exceed daytime rural living criterion at Yumbah's sheds. However, with appropriate controls, noise levels at these receptors would comply with the criteria for both daytime and night-time.

A revised noise assessment was undertaken to support the change in the design, which indicated that noise levels would be largely the same as those presented in the Draft EIS (i.e. approximately 1dB less), and therefore that the assessments of potential impacts remain valid for the revised proposal.

Impact of light

KIPT acknowledges that the additional lighting would result in a change in the existing night-time amenity. This is considered an unavoidable consequence of the need to provide adequate lighting to undertake site operational activities safely. A proposed framework for the project lighting was presented in Chapter 18 of the Draft EIS, to minimise the effects of night-time lighting on nearby residences. Since the Draft EIS was submitted, a more detailed lighting design has been developed and assessed, which is presented in the Addendum to the Draft EIS (See Appendix E). This assessment shows that the impact of lighting can be adequately mitigated through good lighting design and the use of baffles and screens, whilst maintaining a safe working environment for operational personnel.

Noise impacts on whales

Piling for jetty construction would occur for approximately 20 minutes each day, with the remaining time being used to set up the next pile. Piling is likely to occur for approximately 150 days.

The noise assessment concluded that potential impacts of the proposed piling activities (without mitigation) would result in a medium risk to whales. Therefore, the following mitigation measures would be applied during piling:

- using a 'soft start' in which the piling impact energy would be gradually increased over 10 minutes to encourage fauna to leave the construction area prior to full energy piling commencing
- establishing a 1 km shutdown zone around the site, which is the most conservative distance threshold to prevent permanent hearing damage
- using marine mammal observers to monitor the 1 km zone; pile driving would cease if a marine mammal was observed within the 1 km zone
- no pile driving at night, when it would be difficult to detect marine mammals
- if feasible, scheduling piling to occur outside the winter months when cetaceans are most likely to be in the area.

With the application of these measures, the residual risk of piling impacts on cetaceans was assessed to be low.

The changes to the project design do not result in any changes to the piling methods originally specified, or the assumptions used during the noise modelling. Although piling would occur over a longer period due to the greater number of piles being installed, the design changes do not result in significantly different outcomes. The source of the noise would extend a further 250 m out to sea, and the subsequent noise contours would move about the same distance further offshore. The conclusions regarding noise impacts and the proposed management measures to mitigate risks would be the same.

The option of piling in two places simultaneously would approximately halve the number of piling days. However, it would double the number of blows per minute, which would increase the cumulative sound exposure noise level by 3 dB, and increase the 'threshold distances' for the onset of temporary threshold shift and permanent threshold shift by approximately 1.6 times compared with the threshold distances presented in the Draft EIS, assuming the exposure time is the same. Should this occur, the piling shut-down zone would be increased accordingly to mitigate potential impacts to cetaceans.

Impact of noise on Yumbah

The KI Seaport has been designed to maximise the distance (where practicable) between noise emission sources and their neighbours. The majority of proposed noise sources, at the KI Seaport site, would be broadband and continuous, and would not be expected to have tonal characteristics under normal operating conditions.

The revised noise modelling for the revised offshore design (see **Appendix H**) confirms that predicted noise levels would exceed the daytime criteria at assumed office building locations by 3 dB, and night-time criteria by 10 dB based on a scenario with all sources operating simultaneously under worst-case meteorological conditions. Actual noise levels are therefore expected to be significantly lower for the majority of the time.

Furthermore, it is considered unlikely that the noise from the KI Seaport operations would be audible within the Yumbah facility as a result of noise attenuation through building facades and the contributions from on-site noise sources (e.g. water pumping and piping infrastructure). Information from the proposed Yumbah Nyamat facility confirms this.

An assessment of mitigating circumstances, as specified in Clause 20(6) of the EPP (Noise) Policy, shows the KI Seaport would be unlikely to have a significant noise impact on Yumbah. The predicted noise levels are also less than the 55 dB(A) Leq daytime noise limit recommended by the WHO to prevent annoyance in a residential setting, and the threshold for residential annoyance is generally much lower than for a commercial operation or business.

Impact of light spill on abalone

The KI Seaport lighting would avoid or reduce the obtrusive effects of any outdoor lighting associated with the development through the use of appropriate lighting design, baffles and screens.

The relevant literature on the impact of light on farmed abalone was reviewed, including references referred to in the EPA's submission. The literature does not support the proposition that light spill would negatively affect abalone growth or mortality rates in the Yumbah farm. The literature referred to by McShane (in Yumbah's public submission to the Draft EIS) suggests that light spill would either have no impact on growth rates (when 24 hour light exposure is compared to the current situation on the Yumbah farm of a 12:12 light/dark cycle), or, if lights of the correct colours are used, potentially improve feeding responses of abalone.

THE BIOLOGICAL ENVIRONMENT

Matters of national environmental significance

The issues most commonly raised are various concerns about the assessment of matters of national environmental significance (MNES), especially the impact on the southern right whale and the Kangaroo Island echidna.

MNES Impact assessment

The impact assessment presented in the Draft EIS followed the *Matters of National Environmental Significance: Significant Impact Guidelines* developed by the Department of the Environment. The assessment concludes that none of the listed species identified as part of the database searches rely upon habitat within the study area.

Southern right whale

Arguments were presented that Smith Bay is critical habitat for whales, and that development would threaten whales and discourage whales from visiting Smith Bay. Other issues of concern include the risk of vessel strike, the impact of noise on whales and the effectiveness of measures to mitigate noise impacts.

Is Smith Bay critical habitat for whales?

One of the reasons Smith Bay was considered to be a good site for the KI Seaport was that it was outside the system of marine parks around Kangaroo Island.

There is no compelling evidence to suggest that Smith Bay is more important than many other bays along the north coast of Kangaroo Island as breeding or nursery habitat for southern right whales. It is unlikely alternative locations for the seaport around Kangaroo Island would have less impact on southern right whales as they are known to visit most of the coastline, including Nepean Bay, the site of the existing Kingscote Wharf.

The risk of vessel strike

The risk to the southern right whale from vessel strike was rigorously assessed in the Draft EIS. Numerical modelling by BMT demonstrated that the risk is negligible (i.e. 1 strike per 300 years). Vessel collisions in the vicinity of Smith Bay are considered unlikely as vessels would be travelling slowly when approaching or leaving the Smith Bay wharf.

The 2001 example where the SeaLink ferry collided with a whale shows that the risk of whale strike is related to the frequency of vessel trips. SeaLink ferries make the crossing to and from Kangaroo Island approximately 400 times a month, compared with the anticipated vessel frequency at Smith Bay of 10 vessel trips per month (including cargo vessels and various support vessels) travelling to or from the port (i.e. a ratio of around 40:1). If ferry trips over the last 20 years are considered, the ferry strike rate equates to perhaps one strike per 96,000 trips. If the SeaLink ferry provides an accurate indication of the likelihood of whale strike occurring near Kangaroo Island, it may be expected that KIPT vessels, operating at the rate of 120 vessel movement per year, may strike a whale near Kangaroo Island once every 800 years, if travelling at a speed comparable with that of the SeaLink vessels.

Impact of noise on whales

Ships using the KI Seaport would typically generate low frequency sound. The impact of high-pitched noise associated with ferries, pleasure craft and sonar, cited as disrupting the behaviour of toothed whales (i.e. dolphins), would be more relevant to recreational boat use along the north coast of Kangaroo Island, including the eco-tourism operations run by Kangaroo Island Marine Adventures.

Noise impacts on whales during piling could be successfully managed through the adoption of appropriate management measures (e.g. soft starts, cetacean monitors, shutdowns etc). These measures are routinely used throughout Australia to protect marine mammals during marine piling.

Kangaroo Island echidna

Some respondents expressed concerns that the estimate of roadkill presented in the Draft EIS was too low and the proposed offset was inappropriate or inadequate.

Roadkill

Kangaroo Island echidna population numbers and roadkill figures are estimates. Accordingly, the calculations of additional roadkill figures are estimates that can only be verified when the wharf is operational and harvest operations are underway. The calculations were based on the limited data available at the time the Draft EIS was prepared (see Appendix K6).

Offsets

KIPT would implement all reasonably practicable measures to minimise the impact on native fauna, including the echidna. Such measures would be included in the Operational Environmental Management Plan (OEMP). The most significant mitigation measure is to reduce vehicle movements through the use of fewer, larger haulage vehicles, a matter on which the Company proposes to work with government following development approval.

As required, KIPT would meet its obligations under the EPBC Act and contribute to an approved offsets package that would deliver an overall benefit to the Kangaroo Island echidna population. Since the Kangaroo Island echidna is a single subspecies found all over the island, any benefit to the species on Kangaroo Island would be of overall benefit to the entire population.

According to the Conservation Advice for the Kangaroo Island echidna (Department of Environment 2015), predation by feral cats poses a severe consequence rating and the threat applies to the entire extent of the echidna's range. Addressing predation by feral cats is therefore considered to be a suitable way of offsetting the impact traffic associated with the KI Seaport would have on the echidna population. Discussions with relevant government agencies and local wildlife experts have been ongoing during the development of the offsets package and their input was used to refine the package.

Biosecurity

Respondents raised concerns about biosecurity risks including the impacts on the Kangaroo Island community (i.e. tourism, agriculture, aquaculture, Brand KI etc), the risks during construction, the proximity of the KI Seaport to Yumbah, ballast water discharge, and the threat of abalone diseases. There is also an assertion that the residual biosecurity risk to Yumbah is unacceptable.

Impacts to Kangaroo Island community

There are a number of Acts dealing with biosecurity management that protect the biosecurity status of Kangaroo Island e.g. *Biosecurity Act 2015* (Commonwealth), *Natural Resources Management Act 2004* (SA) (to be replaced by the *Landscape South Australia Act 2019* when it is enacted in July 2020), *Livestock Act 1997* (SA) and the *Plant Health Act 2009* (SA). KIPT would work with relevant Commonwealth and State Government agencies to ensure the company meets all of its legal obligations with respect to biosecurity.

KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies should the KI Seaport be approved. A response procedure to deal with the discovery or suspected discovery of exotic pest species would be an integral component of these management plans.

The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detail protocols that would be enacted to manage the high-risk species. These biosecurity measures would protect Smith Bay from biosecurity risks and benefit the entire Island.

Biosecurity risks during construction

All vessels used during construction activity (tugs, barges etc.) would be required to comply with biosecurity measures in accordance with the National Biofouling Management Guidelines for Non-trading Vessels 2018 and with relevant State legislation. All biosecurity risks during construction would be managed in accordance with the provisions of the Construction

Environmental Management Plan, Biosecurity Management Plan and Marine Pest Management Plan. Each of these management plans would be developed in consultation with relevant government agencies.

Tugs from Port Adelaide would not be used to avoid the risk of transmitting the Pacific Oyster Mortality Syndrome (POMS) virus. The pontoon would be inspected and cleared by the Department of Agriculture, Water and the Environment before it enters South Australian Waters.

Proximity to Yumbah

Yumbah argues there should be at least a 5 nautical mile separation between a port and an aquaculture facility. This argument is based on a policy of the WA Department of Fisheries (Government of Western Australia, 2017) that a separation of 5 nautical mile would be required to provide a reasonable distance between abalone farms and other farms or productive reefs.

The objective of the WA Government policy is to protect productive reefs and abalone farms from infection by pathogens originating from other operating abalone farms, rather than being an argument for the 5 nautical mile separation between an operating port and an abalone farm.

Yumbah's argument for a 5 nautical mile separation from an operating port is inconsistent with Yumbah's application to build a new abalone farm at Bolwarra (to be called Yumbah Nyamat), only 2.6 nautical miles from the Port of Portland, which is a large scale port facility supporting 300 bulk freight vessels per year, as well as high activity from fishing and recreational vessels.

The Biosecurity Management Plan for the KI Seaport, which would be developed in close consultation with PIRSA (Biosecurity SA) and the Kangaroo Island Landscape Board, would complement the biosecurity practices of the abalone aquaculture industry.

Ballast water discharge

Biosecurity risks associated with ballast water are being significantly mitigated through greatly improved ballast water regulatory arrangements that are currently being implemented in Australia and internationally via the International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 (amended 2018).

To ensure that regulatory requirements and approval conditions pertaining to ballast water are met, KIPT will develop and implement a construction environmental management plan (CEMP) as well as an operational environmental management plan (OEMP) subsequent to development approval. For the purposes of controlling and managing ballast water discharges, the CEMP will govern the activities of all contractors and subcontractors involved in the construction of the KI Seaport, while the OEMP will become effective once the KI Seaport becomes operational.

Obligations for complying with the requirements of all applicable legislation in relation to ballast water normally remain with the vessel owner or master of that vessel. Nevertheless, KIPT undertakes to ensure that contractors and subcontractors that charter vessels for the construction and/or operation of the KI Seaport are expressly aware of the legal obligations governing ballast water discharges. Both the CEMP and OEMP would be included in contractor documentation.

Abalone and oyster diseases

A number of submissions refer to four specific diseases or pests: *Vibrio* spp, abalone viral ganglioneuritis (AVG), *Perkinsus olseni*, and Pacific Oyster Mortality Syndrome (POMS).

Perkinsus is found in South Australian waters (it is endemic to Australia) and frequently occurs in farmed abalone. There is evidence of the *Vibrio* bacterium having been transported between ports in ballast water. It is also sometimes associated with nutrient enriched run-off from farmland. Although the origin of AVG in Australia is unknown, based on the investigation into the AVG outbreak in Victoria in 2005, the most likely scenario is that the infection was associated with the interstate movements of live wild-caught abalone onto aquaculture farms in Victoria.

A port that would be used to export timber is not considered a likely source of infection for AVG or any other known abalone pathogens. For further discussion of abalone disease risks see the discussion of Aquaculture below.

Specific mitigation measures would apply to tugs and other domestic vessels used during construction and operation to minimise the risk of transferring marine pests and pathogens such as POMS from Port Adelaide to Smith Bay. These measures would be implemented by the vessel owners. It is proposed that tugs from Port Adelaide not be used for Smith Bay operations.

The residual biosecurity risk to Yumbah

Although biosecurity risks exist during the construction and operation of ports, it is considered that the risks will be managed to an acceptable level at Smith Bay by strict compliance with the existing government regulatory framework governing biosecurity. Furthermore, the volume of sea traffic at Smith Bay would be substantially lower than Portland, where Yumbah is proposing a major new development.

In the Draft EIS the residual biosecurity risk from the proposed development was assessed as being low (see Appendix T - Risk Table). This risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. The revised residual biosecurity risk is Medium (see **Appendix F** for the revised ranking).

After the KI Seaport has been approved, a Biosecurity Management Plan and a Marine Pest Management Plan would be prepared. These plans would include detailed descriptions of the measures that would be adopted to minimise potential biosecurity risks at Smith Bay and to complement applicable regulatory systems. They would be developed in consultation with PIRSA (Biosecurity SA) and the Kangaroo Island Landscape Board.

Marine ecology

The most significant issues raised by respondents were concerns about the impacts of dredging, the loss of marine habitat and the impact of the development on biodiversity in Smith Bay.

Impact of dredging, sedimentation and the causeway

The issue of sedimentation associated with dredging adversely affecting benthic communities is no longer relevant as dredging will no longer occur. Sedimentation effects on benthic communities associated with ship movements are likely to be minimal as ship movements would be relatively infrequent, and the seafloor in the vicinity of the wharf consists of undisturbed, relatively coarse rubble material that would not be particularly prone to mobilisation.

The issue of potential impacts on intertidal and nearshore communities as a result of sedimentation and seawater temperature changes associated with the causeway is no longer relevant as construction of the causeway will no longer occur.

Habitat loss

The footprint of the KI Seaport would occupy less than one percent of Smith Bay. The revised design, in which the originally proposed causeway is replaced by a piered jetty extended 250 m to the -13.8 m depth contour, would significantly reduce the extent of habitat loss compared with the superseded dredging and causeway design. The habitat loss associated with installing 156 jetty piles is minimal, amounting to 0.02 ha of seagrass and reef habitat. Furthermore, the revised design will result in the ship berth being located in an area of very sparse seagrass.

For the purpose of significant environmental benefit (SEB) offsets, it is assumed that all of the habitat loss would be seagrass. The pontoon would shade approximately 0.5 ha of seafloor that supports a very sparse cover of seagrass (1 to 5 per cent).

There is no evidence to suggest that the development at Smith Bay would have any adverse effects on the leafy and weedy seadragons inhabiting Smith Bay. None of their seagrass or reef habitat would be adversely affected by the development. On the contrary, it is likely that the jetty piles would be colonised by macroalgae and provide additional seadragon habitat in Smith Bay. It was noted during the marine surveys that the most diverse reef communities in Smith Bay were those associated with

the Yumbah seawater intake structures. Similar diverse and abundant communities would develop along the jetty. It is also of note that two of the most important sites for leafy seadragons in South Australia are the Rapid Bay and Edithburgh jetties.

The residual impacts on existing marine communities in Smith Bay are expected to be minor.

Is Smith Bay a unique area of high biodiversity?

It is acknowledged that Smith Bay supports a high biodiversity of species, including numerous species of conservation significance. There is no evidence, however, to suggest that Smith Bay supports unusual marine habitats or species. Rather, the available evidence suggests that Smith Bay supports habitats and species that are typical of the many bays along the north coast of Kangaroo Island, most of which are already protected in marine parks.

Aquaculture

In various ways respondents claim the proximity of the proposed KI Seaport to Yumbah presents unacceptable risks to Yumbah's operation. A number of potential impacts are referred to, but most frequently they refer to impacts on water quality (particularly changes in total suspended solids), biosecurity, dust deposition, noise and light. The responses to these issues have been addressed elsewhere and therefore not repeated here.

Other issues raised include concerns about the impact of timber toxins, the implications for aquaculture licence FT00634, the management of abalone disease risks, claimed inaccuracies in the Draft EIS, the impact on Yumbah's 'sustainable aquaculture' status, and the use of anti-corrosion paints and anti-fouling chemicals.

Impact of timber toxins

The use of chemicals in the wood production processes was detailed in Chapter 4 of the Draft EIS. It is not proposed to undertake fumigation (or any chemical preservation of forest products) at Smith Bay.

Although common agricultural herbicides and pesticides are used within plantation forests at the early stages, it is uncommon to apply agricultural chemicals at harvest (some 10 to 35 years later), and none would be applied at Smith Bay. Since leaf and bark are removed at the logging site, there is no possibility of historically applied herbicides and pesticides being transported to Smith Bay and entering the marine environment.

Other chemical wastes generated at Smith Bay would be collected, contained and disposed of according to industry standards and consistent with the EPA's waste licence for the site. There is no possibility of these chemicals entering the marine environment at Smith Bay.

Implications for licence FT00634

PIRSA has recently issued a licence to Yumbah under the *Aquaculture Act 2001* (Licence number FT00634) which applies to a parcel of land (Lot 50) between the site of the KI Seaport and Yumbah's on-land abalone farm. This licence identifies a number of species including a variety of abalone species (greenlip, blacklip and hybrids of these species) as well as four finfish species (yellowtail kingfish, rainbow trout, brown trout and greenback flounder). The licence also specifies tanks as the farming system. Yumbah acquired the land, and subsequently the associated aquaculture licence, some considerable time after the development application for the proposed KI Seaport was lodged. Aquaculture operations are not currently being undertaken under this licence, and the outdoor tanks, which were situated on what is now a different parcel of land, were removed prior to 2010.

The existing infrastructure on Lot 50 comprises three sheds (with an estimated floor area of 542 square metres), and a pumping facility to draw in water from a previously disused seawater intake (shown in the Draft EIS Figure 11.2; westernmost intake pipeline).

Any new development on Lot 50 that enabled the resumption of aquaculture on Lot 50 would require a development approval. In the absence of such approvals, or even a development application, there is no requirement for the EIS to assess potential impacts on hypothetical activities should they be approved.

However, the changes to the design of the in-sea infrastructure for the KI Seaport, resulting in the removal of the need to dredge and the replacement of causeway with a piered jetty, has completely mitigated any potential impacts on water quality at the Yumbah seawater intakes. To the extent that FT00634 is relevant to the EIS, the only activity that could occur on Lot 50 is fully contained within the three sheds on the property, and the only impacts that could be relevant are associated with dust, noise, and light. With the activities being fully enclosed, there is little likelihood of dust, noise or light affecting tank-based aquaculture inside the sheds.

Abalone disease risks

The management of abalone disease risks requires the development of a Biosecurity Plan for the KI Seaport that would need to consider a broad range of published information on abalone disease risks of relevance to the land-based farm. The principle safeguard would be to ensure that ships using the KI Seaport adhere to the requisite management arrangements in relation to ballast water treatment.

The Australian Government has published the National Biosecurity Plan Guidelines (see Spark et al 2018) for the Australian land-based abalone industry, which provides a framework for industry to support the development of site-specific biosecurity plans for individual farms. The Guidelines identify the reportable diseases of abalone that pose the greatest risks to the farmed abalone industry, and the risks posed by the aquaculture industry to the wild catch fishery. The reportable diseases are Abalone Viral Ganglioneuritis (AVG) a viral pathogen that is endemic to Australia, Abalone Withering Disease (*Xenohaliotis californiensis*), which is caused by an exotic bacterial pathogen (not reported in Australia to date), and *Perkinsus olseni* (a zoo-parasite) that is endemic to Australia and is frequently found in farmed abalone. It is not known whether *Perkinsus olseni* is already present at Yumbah Kangaroo Island.

Yumbah has, however, raised concerns about the 'imminent risk of paralytic shellfish poisoning (PSP)', which is also referenced in McShane. PSP, however, is not listed in any of the recognised aquatic animal health references (e.g. OIE 2019, Spark et al. 2018) or related documents. Neither OIE nor Spark et al provide any evidence that PSP related risks are significant. Indeed, the literature, particularly Dowsett et al. (2011), suggest that PSP poses no risk to abalone.

Claimed inaccuracies in the EIS

Yumbah declined to cooperate with the authors of the EIS and hence the descriptions and analysis of Yumbah's business was drawn from external observations of the facility, aerial photography, expert opinion and general industry knowledge. It is acknowledged that information on abalone aquaculture provided in the Draft EIS may not fully represent Yumbah's operation at Smith Bay, as Yumbah almost certainly operates systems that differ in some respects from those described in the Draft EIS. Yumbah, while claiming that the description in the EIS is not strictly applicable to its Kangaroo Island facility, has chosen not to explain the nature any such differences. Nevertheless, these descriptions are based on direct commercial and research experience with abalone aquaculture facilities around the world, including farms in Australia, Chile, China and Malaysia. While the Yumbah operations may differ in some respects from those elsewhere, it is maintained that there are no fundamental errors in the information provided in the Draft EIS, and certainly none that are relevant to potential impacts from the proposed development.

Impact on Yumbah's 'sustainable aquaculture' status

Sustainable aquaculture is a concept that defines how an aquaculture operation should be conducted so that it does not have a negative impact on the social, economic and ecological values of the local environment within which the business operates.

Yumbah has attempted to redefine this concept in a way which confuses its own responsibilities with that of third parties. The sustainability of the Yumbah operation should only be viewed in the context of Yumbah's capacity to control diseases and

pathogens from being discharged from its farming system, and whether or not its waste discharge has an impact on the environmental values of Smith Bay (e.g. through elevating levels of nutrients or organic wastes) and adjacent coastal waters. The sustainable production of Yumbah's inputs, such as animal feed and electricity, is also relevant to a consideration of the business' sustainability.

Accordingly, it is considered there is no basis for inferring that the operations of a third party, which complies with regulations imposed by governments and with industry best practice, may in any way affect the sustainable operation of Yumbah's venture.

Use of anti-corrosion paints

Although anti-corrosion marine paints would be used to treat steel pylons, these paints would be applied off-site. Once cured, these paints are not reactive or easily dissolved in seawater and thus retain their integrity without leaching into the surrounding environment. As a consequence, there is no risk that such materials would enter the marine environment.

While Yumbah claims that abalone are particularly sensitive to chemicals, no evidence is presented to support this contention. Furthermore, a search of the literature suggests that there is no published scientific evidence to support their claim. On the contrary, abalone are a major aquaculture species in the coastal waters of China, Korea and Japan, all of which have much higher levels of toxic substances than Australian waters, which suggests that abalone are probably no more sensitive to chemical pollutants than other marine species.

Use of anti-fouling on exposed concrete (silane)

"Silane" is a general term used to describe a class of compounds that are typically used to protect concrete structures and comprise a range of paint like materials used in the building industry. Silane compounds are used because they react with the inorganic materials in concrete to form an impervious barrier to water.

While silane gas (SiH_4) is a toxic, pyrophoric gas, it is nothing like the silane compounds used to treat concrete products from water exposure. Yumbah's comment that "[silane] is easily ignited in air [and] is toxic by inhalation [and] is a strong irritant to skin, eyes and mucous membranes" is therefore incorrect as it refers to silane gas rather than the silane formulations used to treat concrete and stonework. In Australia, silane compounds have been used to protect many masonry structures in sensitive marine environments including, for example, the Phillip Island bridge in Western Port Bay, Victoria. These are paints rather than gases.

Terrestrial ecology

Respondents challenged the veracity of the survey methodology used to establish which flora and fauna species are present and expressed concerns about impacts on the white-bellied sea-eagle, glossy black-cockatoo, and roadside vegetation associated with the transport route.

Veracity of survey methodology

The project site has been cleared almost entirely of native vegetation and habitat for previous agricultural and industrial use, and now supports little native flora and fauna. The majority of the site supports exotic grassland/herbland. It is considered that the survey methodology was entirely appropriate for such a degraded site.

Impact on the white-bellied sea-eagle and glossy black-cockatoo

The proposed development would not impact any white-bellied sea-eagle breeding or known nesting habitat. The nearest known nesting habitat is 4 km east of the proposed development.

The impact assessment undertaken for the Draft EIS did not identify any residual significant impacts to the glossy black-cockatoo.

Native vegetation clearance

The Draft EIS addresses proposed vegetation clearance within the study area. The proposed development only requires the removal of 2.93 ha of poor to moderate quality vegetation within the study area, which is considered to be a minor impact. The vegetation loss will be offset by making a suitable financial contribution to the Native Vegetation Council.

All clearance along the proposed transport route would be subject to a separate and additional approvals process subsequent to the approval of the KI Seaport. The approvals process for vegetation clearance may potentially include additional EPBC referrals.

THE SOCIO-ECONOMIC ENVIRONMENT

Economic

A number of aspects of the economic assessment have been questioned including the methodology used, the impact on nearby businesses, the impact on other industries (especially tourism), and the impact on Yumbah in particular. Some respondents argue the land used for plantation forests should revert to traditional agricultural uses.

Assessment methodology

The estimates of economic impact were based on the input-output method (I-O), which is typically used by the South Australian government and local government to estimate the impact on new developments on a regional economy. The particular model used for this assessment, known as an extended RISE model, ensures the cost impacts on other industries is assessed when determining the net economic outcomes, and also enables the impact of employment growth on local population levels to be assessed.

Similarly, the cost-benefit study, which compares the net benefit of developing the seaport at Smith Bay with the net benefit of developing a port at Cape Dutton, was specifically requested by the South Australian Government. The methodology used was endorsed by government before the assessment was undertaken.

Both studies were approved by government agencies as meeting the requirements of the EIS Guidelines before the Draft EIS was released for public consultation.

Impact on existing businesses

One of the reasons for selecting the site at Smith Bay was that it had been used for industrial purposes previously (it was the site of a failed on-land aquaculture facility), and is adjacent to Yumbah's on-land aquaculture facility, which is a substantial industrial facility at the western end of Smith Bay. KIPT believes co-locating large scale industrial developments would minimise the impact on the Kangaroo Island community, particularly along the north coast, west of Kingscote, and would be a better option than developing at an otherwise pristine location elsewhere on the north coast or adjacent to a population centre.

There is no credible evidence to support the claim that the development at Smith Bay would have any material impact on Kangaroo Island's tourism industry. The submission from Tourism SA does not make or support this claim. One of the advantages of Smith Bay is that it is well away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast.

Molly's Run and Kangaroo Island Marine Adventures conduct tourist operations in the immediate vicinity of Yumbah's industrial-scale onshore abalone farming operation, which has not negatively affected the viability of their businesses. There is no evidence to suggest that the proposed KI Seaport, which is further away and less visible from Molly's Run, would affect the viability of their businesses.

Impact on Yumbah

The Draft EIS explicitly quantifies the direct economic impact if Yumbah was to close (see Draft EIS, p 448-9). However, with the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that Yumbah would be forced to close if the development proceeds, or that the development and Yumbah's on-land aquaculture operation cannot co-exist. Similarly, no credible evidence has been presented to show that Yumbah could not expand should it choose to do so, subject to it obtaining all necessary approvals.

Yumbah and others claim that the impact assessment should also account for 'lost opportunity' because Yumbah has delayed plans to expand its operations at Smith Bay. The Guidelines, however, require an assessment of current aquaculture operations, and do not require the applicant to speculate about unknown and undisclosed future plans. Arguments about the loss of future benefits because of claims of stalled investment are irrelevant to the assessment process because there is no objective evidence of such plans e.g. a pre-existing (or even a subsequent) planning application.

Reversion to agriculture

Commercial forestry was established on Kangaroo Island to give effect to national policy aspirations to promote large-scale plantation forestry, create regional employment opportunities and protect native forests. After careful consideration, both the South Australian Government and the Kangaroo Island Council supported this development.

KIPT has always maintained it will optimise the use of its land. The analysis shown in Chapter 20 of the Draft EIS (Draft EIS, p 445) shows forestry is the most productive use of the land by a considerable margin. Accordingly, there are no plans to reduce the area of plantation timber on Kangaroo Island. Scale is essential to a commercially sustainable timber industry.

Development of the KI Seaport would not remove forestry from Kangaroo Island. KIPT has a long-term investment in the timber assets on Kangaroo Island because Kangaroo Island has demonstrated an average rate of tree growth which is higher than the average for Australia, and the development will underpin a commercially and environmentally sustainable forestry industry on Kangaroo Island.

Traffic and transport

Considerable concern is expressed in submissions about road safety. The most common issues raised are the frequency of truck movements, operating hours, and the use of high productivity vehicles (HPV). Other concerns include the damage to roads caused by trucks and concerns about funding the necessary road upgrades and maintenance, the socio-economic impacts of the haulage operation (e.g. the impacts on neighbouring land uses, the interaction with other road users, including tourists and school buses, the movement of livestock along roads etc), and the environmental impacts, including dust and noise and the impacts on native vegetation and wildlife on Kangaroo Island.

Road safety

KIPT agrees that safety should be the highest priority when considering the various options for transporting timber products to Smith Bay.

One of the advantages of Smith Bay is that conflict with the most heavily used roads and the main tourism routes is minimised. Nonetheless, there is no traffic and transport option which would have zero impact, just as there is no option where the growth of tourism and tourist numbers (for example) would not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities.

No one, including road users, road safety authorities, the Kangaroo Island Council and the South Australian Government, expect that it is possible to eliminate the risk of crashes occurring. It is necessary, however, to determine the best way to manage and mitigate these risks and impacts.

The Draft EIS presents a comprehensive set of options to reduce the risks associated with the timber haulage operation (See Section 21.5.5). These include the use of high-productivity vehicles (which could potentially halve the total number of truck movements), safer roads (a defined route designed to handle high productivity vehicles safely), driver competency standards and training, in-vehicle technological aids and safe speeds.

KIPT would fund some of these initiatives, such as the purchase of the high-productivity vehicles, driver competency training and the fitting of in-vehicle technological aids. Significant grant funds are available from both the State and Commonwealth Governments which could be used to upgrade and maintain the roads. As outlined in the Draft EIS, KIPT anticipates these options would be negotiated with the Kangaroo Island Council and the South Australian Government as part of continuing discussions regarding the haulage operations. Both these levels of government have indicated to KIPT that such discussions should occur only once the development is approved.

Frequency of truck movements

The Draft EIS provides various estimates to illustrate the traffic and transport impacts. It is not possible to provide precise figures because there are a number of variables over which KIPT has no control.

The frequency of truck movements is a function of several factors such as the volume of timber product to be delivered to Smith Bay, vehicle size and capacity (using A-doubles would halve the number of vehicle movements), and operating hours (with restrictions on operating hours increasing the concentration of vehicle movements during these hours).

The total kilometres travelled per annum is a function of the volume of timber products to be delivered to Smith Bay (which would vary from year to year, but is estimated to be 600,000 tonnes per annum on average), vehicle size and capacity, and the proximity of the harvested plantations to Smith Bay.

The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the South Australian Government and KIPT.

Operating hours

The operating hours have not yet been determined. One option is to operate on a 24-hour harvesting schedule, which is discussed in the Draft EIS. The principle benefit of this option is to reduce the frequency of the vehicle movements, but the principal disadvantage is that there would be no respite for other road users or nearby residents from these movements.

The alternative option of reducing operating hours (e.g. a 12-hour schedule for 5 days each week, or 36 per cent of the available operating hours) would increase the number of vehicle movements each operating hour but would also provide respite because there would be no trucks operating at night and on weekends.

A sensible compromise may involve a longer operating window each day, with an overnight shut down, and some capacity for limited round-the-clock operations in certain circumstances to create the necessary surge capacity in the event of disruptions or shortages.

Road funding

KIPT agrees with the general proposition that ratepayers should not be responsible for maintaining the roads which would be used to transport timber products to Smith Bay. From the outset KIPT has made this clear to the Kangaroo Island Council.

Significant grant funds are available from both the State and Commonwealth Governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.

KIPT has indicated its willingness to fund the repairs and maintenance for the 'feeder roads' which connect the plantations to the main or core haulage route, as occurs elsewhere in South Australia, including in the green triangle.

Impact on amenity

KIPT agrees with the general proposition that the route used to transport timber products to Smith Bay should avoid existing tourism routes and the major domestic traffic routes.

One of the advantages of Smith Bay is that conflict with the most heavily used roads and the main tourism routes is minimised. One of the advantages of the preferred route presented in the Draft EIS (see Figure 21-8) is that it has the fewest interactions with other road users, other industries (especially tourism) and adjoining properties, which means the impact of dust and stones is minimised.

Impact on native fauna

KIPT would be responsible for a small increase in the total volume of traffic on Kangaroo Island. There is no evidence to suggest heavy vehicles are disproportionately responsible for roadkill, even allowing for such variables as the time of day at which vehicles are travelling. Indeed, it is agreed that vehicles travelling at safer speeds result in reduced roadkill.

The Kangaroo Island Council, the South Australian Government, the Commonwealth Government and the tourism industry on Kangaroo Island have a common goal of increasing visitor numbers to Kangaroo Island, which would inevitably mean growth in road use, and more roadkill. All parties accept that roadkill is an unavoidable consequence of road-based transport.

Social

Concerns have been expressed by respondents about the impact on housing and the employment and training opportunities for the local community.

Impact on housing

The Office of the Commissioner for Kangaroo Island published a comprehensive report on housing on Kangaroo Island in 2017, which recommended a series of actions to address the housing issues on Kangaroo Island. KIPT would work with government agencies in relation to these recommendations and any new recommendations that may arise in the future.

KIPT is currently liaising with local Kangaroo Island real estate agents and developers to secure accommodation arrangements for their permanent and temporary workforce. Planning is ongoing and would involve commercial arrangements which are not yet finalised.

Employment and training

KIPT does not intend to establish a fly-in-fly-out operation. KIPT has stated its preference would be to employ Kangaroo Island residents. Training would be provided, as required, to maximise the opportunities for Kangaroo Island residents who wish to work for the company and its contractors.

Visual impact

A number of respondents expressed concerns about the visual impact of the proposed KI Seaport.

The Draft EIS acknowledges that changes to visual amenity would occur, but KIPT believe the overall visual impact for Kangaroo Island would be minimised by locating the seaport adjacent to the land-based aquaculture farm at Smith Bay. The aquaculture operation is the only commercial/industrial facility along the northern coast of Kangaroo Island, and includes tanks, buildings, sheds and supporting structures for approximately 6 ha of shade cloth. These features create an industrial-like landscape at the western end of Smith Bay.

Heritage

Concerns have been expressed about the veracity and conclusions in the heritage assessment, particularly in relation to Aboriginal heritage, and the adequacy of the proposed heritage management plan.

Veracity of heritage assessment

The report presented in the Draft EIS has been replaced by the Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019 (See **Appendix G**).

Proposed heritage management plan

A Construction Heritage Management Plan would be developed following development approval. This document would be developed in consultation with the relevant government authorities, archaeologists and traditional owners, and involve the contractor who is undertaking the construction work. It is standard practice to develop a detailed management plan following development approval.

RISK ASSESSMENT, MANAGEMENT AND COMMITMENTS

HAZARD AND RISK MANAGEMENT

Issues have been raised about the risk assessment methodology, fire safety and hazard management plans.

Risk assessment methodology

All of the key issues associated with establishing a multi-user port at Smith Bay have been identified and the associated risk assessments have been completed in accordance with standard industry practice (i.e. AS/NZS ISO 31000). The risk assessment also considered:

- the risk assessment completed by the Development Assessment Commission, which was presented in the Guidelines for the environmental impact assessment
- information gathered by research, surveys and assessments undertaken for the impact assessments presented in the Draft EIS (see Chapters 8 and 25)
- information presented by third parties, including the studies commissioned by Yumbah and presented in the appendices to both of their submissions to the Minister for Planning.

Fire safety and hazard management

Specific details of escape routes, refuges, active and passive fire suppression systems and onsite buffers would be determined in ongoing consultation with CFS and be provided in the final Bushfire Hazard Management Plan and the Emergency Response Management Plans. The management plans would be updated with detailed site design and layout plans, fire suppression system documentation and detailed maintenance plans outlining how they would be maintained through site operational activities.

ENVIRONMENTAL MANAGEMENT FRAMEWORK

Respondents have raised issues about the construction and operating environmental management plans.

The Environmental Management Framework (EMF), and the associated Environmental Management Plans (EMP), would be used to ensure all commitments and approval conditions are effectively implemented during all phases of the project. The Draft EIS provides preliminary drafts and working documents and all management plans would be updated and finalised after the development has been approved.

KIPT is not able to commit to some mitigation measures or management actions because it has no control over the decision. For example, KIPT would prefer to use of high-productivity vehicles, but this requires decisions by the Kangaroo Island Council and the SA Government about the preferred route, the upgrades required to that route so that it can be gazetted for use by high productivity vehicles, and the funding arrangements for those upgrades.

KIPT would be required to ensure all contractors, sub-contractors and users of the facility comply with the EMP and report to government agencies on the implementation of the EMF.

The EMF itself would be periodically reviewed, updated and improved. These reviews would assess the effectiveness of the management measures. A formal review schedule would be developed to manage this process.

1. INTRODUCTION

The Response Document is the final report produced by KIPT, as the proponent, as part of the process to assess the environmental, social and economic impacts of the proposed KI Seaport and how these can be managed or mitigated.

1.1 PURPOSE OF THE RESPONSE DOCUMENT

The Response Document provides responses to written submissions received during the public consultation period for both the Draft Environmental Impact Statement (EIS) and the Addendum to the Draft EIS. These documents were prepared for Kangaroo Island Plantation Timbers (KIPT) by the Adelaide-based firm, Environmental Projects.

Community and stakeholder engagement is critical to the assessment process and the proponent's responses to the submissions play an important role in the decision whether to approve or refuse a proposed development or project.

The Response Document is required to show consideration of all questions and concerns raised in submissions lodged during the formal public consultation period prescribed by the Minister for Planning and, where appropriate, offer new solutions or adjustments to the original proposal.

The Response Document does not need to address comments or issues raised elsewhere, including social media. There is also no requirement to respond to any submissions that do not raise specific concerns or queries, or which are considered out of scope (i.e. raise matters not within the scope of the development described by the Minister for Planning in his declaration and defined in the Guidelines set by the Development Assessment Commission (DAC)).

1.2 STRUCTURE OF PART TWO

Part Two of the Response Document comprises ten sections:

- **Section 1** – Introduction
- **Section 2** – Public consultation
- **Section 3** – Submissions
- **Section 4** – Methodology used to characterise the issues raised in submissions
- **Section 5** – Cross referencing for respondents to find their submission
- **Section 6** – Tabled responses to issues raised in submissions
- **Section 7** – Management of hazard and risk
- **Section 8** – KIPT's commitments
- **Section 9** – Further information and references
- **Section 10** – Abbreviations and glossary.

Part Three of the Response Document, **Appendices (A – H)**, provides supporting information for responses provided in tables of **Section 6**.

1.3 STATUS OF THE ASSESSMENT PROCESS

After the Response Document has been submitted to the Minister for Planning, the DPTI (on behalf of the Minister) will prepare an Assessment Report. DPTI would engage with relevant State Government agencies again at this stage.

Figure 1-1 provides an overview of the assessment process. DPTI will use the Response Document to complete their Assessment Report.

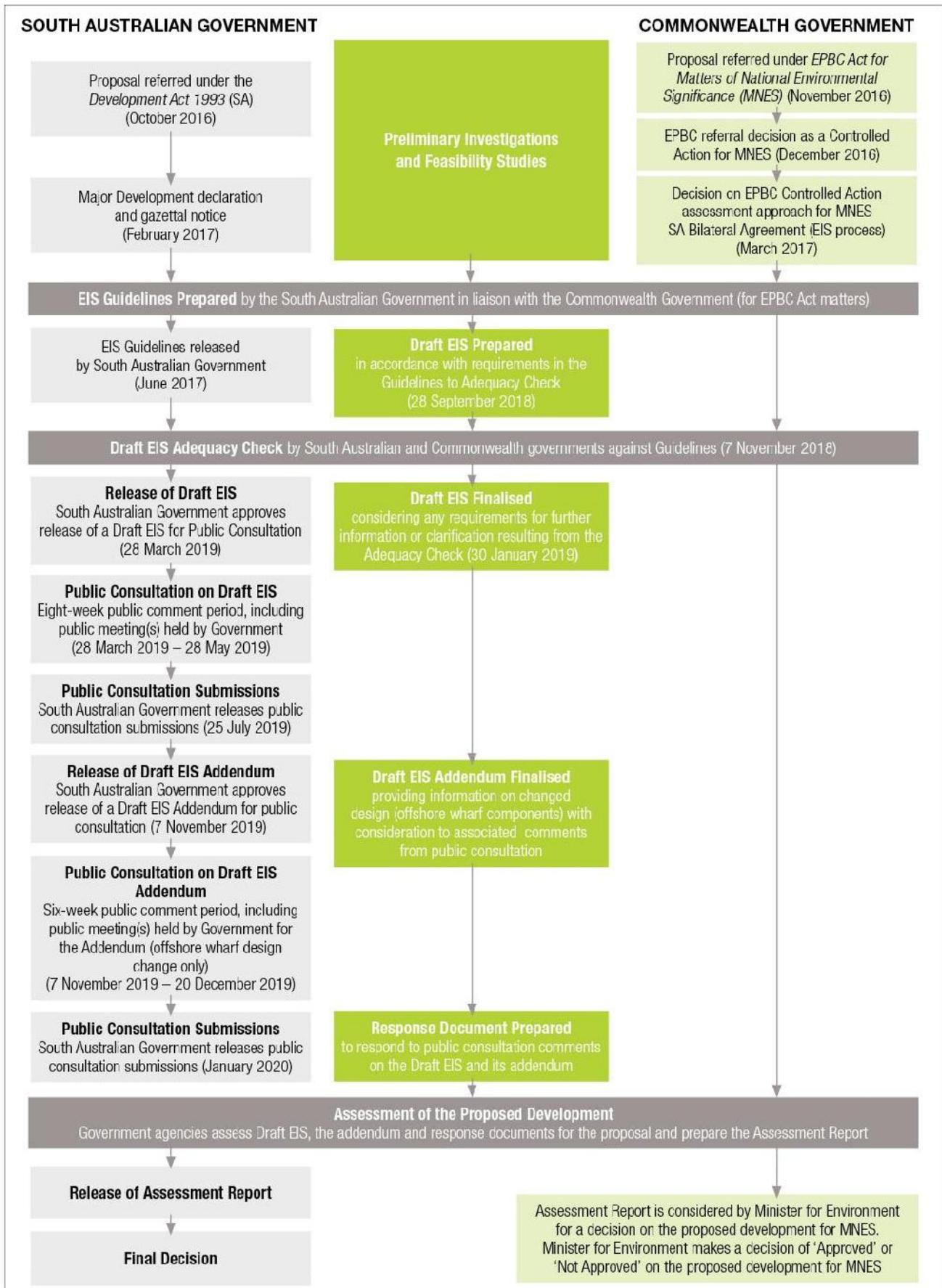


Figure 1-1: Overview of the assessment process

1.4 PROGRESSION OF KI SEAPORT PROPOSAL

A summary of key milestones in the development of the proposed KI Seaport is presented in Table 1-1.

Table 1-1: Key KIPT Milestones

Date	Milestone
December 2013	KIPT's site assessment and selection process is completed. Twelve separate sites evaluated, including three different options at two of the sites (Penneshaw and Kingscote); a total of 16 options evaluated. KIPT identifies an area at Smith Bay as the most suitable site on Kangaroo Island to develop a deep-water port.
February 2014	KIPT purchases 11.7 ha at Smith Bay.
2015	KIPT and New Forests Asset Management Pty Ltd (New Forests Asset Management), separately approach the SA Government with independent proposals to build a facility on Kangaroo Island to export their timber. Ongoing discussions occur throughout 2015.
19 December 2015	SA's Minister for Transport advises KIPT that the Government of South Australia will allow and assess only one port development proposal for Kangaroo Island.
October 2016	New Forests Asset Management agrees to sell its Forestry Investment Trust (FIT) estates and other assets on Kangaroo Island to KIPT including all its plantation land, standing timber and the Ballast Head site that New Forests proposed as an export facility.
21 October 2016	KIPT submits an initial concept plan to develop an export facility at Smith Bay to SA's Minister for Planning, requesting the proposal be declared a major development under s.46(1) of the <i>Development Act 1993</i> .
31 January 2017	KIPT and Mitsui Bussan Woodchip Oceania Pty Ltd (MWO) enter into a Memorandum of Understanding to create an exclusive marketing arrangement for timber products from Kangaroo Island.
14 December 2017	The Commonwealth Minister for the Environment and Energy declares the proposal a controlled action for the purposes of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
16 February 2017	The Minister for Planning declares the Smith Bay proposal a major development.
12 April 2017	KIPT concludes the purchase of the Kangaroo Island FIT estate from New Forests.
6 July 2017	The Minister for Planning publishes guidelines for the EIS assessment, as defined by DAC.
19 September 2017	PF Olsen (Aus) Pty Ltd is engaged by KIPT to provide independent forestry management services to KIPT.
21 November 2017	KIPT and MWO enter into a binding five-year woodchip sale and purchase agreement, which provides that Mitsui will purchase up to 500,000 green tonnes per annum (tpa) of woodchip from KIPT on a free-on-board (FOB) basis or equivalent.
28 August 2018	Draft EIS submitted by KIPT to DPTI for Adequacy Check.
7 November 2018	DPTI (and referred agencies) completes adequacy check of the Draft EIS against the DAC guidelines.
30 January 2019	KIPT submits final Draft EIS to DPTI for public release. A number of printed books and electronic PDF copies of the documentation were delivered to DPTI for public distribution.

Date	Milestone
28 March 2019	Minister for Planning releases the Draft EIS for public comment.
28 March 2019 – 28 May 2019	Public consultation period (40 business days) including three public sessions at Kingscote and Parndana on Kangaroo Island and in the CBD of Adelaide.
25 July 2019	DPTI publishes all submissions received during the public consultation period on its website.
October 2019	KIPT submits KI Seaport EIS Addendum to DPTI for release for public comment.
7 November 2019 – 20 December 2019	Public consultation period (32 business days) including one public session at Kingscote on Kangaroo Island.
January 2020	DPTI publishes all submissions received during the public consultation period for the addendum to the Draft EIS on its website.
March 2020	KIPT submits KI Seaport EIS Response Document to DPTI.

1.5 KANGAROO ISLAND BUSHFIRES

The bushfires of Dec-Jan 2019-20 have had a devastating impact on Kangaroo Island. Two volunteer fire-fighters lost their lives; many families have lost houses and have been displaced; almost every farm and business west of Parndana has been severely affected. The damage to the natural environment has also been catastrophic.

KIPT and the privately-owned plantations comprise approximately 7 per cent of the total fire affected area on Kangaroo Island. Approximately 95 per cent of the KIPT plantation assets and all of the privately-owned plantations were fire affected to some degree. None of the fires started on KIPT land; several started on neighbouring land and the source of the largest and most destructive fire was the national park.

The 2019-20 fire season also saw a large areas of timber plantations affected elsewhere in Australia. Fortunately for these timber plantation owners, access to markets is immediately available and a large-scale salvage program is currently underway in NSW, Victoria, Tasmania and Adelaide Hills. Most of the timber on the KIPT estate is also capable of salvage, and the company has examined interim options such as barging from Kingscote and Penneshaw, while the approvals process for the KI Seaport is completed, and the facility is constructed.

These options, however, require their own separate development approval process, which would likely take several months. The impacts on the local population centres and businesses of Penneshaw and Kingscote arising from the need to upgrade or replace existing infrastructure would need to be considered (e.g. the impacts from increased traffic, noise and dust from haulage and handling of logs, the impact on marine environment etc.). Further, the proposed sites are controlled by third parties and KIPT would need to negotiate access agreements for the use of these sites.

Even if KIPT was successful in obtaining approval to commence a barging operation, the limited scale of any operation located within these townships would require 10 to 20 years to remove the salvaged wood from the island. For this reason, KIPT intends to continue with the Seaport proposal at Smith Bay. Nevertheless, KIPT is aware of third-party proposals to offer a barging solution to the island as part of the wider recovery program. KIPT welcomes these proposals and is prepared to consider the potential to ship appropriate scale volumes of logs on a commercial arms-length basis in the period before the Seaport is constructed. Barging is however not capable of handling the entire resource in a timely and efficient manner.

While the fires have had a profound impact on the short-term business prospects for KIPT, the long-term prospects for the business have not changed. Kangaroo Island is a good place to grow trees, as it is also a good place for other agricultural enterprises. There remains the basis for a commercially viable and environmentally sustainable plantation timber industry on Kangaroo Island, provided the infrastructure is available to export the timber products in a timely and efficient manner. The proposed KI Seaport at Smith Bay will unlock the benefits of forestry on Kangaroo Island; it is the essential foundation which will enable the industry to recover from the bushfires. Indeed, the need to export fire-damaged timber as a matter of urgency makes the KI Seaport even more important.

KIPT remains committed to securing final approval for its proposed deep-water wharf at Smith Bay. The proposed KI Seaport will be essential to enable the removal and sale of trees that would otherwise need to be chain-felled and completely burnt in situ; a costly process that would take several years, releasing considerably more smoke and CO₂ than the fast-moving intense fires of December and January. The KI Seaport can also play an important role in building resilience in the Island's economy, as a significant capital works project, and, when completed, by enabling import and export activity in non-forestry sectors.

2. PUBLIC CONSULTATION

The South Australian Minister for Planning authorised two separate periods of public consultation; one for the Draft EIS and one for the Addendum to the Draft EIS.

2.1 DRAFT EIS CONSULTATION

The Draft EIS was released for public consultation on 28 March 2019. The Minister specified an eight-week public consultation period (i.e. 40 business days) ending on 28 May 2019. Three public information sessions were conducted during this time at Kingscote (1 May 2019), Parndana (2 May 2019) and Adelaide (7 May 2019).

DPTI received a total of 1372 submissions relating to the Draft EIS, excluding 14 duplicate submissions which were not included in the final count. Of these, 1264 opposed the proposed project and 106 were supportive.

Of the submissions opposing the proposal, the vast majority (1197 or 87 per cent) were form letters prepared by the 'Save Smith Bay' campaign group <<https://savesmithbay.com.au>>. There were four such form letters circulated by the Save Smith Bay website, as well as a postcard style submission circulated during the public consultation period by campaign members. If an individual added comments or other feedback to the form letter or postcard, these additions were recorded as a separate response.

2.2 ADDENDUM TO THE DRAFT EIS CONSULTATION

KIPT agreed to make significant changes to the proposed development in response to feedback received in the first round of public consultation. Given the significance of the proposed changes, the Minister for Planning required a second round of public consultation on the proposed changes, which were summarised and assessed in the Addendum to the Draft EIS. It was made clear in the public notices announcing the second round of public consultation that the Minister was only seeking feedback on the proposed changes.

The Addendum to the Smith Bay Wharf Draft EIS was released for public consultation on 7 November 2019 for a period of six weeks (i.e. 30 business days) to 20 December 2019. A single public information session was held at the Kingscote on Friday 29 November 2019.

DPTI received a total of 47 submissions on the matters addressed in the Addendum to the Draft EIS. Of these, 14 were opposed to the proposed project and 32 were supportive of the proposed development.

A further 55 submission were received that addressed matters outside the scope of the subject matter addressed in the Addendum.

2.3 PUBLIC CONSULTATION FEEDBACK

Some opponents of the proposed development have criticised the stakeholder engagement process as being inadequate. KIPT notes that the public consultation process conducted by DPTI significantly exceeded regulatory requirements and therefore believes that such criticisms should be set aside.

The stakeholder engagement process adopted by KIPT began before the Smith Bay site was purchased, and the company has followed a continuous process of engagement since then. The public consultation process for the Draft EIS, which is the responsibility of the Minister for Planning, accords with the requirements of the Development Act and Regulations:

- The Act specifies a minimum six-week (30 business days) period for public consultation on the Draft EIS, but the Minister for Planning set an eight-week period to allow the public more time to digest the material in the document.
- Although the Act requires a single public meeting, the Minister specified three public consultation sessions be held at Kingscote, Parndana and in Adelaide, respectively.
- The Act envisages documents would be made available to the public for a fee, but KIPT provided all materials free of charge.

The Draft EIS was made available on DPTI's website and the Smith Bay EIS website (which was specifically developed to disseminate information on the EIS). Postcards were also mailed to neighbours and landowners in close proximity to the Smith Bay site with details of the website and a phone number to contact for further information.

Hardcopies of the Draft EIS and electronic copies (on USB) were made available from the Kangaroo Island Council offices, DPTI, KIPT's office in Kingscote, and when requested, copies were posted, or hand delivered. A series of single-issue fact sheets were also published and made available on the Smith Bay EIS website to make it easier to deal with some of the technical material in the Draft EIS.

The session times for the public meetings were advertised a number of weeks in advance, with a reminder notice placed in local newspapers (Advertiser and The Islander) one week before the sessions were held. Notices were also uploaded on the Smith Bay EIS website, DPTI website and public announcements were made by KIPT.

Printed copies of the Draft EIS and the fact sheets, and USB copies of the Draft EIS were also made available at the three public consultation sessions. Staff from DPTI, KIPT and Environmental Projects attended these sessions to assist members of the public and answer any questions they had.

In response to the comments received on the Draft EIS, KIPT modified the design of the in-water components of the proposed KI Seaport. These changes responded directly to concerns first expressed by Yumbah in their submission, and the change implemented Yumbah's preferred design.

These changes were themselves the subject of a second phase of public consultation. An Addendum to the Draft EIS was prepared, and the Minister specified a second six-week period of public consultation on those amendments, and another public meeting at Kingscote. The process used to make the Draft EIS available for public comment was also adopted for the Addendum.

3. SUBMISSIONS RECEIVED

3.1 COPIES OF SUBMISSIONS

Copies of all submissions are available on DPTI's website <<https://www.sa.gov.au/topics/planning-and-property/land-and-property-development/building-and-property-development-applications/major-development-applications-and-assessments/proposals-currently-being-assessed/kangaroo-island-plantation-timber-port-at-smith-bay>>.

3.2 FORM OF SUBMISSIONS

All submissions were received by DPTI as posted mail, email or were handed to DPTI staff in person during the public consultation sessions.

With the widespread use of social media platforms and improved access to the internet, the use of 'form letters' have become popular as a way for members of the public to make submissions. The Save Smith Bay website generated four form letters opposing the development which comprise most of the submissions received:

- Form Letter 1 raised matters of national environmental significance (MNES). A total of 843 copies of Form Letter 1 were received.
- Form Letter 2 raised biosecurity concerns. A total of 192 copies of Form Letter 2 were received.
- Form Letter 3 raised concerns about local infrastructure. A total of 80 copies of Form Letter 3 were received.
- Form Letter 4 raised on local employment concerns. One copy of Form Letter 4 was received.

A fifth form letter comprising a set of postcards raising concerns about traffic, transport, pollution, amenity, biodiversity, and biosecurity, was handed out by Save Smith Bay representatives during the public consultation sessions. A total of 81 copies of Form Letter 5 were received.

Substantial submissions were received from:

- Yumbah Aquaculture
- Kangaroo Island Council
- AusOcean
- Baird
- Kangaroo Island / Victor Harbor Dolphin Watch.

Some of these submissions included research or investigations to substantiate issues and concerns raised by the respondent.

Submissions were also received from the State and Commonwealth Governments.

3.3 NUMBER OF SUBMISSIONS

The number of submissions received from the public is summarised in Table 3-1.

Table 3-1: Tally of public submissions

Support or oppose	Description of content	Tally	Totals
Oppose Form 1	Form letter	843	
Oppose Form 2	Form letter	192	
Oppose Form 3	Form letter	80	
Oppose Form 4	Form letter	1	
Oppose Form 5	Form letter (postcard response)	81	
Oppose Draft EIS submissions		74	
Oppose Addendum submissions		14	
<i>Duplicates</i>	<i>Duplicate submissions (not included in tallies)</i>	14	
Submissions opposing (including all form letters)			1278
Unique submissions opposing			93
Neutral Draft EIS submissions	Did not state a clear position, but have queries	2	
Neutral Addendum submissions		1	
Total unique submissions neutral			3
Support Draft EIS submissions	Other positive viewpoint	106	
Support Addendum submissions		32	
Supporting submissions (including all form letters)			138
Unique supporting submissions			138
Total submissions			1419

3.4 SUMMARY OF ISSUES AND CONCERNS

The top 30 issues raised and the frequency with which they were raised in the submission is illustrated in Figure 3-1.

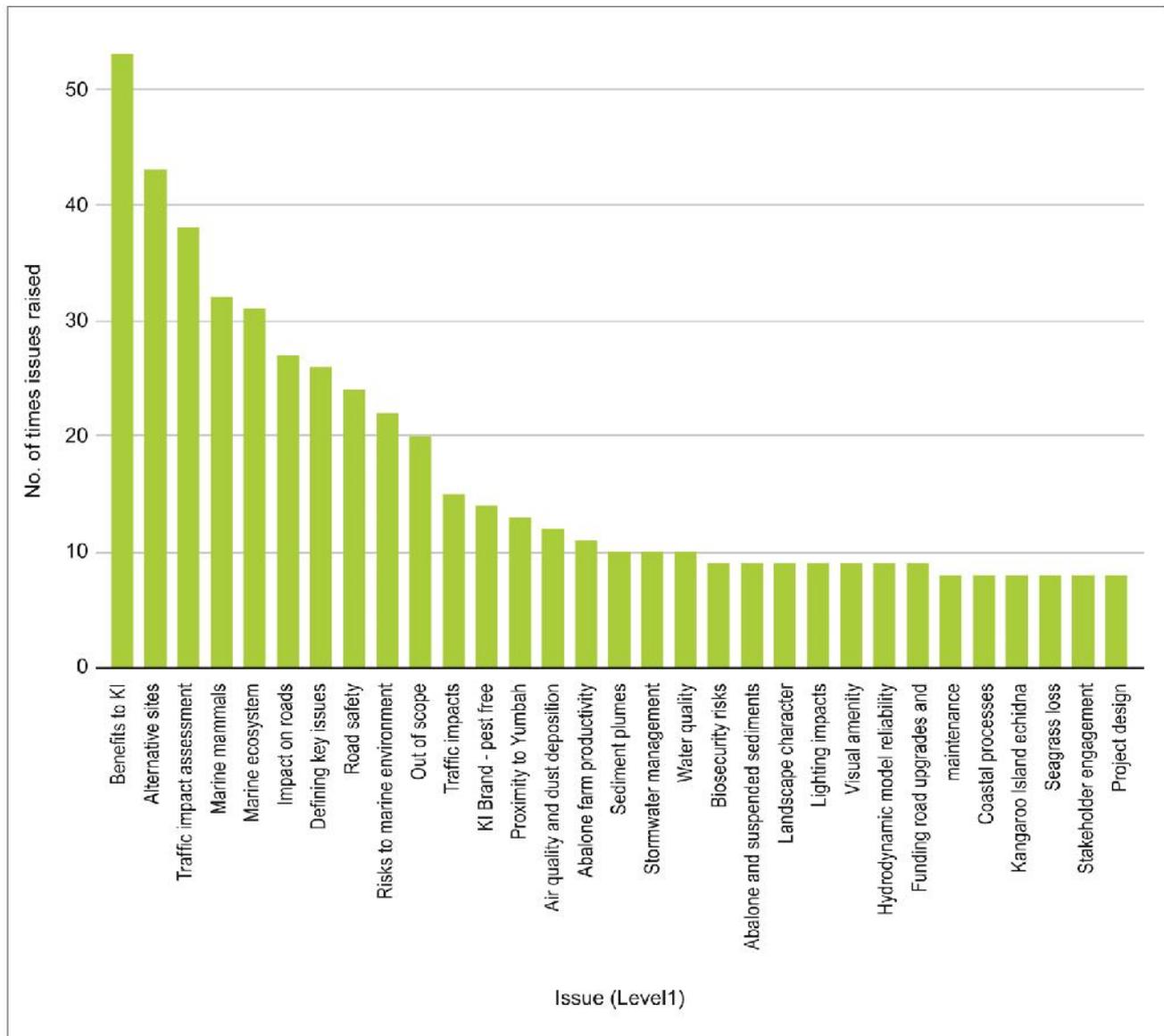


Figure 3-1: Top 30 issues raised in submissions

The specific issues raised in the State and Commonwealth Government submissions are listed in Table 3-2.

Table 3-2: Issues raised by South Australian and Australian Government agencies

Department	Agency / Authority	Issues
Commonwealth		
Department of the Environment and Energy	DoEE (now DAWE)	Marine mammals
Department of the Environment and Energy	DoEE (now DAWE)	Mitigation measures
Department of the Environment and Energy	DoEE (now DAWE)	Kangaroo Island echidna

Department	Agency / Authority	Issues
Department of the Environment and Energy	DoEE (now DAWE)	Management plans
South Australia		
	EPA	Air quality modelling
	EPA	Air quality and dust deposition
	EPA	Aquaculture licencing
	EPA	Light spill
	EPA	Project design
	EPA	Hydrodynamic model reliability
	EPA	Water quality
	EPA	Abalone susceptibility to suspended sediments
	EPA	Causeway design
	EPA	Dredging
	EPA	Turbidity effects
	EPA	Groundwater
	EPA	Conceptual site model
	EPA	Noise modelling
	EPA	Terrestrial noise effects and impacts
	EPA	Construction management and monitoring
	EPA	Site contamination
	EPA	Stormwater management
	EPA	Wastewater and stormwater re-use management
	EPA	Construction noise
	EPA	Future capital dredging
	EPA	Underwater noise mitigation measures
	EPA	Jetty construction
	EPA	Piling
	EPA	Residual risk
Department for Environment and Water	EPA/DEW	Risk assessment
Department for Environment and Water	EPA/DEW	Post-approval monitoring
Department for Environment and Water	EPA/DEW	Seagrass communities
Department for Environment and Water	EPA/DEW	Benthic habitats
Department for Environment and Water	DEW	Alternative structures
Department for Environment and Water	DEW	Marine ecology

Department	Agency / Authority	Issues
Department for Environment and Water	DEW	Causeway effects
Department for Environment and Water	DEW	Causeway material
Department for Environment and Water	DEW	Project closure
Department for Environment and Water	DEW	Climate change effects and impacts
Department for Environment and Water	DEW	Cumulative impacts (marine habitats)
Department for Environment and Water	DEW	Survey methodology
Department for Environment and Water	DEW	Offset methodology
Department for Environment and Water	DEW	Impact assessment
Department for Environment and Water	DEW	Post-approval monitoring
Department for Environment and Water	Kangaroo Island Natural Resource Management Board (now Kangaroo Island Landscape Board)	Biosecurity risks
Department for Environment and Water	Kangaroo Island Natural Resource Management Board	Insufficient data
Department for Environment and Water	Kangaroo Island Natural Resource Management Board	Piling
Department for Environment and Water	Kangaroo Island Natural Resource Management Board	Impact of roads
Department for Environment and Water	Kangaroo Island Natural Resource Management Board	Impact assessment
Primary Industries and Regions SA	PIRSA	Management plans
Primary Industries and Regions SA	PIRSA	Aquaculture licencing
Primary Industries and Regions SA	PIRSA	Possible first port of call
Primary Industries and Regions SA	PIRSA	Risks to marine environment
State Government	CFS	Fire Safety and Management Plans
Department of Planning, Transport and Infrastructure	DPTI	Traffic impact assessment
Department of Planning, Transport and Infrastructure	DPTI	Upgrading and maintaining roads
Department of the Premier and Cabinet	Aboriginal Affairs and Reconciliation (AAR)	Aboriginal heritage
Department of the Premier and Cabinet	AAR	Sub-consultant report
Department of the Premier and Cabinet	AAR	Aboriginal site monitors
Department of the Premier and Cabinet	AAR	Cultural Heritage Management Plan
Department of the Premier and Cabinet	AAR	Engagement and consultation
Department of the Premier and Cabinet	AAR	Legislative compliance
Department of the Premier and Cabinet	AAR	Employment and training

Department	Agency / Authority	Issues
Department of the Premier and Cabinet	AAR	Management measures
	SA Housing Authority	Accommodation, infrastructure and services
	SA Housing Authority	Population growth
	SATC	Stakeholder engagement
Department for Education	Education	Road safety

Note that the Department of Environment and Energy (DoEE) is now, as of 1 February 2020, the Department of Agriculture, Water and the Environment (DAWE).

4. METHODOLOGY

4.1 OVERVIEW

Given the substantial number of submissions received, the focus of the Response Document is to address the issues raised in the submissions rather than the submissions per se. As most submissions have also raised more than one issue, the challenge has been to present these responses in a format which is relatively concise, ensures all issues have been identified and addressed, and also allows individual respondents to easily find the response to the issues they have raised. The system used to categorise and present the responses in the tables is summarised in **Section 4.2**.

4.2 SUMMARISING ISSUES - DESCRIPTION OF PROCESS

The DPTI provided all of the public and agency submissions to the proponent. Submissions received after the closing time were not considered.

All submissions were entered into a database and allocated a unique identifier (i.e. Submission ID); for example, the EPA is 1374 and Kangaroo Island Victor Harbor Dolphin Watch is A81. The identifier for submissions on the Addendum to the Smith Bay Draft EIS begin with the letter 'A' to differentiate them from submissions addressing the Draft EIS.

Every submission was reviewed and analysed to identify the issues it raised. Most submissions raised more than one issue, and a single issue may be expressed in a variety of different ways across these submissions.

For this reason, each unique issue has been carefully summarised and categorised according to the chapter in which it is discussed in either the Draft EIS or the Addendum, and two levels of sub-headings (i.e. Level 1 and Level 2). This process of categorising issues was repeated several times to refine the sub-headings and ensure consistency across sub-headings. Issues that were represented by the same Level 1 and Level 2 sub-headings were then combined and consolidated into a single issue.

For example, many issues have been raised about the economic benefits of the KI Seaport (Chapter 20 of the Draft EIS), and a number of respondents claim, in various ways, the economic benefits presented in Draft EIS are overstated because the analysis does not account for the economic impact should Yumbah close. This issue has been categorised as:

- EIS Chapter: Economic Environment
- Level 1 issue: Benefits to KI
- Level 2 issue: Impact on Yumbah.

The response to this issue has been assigned a unique identifier (i.e. Response ID), which is ID 679.

Every issue was entered into a database which allowed a number of tables (i.e. outputs) to be generated.

The flow chart illustrating this process is shown in Figure 4-1.

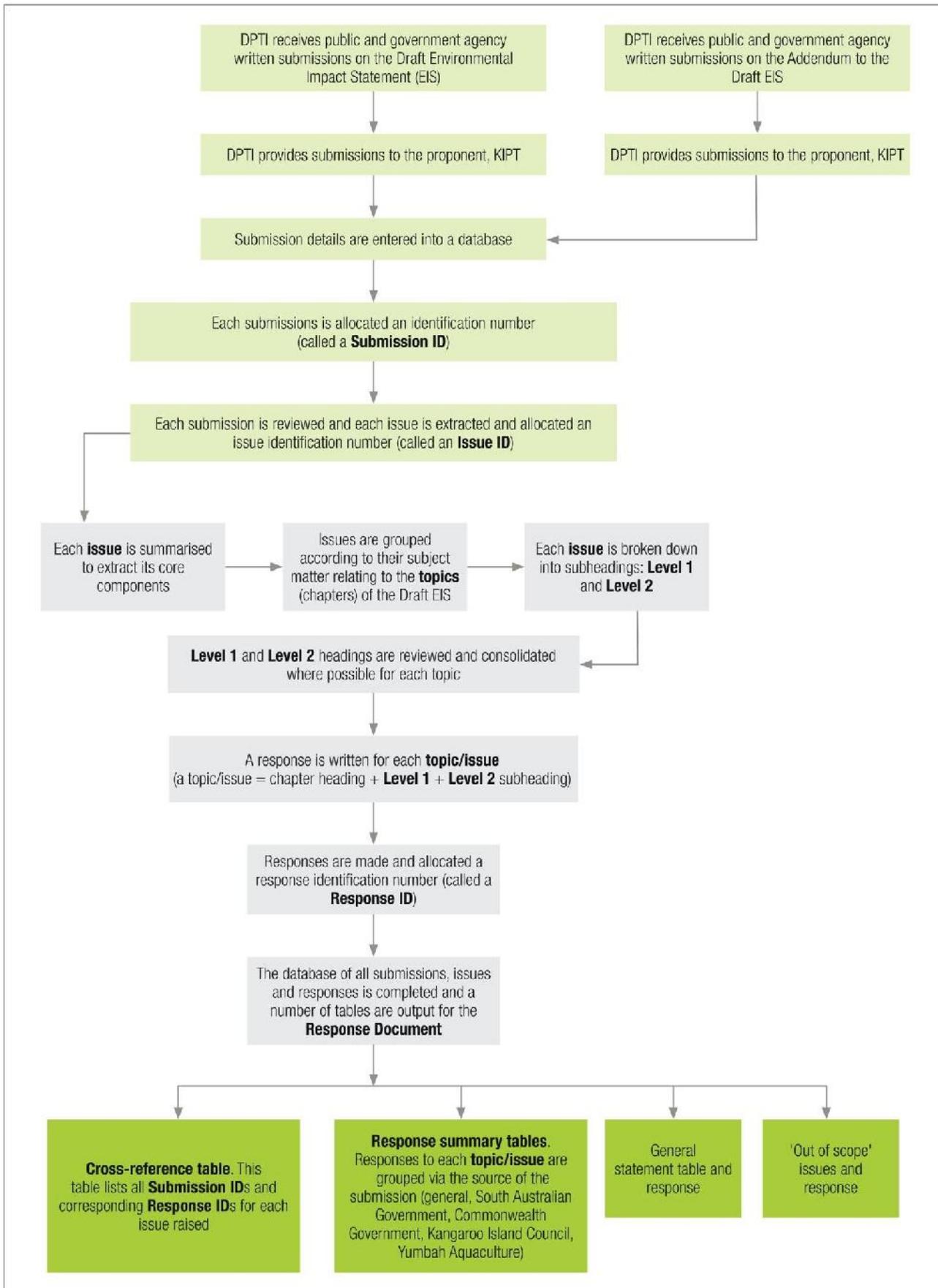


Figure 4-1: Flow chart of methodology used to address submissions to the Draft EIS

4.3 CROSS-REFERENCING

A cross-referencing table was generated from the database to enable respondents to easily find the responses to each of the issues raised in their submissions. See **Section 5**.

4.4 TABLES OF RESPONSES

The responses to issues have been presented in a tabular format specified by the DPTI, and the issues raised by South Australian Government agencies and departments, the Commonwealth department, DAWE, the Kangaroo Island Council, and Yumbah have been addressed in separate tables to the general public submissions.

The responses to issues are provided in **Section 6**.

To find the responses to issues in your submission:

Step 1: Find your surname/organisation in Table 5-1, the cross-reference table.

Step 2: Note the Response ID next to each issue you have raised.

Step 3: To find the response, go to the relevant response table and search for your Response ID.

- Kangaroo Island Council: Table 6-1.
- Yumbah Aquaculture: Table 6-2.
- Members of the public: Table 6-3.
- South Australian Government: Table 6-4.
- DAWE (formerly DoEE) of the Australian Government: Table 6-5.

Note that some issues may have been identified as 'general statement' or 'Out of Scope', in which case see Table 6-6 or Table 6-7, respectively.

5. CROSS-REFERENCES

The cross-reference table (Table 5-1) provides the full list of individuals, organisations and government agencies who made a submission to DPTI, presented in alphabetical order, together with the unique Submission ID for that submission. The table also categorises all of the topics and issues raised in each submission and the unique Response ID for each issue.

Table 5-1 Cross-reference table

Respondent	Submission ID	Topic / Issue			Response ID
(unknown), Siobhan	122	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
(unknown), Siobhan	122	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah	679
(unknown), Siobhan	122	22. SOCIAL ENVIRONMENT	KI Brand	Incompatibility of KI Seaport and KIPTs business on Kangaroo Island	765
AAR	1381	05. LEGISLATIVE FRAMEWORK	Legislative compliance	Amend wording	114
AAR	1381	20. ECONOMIC ENVIRONMENT	Employment and training	Not quantified for Aboriginal people	705
AAR	1381	24. HERITAGE	Aboriginal heritage	Lack of commitment to undertake on-ground survey	779
AAR	1381	24. HERITAGE	Aboriginal site monitors	Lack of commitment	782
AAR	1381	24. HERITAGE	Cultural Heritage Management Plan	Lack of commitment Lack of detail on development of the plan	783
AAR	1381	24. HERITAGE	Cultural Heritage Management Plan	Lack of detail on development of the plan	784
AAR	1381	24. HERITAGE	Engagement and consultation	Ramindjeri groups	785, 786
AAR	1381	24. HERITAGE	Legislative compliance	Reporting the discovery of human remains	795
AAR	1381	24. HERITAGE	Management measures	Lack of commitment	796
AAR	1381	24. HERITAGE	Statement in EIS	Veracity of data and conclusions	803, 804
AAR	1381	24. HERITAGE	Subconsultant report	Veracity of data and conclusions	805, 806, 807, 808, 809
AAR	1381	24. HERITAGE	Typographical correction		811, 812, 813, 814

Respondent	Submission ID	Topic / Issue			Response ID
Alleway, Heidi	1117	01. INTRODUCTION	Assessment of social, economic and environmental aspects of the development	Adequacy	23
Alleway, Heidi	1117	12. MARINE ECOLOGY	Marine surveys	Methods	310
Alleway, Heidi	1117	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impacts on listed species	Offset proposed - not adequate	379
Alleway, Heidi	1117	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah	679
Alleway, Heidi	1117	20. ECONOMIC ENVIRONMENT	Benefits to KI	Veracity of the economic modelling - costs	703
Allinson, Stuart	42	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Allinson, Stuart	42	03. PROJECT ALTERNATIVES	Site Selection	Impact on whales	55
Allinson, Stuart	42	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Alternative project sites to protect whales	389
Allinson, Stuart	42	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Importance of Smith Bay to whales	412
Allinson, Stuart	42	15. BIOSECURITY	Management measures - ballast water	Residual risk not acceptable to Yumbah	484
Allinson, Stuart	42	21. TRAFFIC AND TRANSPORT	Funding road upgrades and maintenance	Site selection	713
Anderson, Laaf	304	17. AIR QUALITY	Air quality and dust deposition	Specific impacts along the transport route - exhaust emissions	576
Andrews, Decland (Whale & Dolphin)	1067	12. MARINE ECOLOGY	Marine surveys	Methods	310
Andrews, Decland (Whale & Dolphin)	1067	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impacts on listed species	Species omissions	377

Respondent	Submission ID	Topic / Issue			Response ID
Andrews, Decland (Whale & Dolphin)	1067	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Mitigation of noise impacts	416
Andrews, Decland (Whale & Dolphin)	1067	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel strike statistics for whales	435
Andrews, Decland (Whale & Dolphin)	1067	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Whale migration pathways	437
Baird (& others), Janice	A75	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Displacement of whale habitat	394
Baird (& others), Janice	A75	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Impact of piling noise	409
Baird (& others), Janice	A75	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Mitigation of noise impacts	416
Baird, Janice	1081	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impact assessment - methodology	Proposed action should not be approved by the Minister (at the State or Commonwealth level)	368
Baird, Janice	1081	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impact assessment - methodology	Veracity of evaluation of significant impacts on MNES	370
Baird, Janice	1081	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impact assessment - methodology	Veracity of survey methodology	371

Respondent	Submission ID	Topic / Issue			Response ID
Baird, Janice	1081	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impacts on listed species	Species omissions	377
Baird, Janice	1081	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Likelihood of a species being present	Application of precautionary principle	384
Baird, Janice	1081	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Migratory bird species	Project inconsistent with international agreements	441
Bartram, Phyll	1065	03. PROJECT ALTERNATIVES	Site Selection	Impact on whales	55
Bartram, Phyll	1065	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Dolphin migration pathways	396
Bartram, Phyll	1065	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Kangaroo Island Important Marine Mammal Area	414
Bartram, Phyll	1065	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel strike - effects on the population of southern right whales	432
Bartram, Phyll	1065	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Whale visitation records for Smith Bay	439
Bartram, Tony (Dolphin Watch)	A81	08. KEY ISSUES	Key issue	Social, economic and environmental values	148
Bartram, Tony (Dolphin Watch)	A81	12. MARINE ECOLOGY	Jetty effects	Barrier to species movement	305
Bartram, Tony (Dolphin Watch)	A81	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Adoption of spatial no go zones	388

Respondent	Submission ID	Topic / Issue			Response ID
Bartram, Tony (Dolphin Watch)	A81	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Conservation Management Plan for the southern right whale	390
Bartram, Tony (Dolphin Watch)	A81	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Importance of Smith Bay to whales	412
Bartram, Tony (Dolphin Watch)	A81	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Mitigation of noise impacts	416
Bartram, Tony (Dolphin Watch)	A81	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Noise impacts further offshore	422
Bartram, Tony (Dolphin Watch)	A81	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Southern right whale	Veracity of evaluation of significant impacts on MNES	446
Bartram, Tony (Dolphin Watch)	A81	18. NOISE AND LIGHT	New jetty design	Use of old modelling	624
Bartram, Tony (Dolphin Watch)	A81	18. NOISE AND LIGHT	Piling noise	Impact on marine ecology - extension of impact	635
Bartram, Tony (Dolphin Watch)	A81	25. MANAGEMENT OF HAZARD AND RISK	Dolphins causing shutdowns	Construction timeline	816
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	09. MARINE WATER QUALITY	Wood dust	Tannin toxicity	185
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	09. MARINE WATER QUALITY	Woodchip and log stockpile leachate	Contamination of the marine environment	186
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Conservation Management Plan for the southern right whale	390

Respondent	Submission ID	Topic / Issue			Response ID
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Cumulative impacts on whales	391
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Displacement of cetaceans from Smith Bay	392
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Dolphin migration pathways	396
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Dolphins habitat requirements	397
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Effect of port chemicals on dolphins	400
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Effects of piling noise on dolphins	401
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Effects of plantation chemicals on dolphins	403
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Impact of algal / cyanobacterial blooms on cetaceans	406
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Impact of blue gum leaves on dolphins	407

Respondent	Submission ID	Topic / Issue			Response ID
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Impact of high pitched noise on dolphins	408
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Importance of Smith Bay to whales	412
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Kangaroo Island Important Marine Mammal Area	414
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Noise and vibration impacts on cetaceans	419
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Noise effects and safe separation for cetaceans	420
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Noise effects on whales in offshore waters	421
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Noise related stress on whales	423
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Soft starts during piling	426
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Southern right whale south eastern population boundary	427

Respondent	Submission ID	Topic / Issue			Response ID
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Uniqueness of Smith Bay habitat	429
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel / whale separation distance	430
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel strike calculations	431
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel strike - effects on the population of southern right whales	432
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel strike - whale confusion effects	433
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Whale and dolphin watching industry	436
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Whale migration pathways	437
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Whale visitation records for Smith Bay	439
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	15. BIOSECURITY	KI Brand - pest free	Regulatory framework is not adequate	467
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	16. GEOLOGY, SOILS AND WATER	Wastewater management	Leachate from timber products	570

Respondent	Submission ID	Topic / Issue			Response ID
Bartram, Tony (Kangaroo island / Victor Harbor Dolphin Watch)	1043	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to human health - woodchips	592
Betharas, Isobel	A67	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Betharas, Stephen	A79	21. TRAFFIC AND TRANSPORT	Funding road upgrades and maintenance	Site selection	713
Brauer, Peter	779	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Brauer, Peter	779	09. MARINE WATER QUALITY	Hydrodynamic model reliability	Incomplete sediment characterisation	156
Brauer, Peter	779	11. LAND-BASED AQUACULTURE	Proximity to Yumbah	Proximity to Yumbah (General)	262
Brauer, Peter	779	11. LAND-BASED AQUACULTURE	Water quality	Impacts on Yumbah intake water quality (TSS)	274
Brauer, Peter	779	20. ECONOMIC ENVIRONMENT	Benefits to KI	Economic sustainability of commercial forestry	662
Briere, Linda	A2	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Briere, Linda	A72	12. MARINE ECOLOGY	New jetty design	Impact reduction	312
Bronwyn, Rees	A17	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Buick, Kirsty	A55	04. PROJECT DESCRIPTION	Jetty piles	Distance between piles	79
Buick, Kirsty	A55	09. MARINE WATER QUALITY	Jetty construction	Sediment plumes at Yumbah's intakes	160
Buick, Kirsty	A55	10. COASTAL PROCESSES	Jetty effects	Currents and seawater temperature	199
Buick, Kirsty	A55	12. MARINE ECOLOGY	Jetty effects	Barrier to species movement	305
Buick, Kirsty	A55	18. NOISE AND LIGHT	Conveyor vibrations	Impact on marine ecology	614
Buick, Kirsty	A55	18. NOISE AND LIGHT	Piling noise	Impact on marine ecology - pile installation	637
Buick, Kirsty	825	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39

Respondent	Submission ID	Topic / Issue			Response ID
Buick, Kirsty	825	04. PROJECT DESCRIPTION	Dredging	Impact on marine/coastal environment	71
Buick, Kirsty	825	11. LAND-BASED AQUACULTURE	Abalone farm productivity	General impacts on abalone (unspecified)	206
Buick, Kirsty	825	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to high suspended sediment loads	208
Buick, Kirsty	825	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Ecotoxicology study not adequate	212
Buick, Kirsty	825	11. LAND-BASED AQUACULTURE	Coastal processes	Causeway effects	231
Buick, Kirsty	825	11. LAND-BASED AQUACULTURE	For noting	EIS data quality	248
Buick, Kirsty	825	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Buiting, Chloe	A41	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Buiting, Chloe	A41	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Dolphin migration pathways	396
Buiting, Chloe	A41	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Impact on dolphin breeding	410
Buiting, Chloe	A41	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Importance of Smith Bay to whales	412
Buiting, Chloe	A41	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah	679
Bush Organics	A88	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Bush Organics	A88	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
Bush Organics	A88	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Impact on dolphin breeding	410

Respondent	Submission ID	Topic / Issue			Response ID
CFS	1379	25. MANAGEMENT OF HAZARD AND RISK	Fire Safety and Hazard Management Plans	Buffers	817
CFS	1379	25. MANAGEMENT OF HAZARD AND RISK	Fire Safety and Hazard Management Plans	Escape routes/refuges from fires	818
CFS	1379	25. MANAGEMENT OF HAZARD AND RISK	Fire Safety and Hazard Management Plans	Fire suppression systems	819
CFS	1379	25. MANAGEMENT OF HAZARD AND RISK	Fire Safety and Hazard Management Plans	Passive and active fire suppression systems	820
CFS	1379	25. MANAGEMENT OF HAZARD AND RISK	Fire Safety and Hazard Management Plans	Plans for total fire ban days	821
CFS	1379	25. MANAGEMENT OF HAZARD AND RISK	Fire Safety and Hazard Management Plans	Proposed plans/liaison with SA CFS	822
Chirgwin, Rosalie	821	00. Not in EIS - out of scope	Land attributes	Suitability for forestry	8
Chirgwin, Rosalie	821	02. PROJECT JUSTIFICATION	Need for a port	Sealink option	29
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Chirgwin, Rosalie	821	04. PROJECT DESCRIPTION	Causeway construction	Causeway materials	58
Chirgwin, Rosalie	821	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Kangaroo Island echidna	Impacts on wildlife are not acceptable	380
Chirgwin, Rosalie	821	20. ECONOMIC ENVIRONMENT	Benefits to KI	Third-party use - agriculture	700
Chirgwin, Rosalie	821	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Chirgwin, Rosalie	821	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Chirgwin, Rosalie	821	24. HERITAGE	European heritage	Omissions	788
Cockshell, Liana	A65	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
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D'Antignana, Trent (Nutrisea P/L)	1366	09. MARINE WATER QUALITY	Marine sediments	Incomplete sediment characterisation	163
D'Antignana, Trent (Nutrisea P/L)	1366	09. MARINE WATER QUALITY	Seagrass loss	Water quality effects	173
D'Antignana, Trent (Nutrisea P/L)	1366	09. MARINE WATER QUALITY	Sediment plumes	Resuspension of sediments during storms	179
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D'Antignana, Trent (Nutrisea P/L)	1366	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to high suspended sediment loads	208
D'Antignana, Trent (Nutrisea P/L)	1366	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	ANZECC guideline issues 10 vs 25 mg/L	209
D'Antignana, Trent (Nutrisea P/L)	1366	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Ecotoxicology study not adequate	212
D'Antignana, Trent (Nutrisea P/L)	1366	11. LAND-BASED AQUACULTURE	Coastal processes	Causeway effects	231
D'Antignana, Trent (Nutrisea P/L)	1366	11. LAND-BASED AQUACULTURE	Cumulative impacts	Cumulative impacts	237
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D'Antignana, Trent (Nutrisea P/L)	1366	11. LAND-BASED AQUACULTURE	Proximity to Yumbah	Proximity to Yumbah (General)	262
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Davis, Beth	251	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Dredging impacts	334

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Davis, Beth	251	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Noise and vibration impacts on cetaceans	419
Davis, Beth	251	15. BIOSECURITY	KI Brand - pest free	Introduction of marine pests to Smith Bay	466
Davis, Beth	251	15. BIOSECURITY	KI Brand - pest free	Residual risk - unacceptable to marine environment and businesses	468
Davis, Beth	251	16. GEOLOGY, SOILS AND WATER	Stormwater management	Adequacy of pollution controls	558
Davis, Beth	251	22. SOCIAL ENVIRONMENT	Socioeconomic impacts	Employment, training, communities and businesses	767
Davis, Linda	342	06. LAND USE AND PLANNING	Kangaroo Island Development Plan	Objectives and PDC's	124
Davis, S	A43	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Importance of Smith Bay to whales	412
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Deborah, Sleeman	822	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Recovery of the southern right whale population	424
Deborah, Sleeman	822	15. BIOSECURITY	Management measures - ballast water	Regulatory mechanisms - implementation	483
Deborah, Sleeman	822	20. ECONOMIC ENVIRONMENT	Benefits to KI	Veracity of the economic modelling - costs	703
Deborah, Sleeman	822	21. TRAFFIC AND TRANSPORT	Road safety	Funding and implementation	717
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Duka, Toni	A21	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Duka, Toni	A21	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on existing industries	687
Duka, Toni	A21	21. TRAFFIC AND TRANSPORT	Upgrading and maintaining roads	Socio-economic impacts	760
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Ellis, David	A93	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to fine sediments	207
Ellis, David	A93	11. LAND-BASED AQUACULTURE	Ship operations	Elevated TSS due to prop-wash during ship operations	263
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Ellis, David	A93	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
Ellis, David	A93	13. TERRESTRIAL ECOLOGY	Traffic impacts	Roadkill mitigation measures	363
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EPA	1374	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to fine sediments	207
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EPA	1374	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	ANZECC guideline issues 10 vs 25 mg/L	209
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EPA	1374	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to abalone - dust criterion	583
EPA	1374	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to amenity - visual dust	589
EPA	1374	17. AIR QUALITY	Air quality modelling	Modelling approach - conservative	596
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EPA/DEW	1375	26. ENVIRONMENTAL MANAGEMENT FRAMEWORK	Post-approval monitoring	Seagrass recovery	849
Errington, Emma	A89	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Errington, Emma	A89	22. SOCIAL ENVIRONMENT	Socioeconomic impacts	Employment, training, communities and businesses	767
Feneley, Colin	1184	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Feneley, Colin	1184	04. PROJECT DESCRIPTION	Electricity supply	Site power source	73
Feneley, Colin	1184	12. MARINE ECOLOGY	Fisheries	Potential adverse impacts	297
Feneley, Colin	1184	16. GEOLOGY, SOILS AND WATER	Stormwater management	Adequacy of pollution controls	558
Feneley, Colin	1184	18. NOISE AND LIGHT	Lighting effects and impacts	Project design related to lighting - change current environment	618
Feneley, Colin	1184	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Route options	749
Feneley, Colin	1184	23. VISUAL AMENITY	Visual amenity	Aesthetics and visual impacts to a pristine environment	775

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Flanagan, Grant	956	04. PROJECT DESCRIPTION	Water supply	Construction and operation	109
Flanagan, Grant	956	09. MARINE WATER QUALITY	Sediment plumes	General marine environmental impacts	175
Flanagan, Grant	956	09. MARINE WATER QUALITY	Sediment plumes	Resuspension of sediments during storms	179
Flanagan, Grant	956	09. MARINE WATER QUALITY	Smith Creek effects	Causeway benefits questioned	180
Flanagan, Grant	956	10. COASTAL PROCESSES	Causeway and dredge basin effects	Sediment deposition and resuspension	188
Flanagan, Grant	956	12. MARINE ECOLOGY	Seagrass loss	Offsets	330
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Flanagan, Grant	956	13. TERRESTRIAL ECOLOGY	Traffic impacts	Roadkill mitigation measures	363
Flanagan, Grant	956	13. TERRESTRIAL ECOLOGY	Traffic impacts - vegetation clearance	Offsets not defined or adequate	365
Flanagan, Grant	956	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Hooded plovers	General impacts - construction, dredging, ship movements	366
Flanagan, Grant	956	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Kangaroo Island echidna	Veracity of data and conclusions	383
Flanagan, Grant	956	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Displacement of cetaceans from Smith Bay	392
Flanagan, Grant	956	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	White bellied sea-eagle	Potential impacts	448

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Flanagan, Grant	956	15. BIOSECURITY	KI Brand - pest free	Impacts on Kangaroo Island community	460
Flanagan, Grant	956	15. BIOSECURITY	Management measures - marine pests	Initial response to pest incursion not adequate	486
Flanagan, Grant	956	15. BIOSECURITY	Risks to marine environment	Impacts on Yumbah - socio-economic	525
Flanagan, Grant	956	15. BIOSECURITY	Risks to marine environment	Omissions - management measures at port of origin	532
Flanagan, Grant	956	16. GEOLOGY, SOILS AND WATER	Stormwater management	Adequacy of pollution controls	558
Flanagan, Grant	956	18. NOISE AND LIGHT	Terrestrial noise effects and impacts	Justification for exceeding Noise Policy criteria - at night	646
Flanagan, Grant	956	18. NOISE AND LIGHT	Terrestrial noise effects and impacts	Justification for exceeding Noise Policy criteria - noise pollution	648
Flanagan, Grant	956	19. CLIMATE CHANGE AND SUSTAINABILITY	Climate change effects and impacts	Specific impacts to Kangaroo Island	655
Flanagan, Grant	956	20. ECONOMIC ENVIRONMENT	Benefits to KI	Cost of road upgrades and maintenance	658
Flanagan, Grant	956	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah - expansion plans	681
Flanagan, Grant	956	21. TRAFFIC AND TRANSPORT	Road safety	Road crashes	724
Flanagan, Grant	956	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on amenity	734
Flanagan, Grant	956	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Flanagan, Grant	956	22. SOCIAL ENVIRONMENT	Communities	Demographics	764
Flanagan, Grant	956	22. SOCIAL ENVIRONMENT	Socioeconomic impacts	Recreational boating and fishing	769
Flanagan, Grant	956	23. VISUAL AMENITY	Landscape character	Aesthetics and visual impacts to an agricultural landscape	771
Flanagan, Grant	956	25. MANAGEMENT OF HAZARD AND RISK	Hazard identification	Assessment of third-party user impacts	823
Florance, James	A90	12. MARINE ECOLOGY	New jetty design	Impact reduction	312
Florance, James	A90	15. BIOSECURITY	Risks to marine environment	Omission - bilge water	531
Florance, James	A90	18. NOISE AND LIGHT	Piling noise	Impact on people with autism	638
Florance, Karin	A56	12. MARINE ECOLOGY	New jetty design	Impact reduction	312

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Florance, Sue & Colin (Ficifolia Lodge)	866	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Florance, Walter	A57	12. MARINE ECOLOGY	New jetty design	Impact reduction	312
Florance, Walter	A57	18. NOISE AND LIGHT	Piling noise	Impact on marine ecology - hearing loss	636
Florance, Walter & Karin	345	00. Not in EIS - out of scope			22
Florance, Walter & Karin	345	00. Not in EIS - out of scope	Timber mill		19
Florance, Walter & Karin	345	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Ballast Head	41
Florance, Walter & Karin	345	04. PROJECT DESCRIPTION	Water supply	Construction and operation	109
Florance, Walter & Karin	345	05. LEGISLATIVE FRAMEWORK	Illegal entry to the island via KI Seaport	Omission	112
Florance, Walter & Karin	345	05. LEGISLATIVE FRAMEWORK	Planning processes		122
Florance, Walter & Karin	345	06. LAND USE AND PLANNING	Kangaroo Island Development Plan	Coastal Conservation Zone	123
Florance, Walter & Karin	345	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Florance, Walter & Karin	345	08. KEY ISSUES	Key Issue	Illegal entry from international vessels	145
Florance, Walter & Karin	345	08. KEY ISSUES	Key issue	Impact on Yumbah	146
Florance, Walter & Karin	345	09. MARINE WATER QUALITY	Sediment plumes	General marine environmental impacts	175
Florance, Walter & Karin	345	12. MARINE ECOLOGY	Smith Bay flora and fauna	General impacts	333
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Florance, Walter & Karin	345	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715

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Florance, Walter & Karin	345	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Socio-economic impacts	754
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Florance, Walter & Karin	345	23. VISUAL AMENITY	Landscape character	Reduced value of property and tourism businesses	772
Florance, Walter & Karin	345	23. VISUAL AMENITY	Visual amenity	Aesthetics and visual impacts to a pristine environment	775
Florance, Walter & Karin	345	23. VISUAL AMENITY	Visual amenity	Impact to KI Brand of clean, green and pristine	778
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Hankel, Peter	540	21. TRAFFIC AND TRANSPORT	Road safety	Impact on tourists and tourism	723
Hankel, Peter	540	22. SOCIAL ENVIRONMENT	KI Brand	Incompatibility of KI Seaport and KIPTs business on Kangaroo Island	765
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Harvie, Megan	898	11. LAND-BASED AQUACULTURE	Abalone farm productivity	General impacts on abalone (unspecified)	206
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Hodgson, John (Kangaroo Island Eco Action)	867	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Hodgson, John (Kangaroo Island Eco Action)	867	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah - expansion plans	681
Hodgson, John (Kangaroo Island Eco Action)	867	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on surrounding businesses	689
Hodgson, John (Kangaroo Island Eco Action)	867	20. ECONOMIC ENVIRONMENT	Benefits to KI	Socio-economic impacts - cascade effect	693
Hodgson, John (Kangaroo Island Eco Action)	867	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on amenity	734
Hodgson, John (Kangaroo Island Eco Action)	867	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on native vegetation	736
Hodgson, John (Kangaroo Island Eco Action)	867	23. VISUAL AMENITY	Visual amenity	Impact to KI Brand of clean, green and pristine	778
Holden, Phillipa	1220	00. Not in EIS - out of scope	Not in EIS - out of scope	Dust from trucks on transport route	10
Holden, Phillipa	1220	02. PROJECT JUSTIFICATION	Alternative uses for timber	Uses that don't require a bulk export port	24
Holden, Phillipa	1220	12. MARINE ECOLOGY	Underwater noise impacts	Significance	343
Holden, Phillipa	1220	13. TERRESTRIAL ECOLOGY	Traffic impacts	Impacts on wildlife are not acceptable - scavenger species	362
Holden, Phillipa	1220	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	General impacts on whales	405
Holden, Phillipa	1220	15. BIOSECURITY	KI Brand - pest free	International shipping threats	465

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Holden, Phillipa	1220	16. GEOLOGY, SOILS AND WATER	Stormwater management	Adequacy of pollution controls	558
Holden, Phillipa	1220	18. NOISE AND LIGHT	Lighting effects and impacts	Project design related to lighting - change current environment	618
Holden, Phillipa	1220	20. ECONOMIC ENVIRONMENT	Benefits to KI	Forestry on KI	665
Holden, Phillipa	1220	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Holden, Phillipa	1220	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Holden, Phillipa	1220	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Holden, Phillipa	1220	26. ENVIRONMENTAL MANAGEMENT FRAMEWORK	Mitigation and management	Adequacy for maintaining the character of Kangaroo Island	845
Holman, Sue	A8	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Dolphin migration pathways	396
Hopton, Trek	547	12. MARINE ECOLOGY	Pipefish	Dredging impacts	315
Hopton, Trek	547	12. MARINE ECOLOGY	Seagrass communities	Dredging and causeway impacts	322
Hopton, Trek	547	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Horbelt, Ann	1214	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Horbelt, Ann	1214	13. TERRESTRIAL ECOLOGY	KI Brand	Impacts on existing businesses - ecotourism	355
Horbelt, Ann	1214	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Horbelt, Ann	1214	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Hourez, Sara	432	04. PROJECT DESCRIPTION	Workforce	Jobs	110
Hourez, Sara	432	16. GEOLOGY, SOILS AND WATER	Wastewater management	Firefighting activities	568

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Hourez, Sara	432	16. GEOLOGY, SOILS AND WATER	Wastewater management	Toxicity of leachate	572
Hourez, Sara	432	17. AIR QUALITY	Air quality and dust deposition	Specific impacts on human health - woodchip fire	579
Hourez, Sara	432	17. AIR QUALITY	Air quality modelling	Nature of the modelling assumptions - conveyor should be covered	600
Hourez, Sara	432	18. NOISE AND LIGHT	Terrestrial noise effects and impacts	Amenity definition	641
Hourez, Sara	432	21. TRAFFIC AND TRANSPORT	Road safety	Road crashes	724
Hourez, Sara	432	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Frequency of truck movements	733
Hourez, Sara	432	25. MANAGEMENT OF HAZARD AND RISK	Hazard identification	Woodchip combusting	828
Hourez, Sara	432	25. MANAGEMENT OF HAZARD AND RISK	Ongoing legal compliance	New owner(s) or operator(s)	833
lasanzaniro, Caroline	A73	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
lasanzaniro, Caroline	A73	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
lasanzaniro, Caroline	A73	18. NOISE AND LIGHT	Lighting effects and impacts	Project design related to lighting - change current environment	618
lasanzaniro, Caroline	A73	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on surrounding businesses	690
lasanzaniro, Caroline	A73	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Iley, Jennifer	A64	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Jaquest, Suanne	A98	12. MARINE ECOLOGY	Smith Bay flora and fauna	General impacts	333
Jaquest, Suanne	A98	15. BIOSECURITY	KI Brand - pest free	Impacts on marine environment from exotic marine pests	461
Johnson, Chelsea	A36	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Johnson, Chelsea	A36	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Jones, Anthony	A86	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Jones, Anthony	A12	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Jones, Anthony	A12	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715

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Jones, Michael	A82	00. Not in EIS - out of scope	KI Seaport	Encourage industrialisation	6
Jones, Michael	A82	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Portland (in Victoria)	46
Jones, Michael	A82	12. MARINE ECOLOGY	Smith Bay flora and fauna	General impacts	333
Jones, Michael	A82	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Kelly, Janice	601	03. PROJECT ALTERNATIVES	Alternative sites	Smith Bay vs Ballast Head for Major Development Status	40
Kelly, Janice	601	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Kelly, Janice	601	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Kelly, Janice	601	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Route options	747
Kelly, Simon & Madelyn	1181	20. ECONOMIC ENVIRONMENT	Benefits to KI	Forestry on KI	665
Kelly, Simon & Madelyn	1181	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on surrounding businesses	689
Kelly, Simon & Madelyn	1181	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Kelly, Simon & Madelyn	1181	21. TRAFFIC AND TRANSPORT	Road safety	Impact on school buses	720
Kelly, Simon & Madelyn	1181	21. TRAFFIC AND TRANSPORT	Road safety	Impact on tourism	722
Kelly, Simon & Madelyn	1181	21. TRAFFIC AND TRANSPORT	Road safety	Impact on tourists and tourism	723
Kelly, Simon & Madelyn	1181	21. TRAFFIC AND TRANSPORT	Road safety risks	Use of communications technology	729
Kelly, Simon & Madelyn	1181	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Kelly, Simon & Madelyn	1181	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Route options	747, 748

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KI NRMB	1377	00. Not in EIS - out of scope	Impact assessment	Omissions - Rosenberg's Goanna	5
KI NRMB	1377	04. PROJECT DESCRIPTION	Piling	Construction methodology - Soft starts	80
KI NRMB	1377	11. LAND-BASED AQUACULTURE	Biosecurity risks	Domestic shipping	224
KI NRMB	1377	11. LAND-BASED AQUACULTURE	Biosecurity risks	International shipping	225, 226
KI NRMB	1377	11. LAND-BASED AQUACULTURE	Biosecurity risks	Source Port risks	229
KI NRMB	1377	11. LAND-BASED AQUACULTURE	For noting	EIS data quality	248, 249
KI NRMB	1377	13. TERRESTRIAL ECOLOGY	Impact assessment	Omissions	349
KI NRMB	1377	15. BIOSECURITY	Management plans	Consultation - timing and process	493
KI NRMB	1377	15. BIOSECURITY	Risks to marine environment	Management measures not adequate - ballast water and Same Risk Area exchange	529
KI NRMB	1377	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	716
KI NRMB	1377	26. ENVIRONMENTAL MANAGEMENT FRAMEWORK	Management plans	Short research timeframe	843
Kleinig, Kathryn	A35	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Lancombe & Oldfiel, Ian & Mary	761	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Lancombe & Oldfiel, Ian & Mary	761	15. BIOSECURITY	Risks to marine environment	Impacts on the natural environment, existing businesses and Yumbah	521
Lancombe & Oldfiel, Ian & Mary	761	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact of migration to KI - jobs	668
Lancombe & Oldfiel, Ian & Mary	761	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Lancombe & Oldfiel, Ian & Mary	761	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on amenity	734

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Lodge, Vic	A54	12. MARINE ECOLOGY	Smith Bay flora and fauna	General impacts	333
Lodge, Vic	A54	15. BIOSECURITY	Risks to marine environment	Impacts on the natural environment, existing businesses and Yumbah	521
Lodge, Vic	A54	20. ECONOMIC ENVIRONMENT	Benefits to KI	Economic assessment methodology	660
Lodge, Vic	A54	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Molly's Run	672
Lodge, Vic	A54	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah - expansion plans	681
Lodge, Vic	447	11. LAND-BASED AQUACULTURE	Air quality (Dust)	Impacts of timber toxins	216
Lodge, Vic	447	11. LAND-BASED AQUACULTURE	Biosecurity risks	International shipping	225
Lodge, Vic	447	11. LAND-BASED AQUACULTURE	Biosecurity risks	Source Port risks	229
Lodge, Vic	447	12. MARINE ECOLOGY	Corals and seagrass habitat	Dredging impacts	295
Lodge, Vic	447	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Displacement of cetaceans from Smith Bay	392
Lodge, Vic	447	15. BIOSECURITY	KI Brand - pest free	Impacts on existing businesses from exotic marine pests and diseases	459
Lodge, Vic	447	20. ECONOMIC ENVIRONMENT	Benefits to KI	Economic assessment methodology	660
Lodge, Vic	447	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Molly's Run	672
Lodge, Vic	447	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Lynch, Tony	337	22. SOCIAL ENVIRONMENT	KI Brand	Incompatibility of KI Seaport and KIPTs business on Kangaroo Island	765
Macauley, Nick	1217	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Macauley, Nick	1217	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337

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Macauley, Nick	1217	15. BIOSECURITY	Impact assessment - methodology	Omission - Kangaroo Island's biosecurity	454
Macauley, Nick	1217	15. BIOSECURITY	KI Brand - pest free	Impacts on Kangaroo Island community	460
Macauley, Nick	1217	15. BIOSECURITY	Management measures - marine pests	Lack of detail in management plans	487
Macauley, Nick	1217	15. BIOSECURITY	Management measures - pest plants and pathogens	Impacts on agriculture	489
Macauley, Nick	1217	15. BIOSECURITY	Management measures - terrestrial pests	Lack of detail in management plans to protect agricultural industry	490
Macauley, Nick	1217	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Macauley, Nick	1217	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on existing industries	687
Macauley, Nick	1217	22. SOCIAL ENVIRONMENT	Socioeconomic impacts	Employment, training, communities and businesses	767
Mackintosh, Janine	1185	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Mackintosh, Janine	1185	02. PROJECT JUSTIFICATION	Alternative uses for timber	Uses that don't require a bulk export port	24
Mackintosh, Janine	1185	12. MARINE ECOLOGY	Seagrass loss	Significance	332
Mackintosh, Janine	1185	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Mackintosh, Janine	1185	13. TERRESTRIAL ECOLOGY	Biosecurity risks - terrestrial	Impacts from traffic are not acceptable	345
Mackintosh, Janine	1185	13. TERRESTRIAL ECOLOGY	Impact assessment - methodology	Impacts on listed flora	351
Mackintosh, Janine	1185	13. TERRESTRIAL ECOLOGY	Traffic impacts	Impacts on listed flora and fauna are not acceptable	364
Mackintosh, Janine	1185	15. BIOSECURITY	KI Brand - pest free	Impacts on tourism and natural environment	463
Mackintosh, Janine	1185	16. GEOLOGY, SOILS AND WATER	Stormwater management	Adequacy of pollution controls	558
Mackintosh, Janine	1185	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Mackintosh, Janine	1185	22. SOCIAL ENVIRONMENT	KI Brand	Incompatibility of KI Seaport and KIPTs business on Kangaroo Island	765

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Mahony, Jenni	A46	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Marr, Sarah	A69	13. TERRESTRIAL ECOLOGY	Impact assessment - methodology	Roadkill estimates	354
Marr, Sarah	A69	13. TERRESTRIAL ECOLOGY	Traffic impacts	Roadkill mitigation measures	363
Marr, Sarah	A69	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Clarify data	732
Marr, Sarah	A69	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Frequency of truck movements	733
Marr, Sarah	A69	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on other roads	738
Melling, Elizabeth	408	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Merchant, Sue	303	13. TERRESTRIAL ECOLOGY	KI Brand	Roadkill mitigation measures	356
Monceaux, Dan	1216	15. BIOSECURITY	KI Brand - pest free	Impacts on marine environment from exotic marine pests	462
Monceaux, Dan	1216	15. BIOSECURITY	Management measures	Suggestions of proposed development conditions	477
Monceaux, Dan	1216	15. BIOSECURITY	Management measures - ballast water	Commitment to best practice - on-board ballast water treatment	478
Monceaux, Dan	1216	15. BIOSECURITY	Marine biosecurity	Potential risks and controls	503
Moodie, Joele	A14	18. NOISE AND LIGHT	Construction/operation noise and light	Impact on marine and terrestrial ecology	613
Moodie, Joele	A14	18. NOISE AND LIGHT	Lack of adequate studies	Noise and light studies	615
Moodie, Joele	A14	26. ENVIRONMENTAL MANAGEMENT FRAMEWORK	Mitigation and management	Absence of management plans	844
Muirhead, David (Marine Life Society of SA)	A83(1)	09. MARINE WATER QUALITY	Sediment plumes	General marine environmental impacts	175
Muirhead, David (Marine Life Society of SA)	A83(2)	09. MARINE WATER QUALITY	Sediment plumes	General marine environmental impacts	175
Muirhead, David (Marine Life Society of SA)	A83(3)	09. MARINE WATER QUALITY	Sediment plumes	General marine environmental impacts	175
Muirhead, David (Marine Life Society of SA)	A83(1)	09. MARINE WATER QUALITY	Sediment plumes	Impacts on seagrass and algae communities	176

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Muirhead, David (Marine Life Society of SA)	A83(2)	09. MARINE WATER QUALITY	Sediment plumes	Impacts on seagrass and algae communities	176
Muirhead, David (Marine Life Society of SA)	A83(3)	09. MARINE WATER QUALITY	Sediment plumes	Impacts on seagrass and algae communities	176
Muirhead, David (Marine Life Society of SA)	A83(1)	12. MARINE ECOLOGY	Benthic communities	Condition	288
Muirhead, David (Marine Life Society of SA)	A83(2)	12. MARINE ECOLOGY	Benthic communities	Condition	288
Muirhead, David (Marine Life Society of SA)	A83(3)	12. MARINE ECOLOGY	Benthic communities	Condition	288
Muirhead, David (Marine Life Society of SA)	A83(1)	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
Muirhead, David (Marine Life Society of SA)	A83(1)	12. MARINE ECOLOGY	Smith Bay marine habitats	Deepwater reef habitat	340
Muirhead, David (Marine Life Society of SA)	A83(2)	12. MARINE ECOLOGY	Smith Bay marine habitats	Deepwater reef habitat	340
Muirhead, David (Marine Life Society of SA)	A83(3)	12. MARINE ECOLOGY	Smith Bay marine habitats	Deepwater reef habitat	340
Muirhead, David (Marine Life Society of SA)	A83(1)	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Muirhead, David (Marine Life Society of SA)	A83(2)	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Muirhead, David (Marine Life Society of SA)	A83(3)	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Murton, Naomi	559	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Murton, Naomi	559	02. PROJECT JUSTIFICATION	Alternative uses for timber	Uses that don't require a bulk export port	24
Murton, Naomi	559	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Murton, Naomi	559	04. PROJECT DESCRIPTION	Impacts of a multi-use port	Undisclosed information relating to future uses is a concern for Yumbah and the Kangaroo Island community and shareholders	77

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Murton, Naomi	559	09. MARINE WATER QUALITY	Hydrodynamic model reliability	Incomplete sediment characterisation	156
Murton, Naomi	559	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to fine sediments	207
Murton, Naomi	559	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to high suspended sediment loads	208
Murton, Naomi	559	11. LAND-BASED AQUACULTURE	Coastal processes	Causeway effects	231
Murton, Naomi	559	11. LAND-BASED AQUACULTURE	Water quality	Impacts on Yumbah intake water quality (TSS)	274
Murton, Naomi	559	12. MARINE ECOLOGY	Seagrass communities	Dredging and causeway impacts	322
Murton, Naomi	559	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impacts on listed species	Mortality (roadkill) rates of wildlife are not acceptable	375
Murton, Naomi	559	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	General impacts on whales	405
Murton, Naomi	559	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel strike - effects on the population of southern right whales	432
Murton, Naomi	559	15. BIOSECURITY	KI Brand - pest free	Impacts on Kangaroo Island community	460
Murton, Naomi	559	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to abalone - road dust	586
Murton, Naomi	559	18. NOISE AND LIGHT	Lighting effects and impacts	Project design related to lighting - disturbance to other users	619
Murton, Naomi	559	18. NOISE AND LIGHT	Terrestrial noise effects and impacts	Justification for exceeding Noise Policy criteria - at night	646
Murton, Naomi	559	20. ECONOMIC ENVIRONMENT	Benefits to KI	Alternatives to plantation timber	656
Murton, Naomi	559	20. ECONOMIC ENVIRONMENT	Benefits to KI	Forestry on KI	665
Murton, Naomi	559	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674

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Murton, Naomi	559	20. ECONOMIC ENVIRONMENT	Benefits to KI	Socio-economic impacts - only benefit to private entity	696
Murton, Naomi	559	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Murton, Naomi	559	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on amenity	734
Murton, Naomi	559	23. VISUAL AMENITY	Landscape character	Aesthetics and visual impacts to an agricultural landscape	771
Murton, Naomi	559	25. MANAGEMENT OF HAZARD AND RISK	Ongoing legal compliance	New owner(s) or operator(s)	833
Myers, Susan	1106	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Myers, Susan	1106	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Myers, Susan	1106	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Dredging impacts	334
Myers, Susan	1106	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact of migration to KI - jobs	668
Myers, Susan	1106	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism - KI's reputation	678
Nasese, Ratu	A16	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Nasese, Ratu	A16	23. VISUAL AMENITY	Landscape character	Aesthetics and visual impacts to an agricultural landscape	771
Neighbour, Andrew	A22	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Penneshaw	44
Neighbour, Andrew	A22	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
Nicholson, Bob	A99	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on KI's clean/green reputation and economy	688
Noble, Alan (AusOcean)	A92	09. MARINE WATER QUALITY	Propwash	Veracity of modelling and conclusions	171
Noble, Alan (AusOcean)	A92	12. MARINE ECOLOGY	Benthic communities	Propwash effects	290
Noble, Alan (AusOcean)	A92	12. MARINE ECOLOGY	Fish communities	Noise impacts on behaviour	296
Noble, Alan (AusOcean)	A92	12. MARINE ECOLOGY	Noise impacts	Fish with swim bladders	314
Noble, Alan (AusOcean)	A92	12. MARINE ECOLOGY	Seadragons	Vessel approach	320
Noble, Alan (AusOcean)	A92	12. MARINE ECOLOGY	Underwater noise impacts	Sessile benthic invertebrates	342

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Noble, Alan (AusOcean)	A92	12. MARINE ECOLOGY	Underwater noise impacts	Significance	343
Noble, Alan (AusOcean Western Districts)	1098	02. PROJECT JUSTIFICATION	Alternative uses for timber	Uses that don't require a bulk export port	24
Noble, Alan (AusOcean Western Districts)	1098	04. PROJECT DESCRIPTION	Project design	Consideration of storms	93
Noble, Alan (AusOcean Western Districts)	1098	09. MARINE WATER QUALITY	Sediment plumes	Extent of plumes	174
Noble, Alan (AusOcean Western Districts)	1098	09. MARINE WATER QUALITY	Sediment plumes	Mitigation of impacts via summer and neap tide dredging	178
Noble, Alan (AusOcean Western Districts)	1098	09. MARINE WATER QUALITY	Wood chips (wind-blown)	Tannins and ocean acidification	184
Noble, Alan (AusOcean Western Districts)	1098	10. COASTAL PROCESSES	Hydrodynamic model reliability	Computation of 'Stokes Drift'	196
Noble, Alan (AusOcean Western Districts)	1098	10. COASTAL PROCESSES	Hydrodynamic modelling	Longshore sand drift (controlling processes)	197
Noble, Alan (AusOcean Western Districts)	1098	12. MARINE ECOLOGY	Habitat loss	Habitat fragmentation and connectivity	301
Noble, Alan (AusOcean Western Districts)	1098	12. MARINE ECOLOGY	Habitat loss	Offsets for reef loss	302
Noble, Alan (AusOcean Western Districts)	1098	12. MARINE ECOLOGY	Macroalgae communities	Sedimentation effects	307
Noble, Alan (AusOcean Western Districts)	1098	12. MARINE ECOLOGY	Pipefish	Dredging impacts	315
Noble, Alan (AusOcean Western Districts)	1098	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
Noble, Alan (AusOcean Western Districts)	1098	12. MARINE ECOLOGY	Smith Bay marine habitats	Deepwater reef habitat	340
Noble, Alan (AusOcean Western Districts)	1098	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Noise impacts	440
Noble, Alan (AusOcean Western Districts)	1098	15. BIOSECURITY	Risks to marine environment	Effectiveness of regulatory framework for international shipping	517

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Noble, Alan (AusOcean Western Districts)	1098	15. BIOSECURITY	Risks to marine environment	Effectiveness of regulatory framework to remove risks	518
O'Brien, Aluson	1196	02. PROJECT JUSTIFICATION	Need for the port	Longevity of timber industry	30
O'Brien, Aluson	1196	20. ECONOMIC ENVIRONMENT	Benefits to KI	Housing impacts	666
O'Brien, Aluson	1196	22. SOCIAL ENVIRONMENT	KI Brand	Incompatibility of KI Seaport and KIPTs business on Kangaroo Island	765
O'Neill, Katherine	302	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Operating hours for haulage	743
Osborne, Ozzet	A53	05. LEGISLATIVE FRAMEWORK	International access to port	Permission to come and go	113
Osborne, Ozzet	A53	09. MARINE WATER QUALITY	Fuel and chemical spills	Contamination of the marine environment	153
Osborne, Ozzet	A53	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Owen, Kate	689	00. Not in EIS - out of scope	KIPT's financials	Port will be sold if approved	7
Owen, Kate	689	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Owen, Kate	689	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Paddon, Chris	A47	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
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Pain, Bob (KI Road Safety Committee)	1059	04. PROJECT DESCRIPTION	Port operations	Hours of operation	86
Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Funding road upgrades and maintenance	KIPT's contribution	712

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Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Road safety	Impact on tourism	722
Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Road safety	Impact on tourists and tourism	723
Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Road safety	Road crashes	724
Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Road safety	Use of high productivity vehicles	728
Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Frequency of truck movements	733
Pain, Bob (KI Road Safety Committee)	1059	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	739, 740
Parnell, Mark (MP (Greens SA) - MLC)	820	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Ballast Head	41
Patterson, Bevan	1068	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Patterson, Bevan	1068	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Cape Dutton	42
Patterson, Bevan	1068	10. COASTAL PROCESSES	Causeway and dredge basin effects	Altered currents	187
Patterson, Bevan	1068	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on existing businesses	686
Patterson, Bevan	1068	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Site selection	753
Penfold-Newton, Margaret	865	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Penfold-Newton, Margaret	865	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on existing industries	687
Penfold-Newton, Margaret	865	General statement	Forestry industry	Viability	903
Pepper, Melissa	1061	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11

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Pepper, Melissa	1061	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Pepper, Melissa	1061	12. MARINE ECOLOGY	Corals and seagrass habitat	Dredging impacts	295
Pepper, Melissa	1061	13. TERRESTRIAL ECOLOGY	Site selection	Reduce traffic impacts on wildlife	358
Pepper, Melissa	1061	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Displacement of cetaceans from Smith Bay	392
Pepper, Melissa	1061	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Importance of Smith Bay to whales	412
Pepper, Melissa	1061	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Kangaroo Island Important Marine Mammal Area	414
Pepper, Melissa	1061	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Vessel strike - effects on the population of southern right whales	432
Pepper, Melissa	1061	15. BIOSECURITY	KI Brand - pest free	Impacts on Yumbah - socio-economic	464
Pepper, Melissa	1061	15. BIOSECURITY	Risks to marine environment	Impact on other users of Smith Bay	519
Pepper, Melissa	1061	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact of migration to KI - jobs	668
Pepper, Melissa	1061	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impacts on existing businesses	686
Pepper, Melissa	1061	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Petit, S	A74	10. COASTAL PROCESSES	Jetty effects	Currents and seawater temperature	199
Petit, Dr S	1115	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Petit, Dr S	1115	04. PROJECT DESCRIPTION	Impacts of a multi-use port	Undisclosed information relating to future uses is a concern for Yumbah and the Kangaroo Island community and shareholders	77

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Petit, Dr S	1115	11. LAND-BASED AQUACULTURE	Abalone farm productivity	General impacts on abalone (unspecified)	206
Petit, Dr S	1115	11. LAND-BASED AQUACULTURE	Air quality (Dust)	Impacts of timber toxins	216
Petit, Dr S	1115	11. LAND-BASED AQUACULTURE	Proximity to Yumbah	Proximity to Yumbah (General)	262
Petit, Dr S	1115	11. LAND-BASED AQUACULTURE	Ship operations	Water quality impacts from ship operations (other than TSS)	264
Petit, Dr S	1115	12. MARINE ECOLOGY	Marine biodiversity	Potential effects	308
Petit, Dr S	1115	12. MARINE ECOLOGY	Seagrass communities	Sedimentation effects	324
Petit, Dr S	1115	13. TERRESTRIAL ECOLOGY	Impact assessment - methodology	Light impacts on fauna	353
Petit, Dr S	1115	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Impact assessment - methodology	Consideration of native vegetation impacts	367
Petit, Dr S	1115	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Kangaroo Island echidna	Offset proposed - not adequate	382
Petit, Dr S	1115	15. BIOSECURITY	KI Brand - pest free	Impacts on tourism and natural environment	463
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Petit, Dr S	1115	15. BIOSECURITY	Risks to marine environment	Impacts on the natural environment, existing businesses and Yumbah	521
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Petit, Dr S	1115	17. AIR QUALITY	Air quality and dust deposition	Specific impacts on surrounding ecology	580

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Petit, Dr S	1115	20. ECONOMIC ENVIRONMENT	Benefits to KI	Economic sustainability of commercial forestry	662
Petit, Dr S	1115	20. ECONOMIC ENVIRONMENT	Benefits to KI	Veracity of the economic modelling - costs	703
Petit, Dr S	1115	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Petit, Dr S	1115	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Operating hours for haulage	743
Petit, Dr S	1115	22. SOCIAL ENVIRONMENT	Social impacts	Omissions	766
Phelan, Kevin	128	01. INTRODUCTION	Assessment of social, economic and environmental aspects of the development	Adequacy	23
Phelan, Kevin	128	19. CLIMATE CHANGE AND SUSTAINABILITY	Climate change effects and impacts	Project design related to seagrass removal	654
Phelan, Kevin	128	20. ECONOMIC ENVIRONMENT	Benefits to KI	Economic assessment methodology	660
Phelan, Kevin	128	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
PIRSA	1378	11. LAND-BASED AQUACULTURE	Aquaculture licencing	Capacity to farm other species	277
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PIRSA	1378	11. LAND-BASED AQUACULTURE	Biosecurity risks	International shipping	225
PIRSA	1378	11. LAND-BASED AQUACULTURE	Biosecurity risks	Source Port risks	229
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PIRSA	1378	26. ENVIRONMENTAL MANAGEMENT FRAMEWORK	Management plans	Consultation/satisfaction of PIRSA	841
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Reynolds, Rebecca	417	05. LEGISLATIVE FRAMEWORK	Planning processes	Major Development Status	121
Reynolds, Rebecca	417	20. ECONOMIC ENVIRONMENT	Benefits to KI	Socio-economic impacts - only benefit to private entity	696
Reynolds, Rebecca	417	20. ECONOMIC ENVIRONMENT	Benefits to KI	Veracity of the economic modelling - Distributional (Equity) Effects study	704
Reynolds, Rebecca	417	21. TRAFFIC AND TRANSPORT	Funding road upgrades and maintenance	Site selection	713
Reynolds, Rebecca	417	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Reynolds, Rebecca	417	21. TRAFFIC AND TRANSPORT	Road safety	Impact on tourism	721
Reynolds, Steve (Marine Life Society)	913	07. STAKEHOLDER CONSULTATION AND ENGAGEMENT	Public access	Risk assessment	133
Reynolds, Steve (Marine Life Society)	913	12. MARINE ECOLOGY	Smith Bay marine ecosystem	General degradation	337
Riggs, Kevin (Riggs Wine)	1053	11. LAND-BASED AQUACULTURE	Abalone farm productivity	General impacts on abalone (unspecified)	206
Riggs, Kevin (Riggs Wine)	1053	11. LAND-BASED AQUACULTURE	Proximity to Yumbah	Proximity to Yumbah (General)	262
Riggs, Kevin (Riggs Wine)	1053	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact of migration to KI - jobs	668

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Riggs, Kevin (Riggs Wine)	1053	21. TRAFFIC AND TRANSPORT	Upgrading and maintaining roads	State and C/w should pay	761
Roberts, Dudley	338	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Ballast Head	41
Roberts, Dudley	338	04. PROJECT DESCRIPTION	Project design	Pontoon	104
Rowe, Ken (KI Shellfish)	1066	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Ballast Head	41
Rowe, Ken (KI Shellfish)	1066	03. PROJECT ALTERNATIVES	Site selection	Impact on aquaculture activities	51
Rowe, Ken (KI Shellfish)	1066	09. MARINE WATER QUALITY	Marine sediments	Release of toxic phytoplankton (oyster industry effects)	165
Rowe, Ken (KI Shellfish)	1066	15. BIOSECURITY	Risks to marine environment	Management measures - evidence of effectiveness	527
Rowe, Ken (KI Shellfish)	1066	20. ECONOMIC ENVIRONMENT	Benefits to KI	Socio-economic impacts - other businesses	697
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Rudge, Tim	1086	11. LAND-BASED AQUACULTURE	Biosecurity risks	Proximity to Yumbah (Biosecurity)	228
Rudge, Tim	1086	11. LAND-BASED AQUACULTURE	Proximity to Yumbah	Proximity to Yumbah (General)	262
Rudge, Tim	1086	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah	679
Rudge, Tim	1086	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah - expansion plans	681
SA Housing Authority	1382	04. PROJECT DESCRIPTION	Population growth	Accommodation needs	84
SA Housing Authority	1382	22. SOCIAL ENVIRONMENT	Accommodation, infrastructure and services	Supply/demand and costs	763
SATC	1383	07. STAKEHOLDER CONSULTATION AND ENGAGEMENT	Stakeholder engagement	SATC opinion that there is no benefit to cruise ships	141

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Savva, Nicholas (Australian Abalone Growers Assoc)	707	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Savva, Nicholas (Australian Abalone Growers Assoc)	707	03. PROJECT ALTERNATIVES	Site selection	Impact on aquaculture activities	51
Savva, Nicholas (Australian Abalone Growers Assoc)	707	07. STAKEHOLDER CONSULTATION AND ENGAGEMENT	Stakeholder engagement	Failure to consult with Yumbah	136
Savva, Nicholas (Australian Abalone Growers Assoc)	707	09. MARINE WATER QUALITY	Hydrodynamic model reliability	Incomplete sediment characterisation	156
Savva, Nicholas (Australian Abalone Growers Assoc)	707	09. MARINE WATER QUALITY	Marine sediments	Sediment resuspension effects	166
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to fine sediments	207
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Abalone intolerance to high suspended sediment loads	208
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Ecotoxicology study not adequate	212
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Abalone susceptibility to suspended sediments	Risks from bacteria bound to suspended sediments	214
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Air quality (Dust)	Air quality impacts	215
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Biosecurity risks	Source Port risks	229
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Coastal processes	Causeway effects	231
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Farm infrastructure	Impacts on infrastructure	245
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Light spill	Effects of light spill	250
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Light spill	Mitigating light spill	252
Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Operational noise	Noise and vibration (terrestrial) impacts on abalone	256

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Savva, Nicholas (Australian Abalone Growers Assoc)	707	11. LAND-BASED AQUACULTURE	Water quality	Impacts on Yumbah intake water quality (TSS)	274
Savva, Nicholas (Australian Abalone Growers Assoc)	707	15. BIOSECURITY	Risks to marine environment	Impacts on Yumbah - biosecurity	523
Savva, Nicholas (Australian Abalone Growers Assoc)	707	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Yumbah - expansion plans	681
Scotts, Janelle	A45	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Scotts, Janelle	A45	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
Stanton, Kate & Richard	1186	00. Not in EIS - out of scope	Traffic and transport impacts	Socio-economic impacts	20
Stanton, Kate & Richard	1186	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Cape Dutton	42
Stanton, Kate & Richard	1186	21. TRAFFIC AND TRANSPORT	Road safety	Impact on school buses	720
Stanton, Kate & Richard	1186	21. TRAFFIC AND TRANSPORT	Road safety risks	Use of communications technology	729
Stanton, Kate & Richard	1186	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on amenity	734
Stanton, Kate & Richard	1186	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Site selection	752
Stanton, Kate (Stokes Bay Community Hall Inc)	1187	00. Not in EIS - out of scope	Traffic and transport impacts	Socio-economic impacts	20
Stanton, Kate (Stokes Bay Community Hall Inc)	1187	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Cape Dutton	42
Stanton, Kate (Stokes Bay Community Hall Inc)	1187	13. TERRESTRIAL ECOLOGY	Traffic impacts	Impacts on listed flora and fauna are not acceptable	364
Stanton, Kate (Stokes Bay Community Hall Inc)	1187	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact of haulage operations	667
Stanton, Kate (Stokes Bay Community Hall Inc)	1187	21. TRAFFIC AND TRANSPORT	Road safety	Impact on school buses	720

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Stanton, Kate (Stokes Bay Community Hall Inc)	1187	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on amenity	734
Stanton, Kate (Stokes Bay Community Hall Inc)	1187	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Route options	748
Stanton, Kate (Stokes Bay Community Hall Inc)	1187	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Site selection	752
Symonds, John & Jo	1055	00. Not in EIS - out of scope	Land use productivity	Forestry operations	9
Symonds, John & Jo	1055	03. PROJECT ALTERNATIVES	Alternative sites	Suitability of Vivonne Bay	48
Symonds, John & Jo	1055	04. PROJECT DESCRIPTION	Project design	Consideration of storms	93
Symonds, John & Jo	1055	20. ECONOMIC ENVIRONMENT	Benefits to KI	Cost of road upgrades and maintenance	658
Symonds, John & Jo	1055	20. ECONOMIC ENVIRONMENT	Benefits to KI	Third-party use - viability	701
Symonds, John & Jo	1055	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Symonds, John & Jo	1055	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on amenity	734
Teasdale, Alice	1368	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Teasdale, Alice	1368	07. STAKEHOLDER CONSULTATION AND ENGAGEMENT	Stakeholder engagement	SRG workshop	142
Teasdale, Alice	1368	15. BIOSECURITY	Marine biosecurity	Potential risks and controls	503
Teasdale, Alice	1368	21. TRAFFIC AND TRANSPORT	Funding road upgrades and maintenance	Site selection	714
Teasdale, Alice	1368	26. ENVIRONMENTAL MANAGEMENT FRAMEWORK	Management plans	Implementation, regulation, compliance and best practice	842
Tilbrook, Lara	A87	08. KEY ISSUES	Key issue	Identification of key issues locally and for greater Kangaroo Island	144
Tilbrook, Lara	A87	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335

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Tilbrook, Lara	A87	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Impact on dolphin breeding	410
Triggs, Andrew	1215	04. PROJECT DESCRIPTION	Fumigation	Management of risk and reducing risk	75
Triggs, Andrew	1215	04. PROJECT DESCRIPTION	Shipping	Number of ships	106
Triggs, Andrew	1215	15. BIOSECURITY	Management measures	Chartering vessels	470
Triggs, Andrew	1215	15. BIOSECURITY	Management measures	Omissions - awareness of ship crew	474
Triggs, Andrew	1215	15. BIOSECURITY	Management measures - ballast water	Commitment to best practice - on-board ballast water treatment	478
Triggs, Andrew	1215	15. BIOSECURITY	Management measures - ballast water	Consultation - timing and process	479
Triggs, Andrew	1215	15. BIOSECURITY	Management measures - ballast water	Omissions - process for chartering vessels	481
Triggs, Andrew	1215	15. BIOSECURITY	Management measures - foodstuffs	Error	485
Triggs, Andrew	1215	15. BIOSECURITY	Management measures - marine pests	Lacking detail - Construction activities	488
Triggs, Andrew	1215	15. BIOSECURITY	Management measures - terrestrial weeds	Lack of commitment	491
Triggs, Andrew	1215	15. BIOSECURITY	Management measures - terrestrial weeds	Lacking detail - Construction activities	492
Triggs, Andrew	1215	15. BIOSECURITY	Management plans	Consultation - timing and process	494
Triggs, Andrew	1215	15. BIOSECURITY	Management plans	Omission - biosecurity management plan	496
Triggs, Andrew	1215	15. BIOSECURITY	Regulatory framework	Clarification of interpretation of legislation	506
Triggs, Andrew	1215	15. BIOSECURITY	Regulatory framework	Clarification on implementation and roles - DAWR control	507
Triggs, Andrew	1215	15. BIOSECURITY	Regulatory framework	Clarification on implementation and roles - regulatory compliance at berth	509
Triggs, Andrew	1215	15. BIOSECURITY	Regulatory framework	Clarification on implementation and roles - regulatory inspections	511
Triggs, Andrew	1215	15. BIOSECURITY	Regulatory framework	Clarification on implementation and roles - Same Risk Area ballast exchange	512
Triggs, Andrew	1215	15. BIOSECURITY	Regulatory framework	Clarification on implementation and roles - terrestrial pests	513
Triggs, Andrew	1215	15. BIOSECURITY	Regulatory framework	Omission - controls by Australian Customs	514
Triggs, Andrew	1215	15. BIOSECURITY	Risks to terrestrial environment	Clarification - timber loading equipment	539

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Triggs, Andrew	1215	26. ENVIRONMENTAL MANAGEMENT FRAMEWORK	Management plans	Implementation, regulation, compliance and best practice	842
Turner, Ian	1056	00. Not in EIS - out of scope	Land use productivity	Forestry operations	9
Turner, Ian	1056	00. Not in EIS - out of scope	Not in EIS - out of scope	Koalas	11
Turner, Ian	1056	01. INTRODUCTION	Assessment of social, economic and environmental aspects of the development	Adequacy	23
Turner, Ian	1056	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Turner, Ian	1056	11. LAND-BASED AQUACULTURE	Abalone farm productivity	General impacts on abalone (unspecified)	206
Turner, Ian	1056	11. LAND-BASED AQUACULTURE	Proximity to Yumbah	Proximity to Yumbah (General)	262
Turner, Ian	1056	12. MARINE ECOLOGY	Smith Bay marine ecosystem	Ecological value	335
Turner, Ian	1056	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Whale and dolphin watching industry	436
Turner, Ian	1056	16. GEOLOGY, SOILS AND WATER	Baseline soil assessment	Relevance to the EIS	540
Turner, Ian	1056	16. GEOLOGY, SOILS AND WATER	Smith Creek discharges	Impacts from flood discharges	557
Turner, Ian	1056	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Molly's Run	672
Turner, Ian	1056	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Vast, Susanne	305	21. TRAFFIC AND TRANSPORT	Road safety	Road crashes	724
Walkom, Graham	635	02. PROJECT JUSTIFICATION	Timber exports	Timber product types	37
Walkom, Graham	635	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39

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Walkom, Graham	635	04. PROJECT DESCRIPTION	Project design	Dredging	95
Walkom, Graham	635	04. PROJECT DESCRIPTION	Project design	Multi-use/multi-users	102
Walkom, Graham	635	04. PROJECT DESCRIPTION	Water supply	Construction and operation	109
Walkom, Graham	635	05. LEGISLATIVE FRAMEWORK	Planning processes	EIS Guidelines	118
Walkom, Graham	635	23. VISUAL AMENITY	Visual amenity	Aesthetics of the causeway	776
Walkom, Graham	635	25. MANAGEMENT OF HAZARD AND RISK	Hazard identification	Spontaneous combustion of woodchips	827
Wallace, Alison	A26	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Wallace, Wendy	A40	03. PROJECT ALTERNATIVES	Alternative sites	Selection criteria, methodology, evaluation and consideration of other sites	39
Wallace, Wendy	A40	03. PROJECT ALTERNATIVES	Site selection	Unsuitability of the North Coast	54
Wallace, Wendy	A40	21. TRAFFIC AND TRANSPORT	Road safety	Impact on school buses	720
Wallace, Wendy	A40	21. TRAFFIC AND TRANSPORT	Road safety risks	Use of communications technology	729
Wallace, Wendy	A40	21. TRAFFIC AND TRANSPORT	Traffic impact assessment	Impact on roads	740
Wallace, Wendy	678	00. Not in EIS - out of scope	Not in EIS - out of scope	Noise from trucks on transport route	12
Wallace, Wendy	678	13. TERRESTRIAL ECOLOGY	KI Brand	Roadkill mitigation measures	356
Wallace, Wendy	678	13. TERRESTRIAL ECOLOGY	Traffic impacts	Roadkill mitigation measures	363
Wallace, Wendy	678	17. AIR QUALITY	Air quality and dust deposition	Specific impacts along the transport route - visibility	577
Wallace, Wendy	678	18. NOISE AND LIGHT	Noise modelling	Traffic-related noise	632

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Wallace, Wendy	678	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on tourism	674
Wallace, Wendy	678	21. TRAFFIC AND TRANSPORT	Impact on roads	Funding road upgrades and maintenance	715
Wallace, Wendy	678	21. TRAFFIC AND TRANSPORT	Road safety	Impact of bad weather and extreme events	718
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Zealand, Charmaine (Mollys Run)	819	10. COASTAL PROCESSES	Causeway effects	Reduced currents and flushing	192
Zealand, Charmaine (Mollys Run)	819	13. TERRESTRIAL ECOLOGY	KI Brand	Impacts on existing businesses - ecotourism	355
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Zealand, Charmaine (Mollys Run)	819	14. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Marine mammals	Dredging effects on cetaceans	398
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Zealand, Charmaine (Mollys Run)	819	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to amenity - responsibility of control measures	587
Zealand, Charmaine (Mollys Run)	819	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to amenity - tourists	588
Zealand, Charmaine (Mollys Run)	819	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to human health - fumigation	590

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Zealand, Charmaine (Mollys Run)	819	17. AIR QUALITY	Air quality and dust deposition	Specific impacts to human health - waste/overburden	591
Zealand, Charmaine (Mollys Run)	819	18. NOISE AND LIGHT	Lighting effects and impacts	Project design related to lighting - change current environment	618
Zealand, Charmaine (Mollys Run)	819	18. NOISE AND LIGHT	Terrestrial noise effects and impacts	Justification for exceeding Noise Policy criteria - noise levels	647
Zealand, Charmaine (Mollys Run)	819	20. ECONOMIC ENVIRONMENT	Benefits to KI	Forestry	664
Zealand, Charmaine (Mollys Run)	819	20. ECONOMIC ENVIRONMENT	Benefits to KI	Impact on Molly's Run - consultation	673
Zealand, Charmaine (Mollys Run)	819	21. TRAFFIC AND TRANSPORT	Road safety	Impact on tourists and tourism	723
Zealand, Charmaine (Mollys Run)	819	21. TRAFFIC AND TRANSPORT	Road safety	Training and safety initiatives	725
Zealand, Charmaine (Mollys Run)	819	23. VISUAL AMENITY	Visual amenity	Impact on Molly's Run	777
Zealand, Charmaine (Mollys Run)	819	General statement	Echidna	Impacts from traffic are not acceptable	899

6. RESPONSES

6.1 RESPONSE TO THE KANGAROO ISLAND COUNCIL SUBMISSION

Table 6-1 responds to issues contained within the Kangaroo Island Council submission. EPBC related issues are indicated by an entry of 'EPBC related' in the 'Topic / Issue' column (i.e. the second column).

Table 6-1: Responses to issues raised by Kangaroo Island Council (Submission ID 1371)

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
27	PROJECT JUSTIFICATION Multi-user facility <i>Multi-use/multi-users</i>	Council does not support requirement for the seaport to be a multi-user facility because there would be more site options for a port suitable just for timber exports.	The KI Council supported the development of a multi-user facility when it was consulted about the Guidelines for the EIS. The scope for multi-use is inherent in the design, which must accommodate KIPT's requirement to handle two types of timber products - logs and woodchips. Woodchip is loaded by conveyor (like other bulk products such as grain and various mineral exports) whereas logs are loaded onto ships from vehicles parked on the wharf adjacent to the berthed vessel using ship cranes. Removing the requirement for a multi-use facility would change nothing.
28	PROJECT JUSTIFICATION Multi-user port <i>Multi-use/multi-users</i>	Multi-use port is a major concern to KI Council. KI Council consider that the outcome of a multi-user port results in lack of flexibility in design and location options for the port. No other users of the port have been identified.	The scope for multi-use is inherent in the design, which must accommodate KIPT's requirement to handle two types of timber products - logs and woodchips. Woodchip is loaded by conveyor (like other bulk products such as grain and various mineral exports) whereas logs are loaded onto ships from vehicles parked on the wharf adjacent to the berthed vessel using ship cranes. As discussed in the Draft EIS, there is also significant excess capacity which could be used for other products and users. Removing the requirement for a multi-use facility would change nothing. Future third party users of the port cannot be identified at this stage. The DAC Guidelines request that arrangements for other users to gain access to port facilities and/or to establish additional facilities on site be outlined by KIPT. Section 2.3.4 of the Draft EIS provides this information. See response in Response ID 27.
31	PROJECT JUSTIFICATION Project viability <i>Freight task</i>	Council is committed to finding strategies for the harvest and export of the timber. However, it does not consider the proposal feasible, especially in the context of road transport routes.	Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT stands by this analysis that Smith Bay is the best location. From mid-2017 KIPT began working with the Kangaroo Island Council to explore a wide range of options to minimise and mitigate the impacts associated with transporting timber products to Smith Bay. This work is discussed in Chapter 21 of the Draft EIS, and the full studies are published in Appendix P.

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
39	<p>PROJECT ALTERNATIVES</p> <p>Alternative sites</p> <p><i>Selection criteria, methodology, evaluation and consideration of other sites</i></p> <p>(EPBC related)</p>	<p>Concerns have been expressed that there are better sites than, or alternative sites to Smith Bay, or that the assessment of alternative sites for the KI Seaport did not adequately address Guideline 1.14, and that the criteria and methodology used, and weighting given to social, economic and environmental aspects, in assessing alternative locations were flawed.</p> <p>Specific concerns expressed in relation to the assessment of alternative sites by members of the public during consultation included:</p> <ul style="list-style-type: none"> • deeper waters for a deep-water port exist elsewhere on Kangaroo Island • sites exist closer to the timber plantations • a site at, or close to, the timber plantations (and not on the coast) was not considered • a cost-benefit analysis not done; or unsubstantiated (for example, differences in the cost for road upgrades required for freighting timber from plantation to port for various site scenarios provided no explanation for costs stated); or inadequate (for example, existing facilities or sources of quarry material for KI Seaport's construction were not factored into the cost-benefit analyses. The specific example of Cape Dutton (where a DPTI-controlled quarry is close by) may reduce construction costs for the development, was used • other locations have more positive outcomes for the community and the environment, compared to Smith Bay • other locations have existing port facilities • safer road networks, and greater linkages to workforce and community hubs, exist at other locations • less remote locations, compared to Smith Bay, exist • cost estimates provided are not substantiated • existing industry and community values are not properly considered. <p>Other design solutions have been suggested that would influence an assessment of alternative sites, such as:</p>	<p>The Minister for Planning authorised the release of the Draft EIS after his department confirmed the document had adequately addressed all guidelines, including Guidelines 1.14 and 6.3.</p> <p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay prior to KIPT lodging an application for permission to develop a deep-water port at Smith Bay. The assessment of locations for the seaport considered, but was not limited to, the following:</p> <ul style="list-style-type: none"> • desktop analyses of topographical and bathymetry data, using available information on Google Earth Pro and government databases and mapping • observations noted during physical inspections, where they could be undertaken, taking note of various site attributes • cost estimates for establishing infrastructure for the port (onshore and offshore) • cost benefit and economic analyses • accessibility • potential environmental regulatory constraints, such as the presence of protected species, proximity to conservation areas such as Marine Parks and National Parks, protected heritage sites and existing land degradation from previous anthropogenic activities • prominent and predominant tourism areas and travel routes used by tourists. <p>KIPT does not own or control any part of the road network on Kangaroo Island. The cost estimates factored in road upgrade costs that were based on the length and current condition of roads considered relevant to the development. It is acknowledged that there is a degree of variability in estimating such costs.</p> <p>Physical inspections conducted for locations did assess facilities or services and other factors that could be beneficial in constructing or operating the seaport, such as the quarry near Cape Dutton. Apart from all the other matters considered in Chapter 3 of the Draft EIS for assessing alternative sites, the quarry near Cape Dutton has soft, degraded limestone, which is considered unsuitable for constructing infrastructure in the high-energy marine environment of Cape Dutton.</p> <p>A number of public submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, Penneshaw and anywhere west of Stokes Bay, including Cape Dutton, however no useful analysis has been provided to substantiate the case in favour of these alternatives.</p> <p>Other design solutions which have been suggested during the public consultation period have been considered, and responses are as follows:</p> <ul style="list-style-type: none"> • the use of heavy lift helicopters to direct load timber on to ships at sea would not be commercially feasible and different infrastructure out at sea would be required to berth and restrain vessels; • State-managed road networks generally follow tourist routes and service the major population and community centres of Kangaroo Island. A different set of issues would

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
		<ul style="list-style-type: none"> establishing woodchip loading facilities closer to the plantations the use of helicopters to direct load timber on to ships at sea (negating the need for a port), similar to helicopters used overseas in the timber industry (such as Sikorsky S-64 Sky Crane or the Sikorsky CH-64 Tahre) use of the state-managed road network (given the State Government would have a better capacity to fund road upgrades, compared to the local council) to determine where a port would be located establishing only a purpose-built woodchip loading facility at the port <p>Yumbah consider that there is a very high probability of catastrophic consequence from a seaport at Smith Bay. Failure to prove that removing trees from KI cannot be achieved at another location on an island with 500 km of coastline.</p>	<p>arise if the location of State-managed roads were a criterion in determining a suitable port site</p> <ul style="list-style-type: none"> the woodchip storage, handling and loading facility would need to be at the port site to be effective, efficient and safe; it could not be located away from the coast, near plantations establishing a purpose-built woodchip loading facility (essentially conveyor only port) only at the port site would not meet the requirement for KI Seaport to have the future capability for a multi-use port. <p>The cost benefit analysis presented in the Draft EIS (See Chapter 20.7) shows at least \$120m economic benefits would be lost if the seaport was to be relocated from Smith Bay to another site.</p> <p>The inputs into the cost estimates include assumptions about some components that KIPT has no direct control over, such as the road network. The cost estimates are based on the length and current condition of relevant roads. It is acknowledged that there is a degree of variability in estimating such costs.</p> <p>KIPT re-affirms its conclusion that Smith Bay is the best location for the development.</p> <p>The Draft EIS and Addendum indicate that allowing the port to proceed at Smith Bay would not have adverse impacts on aquaculture, agricultural or tourism industries in Smith Bay or Kangaroo Island.</p>
47	<p>PROJECT ALTERNATIVES</p> <p>Alternative sites</p> <p><i>Suitability of sites west of Smith Bay</i></p>	<p>KIPT should spend more money to go to a better site further west.</p> <p>KI Council favours locating the seaport west of Stokes Bay and requests these locations be more fully assessed.</p>	<p>KIPT conducted a thorough assessment of options before purchasing the Smith Bay site, as discussed in Chapter 3 of the Draft EIS. his assessment included a review of the provisions of the Kangaroo Island Development Plan and discussions with relevant stakeholders including Council staff and the Kangaroo Island Futures Authority.</p> <p>All locations west of Stokes Bay would be in a marine park; would be subject to high energy wave conditions; and do not have access to three-phase power. There is no three-phase power on the north coast of Kangaroo Island west of Smith Bay.</p> <p>KIPT judged that the marine park designation presented too great a risk with respect to obtaining planning approval, even if the sites west of Stokes Bay had been suitable. Locating a port west of Stokes Bay would place it in the most bushfire prone part of Kangaroo Island.</p> <p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT reaffirms its conclusion that Smith Bay is the best location for the development.</p>
123	<p>LAND USE AND PLANNING</p> <p>Kangaroo Island Development Plan</p> <p><i>Coastal Conservation Zone</i></p> <p>(EPBC related)</p>	<p>KI Seaport is not an appropriate development at Smith Bay given it is in the CCZ.</p>	<p>Section 6.3.3 of the Draft EIS provides an overview of the proposed development in the context of the KIDP, including the CCZ (see p 116 of the Draft EIS).</p> <p>CCZ is a tool used for planning purposes by the local government and council planners. Whilst the zone is indicative of the need to protect coastal values it does not exclude or prohibit different types of development in appropriate locations within that zone. This is demonstrated by the former use of the site and current uses along adjacent and other sites on Kangaroo Island located within the CCZ.</p> <p>A port or export facility is not specifically identified in the KIDP as non-complying development within a CCZ. However, some elements of the proposed facility could be categorised as non-complying within that zone: for example, set down and timber storage</p>

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
			areas that could be defined as a road transport terminal. Such a facility is listed as non-complying development with that zone.
124	LAND USE AND PLANNING Kangaroo Island Development Plan <i>Objectives and PDC's</i>	The objectives and PDC in the KIDP 2015 needs to be considered. Assumptions have been made that the KI Seaport is compatible with the provisions of the Rural Living Zone and CCZ.	Section 6.3.3 of the Draft EIS provides an overview of the proposed development in the context of the KIDP, including the objectives and PDC. The proposal has also been assessed against elements of the Kangaroo Island Plan (Planning Strategy). See Table 6.1 of the Draft EIS.
129	LAND USE AND PLANNING Site selection <i>Compatibility with existing land uses</i>	Council is concerned that KI Seaport and the neighbouring abalone farm at Smith Bay would experience ongoing conflict and continued disputes and therefore does not support KI Seaport locating at Smith Bay.	KIPT continue with efforts to engage and negotiate with Yumbah to avoid conflict or dispute. Impact assessments have been undertaken to specifically assess potential impacts on Yumbah, see Chapter 11 and Section 4.4 of the Draft EIS and Addendum, respectively. The results and any information made available on Yumbah's operations, have been used to review and modify design of the seaport, and to develop controls and management strategies for construction and operation that will reduce, to a minimum, the risk of any significant impact on Yumbah's operations at Smith Bay. Evidence presented in the Draft EIS and the Addendum indicates that the KI Seaport and Yumbah's on-land aquaculture operation can co-exist at Smith Bay.
135	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>Elected members of KI Council (as a reflection of community views)</i>	The Kangaroo Island Council considers that the views expressed by Elected Members of Council are reflective of community sentiment and should be considered in assessing the proposed development.	The views expressed by the Kangaroo Island Council in both of their submissions have been considered as part of the Response Document. Local councils in SA undertake their activities in accordance with the <i>Local Government Act 1999</i> and consult with the community (Section 50 of the Act) and conduct their duties and disclose interests (Section 62 - 75B) in accordance with relevant sections of the Act. KI Council has a Public Consultation Policy, the objective of which is to engage with the community in Council decision making. The policy expressly states it will apply to 'proposals for major infrastructure'. The policy also says, 'To assist in demonstrating that Public Consultation processes are fair, transparent and accountable, cost effective and meet community needs, we will document all consultation processes.' It has been assumed that Council's policy and requirements of the Act have been satisfied and their submission is reflective of community sentiment.
144	KEY ISSUES Key issue <i>Identification of key issues locally and for greater Kangaroo Island</i> (EPBC related)	Concerns exist in relation to the development impacting the natural environment (which may be considered pristine, unique or an area of environmental importance or significance), community and existing industry and business. Concerns also exist in relation to localised impacts from the development caused by particular aspects, such as building of a causeway, wastewater retention and detention basins, woodchip stockpiling, installation of lighting, demand for water resources to satisfy firefighting and dust suppression requirements and use of the local road network.	It has been recognised that aspects of the KI Seaport project may impact existing economic, social and environmental values of Smith Bay and Kangaroo Island. The key issues were identified and outlined in Chapter 8 of the Draft EIS. In choosing the Smith Bay site, KIPT undertook assessments which considered key values for Kangaroo Island such as condition of the natural environment, the location for main tourism activities, and the condition of existing services and infrastructure. Impact assessments and risk assessments have been undertaken for a variety of issues relevant to the proposed development, including the causeway (now no longer part of the KI Seaport design), wastewater retention and detention basins, lighting, potable water, firefighting and dust suppression water, road networks and transit routes. The Draft EIS and Addendum to the Draft EIS contain further detail. Risk assessments have identified the local infrastructure and services that would be affected by the construction and operation of KI Seaport. KIPT continues to engage with government,

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
			<p>infrastructure and service managers to ensure impacts would be minimised as much as practicable. In many cases, the modifications and upgrades required to infrastructure to meet KIPT's needs would also benefit other users and businesses at Smith Bay and Kangaroo Island.</p>
531	<p>BIOSECURITY Risks to marine environment <i>Omission - bilge water</i></p>	<p>Risks of bilge water are not discussed in any detail in the EIS, which was required by DAC. The design changes do not address negative effects of bilge water.</p>	<p>Bilge water is the wastewater found low down in the machinery spaces of most ships and it is generated by various activities involved in keeping a ship running while at sea. Bilge water needs to be treated with care as it can contain concentrations of various industrial fluids from the ship's machinery spaces such as coolant, lubricants, and fuel. KIPT does not have direct control over shipping operations and vessel management. Owners and masters are responsible for complying with relevant legislation.</p> <p>The management and discharge of bilge water within SA waters is regulated under the <i>Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987</i> (SA). Within Commonwealth waters the relevant legislation is the <i>Protection of the Sea (Prevention of Pollution by Ships) Act 1983</i> (Commonwealth).</p> <p>KIPT would develop and implement a Biosecurity Management Plan in consultation with the relevant government agencies after the KI Seaport is approved. KIPT does not have any jurisdiction over vessel owners and how they manage bilge waters. The necessity for compliance with relevant legislation would be acknowledged in the Biosecurity Management Plan.</p>
683	<p>ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Yumbah - planned expansion</i></p>	<p>The Draft EIS does not quantify the impact on Yumbah's current operations, the risk that it might close or the impact of delays to Yumbah's planned expansion.</p>	<p>The Draft EIS explicitly quantifies the direct economic impact if Yumbah closes (see Draft EIS, pp 448-449). However, with the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that Yumbah will close if the development proceeds, or that the development and Yumbah's on-land aquaculture operation cannot co-exist.</p> <p>The Draft EIS complies with the requirements in the guidelines. Kangaroo Island Council would be aware there is no requirement to assess informal, unpublished expansion plans. This is evident from the draft council response prepared by Council's administration, which makes no reference to any claims of stalled expansion at Yumbah's Smith Bay operation. The proposed wharf does not preclude such an expansion, in any case.</p>
715	<p>TRAFFIC AND TRANSPORT Impact on roads <i>Funding road upgrades and maintenance</i></p>	<p>The roads on Kangaroo Island are in no condition to handle these heavy vehicles, and ratepayers should not have to fund the necessary upgrades and maintenance. Who will fund this work?</p>	<p>KIPT agrees with the general proposition that ratepayers should not be responsible for maintaining the roads that would be used to transport timber products to Smith Bay and from the outset KIPT has made this clear to the Kangaroo Island Council. However, KIPT is also one of the largest ratepayers on the Island and would encourage Council to spend these funds on roads.</p> <p>Significant grant funds are available from both the State and Commonwealth Governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.</p> <p>Similar to existing industries that contribute to the regional and state economy, such as tourism and agriculture, plantation timber could also initiate the injection of funds from the Commonwealth, State and Local Governments to support the growth of industries, including investment in road upgrades.</p>

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
745	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Route options</i>	EIS fails to adequately address how to get the products to Smith Bay and the impact that it will have on the social and environmental island fabrics. Transport routes for heavy forestry haulage should avoid existing tourism routes and the major domestic traffic routes. If not, serious conflict and potential incidents with tourism traffic will become a substantial and severe risk.	<p>From mid-2017 KIPT began working with the Kangaroo Island Council to explore a wide range of options to minimise and mitigate the impacts associated with transporting timber products to Smith Bay. This work is discussed in Chapter 21 of the Draft EIS, and the full studies are published in Appendix P.</p> <p>The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the SA Government and KIPT. The Kangaroo Island Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.</p> <p>KIPT agrees with the general proposition that ratepayers should not be responsible for maintaining the roads which would be used to transport timber products to Smith Bay and from the outset KIPT has made this clear to the Kangaroo Island Council. However, KIPT is also one of the largest ratepayers on the Island (if not the largest), and the company encourages that these funds at least could be spent on the roads.</p> <p>Significant grant funds are available from both the SA and Commonwealth Governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.</p>
852	COMMITMENTS Dredge spoil management <i>Tailwater</i>	State ASA reference regarding dredge spoil management.	Dredging is no longer required for wharf construction or operation. The commitment has been removed from KIPT's commitments, see Section 8 for the updated commitments table.
853	COMMITMENTS Earthmoving equipment <i>Details</i>	Define 'sourced locally' in reference to earthmoving equipment.	Wherever possible earthmoving equipment will be sourced from Kangaroo Island.
854	COMMITMENTS Echidna offset <i>Funding</i> (EPBC related)	No dollar value for funds towards KI Feral Cat Eradication Program.	See Appendix A for detail on the proposed offset program.
855	COMMITMENTS Electricity consumption <i>Audit</i>	Will an Energy Audit be conducted to confirm electricity consumption is minimised?	The specifications of particular plant and equipment would provide verification that electricity consumption is as low as possible without compromising the safe, secure and viable operations for the KI Seaport. Energy audits would form part of energy supply services, internal management systems and business improvement reviews. The ongoing reduction in electricity consumption would form part of a profitable and sustainable business model for KIPT.
856	COMMITMENTS Electricity consumption <i>Renewable energy</i>	The percentage of energy to be sourced from renewables should be specified.	Percentage targets for renewables would be set by KIPT during operations and as KI Seaport is commissioned.

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
857	COMMITMENTS Equipment noise <i>Noise targets/limits</i>	Noise targets and limits should be specified.	Noise targets/limits are prescribed by under the Environment Protection (Noise) Policy 2007 or specific development approval conditions. These regulatory limits and requirements are addressed in Chapter 18 of the Draft EIS.
858	COMMITMENTS Equipment noise <i>Noise targets/limits</i>	Noise targets and limits should be specified for above ground equipment.	Noise targets/limits are prescribed by regulations or specific development approval conditions.
859	COMMITMENTS Equipment noise <i>Noise targets/limits</i>	Noise targets and limits should be specified	Noise targets/limits are prescribed by regulations or specific development approval conditions.
860	COMMITMENTS Equipment noise <i>Noise targets/limits</i>	Noise targets and limits should be specified	Noise targets/limits are prescribed by regulations or specific development approval conditions.
861	COMMITMENTS Equipment noise <i>Noise targets/limits</i>	Noise targets and limits should be specified	Noise targets/limits are prescribed by regulations or specific development approval conditions.
862	COMMITMENTS Glossy Black Cockatoo Recovery Program <i>Support details</i> (EPBC related)	The contribution (\$) to the Glossy Black Cockatoo Recovery Program and its duration should be specified.	There will not be any impacts to the glossy black-cockatoo from the KI Seaport development itself, therefore no offsets are required. This contribution to the Glossy Black Cockatoo Recovery Program is in addition to any regulatory offset that is required from KIPT as a consequence of assessment of likely impacts on MNES. Potential impacts on the glossy black-cockatoo from other components of KIPT's business and activities (such as a dedicated transport route) would occur in the future as part of any approvals processes.
863	COMMITMENTS Housing commitments <i>Support details</i>	The particulars of the proposal to assist with housing needs should be detailed.	KIPT would assist government with understanding housing needs, where it can, through ongoing communication and transparency on workforce numbers, and specific campaigns and associated workforce requirements, to ensure that a local resident workforce can be established and maintained.
864	COMMITMENTS Housing commitments <i>Support details</i>	KIPT owns at least 30 potential residential allotments that could be created with a change to planning rules to allow the existing forestry estates to be subdivided. This is not a commitment.	KIPTs would consider the option of establishing residential allotments at suitable locations on KIPT-owned land. KIPT would liaise with planning authorities for any proposed residential development, as required, by relevant legislation. Commitment SE4 has been reworded, see Section 8 .
865	COMMITMENTS Infrastructure design <i>Causeway</i>	The causeway must be constructed to fully resist storm events.	The causeway is no longer part of the wharf design.

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
866	COMMITMENTS Infrastructure design <i>Housing</i>	This commitment is currently a SA requirement to design habitable buildings.	Noted. Relevant legislation and regulations would be referred to when designing habitable buildings. Commitment CCS13 has been reworded, see Section 8 .
867	COMMITMENTS Infrastructure design <i>Noise targets/limits</i>	Noisy plant, site access roads and site compounds would be located as far from occupied premises as practicable.	Noise targets/limits are prescribed by regulations or specific development approval conditions.
868	COMMITMENTS Infrastructure design <i>Rise in sea level and temperature</i>	The design of the marine and coastal infrastructure should take into account the predicted worst-case rise in sea levels and sea temperature.	Future increase in sea temperature has been considered in Chapter 19 and sea level rise has been taken into account in accordance with relevant standards. Commitment CCS8 reflects this.
870	COMMITMENTS Layout design <i>Vehicle movements</i>	Onsite vehicle movements have not been quantified.	Vehicle movements on the KI Seaport site comprises: timber haulage trucks delivering timber products and leaving the site for reloading at the plantations external light vehicles servicing the site light vehicles and equipment which remain on site for operations. The exact number of vehicle movements on site would be quantified during detailed design to ensure adequate safety measures and controls, and appropriate pavement design is implemented.
871	COMMITMENTS Native vegetation clearance <i>Offsets</i> (EPBC related)	The compulsory offset for native vegetation has not been quantified.	The offset package will be finalised in consultation with the Native Vegetation Council to ensure that it meets the requirements of the Policy for Significant Environmental Benefit under the <i>Native Vegetation Act 1991</i> and Native Vegetation Regulations 2017. Refer to Table 13-8 which identifies the SEB offset area as 9.13 ha. Relevant DEW processes require details to be finalised subsequent to development approval.
872	COMMITMENTS On-site water requirements <i>Specify requirements and how achievable</i>	The proponent should specify the on-site water requirements and how these will be met.	Chapter 4 provides a description of the proposed project and Section 4.8.2 outlines the water demand and supply for KI Seaport. Sustainable water sources include rainfall for potable water, and captured surface water for operational use. Water demand requirements are continuously being reviewed by KIPT and the engineering team. Water for construction needs (e.g. washdown and dust suppression) will be sourced from the sea via pumping and refilling of the contractor's water carts. A combination of seawater and potable water supply options may be required depending on the legislative requirements and the outcomes of risk assessments and engagements with authorities for firefighting activities. There is also possibility to use stormwater capture to supplement the water demand of the fire water system, thus further reducing the reliance on potable water. This will be assessed in detailed design.

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
			<p>Operational potable water for consumption will be purchased and imported and supplemented using rainwater tanks. There is also opportunity within the design to use captured stormwater for greywater uses within the toilets to further supplement the potable water demand. These details will be explored during detailed design.</p> <p>Consideration will also be given to landscaping, ensuring low water demand requirements. Continuous improvements for site operation will also investigate ongoing reduction in water use as part of sustainability strategies to be adopted for the KI Seaport.</p> <p>KIPT does not intend to use groundwater as a source of water during construction or operation.</p>
873	<p>COMMITMENTS Piling <i>Piling schedule</i></p> <p>(EPBC related)</p>	<p>The proponent should specify when piling will occur to ensure piling occurs outside months when cetaceans may be present.</p>	<p>The piling schedule depends on when planning approval is given for the KI Seaport, when secondary permits and approvals are obtained and when required plant and equipment can be mobilised to the site. An indicative construction timetable for offshore infrastructure is provided in Table 3-3 of the Addendum.</p> <p>Pile driving activities may occur within the whale migration season, therefore, KIPT commit to implementing strict protocols during construction to mitigate the potential impact of pile driving on marine mammals. Refer to Commitment NVL39, Section 8.</p> <p>The protocols will include:</p> <ul style="list-style-type: none"> • risk assessments on the likelihood of observing marine mammals in the development area; • using a 'soft start' in which the piling impact energy would be gradually increased over 10 minutes to deter fauna from remaining close enough to risk injury after operations reached normal levels; • establishing a 1 km shut down zone around the site, equivalent to the most conservative distance threshold to prevent permanent hearing damage; • monitoring of this zone, with an additional buffer area, by marine mammal observers, perhaps complemented by acoustic equipment to detect mammals; pile driving would stop if a marine mammal was sighted in the zone; • avoid pile driving at night, when it might be difficult to detect marine mammals.
874	<p>COMMITMENTS Piling Piling techniques</p> <p>(EPBC related)</p>	<p>The commitment to use low-impact piling techniques as an alternative to impact piling is unclear.</p>	<p>Impact piling is envisaged. Refer to Section 3.2.1 of the Addendum. No commitment would be made to using low-impact piling as this technique would not be a likely method.</p>
875	<p>COMMITMENTS Piling Piling techniques</p> <p>(EPBC related)</p>	<p>The commitment to use low-impact piling techniques as an alternative to impact piling is unclear.</p>	<p>Impact piling is envisaged. Refer to Section 3.2.1 of the Addendum. No commitment would be made to using low-impact piling as this technique would not be a likely method.</p>

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
876	COMMITMENTS Piling Piling techniques (EPBC related)	The commitment to use low-impact piling techniques as an alternative to impact piling is unclear.	Impact piling is envisaged. Refer to Section 3.2.1 of the Addendum. No commitment would be made to using low-impact piling as this technique would not be a likely method.
877	COMMITMENTS Project design Causeway	An open bypass system could be installed in the causeway to minimise the interruption to tidal currents. Bypass system may be offset by compromising the protective barrier formed by the causeway in relation to effluent from the degraded Smith Creek during rainfall events - An observation, not a commitment.	The causeway is no longer part of the wharf design. This has been removed from KIPT's commitments, see Section 8 for the updated commitments table.
878	COMMITMENTS Project design Causeway	A gated culvert through the causeway that could fulfil a dual function by allowing through-flows during summer. The gate could then be closed during other months and thereby facilitate the redirection of Smith Creek discharges further offshore during major flow events thus improving nearshore water quality. - An observation, not a commitment.	The causeway is no longer part of the wharf design. This has been removed from KIPT's commitments, see Section 8 for the updated commitments table.
879	COMMITMENTS Project design Causeway	Targets and limits should be specified for the fines content used in causeway construction.	The causeway is no longer part of the wharf design. This has been removed from KIPT's commitments, see Section 8 for the updated commitments table.
880	COMMITMENTS Project design Causeway	Specify limits of length of exposed causeway.	The causeway is no longer part of the wharf design. This has been removed from KIPT's commitments, see Section 8 for the updated commitments table.
881	COMMITMENTS Regulatory standards Pontoon	What are the Australian engineering standards of the pontoon before arrival at Smith Bay?	<p>The pontoon would need to comply with relevant marine survey and certificate requirements. This would occur through the Australian Maritime Safety Authority administering various Commonwealth Acts regulating the engineering and safety standards for all shipping in Australian waters.</p> <p>The pontoon would require clearance from the federal Department of Agriculture, Water and the Environment to enter Australian waters. With respect to ballast water management, the vessel would need to meet all requirements under the <i>Biosecurity Act 2015</i>. In relation to biofouling, the pontoon would be required to comply with the Commonwealth Biofouling Guideline, SA EPA Code of Practice for Vessel and Facility Management (Marine and Inland Waters) March 2019 and the <i>SA Fisheries Management Act 2007</i>.</p>
882	COMMITMENTS Road upgrades Possible considerations	The road design considerations where upgrades are required should be listed.	The upgrade to the intersection of the North Coast Road and Freeoak Road is detailed in Section 4.4.6 and Figure 4-9 of the Draft EIS. Detailed design would be available once planning approval is obtained.

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
	(EPBC related)		Road design considerations for any roads used for haulage, where upgrades are required, would be listed once the route/s for haulage have been agreed between KIPT, KI Council and DPTI. Discussions on haul routes have been commenced but are effectively suspended pending assessment and a final determination on the KI Seaport EIS.
883	COMMITMENTS Sediment capture basins Not quantified	The requirements for capturing sediments during the major earthworks and civil works construction phases have not been quantified.	A Sediment and Erosion Drainage Management Plan would be developed and approved by EPA for construction activities. Details for sediment capture would be provided in this Plan. See Appendix A . See Commitment AC2 of Section 8 .
884	COMMITMENTS Shiploading Methodology	Variable-height woodchip stackers and/or telescopic chutes may be used for shiploading. - "may be...."?	Detailed design of woodchip handling and shiploading systems would be undertaken following receipt of planning approval for the KI Seaport. Designs would need to consider any conditions or requirements included in any approval granted.
885	COMMITMENTS Solar panels Details	It is not clear whether the use of solar panels is to meet standby requirements or for load trimming.	KI Seaport would use electricity from the power grid provided by SAPN as the primary source of power to the site. Diesel back-up generator will be required to supplement SAPN supply during ship loading activities and as a back-up supply should the SAPN grid system fail. Generators will be diesel powered. It is also expected that solar panels may be installed atop buildings to support general site requirements such as lighting, administration building demand, and the like. This will depend on more detailed assessment of cost-effectiveness and feasibility.
886	COMMITMENTS Stormwater management Details	Treated water limits for stormwater runoff are required.	Stormwater management techniques will comply with the <i>Environment Protection Act 1993</i> and the Environment Protection (Water Quality) Policy 2015 and will take into account any relevant EPA Codes. Any relevant approval conditions will also be applied and addressed following primary approval and during detailed design.
887	COMMITMENTS Stormwater management Standards not quantified	The acceptable water quality standards for discharge to the environment should be specified.	Standards are prescribed by regulations or specific development approval conditions.
888	COMMITMENTS Surface treatments Details	Particulars are required of the potential surface treatments or alternative structures which would minimise the impact from exotic species.	Surface treatment options would be investigated during detailed design of the jetty structure. Any surface treatments applied to the jetty structure would need to satisfy engineering requirements for protection and maintenance of asset and establishment of native marine species which assist in managing biosecurity risks.
889	COMMITMENTS Traffic and transport impacts High productivity vehicles (EPBC related)	Commitment MNES16 is a duplicate of TT2.	Commitment MNES16 refers to one that is associated with MNES and reducing roadkill.

ID	Topic / Issue	Summary of issue raised by <u>Kangaroo Island Council</u>	KIPT response
890	COMMITMENTS Traffic and transport impacts <i>High productivity vehicles</i>	Commitment TT2 is a duplicate of MNES16	Commitment TT2 refers to one that is associated with Traffic and Transport and reducing frequency and safety improvements.
891	COMMITMENTS Water quality <i>Methods of reducing impacts to water quality unclear</i>	Are management measures and controls proposed for mitigating impacts to water quality in Smith Bay and in particular, at the Yumbah seawater intake points, definite or just being considered?	Measures and controls for minimising impacts to water quality (and discharges) from onshore activities will be implemented as described in the Draft EIS (Chapter 4, Section 4.4.6 and Chapter 16, Section 16.5.1). Refer to Appendix A for further details on stormwater management. Measures and controls to minimise dust from timber products, such as covered or closed conveyors and telescopic shiploaders may be implemented as described in the Draft EIS (Chapter 4, Section 4.4.6 and Chapter 17, Section 17.5.4).
892	COMMITMENTS Water quality <i>Methods of reducing impacts to water quality unclear</i>	Are management measures and controls proposed for mitigating impacts to water quality in Smith Bay and in particular, at the Yumbah seawater intake points, definite or just being considered?	Measures and controls for minimising impacts to water quality (and discharges) from onshore activities will be implemented as described in the Draft EIS (Chapter 4, Section 4.4.6 and Chapter 16, Section 16.5.1). Refer to Appendix A for further details on stormwater management. Measures and controls to minimise dust from timber products, such as covered or closed conveyors and telescopic shiploaders may be implemented as described in the Draft EIS (Chapter 4, Section 4.4.6 and Chapter 17, Section 17.5.4).

6.2 RESPONSE TO THE YUMBAH AQUACULTURE SUBMISSION

Table 6-2 responds to issues raised in the Yumbah Aquaculture submission. EPBC related issues are indicated by an entry of 'EPBC related' in the 'Topic / Issue' column (i.e. the second column).

Table 6-2: Responses to issues raised by Yumbah Aquaculture (Submission ID 1372)

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
23	INTRODUCTION Assessment of social, economic and environmental aspects of the development Adequacy	The EIS is inadequate and a general concern have been expressed on the poor standard of assessment of social, economic and environmental aspects of the proposed KI Seaport.	<p>The Draft EIS was submitted to the Department of Planning, Transport and Infrastructure (DPTI) and underwent an adequacy check by government agencies (against the Guidelines issued for the preparation of the EIS) and for its suitability for release for public comment.</p> <p>The Minister for Planning released the Draft EIS and provided a Public Consultation period of 28 March 2019 - 28 May 2019. See Figure 1 of the Response Document which outlines the assessment process. A second round of public consultation occurred for the Addendum to the Draft EIS, which underwent a similar adequacy check process.</p> <p>The EIS team comprise of individuals with suitable qualifications, experience and capability. Impact analysis has identified and predicted the likely environmental, social and other related effects of the proposal, with involvement and input of communities and industries affected by the proposal, government agencies, and the interested public.</p>
26	PROJECT JUSTIFICATION Location Proximity to timber and electricity supply	Smith Bay site is not close enough to the timber resources and not connected to the electricity grid, resulting in an inefficient and/or impractical location for the seaport.	<p>A full life-cycle analysis of locating a seaport in any location on Kangaroo Island would have varying degrees of conformance to the principles of resource efficiency and sustainability, depending on the specific aspects of those locations and requirements for its development and operation as a port. In any sustainability calculations it should also be noted that its forestry activities capture carbon in huge quantities. Timber is approximately 50% carbon.</p> <p>An electricity network grid connection is available at Smith Bay and discussions are underway with SAPN to review and modify existing infrastructure to ensure baseload power requirements of KI Seaport, for now and into the future, are accommodated. Diesel generators are required to meet localised specific power demands for operating equipment and machinery for specific times for the operation (for example during ship loading), which is not uncommon for commercial operations. Diesel generators may also be used for back-up and emergency power sources.</p>
32	PROJECT JUSTIFICATION Project viability Multi-use/multi-users	Concerns that only 20 per cent of KI Seaport capacity use is for timber export	The commercial viability of the port is supported by the export of timber products and does not depend on other uses. As stated in Section 2.3.4 of the Draft EIS, timber ships would be moored at the facility to load KIPT's timber products for 30–75 days a year, or approximately 20 per cent of the time available. This means there would be significant spare capacity at the facility for:

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
			<ul style="list-style-type: none"> the independent plantation timber owners to use the facility to export their timber products without exporting through KIPT if they wished other users and other products.
33	PROJECT JUSTIFICATION Project viability Multi-use/multi-users	KIPT have to identify and cater for alternative uses for the port.	<p>The EIS guidelines for the major development declared by the Minister requires KIPT to identify potential users of the port and to demonstrate that the port has capacity and availability for third party users in the future.</p> <p>There will be considerable spare capacity available for third parties to use the port, should they choose to do so. Third party users would need to obtain necessary approvals at that time.</p>
34	PROJECT JUSTIFICATION Project viability Multi-use/multi-users	EIS silent on alternative uses.	KIPT intends the KI Seaport to be a port and no other use. The type of products stored and exported from the port may become more diverse in the future as other industries on Kangaroo Island obtain approval to use it.
35	PROJECT JUSTIFICATION Project viability Partnerships	KIPT will rely on third party for aspects of construction and operation. The accountability of these third parties has not been discussed.	<p>To the extent that conditions or obligations are imposed on the planning, construction and operating approvals (and any conditions specified) for the KI Seaport, these will apply to KIPT as the proponent. Approval obligations are imposed on KIPT, who would be responsible for ensuring these are met and adhered to by all parties at the KI Seaport.</p> <p>Works undertaken by a Partner requiring a secondary approval, would need to comply with the conditions of that secondary approval, as well as comply with the primary approval conditions, based on a contract between them and KIPT.</p> <p>Independent third party contractors undertaking activities on behalf of KIPT, under any necessary authorisation, licence or permit would also need to comply with primary approval conditions through a contract between them and KIPT.</p> <p>KIPT manage their obligations by securing contracts with reputable Partners for the KI Seaport. To date KIPT's Partners include the Commonwealth Bank of Australia, Mitsui & Co, PF Olsen, Lucas TCS and Maritime Constructions.</p> <p>The Commonwealth Bank is an Australian multinational bank with businesses across New Zealand, Asia, the United States and the United Kingdom. Mitsui & Co has been a key player in the trade between Australia and Asia since 1901 and is a leading exporter of Australia's key natural resources and agricultural commodities to Australia's major Asian trading partners. PF Olsen Australia is responsible for the sustainable management of planted and natural forests for clients throughout Australia and are certified to the Australian Standard for Sustainable Forest Management (AS4708-2013), and the criteria and principles of the Forest Stewardship Council. Lucas TCS are a provider of a number of contracting services and will deliver civil earthworks, engineering and site development capabilities to the KI Seaport. Lucas TCS is certified to ISO9001, ISO14001, ASNZS4801 and OHSAS18001. Maritime Constructions is a provider of specialist marine infrastructure solutions and are certified to ISO9001, ISO14001, ASNZS4801 and OHSAS18001.</p>

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
36	PROJECT JUSTIFICATION Site selection Multi-use/multi-users	Information on other users of KI Seaport is critical to determining the applicability of Smith Bay as the preferred location and should be presented in the Draft EIS.	The major development declaration is for a deep water port at the Smith Bay site and the Guidelines for the preparation of the EIS request that KIPT assess the potential impacts of constructing and operating a port at Smith Bay. The KI Seaport provides opportunity for other users in the future. Information on other future users of KI Seaport cannot be provided at this time. The DAC Guidelines request that arrangements for other users to gain access to port facilities and/or to establish additional facilities on site be outlined by KIPT. Section 2.3.4 of the Draft EIS provides this information. DPTI and the Minister for Planning has accepted that the level of information provided in the EIS is adequate for the government to assess the proposal, and as such the Minister authorised the release of the Draft EIS for public consultation on that basis.
38	PROJECT ALTERNATIVES Alternative sites Point Marsden and D'Estrees Bay were not considered	The assessment of alternatives sites is flawed because it did not consider two alternative locations - Point Marsden and D'Estrees Bay.	<p>Generally, exposed locations were not considered in the assessment of suitable locations.</p> <p>D'Estrees Bay was not considered because it is an exposed location with no suitable anchorage, with a long road route from the timber plantations, and high conservation value native vegetation onshore, all within a marine park habitat protection zone. D'Estrees Bay was unsuitable for the loading of gypsum onto shallow draft vessels which is why Ballast Head was developed nearby on the north coast.</p> <p>Point Marsden was not considered because it is exposed and has shallow water. It is also within a marine park and is located close to a designated sanctuary zone.</p> <p>Both locations are self-evidently unsuitable for a deep-water port and their omission does not compromise the site selection process.</p> <p>The cost benefit analysis presented in the Draft EIS (see Chapter 20.7) shows at least \$120m in economic benefits would be lost if the seaport was to be relocated from Smith Bay to another site.</p>
39	PROJECT ALTERNATIVES Alternative sites <i>Selection criteria, methodology, evaluation and consideration of other sites</i> (EPBC related)	<p>Concerns have been expressed that there are better sites than, or alternative sites to Smith Bay, or that the assessment of alternative sites for the KI Seaport did not adequately address Guideline 1.14, and that the criteria and methodology used, and weighting given to social, economic and environmental aspects, in assessing alternative locations were flawed.</p> <p>Specific concerns expressed in relation to the assessment of alternative sites by members of the public during consultation included:</p> <ul style="list-style-type: none"> • deeper waters for a deep-water port exist elsewhere on Kangaroo Island • sites exist closer to the timber plantations • a site at, or close to, the timber plantations (and not on the coast) was not considered 	<p>The Minister for Planning authorised the release of the Draft EIS after his department confirmed the document had adequately addressed all guidelines, including Guidelines 1.14 and 6.3.</p> <p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay prior to KIPT lodging an application for permission to develop a deep-water port at Smith Bay. The assessment of locations for the seaport considered, but was not limited to, the following:</p> <ul style="list-style-type: none"> • desktop analyses of topographical and bathymetry data, using available information on Google Earth Pro and government databases and mapping • observations noted during physical inspections, where they could be undertaken, taking note of various site attributes

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		<ul style="list-style-type: none"> • a cost-benefit analysis not done; or unsubstantiated (for example, differences in the cost for road upgrades required for freighting timber from plantation to port for various site scenarios provided no explanation for costs stated); or inadequate (for example, existing facilities or sources of quarry material for KI Seaport's construction were not factored into the cost-benefit analyses. The specific example of Cape Dutton (where a DPTI-controlled quarry is close by) may reduce construction costs for the development, was used • other locations have more positive outcomes for the community and the environment, compared to Smith Bay • other locations have existing port facilities • safer road networks, and greater linkages to workforce and community hubs, exist at other locations • less remote locations, compared to Smith Bay, exist • cost estimates provided are not substantiated • existing industry and community values are not properly considered. <p>Other design solutions have been suggested that would influence an assessment of alternative sites, such as:</p> <ul style="list-style-type: none"> • establishing woodchip loading facilities closer to the plantations • the use of helicopters to direct load timber on to ships at sea (negating the need for a port), similar to helicopters used overseas in the timber industry (such as Sikorsky S-64 Sky Crane or the Sikorsky CH-64 Tahre) • use of the state-managed road network (given the State Government would have a better capacity to fund road upgrades, compared to the local council) to determine where a port would be located • establishing only a purpose-built woodchip loading facility at the port • Yumbah consider that there is a very high probability of catastrophic consequence from a seaport at Smith Bay. Failure to prove that removing trees from KI cannot be achieved at another location on an island with 500 km of coastline. 	<ul style="list-style-type: none"> • cost estimates for establishing infrastructure for the port (onshore and offshore) • cost benefit and economic analyses • accessibility • potential environmental regulatory constraints, such as the presence of protected species, proximity to conservation areas such as Marine Parks and National Parks, protected heritage sites and existing land degradation from previous anthropogenic activities • prominent and predominant tourism areas and travel routes used by tourists. • KIPT does not own or control any part of the road network on Kangaroo Island. The cost estimates factored in road upgrade costs that were based on the length and current condition of roads considered relevant to the development. It is acknowledged that there is a degree of variability in estimating such costs. <p>Physical inspections conducted for locations did assess facilities or services and other factors that could be beneficial in constructing or operating the seaport, such as the quarry near Cape Dutton. Apart from all the other matters considered in Chapter 3 of the Draft EIS for assessing alternative sites, the quarry near Cape Dutton has soft, degraded limestone, which is considered unsuitable for constructing infrastructure in the high-energy marine environment of Cape Dutton.</p> <p>A number of public submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, Penneshaw and anywhere west of Stokes Bay, including Cape Dutton, however no useful analysis has been provided to substantiate the case in favour of these alternatives.</p> <p>Other design solutions which have been suggested during the public consultation period have been considered, and responses are as follows:</p> <ul style="list-style-type: none"> • the use of heavy lift helicopters to direct load timber on to ships at sea would not be commercially feasible and different infrastructure out at sea would be required to berth and restrain vessels; • State-managed road networks generally follow tourist routes and service the major population and community centres of Kangaroo Island. A different set of issues would arise if the location of State-managed roads were a criterion in determining a suitable port site • the woodchip storage, handling and loading facility would need to be at the port site to be effective, efficient and safe; it could not be located away from the coast, near plantations • establishing a purpose-built woodchip loading facility (essentially conveyor only port) only at the port site would not meet the requirement for KI Seaport to have the future capability for a multi-use port.

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
			<p>The cost benefit analysis presented in the Draft EIS (See Chapter 20.7) shows at least \$120m economic benefits would be lost if the seaport was to be relocated from Smith Bay to another site.</p> <p>The inputs into the cost estimates include assumptions about some components that KIPT has no direct control over, such as the road network. The cost estimates are based on the length and current condition of relevant roads. It is acknowledged that there is a degree of variability in estimating such costs.</p> <p>KIPT re-affirms its conclusion that Smith Bay is the best location for the development.</p> <p>The Draft EIS and Addendum indicate that allowing the port to proceed at Smith Bay would not have adverse impacts on aquaculture, agricultural or tourism industries in Smith Bay or Kangaroo Island.</p>
41	<p>PROJECT ALTERNATIVES</p> <p>Alternative sites</p> <p><i>Suitability of Ballast Head</i></p>	<p>Ballast Head and it is a better site than Smith Bay for the port for a number of reasons:</p> <ul style="list-style-type: none"> • KIPT own it • it was given to KIPT to develop and is a proven site • it is an existing deep-water port, close to shore, which is ideally suited to woodchip export due to the easy access to a ship loading conveyor • it has been earmarked as a port on the DPTI development plan since the 1940's • it was New Forest's preferred option • has a history of shipping and is already contaminated with exotic marine pests, and therefore development at this location would not pose a significant biosecurity risk • is the most sheltered deep-water location on Kangaroo Island • provides KIPT with an option to move the development 100 m to the north of the former port, which would provide a significantly reduced coastline gradient • has the nearest private mooring for a private vessel at Ballast Head is 3 km away • oyster lease/s, which are of concern to KIPT, are located 2 km south of Ballast Head, and therefore further than Yumbah is located to the development site at Smith Bay • the nearest residences to Ballast Head are 3 km away and have no direct line of sight • available data suggests that it is a better site than Smith Bay • Ballast Head is a site that does not impact abalone aquaculture, or ecotourism industries. 	<p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT stands by this analysis; Smith Bay is the best location for the development.</p> <p>Some public submissions have a view that Ballast Head is a better site. Responses are provided below on the reasons why Ballast Head is not considered a suitable site:</p> <p><i>Ownership</i></p> <p>KIPT do now own the Ballast Head site (formerly owned by New Forest) through the purchase of New Forest's assets, including their plantations, land holdings and the Ballast Head site, on Kangaroo Island. Ballast Head was not 'given' to KIPT to develop.</p> <p><i>Ballast Head's port status</i></p> <p>Ballast Head is not an existing port. It is a former shallow-draft gypsum loading facility that ceased operating in 1986. All of the port infrastructure has been demolished, including the ship-loading conveyor. Ballast Head is no longer zoned for use as a port, and the planning approval to use the site as a port lapsed when the infrastructure was demolished. Ballast Head is not, and has not been, earmarked for development as a port in the KIDP. The KIDP shows a portion of the site is zoned for Primary Production, a portion is zoned for Commercial purposes, and a portion is CCZ. Commercial purposes do not include a port.</p> <p><i>New Forest's preferred option</i></p> <p>New Forests proposed a chip-only operation at Ballast Head. This was one of the principal reasons why KIPT decided to seek alternative sites. After establishing that Smith Bay was a better site for KIPT's activities, and acquiring the site, KIPT decided not to partner with New Forests in the development of Ballast Head. Indeed, New Forest and KIPT were assessing the possibility of a joint proposal for Smith Bay.</p>

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
			<p>KIPT reassessed New Forest's documentation regarding the merits of Ballast Head after purchasing the site. This second review (see Draft EIS, Section 3.5) confirmed Ballast Head was inferior to Smith Bay.</p> <p><i>Ballast Head characteristics</i></p> <p>The possibility that Ballast Head may already be contaminated with exotic marine pests is one factor which may favour Ballast Head, but it is not a determinative factor.</p> <p>KIPT and New Forests jointly commissioned bathymetric surveys of both sites, and the topographical differences between the two sites are apparent and outlined in Section 3.3.2 and Appendix B-2 of the Draft EIS. Ballast Head may not necessarily be more sheltered than Smith Bay given its topography land-side, and offshore waters being subject to the same climatic conditions to those that Smith Bay are exposed to.</p> <p>KIPT does not own or control any land adjacent to the Ballast Head site. Speculation of the use of land to the north of Ballast Head, is irrelevant.</p> <p>The distance to the nearest private vessel mooring is not a decisive factor in selecting a site for the development.</p> <p>Location Map KI/12 from the Kangaroo Island Development Plan shows six oyster leases in the waters adjacent to Ballast Head, which would be directly affected by a development at Ballast Head. The submission from Ken Rowe (KI Shellfish), who is the lessee, confirms the leases would be directly affected.</p> <p>The impact on residential amenity from a development at Ballast Head would include the impacts on residences at Brown Beach, Baudin Beach and Island Beach.</p> <p>Ballast Head is also close to the American River community where a higher level of tourism and holiday activities exist, more than exists at Smith Bay.</p>
42	<p>PROJECT ALTERNATIVES</p> <p>Alternative sites</p> <p><i>Suitability of Cape Dutton</i></p>	<p>A more thorough overview of [Cape Dutton] would reveal: A site inspection shows a clear path to the most suitable location, with an elevation of only 10m from the shore in the valley; Cape Dutton is close to KIPT's plantations, and would be ideal for a conveyor or jetty construction due to deep-water close to shore - no dredging would be required. Cape Dutton offers a very large area for development and is located adjacent to a DPTI approved and Council operated quarry which would provide cost savings for KIPT's construction. There is minimal interaction with tourists on roads around Cape Dutton and no township in direct line of sight. The site already manages industrial elements and intrusions not present at Smith Bay such as dust and noise.</p>	<p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. The arguments about the merits of other sites were not summarily dismissed. For example, the assessment of Cape Dutton included a physical inspection of the nearby quarry. The soft, degraded limestone is unsuitable as armour rock in high-energy marine environments such as Cape Dutton, where a breakwater would be needed in addition to a berth approach.</p> <p>KIPT stands by its analysis that Smith Bay is the best location for the development.</p> <p>The cost benefit analysis prepared for the Draft EIS in response to Guideline 4.1 (see Section 20.7) specifically considered the alternative option of developing the port at Cape Dutton. This analysis shows at least \$120m of the total economic benefit which would flow from developing the seaport at Smith Bay would be lost if the seaport was to be built at Cape Dutton.</p>

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
45	PROJECT ALTERNATIVES Alternative sites <i>Suitability of Point Morrison</i>	A more thorough overview of Point Morrison would reveal that it would be the ideal location for the land-based infrastructure and a multi-user port. The site has access to deep water close to land. It is located away from existing aquaculture and close to an area already contaminated with exotic marine pests.	Point Morrison does have some natural advantages (as is acknowledged in Chapter 3 of the Draft EIS), but it was not for sale at the time Smith Bay was on the market, and KIPT does not own it. The SA Government would not accept a planning application for a development at Point Morrison (or any other site) which a proponent does not own or control (e.g. via an option to purchase). The objector has provided no evidence of exotic pests in or near Point Morrison. Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT re-affirms its conclusion that Smith Bay is the best location for the development.
48	PROJECT ALTERNATIVES Alternative sites <i>Suitability of Vivonne Bay</i>	The existing jetty at Vivonne Bay could be extended to its former length out to deep-water for KIPT's development, removing the need for dredging. Vivonne Bay would be close to KIPT's plantations and the port infrastructure could also be utilised by the local fishing fleet. Vivonne Bay is the most utilised location on Kangaroo Island for its local fishing industry and Yumbah believes Vivonne Bay would be ideal for other users, including cruise ships, due to its proximity to Kangaroo Island's National Parks. KIPT could also build a road on their own properties from Playford Highway to the South Coast.	A number of submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, Penneshaw and anywhere west of Stokes Bay. Critics of the development suggesting a site other than Smith Bay provide no useful analysis to support their proposal. Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT re-affirms its conclusion that Smith Bay is the best location for the development. The cost benefit analysis presented in the Draft EIS (see Section 20.7) shows at least \$120m economic benefits would be lost if the seaport were to be relocated from Smith Bay to another site.
49	PROJECT ALTERNATIVES Alternative structures <i>Impact on coastal processes</i>	A solid causeway represents an elevated threat. The mitigation options suggested (i.e. open culverts or bridge sections) offer no benefit. The only option to protect coastal currents is an open-piled jetty with the berth pocket extended further offshore. KIPT has dismissed this option to save money. The built form and design is in direct contrast to the natural landscape of Smith Bay and will negatively affect the widely-distributed economic benefits of Yumbah Aquaculture. Suitable port and marina infrastructure already exist on Kangaroo Island that would provide greater benefit when establishing a seaport to export trees. It is Yumbah's view that KIPT could reduce the impact to the environment, it just doesn't want to pay the bill.	KIPT has modified the design of the in-water structures in response to Yumbah's feedback. These changes will add a further \$9.0m to the cost of construction. The changes, and the assessment of their impacts, are the subject of the Addendum to the Draft EIS.
51	PROJECT ALTERNATIVES Site selection <i>Impact on aquaculture activities</i>	Oyster farmers located in Eastern Cove near Ballast Head have expressed their concerns that a port at Ballast Head would destroy the KI Shellfish oyster farm. In the Main Report of the EIS, it was stated that compensation to the oyster leaseholder would need to be factored into detailed feasibility for the Ballast Head case. There are concerns that KIPT acknowledges oyster growers at Ballast Head would need to be compensated by development at Ballast Head but not Yumbah at Smith Bay and that KIPT have not considered the financial hardship they may pose on a successful aquaculture business of long-standing corporate, social and sustainable credentials, which has stalled significant growth plans due to KI Seaport proposal.	KIPT acknowledges a port at Ballast Head would cause potential impacts to KI Shellfish oyster farm. Concerns have been expressed that a development at Smith Bay also impacts aquaculture. There is a material distinction between an aquaculture operation which relies on the in-water oyster leases at Ballast Head, and an on-land aquaculture operation at Smith Bay. There is no question a development at Ballast Head would destroy the in-water business; the development, in construction and operations, would directly affect some, if not all of the leases, which is a point made by the lessee, Ken Rowe (KI Shellfish), in his submission. It has been acknowledged by KIPT and the South Australia government that the KI Seaport can proceed only if the land-based aquaculture at Smith Bay is not

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			<p>detrimentally impacted. Much work has been undertaken to understand the risks to Yumbah and to undertake baseline surveys, monitoring and predictive modelling to assess KI Seaport's potential impact on Yumbah. See Chapter 11 of the Draft EIS. KIPT have also agreed to significant alterations to the design of KI Seaport to further mitigate potential impacts.</p> <p>The Draft EIS shows there is no credible basis to the claims that the KI Seaport would have any material adverse impact on Yumbah's on-land abalone farm at Smith Bay, or that the two operations cannot co-exist. There is, therefore, no need to consider compensation for Yumbah</p>
52	PROJECT ALTERNATIVES Site selection <i>Impact on tourism</i>	The Draft EIS overlooks impacts on tourism ventures such as KI Marine Adventures and Molly's Run. Smith Bay is a destination for tourists, and a seaport will adversely affect tourism.	<p>The site selection process and criteria adopted by KIPT are outlined in Section 3.2 and 3.3 of the Draft EIS, respectively.</p> <p>Tourism associated with Smith Bay currently co-exists with the Yumbah facility. Yumbah is also visible from boats operated by KI Marine Adventures that visit Smith Bay.</p> <p>In broader terms, Smith Bay is not a specific tourist destination on Kangaroo Island. This is confirmed by the submission from Tourism SA which does not support any claims that the development will have any adverse impact on tourism on Kangaroo Island.</p>
53	PROJECT ALTERNATIVES Site selection <i>Multi-use/multi-users</i>	EIS does not identify or consider the risks and hazards associated with other uses for its multi-use facility.	<p>The major development declaration is for a deep-water port at the Smith Bay site. The associated EIS Guidelines issued by DAC request that KIPT assess the potential impacts of constructing and operating a port at Smith Bay and that adequate detail on other aspects associated with the port, including commitment as to whether the port would be made available to other users. The level of information provided in the EIS has been deemed as adequate for public consultation and for the government to assess the proposal.</p>
56	PROJECT DESCRIPTION Basis of design <i>Compliance with standards</i>	There are concerns that the location of proposed stormwater treatment ponds and retention basin do not comply with EPA requirements and are too close to Smith Bay. As a result, Smith Bay and groundwater beneath the site and Yumbah KI's grow-out tanks are at risk.	<p>The design of any stormwater management system is required to be fit-for-purpose, must be suitable for the location, and must comply with EPA Guideline Wastewater lagoon construction (April 2019). Note that buffer distances previously published by the EPA are no longer applicable.</p> <p>The stormwater retention ponds are located in the optimum location to receive stormwater runoff from the KI Seaport site given the site's topography and drainage characteristics.</p> <p>The Stormwater Management Strategy (Appendix C of the Draft EIS) outlines the risk assessment and strategies required to implement best practice techniques to manage the quantity and quality of stormwater runoff taking account of the functionality and layout of the development site, and the receiving environments of the site's surface water, groundwater and Smith Bay (Refer to Chapter 16 and Appendix C of the Draft EIS).</p>
57	PROJECT DESCRIPTION Basis of design	KIPT has not used best practice principles to design the seaport.	<p>The KI Seaport has been designed by a highly skilled, experienced and well-credentialed multi-disciplinary team of marine engineers led by WGA and Maritime Constructions. The design of the seaport reflects best practice principles and relevant industry standards.</p>

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	<i>Criteria for making design choices</i>		The original design has been modified to take into account feedback received from relevant stakeholders, particularly Yumbah, which in itself an example of incorporating best practice principles into the design of the seaport.
59	PROJECT DESCRIPTION Causeway construction <i>Dredge material</i>	Are the dredge volumes adequate for construction of a causeway? Alternatively, what would happen to any surplus spoil if this were to happen?	Causeway (and dredging) is no longer part of design.
61	PROJECT DESCRIPTION Causeway design <i>DAC Guidelines (inconsistency)</i>	The causeway design presented in the Draft EIS is not consistent with the description given in the DAC guidelines.	Guidelines (and the major projects development assessment process more generally) allow for flexibility in design so that concepts can evolve in response to a range of factors, including more information from stakeholder feedback. This is a desirable outcome. As a result of the public consultation on the Draft EIS, and feedback from Yumbah in particular, the design of KI Seaport's in-water infrastructure has been modified and the causeway has been removed and replaced by a piered or open-piled jetty extending from land to the -13.5 m bathymetry depth. This design eliminates the need to dredge.
63	PROJECT DESCRIPTION Causeway design <i>Width</i>	The design for the causeway is too narrow for two vehicles to pass without passing areas, which are not shown on the current plans.	The causeway is no longer part of the KI Seaport design; it has been replaced by a piered jetty. The Draft EIS and Addendum present engineering concept designs and not-to-scale visuals. The detailed engineering, which includes the provision of passing areas on the jetty, will be provided in the next phase of the project (i.e. detailed design for construction approval). The design of the jetty would be consistent with industry standards for the planned vehicular movements The for-construction design of the jetty and all other infrastructure would comply with relevant standards that are a prerequisite for approval by an appropriate Certifier and would further comply with the requirements and conditions specified in the planning approval.
65	PROJECT DESCRIPTION Construction timing <i>Whale season</i> (EPBC related)	Provide a realistic construction program to ensure no overlap with marine megafauna windows.	Where possible construction activity in the marine environment would be undertaken outside of the whale season. However, given this may not be possible, depending on when approvals are obtained (primary and secondary approvals) and when management strategies have been devised and would be built into the construction environment management plan. Chapter 26 and Appendix U of the Draft EIS describes the framework for environmental management and monitoring that would be adopted for the development. See Table 6-1 which confirms all of KIPT's commitments for the development.
72	PROJECT DESCRIPTION Dredging operations	The EIS does not consider options, methods and management for dredging hard sea floor.	The issue of how rock would be dredged (i.e. backhoe dredge) is resolved as dredging will no longer occur.

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	<i>Hard substrate (dredging method)</i>		
73	PROJECT DESCRIPTION Electricity supply <i>Site power source</i>	The discussion in the Draft EIS about electricity supply requires clarification. It is unclear if SAPN grid source electricity will be supplying the power for the site.	KI Seaport will use electricity from the power grid provided by SAPN as the primary source of power to the site. Generators would be required to supplement the SAPN supply during ship loading activities and as a back-up supply should the SAPN grid system fail. Generators would be diesel powered. It is expected that solar panels would be installed atop buildings to support general site requirements such as lighting and administration building demand.
74	PROJECT DESCRIPTION Emergency Services <i>Firefighting</i>	Dust and fire present particular risks for Yumbah, which is generally downwind from the sources. The firefighting resources on KI won't be able to manage a fire at Smith Bay, the risk of which is growing with climate change. There is no guarantee of a reliable water supply for firefighting at the seaport.	The on-land components of the KI Seaport would be designed and positioned to minimise the risk of fire (see Draft EIS, Section 4.6.4). The provision of a reliable water supply for firefighting at the KI Seaport is also discussed in the Draft EIS (see 4.6.6 Emergency Management and Response). The size of the water storage required for firefighting would be determined in the detailed design phase (i.e. the next phase of the project) in consultation with the CFS. It is acknowledged that there will be periods when Yumbah is indeed downwind of the site, and that vigilance is required for extreme weather conditions where summer temperatures reach mid-40's for extended periods. KIPT owns significant stands of plantation timber. When it is fully operational (i.e. when the seaport is operating) KIPT would have a significant fire-fighting capability of its own (i.e. trained personnel and firefighting equipment), on Kangaroo Island which would complement the resources available to the CFS. KIPT will liaise with the CFS to determine the best approach to managing the risk of bushfire and responding to fires should they occur. This approach would apply to all of KIPT's sites and assets, including Smith Bay.
75	PROJECT DESCRIPTION Fumigation <i>Management of risk and reducing risk</i>	EIS does not consider fumigation, including emergency fumigation, at KI Seaport.	There would be no fumigation at the KI Seaport (see Section 4.4.6 of the Draft EIS), and there would be no requirement for 'emergency fumigation' at KI Seaport.
77	PROJECT DESCRIPTION Impacts of a multi-use port <i>Undisclosed information relating to future uses is a concern for Yumbah and the Kangaroo Island community and shareholders</i> (EPBC related)	There is a lack of information provided in the EIS relating to additional future uses, specific infrastructure, utility and equipment requirements of future users of the seaport (and the associated potential increased demand and impacts).	It is a requirement of the SA government that the port be a multi-use/multi-user facility (see Table 7-4 in the Draft EIS). However, the commercial viability of the port is underpinned by the export of timber products and does not depend on other uses or users. Accordingly, the DPTI and other government agencies have agreed KIPT does not have to identify other uses or users in the assessment process i.e. KIPT does not have to justify the government's requirement that the facility be available to third parties. There would be considerable spare capacity available for third parties to use the port, should they choose to do so. Third party users would have to obtain all of the planning approvals they require, and the implications for the community of these uses will be addressed at that time.

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78	PROJECT DESCRIPTION Impacts of construction <i>Use of treated timber</i>	EIS does not assess the potential impacts from use of treated timber to be used during wharf construction.	Treated timber would not be used during construction activities.
82	PROJECT DESCRIPTION Piling <i>Duration of pile driving</i> (EPBC related)	(In-situ) characterisation of the seabed along piling alignment required during the construction program.	Offshore geotechnical investigations of the study area were completed in November 2017 (see Appendix C1 of the Draft EIS). Further geotechnical investigations, and characterisation of the seabed for the jetty alignment, are planned for finalising the construction plan for piling activities, and therefore completed before construction activities commence.
83	PROJECT DESCRIPTION Piling <i>Number of piles</i> (EPBC related)	Provide accurate estimate of total piles expected.	The engineering concept design stipulates the jetty piles would be placed approximately every 12 m (see Section 3.1.3 of the Addendum), which equates to 156 piles. It is normal practice for this estimate to be confirmed (or revised) in the detailed engineering design phase which follows the planning approval.
90	PROJECT DESCRIPTION Project design <i>Causeway</i>	Reducing the solid nature of the seaport will assist with reducing the incidence of marine biofouling of invasive marine species and concentration of disease agents such as toxic dinoflagellates within the nearshore environment.	Noted. As a result of the public consultation on the Draft EIS, and feedback from Yumbah in particular, KIPT modified the design of KI Seaport's in-water infrastructure and the causeway was removed and replaced by an open-piled jetty extending from land to the -13.5 m bathymetry depth. This substantially reduces the 'solid nature' of the seaport.
91	PROJECT DESCRIPTION Project design <i>Community Impacts</i>	The original proposal for the seaport included a boat ramp and a fishing wharf, and cruise ships were going to use the facility. All of these have been removed in the Draft EIS. As a consequence, there will be no community benefit from the proposed development.	The community benefits from the proposed development are discussed in the Draft EIS, especially Chapter 20 Economic Environment and Chapter 22 Social Environment. The public boat ramp was removed after the Kangaroo Island Council objected to the development of such a facility because it had committed significant funds to building a new boat ramp at Emu Bay. Tourism SA and tourism operators on Kangaroo Island have expressed the view that cruise ships will not use the KI Seaport. KIPT accepts their advice. The viability of the KI Seaport does not depend on any third party use. Subject to compatibility with KIPT cargo loading and shipping operations, the Seaport has been designed to accommodate as yet undefined future commercial and community uses.
92	PROJECT DESCRIPTION	What is the source of material for the causeway? Will causeway fill introduce contaminants?	The causeway is no longer part of the wharf design.

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	Project design <i>Composition of causeway fill material</i>		
99	PROJECT DESCRIPTION Project design <i>Exclusion zones</i>	The proposal would make traversing the foreshore along the beach or by sea impossible.	KI Seaport would be a fully functioning port which would comply with mandatory, statutory safety and security requirements. Specific controls would be implemented to reduce safety and security risks. Third parties, including members of the public, would be constrained from accessing areas associated with the port facility. Agreements with neighbours and third parties with legitimate access would be negotiated taking into account KIPT shipping and load handling requirements, the port operating license conditions and regulatory requirements.
100	PROJECT DESCRIPTION Project design <i>Exclusivity for woodchip/timber</i>	Infrastructure proposed for the seaport will be exclusive for woodchip and timber log handling. There is a significant lack of disclosure by KIPT on future plans.	<p>The KI Seaport has been designed to accommodate KIPT's requirements i.e. to export logs and woodchips.</p> <p>However, the capability of the KI Seaport includes the capability to berth vessels up to a Panamax size, a wharf area allowing for other ship loading options (such as containerised solutions) and the spare capacity, and accessibility, available to third parties to use the port should they wish to do so.</p> <p>The SA government requires the port be a multi use/multi user facility, and it could be used, without significant modification. The commercial viability of the port, however, is underpinned by the export of timber products and does not depend on other uses or users.</p> <p>Third party users would have to obtain all of the planning approvals they require, and the implications for the community of these uses would be addressed at that time.</p>
101	PROJECT DESCRIPTION Project design <i>Inadequate information</i>	The Draft EIS should provide an increased level of detail on the proposed design, as requested by the DAC.	<p>The Draft EIS and Addendum present concept designs (as required) and not-to-scale visuals. The detailed engineering will be provided in the next phase of the project (i.e. detailed design for construction approval). This is the usual approach taken when proponents seek planning approval. It is recognised that detailed design would provide greater opportunity for comment on the proposal. However, at pre-approval stage that is neither practicable nor prudent: neither is it required by the assessing agency (DPTI).</p> <p>The detail engineering design phase allows the development to be modified and optimised in response to feedback from the public consultation process; any conditions attached to the planning approval; and to ensure the development complies with relevant legislation, regulations, and standards.</p>
107	PROJECT DESCRIPTION Surrounding land use <i>Future plans</i>	What is the long-term plan, and associated details and potential impacts for KIPT's land adjacent to the KI Seaport site?	The EIS addresses all of the issues mandated in the Guidelines for the environmental impact assessment set by the (then) DAC and considers only those parcels of land and adjacent offshore marine waters relevant to the declared major development. The land to the west of the proposed development site is outside the scope of the major development declaration and the Guidelines.

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			<p>Should KIPT contemplate developing other parcels of land at Smith Bay as part of the proposed KI Seaport, such development would be assessed as an amendment to the current proposal.</p> <p>Should KIPT contemplate developing other parcels of land at Smith Bay for purposes which are not related to the proposed KI Seaport, such uses would be the subject of a separate planning process, i.e. that process would not be related to the current major development declaration.</p>
108	<p>PROJECT DESCRIPTION</p> <p>Wastewater and stormwater re-use management</p> <p><i>Provide any further details on the sewage management system requirements and clarification that it meets the requirements of the On-site wastewater systems code (2013)</i></p>	<p>Provide further details of the on-site wastewater management system proposed, including the equivalent persons on which the sizing is based and an assessment that this is adequately sized for the proposed workforce. The system must be as per the requirements of On-site wastewater systems code (2013).</p> <p>Stormwater reuse will present risks to Yumbah which have not been considered.</p>	<p>Temporary solutions for sewage management would be established for the construction workforce, effective immediately at the time of site mobilisation. These systems will remain in place as the permanent operational sewage management system is built and commissioned, and then be removed as part of demobilisation post-commissioning.</p> <p>The operations workforce at KI Seaport would be up to 11 people, with an additional 10-14 staff required during ship loading. It is envisaged that a complete septic system will be installed with a working capacity 16,500 L, and the system would be periodically de-sludged using an island-based septic cleaning service, as required.</p> <p>The specifics of the sewage management system would be finalised in detailed design phase of the project. The ultimate objective would be to ensure best waste management practices are adopted for the site. The septic system will adhere to AS1546.1, and the SA Health On-site Wastewater Systems Code April 2013 including design, capacity, location, setbacks and maintenance considerations, among others. Appropriate permitting/licensing will also be obtained from the relevant agencies.</p> <p>The impact assessment associated with the re-use of stormwater is provided in Section 16.5 of the Draft EIS and Appendix A.</p> <p>The CEMP and OEMP would also include specific controls and strategies to ensure that stormwater and wastewater is managed appropriately, in compliance with relevant regulations and specific license conditions, and there would be no impact to surface water, groundwater or marine waters of Smith Bay.</p>
109	<p>PROJECT DESCRIPTION</p> <p>Water supply</p> <p><i>Construction and operation</i></p>	<p>Where will water be sourced for construction and operation?</p>	<p>Chapter 4 of the Draft EIS provides a description of the proposed project and Section 4.8.2 outlines the water demand and supply for the KI Seaport. Sustainable water sources include rainfall for potable water, and captured surface water for operational use.</p> <p>The water requirements are being reviewed continuously by the engineering design team. Water for construction needs (e.g. washdown and dust suppression) will be sourced from the sea by pumps which will refill the contractor's water carts.</p> <p>Operational potable water for consumption will be sourced from rainwater tanks, and supplementary water will be purchased and brought to site as required.</p>

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			<p>There is also opportunity within the design to use captured stormwater for greywater uses within the toilets. These details will be explored during the detailed design.</p> <p>The intended fire-fighting design strategy would also prioritise the use of seawater instead of potable water. This may be as a standalone system located on the pontoon to service the jetty, pontoon and landside infrastructure. However, a combination of seawater and potable water supply options may be required depending on the legislative requirements and the outcomes of risk assessments and engagements with the local CFS. Where a dual supply system is required, there is a possibility of using stormwater capture to supplement the potable water demand of the fire water system, thus further reducing the reliance on potable water. This will be assessed in detailed design.</p> <p>Consideration of options for ensuring low water demand requirements for landscaping will be undertaken during detailed design. Continuous improvements for site operation will also investigate ongoing reduction in water use as part of sustainability strategies to be adopted for the KI Seaport.</p> <p>KIPT does not intend to use groundwater as a source of water during construction or operation.</p>
116	<p>LEGISLATIVE FRAMEWORK</p> <p>New marine activity zone</p> <p><i>Intersects Yumbah's licence</i></p>	<p>Proposed MAZ intersects with Yumbah's infrastructure licence area - could restrict Yumbah's use of land.</p>	<p>Yumbah's rights conferred under Access Licence OL0222375 do not exclude other lawful activities within the licence area. In any case, the overlap between the MAZ and the location of aquaculture pump and pipeline is marginal.</p> <p>The MAZ will be introduced as a public safety measure. The DPTI will issue a Notice to Mariners under the <i>Marine and Harbors Act 1993</i> warning of construction and associated activities within the MAZ.</p> <p>Neither the MAZ nor the Notice to Mariners will affect rights of access held under any Annual Licence issued to Yumbah by the State Government for the purposes of pump and pipeline installation and operation. In the event that Yumbah requires such access during the seaport construction period, KIPT will negotiate a safe and mutually convenient time for access.</p>
117	<p>LEGISLATIVE FRAMEWORK</p> <p>New marine activity zone</p> <p><i>Mutually exclusive with Yumbah licence</i></p>	<p>Proposed MAZ intersects with Yumbah's operational licenced area - two activities are mutually exclusive.</p>	<p>KIPT's right to construct and operate a seaport at Smith Bay and Yumbah's rights conferred under Access Licence OL0222375 are not mutually exclusive. In any case, the overlap between the MAZ and the location of aquaculture pump and pipeline is marginal.</p> <p>See response provided for Response ID 116.</p>
123	<p>LAND USE AND PLANNING</p> <p>Kangaroo Island Development Plan</p>	<p>KI Seaport is not an appropriate development at Smith Bay given it is in the CCZ.</p>	<p>Section 6.3.3 of the Draft EIS provides an overview of the proposed development in the context of the KIDP, including the CCZ (see p 116 of the Draft EIS).</p> <p>CCZ is a tool used for planning purposes by the local government and council planners. Whilst the zone is indicative of the need to protect coastal values it does not exclude or prohibit different types of development in appropriate</p>

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	<p><i>Coastal Conservation Zone</i></p> <p>(EPBC related)</p>		<p>locations within that zone. This is demonstrated by the former use of the site and current uses along adjacent and other sites on Kangaroo Island located within the CCZ.</p> <p>A port or export facility is not specifically identified in the KIDP as non-complying development within a CCZ. However, some elements of the proposed facility could be categorised as non-complying within that zone: for example, set down and timber storage areas that could be defined as a road transport terminal. Such a facility is listed as non-complying development with that zone.</p>
124	<p>LAND USE AND PLANNING</p> <p>Kangaroo Island Development Plan</p> <p><i>Objectives and PDC's</i></p>	<p>The objectives and PDC in the KIDP 2015 needs to be considered. Assumptions have been made that the KI Seaport is compatible with the provisions of the Rural Living Zone and CCZ.</p>	<p>Section 6.3.3 of the Draft EIS provides an overview of the proposed development in the context of the KIDP, including the objectives and PDC. The proposal has also been assessed against elements of the Kangaroo Island Plan (Planning Strategy). See Table 6.1 of the Draft EIS.</p>
125	<p>LAND USE AND PLANNING</p> <p>KI strategic plans</p> <p><i>Compatibility with Kangaroo Island Plan (Planning Strategy)</i></p>	<p>The many strategic plans for Kangaroo Island observe that developments should be appropriately located, sited and designed to fit in with, and be subservient to, the environment and not to compromise the scenic and landscape experience or the Island's natural assets. Smith Bay is a natural asset and should be afforded better protection.</p>	<p>Chapter 6 of the Draft EIS provides an assessment against the Kangaroo Island Plan, the Kangaroo Island Council Development Plan and the Land Not Within A Council Area Development Plan.</p> <p>The EIS process provides robust assessment of the proposal and determines the environmental values which should be afforded protection and forms the basis for design modifications and determining appropriate controls and management strategies for construction and operation of the KI Seaport.</p> <p>The proponent selected Smith Bay for a number of reasons (see Chapter 3 of the Draft EIS). One of these being the site at Smith Bay was already disturbed land and had been commercialised: it was the site of a former on-land aquaculture facility; and is within a more extensive area that has undergone significant modification and development for commercial/industrial purposes. The level of development can be seen on available aerial photography, see Appendix A (and video, see links at https://kipt.com.au/smith-bay/).</p> <p>The marine environment adjacent to the Smith Bay site has also experienced modification with installation of pipework to accommodate Yumbah's needs. Unlike most of Kangaroo Island's north coast, Smith Bay is also not within a marine park: The marine parks were established to preserve Kangaroo Island's marine biodiversity and habitat.</p> <p>For these reasons Smith Bay is considered a better option than developing an alternative north coastal location that would otherwise undergo substantial modification with introducing commercial or industrial development.</p>
126	<p>LAND USE AND PLANNING</p> <p>Land tenure</p> <p><i>Easement rights</i></p>	<p>How will construction and operations consider existing Crown licences and easements associated with the site. The EIS emits details of the easement rights on the parcels of land that make up the development site.</p> <p>{Easement rights are depicted along with Yumbah Aquaculture's Crown licence to occupy areas in Figure 8 of Yumbah's submission.}</p>	<p>The KI Seaport has been designed so that Yumbah Aquaculture's (Yumbah) easement rights are not affected by planned construction or operations.</p> <p>KIPT will continue to respect Yumbah's rights, while complying with relevant legislation regarding safety and security during construction and for port operation.</p>

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			<p>Any changes for Yumbah in relation to their currently exercised access are being confirmed by the Supreme Court of SA and would be implemented in collaboration with Yumbah and in liaison with the relevant government agency.</p> <p>{The rendering in Figure 8 of Yumbah's submission shows areas of foreshore (i.e. Crown Land) over which Yumbah has been granted a licence to occupy. These are not exclusive rights (i.e. they do not preclude others from using the foreshore) and the rights (such as they are) are limited to specific purposes. The KI Seaport would not affect these rights.}</p>
127	<p>LAND USE AND PLANNING</p> <p>Planning assessment</p> <p><i>Compatibility with existing land uses</i></p>	<p>The activities of ports are widely recognised as a conflicting land use with, and 'high risk' for, aquaculture.</p>	<p>The KIDP does not specifically prohibit a port near aquaculture, or vice-versa. These matters are to be assessed on their merits.</p> <p>The Guidelines prepared by the DAC require an assessment of the potential impacts to aquaculture be undertaken (see Chapter 11 of the Draft EIS and Section 4.4 of the Addendum to the Draft EIS). The EIS shows that the KI Seaport and the nearby land-based aquaculture operation can co-exist.</p>
128	<p>LAND USE AND PLANNING</p> <p>Planning assessment</p> <p><i>Compatibility with existing zoning</i></p>	<p>Yumbah was established within the planning framework and is an activity consistent with Rural Living and the CCZ. The seaport is clearly at odds with this zoning.</p>	<p>The KIDP does not prohibit a port at Smith Bay.</p> <p>The suitability of Smith Bay is a matter to be assessed on its merits, which was recognised by the former Minister for Planning when he declared the proposal a major development.</p> <p>The requirement to undertake an EIS is the highest level of impact assessment in SA, and the process ensures the planning authority will consider the impacts on Yumbah when they provide their recommendations to the Minister for Planning.</p>
130	<p>LAND USE AND PLANNING</p> <p>Site selection</p> <p><i>Compatibility with Kangaroo Island's planning direction</i></p>	<p>Planning for Kangaroo Island has a focus to: encourage sustainable growth particularly in Kingscote, Penneshaw, Parndana and American River and make the best use of their existing and expanded infrastructure; and reinforce the expanded role of Kingscote and Penneshaw as the main passenger and freight gateways to the Island.</p>	<p>The KI Seaport and KIPT's sustainable timber plantation would encourage and promote growth in the existing centres of Kingscote, Penneshaw, Parndana and American River, through increased prosperity, economic activity and population through the effects of mobilising the timber industry.</p> <p>Establishing a deep-water port at Smith Bay would assist to reinforce the expanded role of Kingscote and Penneshaw as the main passenger and freight gateways for the community of the Island, particularly given the current facilities, services and community support networks that exist at those two centres provide for the population of Kangaroo Island. The KI Seaport would separate the movement of bulky goods from the more sensitive passenger and freight movements of Kingscote and Penneshaw.</p>

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
132	LAND USE AND PLANNING Surrounding land use <i>Ancillary to KI Seaport</i>	The draft EIS makes no comment on future uses of the 225 ha of land KIPT owns at Smith Bay, or outline details provided in ASX announcements.	The Draft EIS addresses all of the issues mandated in the Guidelines for the environmental impact assessment set by the (then) DAC. The land to the west of the proposed development site is outside the scope of the major development declaration and the Guidelines. Should KIPT contemplate developing other parcels of land at Smith Bay as part of the proposed KI Seaport, such development would be assessed as an amendment to the current proposal. Should KIPT contemplate developing other parcels of land at Smith Bay for purposes which are not related to the proposed KI Seaport, such uses would be the subject of a separate planning process, i.e. that process would not be related to the current major development declaration.
134	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>Aboriginal groups</i>	No acknowledgement of the RARB of Smith Bay, and whether there has been any communication, consultation, negotiation or agreement made with them. The EIS does not provide any record of communication, consultation, negotiation with Aboriginal representatives or Yumbah, on Aboriginal heritage.	The Aboriginal groups who have asserted their interest in Kangaroo Island have been identified and the Draft EIS provides an overview of the engagement with Aboriginal groups/organisations (see Table 7-1 and Section 24.2). Communication and engagement with these groups continues to occur.
138	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>KI Council</i>	The Kangaroo Island Council, which represents the KI community, opposes the development of a port at Smith Bay.	Views expressed by Kangaroo Island Council in both their submissions have been considered in preparing the Response Document. Refer to Response ID 135.
139	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>Lack of consultation</i>	No consultation occurred with the community to realise shared benefit of the proposal.	The approach to stakeholder consultation and engagement is outlined in Chapter 7 of the Draft EIS. This includes consulting and engaging with KI business and industry groups, the Kangaroo Island Council, government agencies and neighbours. Ongoing consultation continues to occur.
143	KEY ISSUES Key Issue <i>Biosecurity</i>	Ports present a high biosecurity risk for land-based abalone farms.	It is recognised that biosecurity is a key concern for the KI Seaport (see Chapter 8 of the Draft EIS). Chapter 15 of the Draft EIS and Section 4.7 of the Addendum details the assessment of the proposed development for biosecurity. A Biosecurity Management Plan and Marine Pest Management Plan would be developed and implemented in consultation with PIRSA and the Kangaroo Island Landscape Board, subsequent to any approval given for the development. Regulatory requirements for the port as a FPOE would also need to be satisfied before KI Seaport would become operational (see Appendix A).

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144	<p>KEY ISSUES</p> <p>Key issue</p> <p><i>Identification of key issues locally and for greater Kangaroo Island</i></p> <p>(EPBC related)</p>	<p>Concerns exist in relation to the development impacting the natural environment (which may be considered pristine, unique or an area of environmental importance or significance), community and existing industry and business.</p> <p>Concerns also exist in relation to localised impacts from the development caused by particular aspects, such as building of a causeway, wastewater retention and detention basins, woodchip stockpiling, installation of lighting, demand for water resources to satisfy firefighting and dust suppression requirements and use of the local road network.</p>	<p>It has been recognised that aspects of the KI Seaport project may impact existing economic, social and environmental values of Smith Bay and Kangaroo Island. The key issues were identified and outlined in Chapter 8 of the Draft EIS.</p> <p>In choosing the Smith Bay site, KIPT undertook assessments which considered key values for Kangaroo Island such as condition of the natural environment, the location for main tourism activities, and the condition of existing services and infrastructure.</p> <p>Impact assessments and risk assessments have been undertaken for a variety of issues relevant to the proposed development, including the causeway (now no longer part of the KI Seaport design), wastewater retention and detention basins, lighting, potable water, firefighting and dust suppression water, road networks and transit routes. The Draft EIS and Addendum to the Draft EIS contain further detail.</p> <p>Risk assessments have identified the local infrastructure and services that would be affected by the construction and operation of KI Seaport. KIPT continues to engage with government, infrastructure and service managers to ensure impacts would be minimised as much as practicable. In many cases, the modifications and upgrades required to infrastructure to meet KIPT's needs would also benefit other users and businesses at Smith Bay and Kangaroo Island.</p>
146	<p>KEY ISSUES</p> <p>Key issue</p> <p><i>Impact on Yumbah</i></p>	<p>KI Seaport is a threat to Yumbah KI.</p>	<p>Much work has been undertaken to understand Yumbah's operations at Smith Bay and the potential threats posed by the KI Seaport. Chapter 11 of the Draft EIS (and Section 4.4 of the Addendum) outlines the impact assessment for land-based aquaculture.</p> <p>The EIS study team have endeavoured to fully understand and adequately consider Yumbah's operational aspects, the potential threats posed by KI Seaport and to determine how to best incorporate controls, including making substantial modifications to design, and ensure appropriate commitments are made, and necessary management strategies are planned to ensure no impacts.</p> <p>Yumbah's submissions to the Draft EIS and Addendum have been helpful in assessing the impacts of the seaport on Yumbah's operations and implementing significant changes to the port's design.</p> <p>KIPT continues to encourage Yumbah to work with them to validate their understanding of threats to the abalone farm at Smith Bay. All of the inputs and assumptions for the impact assessments to date have been sourced from publicly available information on Yumbah's Smith Bay operation, published research findings for abalone, available government records, Yumbah's company prospectus' and reports, government and industry reports, and the submissions Yumbah have made to the Draft EIS and Addendum for the KI Seaport development as part of the approval process.</p> <p>The implementation and regulation of approved management plans, including the Biosecurity Management Plan and Marine Pest Management (which will be developed in liaison with PIRSA – Biosecurity SA and the Kangaroo Island</p>

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			Landscape Board) will provide a high level of assurance that activities will be undertaken in a manner that does not impact Yumbah.
147	KEY ISSUES Key issue <i>Impacts to MNES</i> (EPBC related)	Wider community have concerns about impacts to southern right whales and echidnas.	The concerns for impacts to MNES is acknowledged and assessments for MNES relevant to the KI Seaport development, including the Kangaroo Island echidna and southern right whale, are provided in Chapter 14 of the Draft EIS, and Section 4.6 of the Addendum.
148	KEY ISSUES Key issue <i>Social, economic and environmental values</i>	The location and design of the seaport presents social, economic and environmental risks and the EIS fails to consider this. Changes to design do not remove the overall impact of KI Seaport and attempts to appease Yumbah.	The social, economic and environmental risks and impacts have been addressed in the Draft EIS and Addendum, which complies with the assessment guidelines set by the DAC. Refer to Chapters 8 - 24 of the Main Report of the Draft EIS and Chapter 4 of the Addendum. The assessments undertaken for the KI Seaport do not indicate any 'catastrophic' risks to human health or the environment. The assessments indicate the overall impact of KI Seaport to the surrounding land and marine environments would be acceptable. The change of the design to remove building a causeway (and dredging) does not only appease Yumbah's concerns but also appeases the concerns raised by government, KI Council and some members of the general public.
149	MARINE WATER QUALITY Causeway construction <i>Contaminants</i>	The use of poorly characterised dredge material to construct the causeway may introduce contaminants to Smith bay.	The issue of potentially contaminated dredge spoil being used to construct the causeway is no longer relevant as the causeway will not be constructed.
150	MARINE WATER QUALITY Cumulative effects <i>Sediment plumes, wrack and seawater temperature</i>	The risks to marine water quality at Yumbah's seawater intakes would be exacerbated during summer when there would be cumulative effects related to increased sediment loads, wrack, poor circulation, increased seawater temperature and low dissolved oxygen.	The issue of cumulative impacts to water quality at Yumbah's seawater intakes resulting from sediment plumes, high seawater temperature and low dissolved oxygen resulting from dredging and causeway effects during summer is resolved as dredging and construction of the causeway will not occur.
151	MARINE WATER QUALITY Dredging management <i>National Assessment Guidelines for Dredging</i>	The sediment sampling work that has been undertaken does not meet the National Assessment Guidelines for Dredging (NAGD, 2009). Sediment samples were not taken from the entire dredging depth due to core refusal, and some samples are outside the dredge footprint.	The issue of sediment sampling potentially being non-compliant with the National Assessment Guidelines for Dredging (2009) is no longer relevant as dredging will no longer occur.
152	MARINE WATER QUALITY	The need for rock grinding and removal of hard substrate during dredging would result in a far longer dredging time than 75 days.	The issue of a long dredging program is no longer relevant as dredging will not occur.

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	Dredging operations <i>Duration</i>		
155	MARINE WATER QUALITY Hydrodynamic model reliability <i>Current data (incorrect)</i>	The use of incorrect current field data invalidates the conclusions relating to impacts on water quality. The percentile current speeds in the EIS (Appendix F2 Section 4.3) should have been presented in 1-2 cm/s rather than 10 cm/s intervals.	The issue of incorrect current field data invalidating the modelling of water quality impacts is resolved as dredging and construction of the causeway will not occur.
156	MARINE WATER QUALITY Hydrodynamic model reliability <i>Incomplete sediment characterisation</i>	The hydrodynamic model outputs are flawed as the sediments in Smith Bay have not been completely characterised. This relates in particular to the deeper (> 1 m deep) sediments that could not be sampled due to core refusal during sediment sampling, and the potential generation of fine class 3 sediments as a result of rock grinding during dredging.	The issues of incomplete sediment characterisation and the reliability of the hydrodynamic model is resolved as dredging and construction of the causeway will not occur.
157	MARINE WATER QUALITY Hydrodynamic model reliability <i>Model outputs used by Yumbah</i>	In a number of cases the results of the coastal hydrodynamic model are quoted even though the submission argues that the model is not correctly parameterised and thus the results cannot be trusted.	The issue of the reliability of the model outputs in predicting the effects of dredging on marine water quality and of the causeway on coastal processes is resolved as dredging and construction of the causeway will not occur.
161	MARINE WATER QUALITY Marine sediments <i>Fine (Class 3) sediments from rock grinding</i>	The potential presence of very hard substrate would require rock grinding during cutter suction dredging, which would produce fine Class 3 sediment that has not been included in the model. Class 3 sediments would have substantially greater impacts on water quality (and abalone) than those predicted in the EIS.	The issues of the generation of fine class 3 sediments through grinding of rock, the reliability of the hydrodynamic model, and greater than predicted impacts on water quality are resolved as dredging will not occur.
162	MARINE WATER QUALITY Marine sediments <i>High total organic carbon</i>	The high total organic carbon (TOC) in one sample casts doubt on the overall characterisation of sediments.	This sample was taken in the paleo-channel where seagrass debris would have accumulated and created fine organic sediments. The site was atypical. Furthermore, the issues of high total organic carbon in one sample, and the reliability of the hydrodynamic model, are no longer relevant as dredging will not occur.
163	MARINE WATER QUALITY Marine sediments <i>Incomplete sediment characterisation</i>	Sediments in Smith Bay have not been fully characterised and thus there is a high probability of larger amounts of fine sediments being suspended. The sediment characterisation cannot be confirmed for 1-3 m depth due to core refusal at 1 m, and 35% of the sediment samples were taken outside the dredge footprint. Increased levels of fine sediment will remain suspended for longer periods and present a much higher risk to abalone.	The issues of incomplete sediment characterisation, the reliability of the hydrodynamic model, and greater than predicted impacts on water quality are resolved as dredging will not occur.

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167	MARINE WATER QUALITY Marine sediments <i>Sediment settlement rate</i>	Estimates of settleability of sediments included in the model cannot be relied upon due to only 25% of the sediments within the dredge footprint having been characterised.	The issues of sediment settlement rate and the reliability of the hydrodynamic model is no longer relevant as dredging will not occur.
169	MARINE WATER QUALITY New jetty design <i>Veracity of water quality conclusions</i> (EPBC related)	Of greatest concern is the lack of water quality modelling associated with the new jetty design. There is no evidence to support the statement that construction of the new jetty is expected to result in negligible impacts on seawater quality at Yumbah's intakes, where water quality effects would be indistinguishable from natural variation.	BMT considered that potential effects on water quality associated with construction of the new jetty design were so benign that additional water quality modelling was not warranted. Drill cuttings, potentially associated with piling through rock, will not impact water quality as they will be retained within the drill casing, or collected and stored on the barge. BMT concluded that sediment plumes generated during all aspects of jetty construction will be negligible (see Appendix C1 of the EIS Addendum). Yumbah provided corroborating evidence to support BMT's conclusion in its second submission. In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) says: <i>'BMT's assessment of sediment deposition, mobilisation of contaminants and the risk of fuel/oil spills are all appropriate and industry standard positions for such impacts/risks'. (p 2)</i> <i>'BMT's [water quality] risk assessment is fine and per industry standard'. (p 3)</i> <i>'I agree with BMT's risk assessment that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks to a negligible consequence'. (p 3)</i>
170	MARINE WATER QUALITY On-site water use (dust suppression, fire fighting) <i>Contamination of Smith Bay</i>	The sources of water that would be used onsite for dust suppression and fire fighting is unknown. Water used onsite will be contaminated with dust, chemical and organic matter, and may enter Smith Bay and affect Yumbah.	Run-off water from dust suppression and fire-fighting operations would be captured and treated in a suitably sized ponds and constructed wetlands. Disposal of the water would in general be via evaporation. Occasional releases to Smith Bay may occur (generally following heavy rainfall events) but would only occur after settlement of sediments in the detention ponds and constructed wetlands.
171	MARINE WATER QUALITY Propwash <i>Veracity of modelling and conclusions</i>	BMT's updated water quality assessment associated with propwash is questioned. No additional sediment samples were collected to parameterize the model for the new wharf location, the wrong median grain size was used in the model and incorrect vessels have been used to calculate seabed turbulence. There is no evidence to support the conclusion that ship operational propwash would have very minor effects on water quality in Smith Bay.	BMT suggest that AusOcean has misunderstood several aspects of the parameterisation of the model used in the propwash assessment as explained in detail in the Addendum to the Draft EIS, Appendix C1. BMT therefore stands by its assertion that conservative assumptions have been made in regard to grain size for the propeller wash turbidity assessments. Furthermore, the vessels selected in the AusOcean document correspond to container ships, and not bulk carriers. Container ships are typically designed around speed, while bulk transport is designed around carrying capacity. The equivalent MAN Energy Solutions paper 'Propulsion trends in Bulk Carriers'

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			<p>contains values for SMCR Power consistent with what has been applied. BMT therefore stands by its modelling of seabed turbulence velocities in Smith Bay.</p> <p>Corroborating evidence to support BMT's conclusion has been provided by Yumbah in its second submission. In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) says:</p> <p><i>'I agree with BMT's assessment of potential operational wash impacts on the TSS climate of the Yumbah KI intake water quality. Their assessment is reasonable'.</i> (p 2)</p>
172	<p>MARINE WATER QUALITY</p> <p>Risk assessment</p> <p><i>Consequence for Yumbah questioned</i></p>	<p>The statement in the risk assessment that degraded water quality would have 'negligible' consequence for Yumbah is questioned in the absence of modelling.</p>	<p>The downward revision to the consequence rating for construction water quality impacts was based on the substantial reduction in potential for plume generation under the proposed suspended jetty construction methodology. That is, BMT concluded that both Consequence and Likelihood were significantly mitigated by the proposed change in design. Based on professional experience, BMT did not consider additional modelling to be warranted as it was considered that the small sediment inputs used to force the model would have been incapable of producing plumes at Yumbah's intakes that would have been distinguishable from natural variation.</p> <p>Yumbah provided corroborating evidence to support BMT's conclusion in its second submission.</p> <p>In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) says:</p> <p><i>'BMT's assessment of sediment deposition, mobilisation of contaminants and the risk of fuel/oil spills are all appropriate and industry standard positions for such impacts/risks'.</i> (p 2)</p> <p><i>'BMT's [water quality] risk assessment is fine and per industry standard'.</i> (p 3)</p> <p><i>'I agree with BMT's risk assessment that the revised design has effectively 'engineered/Designed out' all water quality and coastal process risks to a negligible consequence'.</i> (p 3)</p>
174	<p>MARINE WATER QUALITY</p> <p>Sediment plumes</p> <p><i>Extent of plumes</i></p>	<p>Sediment plumes are predicted to extend for approximately 5–6 km (expected case) or 8 km (worst case) along the coast. Subtidal currents during winter could carry it an additional 4 km. The prevailing Stokes Drift would push the material onshore and to the east.</p>	<p>The issue of dredging related sediment plumes being transported along a significant length of coast at Smith is resolved as dredging will no longer occur.</p>

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180	MARINE WATER QUALITY Smith Creek effects <i>Causeway benefits questioned</i>	The impact of Smith Creek flows on the receiving waters of Smith Bay has been exaggerated. With the exception of storms in 2016, Yumbah claims that Smith Creek has had negligible effect on their operations. It is suggested that the issue is more easily addressed by revegetating the lower part of the creek.	<p>It is understood that concerns exist in relation to the impact of Smith Creek discharges on the Smith Bay water quality based on recent approaches to the Department of Environment and Water to mitigate the effect by proposing to establish a stormwater detention dam/wetland at the mouth of Smith Creek to enable sediments to settle out prior to discharge.</p> <p>As discussed in the EIS, the Smith Creek catchment has been degraded by intensive agricultural use. At the Smith Bay reaches, banks of the creek are unstable and eroding, and pools of water in Smith Creek were noted to be highly enriched and supporting algal blooms. During storms the seawater in Smith Bay becomes highly turbid as a result of resuspension of sediment that is likely to have been discharged from creeks along the north coast of Kangaroo Island during previous months. If the Kangaroo Island catchments were stable, it is maintained that the seawater along the north coast of Kangaroo Island would be much less turbid during storms as there would be considerably less sediment in the nearshore system.</p> <p>The issue of the causeway potentially providing a benefit to Yumbah by diverting sediment laden Smith Creek flows further offshore is resolved as the causeway will not be built.</p>
182	MARINE WATER QUALITY Smith Creek effects <i>Frequency and magnitude of adverse storm flows</i>	The benefits of the causeway to Yumbah are flawed as it is based on a 1:10 year storm event and modelling of smaller storm events is required to show the frequency, magnitude and duration of any suggested benefit. The catchment model is flawed.	The issue of potential benefits associated with the causeway diverting Smith Creek further offshore are no longer relevant as the causeway will not be built. The status quo with respect to Smith Creek flows will be maintained.
183	MARINE WATER QUALITY Turbidity <i>Ecological impact thresholds</i>	The use of 10 x (Zone of High Impact) and 5 x (Zone of Low to Moderate Impact) standard deviations above the 50th and 80th percentile means to define ecological impact thresholds from turbidity are unjustified as there is no ecological basis for these criteria. Furthermore, the turbidity thresholds do not address seasonality in biotic receptors.	The issues of ecological impact thresholds resulting from sediment plumes and related seasonality of biotic receptors is no longer relevant as dredging will not occur.
186	MARINE WATER QUALITY Woodchip and log stockpile leachate <i>Contamination of the marine environment</i>	Leachate from woodchips and logs is likely to contain tannins and phenols that could enter the marine environment via groundwater or stormwater runoff. Plans to deal with the risks are inadequate.	The risk of leachate from woodchip and log stockpiles entering groundwater or run-off is negligible as the stockpiles would be bunded and have impervious bases. Leachate and stormwater run-off would be captured and treated in suitably sized ponds and constructed wetlands. It should be noted that the logs and woodchips are not treated with chemicals (fumigated) at the facility.
188	COASTAL PROCESSES Causeway and dredge basin effects	The causeway and dredged basin would result in changes to sedimentation and resuspension processes.	The issue of the causeway and dredged basin altering sedimentation and resuspension patterns is resolved as dredging and construction of the causeway will no longer occur.

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	<i>Sediment deposition and resuspension</i>		
189	COASTAL PROCESSES Causeway effects <i>Algal blooms</i>	Reduced circulation of nearshore waters and elevated water temperatures would increase the risk of algal blooms in Smith Bay, which may have catastrophic impacts on Yumbah's farmed abalone operations.	The issue of algal blooms being promoted in the lee of the causeway has been resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty. Algal blooms require still, nutrient rich water to bloom. As the proposed jetty would not impede near-shore currents, there is no possibility that Yumbah will be affected by algal blooms.
191	COASTAL PROCESSES Causeway effects <i>Effectiveness of culverts in mitigating impacts</i>	The Draft EIS acknowledges the effects of the causeway on coastal processes but says mitigation is unnecessary. More detail is required to understand the impact of the optional solution proposed (e.g causeway gates or culverts).	The issue of including culverts in the causeway to mitigate the interruption of tidal flows is resolved as the causeway will no longer be constructed.
192	COASTAL PROCESSES Causeway effects <i>Reduced currents and flushing</i>	The causeway would reduce currents by up to 40%, which would result in reduced flushing, elevated water temperatures, accumulation of wrack and poorer water quality in the lee of the causeway. This could have catastrophic effects on Yumbah's operations.	The issues of the reduced currents and flushing resulting in increased seawater temperature and poor water quality in the lee of the causeway have been resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty.
193	COASTAL PROCESSES Causeway effects <i>Seawater temperature increases</i>	The proposed causeway would reduce nearshore circulation and flushing and thereby elevate seawater temperatures in Smith Bay in the lee of the causeway.	The issue of the causeway resulting in increased seawater temperature in the lee of the causeway in Smith Bay have been resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty.
194	COASTAL PROCESSES Causeway effects <i>Wrack accumulation</i>	Clarification of the wrack accumulation risk assessment is sought. In particular a consequence of "minor" and likelihood of "possible", and the residual likelihoods being reduced without mitigation measures being applied are questioned.	The issue of wrack accumulating around the base of causeway have been resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty. The risk assessment has been revised to reflect this is no longer a risk (see Appendix F).
195	COASTAL PROCESSES Causeway effects <i>Wrack and sand management</i>	The causeway would impact sand/wrack movement along the coast. The mitigation strategies proposed for sand and wrack management are vague and require more detailed discussion.	The issue of the management of sand and wrack accumulation around the causeway is resolved as the causeway will no longer be constructed.
198	COASTAL PROCESSES Jetty effects <i>Clarification of negligible effects</i>	Clarification of the jetty having "negligible effects on coastal processes at Smith Bay" is sought. On what scientific evidence or data is this based?	The assessment of the jetty having negligible effects on coastal processes is based on the expert opinion of the coastal engineers of BMT, who undertake such assessments throughout the world (see Appendix C1 of the Addendum). In this context negligible can be taken to mean 'unmeasurable', that is it cannot be measured objectively.

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200	COASTAL PROCESSES Jetty effects <i>Modelling required</i>	Hydrodynamic modelling is required to quantify the effects of the jetty on coastal processes.	<p>The expert assessment by BMT hydraulic engineers determined that the effects of the jetty on coastal processes in Smith Bay would be so insignificant that hydrodynamic modelling would be incapable of showing any effect ((see Appendix C1 of the Addendum).</p> <p>Yumbah provided corroborating evidence to support BMT's conclusion in its second submission.</p> <p>In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) agrees with this conclusion. He says:</p> <p><i>'BMT's assessment of sediment deposition, mobilisation of contaminants and the risk of fuel/oil spills are all appropriate and industry standard positions for such impacts/risks'. (p 2)</i></p> <p><i>'I agree with BMT's assessment of negligible effects of the revised KIPT design on ... sediment transport'. (p 3)</i></p> <p><i>'I agree with BMT's risk assessment that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks to a negligible consequence'. (p 3)</i></p>
201	COASTAL PROCESSES Jetty effects <i>Wave height reduction</i>	The jetty cannot have a 'negligible effect on coastal processes at Smith Bay', when it is stated that there would be a 30-50% reduction in wave height in the lee of the pontoon.	<p>The jetty itself would have a negligible effect on wave height in Smith Bay. As stated in the EIS the pontoon would at times result in a 30-50% reduction in wave height in the immediate lee of the pontoon. It is inconceivable that this effect would have any adverse effects on coastal processes in Smith Bay or on Yumbah's operations.</p> <p>Yumbah provided corroborating evidence to support BMT's conclusion in its second submission.</p> <p>In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) agrees with this conclusion. He says:</p> <p><i>'I agree with BMT's assessment of negligible effects of the revised KIPT design on water levels, currents, water temperatures, Smith Creek plumes, waves, sediment transport and seagrass wrack.</i></p> <p><i>I agree ...that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks to a negligible consequence'. (p 3)</i></p>
202	COASTAL PROCESSES Jetty effects <i>Residual effects on coastal processes</i>	Removing the solid causeway does not remove all the risks associated with impacts on coastal processes in Smith Bay.	<p>There can be no doubt that the replacement of the solid causeway by the jetty will result in negligible effects on all the important coastal processes in Smith Bay, including tidal currents, seawater temperature, coastal and seafloor erosion and movement of sand and wrack along the coast.</p> <p>Helpfully, Yumbah provided corroborating evidence to support BMT's conclusion in its second submission.</p>

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			<p>In the “<i>Addendum review of water quality and coastal process</i>” commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) agrees with this conclusion. He says:</p> <p><i>‘I agree with BMT’s assessment of negligible effects of the revised KIPT design on water levels, currents, water temperatures, Smith Creek plumes, waves, sediment transport and seagrass wrack.</i></p> <p><i>I agree with BMT’s risk assessment that the revised design has effectively ‘engineered/designed out’ all water quality and coastal process risks to a negligible consequence’.</i> (p 3)</p>
203	COASTAL PROCESSES Pontoon effects <i>Wave height modelling</i>	What modelling was used to arrive at 30-50 % wave height reduction? What is the radius of influence of this change to Smith Bay?	<p>The 30-50% wave height reduction in the lee of the pontoon was based on the wave modelling undertaken for the original design (included in the Draft EIS). It was considered that the same wave reduction would apply in the lee of the pontoon located slightly further offshore. The modelling indicates that the 30-50% wave reduction would extend several hundred metres from the pontoon, which is located approximately 600 m offshore. Wave reduction extending several hundred metres in the lee of the pontoon at this distance from Yumbah’s intakes, would result in little effect near Yumbah’s intakes. Longshore tidal currents would be unaffected.</p> <p>Yumbah provided corroborating evidence to support BMT’s conclusion in its second submission.</p> <p>In the “<i>Addendum review of water quality and coastal process</i>” commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) agrees with this conclusion. He says:</p> <p><i>‘I agree with BMT’s assessment of negligible effects of the revised KIPT design on water levels, currents, water temperatures, Smith Creek plumes, waves, sediment transport and seagrass wrack.</i></p> <p><i>I agree with BMT’s risk assessment that the revised design has effectively ‘engineered/designed out’ all water quality and coastal process risks to a negligible consequence’.</i> (p 3)</p>
205	COASTAL PROCESSES Wrack dynamics of Smith Bay	There needs to be a description of the wrack dynamics of Smith Bay and an assessment of the effect of the proposed development on the wrack dynamics of Smith Bay.	<p>The issue of wrack dynamics in Smith Bay has been resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty. The natural movement of wrack along the coast will not be impeded by the jetty.</p>
206	LAND-BASED AQUACULTURE Abalone farm productivity <i>General impacts on abalone (unspecified)</i>	Statements about the likely adverse effects of the KI Seaport on the productivity of the abalone farm. In essence these are statements that refer to multiple issues in a more general context and in most cases are associated with the proximity of the KI Seaport to Yumbah.	<p>In various ways these submissions express concerns in relation to the proximity of the proposed KI Seaport to Yumbah presenting unacceptable risks to Yumbah’s operation. A number of different impacts are referred to, but most frequently they refer to impacts on water quality (particularly changes in total suspended solids i.e. TSS), biosecurity, dust deposition, noise and light.</p> <p>Each of these issues has been dealt with in specific detail elsewhere in the response document and, whether individually or in combination none are incompatible with Yumbah’s operations.</p>

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			<p>Experts commissioned by Yumbah acknowledge this in Yumbah's second submission, in which it is stated that, in the absence of any remaining demonstrable negative effects on abalone farming, tactical opposition to the proposed KI Seaport should focus on possible threats to whales, rather than to aquaculture. Potential impacts to water quality have been resolved in the manner suggested by Yumbah in its first submission.</p>
207	<p>LAND-BASED AQUACULTURE</p> <p>Abalone susceptibility to suspended sediments</p> <p><i>Abalone intolerance to fine sediments</i></p>	<p>Contends that despite the various studies referred to in the EIS abalone are very sensitive to fine sediments and these will cause mortality even at low concentrations.</p>	<p>Various responses to the EIS have highlighted the importance of fully considering the particle size distribution of suspended sediments (not just the total suspended sediment loads). These concerns have been fully considered and taken on-board in the proposed design changes. Given that neither dredging nor the proposal to construct a causeway are any longer a part of this proposal, all related matters have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
208	<p>LAND-BASED AQUACULTURE</p> <p>Abalone susceptibility to suspended sediments</p> <p><i>Abalone intolerance to high suspended sediment loads</i></p>	<p>Contends that despite the various studies referred to in the EIS abalone are sensitive to suspended sediments and these will cause mortality even at low concentrations.</p>	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
209	<p>LAND-BASED AQUACULTURE</p> <p>Abalone susceptibility to suspended sediments</p> <p><i>ANZECC guideline issues 10 vs 25 mg/L</i></p>	<p>Contends that the ambient water quality in Smith Bay is very high and this means that the water quality guideline should not exceed the ANZECC recommendation of 10 mg/L.</p>	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>

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210	<p>LAND-BASED AQUACULTURE</p> <p>Abalone susceptibility to suspended sediments</p> <p><i>Characterisation of water quality at Yumbah Narrawong</i></p>	<p>Contends that the TSS data from Yumbah Narrawong does not lend support to the conclusion that abalone are not affected by elevated levels of suspended sediments.</p>	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
212	<p>LAND-BASED AQUACULTURE</p> <p>Abalone susceptibility to suspended sediments</p> <p><i>Ecotoxicology study not adequate</i></p>	<p>Contends that the small number of animals, the short duration of the tests and the absence of multiple treatments (particularly at different temperatures) means that the ecotoxicology work performed on juvenile greenlip abalone is of limited value in determining the vulnerability of abalone to suspended sediments.</p>	<p>It should be noted that Yumbah declined to supply animals for ecotoxicology testing, thereby limiting the sample size to those that could be caught by SARDI in the wild. Even so, the sample size that was obtained had the requisite statistical power, given the absence of any effects from sustained exposure to high sediment levels.</p> <p>However, these issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
213	<p>LAND-BASED AQUACULTURE</p> <p>Abalone susceptibility to suspended sediments</p> <p><i>Need to address the issue of TSS dose response (time by concentration)</i></p>	<p>Contends that the ecotoxicology data presented in the EIS from other published studies shows clear evidence of a dose response (time by concentration) with longer exposures giving rise to elevated levels of mortality. On this basis the extended period over which the dredging program would be run is likely to cause elevated rates of mortality that would not be expected based using the result of short term experiments.</p>	<p>The underlying issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
215	<p>LAND-BASED AQUACULTURE</p> <p>Air quality (Dust)</p> <p><i>Air quality impacts</i></p>	<p>Contends that wind-blown dust (including wood dust) will be transported across the Yumbah abalone farm where it will settle onto farming infrastructure and ultimately get washed into the raceways and nursery tanks causing elevations in suspended sediment loads in the water.</p>	<p>The impact of dust deposition on the Yumbah facility was addressed in the Draft EIS (see Section 11.5.5 and associated Appendices). The information presented in the Draft EIS provided a quantitative analysis of the expected rates of dust deposition onto the farming infrastructure and then undertook a worst-case</p>

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			<p>analysis of the potential impact that dust deposition (at the expected rates) may have on the farming system. The analysis concluded that:</p> <p>Dust deposition would increase from current background levels by 10%-20%, which will not have a material effect on water quality for the abalone farm. The expected impact is to increase total suspended sediment loads by around 0.0014 mg/L to a maximum value of 0.007 mg/L. Under a worst-case analysis (assuming that all dust deposited accumulates until a rainfall event washes it through in one pulse) the levels may reach 8.0 mg/L (99th percentile value; noting that 80% to 90% of this comes from background sources and is typical of current operations). Irrespective, even the extreme case is well below the ANZECC water quality criteria for the protection of Aquaculture (10 mg/L).</p> <p>The scenario discussed above assumes that all of the dust that is deposited washes through the shade-cloth and goes immediately into suspension. This is not likely given that Stringer (2018) experimentally observed that the time required for the wood dust component to go into suspension was around 2 hours which exceeds the typical retention time of water on the farm (around 20-30 minutes). This means that any wood dust (which would be expected to comprise some 54% of dust originating from the KI Seaport operations) would float on the surface of the water and thus flow out of the farm long before it went into suspension. Thus, even under the worst-case scenario, it is unlikely that the 99th percentile value for TSS would exceed 7 mg/L.</p> <p>The ecotoxicology studies (Stringer, 2018) using fine hard-wood dust concluded that even if all of the wood-dust did go immediately into solution (which it doesn't), it was highly unlikely that farmed animals would be affected because there was no detectable impact of wood-dust on animal survival even at concentrations 10 times higher (35 mg/L) than the most extreme concentrations that could possibly occur (3.5 mg/L) and for exposures 50 times longer than would likely occur (due to short retention times on farm). On this basis and taking into account the time taken for wood-dust to leach, the experimental exposure tested by Stringer (2018) was likely to have been 100 to 1,000 times higher than the practical exposure levels that would be encountered.</p> <p>Rainfall events that might cause the wash-through of deposited dust are relatively infrequent, typically occurring on less than 9 days per year and hence this is not likely to be a chronic problem but rather episodic. This is effectively unchanged from the existing risk profiles when calculated using background dust deposition rates.</p> <p>The results presented in the Draft EIS were modelled on a worst-case basis using a scenario in which there was no stockpile and the dust from all the fines left after reclaim of the woodchips was emitted from ground-level. This over-estimates the dust generation by a factor of 10 and thus a full height wood chip stockpile is likely to emit 1/10th the amount of dust predicted by the modelling.</p> <p>The modelling has assumed that conveyors are covered but further reductions would be realised from covering transfer points and the through the use of water sprays to suppress dust production.</p>

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			<p>The construction of a 2 m high mesh covered fence (which has been identified as a mitigation tool for light spill) was not accounted for in the original air quality modelling. The National Pollutant Inventory Emission Estimation Technique (EET) guide for Mining v3.1, Table 4, specifies an “estimated control factor” for wind erosion from stockpiles of 30% for wind breaks. These are nominally “at source” controls, and so a boundary fence would be expected to be less effective. A 30% reduction in dust from the stockpile source would be equivalent to a reduction in the overall site dust generated of around 10%.</p> <p>In relation to air quality, the inclusion of the Yumbah sheds on the land immediately to the east of the project site and to which aquaculture licence FT00634 applies, introduces new sensitive receptors that were not included in the original modelling. Air quality impacts are a measure of the effect of an exposure to a given air quality over time. The covered sheds modify the exposure pathway by providing shelter from depositional processes. With regards to dust concentrations in ambient air, there is the potential that air with elevated concentrations of dust may be ventilated into the sheds and create an exposure scenario.</p> <p>Figure 17.11a of the Draft EIS shows the maximum 24-hour average ground-level concentration of PM₁₀ (and below)-sized dust particles. PM₁₀ is broadly (but not exactly) equivalent to “respirable” dust and is generally used as a health benchmark within the NEPM framework (National Environment Protection) Ambient Air Quality Measurement criteria. The modelling shows that the concentration of PM₁₀ dust in air on the worst day of the year, under our worst-case modelled scenario, would comply with the NEPM at the location of these sheds. On this basis and given the results from the wood-dust ecotoxicology studies, it is highly unlikely that there would be any effect on water quality inside aquaculture tanks inside these sheds that would have an effect on animal health.</p>
216	<p>LAND-BASED AQUACULTURE Air quality (Dust) <i>Impacts of timber toxins</i></p>	<p>Contends that timber toxins from the chemical treatments used in timber processing would leach from the system or be attached to wind blown dust and that this material would impact on the neighbouring abalone farm.</p>	<p>The issue of chemicals used in the wood production processes were detailed in Chapter 4 of the Draft EIS. Woodchips would not be fumigated. Depending on customer requirements, logs may need insecticidal fumigation, but this would not take place at Smith Bay or anywhere on Kangaroo Island, but at another port, such as Portland in Victoria. As a consequence, methyl bromide would not be stored or used onshore at Smith Bay. It should be noted that methyl bromide is in the process of being phased out as a log fumigant and may no longer be in general use by the time the KI Seaport is operating.</p> <p>Although herbicides and pesticides are used within some plantation forests in some parts of Australia, none would be used at Smith Bay and because leaf and bark are removed at the logging site there is no possibility of chemicals associated with herbicides and pesticides entering the marine environment at Smith Bay.</p> <p>In normal forestry practice on Kangaroo Island, herbicides are used only prior to plantation establishment, which is 15 – 35 years prior to harvest. Insecticides are rarely if ever used.</p>

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			Other chemical wastes generated at Smith Bay would be collected, contained and disposed of according to industry standards and consistent with the EPA's waste licence for the site. There is no possibility of these chemicals entering the marine environment at Smith Bay.
217	LAND-BASED AQUACULTURE Air quality (Dust) <i>Veracity of air quality assessment</i>	Questions the veracity of the air quality assessment and particularly the basis for estimating background deposition rates and whether or not peak loads would change as a basis of this estimation.	The veracity of the air quality assessment has been reviewed and updated to take account of key matters in relation to design of the stockpile and the proximity of activities on Licence Area FT00634. The original conclusions that there was no reasonable likelihood of an effect on Yumbah's operations (as discussed previously) stands.
218	LAND-BASED AQUACULTURE Air quality and dust deposition <i>Specific impacts to abalone - dust criterion</i>	A thorough scientific analysis to confirm that the monthly NSW deposited dust criterion is appropriate for abalone farming and other sensitive receivers, taking peak deposition dust impacts into account.	<p>It is considered that the EIS has assessed and considered this matter effectively. The impact of dust deposition on the Yumbah facility was addressed in Section 11.5.5 of the Draft EIS. The information presented in the Draft EIS provided a quantitative analysis of the expected rates of dust deposition onto the farming infrastructure and then assessed a worst-case scenario of the potential impact that dust deposition (at the expected rates) may have on the farming system. That analysis concluded that:</p> <p>Much of the dust that would likely be deposited on infrastructure would not become suspended into water flowing through the abalone farm. This conclusion was based on direct experimental studies undertaken as part of ecotoxicology studies by Intertek for the EIS that showed that the time required for wood dust to go into suspension was around 2 hours and this exceeds the typical retention time of water on the farm, which is around 20-30 minutes. This means that any wood dust that was deposited onto raceways or nursery tanks would float on the surface of the water and thus flow out of the farm long before it went into suspension.</p> <p>The ecotoxicology studies using fine hard-wood dust concluded that even if all of the dust did go immediately into solution (which, as indicated, it cannot), it was highly unlikely that farmed abalone would be affected because there was no detectable impact of wood-dust on animal survival even at concentrations 10 times higher (35 mg/L) than the most extreme concentrations that could possibly occur (3.5 mg/L).</p> <p>Furthermore, taking into account the time taken for wood-dust to leach the experimental exposure was likely to have been 100 to 1,000 times higher than the practical exposure levels that would be encountered.</p> <p>Rainfall events that might cause the wash-through of deposited dust are relatively infrequent typically occurring on less than 9 days per year; hence this is likely to be an episodic problem, not a persistent problem. The frequency of events is unchanged by the building of the Seaport and thus there is no real change to existing risk profiles.</p> <p>Eighty to ninety percent of the dust deposited will be from background (ambient) sources (i.e. is not associated with the construction or operation of the Seaport). There is no available evidence that the Yumbah farming systems are currently affected by atmospheric dust deposition so it is not clear why a relatively small</p>

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			<p>(10-20%) increase in deposition rates would create new problems particularly given the findings about the non-solubility of the wood dust and that there was no evidence from the ecotoxicology studies of an impact on animals even at 10 times the likely maximum exposure.</p> <p>The results presented in the Draft EIS were modelled on a worst-case basis using a scenario in which there was no stockpile and the dust from all the fines left after reclaim of the woodchips was emitted from ground-level. This over-estimates the dust generation by a factor of 10 and thus a full height stockpile is likely to emit 1/10th the amount of dust predicted by the modelling.</p> <p>Modelling has assumed that conveyors are covered but further reductions would be realised from covering transfer points and through the use of water sprays to suppress dust production.</p> <p>The construction of a 2 m high mesh covered fence (which has been identified as a mitigation tool for light spill) was not accounted for in the original air quality modelling. The National Pollutant Inventory Emission Estimation Technique (EET) guide for Mining v3.1, Table 4, specifies an “estimated control factor” for wind erosion from stockpiles of 30% for wind breaks. These are nominally “at source” controls, and so a boundary fence would be expected to be less effective. A 30% reduction in dust from the stockpile source would be equivalent to a reduction in the overall site dust generated of around 10%.</p> <p>In relation to air quality, the inclusion of the Yumbah sheds on the land immediately to the east of the project site and to which aquaculture licence FT00634 applies, introduces new sensitive receptors that were not included in the original modelling. Air quality impacts are a measure of the effect of an exposure to a given air quality over time. The covered sheds modify the exposure pathway by providing shelter from depositional processes. With regards to dust concentrations in ambient air, there is the potential that air with elevated concentrations of dust may be ventilated into the sheds and create an exposure scenario.</p> <p>Figure 17.11a of the Draft EIS shows the maximum 24-hour average ground-level concentration of PM₁₀ (and below)-sized dust particles. PM₁₀ is broadly (but not exactly) equivalent to “respirable” dust and is generally used as a health benchmark within the NEPM framework (National Environment Protection) Ambient Air Quality Measurement criterion. The modelling shows that the concentration of PM₁₀ dust in air on the worst day of the year, under our worst-case modelled scenario, would comply with the NEPM at the location of these sheds. On this basis and given the results from the wood-dust ecotoxicology studies, it is highly unlikely that there would be any effect on water quality inside aquaculture tanks inside these sheds that would have an effect on animal health.</p>
219	LAND-BASED AQUACULTURE Aquaculture licencing	Yumbah's aquaculture licences permit the farming of species in addition to abalone and these have not been fully considered in the EIS documentation.	Yumbah Kangaroo Island Pty Ltd (Yumbah) operates with 3 aquaculture licences FT00558, FT00634, FT00702 as detailed in the Draft EIS (see Section 6.2.7 p 112). Consistent with the <i>Aquaculture Act 2001</i> and Aquaculture Regulations 2016 these licences relate to specific properties owned by or under the management control of Yumbah. For each of these licences there is a list of

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	<i>Capacity to farm other species</i>		<p>permitted species and of permitted farming systems which have been detailed in Appendix C.</p> <p>In total 21 species are identified including a variety of abalone, finfish, bivalve and crustacean species (Appendix C). The licences also variously provide for the use of either two different farming systems comprising tanks and channels (which would include slab-tanks or raceways).</p> <p>Notwithstanding that a large number of species have been included on the licencing documentation, it is evident that many of those species could not be farmed (in a practical way) for a variety of reasons (Appendix C) including a lack of available commercial systems (e.g. King George Whiting and Rock Lobster) or a requirement for additional farming systems (e.g. in-sea leases for rearing a number of the bivalve and finfish species).</p>
222	<p>LAND-BASED AQUACULTURE</p> <p>Biosecurity risks</p> <p><i>Abalone disease risks</i></p> <p>(EPBC related)</p>	<p>Contends that the establishment of the KI Seaport facility will expose the Yumbah farm to increased risks from a range of known disease agents including AVG, Perkinsus and Vibrio as well as risks from PSP and other (unspecified) disease agents.</p>	<p>The management of abalone disease risks requires the development of a Biosecurity Management Plan for the KI Seaport that would need to consider a broad range of published information on abalone disease risks of relevance to the land-based farm. The principle safeguard would be to ensure that ships using the KI Seaport adhere to the requisite management arrangements in relation to ballast water treatment.</p> <p>The Australian Government has published the National Biosecurity Plan Guidelines for the Australian land-based abalone industry (Spark et al. 2018); the document provides a framework for industry to support the development of site-specific biosecurity plans for individual farms. Spark et al. (2018) also identifies the reportable diseases of abalone which are acknowledged as those diseases that present the greatest risks to the farmed abalone industry as well as risks presented by the aquaculture sector to the wild catch sector.</p> <p>The reportable diseases (Spark et al. 2018) are Abalone Viral Ganglioneuritis (AVG) a viral pathogen that is endemic to Australia, Abalone Withering Disease (<i>Xenohaliotis californiensis</i>) which is caused by an exotic bacterial pathogen (to date this has not been reported in Australia) and <i>Perkinsus olseni</i> (a zoo-parasite) that is endemic to Australia and is frequently found in farmed stock (Appendix C). In its submissions, Yumbah has not disclosed whether <i>Perkinsus olseni</i> is present or has previously been detected at its Kangaroo Island facility.</p> <p>Yumbah (2019) has however raised concerns about the 'imminent risk of paralytic shellfish poisoning (PSP)'; this issue is also referenced in McShane (2019). PSP is not listed in any of the recognised aquatic animal health references (e.g. OIE 2019, Spark et al. 2018) or related documents. In neither case do the authors provide any evidence that PSP related risks are real; indeed, the literature that they refer to, particularly Dowsett et al. (2011) makes it clear that there is no risk of this ever occurring in relation to abalone (Appendix C).</p>
223	<p>LAND-BASED AQUACULTURE</p> <p>Biosecurity risks</p>	<p>Contends that existing regulatory arrangements are not adequate to provide the requisite level of protection that Yumbah believe is needed to safeguard their operation.</p>	<p>It is acknowledged that there is a need to develop a Biosecurity Management Plan for the KI Seaport and this would be a component of the work to be completed after the development is approved, but before construction works begin.</p>

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	<i>Biosecurity plan</i>		
224	LAND-BASED AQUACULTURE Biosecurity risks <i>Domestic shipping</i>	Contends that biosecurity risks from domestic ship movements are substantial because there are no regulatory processes in place to manage ship movements between domestic (Australian) ports. Biosecurity risk management should take account of the source ports noting, for example, that the Port River in SA already has POMS and that many overseas ports are close to abalone facilities which are likely to have a variety of pathogens including Perkinsus and AVG.	Consistent with the management of risks from international shipping, the risks associated with domestic ship movements would be addressed through the development of a Biosecurity Management Plan. This would be undertaken in consultation with key agency representatives from both PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board.
225	LAND-BASED AQUACULTURE Biosecurity risks <i>International shipping</i>	Contends that biosecurity risks from international ship movements are substantial due to the ineffectiveness of both the existing management arrangements that aim to manage such risks as well as the level of compliance with the various regulatory arrangements.	<p>Concerns in relation to international shipping have been raised in a number of submissions and broadly relate to the risk that ballast water discharge or hull fouling will provide vectors for the introduction of either exotic (and potentially invasive) species and/or abalone parasites or pathogens that pose a disease risk to the abalone farm. The EIS has documented this issue in detail (Appendix I5) providing a comprehensive outline of major vectors, priority pest species, potential diseases, institutional arrangements and policies to control marine pests, monitoring requirements, response strategies for incursions and a strategy for the development of management plans and procedures for Smith Bay should the development of the KI Seaport be approved.</p> <p>Since the Draft EIS was published there have been substantial changes to the regulatory arrangements in relation to international shipping and particularly around the issue of ballast water management (Appendix C). These regulatory changes have the effect of improving ballast water management by replacing a process-based approach (i.e. the D-1 standard which required ballast water exchanges) with an outcome-based approach which aims to ensure that ballast water is substantially free of exotic organisms. This new approach is referred to as the D-2 standard and specifies systems for the treatment of ballast water such that ships can only discharge ballast water that meets the following criteria:</p> <ul style="list-style-type: none"> • less than 10 viable organisms per cubic meter which are greater than or equal to 50 micrometres in minimum dimension; • less than 10 viable organisms per millilitre which are between 10 micrometres and 50 micrometers in minimum dimension; • less than 1 colony-forming unit (cfu) per 100 millilitres of Toxicogenic <i>Vibrio cholerae</i>; • less than 250 cfu per 100 millilitres of <i>Escherichia coli</i>; and • less than 100 cfu per 100 millilitres of Intestinal Enterococci. <p>Other than new build ships, which would be required to have a system that complies with Regulation D-2 immediately, a ballast water management system must be operational by the date of the next vessel survey but in any case, no later than the September 8, 2024.</p> <p>Meeting the D-2 standard may be achieved through fitting ballast water management systems. There are now many such approved systems available to operators, ranging from those which use physical methods such as ultraviolet light to treat the ballast water, to those using active substances. Those that use</p>

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			<p>active substances have to go through an additional and comprehensive approval process.</p> <p>KIPT have agreed that PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board would be consulted in the development of the Biosecurity Management Plan for the port.</p> <p>The detail provided in the EIS has met with approval from the relevant SA Government Agencies whose principle concern was that they should be consulted in the development of the Marine Pest Management Plan.</p>
227	<p>LAND-BASED AQUACULTURE</p> <p>Biosecurity risks</p> <p><i>Invasive species risks</i></p>	<p>Contends that marine pest species that have already become established in Australia have not been adequately addressed in the EIS documentation.</p>	<p>It is noted that a number of existing invasive species have already become established in SA or elsewhere in Australia including the dinoflagellate (<i>Gymnodinium catenatum</i>), the European fan worm (<i>Sabella spallanzanii</i>), <i>Codium fragile ssp tomentosoides</i>, the Northern Pacific Seastar (<i>Asterias amurensis</i>) and the Japanese kelp (<i>Undaria pinnatifida</i>). Many of these species do present potential risks (or are already well established) in South Australia and have long been the targets for routine surveillance programs by Biosecurity SA, SARDI and other agencies (including CSIRO). At least two invasive species are already known to be in Kangaroo Island waters including <i>Sabella spallanzanii</i> and the European sea-squirt (<i>Cioina intestinalis</i>). Historic introductions are likely to have occurred as a result of domestic shipping traffic between other Australian ports and Kangaroo Island. Consistent with the management of risks from international shipping the risks associated with domestic ship movements would need to be addressed through the development of the Biosecurity Management Plan. This would be undertaken in consultation with key agency representatives from PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board.</p>
228	<p>LAND-BASED AQUACULTURE</p> <p>Biosecurity risks</p> <p><i>Proximity to Yumbah (Biosecurity)</i></p>	<p>Contends that biosecurity risks are inversely proportional to the degree of separation from the potential source and that a 5 nautical mile separation is required between a Port and an abalone farm.</p>	<p>The argument is made (Yumbah 2019) that the required separation between a Port and an aquaculture facility is 5 nautical miles (or more). This argument is based on an empirical observation that the Yumbah Narrawong farm is 5 nautical miles from the Port of Portland (Yumbah, 2019) and that the WA Department of Fisheries (Government of Western Australia, 2017) has argued that a separation of 5 nautical miles would be required to provide a reasonable distance between abalone farms and other farms or productive reefs.</p> <p>The framing of the Government of Western Australia (2017) recommendation is to protect productive reefs and abalone farms from infection by pathogens from other operating abalone farms. It is not an argument that 5 nautical miles is the required separation from an operating Port and an abalone farm; this latter is an inference by Yumbah (2019) and seems to be based on the fact that their Narrawong farm is around 5 nautical miles from an operating Port (Port of Portland).</p> <p>In practice, the proposal by the WA Government is based on a consideration of the risks that abalone farms pose to wild take abalone fisheries and to other abalone farms. Experience with the Victorian abalone farms at Port Fairy (Ocean Road Abalone) and Portland (now owned by Yumbah) during the Abalone viral ganglioneuritis (AVG) outbreak in 2005-2006 indicated that these farms presented a very high risk to coastal resources. Farms with infected animals</p>

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			<p>present risks to surrounding systems because the high numbers of diseased animals can result in contamination of discharge waters which are likely to contain elevated numbers of disease (viral) particles (Department of Agriculture, 2014) and these will then present a risk to wild growing animals or other farms downstream of the discharge.</p> <p>The concerns expressed by Yumbah are understandable given that the impact on the Victorian industries (aquaculture and wild catch) due to AVG outbreak comprised losses in the vicinity of \$100 million (Department of Primary Industries, 2012).</p> <p>To quote (Department of Primary Industries, 2012):</p> <p><i>"Abalone viral ganglioneuritis was first confirmed in Victoria in early 2006, following reports of unusually high mortality rates at several Victorian abalone aquaculture farms. In May of that year, AVG was detected in wild populations in southwest Victoria and as far east as Cape Otway and as far west as the Discovery Bay Marine Park. Within this range, AVG has had a significant impact on abalone populations with mortality rates between thirty and ninety per cent."</i></p> <p>Importantly however, while the origin of AbHV (the virus that causes AVG) in Australia is unknown the best fit scenario suggested that the source of infection was associated with interstate movements of live wild-caught abalone onto aquaculture farms in Victoria (Department of Agriculture, 2014). Notwithstanding this presumption the actual source has not been determined and legal action in relation to this event by wild-catch fishers was unsuccessful although an in-principle settlement was reached between fishers and one of the aquaculture businesses (<https://www.holdingredlich.com/blog/state-of-victoria-faces-class-action-over-abalone-virus>. ; accessed 23-Aug-2019).</p> <p>Clearly AVG and other similar diseases represent an appropriate concern for a business such as Yumbah. Nevertheless, Yumbah's (2019) argument that a 5 nautical mile separation is required from an operating port becomes somewhat tenuous when it is noted that Yumbah themselves have recently applied to build another abalone farm at Bolwarra (to be called Yumbah Nyamat) which is only 2.6 nautical miles from the Port of Portland (Yumbah 2018). Furthermore, in invoking the WA Government Policy as a guideline they ignore the fact that this would negate their own proposal to establish the new farm at Bolwarra because it would only be 3 nautical miles from the existing Narrawong farm and thus does not meet the separation distance that they themselves are arguing should be applied.</p> <p>Irrespective of the basis for these various arguments, the real issue to be addressed is whether or not the biosecurity arrangements that frame the operating conditions for the KI Seaport are appropriate to the needs of the various stakeholders. In this context there is a need to develop a biosecurity plan for the KI Seaport that reflects a good understanding of the biosecurity practices of the abalone aquaculture industry. This has already been agreed to in that the Biosecurity Management Plan for the KI Seaport would be developed in consultation with PIRSA – Biosecurity SA and the Kangaroo Island Landscape</p>

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			<p>Board. This plan would need to consider the various risks outlined by stakeholders including the information provided in Hewitt and Campbell (2019) which provides some good guidance on these matters.</p> <p>Yumbah (2019) also claims that that the withdrawal by Southwood Timber, from their plans to develop a port in Tasmania, is evidence that the operations are incompatible. This is disputed; all it demonstrates is that Southwood Timber chose not to pursue the opportunity in the face of opposition from the (salmon) aquaculture industry, among a number of other factors.</p>
229	<p>LAND-BASED AQUACULTURE</p> <p>Biosecurity risks</p> <p><i>Source Port risks</i></p>	<p>Contends that biosecurity risk management should recognise the risks taking account of the source ports. Noting, for example, that the Port River in SA already has POMS and that many overseas ports are close to abalone facilities which are likely to have a variety of pathogens including Perkinsus and AVG.</p>	<p>Consistent with the management of risks from international shipping, the risks associated with domestic ship movements would need to be addressed through the development of a Biosecurity Management Plan. This would be undertaken in consultation with key agency representatives from both PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board.</p> <p>See the detailed information provided in the Response ID#222, which includes information relating to the known distributions of abalone disease causing agents and the associated management frameworks for the management of ballast water risks.</p>
230	<p>LAND-BASED AQUACULTURE</p> <p>Climate change</p> <p><i>Veracity of climate change impacts on Yumbah as presented in EIS</i></p>	<p>Contends that Climate Change impacts detailed in the EIS are overstated and that the abalone industry is not at risk.</p>	<p>KIPT has noted that the long-term viability of abalone farming has been questioned by the industry and leading aquaculture scientists as reported in a seminal study by [Doubleday et al. 2013]. This study was part funded by the Fisheries Research and Development Corporation with contributions from various Australian State Governments. The work concluded (as reported in Cheshire 2019) that climate change presented serious risks to the abalone aquaculture industry because the industry has not been able to find a solution to the problem of summer mortality. While ongoing work has focussed on trying to breed for greater temperature tolerance, this has not delivered a solution to this point in time. It is likely therefore that the industry will continue to face challenges from this source and, if it is not addressed, it will limit the capacity of the industry to expand production in coming years.</p> <p>In any case, climate change risks to abalone farming, whether overstated or not, are not relevant to the granting of development approval for the KI Seaport.</p>
231	<p>LAND-BASED AQUACULTURE</p> <p>Coastal processes</p> <p><i>Causeway effects</i></p>	<p>Contends that the hydrodynamic model does not fully characterise the flow and mixing patterns in the lee of the causeway and therefore there is an increased risk of water quality impacts in the lee of the causeway.</p>	<p>The causeway is no longer part of the wharf design; this would result in a substantial reduction / elimination of issues associated with impacts of the development on coastal processes such that existing circulation patterns, wave regimes, tidal fluxes etc would all continue and remain effectively unchanged. All issues associated with the causeway have been resolved including the potential risks associated with:</p> <ul style="list-style-type: none"> • Localised pooling and differential warming of water in the lee of the causeway. • Yumbah's wastewater discharge being entrained back through their seawater intakes causing an elevation of waste products (particularly

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			<p>nitrogenous wastes including ammonia) and compromising intake water quality.</p> <ul style="list-style-type: none"> • Yumbah's wastewater discharge being entrained back through their seawater intakes causing further increases in water temperatures associated with passage of the water through the farm which would further exacerbate the warming effects in summer. • Decomposition of wrack in the lee of causeway causing increases in suspended organic carbon content with potential impacts on intake water quality including on the oxygen content of the water. <p>Work by Teakle (2020) indicates that there may be a very slight wave shadow behind the pontoon, but this would not have any material effect on coastal processes and hence all of these issues are addressed by the design changes.</p> <p>The quality of Teakle's work and the robustness of the conclusions drawn from this work are endorsed by Yumbah's own consultants in Yumbah's second submission (Appendix 4).</p>
232	<p>LAND-BASED AQUACULTURE</p> <p>Coastal processes</p> <p><i>Mitigating causeway impacts</i></p>	<p>Contends that the proposal to utilise gated culverts in the causeway may not address impacts on water quality (e.g. TSS or nutrient loads) or water temperature because the operational rules are not sufficiently detailed. Information was not provided about the management of the gates (e.g. who has responsibility for their operation or how decisions are made about when to open or close the gates).</p>	<p>This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway, as recommended by Yumbah in its initial submission.</p>
233	<p>LAND-BASED AQUACULTURE</p> <p>Coastal processes</p> <p><i>Parameterising coastal-processes model</i></p>	<p>Contends that the coastal processes modelling was not correctly parameterised specifically including information in the model relating to characterisation of sediments. As a consequence, the model cannot provide accurate predictions about potential impacts on water quality of the Yumbah intake.</p>	<p>This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway, as recommended by Yumbah in its initial submission.</p> <p>While Yumbah has responded to the revised design by arguing that it still does not address the issues of coastal processes, their own submission in relation to the revised design (Yumbah 2019) includes the expert advice they sought which concluded (contrary to Yumbah) that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks. Appendix 4 of the second Yumbah submission acknowledges this and helpfully suggests that Yumbah instead focus its objections on possible harm to whales, rather than farmed abalone.</p>

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234	LAND-BASED AQUACULTURE Coastal processes <i>Reliance on coastal-processes model</i>	Contends that the coastal-processes model is flawed and uses incorrect data or assumptions.	<p>This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway, as recommended by Yumbah in its initial submission.</p> <p>The coastal processes have been re-analysed (Teakle, 2020) using the hydrodynamic model parameterised with the revised design for the in-sea infrastructure. The results show that there are no measurable effects on either water quality or coastal processes associated with the revised design. In particular there is no detectable rise in suspended sediments associated with ship operations and no effects of temperature or sediment loads associated with changes in coastal processes. All exceedances of water quality criteria are those associated with storm driven processes as would occur (and have previously occurred) in the absence of the KI Seaport.</p> <p>While Yumbah has responded to the revised design by arguing that it still does not address the issues of coastal processes, their own submission in relation to the revised design (Yumbah 2019) includes the expert advice they sought which concluded (contrary to Yumbah) that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks. Appendix 4 of the second Yumbah submission acknowledges this and helpfully suggests that Yumbah instead focus its objections on possible harm to whales, rather than farmed abalone.</p>
235	LAND-BASED AQUACULTURE Coastal processes <i>Requirement for coastal processes modelling to be redone</i>	New modelling required to quantify impact on Yumbah	<p>The coastal processes have been re-analysed (Teakle, 2020) using the hydrodynamic model parameterised with the revised design for the in-sea infrastructure. The results show that there are no measurable effects on either water quality or coastal processes associated with the revised design. In particular there is no detectable rise in suspended sediments associated with ship operations and no effects of temperature or sediment loads associated with changes in coastal processes. All exceedances of water quality criteria are those associated with storm driven processes as would occur (and has previously occurred) in the absence of the KI Seaport.</p> <p>While Yumbah has responded to the revised design by arguing that it still does not address the issues of coastal processes, their own submission in relation to the revised design (Yumbah 2019) includes the expert advice they sought which concluded (contrary to Yumbah) that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks. Appendix 4 of the second Yumbah submission acknowledges this and helpfully suggests that Yumbah instead focus its objections on possible harm to whales, rather than farmed abalone.</p>
236	LAND-BASED AQUACULTURE Coastal processes <i>Risk classification is not correct</i>	The risk assessment in Appendix C1 is unacceptable. Indicates that "Degradation in marine water quality causing adverse impacts to sensitive ecological receptors (e.g. seagrass) and aquaculture receptors" is deemed a "negligible" consequence. It is not a negligible consequence for an abalone farm.	<p>The downward revision to the consequence rating for construction water quality impacts was based on the substantial reduction in potential for plume generation under the proposed suspended jetty construction methodology. That is, Teakle (2020) concluded that both Consequence and Likelihood were significantly mitigated by the proposed change in design. The consequence was previously Minor and has been revised down to Negligible, while the Likelihood was previously Possible and has been revised down to Unlikely. The consequence rating was reduced because any plumes associated with either construction or</p>

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			port operation will not be detectable at the most proximate Yumbah seawater intake. On this basis the consequence of a plume (with effectively no additional suspended sediments in it) would have no impact and therefore is of negligible consequence. The setting for Likelihood is then somewhat immaterial because both the inherent and residual risk level would remain as Low.
237	LAND-BASED AQUACULTURE Cumulative impacts <i>Cumulative impacts</i>	Contends that there is a need to consider situations where individual stressors may not be important but where they add to a cumulative impact.	Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal and therefore all of the issues raised in relation to cumulative impacts (e.g. combined effects of reduced oxygen coupled with increasing temperature and increased TSS) would remain unchanged relative to the current situation. There would not be any impacts on water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity or microbial loading all of which would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline. Accordingly, the risk of cumulative impacts, from synergistic interaction of stressors has been resolved in the manner recommended by Yumbah in its first submission.
238	LAND-BASED AQUACULTURE Dredging management <i>CSD rock-grinding</i>	Contends that the presence of rock in the dredge area will result in the CSD being used for rock grinding and that this will generate plumes of very fine sediments which will severely impact on water quality at the abalone farm intakes.	Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. No rock grinding would be required other than in relation to pylon placement for the piers, where shallow rock is encountered. This grinding, should it be required, occurs within the pile and is thereby contained. Quantitative estimates of the likely composition of any small amounts of sediment released during this process have been provided (Teakle 2020) and these confirm that levels would not be sufficient to have a measurable effect at the seawater intakes for the Yumbah abalone farm. This conclusion is supported by Yumbah's experts (Appendix 4 of second submission).
242	LAND-BASED AQUACULTURE Dredging management <i>Timing of dredging program</i>	Questions are raised about the timing of the dredging program noting that different periods throughout the year will all have associated problems. This will likely be exacerbated by cumulative impacts (e.g. summer dredging will likely give rise to elevated sediment loads when abalone are already stressed by water temperature).	These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
243	LAND-BASED AQUACULTURE Dredging management <i>Use of NAGD</i>	Contends that the work that has been done will not meet the National Assessment Guidelines for Dredging (NAGD, 2009).	These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any

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			impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.
246	<p>LAND-BASED AQUACULTURE</p> <p>For noting</p> <p><i>Claimed inaccuracies in EIS</i></p>	<p>Contends that some of the material presented in the EIS is either inaccurate or wrongly interpreted.</p>	<p>The claims that information on abalone aquaculture provided in the Draft EIS are inaccurate or do not fully represent the particulars of their operation may be correct in that Yumbah almost certainly operates systems that differ in some respects from those described in the Draft EIS. Yumbah has declined opportunities to provide details of its operations or to permit site visits by consultants engaged by the proponent, Nevertheless, the descriptions of abalone aquaculture in the Draft EIS are based on direct commercial and research experience with abalone aquaculture facilities around the world including farms in Australia, Chile, China and Malaysia.</p> <p>While the Yumbah operations will certainly differ in some respects from those elsewhere (indeed one would expect that a sophisticated aquaculture operator would have developed proprietary knowledge and systems that they expect will give them an edge in commercial production) no fundamental errors have been identified in the information provided in the Draft EIS.</p> <p>That said, the precise production systems in use at Yumbah Kangaroo Island are not relevant to the development assessment.</p> <p>Arguments by Yumbah that the production figures for their SA businesses are wrong may in fact be true but ultimately those are the figures provided by the industry to the Australian Bureau of Agricultural Economics (ABARE); as such it is ABARE who have either wrongly interpreted or reported the information provided to them by the SA Government who in turn have provided the information given to them by SA participants in the industry, including Yumbah. It is open to Yumbah to provide correct production statistics if it wishes.</p> <p>That said, the precise production statistics for Yumbah Kangaroo Island are not relevant to the development assessment.</p>

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247	<p>LAND-BASED AQUACULTURE</p> <p>For noting</p> <p><i>Defining sustainable aquaculture</i></p>	<p>Contends that any impact on conservation values of Smith Bay would impact on the "sustainable aquaculture" status of Yumbah.</p>	<p>This attempts to make the case that possible threats to species of conservation significance by a third party is a de facto threat to sustainable aquaculture.</p> <p>Sustainable aquaculture is a concept that defines how an aquaculture operation should be conducted such that it does not negatively impact on the social, economic and ecological values of the local environment within which the business operates. In this context the World Bank (for example) has defined a series of operating principles that recognises sustainability of a venture as a dynamic concept noting that the sustainability of an aquaculture system will vary with species, location, societal norms and the state of knowledge and technology.</p> <p>The World Bank goes on to note that some essential practices include:</p> <ul style="list-style-type: none"> • Environment practices: particularly in the context of managing effluent discharge; the management of sediment and sludge; soil and water conservation; efficient fishmeal and fish oil use; responsible sourcing of brood stock and juvenile fish; control of escapes and minimizing biodiversity and wildlife impact. • Community practices: particularly in relation to treatment of workers, suppliers and buyers. • Sustainable business and farm management practices: including biosecurity and disease control systems; minimal use of antibiotics or pharmaceuticals etc. <p>Yumbah has attempted to redefine this concept in a way which confuses their responsibilities with that of third parties. Whether or not Yumbah's aquaculture operation is construed as sustainable aquaculture, is defined by the impact that their operation itself has on the environment. Or more specifically the sustainability of the Yumbah operation can only be construed in the context of how well they manage their impacts including their capacity to control diseases and pathogens from being discharged from their farming system and whether or not their waste discharge has an impact on external environmental values of Smith Bay (e.g. through elevating levels of nutrients or organic wastes) in adjacent coastal waters.</p> <p>Similarly, issues associated with where they source the food for their farm and whether they use foods that are manufactured from sustainably grown and harvested materials are all determinants of whether or not they have a sustainable aquaculture venture. Yumbah's use of diesel or electricity would also be relevant to that operation's sustainability.</p> <p>Accordingly, there would be no basis for inferring that the operations of a third party in any way affect the sustainable operation of their own venture.</p>

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250	LAND-BASED AQUACULTURE Light spill <i>Effects of light spill</i>	Contends that abalone respond negatively to light spill which will cause abalone to move around at night. This will disrupt feeding impact on growth rates.	<p>There is no support in the literature for the claims being made (e.g. McShane 2019) that light spill will impact on abalone growth or mortality rates on the Yumbah farm (Appendix C). On the contrary the literature referred to by McShane (2019) suggests that light spill will either have no impact on growth rates (when 24 hour light exposure is compared to the current situation on the Yumbah farm of a 12:12 light/dark cycle) or alternatively, if lights of the correct colours are used, then there is a capacity to enhance feeding responses (Appendix C).</p> <p>The critique provided in the various submissions erroneously compares growth responses in 24-hour dark to that with a 12:12 light-dark cycle. Yumbah's Smith Bay farm, unlike a number of other abalone farms, does not fully cover its slab tanks in order to provide for 24 hour darkness; rather they use shade mesh to mimic the light dark cycle that abalone would receive at a depth of around 5 m in the natural marine environment. This is not the same as keeping animals permanently in the dark (as is done, for example, on the abalone farm at Port Fairy in Victoria or on the farm that operated at Streaky Bay). As such, the mooted benefits of not exposing animals to light spill is not supported by what has been reported (Appendix C).</p> <p>Importantly, some of the literature referred to by McShane (2019) actually showed positive benefits of red and orange light in enhancing abalone growth and reducing mortality rates (Appendix C). As such it is likely that using lights with outputs in the longer wavelengths would be an appropriate measure.</p>
252	LAND-BASED AQUACULTURE Light spill <i>Mitigating light spill</i>	Contends that the EIS does not provide sufficient information on the mitigation of light spill from the KI Seaport.	<p>There is no evidence to support Yumbah's claims about the adverse impacts of light spill on farmed abalone (Appendix C). Notwithstanding, KIPT have identified a number of strategies to ensure that light spill is minimised including:</p> <p>The use of light baffles around fixed lighting to ensure that light is provided in the areas where it is required and does not spill across to the abalone farm.</p> <p>Wherever possible using red or red-orange lights (rather than lights with blue or green outputs) because these have been shown to promote abalone growth and survival and thus any light-spill that may occur would potentially be beneficial to farmed animals.</p> <p>Placing a barrier fence around the land-based part of the KIPT facility with at least 90% shade-cloth to further limit the chance of light spill from ground-based operations (e.g. vehicle movements at night). This, coupled with Yumbah's 70% shade-cloth over their raceways, will ensure a 97% reduction in incidental light spill from sources such as vehicle operations. Areas with sheds will similarly not experience any light spill.</p> <p>The use of security lights that, where possible, operate in the infra-red and thus do not provide a risk of light spill. Note however that Yumbah's own extensive security lighting appears to be of a normal white light composition.</p>

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253	LAND-BASED AQUACULTURE Microalgal productivity <i>Effects on diatom production</i>	Contends that elevated turbidity associated with increased levels of suspended sediments would reduce PAR penetration in coastal waters which, in turn, would impact on diatom productivity.	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters have been resolved and there would not be any impacts on water quality (including water turbidity) or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
254	LAND-BASED AQUACULTURE Microalgal productivity <i>Importance of diatoms</i>	Contends that diatoms are a critical part of abalone diet across all phases of the abalone farming process.	<p>These issues have been resolved in the manner initially suggested by Yumbah. The design changes that replace the causeway with a piered structure and remove the need to dredge mean that there would not be any impacts on turbidity in coastal waters sufficient to change micro-algal (and particularly diatom) productivity in the near shore regions of Smith Bay and by association, no changes would occur in the rates of diatom uptake by the Yumbah seawater intakes.</p>
257	LAND-BASED AQUACULTURE Previous abalone mortality <i>Causes of previous mortalities</i>	Contends that previous storm events, notably the massive Storm of September 2016, resulted in high levels of mortality on the Yumbah farm. Furthermore, those mortalities have been ascribed to impacts of sediments on abalone particularly in relation to fine-sediment impact on gills; additional information has been provided to support these claims.	<p>The information presented by Yumbah has been taken into consideration in formulation of the revised design for the in-sea infrastructure.</p> <p>Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including impacts on water quality from elevated levels of suspended sediments are no longer relevant.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>A recurrence of such storm events as occurred in 2016 is to be expected but the effect if any on abalone will not be changed by the presence or absence of the proposed development.</p>

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258	LAND-BASED AQUACULTURE Project design <i>Causeway permeability vs causeway design</i>	Contends that the design of the causeway will impact on coastal processes and in particular circulation in the lee of the causeway. Concludes that the causeway should not be built.	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
259	LAND-BASED AQUACULTURE Project design <i>Use of anti-corrosion paints</i>	Contends that the use of anti-corrosion marine paints poses risk to abalone which are more sensitive than other marine species.	<p>Anti-corrosion marine paints will be used to treat steel pylons but the application of these paints will be done off-site. As a consequence, there is no risk that such materials will enter the marine environment.</p> <p>While Yumbah makes the claim that abalone are particularly sensitive to chemicals and exhibit a greater degree of toxicity than other marine species, no evidence is presented to support this contention. Furthermore, a search of the literature suggests that there is no published scientific evidence to support that contention. On the contrary, the fact that abalone are a major aquaculture species in the coastal waters of China, Korea and Japan, all of which have much higher levels of shipping, shipbuilding, in water structures and toxic residues than Australian waters, suggest that abalone are probably not more sensitive than other marine species.</p> <p>Irrespective, anti-corrosion paints are designed to prevent seawater from corroding steel structures. This anti-corrosion effect is achieved by creating a long-lasting impermeable barrier to seawater and oxygen on the surface of the metal pylons. Because the purpose is to provide a long-lasting barrier, such compounds, once cured, are not reactive or easily dissolved in seawater and thus retain their integrity without leaching into the surrounding environment.</p>
260	LAND-BASED AQUACULTURE Project design <i>Use of anti-fouling on exposed concrete (silane)</i>	Use of anti-fouling product silane on concrete surfaces poses a significant risk to the environment and Yumbah.	<p>"Silane" is a very general term used to describe a class of compounds that are typically used to protect concrete structures and comprise a range of paint like materials used in the building industry. One common use of silanes is in the formulation of grout which is used to seal the gaps between tiles in residential bathrooms. Similarly, some caulking compounds (varieties of silicone sealer) which are frequently used in industrial and domestic processes (including in the food processing industry) are formulated using silane compounds. Silane</p>

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			<p>compounds are used because they react with the inorganic materials in concrete to form an impervious barrier to water.</p> <p>While silane gas (SiH₄) is a toxic, pyrophoric gas, this is nothing like the silane compounds that are used to treat concrete products from water exposure. It is clear that Yumbah has misunderstood this and hence their comments that “[silane] is easily ignited in air [and] is toxic by inhalation [and] is a strong irritant to skin, eyes and mucous membranes”. All of these comments refer to silane gas and not to the silane formulations used to treat concrete and stonework.</p> <p>In fact, the silane compounds used in the construction sector are actually paints, generally formulated as creams which assists with the application preventing drips and runoff. These compounds react with the concrete to create an impervious layer that is waterproof (much as they do in domestic shower stalls and fish ponds); once cured, this then protects the concrete from water damage and reduces the cost of ongoing maintenance.</p> <p>In Australia there are a number of commercial providers of silane compounds that manufacture products using materials such as n-Octyl triethoxy silane as the active ingredient. This compound is formulated as a cream, used like a paint and it adheres to surfaces being treated. It is specifically designed to prevent dripping or runoff, is non-toxic and designed to seal concrete surfaces that are exposed to air but likely to be splashed by water (due to wave and storm activity).</p> <p>These products have been used on many structures in sensitive marine environments including, for example, the Phillip Island bridge in Western Port Bay, Victoria.</p>
261	<p>LAND-BASED AQUACULTURE</p> <p>Proximity to Yumbah</p> <p><i>Construction and operation risks of revised seaport design</i></p>	<p>Contends that an additional 250m offshore does not provide an effective buffer between port operations and aquaculture.</p>	<p>The greater distance from shore was adopted based on Yumbah's initial submission. The revised design does a number of things that reduce the risk from port operations including:</p> <ol style="list-style-type: none"> 1. Coastal processes modelling indicates that an increase in separation between the Yumbah seawater intakes and the berth face means that predicted suspended sediment loads from ship operations (pressure wave and prop-wash effects) will be below the measurement threshold at the seawater intakes (effectively reduced to zero). 2. Increased distance will also result in a further dilution of any waters discharged due to increased mixing between discharge point and the abalone farm seawater intakes. Note however that discharges will also be controlled

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			<p>through operational guidelines and the newly implemented international standards on ballast water management and discharge.</p> <p>3. Replacement of the causeway with a piered structure will substantially reduce the surface area for the establishment of exotic marine species and also make detection and treatment more practicable.</p>
262	<p>LAND-BASED AQUACULTURE Proximity to Yumbah <i>Proximity to Yumbah (General)</i></p>	<p>General concern that the KIPT Port and associated operations are too close to Yumbah and therefore they present a risk to the Yumbah operations.</p>	<p>This concern has been stated in various ways through several submissions and is generally framed in the context that the proximity of the proposed development to Yumbah presents risks (to Yumbah's operation) associated with both the construction and operation of the KI Seaport facility. Several different impacts are referred to but most frequently they relate to either impacts on water quality (particularly changes in total suspended solids; TSS), biosecurity, dust deposition, noise and light.</p> <p>In all of these submission the proximity between the KI Seaport and the aquaculture farm is identified as a generic problem; given that each of these issues has been dealt with in specific detail elsewhere in the response document, there are no additional matters relating to the proximity per se that need to be discussed any further.</p>
263	<p>LAND-BASED AQUACULTURE Ship operations <i>Elevated TSS due to prop-wash during ship operations</i></p>	<p>Contends that ship manoeuvring would result in elevated TSS loads that would impact on intake water quality for the abalone farm.</p>	<p>Changes to the design of the in-sea infrastructure, in particular the decision to remove the causeway and to replace it with a piered structure that extends out to deep water, as recommended by Yumbah in its initial submission, mean that the berth-face for the port would be further away from the Yumbah seawater intakes. Teakle (2020) has confirmed, consistent with the previous advice, that there would be no measurable effect on total suspended sediment concentrations, associated with shipping operations, at the Yumbah seawater intakes. This conclusion has been supported by Yumbah's own consultants (Appendix 4, second submission).</p>

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264	LAND-BASED AQUACULTURE Ship operations <i>Water quality impacts from ship operations (other than TSS)</i>	Contends that ship operations including loading (dust generation) and de-ballasting (discharge of contaminated water) present risks to water quality which would impact on the intake water quality for the abalone farm.	<p>Issues associated with dust generation and biosecurity have been dealt with separately in this report (see sections on Air quality and Biosecurity respectively).</p> <p>Risks to water quality from ship sourced discharges would be managed under standard operating procedures. All ports are required to implement procedures to manage the discharge of materials from ships and these include controls on ballast water discharge. Operational management of the KI Seaport would require ships to adhere to these regulations which are intended to ensure that water quality is not compromised by discharges.</p> <p>It should further be noted that Yumbah's intakes are located on the seafloor, whereas any wood dust escaping during ship loading operations would be deposited on the sea surface.</p>
266	LAND-BASED AQUACULTURE Smith Bay sediments <i>Veracity of sediment sampling process</i>	Contends that sediments in Smith Bay have not be properly characterised because the sediment sampling methodology was not appropriate and further that changes in the design footprint meant areas that should have been sampled were not sampled adequately (if at all).	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline</p>
267	LAND-BASED AQUACULTURE Smith Creek <i>Impacts of Smith Creek and catchment on coastal water quality</i>	Contends that Smith Creek does not impact on water quality in Smith Bay or, if it does, it is not a substantive impact.	<p>This argument is at odds with previous unsuccessful attempts by Yumbah to remediate Smith Creek and with claims made elsewhere in Yumbah's submissions that a) re-suspended fine sediments (such as those issuing from Smith Creek) cause harm to farmed abalone during storm events and b) that sediment-borne microorganisms pose a threat to farmed abalone.</p> <p>However, the proposal to construct a causeway between Smith Creek and Yumbah is no longer a part of this proposal. As a consequence, all related matters including the relative merits of changing flow paths from Smith Creek so that they do not have an adverse impact on the Yumbah intake water quality are no longer relevant.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding</p>

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			<p>capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline. Flows from Smith Creek will enter and mix with the waters in Smith Bay in the same way as they currently do.</p> <p>The impact, or otherwise, of eutrophic and sediment-laden discharge from Smith Creek on Yumbah's operations is not relevant to the development assessment, given that the proposed development, in its revised form, will not alter the current situation.</p>
268	<p>LAND-BASED AQUACULTURE</p> <p>Stockpile leachates</p> <p><i>Management of leachates resulting in contamination of coastal waters</i></p>	<p>Contends that leachates from the wood stockpile would seep out of the facility and contaminate coastal waters.</p>	<p>Leachates from the log and chip stockpile storage areas will be managed through the use of an impermeable membrane that will cover the area under the stockpiles. This would be augmented with a series of drainage lines that would direct all runoff flowing through the stockpile (from rainfall or dust suppression systems) into the water treatment pond. This water would then be treated on-site and any discharges that subsequently occur would conform with discharge water quality standards specified under relevant EPA licences and permits. This means that there would be no risk of contamination of coastal waters from these sources and thus stockpile leachates would not impact on abalone farm water quality.</p> <p>It should be noted that the waters of Smith Bay and of the Kangaroo Island coastline more generally are fed by creeks and rivers that are high in eucalypt leachate and in the various decomposition products of timber. This will be unchanged by the development.</p>

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269	LAND-BASED AQUACULTURE Water quality <i>Accelerated increases in water temperature from re-uptake of abalone farm effluent</i>	Contends water circulation in the lee of the causeway would be reduced and hence waste water from the farm, which may be warmed by as much as 2 degrees C, could be taken back up through the intake pipes and this would result in even further elevations in water temperature on the farm. During periods of high ambient water temperature this would magnify the risks to farmed animals.	<p>Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>There will continue to be periods of hot weather and relatively calm sea state conditions during which the re-entrainment of heated aquaculture effluent leads to summer mortality events at Yumbah but the severity and frequency of such occurrences will not be affected by the proposed development.</p>
270	LAND-BASED AQUACULTURE Water quality <i>Algal blooms from concentration of nutrients in lee of causeway</i>	Contends that impacts on tidal, wind and wave induced circulation in the lee of the causeway may cause nutrient discharges from the abalone farm to concentrate in the receiving waters and then to be re-entrained into the abalone farm intake pipes; effectively resulting in self-pollution of the farm.	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>Re-entrainment of aquaculture effluent will continue to occur in certain sea states in a manner and to an extent that is unaffected by the proposed development. The fact that Yumbah emits nutrient-enriched wastewater is not relevant to the development assessment.</p>
271	LAND-BASED AQUACULTURE Water quality <i>Coastal processes</i>	Provides general commentary about the impact of the causeway on coastal processes and particularly impacts on circulation patterns affecting both temperature and mixing of waste waters.	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p>

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			<p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
272	<p>LAND-BASED AQUACULTURE Water quality <i>Data from Yumbah Nyamat proposal (Narrawong farm) relating to TSS loads are misrepresented</i></p>	<p>Contends that suspended sediments from Narrawong farm are likely to have a different particle size distribution to those from Smith Bay and therefore the comparison of TSS from Narrawong to that for Smith Bay needs to account not just for TSS loads but also the PSD of the material.</p>	<p>Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
273	<p>LAND-BASED AQUACULTURE Water quality <i>Impacts on Yumbah intake water quality (Temperature)</i></p>	<p>Contends that the work detailing the impact of potential increases in water temperature in the lee of the causeway, does not provide a sufficiently robust basis for predicting impacts on Yumbah intake water quality. The principle concern is that the model predictions predict changes in water temperature in the lee of the causeway and this has potential to exacerbate existing problems with summer mortality.</p>	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
274	<p>LAND-BASED AQUACULTURE Water quality <i>Impacts on Yumbah intake water quality (TSS)</i></p>	<p>Contends that the work that has been done does not provide a sufficiently robust basis for predicting impacts on Yumbah intake water quality and that suspended sediment loads will be higher than acceptable for abalone. There are two principle concerns:</p> <ol style="list-style-type: none"> 1) That the sediments in Smith Bay have not been properly characterised and therefore the associated risk from fine sediments is greater than that stated. 2) That the model predictions do not properly account for changes in water circulation with the causeway in place and this has a number of knock-on effects 	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding</p>

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		including impacts from decomposing wrack as well as the risk of entrainment of Yumbah discharges into the intake pipes.	<p>capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>Estimates of TSS associated with ship operations (bow wave and prop-wash) indicate that any effect on TSS levels at the Yumbah intakes would be below the detectable limit; in effect there would be no increase in TSS from this source. Yumbah's consultants concur with this conclusion (Appendix 4 second submission).</p>
275	<p>LAND-BASED AQUACULTURE</p> <p>Water quality</p> <p><i>Impacts on Yumbah intake water quality (Wrack decomposition)</i></p>	<p>Contends that the seagrass and seaweed wrack will build up in the lee of the causeway which will then decompose and impact water quality through elevations in suspended organic detritus, blockage of input filters and potentially impacting on the oxygen levels in the water. Such effects would compromise abalone health and the infrastructure operational and maintenance costs.</p>	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>Yumbah's consultants concur with this conclusion (Appendix 4 second submission) and agree that there will be no effect on Yumbah's operations from seagrass wrack.</p>
286	<p>MARINE ECOLOGY</p> <p>Marine mammals</p> <p><i>Noise impact assessment</i></p>	<p>The impact of noise on marine fauna has not been adequately addressed in Chapter 12 Marine Ecology, despite marine noise modelling having occurred.</p>	<p>The assessment of the effect of noise on marine fauna was summarised in Chapter 12 Marine Ecology. The detailed assessment was provided in Chapter 18 Noise and Light and Appendix N Environmental Noise Impact Assessment of the Draft EIS.</p>
289	<p>MARINE ECOLOGY</p> <p>Benthic communities</p> <p><i>Impact reduction</i></p>	<p>The comparison of the relative size of the jetty footprint and the causeway and dredging footprint is considered to provide a very simplistic assessment of the impact of the new seaport on benthic communities at Smith Bay.</p>	<p>It is maintained that the jetty design will result in an approximately 20 times smaller impact on benthic communities in Smith Bay compared with the causeway and dredging design. This is considered to be a significant reduction.</p> <p>It is agreed that comparison of the two project footprints is simplistic, in that it does not take into account the elimination of the indirect effects on benthic communities caused by sedimentation and turbidity, related to dredging. If these effects are taken into account, the reduction in the area of benthic communities affected is likely to be greater than 100 times.</p>

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294	<p>MARINE ECOLOGY Cobble foreshore communities <i>Survey</i></p> <p>(EPBC related)</p>	<p>Further information is required concerning the communities inhabiting the cobble foreshore and their importance to existing Smith Bay ecosystem.</p>	<p>A survey of the intertidal community inhabiting the cobble foreshore was undertaken in September 2019 to and is reported in Appendix C2 of the Addendum to the EIS. The species encountered are typical of the intertidal communities occurring in similar habitats in SA. No listed or otherwise unusual species were found. At both high and low tides, the cobble foreshore would inevitably provide feeding habitat for a variety of reef species and shore birds, respectively.</p> <p>A small section of the cobble foreshore will no longer be lost during development of the wharf as the causeway will no longer be constructed. Installation of the jetty piles would have a minimal and temporary impact on the intertidal community inhabiting the cobble foreshore.</p>
306	<p>MARINE ECOLOGY Jetty effects <i>Piles and shadowing</i></p>	<p>A detailed study is required to understand the effects of the piles and shadowing on seabed flora and fauna.</p>	<p>The examples of other jetties in South Australia (such as Edithburgh and Port Bonython jetties, where marine communities have been extensively studied) suggest the proposed jetty at Smith Bay will have any significant adverse effects on benthic flora and fauna in the vicinity of the jetty. On the contrary, the jetty piles will be colonised by communities of invertebrates and macroalgae and provide reef habitat for a diversity of fish.</p>
313	<p>MARINE ECOLOGY New jetty design <i>Impacts on seagrass and pipefish</i></p> <p>(EPBC related)</p>	<p>The revised design will undoubtedly still have a material effect on local seagrasses and pipefish.</p>	<p>The impact of the new jetty design on the seagrass communities in Smith Bay would be minor. The direct impact of jetty piles on seagrass will be up to 0.02 ha and the effect of shading would be 0.5 ha. The percentage loss of pipefish habitat in Smith Bay would be negligible.</p>
315	<p>MARINE ECOLOGY Pipefish <i>Dredging impacts</i></p> <p>(EPBC related)</p>	<p>The direct and indirect loss of seagrass due to dredging, turbidity and sedimentation effects would result in substantial losses of critical syngnathid habitat. Habitat may be fragmented; populations may decrease, and breeding cycles may be disrupted. Construction activities would have a severe impact on the critically endangered pipefish and weedy seadragons.</p>	<p>The issue of the loss of up to 10 ha of seagrass habitat and potential impacts on pipefish habitat is resolved as dredging will not occur and the causeway will not be built. The jetty design will result in the loss of minimal pipefish habitat (0.52 ha).</p> <p>As discussed in the EIS, pipefish are relatively common in the seagrass habitat along the north coast of Kangaroo Island. They are not critically endangered and the impact on pipefish would be negligible.</p> <p>The development poses no credible risk to the viability of pipefish on the north coast of Kangaroo Island.</p>

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318	MARINE ECOLOGY Risk assessment <i>Threatened species</i>	The method for determining that there is “no credible risk” (to any of the threatened marine species) is a personal judgement rather than an evidence-based scientific conclusion.	Risks to threatened or protected marine species were assessed via a risk workshop with input from numerous environmental professionals. The approach is consistent with accepted risk management processes and best industry practise (ISO 31000:2009).
319	MARINE ECOLOGY Seadragons <i>Potential impacts</i>	The AusOcean survey revealed the presence of the leafy and weedy seadragons in Smith Bay. The project risks killing off these significant species.	There is no evidence to suggest that the development at Smith Bay will have any adverse effects on the leafy and weedy seadragons inhabiting Smith Bay. A negligible amount of their seagrass and reef habitat in Smith Bay would be adversely affected by the development. On the contrary, it is likely that the jetty piles will be colonised by macroalgae and provide additional seadragon habitat in Smith Bay. It is noted that two of the most important sites for leafy seadragons in SA are the Rapid Bay and Edithburgh jetties.
321	MARINE ECOLOGY Seagrass and macroalgae communities <i>Turbidity effects</i> (EPBC related)	The increased turbidity and reduced PAR associated with the sediment plume would compromise the survival of seagrass and macroalgae. The effect has not been modelled or simulated.	The issue of increased turbidity and reduced PAR adversely affecting seagrass and macroalgae communities is no longer relevant because dredging will not occur, and the causeway will not be built. It is likely the increased turbidity associated with piling and other construction activities would be negligible in the context of natural variation.
326	MARINE ECOLOGY Seagrass communities <i>Uniqueness of Smith Bay</i> (EPBC related)	The Smith Bay is renowned for its extensive seagrass meadows.	There is no evidence to suggest that Smith Bay supports unusually extensive seagrass communities. Smith Bay is typical of many of the bays along the north coast of Kangaroo Island that support seagrass communities. The revised jetty design reduces impact on the seagrasses of Smith Bay to negligible.
327	MARINE ECOLOGY Seagrass loss <i>Carbon sequestration</i>	The EIS should assess the carbon sequestration of their timber plantation compared with the carbon capture potential in the seabed it proposes to dredge.	The issue of seagrass loss through dredging having an adverse effect on carbon sequestration is resolved as dredging will not occur and there will be minimal loss of seagrass associated with the jetty design (0.52 ha).
328	MARINE ECOLOGY Seagrass loss <i>EPA attitude</i>	The EPA would not support an aquaculture development in which <i>Posidonia</i> sp. was impacted.	The issue of the EPA supporting, or not supporting, a development in which <i>Posidonia</i> seagrass was impacted is resolved as dredging will not occur and the causeway will not be built.
329	MARINE ECOLOGY Seagrass loss <i>Inadequate offset</i>	The proposed payment of \$5000 to abate the damage, unknown and known, is unlikely to cover the true cost of the damage.	The seagrass offset payment is based upon the NVC's formula for calculating such payments. The reason why the payment is modest is that the revised design of the project will result in very little seagrass being damaged in Smith Bay.

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335	MARINE ECOLOGY Smith Bay marine ecosystem <i>Ecological value</i>	KIPT fails to accurately represent the ecological values of Smith Bay. It has no regard for Smith Bay as a CCZ and lacks concern for the ecological values. The statement in the EIS that “the site is not in an area of significant or high biodiversity value” is questioned.	<p>The CCZ (of the KIDP) covers most of the north coast of Kangaroo Island. The coastal waters of Kangaroo Island, including Smith Bay, are not within the boundaries of the Kangaroo Island Council. Therefore, the CCZ is not relevant to any assessment of the impacts on the marine ecology that may be attributed to development in the sea.</p> <p>It is acknowledged that Smith Bay is an area of high biodiversity value and supports many species of conservation significance. Smith Bay, however, is also similar to many other bays along the north coast of Kangaroo Island in terms of biodiversity and the species of conservation significance it supports. AusOcean reach the same conclusion in their submission (Smith Bay Marine Ecology Report, AusOcean 2019), which says:</p> <p><i>“Much like the rest of Kangaroo Island (emphasis added), Smith Bay’s marine environment exhibits high species richness and endemism supporting an abundance of emblematic and threatened species with high conservation value”.</i> (p 29)</p>
337	MARINE ECOLOGY Smith Bay marine ecosystem <i>General degradation</i> (EPBC related)	Construction and operation of the port would degrade the pristine Smith Bay marine ecosystem, including species of high conservation value and iconic species. In particular, there would be dredging related impacts to habitat, effects on water quality leading to anoxia and algal blooms, biosecurity issues, noise impact and displacement of the southern right whale.	<p>The issue of the development degrading the Smith Bay marine ecosystem is largely resolved as dredging and construction of the causeway would no longer occur. The marine ecological effects associated with construction of the jetty would be minimal. It is acknowledged that construction noise associated with piling is likely to result in whales and dolphins avoiding Smith Bay during construction.</p> <p>During the operational phase of the port, however, disturbance to marine communities is likely to be minimal given the expected low frequency of vessel movements, and short duration of operational vessel noise during docking operations. Noise emanating from vessels docked in Smith Bay would be minor and cause little or no disturbance to marine communities.</p> <p>As discussed in the EIS, biosecurity risks would be minimised by strict compliance with the existing government regulatory framework governing biosecurity. The wharf would be constructed and operated to the highest industry standards which would ensure that the risk of marine pollution occurring at Smith Bay via spills of fuel, oil or other contaminants during construction or operation of the wharf is negligible.</p>
339	MARINE ECOLOGY Smith Bay marine ecosystem <i>Uniqueness</i>	Smith Bay contains niche ecosystems that are specific to Smith Bay.	There is no evidence to suggest that Smith Bay supports unusual marine habitats or species. Rather, the available evidence suggests that Smith Bay supports habitats and species are typical of the many areas along the north coast of Kangaroo Island.

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			<p>AusOcean reach the same conclusion in their submission (Smith Bay Marine Ecology Report, AusOcean 2019), which says:</p> <p><i>“Much like the rest of Kangaroo Island (emphasis added), Smith Bay’s marine environment exhibits high species richness and endemism supporting an abundance of emblematic and threatened species with high conservation value”.</i> (p 29)</p>
359	<p>TERRESTRIAL ECOLOGY</p> <p>Survey methodology</p> <p><i>Veracity of terrestrial survey</i></p> <p>(EPBC related)</p>	<p>KIPT completed just one terrestrial ecological survey over one day in 2016. Its conclusion from this walk-past is an unequivocal confirmation that no individuals protected under Federal and State legislation are present on its site.</p>	<p>Field surveys provide a snapshot in time that tells us which particular flora and fauna species are present. The study area was cleared almost entirely of native vegetation for previous agricultural and industrial use and now supports limited native flora and fauna. The majority of the site is exotic grassland/herbland. Very limited habitat remains on the study area that could support native fauna. If a native species is found to be present within the study area, it does not automatically imply that the proposed development would have a significant impact on that particular species. See Appendix B for further explanation of the impact assessment process that was adopted in the EIS</p>
369	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impact assessment - methodology</p> <p><i>Veracity of data and conclusions</i></p> <p>(EPBC related)</p>	<p>Concerned about the conclusion that MNES species are likely to temporarily move or are highly mobile and therefore relocate to alternative habitat, which is abundant throughout the region.</p>	<p>The listed species identified as part of the database searches were considered to be not reliant upon habitat within the study area. The impact assessment presented in the Draft EIS followed the <i>Matters of National Environmental Significance: Significant Impact Guidelines</i> developed by the Department of the Environment and concluded that there would not be a significant impact to the southern right whale, hooded plover (eastern) or the southern brown bandicoot (eastern) based on the proposed development.</p>
370	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impact assessment - methodology</p> <p><i>Veracity of evaluation of significant impacts on MNES</i></p> <p>(EPBC related)</p>	<p>The proposed development will have a significant impact on MNES in the environment that may be affected. The EIS provides an inadequate response to a ruling of a controlled action under the EPBC Act.</p> <p>The proponent failed to:</p> <ul style="list-style-type: none"> evaluate or address impacts and risks in relation to MNES take into account Significant Impact Guideline 1.1. when arriving at conclusions demonstrate that potential impacts and risks have been reduced to as low as reasonably possible. 	<p>See Appendix B for information resolving this issue.</p>

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371	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impact assessment - methodology</p> <p><i>Veracity of survey methodology</i></p> <p>(EPBC related)</p>	<p>The proponent has an obligation to carry out detailed surveys the EIS failed to fulfill this requirement.</p> <p>Investigation into vegetation on surrounding properties and within the adjacent marine environment should also be undertaken to determine if the proposed development will impact upon these habitat areas and the species that may be reliant upon them.</p>	<p>The proposed survey methodology was developed by suitably qualified and experienced ecologists based on background research as well as the site-specific conditions. See Appendix B for further details.</p> <p>The field assessment, conducted by a team of trained and experienced ecologists, found that what little vegetation remained on site was highly degraded, highly fragmented and unlikely to be of high value as habitat for threatened or migratory species. See Appendix J2 of the Draft EIS which includes a survey on the patch of vegetation to the south of the study area. See also Appendix P5 of the Draft EIS which includes a survey of vegetation for a number of the potential options for the preferred transport route.</p>
374	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impacts on listed species</p> <p><i>Impacts on wildlife are not acceptable</i></p> <p>(EPBC related)</p>	<p>The potential impacts of construction and operations on MNES are ignored by KIPT's draft EIS.</p>	<p>Chapter 14 of the Draft EIS is devoted to the assessment of impacts on MNES.</p> <p>Impacts to fauna and flora will be addressed during construction and operation of the proposed KI Seaport in accordance with the CEMP and the OEMP.</p>
377	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impacts on listed species</p> <p><i>Species omissions</i></p> <p>(EPBC related)</p>	<p>The draft EIS records 46 EPBC-listed migratory species within 10 km of Smith Bay, however the EPBC referral and Draft EIS considers only five marine mammals, one shark and 15 species of pipefish are likely to occur, or may possibly occur at times, in Smith Bay.</p> <p>The submission states that there are more MNES under the EPBC Act that should have been included in the Draft EIS.</p> <p>The Draft EIS misrepresented the number of MNES that may be affected by the proposal.</p>	<p>The EPBC referral included a robust process to determine the likelihood of a particular species being affected by the proposed development. An assessment was undertaken using the <i>Matters of National Environmental Significance: Significant Impact Guidelines</i> developed by the Department of the Environment. The Commonwealth Minister for the Environment and Energy (EPBC no. 2016/7814) determined the controlling provisions (i.e. the four MNES species) which were therefore the focus of the Draft EIS. See Chapter 12 and Appendix I1 of the Draft EIS for further detail.</p> <p>An impact assessment has been undertaken on the marine species that are likely to use Smith Bay. The proposal would not result in a significant impact to any marine species and does not meet the significant impact criteria.</p> <p>The causeway is no longer part of the wharf design. Dredging is no longer required for wharf operations. Both of these changes are considered to further reduce the risk to marine species.</p>

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			See Appendix B for further discussion on the methods adopted in assessing potential impact on MNES.
378	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impacts on listed species</p> <p><i>Impacts on flora are not acceptable</i></p> <p>(EPBC related)</p>	<p>A patch of the Kangaroo Island Narrow-leaved Mallee Woodland on the adjacent southern property fence line has potential to meet the size category for a threatened community.</p>	<p>This TEC is outside of the KI Seaport study area. See Appendix J2 of the Draft EIS for the assessment of this patch of vegetation. It would not be impacted by the proposal. The vegetation would not be cleared as part of the proposed development and is located on a separate parcel of land which is owned by a third-party.</p>
384	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Likelihood of a species being present</p> <p><i>Application of precautionary principle</i></p> <p>(EPBC related)</p>	<p>DPTI and DoEE should apply the precautionary principle in determining whether MNES are present in the Environment that may be affected (EMBA).</p>	<p>The application of the precautionary principle is considered in Appendix B. Essentially, however, this principle (which, as part of the principles of ESD, must be taken into account by the Commonwealth Minister when making a determination under the Act) applies in circumstances of reasonable scientific doubt about potential impacts on the environment from a proposed development "where there are threats of serious or irreversible environmental damage". The assessments undertaken by KIPT have been comprehensive and thorough and there is no basis for the application of this principle with respect to the proposed KI Seaport.</p>
386	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine listed species</p> <p><i>Dredging effects on pipefish</i></p> <p>(EPBC related)</p>	<p>The Commonwealth Minister for the Environment and Energy has determined (EPBC no.2016/7814) that the proposed action is likely to, or may have, a significant impact on the following controlling provisions (matters of national environmental significance (MNES)): ...</p> <ul style="list-style-type: none"> o a number of species of pipefish will be lost with the removal of 10ha of seagrass (Syngnathid spp.) 	<p>Dredging is no longer required for wharf operation. The removal of 10 ha of seagrass will no longer be required based on the revised offshore design.</p>

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387	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine listed species</p> <p><i>Importance of Smith Bay to marine listed species</i></p> <p>(EPBC related)</p>	<p>Smith Bay is renowned for its extensive seagrass meadows and species listed under the Commonwealth EPBC Act.</p>	<p>There is no evidence to suggest that Smith Bay provides especially important seagrass habitat for EPBC Act listed species. The seagrass and reef communities in Smith Bay are typical of many other areas along the north coast of Kangaroo Island that would support a similar diversity and abundance of marine listed species such as pipefish, and weedy and leafy seadragons.</p> <p>The modifications to the jetty design proposed by KIPT will minimise the extent of seagrass loss for the project.</p> <p>Smith Bay is similar to many other areas along the north coast of Kangaroo Island in terms of biodiversity and the species of conservation significance it supports. AusOcean reach the same conclusion in their submission (Smith Bay Marine Ecology Report, AusOcean 2019), which says:</p> <p><i>“Much like the rest of Kangaroo Island (emphasis added), Smith Bay’s marine environment exhibits high species richness and endemism supporting an abundance of emblematic and threatened species with high conservation value”.</i> (p 29)</p>
393	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine mammals</p> <p><i>Displacement of whale habitat</i></p> <p>(EPBC related)</p>	<p>Design changes will not have a negligible impact on the behaviour of southern right whales. The addendum does not present adequate data to demonstrate that there won't be a residual significant impact on southern right whales.</p>	<p>The revised design will extend the jetty a further 250m out into Smith Bay. The piled jetty is not a solid structure and therefore marine mammals can navigate through the infrastructure. The offshore footprint is approximately 0.95 ha. An impact of this extent would not have a residual significant impact on southern right whales who use the entire northern coastline of Kangaroo Island as seasonal calving habitat.</p>
394	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine mammals</p> <p><i>Displacement of whale habitat</i></p> <p>(EPBC related)</p>	<p>Extension of the jetty and berth face by 250 m will significantly displace core migration, coastal, breeding and calving habitat.</p>	<p>There is no evidence to suggest that the extension of the jetty a further 250 m offshore will have a significant effect on either the migration of southern right whales along the north coast of Kangaroo Island, or on their breeding and nursery habitat in Smith Bay. It is likely that the jetty would be no more of a physical impediment to whales than the reefs and points that extend into the sea along the north coast of Kangaroo Island (see Addendum, Appendix D for consideration of the potential impacts of the southern right whale from the proposed offshore infrastructure design).</p>

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399	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Effect of piling noise on whale behaviour</i> (EPBC related)	No evidence of new modelling or assessment of the effects of the extended seaport on MNES. It's inadequate to address the effects based on estimates.	As stated in Section 4.6 of the Addendum, the original noise modelling (Resonate 2018) for the Draft EIS, considered two scenarios which are consistent with the redesign. The mitigation measures described in the Draft EIS and reiterated in the Addendum (Section 4.8.1) would be implemented, and are considered to be effective
402	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Effects of piling noise on whale behaviour</i> (EPBC related)	There should be an assessment of the southern right whale behavioural changes resulting from noise associated with piling.	Whales are likely to temporarily avoid Smith Bay during construction due to underwater construction noise, by deviating further out to sea when migrating along the north coast of Kangaroo Island. The disturbance would be temporary (several months) and the whales would inevitably return upon the completion of construction. Other bays along the north coast of Kangaroo Island would provide alternative similar habitat during construction. It is agreed that a study of the effect of piling noise on the behaviour of southern right whales would be useful. The study would likely involve the marine mammal monitors making detailed observations of the behaviour of each whale that enters Smith Bay during piling. A checklist of whale behavioural criteria could be developed in consultation with relevant whale specialists prior to the commencement of piling. This would be considered as part of the CEMP.
405	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>General impacts on whales</i> (EPBC related)	The development at Smith Bay would expose the southern right whales to a variety of risks including vessel collisions, acute industrial noise associated with wharf construction, dredging and pile driving, and chemical pollution, which could disrupt feeding and breeding patterns.	The risks to the southern right whale from vessel strike and construction noise were rigorously assessed in the Draft EIS. Numerical modelling by BMT demonstrated that the risk to the southern right whale from vessel strike is negligible (i.e. 1 strike per 300 years). Vessel collisions in the vicinity of Smith Bay are considered unlikely as vessels would be travelling slowly when approaching or leaving the Smith Bay wharf. Noise impacts on whales during piling could be successfully managed through the adoption of appropriate management measures (e.g. soft starts, cetacean monitors, shutdowns). These measures are routinely used to protect marine mammals during marine piling throughout Australia. There would be no effects associated with dredging as dredging is longer required. The wharf would be operated to the highest industry standards which would ensure that the risk of marine pollution occurring at Smith Bay is negligible.
409	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	Piling noise will disrupt calving and breeding behaviour. Such noise impacts are unacceptable for a species that relies on auditory prowess for communication across communities.	As discussed in the Draft EIS, it may be possible to undertake piling operations outside the winter whale migration season. If this is not feasible, the potential impact of piling noise on whales would be effectively managed through the

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	Marine mammals <i>Impact of piling noise</i> (EPBC related)		ongoing use of marine mammal monitors who would enable piling operations to be suspended should a whale approach closer than 1 km to the construction site.
411	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Importance of Smith Bay to dolphins</i>	Dolphin populations show high levels of transience/migration through Smith Bay.	It is agreed that dolphins regularly traverse Smith Bay. They also traverse many other bays along the north coast of Kangaroo Island. It is not believed that the proposed seaport will in any significant way impede or otherwise affect their use of the bay.
412	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Importance of Smith Bay to whales</i> (EPBC related)	Smith Bay is being recognised as a Biologically Important Area and critical habitat for the southern right whale (e.g. for calving, foraging, resting or migration). Over the past 13 years, Kangaroo Island Dolphin Watch volunteers have seen 57 southern right whales in and around Smith Bay, which refutes the numbers reported in the EIS. An ironstone reef that runs parallel to its shores may provide protection for young southern right whales. Whales may also use rocks in shallow water in Smith Bay to rub away sloughing and moulting skin.	<p>The observation of an average of 6 whales per year in Smith Bay is not considered to be especially high usage of Smith Bay by whales compared with other sites in South Australia such as Encounter Bay and the head of the Great Australian Bight. It is considered likely that many other bays along the north coast of Kangaroo Island are likely to be visited by a similar number of whales each year.</p> <p>Access to Smith Bay is relatively good, which at least in part may explain why more whales are seen in Smith Bay than in other less accessible bays along the north coast of Kangaroo Island. The entire coastline of Kangaroo Island is considered to be seasonal calving habitat. Although whale births may have occurred in Smith Bay, there is no compelling evidence to suggest that it is an especially important calving area, or that juveniles and mothers use Smith Bay more than other bays along the north coast of Kangaroo Island. Similarly, many other bays along the north coast of Kangaroo Island would contain suitable rocks against which whales would be able to groom themselves.</p>
419	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise and vibration impact on cetaceans</i> (EPBC related)	KIPT agree that construction may cause permanent hearing damage to whales and dolphins that come within 1 km of the wharf, and temporary damage for those that come within 6.5 km. It is suggested that human generated noise has been associated with the stranding of whales. Noise impacts is likely to displace whales and dolphins from their preferred habitat.	<p>Chapter 18 of the Draft EIS presents an assessment of underwater noise that detailed the potential impacts and identified mitigation measures that may be applied in order to minimise the potential impacts. Without mitigation, the overall risk of adverse noise effects on the relevant marine mammal species was predicted to be low, except for a medium level of risk associated with impact piling potentially resulting in PTS in southern right whales.</p> <p>To minimise the environmental impacts of underwater noise, the following mitigation and management strategies would be implemented or investigated: potentially controlling the construction program to avoid noise exposure, including scheduling piling to occur outside the months when whales may be present in the area; implementing a soft-start procedure when piling begins; using marine mammal observers to monitor the presence of relevant species during piling;</p>

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			<p>shutting down piling should a marine mammal approach closer than 1 km to the piling site.</p> <p>These measures are routinely used to protect marine mammals during marine piling throughout Australia. With these controls in place, the impacts from underwater noise associated with construction are likely to be minimal.</p>
420	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine mammals</p> <p><i>Noise effects and safe separation for cetaceans</i></p> <p>(EPBC related)</p>	<p>The basis for 900m and 6.5 km thresholds for permanent and temporary hearing loss is questioned. The interference with their hearing would be enormous and potentially have a catastrophic impact. Potential displacement from critical habitat will have diabolical consequences.</p>	<p>The determination of safe distances to prevent temporary hearing loss in southern right whales is based on a review of the scientific literature relating to the impact of underwater noise on marine mammals. The safe distances are recognized by government regulatory agencies as being appropriate. It is not considered credible that noise associated with the construction and operation of the Smith Bay development could have a potentially catastrophic impact on the Southern Right Whale population, and that potential displacement from critical habitat will occur. Construction noise will be relatively short-term and management measures would be in place to protect whales. Operational vessel noise will be infrequent.</p>
425	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine mammals</p> <p><i>Screening assessment of priority species</i></p> <p>(EPBC related)</p>	<p>Potential impacts on all MNES species need to be considered in the assessment, not just southern right whales.</p>	<p>The risk to all MNES marine species was rigorously assessed in the Draft EIS. After undertaking a screening risk assessment, it was concluded that the southern right whale was the highest priority MNES marine species potentially visiting Smith Bay. This conclusion was endorsed by the Commonwealth government regulators in their controlled action determination for the development.</p>
432	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine mammals</p> <p><i>Vessel strike - effects on the population of southern right whales</i></p> <p>(EPBC related)</p>	<p>Southern right whales and other marine listed species are at risk from ship collisions. The EIS has not adequately addressed the impact of coastal developments and vessel strike on whales and the consequence of such an event on the species' recovery. In this context it is important to note that vessel disturbance to resting/nursing cow/calf pairs in near shore areas is also of concern. Any loss from the south eastern population of southern right whales will have a significant impact on this population. With a population estimated at only 411, a single death of a southern right whale from the south eastern population could precipitate an extinction event. The loss of a female individual would be considered significant.</p>	<p>The risk to the southern right whale from vessel strike and construction noise was rigorously assessed in the Draft EIS. Shipping associated with the development will represent a negligible increase in annual shipping movements in South Australia. Although records of vessels striking whales are likely to be incomplete due to under-reporting and undetected strikes, the modelling of vessel strike undertaken by BMT provides an unbiased computer-based assessment.</p> <p>The assessment is conservative, in that it assumes that the whales are always on the surface and they take no evasive action. The model predicted that the average rate of vessel strike associated with KIPT shipping is one strike every 300 years. The likelihood of vessel strike occurring in the vicinity of Smith Bay would be very low, as vessels will approach and leave the wharf at low speeds (i.e. 2-3 knots). Operational vessel noise in Smith Bay will be infrequent and of relatively short duration during docking operations.</p>

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			Noise emanating from vessels docked in Smith Bay would be minor. The risk to whales from shipping is considered to be negligible. Whilst there appears to have been a decline in the south eastern population of the southern right whale in recent years, the south western population is increasing at the maximum rate possible, despite there being many busy shipping ports along the coast of Western Australia. There is no evidence to suggest that ports or shipping are implicated in the recent decline of the south eastern population of the southern right whale.
434	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Vessel strike rate - KI ferry example</i> (EPBC related)	It is noted that a ferry travelling between mainland SA and Kangaroo Island struck and killed an adult southern right whale in 2001.	The evidence provided by SeaLink's Kangaroo Island ferry service is consistent with the analysis presented in the Draft EIS about the risk of whale strike. The 2001 example of the Kangaroo Island ferry striking a whale serves to illustrate that the risk of whale strike is related to the frequency of vessel trips. Kangaroo Island ferries make the crossing to and from Kangaroo Island approximately 400 times a month, compared with the anticipated vessel frequency at Smith Bay of 10 vessel trips per month travelling to or from the port (i.e. a ratio of around 40:1). If ferry trips over the last 20 years are considered, the ferry strike rate equates to perhaps one strike per 96,000 trips. If the Kangaroo Island ferry provides an accurate indication of the likelihood of whale strike occurring near Kangaroo Island, it may be expected that KIPT vessels, operating at the rate of 120 vessel movement per year, may strike a whale near Kangaroo Island every 800 years.
438	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Whale monitoring</i>	Data over multiple whale seasons is required before it can be stated that the seaport would have negligible impact on a species recovering from the brink of extinction.	Whale numbers visiting Smith Bay would be monitored during and after construction of the wharf. It is predicted that this will show no impact on whale numbers traversing Smith Bay during their annual migration.
439	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Whale visitation records for Smith Bay</i> (EPBC related)	KIPT claims that there has been only one registered sighting of a southern right whale in Smith Bay. There have been two or possibly more official sightings of southern right whales in Smith Bay according to SA Museum database. Smith Bay whale records of local residents need to be taken into account.	The Draft EIS used published sources to obtain background information on whale sightings. Government databases such as the Atlas of Living Australia, the EPBC Protected Matters Search Tool as well as the whale sighting database maintained by the South Australian Whale Centre. However, the Draft EIS relies upon freely accessible data that can be sourced and referenced according to best practice standards. The Smith Bay whale records of local residents (67 whales over 12 years) is useful information and will be included in the assessment.

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444	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE MNES assessment <i>Authors</i> (EPBC related)	MNES assessment needs to be completed by an expert. No indication of author or qualifications for Appendix D of the Addendum.	The Addendum was authored by the same authors who were members of the Draft EIS team. The impact assessment and the Addendum document were peer reviewed prior to being published.
447	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Southern right whale <i>Veracity of impact assessment</i> (EPBC related)	The conclusion that increased piling (number and extent) would have a negligible impact on southern right whales is not substantiated. Additional assessment and modelling is required to demonstrate that the revised design would have a negligible impact on the southern right whale.	The redesign moves the piled jetty a further 250m out to sea. This is not considered a significant area of impact for the southern right whale, when the entire northern coastline of Kangaroo Island is identified in the Conservation Values Atlas as seasonal carving habitat (DoE 2014). As stated in Section 4.6 of the Addendum, the original noise modelling (Resonate 2018) for the Draft EIS (Section 18.4), considered two scenarios which are consistent with the redesign. The mitigation measures described in the Draft EIS and reiterated in the Addendum (Section 4.8) would be implemented and are considered to be effective. A revised noise model was produced for the changed offshore infrastructure configuration, and is presented as Appendix H .
448	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE White bellied sea eagle <i>Potential impacts</i> (EPBC related)	The proposed development is considered to be a high-disturbance development that would impact white bellied sea eagle fledgling survival rates. Survey methods were not adequate. The loss of fishing ground for sea eagles would decrease its opportunity for population growth.	Observations of sea-eagles flying over the site do not indicate that the site has critical habitat value to sea-eagles. The field survey did not observe any white-bellied sea-eagles nesting at the site or adjacent to the site. The site has no value as nesting habitat, and the nearest known nests are 4.1km away to the east (see Figure 13-7 of the Draft EIS). Smith Bay is likely to form a small part of a large area of feeding habitat for these birds. There will be no impact to nesting or fledgling sea-eagles. The separation between the nesting habitat and port is such that disturbance to the nesting habitat through noise or light impacts during construction and operation of the port are not considered to be credible. Noise associated with recreational and commercial boats regularly traversing the coastal cliffs near the nesting habitat is likely to be the main potential disturbance to the eagle's nesting habitat. The loss of marine feeding habitat for the white bellied sea eagle associated with the Smith Bay development is not considered to be credible in view of the mobility and potential foraging range of the raptor. Although construction and operational noise is likely to discourage the white bellied sea eagle from foraging within 1 km of the wharf, this would represent a minute percentage of marine foraging habitat along the north coast of Kangaroo Island.

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449	BIOSECURITY Biosecurity impact assessment - design change <i>Authors</i>	Author of biosecurity risks sections in the addendum have not been identified, specifically regarding their qualifications. Who will author the biosecurity management plan?	The Addendum was written by the authors of the Draft EIS team. KIPT would engage a suitably qualified consultant to develop the Biosecurity Management Plan, which would be developed in consultation with the relevant government agencies.
450	BIOSECURITY Construction impacts <i>Omission - barge, construction materials, pontoon</i>	Biosecurity risks from sediment transfer from dredge and hopper barges, and solid causeway have been removed but replaced with barged pile driver, transport of construction materials (piles and suspended deck), and floating pontoon. Species transfer risks associated with construction persist with new design.	All vessels used during construction activity and which discharge or take up ballast water will be required to comply with the ballast water management provisions of the Commonwealth <i>Biosecurity Act 2015</i> . These obligations are summarised in the Commonwealth Australian Ballast Water Management Requirements, Version 7, 2017, DAWR. Similarly, all vessels used during construction activity (tugs, barges etc.) would be required to comply with biosecurity measures (in accordance with the National Biofouling Management Guidelines for Non-trading Vessels 2018). All biosecurity risks during construction would be managed through the CEMP, Biosecurity Management Plan and Marine Pest Management Plan. Each of these management plans would be developed in consultation with relevant government agencies. Tugs from Port Adelaide would not be used to avoid the risk of transmitting the POMS virus. The risks posed by the floating pontoon have been addressed in the Draft EIS. Appendix A discusses the construction activity in more detail.
451	BIOSECURITY Impact assessment - methodology <i>Consideration of uncertainties</i>	The precautionary principle requires the Draft EIS to contemplate the possibility of scientific uncertainty clouding its findings.	The precautionary principle forms the basis of the risk assessment process that was applied in the Draft EIS. On the basis of rigorous scientific assessment in this case, it has been determined by the proponent that there is no reasonable scientific uncertainty that would justify the application of the precautionary principle and that the residual biosecurity risk to Yumbah from the proposed seaport is acceptable.
452	BIOSECURITY Impact assessment - methodology <i>Omission - Construction activity</i>	There is no explicit assessment of species' transfer risk associated with the construction phase. Tugs present a sizeable biosecurity threat, especially from Victorian AVG.	The pontoon would be inspected and cleared by the DAWE before it enters SA Waters. All vessels used during construction activity and which discharge or take up ballast water will be required to comply with the ballast water management provisions of the Commonwealth <i>Biosecurity Act 2015</i> . These obligations are summarised in the Commonwealth Australian Ballast Water Management Requirements, Version 7, 2017, DAWR. Similarly, all vessels used during construction activity (tugs, barges etc.) would be required to comply with biosecurity measures (in accordance with the National Biofouling Management Guidelines for Non-trading Vessels 2018). All biosecurity risks during construction would be managed through the CEMP, Biosecurity Management Plan and Marine Pest Management Plan. Each of these management plans would be developed in consultation with relevant government agencies.

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			Tugs from Port Adelaide would not be used to avoid the risk transmitting the POMS virus. The risks posed by the floating pontoon have been addressed in the Draft EIS. Appendix A discusses the construction activities in more detail.
453	BIOSECURITY Impact assessment – methodology Omission - Dredge or hopper barges	No discussion of biosecurity risks from sediment associated with vectors such as dredge or hopper barges.	Dredging is no longer required to construct or operate the port. All vessels used during construction activity and which discharge or take up ballast water will be required to comply with the ballast water management provisions of the Commonwealth <i>Biosecurity Act 2015</i> . These obligations are summarised in the Commonwealth Australian Ballast Water Management Requirements, Version 7, 2017, DAWR. Similarly, all vessels used during construction activity (tugs, barges etc.) would be required to comply with biosecurity measures (in accordance with the National Biofouling Management Guidelines for Non-trading Vessels 2018). All biosecurity risks during construction would be managed through the CEMP, Biosecurity Management Plan and Marine Pest Management Plan. Each of these management plans would be developed in consultation with relevant government agencies. Tugs from Port Adelaide would not be used to avoid the risk transmitting the POMS virus. The risks posed by the floating pontoon have been addressed in the Draft EIS. Appendix A discusses the construction activities in more detail.
455	BIOSECURITY Impact assessment - methodology <i>Omission - Marine pest species</i>	It is necessary to list and detail exotic pests that have been recorded around Kangaroo Island.	The reference document (Wiltshire et al, 2010, in the Draft EIS) provides for the full list of introduced marine species that have been detected on Kangaroo Island.
456	BIOSECURITY Impacts on Yumbah <i>Biosecurity impacts due to amenity</i>	Based on precautional principles a risk-based approach should be applied to define an adequate separation distance between the KIPT seaport and Yumbah KI. The location of the seaport does not provide an effective buffer therefore the impact to amenity on land is unacceptable.	Refer to Response ID 457 in relation to biosecurity impacts to Yumbah due to proximity.
457	BIOSECURITY Impacts on Yumbah <i>Biosecurity impacts due to proximity</i>	Spatial separation is of significance in abalone biosecurity management and is an important biosecurity tool which should be applied in Smith Bay. The location of the seaport does not provide an effective buffer therefore the impact on Yumbah is unacceptable.	The argument is made (Yumbah 2019) that the required separation between a Port and an aquaculture facility is 5 nautical miles (or more). This argument is based on an empirical observation that the Yumbah Narrawong farm is 5 nautical miles from the Port of Portland (Yumbah, 2019) and that the WA Department of Fisheries (Government of Western Australia, 2017) has argued that a separation of 5 nautical miles would be required to provide a reasonable distance between abalone farms and other farms or productive reefs. The framing of the Government of Western Australia (2017) recommendation is to protect productive reefs and abalone farms from infection by pathogens from other operating abalone farms. It is not an argument that 5 nautical miles is the required separation from an operating Port and an abalone farm; this latter is an inference by Yumbah (2019) and seems to be based on the fact that their

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			<p>Narrawong farm is around 5 nautical miles from an operating Port (Port of Portland).</p> <p>In practice, the proposal by the WA Government is based on a consideration of the risks that abalone farms pose to wild take abalone fisheries and to other abalone farms. Experience with the Victorian abalone farms at Port Fairy (Ocean Road Abalone) and Portland (now owned by Yumbah) during the AVG outbreak in 2005-2006 indicated that these farms presented a very high risk to coastal resources. Farms with infected animals present risks to surrounding systems because the high numbers of diseased animals can result in contamination of discharge waters which are likely to contain elevated numbers of disease (viral) particles (Department of Agriculture, 2014) and these will then present a risk to wild growing animals or other farms downstream of the discharge.</p> <p>The concerns expressed by Yumbah are understandable given that the impact on the Victorian industries (aquaculture and wild catch) due to AVG outbreak comprised losses in the vicinity of \$100 million (Department of Primary Industries, 2012).</p> <p>To quote (Department of Primary Industries, 2012):</p> <p>“AVG was first confirmed in Victoria in early 2006, following reports of unusually high mortality rates at several Victorian abalone aquaculture farms. In May of that year, AVG was detected in wild populations in southwest Victoria and as far east as Cape Otway and as far west as the Discovery Bay Marine Park. Within this range, AVG has had a significant impact on abalone populations with mortality rates between thirty and ninety per cent.”</p> <p>Importantly however, while the origin of AbHV (AbHV is abalone herpes virus the cause of the disease more commonly known as AVG) in Australia is unknown the best fit scenario suggested that the source of infection was associated with interstate movements of live wild-caught abalone onto aquaculture farms in Victoria (Department of Agriculture, 2014). Notwithstanding this presumption the actual source has not been determined and legal action in relation to this event by wild-catch fishers was unsuccessful although an in-principle settlement was reached between fishers and one of the aquaculture businesses (Krafchek and McKinley 2013).</p> <p>Clearly AVG and other similar diseases represent an appropriate concern for a business such as Yumbah. Nevertheless, Yumbah’s (2019) argument that a 5 nautical mile separation is required from an operating port becomes somewhat tenuous when it is noted that Yumbah themselves have recently applied to build another abalone farm at Bolwarra (to be called Yumbah Nyamat) which is only 2.6 nautical miles from the Port of Portland (Yumbah 2018). Furthermore, in invoking the WA Government Policy as a guideline they ignore the fact that this would negate their own proposal to establish the new farm at Bolwarra because it would only be 3 nautical miles from the existing Narrawong farm and thus does not meet the separation distance that they themselves are arguing should be applied.</p>

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			<p>Irrespective of the basis for these various arguments, the real issue to be addressed is whether or not the biosecurity arrangements that frame the operating conditions for the KI Seaport are appropriate to the needs of the various stakeholders. In this context there is a need to develop a Biosecurity Management Plan for the KI Seaport that reflects a good understanding of the biosecurity practices of the abalone aquaculture industry. This has already been agreed to in that the Biosecurity Management Plan for the KI Seaport would be developed in consultation with PIRSA (Biosecurity SA) and the Kangaroo Island Landscape Board. This plan would need to consider the various risks outlined by stakeholders including the information provided in Hewitt and Campbell (2019) which provides some good guidance on these matters.</p>
458	<p>BIOSECURITY KI Brand - pest free <i>Impacts on existing businesses</i></p>	<p>Smith Bay is a pristine environment. It needs to be maintained in this state to protect its environmental values that are so heavily relied on by all its users.</p>	<p>It is acknowledged that Kangaroo Island does support an interesting, diverse and relatively pristine marine ecosystem. It is concluded from the EIS studies that the proposed development will have only a very minor impact on the marine environment in the immediate vicinity of the wharf. There will be no impacts on biodiversity beyond the immediate vicinity of the wharf.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the initial discovery or suspected discovery of exotic pest species would be an integral component of these management plans.</p> <p>The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species.</p> <p>By default, these biosecurity measures would help to protect Smith Bay and benefit the entire Island.</p>
471	<p>BIOSECURITY Management measures <i>Effectiveness of anti-corrosion paint</i></p>	<p>Treatment of pylons with anti-corrosion paint off-site would only provide protection for a limited time.</p>	<p>The anti-corrosion marine paints used to treat steel pylons are designed to prevent seawater from corroding steel structures. This anti-corrosion effect is achieved by creating a long-lasting impermeable barrier to seawater and oxygen on the surface of the metal pylons. Because the purpose is to provide a long-lasting barrier, such compounds, once cured, are not reactive or easily dissolved in seawater and thus retain their integrity without leaching into the surrounding environment.</p> <p>Table 3-4 of the Addendum to the Smith Bay Wharf Draft EIS provides the indicative inspection and maintenance schedule for the pylons. Detailed preventative maintenance procedures and schedules would be developed before operation of the wharf commences which would include inspecting the piles for any damage to the paint system.</p>
480	BIOSECURITY	Compliance with law as mitigation is inadequate.	<p>Biosecurity risk associated with development within Australian waters is managed through sophisticated Commonwealth and State regulatory regimes. The risk of pest species and exotic marine organisms being introduced by foreign and</p>

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	Management measures - ballast water <i>Effectiveness of regulatory framework</i>		<p>domestic shipping is managed through the Commonwealth <i>Biosecurity Act 2015</i> which reflects Australia's obligations under the International Ballast Water Convention, 2004. In SA biofouling is regulated through a combination State law and national guidelines.</p> <p>KIPT would work with Biosecurity SA to develop appropriate biosecurity management regimes to address potential biosecurity risk arising from the construction and operation of the KI Seaport. KIPT has no reason to believe that Commonwealth and State agencies will not effectively administer applicable legislation.</p>
482	BIOSECURITY Management measures - ballast water <i>Regulatory mechanisms - ballast water</i>	It is unclear how vessels that do not comply with ballast water guidelines will be treated.	<p>Since 2017, the regulation of ballast water management has been the responsibility of the Commonwealth under the <i>Biosecurity Act 2015</i>. The DAWE is responsible for ensuring compliance with the Act's ballast water management provisions in conformity with the Department's Compliance and Enforcement policies and strategies (see http://www.agriculture.gov.au/biosecurity/legislation/compliance.)</p> <p>In the event that Commonwealth officers detect a non-compliance by a vessel leading to an unacceptable biosecurity risk, the Act provides the power to order that the vessel not be moved. It is also an offence to discharge ballast water in contravention of the ballast water management provisions of the Act.</p> <p>KIPT and the port operator would work together with the Commonwealth DAWE, PIRSA - Biosecurity SA and the Kangaroo Island Landscape Board to manage biosecurity risks at Smith Bay. See Appendix A of the Response Document for further detail.</p> <p>It should be noted that by 2024 all international vessels will be required to have installed on-board ballast water management systems.</p>
495	BIOSECURITY Management plans <i>Lack of accountability and funding</i>	Who will implement a marine pest management program? Introduced marine pests are impossible to eradicate.	<p>KIPT have agreed that PIRSA (Biosecurity SA) and the Kangaroo Island Landscape Board would be consulted in the development of the Biosecurity Management Plan and the Marine Pest Management Plan for the KI Seaport. KIPT will be responsible for implementing the Marine Pest Management Plan. Compliance with Commonwealth and State biosecurity legislation and policies coupled with implementation of the preventative elements of the Biosecurity Management Plan, will minimise the risk of exotic species being introduced to Smith Bay.</p>
497	BIOSECURITY Marine biosecurity <i>Abalone diseases</i>	No rigorous process is presented for determining the significance or likelihood of AVG and POMS being introduced to Smith Bay. AVG is only considered as a domestic threat and not a threat from Japan. Eight other diseases are not considered.	<p>It is important to note that the origin of AVG in Australia is unknown. Based on the investigation into the Victorian outbreak of 2005, the best fit scenario indicated that the source of infection was associated with interstate movements of live wild-caught abalone onto aquaculture farms in Victoria (Department of Agriculture, 2014).</p> <p>An operational port that would be used to export timber is not considered a likely source of infection for AVG or any other known abalone pathogens.</p>

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			<p>The Marine Pest Management Plan will be developed in consultation with relevant regulatory authorities and stakeholders, including the Kangaroo Island Landscape Board.</p> <p>Specific mitigation measures would apply to tugs and other domestic vessels used during construction and operation to minimise the risk of transferring marine pests and pathogens such as POMS from Port Adelaide to Smith Bay. These measures would be implemented by the vessel owners.</p>
498	BIOSECURITY Marine biosecurity <i>Algal bloom risks</i>	The EIS provides no information on mitigation measures to prevent harmful algal blooms resulting from algae contaminated sediment (in ballast water) being transferred to Smith Bay in the dredges and barges, or in the commercial trading vessels.	<p>Algal blooms require still, nutrient rich water. The KI Seaport structures will not impede near shore currents or affect seawater temperatures in Smith Bay. The risk, therefore, of algal blooms in Smith Bay remains unaffected by the KI Seaport. The risk of algal blooms occurring at Smith Bay as a result of algae contaminated sediments being discharged with ballast water from vessels is also negligible.</p> <p>The discharge of ballast water and associated sediment is subject to specific requirements of the <i>Commonwealth Biosecurity Act 2015</i>. The uptake and discharge of ballast water by local vessels within the Same Risk Area (Gulf and Kangaroo Island waters) will be subject to specific restrictions that will be developed in consultation with PIRSA - Biosecurity SA and the Kangaroo Island Landscape board. The measures would be reflected in the Construction and Operational EMPs and the Biosecurity Management Plan that would be finalised after the KI Seaport is approved.</p>
499	BIOSECURITY Marine biosecurity <i>Assessment methodology</i>	The methodology used in the EIS for determining marine biosecurity risk activities, vectors and species is considered to be unclear and inadequate.	<p>The marine biosecurity risks at Smith Bay were assessed by reviewing the literature and examining existing regulatory arrangements with respect to marine biosecurity. The Draft EIS has documented this issue in detail in Appendix I-5, which provides a comprehensive outline of major vectors, priority pest species, potential diseases, institutional arrangements and policies to control marine pests, monitoring requirements, response strategies for incursions and a strategy for the development of management plans and procedures for Smith Bay should the development of the KI Seaport be approved.</p> <p>Furthermore, KIPT has agreed that PIRSA (Biosecurity SA) and the Kangaroo Island Landscape Board would be consulted in the development of the Biosecurity Management Plan and the Marine Pest Management Plan for the KI Seaport. The detail provided in the Draft EIS has met with approval from the relevant SA Government agencies whose principle concern was that they should be consulted in the development of the Biosecurity Management Plan and the Marine Pest Management Plan.</p>
500	BIOSECURITY Marine biosecurity <i>Authors</i>	The identity, experience and qualifications of the author(s) of Appendix I-5 Marine Pest and Diseases was not identified in the EIS.	<p>The review of biosecurity risks was undertaken by David Wiltshire of SEA Pty Ltd. David is a marine biologist with over 30 years experience undertaking marine ecological assessments throughout Australia. He is a highly experienced marine scientist who routinely undertake scientific literature reviews such as the review presented in Appendix I-5 of the Draft EIS (Marine Pest and Diseases).</p>
501	BIOSECURITY	The EIS does not provide clear information on the extent of potential invasive species from ballast water and biofouling. Species assessments do not	<p>The international regime for the management of ballast water in ships (the Ballast Water Convention) recognises the global mobility of shipping. As vessels will take</p>

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	Marine biosecurity <i>Domestic and international source port risks</i>	appropriately consider either the domestic or international source locations to determine the species (and disease agents and parasites) likely to be transported into Smith Bay waters. There is a limited description of methods used to identify risk species and the assessment of potential biosecurity risks is not broad enough. Trading locations in the north west Pacific need to be considered.	up ballast water in different ports with differing biological water quality the method of control under the Convention and Australian law is to require the discharge of the original ballast water on the high seas and its replacement with high seas water prior to entry into Australian waters. By 2024 this regime will be replaced with a requirement that all vessels under the Convention have and operate an onboard ballast water treatment system. These regimes recognise that attempting to identify the biological characteristics of source ballast water is impracticable. Nevertheless, the management of risks from international and domestic shipping which includes the risks associated with source ports would be addressed through the development of the Biosecurity Management Plan. This would be undertaken in consultation with key agency representatives from both PIRSA and the Kangaroo Island Landscape Board.
502	BIOSECURITY Marine biosecurity <i>Paralytic shellfish poisoning</i>	The risk of PSP being introduced to Smith Bay and its impact on Yumbah needs further consideration.	PSP is caused by blooms of toxic dinoflagellates and generally affects filter feeding molluscs such as oysters. Algal blooms, including dinoflagellates, require still, nutrient rich water to bloom. The risk of algal blooms being promoted in the still, nutrient rich waters in the lee of the causeway has been resolved; the causeway has been replaced by a jetty. The KI Seaport would not increase the risk of algal blooms in Smith Bay.
503	BIOSECURITY Marine biosecurity <i>Potential risks and controls</i>	The introduction of marine pests and exotic species on boat hulls is a concern that has not been sufficiently addressed in the EIS. The introduction of exotic species to Smith Bay would alter the ecology of Smith Bay and Kangaroo Island and threaten Yumbah. Removal or eradication responses to the detection of introduced species are rare. "International best practice" should be adopted at the site.	Bilge water collects in the lowest point of a vessel directly above its keel. It can contain a variety of industrial fluids from the ship's machinery spaces such as coolant, lubricants, fuels, oily residues, chemicals and cargo waste. The discharge of bilge water into SA waters is regulated under the <i>Protection of Marine Waters ((Prevention of Pollution from Ships) Act 1987 (SA)</i> . Within Commonwealth waters the relevant legislation is the <i>Protection of the Sea (Prevention of Pollution by Ships) Act 1983 (Commonwealth)</i> . It is acknowledged that biofouling on vessels can result in marine pests being introduced if they reproduce whilst at the wharf. In general, vessel owners endeavour to keep their vessels as free as possible of mature biofouling organisms as their presence has a significant effect in slowing vessel speed and increasing fuel consumption. Biofouling of vessels in SA Waters is regulated under State legislation and by Commonwealth Guidelines. Potential colonisation of the jetty and seafloor in the vicinity of the wharf would be monitored annually by suitably qualified marine biologists, in accordance with the Marine Pest Management Plan. Should a marine pest be detected, the discovery procedure would be enacted, and any control programs would be implemented as per the instructions given by the relevant government agencies.
504	BIOSECURITY Marine biosecurity <i>Vibrio risks</i>	The EIS lacks information on the risk of the introduction of Vibrio through ballast water and biofouling.	It is acknowledged that there is evidence of Vibrio spp. having been transported between ports in ballast water. Vibrio spp. is one of many such pests and diseases that pose biosecurity risks to marine environments around the world and therefore require strict management and control.

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			<p>This occurs through the international Ballast Water Convention to which Australia is a party. Regulation required by the Convention occurs in Australia through the Commonwealth <i>Biosecurity Act 2015</i>. Currently, the principal method of controlling the introduction of pathogens and pests into Australian waters is by requiring shipping intending to discharge ballast water to do so on the high seas before entering Australian waters. However, by 2024, all vessels subject to the Convention will be required to have on board, and to operate, a ballast water treatment system to which ballast water must be subject prior to discharge.</p> <p>Details on the current ballast water management regime operating in Australian waters can be found in the Draft EIS (Chapter 15). See Appendix A for further details on the requirements for on-board treatment systems.</p>
505	BIOSECURITY New jetty design <i>No reduction in biosecurity risks</i>	The revised design introduces no additional risks but does nothing to reduce biosecurity risks.	Biosecurity risks associated with vessel movement (both international and domestic) are outside of the scope of the Addendum. These risks will be managed as per the mitigation measures outlined in the Draft EIS and in accordance with all relevant regulation.
508	BIOSECURITY Regulatory framework <i>Clarification on implementation and roles - domestic ballast water</i>	Yumbah would like to know if these vessels will be allowed entry to Smith Bay and therefore be able to release "untreated" water? Will domestic ballast water be allowed to be released in Smith Bay?	<p>The management of ballast water is regulated by the Commonwealth DAWE and is implemented under the <i>Biosecurity Act 2015</i>.</p> <p>KIPT and the port operator would work together with the Commonwealth DAWE, PIRSA - Biosecurity SA and the Kangaroo Island Landscape Board to effectively manage biosecurity risks at Smith Bay.</p>
510	BIOSECURITY Regulatory framework <i>Clarification on implementation and roles - regulatory compliance prior to berthing</i>	Which cop on the beat will be resourced to oversee compliance for activities that pose a risk to biosecurity. The company has a poor track record of regulatory compliance.	<p>This is not a question that the Draft EIS and KIPT can answer specifically. The compliance and enforcement framework for the DAWE (which administers the Biosecurity Act) is available at: https://www.agriculture.gov.au/biosecurity/legislation/compliance.</p> <p>State legislation directed to managing biosecurity risk such as biofouling would be subject to similar compliance and enforcement frameworks and policies.</p> <p>It is not correct to suggest that KIPT has a poor track record of environmental compliance.</p> <p>KIPT will comply with all commitments given and conditions imposed through the EIS process.</p>
515	BIOSECURITY Risks to marine environment <i>Design increases risk - biofouling</i>	Biosecurity risk from biofouling has been increased by the redesign due to increased exposure to high seas.	<p>The longer vessels remain stationary or moving at low speeds in ports or coastal waters, the more likely they will accumulate biofouling material. Biofouling risks posed by the pontoon have been addressed in the Draft EIS. Moving the pontoon and any international vessels further out into deeper waters would not have a material impact on the biofouling risks posed by vessels.</p> <p>The redesign would move the jetty 250m further out to sea and require the installation of additional steel pylons. As described in Section 4.7.2 of the Addendum to the Draft EIS, the management measures for steel pylons would be the same as described in the Draft EIS.</p>

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516	BIOSECURITY Risks to marine environment <i>Effectiveness of regulatory framework for ballast water risks</i>	Discharge of foreign-sourced ballast water 200 nautical miles from Australian shoreline is unacceptable.	<p>With certain important exceptions (including ballast water exchange as discussed below), it is an offence under the Biosecurity Act 2015 to discharge ballast water within the Australian EEZ (the EEZ is 200 nautical miles from the Australian shoreline). However, based on the provisions of the Ballast Water Management Convention, ships may undertake ballast water exchange on the high seas (that is, outside the EEZ) whereby foreign-sourced ballast water is substituted for water taken up from the high seas.</p> <p>Under the international ballast water management regime and the Commonwealth <i>Biosecurity Act 2015</i>, this is the current principle means of regulating the discharge of foreign-sourced ballast water. However, by 2024 all vessels to which the Convention applies will be required to have installed and to operate on-board ballast water treatment systems. This will apply to international and other vessels entering Smith Bay.</p>
518	BIOSECURITY Risks to marine environment <i>Effectiveness of regulatory framework to remove risks</i>	Mitigation of risks does not guarantee removal of the risk. Yumbah disagrees that the biosecurity risk is reduced to an acceptable level by the adoption of rigorous biosecurity standards. What happens when the standards are not met?	<p>Risks cannot be totally removed by regulatory frameworks. Rigorous biosecurity standards are developed to mitigate and manage risks as much as practicable.</p> <p>Ballast water management is regulated in Australia using international best practice under the <i>Biosecurity Act 2015</i>. However, movement of vessels within domestic waters as well as vessel movements from international waters to domestic waters means that there will never be a zero per cent risk of introducing marine pests and pathogens regardless of how effective mitigation measures are.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. An integral component of these management plans would be the marine biosecurity response procedure to manage any discoveries or suspected discoveries of exotic marine organisms at the earliest possible time. The process that would be adopted to develop these management plans would likely include refining the list of species that are a potential risk to Kangaroo Island, ranking the species based on the threat they pose to KI and the development of detailed protocols to manage high risk species.</p> <p>The federal DAWE is responsible for the implementation, compliance and enforcement of the <i>Biosecurity Act 2015</i>. See Appendix A for further detail.</p>

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521	BIOSECURITY Risks to marine environment <i>Impacts on the natural environment, existing businesses and Yumbah</i>	Concerns exist in relation to management of ballast water and biofouling, and the risks and impacts of these activities on the natural environment, existing businesses and Yumbah.	<p>The Draft EIS determined the residual biosecurity risk from the proposed development to be low (see Appendix T – Risk Table). However, this risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. See Appendix F for the revised risk ranking.</p> <p>Biosecurity risk arising from ballast water discharge is addressed by the requirements of the Commonwealth <i>Biosecurity Act 2015</i>. These provisions reflect Australia's obligations under the international Ballast Water Convention 2004.</p> <p>Biosecurity risk arising from biofouling in SA waters is addressed by a series of Commonwealth Guidelines and SA legislation and codes.</p> <p>KIPT has committed to working with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board to ensure that the Biosecurity Management Plan and the Marine Pest Management Plan for the proposed seaport reflect the environmental and commercial values of Kangaroo Island.</p>
523	BIOSECURITY Risks to marine environment <i>Impacts on Yumbah - biosecurity</i>	<p>KIPT's actions at Smith Bay will inevitably introduce invasive marine pests and disease agents that will immediately jeopardise Yumbah KI's operations.</p> <p>The potential biosecurity threats to the marine environment and aquaculture ballast water, hull-fouling and ships' bilge water is understated in the EIS.</p> <p>The Smiths Bay Seaport would place the Yumbah KI farm directly in the firing line of these threats greatly increasing the biosecurity risk to the farm. The EIS does not refer to any risks from bilge water and is void of any reference to its management. No consideration has been applied to risk the report poses to any other species the farm may grow in the future.</p>	<p>An assessment of biosecurity is provided in Chapter 15 of the Draft EIS. Ongoing knowledge sharing, liaison with relevant government agencies, local agencies and industry bodies and the development and implementation of management plans, and monitoring programs, will minimise the likelihood of introducing invasive pests and diseases.</p> <p>Bilge water collects in the lowest point of a vessel directly above its keel. It can contain a variety of industrial fluids from the ship's machinery spaces such as coolant, lubricants, fuels, oily residues, chemicals and cargo waste. The discharge of bilge water into SA waters is regulated under the <i>Protection of Marine Waters ((Prevention of Pollution from Ships) Act 1987</i> (SA). See also the EPA Code of Practice for Vessel and Facility Management (Marine and Inland Waters), 2019 and the Harbors and Navigation Regulations 2009. Within Commonwealth waters the relevant legislation is the <i>Protection of the Sea (Prevention of Pollution by Ships) Act 1983</i> (Commonwealth).</p>

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526	BIOSECURITY Risks to marine environment <i>Impacts on Yumbah - Socio-economic</i>	The biosecurity risks to Smith Bay and Yumbah KI are real. If realised, they will be catastrophic to the Yumbah KI business. The EIS has recognised that risk of introducing marine pests is highly likely if the seaport is established.	<p>Ballast water management is regulated in Australia using international best practice under the <i>Biosecurity Act 2015</i>.</p> <p>It is acknowledged that current technology and the regulatory framework applying to the movement of international, national and local vessels are not able to reduce to zero the risk of introducing marine pests and pathogens.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board after the Ki Seaport is approved. An integral component of these management plans would be the marine biosecurity response procedure to manage any discoveries or suspected discoveries of exotic marine organisms at the earliest possible time to limit their impact.</p> <p>Recreational vessels, which are excluded from the requirements of the Biosecurity Act, also contribute to the introduction of exotic marine pests and pathogens. This needs to be factored into the approaches taken to manage the risk of pests and pathogens being introduced into Smith Bay waters.</p>
528	BIOSECURITY Risks to marine environment <i>Management measures not acceptable for pontoon</i>	Pontoon is coated with anti-fouling paint. What chemicals are in the paint and what study has been done to prove no harm and that the pontoon will be incapable of becoming a massive host for marine pests.	<p>Documentation on the type of anti-fouling paint applied as well as the integrity of the coating will be reviewed by Australian engineers prior to the pontoon arriving at Smith Bay.</p> <p>The pontoon will have to transit to Smith Bay via a FPOE (as determined under Section 229 of the <i>Biosecurity Act 2015</i>) where its biosecurity status will be checked by the DAWE. The anti-fouling paint used on the pontoon will be required to comply with Commonwealth <i>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006</i>. An international Anti-fouling system certificate will be necessary.</p>
530	BIOSECURITY Risks to marine environment <i>Marine traffic</i>	Increase in marine traffic increases risk of marine pests.	<p>Ballast water management is regulated in Australia using international best practice under the <i>Biosecurity Act 2015</i>. However, movement of vessels within domestic waters as well as vessel movements from international waters to domestic waters means that there will never be a zero per cent risk of introducing marine pests and pathogens regardless of how effective mitigation measures for biofouling and ballast water management are.</p> <p>The KI Seaport would contribute approximately 20 additional shipping movements per year, plus associated tug and local vessel movements.</p>
531	BIOSECURITY Risks to marine environment <i>Omission - bilge water</i>	Risks of bilge water are not discussed in any detail in the EIS, which was required by DAC. The design changes do not address negative effects of bilge water.	<p>Bilge water is the wastewater found low down in the machinery spaces of most ships and it is generated by various activities involved in keeping a ship running while at sea. Bilge water needs to be treated with care as it can contain concentrations of various industrial fluids from the ship's machinery spaces such as coolant, lubricants, and fuel. KIPT does not have direct control over shipping operations and vessel management. Owners and masters are responsible for complying with relevant legislation.</p> <p>The management and discharge of bilge water within SA waters is regulated under the <i>Protection of Marine Waters (Prevention of Pollution from Ships) Act</i></p>

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			<p>1987 (SA). Within Commonwealth waters the relevant legislation is the <i>Protection of the Sea (Prevention of Pollution by Ships) Act 1983</i> (Commonwealth).</p> <p>KIPT would develop and implement a Biosecurity Management Plan in consultation with the relevant government agencies after the the KI Seaport is approved. KIPT does not have any jurisdiction over vessel owners and how they manage bilge waters. The necessity for compliance with relevant legislation would be acknowledged in the Biosecurity Management Plan.</p>
536	<p>BIOSECURITY Risks to marine environment <i>Substrate for marine pests</i></p>	<p>Shipping movement itself presents a risk of introduction of exotic marine pests. It is not strictly correct to say:</p> <p>'The revised design removes the risks associated with importing rock material and dredging and would not introduce any additional risks to the biosecurity status of Kangaroo Island'. The design changes to not remove the risk of colonisation of hard surfaces (pylons). 156 piles will provide perfect substrate marine pests to colonise.</p>	<p>The scope of the Addendum to the Draft EIS was to address the changes to the offshore design.</p> <p>The biosecurity risks posed by vessel movements to Smith Bay is addressed in Chapter 15 of the Draft EIS. The risk of biofouling from visiting vessels (and the regulatory measures to address this risk) would not materially change as a consequence of the revised jetty design.</p> <p>Section 4.7.2 of the Addendum to the Draft EIS states that 'Anti-fouling coating would not be applied to the steel piles and therefore marine growth is expected on the jetty pylon'. The additional substrate (resulting from the extra length of jetty) that forms part of the revised design would not pose a material biosecurity risk to Smith Bay.</p>
546	<p>GEOLOGY, SOILS AND WATER Groundwater <i>Management measures during construction activity</i></p>	<p>Site works will intercept groundwater and potentially cause contamination.</p>	<p>The CEMP would address the management of all activities during construction including any interception of groundwater during deep excavation to ensure groundwater is not contaminated, in accordance with the EP Act.</p>
549	<p>GEOLOGY, SOILS AND WATER Groundwater <i>Impacts if used as a water source</i></p>	<p>Groundwater is unlikely to support the site water demands and is highly saline and therefore has no beneficial use. The use of groundwater (and seawater) as emergency water supplies should be prohibited because of salinity levels. If there is an intent to extract groundwater, comprehensive groundwater assessment is required.</p>	<p>The low yield of groundwater and high salinity levels make it unsuitable for use on site. If saline water were suitable for particular uses, such as for firefighting during emergency situations and freshwater supplies are exhausted, then seawater would be preferred over groundwater.</p> <p>Groundwater would not be used for construction or operational needs. Other water sources are preferred and would be available.</p>
550	<p>GEOLOGY, SOILS AND WATER Groundwater investigation <i>Veracity of investigations</i></p>	<p>Groundwater investigations are inadequate to predict risk of contamination from leachate impacting groundwater and the marine environment.</p>	<p>Further groundwater baseline investigations and monitoring would be undertaken to inform management plans, construction methodology and detailed engineering design for KI Seaport.</p> <p>The OEMP and engineering design of KI Seaport would include controls to manage any leachate so as to prevent contamination to groundwater and the marine environment.</p>
558	<p>GEOLOGY, SOILS AND WATER Stormwater management</p>	<p>Concerns exist in relation to pollution of stormwater from KI Seaport activities, in particular timber storage.</p>	<p>Water from timber and woodchip storage areas (assumed to be leachate) would be managed via a controlled and closed system, including the bunding and impermeable base of the log and woodchip storage yards and all leachate from these yards would drain to a 10 ML lined retention basin. See Section 16.5.2 of</p>

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	<i>Adequacy of pollution controls</i>		<p>the Draft EIS. The basin will be designed in accordance with the EPA Guideline for Wastewater Lagoon Construction 2019. For further detail, see Appendix A.</p> <p>As logs and woodchips stored will not have been chemically treated, the water captured in this system will not be classified as sewage or wastewater. Therefore, captured water from this system can be used for irrigation and dust suppression purposes or will be allowed to evaporate. A separate filtration system to remove sediments and fine debris will be provided for the irrigation and dust suppression systems to reduce suspended solids and organics in the water prior to usage. Dust suppression and wood lot watering will be designed to optimise water use (as per industry practice). The design of the system will also ensure that other potential environmental impacts are avoided (e.g. impacts to groundwater, which may result from excessive application).</p> <p>See Appendix A, for further information.</p>
567	GEOLOGY, SOILS AND WATER Wastewater management <i>Design not compliant</i>	Location of stormwater retention ponds is not adequate to protect against storm events and sea level rise or interaction with shallow groundwater aquifers.	<p>Performance standards, rather than prescribed buffer distances, are used to assess suitability of any pond designs, in accordance with the EPA Guideline, Wastewater lagoon construction (April 2019).</p> <p>The leachate retention pond would be lined and therefore not connected to groundwater. The detention pond for general stormwater runoff would capture all sediment and allow for the breakdown of general contaminants not specific to leachate. Consequently, there would be no need to prevent the natural connectivity to groundwater. The final site and pond elevation would allow for storm events and sea level rise, as required of all coastal developments.</p> <p>Detailed engineering design to be done following approval of the KI Seaport and operational management and maintenance would ensure risks associated with storm events, sea level rise and interaction with groundwater are managed adequately.</p>
569	GEOLOGY, SOILS AND WATER Wastewater management <i>Lack of detail</i>	The EIS does not address water treatment and containment onsite.	This is not true. The EIS provides details on stormwater segregation, water treatment and containment in Section 4.4.6 (p 72-73), and Appendix C3, of the Draft EIS.
570	GEOLOGY, SOILS AND WATER Wastewater management <i>Leachate from timber products</i>	Runoff and leachate from woodchips and logs could enter stormwater runoff and groundwater, and ultimately the marine environment. Details should be provided on the how leachate will be prevented from entering the environment.	Chapter 4 and Chapter 16 of the Draft EIS discuss the conceptual engineering design, controls, impact assessment and management associated with the storage of logs and woodchips at the KI Seaport. The risk of leachate from woodchip and log stockpiles entering groundwater or run-off is negligible as storage areas would be designed to prevent infiltration, and leachate or run-off would be captured and treated (see Section 4.4.6 and Appendix C3 of the Draft EIS). Additional information is provided in Appendix A .
571	GEOLOGY, SOILS AND WATER	The treatment ponds do not comply with EPA guidelines.	Performance standards, rather than prescribed buffer distances, are used to assess suitability of any pond designs.

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	Wastewater management <i>Not compliant to EPA guidelines</i>		Refer to the EPA Guideline, Wastewater lagoon construction (April 2019).
573	AIR QUALITY Air quality and dust deposition <i>Baseline air quality</i>	More information is required to support the assumptions regarding baseline dust deposition rates.	<p>An estimate of the baseline air quality at Smith Bay was provided in Table 17-2 of the Draft EIS. These data were based on the results of extensive monitoring of baseline air quality parameters undertaken across South Australia (see Table 17-3 of the Draft EIS).</p> <p>Dust deposition rates have been observed to be reasonably consistent across regions, varying between 1.1 and 2.2 g/m²/month. These values are consistent with average rates measured at locations in other states also (e.g. the Hunter Valley, AECOM 2016) and at coastal locations (e.g. Newcastle, City of Newcastle 2019).</p> <p>There are no significantly different anthropological or natural sources of wind-blown dust present at Smith Bay that would suggest that dust deposition rates would vary significantly from the averages observed in other parts of South Australia and Australia.</p>
581	AIR QUALITY Air quality and dust deposition Specific impacts to abalone - cumulative impacts	Dust from KI Seaport will impact Yumbah's abalone farm after high rainfall events.	<p>Dust gathering on the shade cloth (which covers abalone growing tanks/raceways) is, reportedly, currently an issue for Yumbah, and will continue to be. KIPT's operations will add only a small amount of additional dust deposition, within the current natural variation experienced at the site</p> <p>For the purposes of assessing the impact to abalone as a result of dust deposition, Section 11.5.5 of the Draft EIS assessed a worst-case scenario that assumed that all of the dust accumulated on the shade cloth and was then washed into the farm in a single pulse during rain events, noting that the longer the gap between rainfall events, the more intense would be the pulse of dust. The Draft EIS assessed 99th percentile gap in rainfall frequency to calculate sediment loads as a result of the accumulation of dust and found the wood dust concentration within abalone tanks to be well below recognised water quality standards.</p>

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582	AIR QUALITY Air quality and dust deposition <i>Specific impacts to abalone - 'down-wind' position</i>	Dust generation and combustion of timber or woodchips present a new threat to Yumbah, given its primarily "down-wind" positioning from these threats.	Prevailing winds are immaterial for the purposes of the air quality impact assessment. The conclusions presented in the EIS are based on the outputs of air quality modelling which include consideration of all meteorological conditions at the site, with modelling of every hour of meteorological conditions across an entire 12-month period, thus the effects of "prevailing winds", seasons and the location of Yumbah in relation to the proposed KIPT operations are implicitly considered. An air quality assessment was presented in Chapter 17 of the Draft EIS. This assessment was conservative in nature and applied a number of realistic worst case assumptions. The outputs of the air quality assessment indicated that all relevant legislated air quality criteria would be met at the nearest sensitive receptors (workplaces and residences). On this basis, there is not predicted to a significant impact as a result of dust emissions from the proposed development.
583	AIR QUALITY Air quality and dust deposition <i>Specific impacts to abalone - dust criterion</i>	A thorough scientific analysis to confirm that the monthly NSW deposited dust criterion is appropriate for abalone farming and other sensitive receivers, taking peak deposition dust impacts into account.	It is considered that the EIS has assessed and considered this matter effectively. The impact of dust deposition on the Yumbah facility was addressed in section 11.5.5 of the EIS document. The information presented in the EIS provided a quantitative analysis of the expected rates of dust deposition onto the farming infrastructure and then assessed a worst-case scenario of the potential impact that dust deposition (at the expected rates) may have on the farming system. That analysis concluded that much of the dust that would likely be deposited on infrastructure would not become suspended into water flowing through the abalone farm. See Appendix C for further information.
584	AIR QUALITY Air quality and dust deposition <i>Specific impacts to abalone - dust/timber emissions</i>	Dust from KI Seaport's activities will distribute airborne dust and particulate matter across Yumbah's abalone farm.	The rate of dust deposition associated with KIPT activities would be slightly higher than present but would fall within the range of current natural dust deposition variation, and as such, it is not expected to materially change dust deposition across Yumbah's abalone farm.
585	AIR QUALITY Air quality and dust deposition <i>Specific impacts to abalone - proximity</i>	Proximity of the abalone farm to the primary dust source places it at severe risk.	The change in air quality at Yumbah's facility that would result from the development was described in Chapter 17 of the Draft EIS. The impacts of dust deposition on abalone within Yumbah's farm were assessed in Section 11.5.5 of the Draft EIS. The abalone farm has operated at Smith Bay for a number of years and there is no evidence of any adverse effects from the background (ambient) levels of dust deposition. The assessment concluded that the small increase in the rate of dust deposition on the Yumbah facility would only have a very marginal effect on water quality within the farm and would have no effect on the health of abalone.
593	AIR QUALITY Air quality and dust deposition	The effect of increased dust deposition on seawater quality requires discussion.	The outputs of the air quality assessment, see Chapter 17 of the Draft EIS, indicates that all relevant legislated air quality criteria would be met at the nearest sensitive receptors (workplaces and residences). On this basis, there is not predicted to a significant impact as a result of dust emissions from the proposed development, including to seawater in the marine environment.

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	<i>Specific impacts to seawater quality</i>		Section 12.5.8 of the Draft EIS addresses the impacts of dust deposition on the marine environment, concluding that effects on the marine ecology of Smith Bay would be negligible because of the low volume of deposition and rapid dispersion of deposited material in the marine environment. See Response ID 581 which answers the issue of impact of dust deposition to seawater contained within Yumbah's infrastructure.
594	AIR QUALITY Air quality modelling <i>Choice of sensitive receptors</i>	The choice of sensitive receptors in relation to air quality impacts is being questioned.	The air quality assessment in Chapter 17 of the Draft EIS presented the outcomes of the predictive air quality modelling as contours on a map. The assessment also included three discrete receptors representing the residences and business closest to the proposed development. The assessment showed that air quality at these locations would comply with the requirements of the Environment Protection (Air Quality) Policy, which means it would be achieved at all other locations.
595	AIR QUALITY Air quality modelling <i>Dust particle size and composition</i>	The representativeness of soil particle size fractions as a surrogate for fibrous/cellulosic material distribution has been questioned.	The particle size fractions associated with the impact assessment (being particles less than 10 µm (PM ₁₀) and 2.5 µm (PM _{2.5})) were chosen on the basis of their demonstrated health impacts and the availability of a health criteria by which to quantify impact. In practice, only 2.5-5% of saw dust fines occur at a size below PM ₁₀ , with only around 1% being less than PM _{2.5} (Usman et al, 2018). At size fractions above PM ₁₀ , health impacts are generally limited to dermatological and amenity impacts. In this context, the assessment presented in Chapter 17 of the Draft EIS is considered conservative because the soil factors generally assume that 50% of all material is PM ₁₀ and 5% is PM _{2.5} .
597	AIR QUALITY Air quality modelling <i>Modelling approach - discussion required</i>	The outcomes of the third party peer review (commissioned by Yumbah) of the air quality modelling (done in the EIS) require discussion.	It is considered that no further discussion is required. GHD (on behalf of Yumbah) notes that the EIS assessment of air quality is "overly conservative", which is consistent with EPA's view. See Table 6-4 for responses to issues raised by EPA in relation to air quality.
599	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions – conservative</i>	Emission factors for dust-generating activities are based on conservative assumptions and may not be representative of site-specific conditions.	Conservative assumptions are not meant to represent typical site-specific conditions. They are used in order to present a worst-case scenario for the purpose of impact assessment. EPA are satisfied with this approach. See Table 6-4.
601	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - default NPI emission factor</i>	Wind erosion from the woodchip stockpile has assumed the same default NPI emission factor as that used for mine-site overburden.	The NPI emission factor for wind erosion of cleared areas was applied in the assessment because this factor has been developed over many years of research and testing. It is appropriate to use the NPI emission factor for this assessment because wind erosion was predicted to be greater from the fines associated with an empty pad rather than a full stockpile (on the basis that woodchips are less prone to wind erosion than chip fines).

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602	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - meteorological data</i>	The representativeness of the meteorological data used as an input to the modelling has been questioned and may result in uncertainty in the validity of the model outputs.	Section 17.4.2 of the Draft EIS presented the approach to the use of meteorology for the air quality assessment. The TAPM model was used to generate three-dimensional (3D) surface and upper-air temperatures, wind vectors, air pressures and other meteorological parameters for the northern Kangaroo Island study area. This was then checked against the two nearby meteorological stations to determine whether their output was representative of local meteorology and therefore sufficient for use within the air quality assessment. The outputs of that assessment show that although TAPM has reproduced the pattern of the observed winds very well, the model slightly underestimated wind speed (by about 15%). Lower wind speeds mean less dispersion of particulate matter because there is less turbulence. Therefore, the air quality assessment results are expected to be conservative (i.e. they over-estimate the dust impacts).
603	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - outcomes</i>	The assumptions in the inputs to the Draft EIS Air Quality Assessment create uncertainty in the outcomes of the modelling assessment.	Conservative assumptions are not meant to represent typical site-specific conditions. They are used in order to present a worst-case scenario for the purpose of impact assessment. EPA are satisfied with the conservative approach, see Table 6-4. Further, the air quality assessment was completed using CALPUFF modelling software which is the standard modelling software used for such assessments. Input data is also provided in Tables 17.5 and 17.6 of the Draft EIS, and the assumptions are outlined in the corresponding text.
604	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - particle size/composition</i>	It is questionable whether the particle size distribution and the chemical composition of the emitted materials presented in the Draft EIS is representative.	Particle size information is presented in the EIS (for TSP - particles less than 70 micron, PM ₁₀ – particles less than 10 micron, PM _{2.5} – particles less than 2.5 micron). The chemical composition of the dust was not explicitly discussed. However, the majority of dust arises from unsealed/disturbed areas of sites and thus is expected to have a chemical composition similar to existing dust deposition. Organic matter in the form of woodchip fines makes up the remainder of the dust deposition.
605	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - road dampening</i>	Questions regarding the nature and commitment to applying dust mitigation measures to roadways have been raised.	The control measures described would be managed during operations as a component of the site Environmental Management System (or Framework), under which an Air Quality / Dust Management Plan would be developed and applied. KIPT would be responsible for implementing all aspects of the EMS. Operational personnel onsite would be responsible for the day-to-day compliance with the EMS.
606	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - wind erosion emissions</i>	Conservatism in the estimation of wind erosion emissions may result in an under-estimation of the potential impacts from dust.	As described in the Draft EIS, once on the stockpile, woodchips generally would resist dispersion because of their size, although they may contain fine material from previous handling operations that would be subject to wind erosion. This was, however, considered to be a less significant source than the potential for the wind erosion of fines from stockpile areas that were not covered in woodchips (i.e. exposing the empty pad and/ or cleared ground) as may occur following ship loading. This was demonstrated mathematically in Section 17.5.1 of the Draft EIS, which indicated that emissions from the empty pads were likely to be an

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			order of magnitude greater than those from the full stockpiles. This is considered conservative and would result in an over-estimation of the potential dust impacts.
607	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - wind speed</i>	The effect of modelling winds being lower than measured winds is not adequately discussed in the Draft EIS.	The outputs of the air quality assessment (see Section 17.4.2 of the Draft EIS) show that although TAPM has reproduced the pattern of the observed winds very well, the model slightly underestimated wind speed (by about 15%). Lower wind speeds mean less dispersion of particulate matter because there is less turbulence. Therefore, the air quality assessment results are expected to be conservative (i.e. they will over-estimate the dust impacts) at nearby receivers.
608	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions - woodchip emissions</i>	Assumptions around woodchip emission factors (including particle size distribution).	The air quality impact assessment presented in Chapter 17 of the Draft EIS made conservative assumptions with regards to particle size distributions and woodchip emission factors due to a lack of published data. EPA is satisfied with the rigour of the air quality impact assessment and the use of the chosen emission factors. See Table 6-4.
609	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions -prevailing winds</i>	The effect of prevailing winds on the distribution of dusts from the proposed Project has not been adequately considered in the Draft EIS.	Prevailing winds are irrelevant for the purposes of the air quality impact assessment. The conclusions presented in the Draft EIS are based on the outputs of air quality modelling which include consideration of all meteorological conditions at the site, with modelling of every hour of meteorological conditions across an entire 12-month period. This means the effects of “prevailing winds”, seasons and the location of Yumbah in relation to the proposed KIPT operations are implicitly considered. Regardless, to the extent that one wind direction is more common than others at the site, the claim by Yumbah it blows from the proposed KI Seaport towards its facility is not supported by the data presented in the wind roses in Figures 17-6 and 17-7 of the Draft EIS.
610	AIR QUALITY Air quality modelling <i>Nature of the modelling assumptions -woodchip handling</i>	The assumptions in the inputs to the Draft EIS Air Quality Assessment create uncertainty in the outcomes of the modelling assessment.	Conservative assumptions are not meant to represent typical site-specific conditions. They are used in order to present a worst-case scenario for the purpose of impact assessment. EPA is satisfied with the conservative approach. Further, the air quality assessment was completed using CALPUFF modelling software which is the standard modelling software used for such assessments. Input data is also provided in Tables 17.5 and 17.6 of the Draft EIS, and the assumptions outlines in the corresponding text.
616	NOISE AND LIGHT Light spill <i>Impact on marine and terrestrial ecology</i>	Light Spill Assessment (Appendix E EIS Addendum) specifically excluded the assessment of environmental impact on local terrestrial and aquatic fauna.	The lighting assessment presented in Appendix E to the Addendum focussed on compliance with the Australian Standard associated with managing the effects of obtrusive lighting on amenity. The effects of lighting on terrestrial ecology were presented in Section 13.5.3 of the Draft EIS and concluded that, taking into account the limited number of fauna species currently using the site and the likelihood of these individuals relocating to nearby habitat during construction, the impact of additional artificial lighting on fauna is considered to be low.

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			<p>The impact of artificial lighting on abalone was assessed in Section 11.5.6 of the Draft EIS. The conclusion from the published literature cited by Yumbah suggests that light, per se, does not have a negative effect on abalone, and may in fact benefit their growth.</p>
617	<p>NOISE AND LIGHT Light spill <i>Impact on marine ecology</i></p> <p>(EPBC related)</p>	<p>Light spill during ship-loading operations would occur much further out at sea with an extended jetty. There has not been any consideration of the potential impact of light shining 24 hours a day, seven days a week into the water and the impact on whales and marine mammals that frequent the area.</p>	<p>KIPT acknowledge that there is evidence that artificial lighting of coastlines associated with built infrastructure has the potential to change the nature of marine ecosystems (e.g. Davies et al 2015). The flow-on effects to larger marine mammals is less understood, however marine mammals are known to alter their behaviour in response to phases of the moon, potentially as a result of the change in ambient lighting conditions.</p> <p>Pidcock et al (2003, cited in Greer 2010) conducted a risk analysis of the effects of artificial lighting, on Southern right whales, Australian sea lions, and other cetaceans from mining and oil and gas exploration in the Great Australian Bight Marine Park Marine Mammal Protection Zone, off of southcentral Australia. Potential factors were scored from 1 (insignificant consequences) to 5 (catastrophic consequences) in terms of probable effects on these marine mammal taxa based on literature information. They concluded that the overall risk of impact was expected to be low. The risk-assessment models for both exploration and production operations predicted that the impacts from artificial light would be insignificant and would occur with low to minor likelihood for all taxa.</p> <p>The KI Seaport requires lighting to allow 24-hour operations to be undertaken safely. The proposed lighting design (see Appendix E of the Addendum) demonstrates compliance with the relevant Australian Standards and is designed to minimise light spill to areas outside of those that need to be lit for safety reasons.</p>
618	<p>NOISE AND LIGHT Lighting effects and impacts <i>Project design related to lighting - change current environment</i></p>	<p>Lighting will change the current environment and night time amenity.</p>	<p>KIPT acknowledges that the additional lighting will result in a change in existing night-time amenity - this is considered an unavoidable consequence of the need to provide adequate lighting to safely undertake site operational activities.</p> <p>A proposed framework for the lighting of the development was presented in Chapter 18 of the Draft EIS, defining aspects of the proposed lighting design that would be implemented to minimise the obtrusive effects of night-time lighting on nearby residences. Since the Draft EIS was lodged, a more detailed lighting design has been developed and assessed, which is presented as Appendix E to the Addendum. This demonstrates that the obtrusive effects of lighting can be adequately mitigated whilst maintaining a safe working environment for operational personnel.</p>
619	<p>NOISE AND LIGHT Lighting effects and impacts</p>	<p>Lighting will harm productivity of Yumbah. Noise and light will disturb tourists and other users.</p>	<p>Lighting impacts on Yumbah were assessed in Chapter 11 of the Draft EIS. A review of literature failed to uncover evidence that artificial lighting would materially impact the feeding patterns of abalone; the evidence suggests artificial lighting may actually improve abalone growth.</p> <p>A proposed framework for the lighting of the Project was presented in Chapter 18 of the Draft EIS. Since the Draft EIS was lodged, a more detailed lighting design</p>

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	<i>Project design related to lighting - disturbance to other users</i>		has been developed and assessed, which is presented as Appendix E to the Addendum. This demonstrates that the obtrusive effects of lighting can be adequately mitigated whilst maintaining a safe working environment for operational personnel.
621	NOISE AND LIGHT Lighting effects and impacts <i>Project design related to lighting - other sources</i>	The baseline lighting conditions at Smith Bay, and the effect of the KI Seaport on existing lighting levels requires further clarification.	The Draft EIS states that land based aquaculture farm is the main source of lighting in Smith Bay and the only other artificial lighting sources being private residences in proximity to Smith Bay. An assessment of the proposed lighting design for the KI Seaport was presented as Appendix E to the Addendum. This assessment demonstrated that the proposed lighting design would comply with relevant Australian Standards related to the effects of obtrusive lighting.
622	NOISE AND LIGHT New jetty design <i>Impact of lights on marine species, abalone and human amenity - dismissed</i>	Impact of lights 650m out to sea on marine life, abalone and human amenity are dismissed.	An assessment of the proposed lighting design for the KI Seaport was presented as Appendix E to the Addendum. This assessment demonstrated that the proposed lighting design would comply with relevant Australian Standards related to the effects of obtrusive lighting. The effects of artificial lighting were presented in Section 11.5.6 of the Draft EIS, which suggested the following: <ul style="list-style-type: none"> • there is very little published about the effect of light on abalone, but the following results have been reported: • there is no measurable effect of light vs dark conditions on the oxygen consumption rates (used as a direct index of stress) for early life stages of <i>H. rubra</i> and <i>H. laevigata</i> hybrids (Alter et al. 2016) • conversely, when <i>Haliotis discus discus</i>, <i>H. gigantea</i>, <i>H. madaka</i> and their hybrids were kept in the dark they showed lower rates of oxygen consumption and ammonia excretion rates relative to those kept under light (suggesting that animals kept in the dark had reduced metabolic rates compared to those exposed to light) (Ahmed et al. 2008) which would have negatively affected the growth rates of animals kept in the dark • abalone kept permanently in the dark did not grow as well as those exposed to light (Periera et al. 2007). • in all cases, these experiments suggest that light, per se, does not have a negative effect on abalone, and may in fact benefit their growth.
623	NOISE AND LIGHT New jetty design <i>No new noise modelling</i> (EPBC related)	There has been no new modelling done on noise levels with new seaport. Noise will have serious implications for MNES.	A revised noise model was produced for the changed offshore infrastructure configuration, see Appendix H . This demonstrates that onshore (terrestrial) noise levels would be reduced during operations by around 1 dB. Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means that more piling would occur, however the nature of the piling operations would not change from those assessed, assuming a single piling operation is undertaken at any one time. Piling in two places simultaneously would effectively double the

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			number of blows per minute, which would increase the cumulative SEL noise level by 3 dB, and increase the 'threshold distances' for TTS and PTS onset by approximately 1.6 times over that presented in the Draft EIS, assuming the exposure time is the same.
624	NOISE AND LIGHT New jetty design <i>Use of old modelling</i> (EPBC related)	It is unscientific to suggest the previous underwater noise assessment is good enough for a jetty which is a further 250m out to sea. The water properties modelled in the EIS differ from those in the amended plan, and more comprehensive modelling should be undertaken. It is not appropriate to make decisions based on the modelling previously provided.	Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means there would be more piling, however the nature of the piling operations would not change from those assessed, assuming a single piling operation is undertaken at any one time. Piling in two places simultaneously would effectively double the number of blows per minute, which would increase the cumulative SEL noise level by 3 dB, and increase the 'threshold distances' for TTS and PTS onset by approximately 1.6 times over that presented in the Draft EIS, assuming the exposure time is the same. The change in project configuration does not change how piling would be undertaken, nor does it change the assumptions used for the model inputs; it would simply relocate the source of the noise a further 250 m out to sea, and move the subsequent noise contours about the same distance further offshore. This does not materially change the conclusions nor the proposed management measures designed to mitigate any risks.
625	NOISE AND LIGHT Noise impact at Yumbah <i>Exceedance of noise criteria</i>	Noise generated from the seaport will exceed 45dB at Yumbah, this is 3dB above the noise criteria stated by EPA.	The revised noise modelling (see Appendix H) confirms that predicted noise levels would exceed the daytime criteria at assumed office building locations by 3 dB, and night-time criteria by 10 dB. It should be noted that these noise levels are based on a scenario with all sources operating simultaneously under worst-case meteorological conditions. Actual noise levels are therefore expected to be significantly lower for the majority of the time. Furthermore, an exceedance of the noise criterion does not necessarily correlate to a noise impact, and it is considered unlikely that the noise from the KI Seaport operations would be audible within the Yumbah facility as a result of noise attenuation through building facades and the contributions from on-site noise sources (e.g. water pumping and piping infrastructure).
628	NOISE AND LIGHT Noise modelling <i>Noise mitigation measures</i>	An assessment of the efficiency of proposed noise mitigation measures is necessary	The proposed layout of the site incorporates a number of features which would provide incidental noise mitigation, including: <ul style="list-style-type: none"> • locating the generator, conveyor and chip stacking plant to the north and west of the site away from sensitive receivers. • a 3 m bund or barrier along the southern site boundary. A revised noise impact assessment is presented in Appendix H , reflecting the revised infrastructure layout. An additional 3 m high barrier to the south of the chip stacker may also be considered to reduce noise emissions to the nearest residence (R1). Removal of any noise sources that would not be installed on site as part of the KI Seaport (previously assumed to be on site) and increased distance of the floating wharf

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			<p>and ship loader from the shore would also provide additional noise mitigation (albeit minor in the context of overall noise emissions from the site).</p> <p>Additional noise mitigation measures have also been modelled, including a noise barrier or bund up to 4m high along the eastern site boundary. This is predicted to result in a noise level reduction of 5 dB at the nearest shed at the Yumbah Aquaculture site, however the reduction in noise levels throughout the remainder of the site, including buildings assumed to be used as offices or similar, is expected to be negligible (less than 1 dB). On balance this mitigation is not likely to be reasonable or practicable, however, mitigation at, or near, the source/s of noise would be investigated as part of detailed design, in liaison with Resonate (noise experts) and EPA.</p>
629	NOISE AND LIGHT Noise modelling <i>Noise mitigation measures - clarification</i> (EPBC related)	Contradictions between the Draft EIS noise assessment and that presented in the Appendix require clarification.	<p>KIPT acknowledge that the requirements of the Noise EPP apply to the KI Seaport during the construction phase (including piling activities), and that construction activities would be managed so as to maintain compliance with the construction-related noise obligations contained within the Policy. Potential mitigation measures that may be applied during the construction phase to assist in achieving this were outlined in Table 18-7 of the Draft EIS.</p> <p>Noise levels assessed in Chapter 18 of the Draft EIS demonstrated that the applicable noise criteria under the Noise Policy would be met at all times for the nearby residential receptors. Further mitigation may be applied in order to minimise noise emissions, subject to detailed design and economic analysis.</p>
633	NOISE AND LIGHT Noise modelling <i>Traffic-related noise - data and method</i>	The methodology used to determine the potential impacts arising from traffic-related noise require further explanation.	<p>The traffic noise assessment methodology was described in Chapter 21 of the Draft EIS. As a rule, a doubling of traffic volumes corresponds to a 3 dB increase in noise levels at locations adjacent to roads assuming that the character of the noise is similar. Applying this to the predicted increases in traffic volumes presented in Chapter 21 of the Draft EIS allows a prediction of the expected noise levels on various road segments noting that the peak noise levels (i.e. the noise level generated by a single truck passing a receiver) will not be any greater than present. Results of the noise assessment indicate that the predicted noise levels would comply with the DPTI Road Traffic Noise Guidelines along the transport route. Note that impact assessments for any haul route would be undertaken after approval of the KI Seaport.</p>
634	NOISE AND LIGHT Noise modelling <i>Uncertainty in baseline assumptions</i>	Further information is required regarding how local meteorological conditions have been factored into the noise modelling undertaken.	<p>Section 18.3.2 of the Draft EIS outlined the existing noise environment at Smith Bay, which is summarised in Tables 18-2 and 18-3. The measured baseline noise levels were relatively low at all locations, particularly at night, and are consistent with expected noise levels in a rural area based on the experience of the noise consultants.</p> <p>Meteorological conditions were incorporated into the noise model as described in Section 18.3.3 of the Draft EIS. CONCAWE (the noise model used in the assessment) has six difference weather categories. Category 1 represents weather conditions that are least conducive to noise propagation (best-case situation with the lowest predicted noise levels); Category 4 represents neutral</p>

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			<p>conditions; and Category 6 represents conditions that are the most conducive to noise propagation (the worst-case situation with the highest predicted noise levels). In accordance with DAC's guidelines for the EIS and the guidelines for the use of the Environment Protection (Noise) Policy 2007, Category 6 was used for night-time noise emissions, and Category 5 was used for daytime noise emissions.</p>
636	<p>NOISE AND LIGHT Piling noise <i>Impact on marine ecology - hearing loss</i></p> <p>(EPBC related)</p>	<p>Ridiculous number of piles proposed, eventuating hearing loss to marine life (and perhaps humans).</p>	<p>Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means that more piling will occur, however the nature of the piling operations would not change, assuming a single piling operation is undertaken at any one time.</p> <p>The conclusion from this assessment was that, without mitigation, the overall risk of adverse noise effects on the relevant marine species is low, except for a medium level of risk associated with impact piling potentially resulting in PTS in southern right whales.</p> <p>The following mitigation and management strategies may be implemented to minimise the environmental impacts of underwater noise:</p> <ul style="list-style-type: none"> • using alternative piling methods; • implementing a soft-start procedure when piling begins; • controlling the construction program to avoid noise exposure, including scheduling piling to occur outside the months when cetaceans may be present in the area; and, • establishing safety and shut-down zones and using marine mammal observers to monitor the presence of relevant species. <p>With these controls in place, the impacts from underwater noise associated with construction are likely to be minimal.</p> <p>With respect to human health, the terrestrial noise assessment (presented in Section 18.3 of the Draft EIS and updated in Appendix H demonstrates that noise levels at the nearest residences would meet the criteria nominated in the Environment Protection (Noise) Policy, and thus human health would not be impacted. criteria nominated in the Noise EPP, and thus human health will not be impacted.</p>
639	<p>NOISE AND LIGHT Piling noise <i>Mitigation measures - reconsideration</i></p> <p>(EPBC related)</p>	<p>KIPT should be required to responds to the EPAs concerns about underwater noise impacts and the use of vibration piling rather than impact piling to reduce impacts to marine mammals.</p>	<p>KIPT remains committed to reducing the impact of the piling operations wherever possible. KIPT is investigating the use of alternative piling methodologies, which present various advantages and disadvantages, and suit different environments. For example, vibro-piling is only generally effective on granular and non-cohesive soils, and the necessary densification generally cannot be achieved when the granular soil contains more than about 12 to 15 percent silt or more than about 2 percent clay. This, in-turn, necessitates a comprehensive analysis of the soil profile via continuous sampling or in-situ testing prior to pile construction, which greatly effects the economics and scheduling of the piling activities.</p>

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			<p>The potential impacts of the proposed piling activities represent a medium risk to the most sensitive receptors without mitigation. Mitigation measures would be applied including:</p> <ul style="list-style-type: none"> • using a 'soft start' in which the piling impact energy would be gradually increased over 10 minutes to deter fauna from remaining close enough to risk injury after operations reached normal levels; • establishing a 1 km shutdown zone around the site, equivalent to the most conservative distance threshold to prevent permanent hearing damage; • using marine mammal observers to monitor this zone; pile driving would stop if a marine mammal was sighted in the zone; • no pile driving at night, when it might be difficult to detect marine mammals; and, • scheduling piling to occur outside the primary months when cetaceans may be present in the area. <p>With the application of these measures, the risk is assessed to be low.</p>
640	<p>NOISE AND LIGHT Shut down zone <i>Impact on marine ecology</i></p> <p>(EPBC related)</p>	<p>The distance for shut-down zones and observation zones were originally suggested by KIPT as 1km. Pile driving activities raises the sound impact by 3dB, essentially doubling the sound intensity. This would increase the shutdown and observation zones by 40 per cent compared to the initial estimates in the acoustic report of the draft EIS.</p>	<p>The use of shutdown zones is designed to allow the delay and/or cessation of piling activities should marine mammals be observed in proximity to the construction operations. The 1 km shutdown zone is relative to the particular piling operation being undertaken. In the case of multiple simultaneous piling operations, the 1 km shutdown zone would be established from the piling operation that was most distant from shore (i.e. the furthest out to sea) and thus the zone would be greater than 1 km for the piling operation that is occurring closest to shore. This is considered adequate to protect marine mammals from the potential for permanent impacts to their hearing.</p>
642	<p>NOISE AND LIGHT Terrestrial noise effects and impacts <i>Baseline noise levels</i></p>	<p>The baseline noise levels at the existing Yumbah facility have been over-estimated and further work to describe the baseline noise levels is required.</p>	<p>The baseline noise assessment presented in Chapter 18 and Appendix N of the Draft EIS included measurements of noise in the vicinity of the Yumbah facility. At the time of the survey, no significant noise from the Yumbah Aquaculture facility was observed.</p> <p>Information from the proposed Yumbah Nyamat facility (conceptually similar to the Yumbah Smith Bay facility) indicated that the measured noise levels (sound power levels) of noise-generating equipment within the buildings associated with the abalone farm is significant, varying between 70-110 dB. This noise-generating equipment is generally housed in bessa -block style buildings separate from the abalone tanks.</p> <p>The modelling predictions for Nyamat assume significant attenuation of noise through the separate building facade, such that noise external to the building (at the nearest receivers) meets relevant criteria. This is consistent with the baseline noise measurements undertaken at Smith Bay, which don't show a significant impact from the Yumbah operations.</p> <p>Internally to the tank farm, the noise contours provided for the operational noise within Yumbah's Smith Bay operation indicate that the noise levels around the abalone tanks themselves are in the order of 40-45 dB generally, and up to 50 dB</p>

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			<p>at the tanks nearest to the pump set buildings and along the between-tank pipelines.</p> <p>KIPT noise modelling presented in Chapter 18 of the Draft EIS conservatively (i.e. without consideration of the noise attenuation effects of the Yumbah building facade) indicates peak noise levels of up to 50 dB at the Yumbah tanks closest to the proposed KI Seaport, decreasing with distance. As a result, in practice, KIPT-related noise within the Yumbah tank farm would be expected to be reduced from the modelled peak of 50 dB and, in fact, is likely to be inaudible against a background of internal (Yumbah) noise-generation on the basis that noise levels need to be 3 dB higher to be detectable.</p> <p>Based on the observation that abalone are currently subject to internal noise levels of up to 50 dB within Yumbah under the current operation, it seems reasonable to infer that the proposed KIPT operations would not adversely impact the tank farm at Yumbah.</p>
643	<p>NOISE AND LIGHT Terrestrial noise effects and impacts <i>Construction noise</i></p> <p>(EPBC related)</p>	Further information is required regarding the assessment of construction noise.	KIPT acknowledge that the requirements of the Environment Protection (Noise) Policy 2007 apply to the KI Seaport during the construction phase (including piling activities), and that construction activities will be managed to comply with the construction-related noise obligations contained within the Policy. Potential mitigation measures that may be applied during the construction phase to assist in achieving this were outlined in Table 18-7 of the Draft EIS.
645	<p>NOISE AND LIGHT Terrestrial noise effects and impacts <i>Justification for exceeding Noise Policy criteria</i></p>	Noise from the proposed KI Seaport may exceed the requirements of the Noise Policy, and more information is required to justify why this may be acceptable	<p>Clause 20(6) (a)-(f) of the Noise EPP are outlined below along with additional information as requested:</p> <p>a) the amount in dB(A) by which the predicted source noise level (continuous) or predicted source noise level (maximum) exceeds the relevant level and the likely frequency and duration of the noise levels that give rise to that result;</p> <p>Predicted noise levels at the Yumbah Aquaculture facility buildings range from 36 to 53 dB(A) Leq depending on location within the site. The highest noise levels are predicted at buildings on the western side of the facility which are assumed to be used for storage or similar. Noise levels of approximately 45 dB(A) Leq are predicted at buildings most likely to be occupied for office or similar uses (denoted by 'R3' in A17557RP1B). Noise emissions are expected to comply with the 60 dB(A) Lmax criteria in all locations. The assumed use of buildings within the Yumbah site is based on aerial photography and discussion with the EPA on 16 August 2019.</p> <p>Predicted noise levels exceed the daytime criteria at assumed office building locations by 3 dB, and night-time criteria by 10 dB. Greater exceedances are predicted at sheds to the west of the Yumbah site. It should be noted that these noise levels are based on a scenario with all sources operating simultaneously under worst-case meteorological conditions. Actual noise levels are therefore expected to be significantly lower for the majority of the time.</p>

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			<p>b) any component of the ambient noise or extraneous noise that—</p> <ul style="list-style-type: none"> i. has a noise level similar to or greater than the predicted source noise level (continuous) or predicted source noise level (maximum); and ii. has a similar noise character or similar regularity and duration to the noise from the noise source; <p>As noted in A17557RP1B, the predicted noise levels at the Yumbah Aquaculture facility are similar to average existing ambient noise levels measured at the nearest noise logger location. Ambient noise from waves is likely to be higher at the Yumbah Aquaculture facility. It was also noted that there are some heavy vehicle movements associated with the Yumbah facility. Whilst these may have a similar character to proposed KIPT heavy vehicle sources, it is acknowledged that the frequency and duration of Yumbah vehicle movements is likely to be significantly less.</p> <p>c) the times of occurrence of the noise from the noise source;</p> <p>It is understood that delivery trucks would likely be operated during daylight hours only (approximately 12 hours per day), while the materials handling system would operate 24 hours a day, for up to 30-50 days per year.</p> <p>There is a possibility that truck deliveries may occur on a 24/7 basis. Although this is not KIPT's preferred option, this worst-case truck delivery scenario was adopted for the purposes of the assessment (i.e. predicted noise levels are based on all sources operating, which could occur during the daytime or night-time).</p> <p>d) the number of persons likely to be adversely affected by the noise from the noise source and whether there is or is likely to be any special need for quiet at noise-affected premises;</p> <p>Internal noise levels of 43 dB(A) Leq or less are expected in all buildings within the Yumbah Aquaculture site (assuming a reduction of 10 dB through an open window). This is less than the maximum noise level of 50 dB(A) Leq or more recommended in AS/NZS 2107:2016 'Recommended design sound levels and reverberation times for building interiors' for 'industrial buildings', including office, lunch room, laboratory and precision assembly areas.</p> <p>On this basis there is no anticipated adverse impact on Yumbah Aquaculture activities. Our understanding is that this facility does not have a 'special need for quiet' compared to other industrial or primary production type activity.</p> <p>e) the land uses existing in the vicinity of the noise source;</p> <p>The existing land uses in the vicinity of the noise source are primarily rural or industrial in nature. The Guidelines for use of the Environment Protection (Noise) Policy 2007 are clear that the "Rural Living land use category may be assigned to a locality that principally promotes a park or reserve set aside for public recreation or enjoyment in a country or non- urban setting". Whilst this type of activity is promoted in the Coastal Conservation zone, it should be noted that the existing land uses do not reflect this.</p>

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			<p>f) any other matter required to be taken into account under section 25 of the Act or determined to be relevant by the Authority.</p> <p>Section 25 of the Environment Protection Act 1993 requires that "A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm."</p> <p>There is no explicit requirement to consider mitigation measures in accordance with the Noise EPP, however this could be a relevant matter under Section 25 of the Act.</p> <p>In this case, while noise levels exceed the Noise EPP indicative noise factors at the Yumbah Aquaculture site (by a significant margin in some locations), this does not entail that there is an adverse impact or "environmental harm". Based on consideration of the above factors (a) to (e), it is considered that there is no adverse impact, and therefore no established need for additional mitigation measures. Nonetheless, additional mitigation has been considered as described in EPA #35.</p>
650	<p>NOISE AND LIGHT</p> <p>Underwater noise effects and impacts</p> <p><i>Specific impact on marine ecology - more detail required</i></p> <p>(EPBC related)</p>	<p>Further information regarding the marine construction activities is required before conclusions regarding the magnitude of noise impacts can be reached.</p>	<p>Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means that more piling will occur, however the nature of the piling operations will not change from those assessed, assuming a single piling operation is undertaken at any one time. The conclusion from this assessment was that, without mitigation, the overall risk of adverse noise effects on the relevant marine species is low, except for a medium level of risk associated with impact piling potentially resulting in PTS in southern right whales. To minimise the environmental impacts of underwater noise, the following mitigation and management strategies may be implemented:</p> <ul style="list-style-type: none"> • using alternative piling methods • implementing a soft-start procedure when piling begins • controlling the construction program to avoid noise exposure, including scheduling piling to occur outside the months when cetaceans may be present in the area and, • establishing safety and shut-down zones and using marine mammal observers to monitor the presence of relevant species. <p>With these controls in place, the impacts from underwater noise associated with construction are likely to be minimal.</p> <p>With respect to human health, the terrestrial noise assessment (presented in Section 18.3 of the Draft EIS and updated in Appendix H demonstrates that noise levels at the nearest residences will meet the criteria nominated in the Environment Protection (Noise) Policy, and thus human health will not be impacted.</p>

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651	NOISE AND LIGHT Underwater noise effects and impacts <i>Underwater vibration</i> (EPBC related)	Commentary on the potential for underwater vibration should be provided in the context of a lack of regulatory guidance in this area.	For the purposes of the underwater assessment of impacts from piling operations, noise and vibration have been considered together (vibration being a specific frequency of noise). This issue is addressed in Section 18.4 of the Draft EIS, and in more detail in Appendix N to the Draft EIS.
657	ECONOMIC ENVIRONMENT Benefits to KI <i>Closure of Yumbah</i>	The economic benefits are overstated because they do not account for the loss of jobs at Yumbah, which will commence as soon as sediment caused by dredging enters Yumbah's intake pipes.	The design of the in-water structures has been changed in response to feedback from Yumbah. KIPT has adopted the design recommended by Yumbah, which eliminates the need for dredging. Yumbah has recently committed to investing in its Smith Bay facility.
660	ECONOMIC ENVIRONMENT Benefits to KI <i>Economic assessment methodology</i>	The economic benefits are over-stated. The economic assessment does not consider cross-economy impacts, doesn't account for cost of transportation or impacts on other industries. There is an unexplained discrepancy between the number of jobs New Forest claimed and the number KIPT claim.	The estimates of economic impact were based on the input-output method (I-O), which is typically used by the South Australian government and local government to estimate the impact of new developments on a regional economy. This approach was agreed with the South Australian government before the assessment was commissioned, and the Kangaroo Island Council used the same model to assess the economic impact of redeveloping the Kangaroo Island airport. The economic benefits extend beyond the operation of the port itself and include the full array of benefits which accrue when harvesting begins including harvest operations, haulage, plantation management, and an expansion of KIPT's corporate functions on Kangaroo Island. The particular model used for this assessment, known as an extended RISE model, ensures the cost impacts on other industries is assessed when determining the net economic outcomes, and also enables the impact of employment growth on local population levels to be assessed. KIPT does not have access to economic modelling conducted by New Forests Asset Management.
661	ECONOMIC ENVIRONMENT Benefits to KI <i>Economic assessment methodology - full time jobs</i>	The economic benefits are over-stated because it is unclear how many jobs will be full-time given the number of vessels using the port will vary between 10 and 20 per annum.	Chapter 20 of the Draft EIS makes it clear that most jobs will be full-time, including most of the jobs at the Smith Bay facility. When ships are berthed (10-20 times per annum estimated) the onsite workforce will increase to manage the ship-loading activities. Most of the employment, which will be in harvesting in the plantations and haulage, is independent of ship numbers and ship loading operations. The key determinant of employment will be the volume of product harvested each year, rather than the number and size of vessels used to export this volume.
663	ECONOMIC ENVIRONMENT Benefits to KI <i>Employment impacts</i>	The economic benefits of the proposed seaport are over-stated because most of the jobs are relatively low-paid, seasonal timber workers.	The jobs created are neither relatively low-paid, nor seasonal. Most of the employment at the seaport itself, and in plantation management, harvesting and haulage is stable, year-round, full-time employment which is independent of the number of vessels using the port. This is borne out by the impact on household income. Once operational, the development would result in household income of

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			almost \$74,000 per FTE job, which is almost 30% higher than the Island's average of \$57,900 at present (refer Draft EIS p 444).
668	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact of migration to KI - jobs</i>	The economic benefits of the proposed seaport are over-stated because most of the jobs will be filled by people who aren't on KI. Bulk of the employment will be seasonal and be performed by low-skilled FIFO contractors who will not bring families with them.	<p>The development will create 234 ongoing FTE jobs on Kangaroo Island: 163 directly and 71 from the immediate flow-on effects (using 2020-21 figures, see Table 20.4 of the Draft EIS). Most of these jobs will be stable, permanent jobs because, unlike agriculture and tourism, forestry is not a seasonal activity.</p> <p>KIPT has stated its preference will be to employ Kangaroo Island residents. However, given the low rate of unemployment on Kangaroo Island, it is likely that a large number of the jobs will be filled by people not currently living on Kangaroo Island. KIPT expects people currently living on the mainland will move to Kangaroo Island with their families to take up employment, especially as forestry activities decline in the Southeast of SA and in southern WA. Immigration to the island as a result of the seaport will unambiguously benefit the Island, for the reasons outlined in the Draft EIS (see p 445-447). Training will be provided, as required, to maximise the opportunities for Kangaroo Island residents who wish to work for the company and its contractors.</p> <p>Construction will be staged over approximately 15 months and there is no inconsistency in the statements about construction jobs. KIPT does not intend to establish a Fly In Fly Out (FIFO) operation.</p> <p>Chapter 20 of the Draft EIS makes it clear that most jobs will be full-time, including most of the jobs at the Smith Bay facility itself. When ships are berthed (10-20 times per annum estimated) the onsite workforce will increase to manage the ship-loading activities. Most of the employment, however, will be in harvesting in the plantations and haulage operations.</p> <p>The jobs created will be neither seasonal nor relatively low-skilled. Most of the employment at the seaport itself, and in plantation management, harvesting and haulage is stable, year-round, full-time employment which is independent of the number of vessels using the port. This is borne out by the impact on household income. Once operational, the development would result in household income of almost \$74,000 per FTE job, which is almost 30% higher than the Island's average of \$57,900 at present (refer Draft EIS p 444).</p>
671	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on KI investment</i>	The threat of the proposed seaport has stalled further investment on onshore aquaculture.	The Draft EIS complies with the requirements in the Guidelines, which require an assessment of current aquaculture operations, not unknown and undisclosed future plans. Arguments about the loss of future benefits because of stalled investment are irrelevant to the assessment process because there is no objective evidence of such plans e.g. a planning application. No-one from State Government has referred to any planned expansion, or said such plans are to be considered in the Draft EIS, or the response document. Nor is there any evidence that such plans, if they existed, would in any way be affected by the presence or absence of the proposed KI Seaport, which has been re-designed in accordance with Yumbah's recommendations.
676	ECONOMIC ENVIRONMENT	It is difficult to estimate the net negative impacts on Kangaroo Island's tourism industry, especially the North Coast marine tourist experience, if the Smith Bay	Smith Bay is not a primary destination for tourists to Kangaroo Island. There is no credible evidence to support the claim that the development at Smith Bay will

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	Benefits to KI <i>Impact on tourism - industrialisation</i>	landscape is industrialised. All eco-tourism businesses operating in and around the North Coast will be adversely affected.	<p>have any material impact on Kangaroo Island's tourism industry, and the submission from Tourism SA does not support that claim.</p> <p>The western end of Smith Bay has been industrialised for more than two decades; the site of the proposed seaport had been developed as an on-land aquaculture farm, and Yumbah's current facility has been operating since 2000.</p> <p>The landscape of Smith Bay is dominated by 6 ha of shade cloth enclosing Yumbah's industrial aquaculture operation. KIPT believes that it is better to concentrate industrial developments at one location rather than develop in a pristine location elsewhere on the island. The Kangaroo Island Development Plan supports this approach.</p>
679	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Yumbah</i>	The economic benefits are over-stated because the analysis ignores the direct losses which the project will cause to Yumbah's existing operation and the impact on Yumbah's future operations. The development will result in the closure of Yumbah and job losses.	<p>With the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that Yumbah will close if the development proceeds, or that the development and Yumbah's on-land aquaculture operation cannot co-exist. The development will have no material impact on aquaculture activities on Kangaroo Island. Similarly, no credible evidence has been presented to show Yumbah cannot expand should it choose to do so, subject to Yumbah obtaining all necessary approvals.</p> <p>Should Yumbah choose to close its operation on Kangaroo Island, that will have nothing to do with the KI Seaport.</p>
680	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Yumbah - economic loss from potential plans</i>	The economic benefits of the proposed seaport should be discounted by the unmeasured loss of tourist dollars and the loss of added economic benefits which Yumbah's proposed expansion (which is on hold and would be shelved) would have delivered.	<p>The Guidelines require an assessment of current aquaculture operations, not unknown and undisclosed future plans. Arguments about the loss of future benefits because of stalled investment are irrelevant to the assessment process because there is no objective evidence of such plans e.g. a planning application. No-one from State Government has ever referred to any planned expansion, or said such plans are to be considered in the Draft EIS, or the response document.</p> <p>With the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that the development and Yumbah's on-land aquaculture operation cannot co-exist. Similarly, no credible evidence has been presented to show Yumbah cannot expand should it choose to do so, subject to Yumbah obtaining all necessary approvals.</p> <p>Should Yumbah choose to close its operation on Kangaroo Island, that will have nothing to do with the KI Seaport.</p> <p>There is no credible evidence to support the claim that the development at Smith Bay will have any material impact on Kangaroo Island's tourism industry. The submission from Tourism SA does not support this claim. One of the advantages of Smith Bay is that it is that it is an industrialised site that is well away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast.</p>
681	ECONOMIC ENVIRONMENT Benefits to KI	The economic benefits are overstated because they do not account for the lost opportunity when Yumbah shelves its expansion plans when the seaport is built. The development is preventing Yumbah from expanding its KI operations. The	<p>The Draft EIS explicitly quantifies the direct economic impact if Yumbah closes (see Draft EIS, pp 448-9).</p> <p>However, with the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that Yumbah</p>

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	<i>Impact on Yumbah - expansion plans</i>	development will have numerous impacts on Yumbah which cannot be mitigated.	<p>will close if the development proceeds, or that the development and Yumbah's on-land aquaculture operation cannot co-exist. Similarly, no credible evidence has been presented to show Yumbah cannot expand should it choose to do so, subject to Yumbah obtaining all necessary approvals.</p> <p>The Draft EIS complies with the requirements in the Guidelines, which require an assessment of current aquaculture operations, not unknown and undisclosed future plans. Arguments about the loss of future benefits because of stalled investment are irrelevant to the assessment process because there is no objective evidence of such plans e.g. a planning application. No-one from State Government has at any time referred to any planned expansion or suggested that such plans are to be considered in the Draft EIS, or the response document. Nor is there any evidence that such plans, if they existed, would in any way be affected by the presence or absence of the proposed KI Seaport, which has been re-designed in accordance with Yumbah's recommendations.</p>
682	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Yumbah - future operations</i>	Yumbah has expert analysis which shows the seaport will have an adverse impact on Yumbah's current and future operations.	It is acknowledged that Yumbah's current operation generates significant benefits for Kangaroo Island. However, with the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that Yumbah will close if the development proceeds, or that the development and Yumbah's on-land aquaculture operation cannot co-exist. Arguments about the loss of future benefits because of stalled investment are irrelevant to the assessment process because there is no objective evidence of such plans e.g. a planning application.
684	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts of a multi-use port</i>	KIPT has not detailed discussions or consultation with the Kangaroo Island community on future freight and cargo opportunities, and the infrastructure these uses may require. This is a significant issue which has serious implications for the community, the environment, and Yumbah.	Third party users will have to obtain all of the necessary planning approvals require for additional infrastructure at Smith Bay, and the implications for the community will be addressed at that time.
690	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts on surrounding businesses</i>	The development will adversely affect Yumbah and many nearby small businesses.	<p>Chapter 20 of the Draft EIS addresses the economic environment and potential impacts as a result of the proposed development, including impacts on existing aquaculture, tourism, and commercial and recreational activities in the vicinity of the proposed development. The impacts on nature and biodiversity, which these activities rely on, are discussed in other chapters including Chapters 9-19.</p> <p>There is no credible argument that the seaport will have any material adverse impact on Yumbah KI or the very small number of nearby small businesses. The economic impact of the development on Kangaroo Island will, however, be substantial, equivalent to 29 years of economic growth at current rates. In addition, the development will stimulate population growth, increase the demand for new housing and make the Kangaroo Island economy more resilient, particularly in the face of the seasonal and cyclical economic variations that affect all small regional economies.</p>

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691	ECONOMIC ENVIRONMENT Benefits to KI <i>Non- port infrastructure costs</i>	The economic benefits are overstated because they ignore non-port infrastructure costs, such as roads.	<p>The estimated cost of upgrading Bark Hut Road, McBrides Road and North Coast (defined transport route, Option 1) is \$4.85 million (see KI Seaport Traffic Impact Assessment, Draft EIS Appendix P, p 38).</p> <p>The Draft EIS used standard economic modelling techniques. The economic impact assessment would include these costs as additional benefits to Kangaroo Island regional economy if the funds were obtained from a source which is external to Kangaroo Island.</p> <p>There are a number of (Commonwealth and state) funding schemes and models available, but only the Kangaroo Island Council can apply for these funds: KIPT cannot as they do not own/manage the roads. HDS Australia, (the authors of the Traffic Impact Assessment presented in Appendix P) has said there will need to be agreement between KIPT, DPTI and the Kangaroo Island Council on the preferred route before funding strategies can be agreed and funding applications can be lodged. The Kangaroo Island Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.</p>
692	ECONOMIC ENVIRONMENT Benefits to KI <i>Project viability</i>	The economic viability of the proposed seaport depends entirely on the sequence of plantation harvesting, commodity prices and availability of ships, none of which is in the control of KIPT.	<p>The economic viability of the seaport depends on the volume of timber available for harvest, the rate at which the timber is harvested, the cost of constructing and operating the infrastructure, and the cost of delivering timber products from the plantation to the ships' holds. The number of vessels at berth per annum is a function of these inputs - it is not a determinant of viability.</p> <p>Like most of Kangaroo Island's exports (e.g. grains and livestock) the profitability of KIPT operations will be affected by fluctuations in commodity prices. That does not mean that cropping and grazing are not viable; similarly, it does not mean that the seaport is not viable. If the Seaport was not viable, there would not be a business prepared to seek planning approval to build and operate it. Viability is the province of the board and shareholders of KIPT. It is not a planning matter.</p>
695	ECONOMIC ENVIRONMENT Benefits to KI <i>Socio-economic impacts – negative</i>	The proposed Smith Bay seaport will result in a net negative transformation of Kangaroo Island.	The analysis presented in Ch 20 of the Draft EIS shows that this claim is incorrect.
698	ECONOMIC ENVIRONMENT Benefits to KI <i>Socio-economic impacts - tourism and road trauma</i>	The economic benefits are over-stated because the analysis does not account for tourism losses and road trauma cost.	<p>The assessment of alternative sites expressly considered the impact on tourism on Kangaroo Island. One reason Smith Bay was favoured was because it was on the north coast, well away from most of the tourism attractions on western Kangaroo Island, which are on the south coast.</p> <p>The issue of road trauma is independent of site location and is common to all activities which will result in increased road use, e.g. growth in tourism on Kangaroo Island, which is activity encouraged by the Kangaroo Island Council and promoted by the SA Government. Chapter 21 of the Draft EIS expressly addresses this issue and canvasses a range of options to minimise this risk.</p>

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702	ECONOMIC ENVIRONMENT Benefits to KI <i>Traffic and transport</i>	The impact of heavy truck movements on tourism, and the cost of maintaining roads, and the inevitable road trauma has not been properly considered by the proponent.	<p>There are options to mitigate the impacts on traffic and transport which are fully canvassed in the Draft EIS (see Chapter 21 and Appendix P). Further work is required with the Kangaroo Island Council and South Australian government to resolve this issue.</p> <p>The Draft EIS uses standard economic modelling techniques. The cost of upgrading the roads to mitigate the impacts of the open network model discussed in the Draft EIS (see Chapter 21) would be an additional economic benefit to the Kangaroo Island economy and community if they were funded by parties external to Kangaroo Island.</p>
706	ECONOMIC ENVIRONMENT Impact on Yumbah <i>Yumbah's economic assessment</i>	Yumbah engaged Dench McLean Carlson to complete an econometric analysis of Yumbah's current economic contribution to Kangaroo Island, and the greater contribution that would accompany Yumbah's stalled investment program.	<p>It is acknowledged that Yumbah's onshore aquaculture operations deliver significant economic benefits. With the changes to the in-water design, which were suggested by Yumbah to eliminate the impacts associated with the initial design, the development will have no impact on Yumbah. Therefore, there will be no loss of economic benefit to Kangaroo Island.</p> <p>The guidelines require an assessment of current aquaculture operations, and do not require the applicant to speculate about unknown and undisclosed future plans. Such future investment plans are not relevant unless they are supported by objective evidence – specifically a planning application lodged before the Seaport was declared a major project.</p> <p>No state government department or agency has at any time referred to any planned expansion by Yumbah or suggested that such plans are to be considered in the Draft EIS, or the response document. In any case, there is no reason why such plans, if they exist, could not proceed.</p>
707	ECONOMIC ENVIRONMENT Site selection <i>Socio-economic impacts</i>	There are better locations than Smith Bay, and the Kangaroo Island Council agrees, but the Draft EIS has summarily dismissed these options.	The Draft EIS (see Chapter 3) summarises the process KIPT used to select Smith Bay. KIPT stands by its analysis that Smith Bay is the best location. The arguments regarding the merits of other sites were not summarily dismissed; this was actually the entire basis of the site selection analysis conducted by KIPT before it chose Smith Bay as the best option.
708	ECONOMIC ENVIRONMENT Site selection <i>Socio-economic impacts - forestry</i>	There are better locations than Smith Bay, and KIPT should be directed to build the seaport elsewhere. This will enable Yumbah to grow.	<p>KIPT, after considerable investigation, has proposed the site that it considers most suitable and has explained the reasons for this decision. Neither the Kangaroo Island Council nor the SA Government has the power to direct KIPT to build elsewhere. The Kangaroo Island Development Plan does not define specified locations for establishment of a port in any of its revisions.</p> <p>An approval for the seaport at Smith Bay would realise the benefits of plantation timber for Kangaroo Island, which would become a new sustainable industry on the island. The economic impact of the development on Kangaroo Island will be equivalent to 29 years of economic growth at current rates. In addition, the development will stimulate population growth, increase the demand for new housing and make the Kangaroo Island economy more resilient, particularly in the face of the seasonal and cyclical economic variations that affect all small regional economies.</p>

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			<p>For more than two decades, the Commonwealth Government and all state governments, including the South Australian government, have supported the development of large-scale plantation forestry to protect Australia's native forests and the biodiversity which they contain, and create sustainable regional economies. Governments recognise the social, economic and environmental values of sustainable timber plantations.</p> <p>Particularly in light of the modifications of the seaport design following comments received on the Draft EIS, there is no limitation on Yumbah to grow its enterprise that arises from the proposed development.</p>
709	ECONOMIC ENVIRONMENT Site selection <i>Veracity of socio-economic assessment</i>	The benefits are overstated because there has been no socio-economic analysis of alternative sites, only site visits by Google Earth.	The assessment of alternative sites is discussed in full in Chapter 3 of the Draft EIS and did not solely use or rely on 'Google Maps'. A preliminary assessment of the socio-economic impacts was considered in Stage 1 of the assessment process and was refined and reviewed in Stage 2, see Section 3.3 and 3.4 of the Draft EIS, respectively.
711	TRAFFIC AND TRANSPORT Alternative sites <i>Impact on native fauna</i> (EPBC related)	The EIS estimates up to 21 endangered Kangaroo Island echidnas will be killed each year, while other animals including the southern brown bandicoot and the hooded plover will also be affected. By building the seaport at a location closer to the tree plantations, the distances travelled by timber trucks would be reduced and as a result, the impact on native fauna would also be reduced.	<p>Roadkill is an inevitable consequence of rural road use by vehicles. KIPT will introduce management and driver-training schemes to minimise the extent of roadkill arising from timber transport on KI Roads.</p> <p>If it were feasible, the location of the port close to the plantations could provide several benefits including shorter distances travelled by timber trucks and reduced impacts. However, taking all relevant factors into account, Smith Bay is the preferred option.</p>
713	TRAFFIC AND TRANSPORT Funding road upgrades and maintenance <i>Site selection</i>	The road issues have not addressed adequately, and Smith Bay is not the right choice. The port is poorly placed to be a piece of regional infrastructure and thus should not warrant or attract regional freight route funding. Why was the issue of alternative transport routes and their cost impacts not incorporated into the selection of the location for the port?	<p>Traffic and transport impacts, including the cost of upgrading and maintaining the roads, were relevant factors influencing the selection of Smith Bay as the preferred site for the development. Many other factors influenced the decision. Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT stands by this analysis; Smith Bay is the best location for the development.</p> <p>Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads.</p>
715	TRAFFIC AND TRANSPORT Impact on roads <i>Funding road upgrades and maintenance</i>	The roads on Kangaroo Island are in no condition to handle these heavy vehicles, and ratepayers should not have to fund the necessary upgrades and maintenance. Who will fund this work?	<p>KIPT agrees with the general proposition that ratepayers should not be responsible for maintaining the roads that will be used to transport timber products to Smith Bay and from the outset KIPT has made this clear to the Kangaroo Island Council. However, KIPT is also one of the largest ratepayers on the Island and would encourage Council to spend these funds on roads.</p> <p>Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.</p> <p>Similar to existing industries that contribute to the regional and state economy, such as tourism and agriculture, plantation timber could also initiate the injection of funds from the Commonwealth, State and local governments to support the growth of industries, including investment in road upgrades.</p>

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717	TRAFFIC AND TRANSPORT Road safety <i>Funding and implementation</i>	KIPT say road safety guidelines will be required to mitigate the risk of crashes due to the timber haulage operation. Who will pay and who will implement these?	KIPT commissioned the Centre for Automotive Safety Research to develop a set of complementary options to improve the safety of the timber haulage operations (See Draft EIS Section 21.5.5). These include safer roads, driver competency and training, in-vehicle technological aids and safer speeds. As outlined in the Draft EIS, KIPT anticipates these options would be negotiated with the Kangaroo Island Council and the South Australian Government as part of continuing discussions regarding the haulage operations.
725	TRAFFIC AND TRANSPORT Road safety <i>Training and safety initiatives</i>	What type of training will the truck drivers undertake and who will implement this training and pay for it?	The details of the training required will be determined after the port has been approved, and before trucking operations commence. KIPT will fund and monitor the training and safety initiatives, which will be implemented by KIPT and its haulage contractors.
731	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Socio-economic impacts</i>	EIS does not reveal the traffic baseline so it is impossible to evaluate the nature of the increase in traffic. The proposed traffic effectively doubles the proportion of heavy vehicles using KI roads. The nature of the heavy vehicles is yet to be defined nor has the exact route taken nor the specific activities these vehicles will be carrying out.	<p>The traffic baseline is discussed in Section 21.5 of the Draft EIS. The existing environment (i.e. vehicle movements, road conditions, road users, road safety etc) are discussed in Section 21.5.3; the regulatory environment is discussed in Section 21.5.2; the transport tasks for both the construction and operations phases of the development are discussed in Section 21.5.1.</p> <p>KIPT is not able to define which vehicles would be used or the exact route to be taken because these choices will be determined by decisions made by both the Kangaroo Island Council and the SA government. KIPT has made clear its preference is to use high productivity vehicles (A-doubles if possible) and has nominated a preferred route to Smith Bay. These matters are discussed in Section 21.5.5 of the Draft EIS.</p> <p>The Draft EIS acknowledges the number of heavy vehicle movements on Kangaroo Island will increase. Allowing A-doubles will halve the number of vehicle movements (i.e. to 10,000 vehicle movements per annum to Smith Bay) compared with the use of standard semi-trailers (approximately 20,000 deliveries per annum to Smith Bay).</p> <p>The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT. The Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted. Officers from DPTI (the relevant state government agency) have indicated they will not consider these matters until KIPT has reached an agreement with the Council.</p>
734	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on amenity</i>	Quality of life will be severely affected by all using the roads, in addition to the danger. The trucks will add to the hazards on the roads caused by dust and stones.	<p>One of the advantages of the location of Smith Bay is that conflict with the most heavily used roads and the main tourism routes elsewhere on the Island is minimised. One of the advantages of the preferred route presented in the Draft EIS is that it has the fewest interactions with other road users, other industries (especially tourism) and adjoining properties, which means the impact of dust and stones is minimised.</p> <p>Nonetheless, there is no option which will have no impact, just as there is no option where the growth of tourism and tourist numbers (which is the common</p>

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			<p>objective of the Kangaroo Island Council, the South Australian government and the tourism industry on Kangaroo Island) will not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities. In both cases (forestry and tourism) the challenge is to determine the best way to manage and mitigate these impacts.</p> <p>No comprehensive solution to the various traffic and transport issues can be achieved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT.</p>
737	<p>TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on native vegetation</i></p> <p>(EPBC related)</p>	<p>It is not possible to estimate the impact on roadside vegetation and the extent to which any such upgrades would comply with or be denied by the KIC Roadside Vegetation Management Plan55 (KICRVMP). The EIS is silent on managing the spread of Phytophthora and preserving threatened species (15 EPBC identified Nationally threatened plant species).</p>	<p>From mid-2017 KIPT began working with the Kangaroo Island Council to explore a wide range of options to minimise and mitigate the impacts associated with transporting timber products to Smith Bay. This work is discussed in Chapter 21 of the Draft EIS, and the full studies are published in Appendix P.</p> <p>The impact on native vegetation was one of the factors used in the multi-factor assessment of route options commissioned by KIPT which is discussed in the Draft EIS and summarised in Appendix P2. Subsequent assessment of ecological impacts favoured Option 1 over Option 2.</p> <p>The Kangaroo Island Council subsequently commissioned its own assessment of route options, which is also discussed in Chapter 21 of the Draft EIS and is presented in Appendix P4. That assessment, which excluded impacts on native vegetation, favoured a route which would use Gap Road and Roper Road. The significance of this omission was brought to the Council's attention in the subsequent study commissioned by KIPT (see KIPT Transport Route Options, Limitation Summary, Appendix P5). The Council's favoured route would affect habitat for the critically endangered glossy black-cockatoo; would require a separate EIS and approval from the Commonwealth Government; and there would be little likelihood of obtaining such approval.</p> <p>KIPT has made clear it does not support this route option because the impacts on native vegetation, and the potential threats to glossy black-cockatoos, are unacceptable.</p> <p>The traffic and transport issues (including the impacts on native vegetation) cannot be resolved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT. The Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.</p>
755	<p>TRAFFIC AND TRANSPORT Traffic impact assessment <i>Water cartage</i></p>	<p>The impact of trucking fresh water to Smith Bay has not been considered.</p>	<p>The increase in traffic from water trucks during unforeseen events is considered marginal to the existing traffic movements resulting from the development and no further assessment would be required.</p>

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770	VISUAL AMENITY 3D model <i>Veracity</i>	The conceptual 3D model presented in the EIS Addendum Appendix F (Figure 13) is overly simplistic and do not give a true presentation of the intrusion of the visual amenity from many important perspectives.	<p>The 3D renders provided in the EIS, including in Appendix F of the Addendum, are conceptual in nature and intended to illustrate what may be visible from various points in Smith Bay, and are presented without any vegetation or other obstructions in the line of sight, which is the worst case scenario. In reality, such obstructions do exist at most locations.</p> <p>The line of sight locations were primarily chosen to assess the impact on key sensitive receivers in the Smith Bay area, however for completeness, additional locations were also selected for assessment. It is considered that the 3D renders adequately demonstrate the level of visual impact if the KI Seaport was in the landscape.</p>
773	VISUAL AMENITY Landscape character <i>Wharf infrastructure</i>	The scale and intrusion of the causeway being extended by the linkspan bridge to a floating pontoon design for the in-water structures is at odds with the coastal landscape of Smith Bay.	The EIS acknowledges there will be changes to the visual amenity of Smith Bay. However, it is considered the impact of KI Seaport's offshore components would not necessarily be at odds with the industrial like nature of the existing visual landscape that already comprises pipework, tanks, structures, equipment and machinery. The wharf infrastructure would extend approximately 650 m from shore and would be at a distance from the coastal landscape.
774	VISUAL AMENITY Landscape character <i>Yumbah's compatibility with surrounding landscape</i>	Yumbah blends well with topography and natural land, and marine assets.	It is considered that KI Seaport would blend in with Yumbah's operation at Smith Bay by adding to the industrial like nature of the existing visual landscape.
775	VISUAL AMENITY Visual amenity <i>Aesthetics and visual impacts to a pristine environment</i>	KI Seaport will destroy the natural and pristine aesthetics of Smith Bay and North Coast Road and the general attractiveness of Kangaroo Island. Significant visual impacts to sensitive receptors would result from the development, which is incompatible with the coastal pristine landscape.	<p>The EIS assessment of impacts to visual amenity concludes that developing the KI Seaport at the western end of Smith Bay, which is already disturbed and developed, would minimise the visual impact compared to locating the seaport in an undeveloped part of Kangaroo Island's coastline.</p> <p>The KI Seaport site at Smith Bay has historically been used for cropping, grazing and aquaculture. The development site has been cleared of native vegetation and includes remnant infrastructure from former aquaculture ventures. The existing abalone farm nearby includes approximately 6 ha of shade cloth, large pieces of infrastructure, lighting, plant and equipment, all of which compromise the visual amenity of Smith Bay.</p> <p>Large areas of Kangaroo Island's land mass have been developed, resulting in alteration of the natural environment for grazing, cropping, and establishment of infrastructure. This can be observed along North Coast Road, particularly in the vicinity of the development site.</p>
777	VISUAL AMENITY Visual amenity <i>Impact on Molly's Run</i>	Visual amenity of KIPT's seaport proposal will also have major impacts on Molly's Run and will have a significant effect on this tourism business.	<p>Molly's Run is located immediately opposite Yumbah's onshore abalone farm, which can be seen from its guest quarters, as shown on the Molly's Run website.</p> <p>Yumbah also have night lighting. KI Seaport's lighting will add to night lighting of the area but will comply with relevant Australian standards (AS4282-1997: Control of obtrusive effects of outdoor lighting) and would be designed to</p>

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			<p>minimise light spill as much as practicable at night whilst still maintaining safety and security for operators. Standard practice is to have lighting directed only onto site, and direct view of the bright parts of the light is prevented from positions of importance at eye height, on neighbouring properties.</p> <p>Vegetation screen plantings, choice of colour and design layout will all be used to minimise any potential visual impacts to neighbouring properties. It should be noted that some mature vegetation to the north-west of the residence (the direction of the proposed KI Seaport) would screen Molly's Run from some of the visual impact of the seaport.</p>
780	HERITAGE Aboriginal heritage <i>Management protocols for construction activity</i>	Management and protocols for identifying heritage items during bulk earthworks are not adequate.	<p>Monitoring changes in soil lithology during excavation work is a standard practice to identify potential heritage sites that are beneath the ground surface.</p> <p>KIPT has committed to archaeological monitoring by the relevant Aboriginal groups during earthworks to detect possible subsurface deposits, see Section 8.</p>
781	HERITAGE Aboriginal heritage <i>Veracity of survey methodology</i>	Cultural heritage sites are often associated with specific environmental features, such as Smith Creek. An intrusive site assessment should be conducted on this high-risk area (due to insufficient information on the archaeology of KI) to identify whether any items of archaeological significance are present in order to adequately manage risk. The proponent cannot protect Aboriginal heritage sites if they do not know they are there.	<p>Smith Creek (in its current form) does not run through the proposed development site. It lies to the west of the proposed development site.</p> <p>An intrusive investigation was not undertaken as the existing surface is highly modified. Based on past land use practices it is unlikely that any Aboriginal artefacts remain undisturbed and visible on the ground surface. EBS Heritage have completed a revision of the desktop heritage assessment which addresses the comments raised by the DPC - AAR. See Appendix G for an updated report to Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019 of the Draft EIS. The report in Appendix G replaces the existing report in Appendix S1 to the Draft EIS.</p> <p>The revised report includes an updated Predictive Risk Assessment (see Table 4 of Appendix G) which acknowledges the coastal location of the project site, the presence of an Aboriginal site approximately 800m to the east, as well as the proximity of Smith Creek which suggests that the proposed earthworks pose a moderate to high risk of encountering sub-surface Aboriginal sites or objects.</p> <p>KIPT would commit to undertaking an on-ground archaeological and ethnographical survey subsequent to development approval for the KI Seaport. The survey would be undertaken with representatives of the relevant traditional owner groups and would be undertaken prior to the start of construction works. Monitoring changes in soil lithology during excavation work is a standard practice to identify potential heritage sites that are beneath the ground surface. KIPT has committed to archaeological monitoring by the relevant Aboriginal groups during earthworks to detect possible subsurface deposits.</p>
782	HERITAGE Aboriginal site monitors <i>Lack of commitment</i>	Proponent to clarify if Aboriginal site monitors will be present during ground disturbing works.	<p>KIPT would commit to undertaking an on-ground archaeological and ethnographical survey subsequent to development approval for the KI Seaport. The survey would be undertaken with representatives of the relevant traditional owner groups and done prior to the start of construction works. KIPT has committed to archaeological monitoring by the relevant Aboriginal groups during</p>

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			earthworks to detect possible subsurface deposits, see final commitments for the KI Seaport development in Section 8 .
787	HERITAGE European heritage <i>Lack of recognition by KIPT, heritage sites not reported to government</i> (EPBC related)	Heritage sites at Smith Bay not valued by the proponent. The potential heritage sites were also not reported to the SA Government by the proponent.	KIPT is not legally required to report heritage items in the Smith Bay area. There are no historic buildings or building ruins on the proposed development site. There are, however, two building ruins located outside the development site which are not listed on any local, state or federal heritage register. During construction and operation these ruins would be identified as 'no-go' zones and managed by implementation of the CEMP and OEMP. A potential heritage site had been investigated by the SA Government heritage assessment officer in recent times and their assessment concluded that there were no significant heritage values on the site. KIPT would comply with all requirements under the <i>Heritage Places Act 1993</i> .
789	HERITAGE European heritage <i>Omissions - heritage sites</i>	EIS does not identify physical features of the site which include the ruins of Harry Smith's house and the Jacka family ruin. The submission infers that these ruins have heritage value.	Then physical features of the site are described in other sections of the Draft EIS. Section 24.4.3 of the Draft EIS describes the existing environment in terms of non-Aboriginal heritage. Figure 4-3 of the Draft EIS shows the location of heritage sites in the vicinity of the study area which includes the location of Harry Smith's house ruins and the Jacka family home ruins. Appendix S2 provides a summary of activities that were undertaken in the Smith Bay area since the start of European settlement.
790	HERITAGE European heritage <i>Veracity of survey methodology</i>	Lack of intrusive site investigation for European heritage creates doubt that other heritage sites may be unreported.	A search of databases conducted during preparation of the Draft EIS did not identify any sites of local, state or national heritage significance. Based on the history of land use on the site, it is unlikely that any items of heritage significance would be found on the soil surface during a site investigation. Standard protocols would be implemented as part of the CEMP in the event that an item of potential heritage significance was uncovered during earthworks.
791	HERITAGE Heritage values <i>Heritage management plan inadequate</i>	The proponent will develop heritage management plans 'on the fly'.	A CHMP would be developed following development approval and subject to the results of the on-ground archaeological survey which would involve the traditional owners. This document would be developed in consultation with the relevant government authorities, archaeologists and traditional owners, and involve the contractor who is undertaking the construction work. It is standard practice to develop a detailed management plan following development approval.
792	HERITAGE Heritage values <i>Veracity of data and conclusions</i>	Concerns that the history of Smith Bay is not adequately understood.	The review of the EIS by government agencies will determine if the assessments undertaken are adequate.
793	HERITAGE Heritage values	Disappointing and perplexing why the proponent has not completed an intrusive heritage assessment at the site.	There is a low risk of encountering surface Aboriginal sites and objects within the project area based on previous land use. However, the presence of an Aboriginal site approximately 800 m to the east, as well as the proximity of Smith Creek and

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
	<i>Veracity of survey methodology</i>		<p>the coast, suggest that the proposed earthworks pose a moderate to high risk of encountering sub-surface Aboriginal sites or objects (see Appendix G).</p> <p>KIPT has committed to an on-ground survey involving the relevant traditional owners and archaeological monitoring by the relevant Aboriginal groups during earthworks.</p> <p>Existing European historical items and buildings (that are located adjacent to the proposed development site) have been previously documented by others. The ruins are outside of the project boundary and will be identified as 'No-go zones' during construction. The 'no-go zones' will be managed via the CEMP.</p> <p>The potential impacts of an intrusive maritime survey in Smith Bay would exceed the potential benefits of the results of the survey (which include the unlikely instance of finding remains of the four known shipwrecks).</p>
794	HERITAGE Legislative compliance <i>Proponent not compliant with Aboriginal Heritage Act</i>	No acknowledgement of the RARBs of Smith Bay. Appears to be a violation of <i>Aboriginal Heritage Act 1988</i> and significant disrespect for the Traditional Owners.	<p>Changes to the <i>Aboriginal Heritage Act 1988</i> came into effect from 17 October 2017, which included the establishment of RARBs. According to the DPC's website a "RARB is an incorporated body that can enter into local heritage agreements with proponents to manage impacts on Aboriginal heritage".</p> <p>KIPT has not violated any legal requirements with respect to heritage management under the <i>Aboriginal Heritage Act 1988</i> because there is no RARB that can speak for the proposed development site on Kangaroo Island.</p> <p>An updated search of the Register of Aboriginal Sites and Objects was undertaken in August 2019, which identified the current interested parties as the Ramindjeri Heritage Association Inc. and the Original Southern South Australian Tribes Indigenous Corporation (formerly Ramindjeri Heritage & Tribal Owners of the Coorong). These details are updates to text in Table 7-1 of the Draft EIS. See Appendix G for the updated Smith Bay Heritage Assessment Report and the updated search results. KIPT has committed to continued and ongoing consultation with relevant Aboriginal groups.</p>
797	HERITAGE Maritime heritage <i>Management measures are not adequate</i>	Historic shipwrecks or relics may be present within the direct dredge area or the 500 m wider radius that may be influenced by indirect impacts from construction and operational dredging.	Dredging is no longer required for wharf operation.
798	HERITAGE Maritime heritage <i>Management measures are not adequate</i>	Dredging activity won't allow for early detection of maritime heritage.	Dredging is no longer required for wharf operation.
799	HERITAGE Maritime heritage	Figure 3 in Appendix S3 indicates the shipwreck Chum is on land.	Reports of the account describing the shipwrecking of the Chum describe the incident in which Mr Sheridan, 'who could not swim, decided to run her up onto the beach'.

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
	<i>Mapping of heritage is inaccurate</i>		Therefore, the shipwreck occurred somewhere on the coastline of Smith Bay (refer to p 12 of Appendix S3 in the Draft EIS). There is no evidence it occurred on the shore adjacent to the development site.
800	HERITAGE Maritime heritage <i>Veracity of survey methodology</i>	None of the four (shipwreck) sites have been marked as 'found'.	Noted. This is the nature of maritime archaeology. Government databases were reviewed to determine the likely possible locations of shipwrecks in the vicinity of the proposed development. An intrusive survey of the entire extent of Smith Bay would be required to find remains of the four shipwrecks if they are in fact still in the vicinity of Smith Bay. This would be cost prohibitive and damage the entire bay by removing seagrass and potentially impacting marine megafauna, fish and other mammals. Any discoveries during construction would be managed via implementation of the CEMP.
801	HERITAGE Maritime heritage <i>Veracity of survey methodology</i>	An earlier version of the disturbance footprint for dredging and causeway construction was used for the underwater heritage assessment which therefore nullifies the report findings.	The causeway is no longer part of the wharf design. Dredging is no longer required for wharf operation.
802	HERITAGE Maritime heritage <i>Veracity of survey methodology</i>	No intrusive maritime heritage assessment undertaken at KI Seaport site. The proponent has no idea if historic shipwrecks or relics are present within the dredge area or the wider radius that may be indirectly impacted.	The causeway is no longer part of the wharf design. Dredging is no longer required for wharf operation. Government databases were reviewed to determine the likely possible locations of shipwrecks in the vicinity of the proposed development. An intrusive survey of the entire extent of Smith Bay would be required to find remains of the four shipwrecks if they are in fact still in the vicinity of Smith Bay. This would be cost prohibitive and damage the entire bay by removing seagrass and potentially impacting marine megafauna, fish and other mammals. Any discoveries during construction would be managed via implementation of the CEMP.
810	HERITAGE Subconsultant report <i>Veracity of data and conclusions</i>	The submission infers that Appendix S1 is significantly lacking and inadequate. It does not present valid information to delineate the likelihood of Aboriginal sites across the site.	EBS Heritage have revised the desktop heritage assessment (see Appendix G for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019). This new report will replace the existing Appendix S1 to the Draft EIS. The report has been updated to address comments raised by the DPC AAR. The revised report includes an updated Predictive Risk Assessment to determine the likelihood of encountering Aboriginal site or objects (see Table 4 of Appendix G). There is a low risk of encountering surface Aboriginal sites and objects within the project area based on previous land use. However, the presence of an Aboriginal site approximately 800 m to the east, as well as the proximity of Smith Creek and the coast, suggest that the proposed earthworks pose a moderate to high risk of encountering sub-surface Aboriginal sites or objects (see Appendix G). KIPT has committed to undertaking an on-ground survey involving the relevant traditional owners before any construction activity commences, as well as archaeological monitoring by the relevant Aboriginal groups during earthworks.

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
824	MANAGEMENT OF HAZARD AND RISK Hazard identification <i>Hazards to Yumbah</i>	Hazards associated with KI Seaport may impact Yumbah Aquaculture.	<p>A risk assessment was undertaken to determine what hazards from the KI Seaport could affect Yumbah, and other neighbours in Smith Bay. Wherever possible the design, construction and operation of the KI Seaport has been modified, particularly following responses to the Draft EIS, to account for these hazards.</p> <p>The potential impacts to Yumbah's land-based aquaculture facility were rigorously assessed (see Draft EIS section 8.3.1). Chapter 11 of the Draft EIS draws together the various issues relevant to Yumbah and assesses the potential impacts on their operations. This risk assessment would be reviewed as the development proceeds, and KIPT would engage with stakeholders, including Yumbah, about matters that may affect them to ensure appropriate controls and management measures can be implemented in a collaborative and cooperative manner.</p>
829	MANAGEMENT OF HAZARD AND RISK Mitigation and management <i>Elimination of risk</i>	No elimination of risks associated with some port activities, such as chemical spills, fuel spills, and the like.	Risks have been identified and presented in the Draft EIS, see Chapter 25. Mitigation measures would be adopted for activities to reduce the risks and to prevent impacts that may result from those risks. For example, fuel storage would be undertaken in accordance with relevant Australian Standards, EPA guidelines and internal systems and compliance standards set by KIPT. In the event that containment systems fail, additional controls would be put in place to respond, stop the source of spill, contain the spill, clean up the spill and prevent the spill from impacting sensitive receptors, in order to avoid or minimise potential impacts. See Chapter 26 and Appendix U of the Draft EIS which outlines the EMF and provides Draft EMPs, respectively.
830	MANAGEMENT OF HAZARD AND RISK New jetty design <i>Risk assessment inputs</i>	KIPT's notification to DoEE concluded that there was no significant change to the risk profile of the development. Without data, this cannot be stated with any certainty or authority.	The Addendum presents the detail of the modified in-water design and provides the relevant impact assessments and a revision of the risk assessment for the KI Seaport. Information, data, modelling and predictions relied upon for these assessments are referenced and contained in the Addendum report.
831	MANAGEMENT OF HAZARD AND RISK New jetty design <i>Risk ratings</i>	Suggests that the new design no longer requires mitigation measures. This is incorrect as many risk profiles do no change.	<p>The decision to redesign the in-water infrastructure, to remove the necessity for any dredging activities and to remove the causeway (as suggested by Yumbah in their submission to the Draft EIS), introduces no new risks to Yumbah, and would address many of the concerns raised by Yumbah about the impact of the original design on its operations.</p> <p>The Addendum includes a revised impact assessment and risk assessment for the design change.</p> <p>The risk profiles associated with other aspects of the operation (i.e. the on-land aspects) are unaffected by the changes to the in-sea infrastructure.</p>
832	MANAGEMENT OF HAZARD AND RISK New jetty design <i>Risks to Yumbah</i>	The changes through engineering solutions do not remove the significant risk to Yumbah KI.	The changes in redesign of the in-water infrastructure addresses many of the concerns raised by Yumbah about potential impact from dredging and a construction of a solid causeway. The Addendum to the Draft EIS includes a revised impact assessment and risk assessment for the design change.

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
835	MANAGEMENT OF HAZARD AND RISK Risk assessment <i>Identification and disclosure of risks</i>	Risks and hazards associated with establishing a multi-user port at Smith Bay are ignored in the Draft EIS. Risks and hazards are potentially devastating.	Key issues associated with establishing a multi-user port at Smith Bay have been identified and the associated risk assessments have been completed in accordance with standard industry practice (i.e. AS/NZS ISO 31000). The risk assessment also considered: the risk assessment completed by the DAC, which was presented in the Guidelines for the environmental impact assessment information gathered by research, surveys and assessments undertaken for the impact assessments presented in the Draft EIS (see Chapters 8 and 25) information presented in submissions to DPTI received during public consultation on the EIS.
836	MANAGEMENT OF HAZARD AND RISK Risk assessment <i>Methodology</i>	Risk assessment approach was not consistent, acceptable or assesses in an objective manner. A more accurate risk assessment of construction and operations must be demanded of KIPT. The risk assessment and corresponding matrix are problematic. The residual risks are misleading and do not reflect the actual risk level.	The risk assessment methodology used in the Draft EIS (see Section 25.2) is consistent and aligned with accepted standards, (i.e. AS/NZS ISO 31000). The EIS team are bound by a Code of Ethics and Professional Conduct as environmental practitioners and have maintained objectivity in all the work undertaken for assessing impacts and risk of the KI Seaport development.
837	MANAGEMENT OF HAZARD AND RISK Risk assessment <i>Risk ratings for pile driving</i> (EPBC related)	Risks from the pile driving should be classified as medium to high, given the added difficulty in visually detecting marine species across a larger construction zone and during prolonged periods of high noise impact.	The construction zone may cover a larger area, but on a daily basis, the construction zone is limited to the actual work zone, which would be a manageable area limited to the immediate vicinity around the pile driving activity, and any other specific works occurring at the same time. The total period of pile driving would depend on whether one or two pile drivers are available for the construction program. It is expected that only one pile driver would be operating at any one time. If two pile drivers were available, however, the timeframes to complete the pile driving program would be reduced because the construction crews could, in effect, drive piles continuously because the delays incurred while the pile driver is demobilised and set up in the new location (i.e. the standby time for piling) would be significantly reduced. The current risk assessment for the KI Seaport development is presented in Appendix F .
838	ENVIRONMENTAL MANAGEMENT FRAMEWORK Construction management and monitoring <i>Responsibility for management</i>	Who ensures effective management?	Any development authorisation granted for the proposed KI Seaport will be subject to conditions, including conditions that commit KIPT to effective management. The EMF and the associated EMPs (EMP), would be used to ensure all commitments and approval conditions are effectively implemented during all phases of the project. KIPT would be required to ensure all contractors, sub-contractors and users of the facility comply with the relevant EMP and report to government agencies on the implementation of the EMF. Individual contractors and subcontractors would also report directly to government if they hold licences/permits for their activities.

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
			The EMF itself would be periodically reviewed, updated and improved. These reviews would assess the effectiveness of the management measures. A formal review schedule would be developed to manage this process.
839	ENVIRONMENTAL MANAGEMENT FRAMEWORK Construction management and monitoring <i>Underwater noise</i> (EPBC related)	There are concerns about potential impacts of underwater noise on marine mammals within the environment and how it will be managed.	The underwater noise and vibration impacts have been assessed (see Section 18.4 of the Draft EIS and Appendix N). Resonate have revisited the modelling for current offshore design and to consider relevant submissions from the public consultation process. An Addendum to the report is attached as Appendix H , and Figure 1 of that report shows the predicted noise levels based on revised site layout. KIPT would prefer to avoid piling operations in winter during the whale migration season. However, should piling during the whale migration or dolphin breeding season be unavoidable, further details regarding the use of marine mammal observes and other procedures to mitigate impacts to these species would be included in the CEMP.
840	ENVIRONMENTAL MANAGEMENT FRAMEWORK Dredging management <i>Pro-active management of dredging</i>	The critique fails to take account of the opportunity to manage the dredge program pro-actively by using the hydrodynamic model to predict periods of high connectivity and shutting down the dredge accordingly.	Dredging no longer forms part of the design, therefore this issue is resolved.
842	ENVIRONMENTAL MANAGEMENT FRAMEWORK Management plans Implementation, regulation, compliance and best practice (EPBC related)	EIS does not reflect the emphasis on environmental 'best practice' that was voiced in the SRG Workshop. Controls should be put in place and KIPT should be held accountable to implement them, and how this is to be achieved should be made clear to the public. Have relevant organisations been consulted to create the EMPs?	KIPT would be required to comply with any conditions set as part of the development approval. After KIPT has received planning consent (i.e. the primary approval) KIPT would be required to liaise with relevant government agencies to develop the CEMP. In some cases, their formal endorsement or approval would be required. KIPT would also be required to obtain relevant permits, licences and other approvals to comply with relevant legislation. KIPT would also be required to develop an OEMP, and obtain such other permits, licences and approvals as may be required to operate the KI Seaport. KIPT is a publicly listed company on the ASX, and would also be required, by law, to report on environmental performance.
847	ENVIRONMENTAL MANAGEMENT FRAMEWORK Post-approval monitoring Mitigation of air quality impacts	EIS gives no indication as to who will monitor control measures and oversee compliance and enforcement, where the water required for air quality mitigation will come from; who will pay for the water; and how impacts of this water use will be managed.	The EMF and the associated EMPs (EMP), would be used to ensure all commitments and approval conditions are effectively implemented during all phases of the project. KIPT would be required to ensure all contractors, sub-contractors and users of the facility comply with the EMP and report to government agencies on the implementation of the EMF.

ID	Topic / Issue	Summary of issue raised by <u>Yumbah Aquaculture</u>	KIPT response
			<p>The EMF itself would be periodically reviewed, updated and improved. These reviews would assess the effectiveness of the management measures. A formal review schedule would be developed to manage this process.</p> <p>Sustainable water sources include rainfall for potable water, and captured surface water for operational use. Water for construction needs, such as dust suppression, would be pumped from the sea.</p>
851	<p>COMMITMENTS</p> <p>Construction timing</p> <p>No commitment to avoid whale season nor presence of dolphins</p> <p>(EPBC related)</p>	<p>No commitment to respect EPA requirement 'piling should not be undertaken during whale migrations season nor when dolphins, which frequent the region, are present'</p>	<p>Pile driving activities may occur within the whale migration season, therefore, KIPT commit to implementing strict protocols during construction to mitigate the potential impact of pile driving on marine mammals. Protocols will include:</p> <ul style="list-style-type: none"> • risk assessments on the likelihood of observing marine mammals in the development area • using a 'soft start' in which the piling impact energy would be gradually increased over 10 minutes to deter fauna from remaining close enough to risk injury after operations reached normal levels • establishing a 1 km shut down zone around the site, equivalent to the most conservative distance threshold to prevent permanent hearing damage • monitoring of this zone, with an additional buffer area, by marine mammal observers, perhaps complemented by acoustic equipment to detect mammals; pile driving would stop if a marine mammal was sighted in the zone • avoid pile driving at night, when it might be difficult to detect marine mammals.

6.3 RESPONSE TO PUBLIC SUBMISSIONS

Table 6-3 provides responses to issues raised in general public submissions (with the exception of the Kangaroo Island Council, Yumbah Aquaculture or government). EPBC related issues are indicated by an entry of 'EPBC related' in the 'Topic / Issue' column (i.e. the third column).

Table 6-3: Responses to issues raised by the general public (excluding the Kangaroo Island Council, Yumbah Aquaculture and government)

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
23	1056, 1095, 1117, 128, FL1	INTRODUCTION Assessment of social, economic and environmental aspects of the development <i>Adequacy</i>	The EIS is inadequate and a general concern have been expressed on the poor standard of assessment of social, economic and environmental aspects of the proposed KI Seaport.	The Draft EIS was submitted to the DPTI (DPTI) and underwent an adequacy check by government agencies (against the Guidelines issued for the preparation of the EIS) and for its suitability for release for public comment. The Minister for Planning released the Draft EIS and provided a Public Consultation period of 28 March 2019 - 28 May 2019. See Figure 1 of the Response Document which outlines the assessment process. A second round of public consultation occurred for the Addendum to the Draft EIS, which underwent a similar adequacy check process. The EIS team comprise of individuals with suitable qualifications, experience and capability. Impact analysis has identified and predicted the likely environmental, social and other related effects of the proposal, with involvement and input of communities and industries affected by the proposal, government agencies, and the interested public.
24	1054, 1098, 1185, 1220, 559, 867, A62	PROJECT JUSTIFICATION Alternative uses for timber <i>Uses that don't require a bulk export port</i>	There are concerns that other uses of plantation timber have not been investigated and that other uses that don't require a bulk export port may exist, such as: <ul style="list-style-type: none"> no use of the timber at all, leave plantations as is and 'do nothing' biofuel for Kangaroo Island use biochar greenhouses or micro energy installs. 	Chapter 2 of the Draft EIS provides the justification for the KI Seaport development and outlines the development of plantation forestry on Kangaroo Island. Timber plantations were established on Kangaroo Island with the support and concurrence of all three levels of government to preserve native forests elsewhere in Australia and create jobs and economic development opportunities on Kangaroo Island. The option of taking no action would mean the trees are simply left to grow, which would not achieve the policy outcomes envisaged when forestry was approved on Kangaroo Island. The proposal presented in the Draft EIS represents the highest and best use of the plantation timber. Section 2.5 discusses alternative uses for Kangaroo Island timber. No other commercially viable alternative uses for mature plantation timber which does not entail exporting timber products from Kangaroo Island exists. This position remains valid even with recent fires on Kangaroo island and having to manage and investigate new markets for timber products that would be salvaged from fire-damaged plantations.
25	FL5	PROJECT JUSTIFICATION Harvest volumes <i>Clarification of volumes</i>	There should be a planned reduction of trees for 25 years following first rotation.	There are no plans to reduce the area of plantation timber on Kangaroo Island. Scale is essential to a commercially sustainable timber industry.

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
29	821	PROJECT JUSTIFICATION Need for a port <i>Sealink option</i>	Sealink operates a regular and reliable service already for Kangaroo Island. It would seem viable that SeaLink's operations could grow to satisfy growing demands, and therefore having the KI Seaport as the 'only cost-effective' option to meet government's objective for a multi user, multi cargo facility' is disputed.	The Sealink ferry does not offer a commercially viable option for exporting large quantities of bulk timber products to export markets.
30	1196	PROJECT JUSTIFICATION Need for the port <i>Longevity of timber industry</i>	Already have a suitable port, how long will the project last, where and who will do the replanting?	There is no port on Kangaroo Island suitable for exporting timber products directly to markets in north Asia, (refer to Draft EIS Sections 2.3.1 and 3.2). KIPT will establish a sustainable timber industry. Some trees (primarily the softwood) will be replanted after the first harvest; most of the trees (i.e. the hardwood) will be coppiced i.e. will regrow from the stump.
37	635	PROJECT JUSTIFICATION Timber exports <i>Timber product types</i>	Reasoning for softwood only being able to be exported as logs has not been justified. Should have multi-user port on eastern end and a load out woodchip conveyor on the western end.	The type of timber products exported will always depend on customer demand and the cost-benefit analysis of supplying that product. Factors such as the volume of wood available (softwood or hardwood), the technology required, and the associated financial returns are considered in such analysis. At this stage, softwood would be exported as logs given the current market, customer demands and cost-benefit analysis. It would be prudent for the long term sustainability of KIPT's business to have options and capability for export of both logs and woodchip.
39	1056, 1061, 1068, 1184, 1217, 42, 500, 559, 635, 679, 689, 707, 761, 779, 821, 825, A23, A26, A40, A41, A45, A67, A73, A84, FL3	PROJECT ALTERNATIVES Alternative sites <i>Selection criteria, methodology, evaluation and consideration of other sites</i> (EPBC related)	Concerns have been expressed that there are better sites than, or alternative sites to Smith Bay, or that the assessment of alternative sites for the KI Seaport did not adequately address Guideline 1.14, and that the criteria and methodology used, and weighting given to social, economic and environmental aspects, in assessing alternative locations were flawed. Specific concerns expressed in relation to the assessment of alternative sites by members of the public during consultation included: <ul style="list-style-type: none"> deeper waters for a deep-water port exist elsewhere on Kangaroo Island 	The Minister for Planning authorised the release of the Draft EIS after his department confirmed the document had adequately addressed all guidelines, including Guidelines 1.14 and 6.3. Chapter 3 of the Draft EIS summarises the process used to select Smith Bay prior to KIPT lodging an application for permission to develop a deep-water port at Smith Bay. The assessment of locations for the seaport considered, but was not limited to, the following: <ul style="list-style-type: none"> desktop analyses of topographical and bathymetry data, using available information on Google Earth Pro and government databases and mapping observations noted during physical inspections, where they could be undertaken, taking note of various site attributes cost estimates for establishing infrastructure for the port (onshore and offshore) cost benefit and economic analyses accessibility potential environmental regulatory constraints, such as the presence of protected species, proximity to conservation areas such as Marine Parks and National Parks, protected heritage sites and existing land degradation from previous anthropogenic activities prominent and predominant tourism areas and travel routes used by tourists.

ID	Submission ID	Topic / Issue	Summary of issue raised by <u>Members of the Public</u>	KIPT response
			<ul style="list-style-type: none"> • sites exist closer to the timber plantations • a site at, or close to, the timber plantations (and not on the coast) was not considered • a cost-benefit analysis not done; or unsubstantiated (for example, differences in the cost for road upgrades required for freighting timber from plantation to port for various site scenarios provided no explanation for costs stated); or inadequate (for example, existing facilities or sources of quarry material for KI Seaport's construction were not factored into the cost-benefit analyses. The specific example of Cape Dutton (where a DPTI-controlled quarry is close by) may reduce construction costs for the development, was used • other locations have more positive outcomes for the community and the environment, compared to Smith Bay • other locations have existing port facilities • safer road networks, and greater linkages to workforce and community hubs, exist at other locations • less remote locations, compared to Smith Bay, exist • cost estimates provided are not substantiated • existing industry and community values are not properly considered. 	<p>KIPT does not own or control any part of the road network on Kangaroo Island. The cost estimates factored in road upgrade costs that were based on the length and current condition of roads considered relevant to the development. It is acknowledged that there is a degree of variability in estimating such costs.</p> <p>Physical inspections conducted for locations did assess facilities or services and other factors that could be beneficial in constructing or operating the seaport, such as the quarry near Cape Dutton. Apart from all the other matters considered in Chapter 3 of the Draft EIS for assessing alternative sites, the quarry near Cape Dutton has soft, degraded limestone, which is considered unsuitable for constructing infrastructure in the high-energy marine environment of Cape Dutton.</p> <p>A number of public submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, Penneshaw and anywhere west of Stokes Bay, including Cape Dutton, however no useful analysis has been provided to substantiate the case in favour of these alternatives.</p> <p>Other design solutions which have been suggested during the public consultation period have been considered, and responses are as follows:</p> <ul style="list-style-type: none"> • the use of heavy lift helicopters to direct load timber on to ships at sea would not be commercially feasible and different infrastructure out at sea would be required to berth and restrain vessels; • State-managed road networks generally follow tourist routes and service the major population and community centres of Kangaroo Island. A different set of issues would arise if the location of State-managed roads were a criterion in determining a suitable port site • the woodchip storage, handling and loading facility would need to be at the port site to be effective, efficient and safe; it could not be located away from the coast, near plantations • establishing a purpose-built woodchip loading facility (essentially conveyor only port) only at the port site would not meet the requirement for KI Seaport to have the future capability for a multi-use port. <p>The cost benefit analysis presented in the Draft EIS (See Chapter 20.7) shows at least \$120m economic benefits would be lost if the seaport was to be relocated from Smith Bay to another site.</p> <p>The inputs into the cost estimates include assumptions about some components that KIPT has no direct control over, such as the road network. The cost estimates are based on the length and current condition of relevant roads. It is acknowledged that there is a degree of variability in estimating such costs.</p> <p>KIPT re-affirms its conclusion that Smith Bay is the best location for the development.</p> <p>The Draft EIS and Addendum indicate that allowing the port to proceed at Smith Bay would not have adverse impacts on aquaculture, agricultural or tourism industries in Smith Bay or Kangaroo Island.</p>

ID	Submission ID	Topic / Issue	Summary of issue raised by <u>Members of the Public</u>	KIPT response
			<p>Other design solutions have been suggested that would influence an assessment of alternative sites, such as:</p> <ul style="list-style-type: none"> • establishing woodchip loading facilities closer to the plantations • the use of helicopters to direct load timber on to ships at sea (negating the need for a port), similar to helicopters used overseas in the timber industry (such as Sikorsky S-64 Sky Crane or the Sikorsky CH-64 Tahre) • use of the state-managed road network (given the State government would have a better capacity to fund road upgrades, compared to the local council) to determine where a port would be located • establishing only a purpose-built woodchip loading facility at the port <p>Yumbah consider that there is a very high probability of catastrophic consequence from a seaport at Smith Bay. Failure to prove that removing trees from KI cannot be achieved at another location on an island with 500 km of coastline.</p>	
40	601, FLO	<p>PROJECT ALTERNATIVES Alternative sites <i>Smith Bay vs Ballast Head for Major Development Status</i></p>	<p>The decision to declare the proposed development at Smith Bay a major project is extremely disappointing because it takes the decision out of local hands. The Council was always in favour of developing Ballast Head, which the company already owns and is where agricultural products were landed and shipped in the past.</p>	<p>Where, under the Development Act, the Minister for Planning believes that a proposed development is of major environmental, social or economic significance, he/she can declare that the development be subject to the special environmental impact assessment provisions of the Act. The Minister, the Development Assessment Commission and DPTI become the various contributors to this process and outcome.</p> <p>KIPT requested the proposal be assessed as a major development because this is the only mechanism available under the Development Act which would allow a comprehensive assessment of the social, environmental and economic impacts of establishing a seaport at Smith Bay, and allow all stakeholders the opportunity to participate in the assessment process.</p>

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
				<p>A number of public submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, Penneshaw and anywhere west of Stokes Bay, including Cape Dutton, however no useful analysis has been provided to substantiate the case in favour of these alternatives.</p> <p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT stands by this analysis; Smith Bay is the best location for the development. The cost benefit analysis presented in the Draft EIS (see Section 20.7) shows at least \$120m economic benefits would be lost if the seaport was to be relocated from Smith Bay to another site.</p>
41	1066, 338, 345, 820, 822, FL2	<p>PROJECT ALTERNATIVES</p> <p>Alternative sites</p> <p><i>Suitability of Ballast Head</i></p>	<p>Ballast Head and it is a better site than Smith Bay for the port for a number of reasons:</p> <ul style="list-style-type: none"> • KIPT own it • it was given to KIPT to develop and is a proven site • it is an existing deep-water port, close to shore, which is ideally suited to woodchip export due to the easy access to a ship loading conveyor • it has been earmarked as a port on the DPTI development plan since the 1940's • it was New Forest's preferred option • has a history of shipping and is already contaminated with exotic marine pests, and therefore development at this location would not pose a significant biosecurity risk • is the most sheltered deep-water location on Kangaroo Island • provides KIPT with an option to move the development 100m to the north of the former port, which would provide a significantly reduced coastline gradient 	<p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT stands by this analysis; Smith Bay is the best location for the development.</p> <p>Some public submissions have a view that Ballast Head is a better site. Responses are provided below on the reasons why Ballast Head is not considered a suitable site:</p> <p><i>Ownership</i></p> <p>KIPT do now own the Ballast Head site (formerly owned by New Forest) through the purchase of New Forest's assets, including their plantations, land holdings and the Ballast Head site, on Kangaroo Island. Ballast Head was not 'given' to KIPT to develop.</p> <p><i>Ballast Head's port status</i></p> <p>Ballast Head is not an existing port. It is a former shallow-draft gypsum loading facility that ceased operating in 1986. All of the port infrastructure has been demolished, including the ship-loading conveyor. Ballast Head is no longer zoned for use as a port, and the planning approval to use the site as a port lapsed when the infrastructure was demolished. Ballast Head is not, and has not been, earmarked for development as a port in the KIDP. The KIDP shows a portion of the site is zoned for Primary Production, a portion is zoned for Commercial purposes, and a portion is CCZ. Commercial purposes do not include a port.</p> <p><i>New Forest's preferred option</i></p> <p>New Forests proposed a chip-only operation at Ballast Head. This was one of the principal reasons why KIPT decided to seek alternative sites. After establishing that Smith Bay was a better site for KIPT's activities, and acquiring the site, KIPT decided not to partner with New Forests in the development of Ballast Head. Indeed, New Forest and KIPT were assessing the possibility of a joint proposal for Smith Bay.</p> <p>KIPT reassessed New Forest's documentation regarding the merits of Ballast Head after purchasing the site. This second review (see Draft EIS, Section 3.5) confirmed Ballast Head was inferior to Smith Bay.</p> <p><i>Ballast Head characteristics</i></p> <p>The possibility that Ballast Head may already be contaminated with exotic marine pests is one factor which may favour Ballast Head, but it is not a determinative factor.</p> <p>KIPT and New Forests jointly commissioned bathymetric surveys of both sites, and the topographical differences between the two sites are apparent and outlined in Section 3.3.2 and Appendix B-2 of the Draft EIS. Ballast Head may not necessarily be more sheltered than Smith Bay</p>

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			<ul style="list-style-type: none"> • has the nearest private mooring for a private vessel at Ballast Head is 3 km away • oyster lease/s, which are of concern to KIPT, are located 2 km south of Ballast Head, and therefore further than Yumbah is located to the development site at Smith Bay • the nearest residences to Ballast Head are 3 km away and have no direct line of sight • available data suggests that it is a better site than Smith Bay • Ballast Head is a site that does not impact abalone aquaculture, or ecotourism industries. 	<p>given its topography land-side, and offshore waters being subject to the same climatic conditions to those that Smith Bay are exposed to.</p> <p>KIPT does not own or control any land adjacent to the Ballast Head site. Speculation of the use of land to the north of Ballast Head, is irrelevant.</p> <p>The distance to the nearest private vessel mooring is not a decisive factor in selecting a site for the development.</p> <p>Location Map KI/12 from the Kangaroo Island Development Plan (KIDP) shows six oyster leases in the waters adjacent to Ballast Head, which would be directly affected by a development at Ballast Head. The submission from Ken Rowe (KI Shellfish), who is the lessee, confirms the leases would be directly affected.</p> <p>The impact on residential amenity from a development at Ballast Head would include the impacts on residences at Brown Beach, Baudin Beach and Island Beach.</p> <p>Ballast Head is also close to the American River community where a higher level of tourism and holiday activities exist, more than exists at Smith Bay.</p>
42	1068, 1186, 1187	PROJECT ALTERNATIVES Alternative sites <i>Suitability of Cape Dutton</i>	<p>A more thorough overview of [Cape Dutton] would reveal: A site inspection shows a clear path to the most suitable location, with an elevation of only 10m from the shore in the valley; Cape Dutton is close to KIPT's plantations, and would be ideal for a conveyor or jetty construction due to deep-water close to shore no dredging would be required. Cape Dutton offers a very large area for development and is located adjacent to a DPTI approved and Council operated quarry which would provide cost savings for KIPT's construction. There is minimal interaction with tourists on roads around Cape Dutton and no township in direct line of sight. The site already manages industrial elements and intrusions not present at Smith Bay such as dust and noise.</p>	<p>Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. The arguments about the merits of other sites were not summarily dismissed. For example, the assessment of Cape Dutton included a physical inspection of the nearby quarry. The soft, degraded limestone is unsuitable as armour rock in high-energy marine environments such as Cape Dutton, where a breakwater would be needed in addition to a berth approach.</p> <p>KIPT stands by its analysis that Smith Bay is the best location for the development.</p> <p>The cost benefit analysis prepared for the Draft EIS in response to Guideline 4.1 (see Section 20.7) specifically considered the alternative option of developing the port at Cape Dutton. This analysis shows at least \$120m of the total economic benefit which would flow from developing the seaport at Smith Bay would be lost if the seaport was to be built at Cape Dutton.</p>

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43	867	PROJECT ALTERNATIVES Alternative sites <i>Suitability of Kingscote</i>	Smith Bay is not a suitable location and other options should be further investigated, including the existing port at Kingscote.	Chapter 3 of the Draft EIS summarises the process used to select Smith Bay and demonstrates that Kingscote is not suitable. KIPT re-affirms its conclusion that Smith Bay is the best location for the development.
44	A22, A23	PROJECT ALTERNATIVES Alternative sites <i>Suitability of Penneshaw</i>	Kangaroo Island already have commercial shipping and freighting service (SeaLink) at Penneshaw	Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. The SeaLink ferry does not offer a commercially viable option for exporting the volume of timber products from Kangaroo Island. KIPT re-affirms its conclusion that Smith Bay is the best location for the development.
46	A82	PROJECT ALTERNATIVES Alternative sites <i>Suitability of Portland (in Victoria)</i>	There are far better locations for this project such as Portland (in Victoria).	The plantation timber is located on Kangaroo Island. Hence, a port would still be required on Kangaroo Island to export timber products to mainland ports such as Portland.
47	A76	PROJECT ALTERNATIVES Alternative sites <i>Suitability of sites west of Smith Bay</i>	KIPT should spend more money to go to a better site further west. KI Council favours locating the seaport west of Stokes Bay and requests these locations be more fully assessed.	KIPT conducted a thorough assessment of options before purchasing the Smith Bay site, as discussed in Chapter 3 of the Draft EIS. his assessment included a review of the provisions of the Kangaroo Island Development Plan and discussions with relevant stakeholders including Council staff and the Kangaroo Island Futures Authority. All locations west of Stokes Bay would be in a marine park; would be subject to high energy wave conditions; and do not have access to three-phase power. There is no three-phase power on the north coast of Kangaroo Island west of Smith Bay. KIPT judged that the marine park designation presented too great a risk with respect to obtaining planning approval, even if the sites west of Stokes Bay had been suitable. Locating a port west of Stokes Bay would place it in the most bushfire prone part of Kangaroo Island. Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT reaffirms its conclusion that Smith Bay is the best location for the development.
48	1055	PROJECT ALTERNATIVES Alternative sites <i>Suitability of Vivonne Bay</i>	The existing jetty at Vivonne Bay could be extended to its former length out to deep-water for KIPT's development, removing the need for dredging. Vivonne Bay would be close to KIPT's plantations and the port infrastructure could also be utilised by the local fishing fleet. Vivonne Bay is the most utilised location on Kangaroo Island for its local fishing industry and Yumbah believes Vivonne Bay would be ideal for other users, including cruise ships, due to its proximity to Kangaroo Island's National Parks. KIPT could also build a road on	A number of submissions support the development at Smith Bay, and a number have suggested alternative sites, including Ballast Head, Kingscote, Vivonne Bay, Penneshaw and anywhere west of Stokes Bay. Critics of the development suggesting a site other than Smith Bay provide no useful analysis to support their proposal. Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT re-affirms its conclusion that Smith Bay is the best location for the development. The cost benefit analysis presented in the Draft EIS (see Section 20.7) shows at least \$120m economic benefits would be lost if the seaport were to be relocated from Smith Bay to another site.

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			their own properties from Playford Highway to the South Coast.	
51	1066, 707	PROJECT ALTERNATIVES Site selection <i>Impact on aquaculture activities</i>	<p>Oyster farmers located in Eastern Cove near Ballast Head have expressed their concerns that a port at Ballast Head would destroy the KI Shellfish oyster farm. In the Main Report of the EIS, it was stated that compensation to the oyster leaseholder would need to be factored into detailed feasibility for the Ballast Head case.</p> <p>There are concerns that KIPT acknowledges oyster growers at Ballast Head would need to be compensated by development at Ballast Head but not Yumbah at Smith Bay and that KIPT have not considered the financial hardship they may pose on a successful aquaculture business of long-standing corporate, social and sustainable credentials, which has stalled significant growth plans due to KI Seaport proposal.</p>	<p>KIPT acknowledges a port at Ballast Head would cause potential impacts to KI Shellfish oyster farm.</p> <p>Concerns have been expressed that a development at Smith Bay also impacts aquaculture. There is a material distinction between an aquaculture operation which relies on the in-water oyster leases at Ballast Head, and an on-land aquaculture operation at Smith Bay.</p> <p>There is no question a development at Ballast Head would destroy the in-water business; the development, in construction and operations, would directly affect some, if not all of the leases, which is a point made by the lessee, Ken Rowe (KI Shellfish), in his submission.</p> <p>It has been acknowledged by KIPT and the South Australia government that the KI Seaport can proceed only if the land-based aquaculture at Smith Bay is not detrimentally impacted. Much work has been undertaken to understand the risks to Yumbah and to undertake baseline surveys, monitoring and predictive modelling to assess KI Seaport's potential impact on Yumbah. See Chapter 11 of the Draft EIS. KIPT have also agreed to significant alterations to the design of KI Seaport to further mitigate potential impacts.</p> <p>The Draft EIS shows there is no credible basis to the claims that the KI Seaport would have any material adverse impact on Yumbah's on-land abalone farm at Smith Bay, or that the two operations cannot co-exist. There is, therefore, no need to consider compensation for Yumbah</p>
54	A40	PROJECT ALTERNATIVES Site selection <i>Unsuitability of the North Coast</i>	North Coast of Kangaroo Island can have some horrific storms damaging boats	The KI Seaport is designed to meet the weather conditions experienced on the north coast of Kangaroo Island.
55	1065, 42	PROJECT ALTERNATIVES Site Selection <i>Impact on whales</i> (EPBC related)	The site selection process uses a superficial evaluation, and the consideration of Southern Right Whale habitat value was not included in the process. Smith Bay is a biodiversity hotspot, and critical habitat for Cetaceans, along with many other species and incredible marine biodiversity. Smith Bay too precious to lose.	The Draft EIS shows the construction and operation of the seaport would have negligible effects on the southern right whale (see Section 14.3.2, 14.4.3 and 14.7.1). KIPT would implement the mitigation measures recommended by the DAWR (previously DoEE) for seismic drilling, which is considered to be a higher impacting activity on whales. The development meets the objectives of the EPBC Act.

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58	679, 821	PROJECT DESCRIPTION Causeway construction <i>Causeway materials</i>	Clarify details for the sources, logistics and volumes of materials required for causeway construction.	Causeway is no longer part of design.
60	679	PROJECT DESCRIPTION Causeway construction <i>Erosion prevention before armouring</i>	What stops the spoil/fill washing away before it's armoured?	Causeway is no longer part of design.
71	825	PROJECT DESCRIPTION Dredging <i>Impact on marine/coastal environment</i>	Dredging will result in a massive increase in TSS levels within Smith Bay and the dredging activity could take longer than stated in EIS.	The causeway is no longer part of the wharf design.
73	1184, 635	PROJECT DESCRIPTION Electricity supply <i>Site power source</i>	The discussion in the Draft EIS about electricity supply requires clarification. It is unclear if SAPN grid source electricity will be supplying the power for the site.	KI Seaport will use electricity from the power grid provided by SAPN as the primary source of power to the site. Generators would be required to supplement the SAPN supply during ship loading activities and as a back-up supply should the SAPN grid system fail. Generators would be diesel powered. It is expected that solar panels would be installed atop buildings to support general site requirements such as lighting and administration building demand.
75	1215	PROJECT DESCRIPTION Fumigation <i>Management of risk and reducing risk</i>	EIS does not consider fumigation, including emergency fumigation, at KI Seaport.	There would be no fumigation at the KI Seaport (see Section 4.4.6 of the Draft EIS), and there would be no requirement for 'emergency fumigation' at KI Seaport.
77	1115, 559, FL5	PROJECT DESCRIPTION Impacts of a multi-use port <i>Undisclosed information relating to future uses is a concern for Yumbah and the Kangaroo Island community and shareholders (EPBC related)</i>	There is a lack of information provided in the EIS relating to additional future uses, specific infrastructure, utility and equipment requirements of future users of the seaport (and the associated potential increased demand and impacts).	It is a requirement of the SA government that the port be a multi-use/multi-user facility (see Table 7-4 in the Draft EIS). However, the commercial viability of the port is underpinned by the export of timber products and does not depend on other uses or users. Accordingly, the DPTI and other government agencies have agreed KIPT does not have to identify other uses or users in the assessment process i.e. KIPT does not have to justify the government's requirement that the facility be available to third parties. There would be considerable spare capacity available for third parties to use the port, should they choose to do so. Third party users would have to obtain all of the planning approvals they require, and the implications for the community of these uses will be addressed at that time.
79	A55	PROJECT DESCRIPTION Jetty piles <i>Distance between piles</i>	How far are the jetty piles going to be apart?	The engineering concept design stipulates the jetty piles would be placed (approximately) every 12 m (see Section 3.1.3 of the Addendum).
85	1115	PROJECT DESCRIPTION Port operations	Are logs expected to be brought from Yorke Peninsula for export via the seaport?	No.

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		<i>Export of non-Kangaroo Island timber</i>		KIPT intend to load empty ships berthed at Smith Bay. Only Kangaroo Island grown timber would be exported by KIPT for the current proposal. It is not envisaged that any timber would be imported from Yorke Peninsular to Kangaroo Island for export.
86	1059	PROJECT DESCRIPTION Port operations <i>Hours of operation</i>	Confusion exists in relation to operation times exists.	<p>Operating hours for KI Seaport have been outlined in the context of:</p> <ul style="list-style-type: none"> • ship loading • haulage of timber by trucks from the timber plantation to KI Seaport for storage (and building up of the stockpiled volumes in readiness for ship loading). <p><i>Ship loading</i></p> <p>The KI Seaport (both land-based and marine-based operations) would operate continuously (i.e. 24-hour a day) when a vessel is in port and cargo is being loaded into ship holds. It is expected to take up to four days to fill a ship with woodchips.</p> <p><i>Haulage and storage</i></p> <p>The operating hours for hauling timber products from the plantations to Smith Bay is yet to be determined.</p> <p>One option is to operate on a 24-hour harvesting schedule, which is discussed in the Draft EIS. The principal benefit of this option is to reduce the frequency of the vehicle movements during the daytime. Reducing operating hours (e.g. a 12-hour schedule for 7 days each week, or 50% of the available operating hours) increases the number of vehicle movements each operating hour, but also provides respite outside this period.</p>
87	1095	PROJECT DESCRIPTION Port operations <i>Management and maintenance</i>	EIS doesn't cover ongoing management and maintenance of the port. What will ensure future users will comply with requirements?	<p>KIPT would enter into a legally binding agreement with an experienced and licenced port operator who would be responsible for managing the KI Seaport on behalf of KIPT. The operator would be required to meet the regulatory requirements under the <i>Harbors and Navigation Act 1993</i>, as well as all relevant legislation dealing with safety, security, biosecurity and environmental protection. The agreement with the port operator would include all conditions attached to the development approval and the commitments associated with the planning consent to develop and operate a port at the Smith Bay site.</p> <p>KIPT and the port operator would refine and finalise the Draft OEMP presented in the Draft EIS, which would be endorsed by the relevant local, state and Australian government agencies before operations commence.</p>
93	1055, 1098	PROJECT DESCRIPTION Project design <i>Consideration of storms</i>	The offshore location of the wharf (500 m offshore) will expose vessels and wharf infrastructure to damage by violent winter storms.	<p>The engineering design of the KI Seaport considers a wide range of factors including climate data (including storms), wave modelling and assessment, and ship motion analysis.</p> <p>Design and construction of infrastructure associated with KI Seaport would minimise the risk and consequence of storm damage for a range of financial, commercial, legal, environmental, social and economic reasons.</p> <p>The design of the KI Seaport complies with Australian standards and guidelines. These include AS 4997-2005 Guidelines for the Design of Maritime Structures; AS 1657-1662 Fixed Platforms, Walkways, Stairways and Ladder – Design, Construction and Installation; AS 159-1995 Piling – Design and Installation, AS 1554-2004 Structural Steel Welding Parts 1-5. To comply with these standards, the design of the floating barge system has taken into account the relevant loads, including dead load (the weight of the pontoon), live load (the load during use), environmental loads</p>

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				(the loads caused by environmental conditions such as wind and waves), loads from vessel wash, and berthing and mooring loads.
94	679	PROJECT DESCRIPTION Project design <i>Dredge footprint</i>	Dredging footprint doesn't match approach angle of a Panamax size vessel.	The issues associated with dredging have been resolved; dredging is not required.
95	635	PROJECT DESCRIPTION Project design <i>Dredging</i>	Modify the design to run a link span structure another 50 m out to sea to avoid dredging and only use Handy and Handymax vessels.	The issues associated with dredging have been resolved; dredging is not required.
102	635	PROJECT DESCRIPTION Project design <i>Multi-use/multi-users</i>	The Draft EIS indicates there is currently no demand for multi user port and a concern exists that current port setup would only accommodate the needs of KIPT and would not facilitate future users.	The KI Seaport has been designed to accommodate KIPT's requirements i.e. to export logs and woodchips. The SA government requires the port be a multi use/multi user facility, and it could be used, without significant modification, for other uses such as exporting containerised agricultural commodities. The commercial viability of the port, however, is underpinned by the export of timber products and does not depend on other uses or users. There would be considerable spare capacity available for third parties to use the port, should they choose to do so. Third party users would have to obtain all of the planning approvals they require, and the implications for the community of these uses will be addressed at that time.
103	FL2	PROJECT DESCRIPTION Project design <i>Operability of the port</i>	Smith Bay is shallow, only reaching 10 m depth some 350 m from the shore. Panamax ships require at least 15 m depth to operate.	The design of offshore components presented in the Draft EIS included the requirement to dredge a berth pocket to allow Panamax size vessels to operate safely. The offshore design has since been modified in response to feedback, particularly from Yumbah, and these modifications were presented in the Addendum to the Draft EIS, which was released for public consultation on 7 November 2019. The revised design replaces the solid causeway with a piered jetty extending to the -13.5 m bathymetry depth, which is approximately 650 m from shore, and eliminates the need to dredge a berth pocket. Figure 3-2 of the Addendum shows the bathymetry of Smith Bay and the layout of the KI Seaport's offshore components.
104	338, 679	PROJECT DESCRIPTION Project design <i>Pontoon</i> (EPBC related)	Concerns that the floating pontoon is not structurally sound. Are there examples elsewhere in the world of a similar design? What is the risk of the pontoon breaking free?	The design of the KI Seaport follows the conventional design of floating wharves which consists of a suspended deck, a linkspan bridge, a pontoon and dolphin restraints. Floating wharves have been constructed in several countries over the past two to three decades. For example: <ul style="list-style-type: none"> • Valdez Harbor, Alaska (USA): The Alyeska Crude Oil Loading Port, Berth 1 is a floating terminal located in the north-eastern part of Prince William Sound in the Gulf of Alaska which is a region known to experience harsh weather conditions in an earthquake prone area. • Sandy Hook, New Jersey (USA): There is a floating ferry dock made up of a refurbished steel barge anchored into position by two steel piles. An articulated span is used to connect the barge to the shore. The barge moves up and down in response to changing tidal levels, while the anchors prevent any form of horizontal movement. • Schelde, Antwerp (Belgium): A floating dock is used to service relatively large sea-bound passenger vessels. The structure is composed of a floating dock and an articulated bridge that

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				<p>connects the former to the city embankment. A fender and mooring systems are fitted to the floating dock to enhance floatation and the rise and fall of the structure while restricting its horizontal movement and absorbing shocks from heavy vessels.</p> <ul style="list-style-type: none"> The Kimberly Marine Supply Base, which will be a \$110m floating wharf with associated onshore terminal facilities at the Port of Broome in Western Australia has recently received State development approval. <p>While the size and purpose of these examples of floating wharves differ, the fundamental principles governing their layout, materials, construction, installation, operation and maintenance inform the design of the proposed floating wharf at Smith Bay.</p> <p>The design of the KI Seaport complies with Australian standards and guidelines. These include AS 4997-2005 Guidelines for the Design of Maritime Structures; AS 1657-1662 Fixed Platforms, Walkways, Stairways and Ladder – Design, Construction and Installation; AS 159-1995 Piling – Design and Installation, AS 1554-2004 Structural Steel Welding Parts 1-5. To comply with these standards, the design of the floating barge system has taken into account the relevant loads, including dead load (the weight of the pontoon), live load (the load during use), environmental loads (the loads caused by environmental conditions such as wind and waves), loads from vessel wash, and berthing and mooring loads.</p> <p>Furthermore, the design includes a comprehensive assessment of the structural ability of the pontoon to resist all loads, together with the stability of the floating systems and the robustness of the flotation. For the environmental load of the wharf, the limit state of collapse/loss of structural integrity (i.e. the strength limit-state load) has been calculated for a 1 in 50-year return period for wind, wave, surge and flooding loads. The durability of the floating terminals at Valdez harbour, Alaska, which is a region with very harsh weather conditions, demonstrates the structural feasibility and environmental resilience of the proposed KI Seaport, the design of which is similar to the Alyeska Crude Oil Loading Port, Berth 1.</p> <p>Hence, the KI Seaport will possess robust structural integrity with minimal likelihood of failure (e.g. the pontoon breaking away in harsh weather conditions).</p>
105	679	PROJECT DESCRIPTION Shipping <i>Berthing</i>	Will vessel be left unattended after berthing?	<p>No.</p> <p>Ships would berth at KI Seaport with assistance of a tug/s (see Section 4.6 of the Draft EIS).</p> <p>Ships' berth time would vary depending on the size of the vessel, the product being loaded and the weather conditions. Handymax vessels loading logs would need at least 2–3 days at berth. Panamax vessels loading woodchip products would need approximately three to four days at berth.</p> <p>Tugs would not be permanently berthed at the wharf, and no offshore anchoring of the tugs is proposed. Up to two tugs would be used to berth a vessel, and a single tug would assist during departure. The tugs are expected to leave Smith Bay for their home ports or other assignments after berthing, and a single tug would return to assist with departure. A single tug may remain moored on the lee side of the wharf for the duration of vessel loading operations and return to its home port or next assignment after the vessel has departed.</p> <p>Site security personnel, the vessel's crew, and staff from KIPT, Mitsui and the port operator would be present when a vessel is being loaded.</p>

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106	1215	PROJECT DESCRIPTION Shipping <i>Number of ships</i>	Confusion over number of known log and woodchip vessels exists.	Timber ships would be moored at the KI Seaport to load KIPT's timber products for 30–75 days a year (see Section 4.6.2 of the Draft EIS). The number of vessels berthing each year will depend on the harvesting schedule, product type (logs or woodchips), market conditions, weather and other factors.
108	819	PROJECT DESCRIPTION Wastewater and stormwater re-use management <i>Provide any further details on the sewage management system requirements and clarification that it meets the requirements of the On-site wastewater systems code (2013)</i>	Provide further details of the on-site wastewater management system proposed, including the equivalent persons on which the sizing is based and an assessment that this is adequately sized for the proposed workforce. The system must be as per the requirements of On-site wastewater systems code (2013). Stormwater reuse will present risks to Yumbah which have not been considered.	Temporary solutions for sewage management would be established for the construction workforce, effective immediately at the time of site mobilisation. These systems will remain in place as the permanent operational sewage management system is built and commissioned, and then be removed as part of demobilisation post-commissioning. The operations workforce at KI Seaport would be up to 11 people, with an additional 10-14 staff required during ship loading. It is envisaged that a complete septic system will be installed with a working capacity 16,500 L, and the system would be periodically de-sludged using an island-based septic cleaning service, as required. The specifics of the sewage management system would be finalised in detailed design phase of the project. The ultimate objective would be to ensure best waste management practices are adopted for the site. The septic system will adhere to AS1546.1, and the SA Health On-site Wastewater Systems Code April 2013 including design, capacity, location, setbacks and maintenance considerations, among others. Appropriate permitting/licensing will also be obtained from the relevant agencies. The impact assessment associated with the re-use of stormwater is provided in Section 16.5 of the Draft EIS and Appendix A . The CEMP and OEMP would also include specific controls and strategies to ensure that stormwater and wastewater is managed appropriately, in compliance with relevant regulations and specific license conditions, and there would be no impact to surface water, groundwater or marine waters of Smith Bay.
109	345, 635, 819, 956	PROJECT DESCRIPTION Water supply <i>Construction and operation</i>	Where will water be sourced for construction and operation?	Chapter 4 of the Draft EIS provides a description of the proposed project and Section 4.8.2 outlines the water demand and supply for the KI Seaport. Sustainable water sources include rainfall for potable water, and captured surface water for operational use. The water requirements are being reviewed continuously by the engineering design team. Water for construction needs (e.g. washdown and dust suppression) will be sourced from the sea by pumps which will refill the contractor's water carts. Operational potable water for consumption will be sourced from rainwater tanks, and supplementary water will be purchased and brought to site as required. There is also opportunity within the design to use captured stormwater for greywater uses within the toilets. These details will be explored during the detailed design. The intended fire-fighting design strategy would also prioritise the use of seawater instead of potable water. This may be as a standalone system located on the pontoon to service the jetty, pontoon and landside infrastructure. However, a combination of seawater and potable water supply options may be required depending on the legislative requirements and the outcomes of risk assessments and engagements with the local CFS. Where a dual supply system is required, there is a possibility of using stormwater capture to supplement the potable water demand of the fire

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				<p>water system, thus further reducing the reliance on potable water. This will be assessed in detailed design.</p> <p>Consideration of options for ensuring low water demand requirements for landscaping will be undertaken during detailed design. Continuous improvements for site operation will also investigate ongoing reduction in water use as part of sustainability strategies to be adopted for the KI Seaport. KIPT does not intend to use groundwater as a source of water during construction or operation.</p>
110	432	<p>PROJECT DESCRIPTION</p> <p>Workforce</p> <p><i>Jobs</i></p> <p>(EPBC related)</p>	<p>Provide a complete list of number/occupations to support the EFT stated in the EIS.</p> <p>Are regularly renewed short term contracts going to be used to boost statistical figures? KIPT should justify the number of jobs proposed.</p>	<p>The workforce numbers outlined in Sections 4.8 and 20.6.4 of the Draft EIS are the best estimates of EFT at this point in time. Some jobs would be permanent full-time, some permanent part-time, and some would be temporary or casual jobs for short durations. To account for this variability, all job estimates presented in the Draft EIS are expressed as FTE. For example, one FTE could comprise:</p> <ul style="list-style-type: none"> • one person employed in a permanent full-time job • two people employed full-time for six months each • two people employed half-time. <p>KIPT is committed to maximising the employment opportunities for Kangaroo Island residents and for people who have an existing connection to Kangaroo Island. KIPT and its contractors would offer a variety of employment options (e.g. full-time, part-time, casual) for a range of occupations to achieve this outcome.</p> <p>It is difficult to provide firm numbers and a complete list of jobs/occupations. A number of jobs (direct and indirect) would be created during detailed design, supply, construction and operation for the KI Seaport.</p>
111	FL2	<p>LEGISLATIVE FRAMEWORK</p> <p>EPBC Act</p> <p><i>Assessment Process</i></p> <p>(EPBC related)</p>	<p>Expects SA government to comply with requirements under the EPBC Act.</p>	<p>Chapter 5 of the EIS summarises the assessment process and the role of different government agencies.</p> <p>For the purposes of assessing proposals under the EPBC Act, the Commonwealth Government has accredited the assessment process used by the SA Government under the <i>Development Act 1993</i>. This simply avoids duplication of the assessment processes under the Commonwealth and state legislation.</p> <p>Although the governments use a common assessment process, each will make a determination as to the acceptability of the proposal (the approval process) independently of the other.</p> <p>The matters of concern to the Commonwealth Government under the EPBC Act are expressly stated in (DAC) Guideline 1 for the preparation of the EIS. The Commonwealth's decision will focus solely on these issues.</p> <p>The SA Government's assessment will address all other matters defined in the guidelines.</p>
112	345	<p>LEGISLATIVE FRAMEWORK</p> <p>Illegal entry to the island via KI Seaport</p> <p><i>Omission</i></p>	<p>Concerns exist in relation to illegal entry to Kangaroo Island via KI Seaport.</p>	<p>Illegal entry into Australian is regulated by <i>the Commonwealth Immigration Act 1958</i>. It is not anticipated that the development of the seaport at Smith Bay will encourage any greater rate of illegal entry to the country than exists at other Australian international seaports. The risk assessment for the KI Seaport has been updated to include "illegal entry", see Appendix F.</p>

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113	A53	LEGISLATIVE FRAMEWORK International access to port <i>Permission to come and go</i>	Concerns that the proposal gives other countries the power to access our borders, and to come and go.	Access by overseas vessels to Australian ports is strictly regulated by the Commonwealth under legislation such as the <i>Navigation Act 2012</i> and the <i>Biosecurity Act 2015</i> . The Australian Government regulates the security of Australian maritime transport and ports through the Maritime Transport and Offshore Facilities Security Act 2003 (MTOFSA) and Offshore Facilities Security Regulations 2003.
115	1054	LEGISLATIVE FRAMEWORK Management of general marine environmental impacts <i>Regulatory mechanisms</i>	Regulation of waste discharges, turbidity from dredging and the introduction of marine pests.	The discharge into SA coastal waters of wastes (including oil) is regulated by pollution and waste management legislation addressed in Chapter 5 and Appendix D1 of the EIS. Outside SA waters Commonwealth legislation applies. All this legislation is administered by State or Commonwealth agencies as the case may be. The revised design of the in-water structures removes the need for dredging. With respect to marine pests, the management of ballast water carried by vessels, including discharge, is regulated by Commonwealth legislation and administered by the Commonwealth Department of Agriculture, Water and the Environment. Biofouling is regulated by State legislation and Commonwealth guidelines.
118	635	LEGISLATIVE FRAMEWORK Planning processes <i>EIS Guidelines</i>	Smith Bay has been chosen without independent assessment by DPTI professional planners for either the need or best location.	The SA system of planning and development control does not require proponents to seek government permission before they decide where they wish to develop, nor does it require government permission to lodge a development application. The suitability of Smith Bay as a location for a seaport to export timber products is determined by a development assessment in accordance with the major development provisions of the SA <i>Development Act 1993</i> . That assessment is undertaken on behalf of the Minister by a range of government officers with appropriate expertise. The (DAC) Guidelines require that both the need for the project and suitability of location be addressed.
119	819	LEGISLATIVE FRAMEWORK Planning processes <i>Environmental Impact Assessment</i>	Why is the KI Seaport at Smith Bay proposal declared a major development, particularly considering it would be destructive to Smith Bay and KIPT owns Ballast Head, a former industrial wharf?	Under the <i>Development Act 1993</i> the Minister for Planning may declare a proposal a major development when the Minister is of the opinion the proposal may be environmentally, socially or economically significant. The declaration determines that a special assessment process for major development must be undertaken under the Development Act but does not imply the Minister will approve the proposal or otherwise. The guidelines for the EIS issued by the DAC includes consideration of Ballast Head as an alternative location for the port (see EIS, Chapter 3).
120	417	LEGISLATIVE FRAMEWORK Planning processes <i>Infrastructure</i>	Why hasn't KI Seaport been planned publicly? Why so far away from forestry? Why not planned for wider regional use?	The Kangaroo Island Council is responsible for the KIDP which provides the basis for planning and development decisions relating to the Island. The Kangaroo Island Council can review the KIDP at any time, and every review provides opportunities for the public to participate. The Kangaroo Island Council has never addressed the matter of where to locate a deep-water port to export timber products from Kangaroo Island. The environmental assessment process being undertaken for the KI Seaport proposal is a public planning process under the SA Development Act. The major development provisions of the Act require extensive public consultation and KIPT has complied with these statutory requirements.

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				In preparing this EIS, KIPT has been required to consider, amongst other matters, the compatibility of the proposal with relevant development plans for Kangaroo Island and adjacent waters. The SA Government has also specified the KI Seaport must be a multi-use/multi-user facility. This requirement contemplates the possibility that there may be wider regional benefits from the development.
121	417	LEGISLATIVE FRAMEWORK Planning processes <i>Major Development Status</i>	Why was the proposal entitled to major development status?	The Minister for Planning may declare a proposal a major development under the <i>Development Act 1993</i> when the Minister is of the opinion the proposal may be environmentally, socially or economically significant. The declaration sets in train a special assessment process but does not imply the Minister will approve the proposal or otherwise.
122	345	LEGISLATIVE FRAMEWORK Planning processes	It appears that KIPT will be given approval to develop KI Seaport, no matter what, and no one else matters.	The Minister for Planning may declare a proposal a major development under the <i>Development Act 1993</i> when the Minister is of the opinion the proposal may be environmentally, socially or economically significant. Similarly, the Commonwealth Minister for the Environment may determine that a proposal is a "controlled action" for the purposes of the EPBC Act, requiring assessment under that Act. The major development declaration sets in train a special environmental assessment process to be followed under the Development Act but does not imply that either Minister will approve the proposal. The decision whether or not to approve the KI Seaport will be made after careful scrutiny of the EIS which has been prepared by KIPT and conforms with the Guidelines issued by (then) SA DAC.
123	345	LAND USE AND PLANNING Kangaroo Island Development Plan <i>Coastal Conservation Zone (EPBC related)</i>	KI Seaport is not an appropriate development at Smith Bay given it is in the CCZ.	Section 6.3.3 of the Draft EIS provides an overview of the proposed development in the context of the KIDP, including the CCZ (see p 116 of the Draft EIS). CCZ is a tool used for planning purposes by the local government and council planners. Whilst the zone is indicative of the need to protect coastal values it does not exclude or prohibit different types of development in appropriate locations within that zone. This is demonstrated by the former use of the site and current uses along adjacent and other sites on Kangaroo Island located within the CCZ. A port or export facility is not specifically identified in the KIDP as non-complying development within a CCZ. However, some elements of the proposed facility could be categorised as non-complying within that zone: for example, set down and timber storage areas that could be defined as a road transport terminal. Such a facility is listed as non-complying development with that zone.
124	342	LAND USE AND PLANNING Kangaroo Island Development Plan <i>Objectives and PDC's</i>	The objectives and PDC in the KIDP 2015 needs to be considered. Assumptions have been made that the KI Seaport is compatible with the provisions of the Rural Living Zone and CCZ.	Section 6.3.3 of the Draft EIS provides an overview of the proposed development in the context of the KIDP, including the objectives and PDC. The proposal has also been assessed against elements of the Kangaroo Island Plan (Planning Strategy). See Table 6.1 of the Draft EIS.

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131	A1	LAND USE AND PLANNING Site selection <i>Future access restrictions</i>	KI Seaport will restrict access for residents of Kangaroo Island to the immediate area.	KI Seaport would result in access restrictions for the general public, both in-water and on-land, during construction and operation to ensure safety and security requirements are met. Access of the public to a seaport, whether during construction or operation, would provide too high a risk of a safety or security incident.
133	913	STAKEHOLDER CONSULTATION AND ENGAGEMENT Public access <i>Risk assessment</i>	KIPT should consider making the causeway available to the public (entry/exit points for divers).	Public access to the KI Seaport will be restricted for safety and security purposes, and to comply with the legal and regulatory requirements that apply to ports. However, KIPT is willing to consider options and opportunities consistent with these obligations for public access, including for divers.
136	1086, 707	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>Failure to consult with Yumbah</i>	KIPT failed to consult properly with Yumbah.	KIPT and the EIS team have made a number of attempts to consult with Yumbah, particularly while the Draft EIS was being prepared. Yumbah declined to engage with either KIPT or the EIS team. Yumbah has however provided two submissions to DPTI about the impact of the KI Seaport, the first in response to the Draft EIS and the second in response to the Addendum. KIPT and the EIS assessment team have devoted considerable time and resources to understanding the concerns raised in both submissions and have responded constructively in accommodation concerns. See Table 6-2.
137	1095	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>Information accessibility and sharing</i>	Stakeholder engagement was inadequate and deliberately inaccessible. To have highly technical data as the primary source of information in the EIS is disrespectful and disingenuous. Copies of the EIS and information were hard to get.	The stakeholder engagement process adopted by KIPT began before the Smith Bay site was purchased, and the company has followed a continuous process of engagement since then. The public consultation process for the Draft EIS, which was mandated by the Minister for Planning, was well beyond the minimum requirements specified in the Development Act: <ul style="list-style-type: none"> • The Act specifies a minimum six-week period for public consultation on the Draft EIS, but the Minister for Planning set an eight-week period to allow the public more time to digest the material in the document. • Although the Act requires a single public meeting, the Minister specified three public consultation sessions be held at Kingscote, Parndana and in Adelaide. • The Act envisages documents would be made available to the public for a fee, but KIPT provided all materials free of charge, even though KIPT spent over \$10,000 on hard copies of the Draft EIS alone. The Draft EIS was made available on DPTI's website and the Smith Bay EIS website (which was specifically developed to disseminate information on the EIS). Postcards were also mailed out to neighbours and landowners in close proximity to the Smith Bay site with details of the website and a phone number to contact for further information. Hardcopies of the Draft EIS and electronic copies (on USB) were made available at no cost from the KI Council offices, DPTI, KIPT's office in Kingscote, and when requested, copies were posted, or hand delivered. A series of single-issue fact sheets were also published and made available on the Smith Bay EIS website to make it easier to deal with some of the technical material in the Draft EIS. The session times for the public meetings were advertised a number of weeks in advance, with a reminder notice placed in local newspapers (Advertiser and The Islander) one week before the

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				<p>sessions were held. Notices were also uploaded on the Smith Bay EIS website, DPTI website and public announcements were made by KIPT.</p> <p>Printed copies of the Draft EIS and the fact sheets, and USB copies of the Draft EIS were also made available at the three public consultation sessions. Staff from DPTI, KIPT and Environmental Projects attended these sessions to assist members of the public and answer any questions they had.</p> <p>This approach also benefited opponents of the KI Seaport, such as Yumbah and Save Smith Bay, who used the opportunity created by the three public forums to make their case to attendees as they arrived and departed.</p> <p>In response to the comments received on the Draft EIS, KIPT modified the design of the in-water components of the KI Seaport. These changes responded directly to concerns first expressed by Yumbah in their submission, and the change implemented Yumbah's preferred design.</p> <p>These changes were themselves the subject of a second phase of public consultation. An Addendum to the Draft EIS was prepared, and the Minister mandated a second six-week period of public consultation on those amendments, and another public meeting at Kingscote. The same process used to make the Draft EIS available for public comment was adopted for the Addendum.</p>
140	1095, 1115	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>Public consultation format and period</i>	Public consultation was poor and the 'Open House' session format was limiting for interactions or asking of questions. The time allocated for submissions on the EIS was too short for experts to be able to highlight potential flaws of the proposal.	<p>The Development Act requires 'a public meeting during the [public consultation period]'. DPTI hosted three such public meetings at Kingscote (Wednesday 1 May 2019: 1 pm – 7pm), Parndana (Thursday 2 May 2019: 11am – 4pm) and Adelaide (Tuesday 7 May 2019: 12pm – 6pm). The time and location of these meetings were intended to enable as many people to attend as possible to obtain information on the KI Seaport development and ask questions of KIPT, the EIS study team and DPTI.</p> <p>The session times were advertised a number of weeks in advance, with a reminder notice placed in local newspapers (Advertiser and The Islander) one week before the sessions were held. Notices were also uploaded on the Smith Bay EIS website, DPTI website and public announcements were made by KIPT.</p> <p>The use of an extended 'open-house' for the public meetings provided a flexible format for members of the public to obtain information and to have time to ask questions and discuss the proposal with KIPT, DPTI and the EIS assessment team.</p> <p>A similar process was used for the Addendum to the Draft EIS; a single session held at Kingscote (Friday 29 November 2019: 10am – 4pm).</p>
142	1368	STAKEHOLDER CONSULTATION AND ENGAGEMENT Stakeholder engagement <i>SRG workshop (EPBC related)</i>	EIS didn't fully/clearly reflect on the opinions voiced in the SRG session.	<p>The report on the SRG Workshop (see Appendix E1 of the Draft EIS) summarises the main topics and questions raised, and the key themes evident from the discussion.</p> <p>The Workshop was facilitated by a community engagement specialist and chaired by an experienced Chairperson, and the report was compiled by Environmental Projects.</p> <p>Workshop participants represented their specific organisations and discussed the potential impact that the KI Seaport development may have on their members and their respective industries. Yumbah were invited to attend but declined. KIPT participated in the workshop.</p> <p>The results from the SRG Workshop were considered by KIPT and the EIS team in their subsequent investigations and assessments.</p>

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144	1106, 122, 251, 345, 599, 601, 865, A21, A36, A46, A63, A64, A65, A66, A70, A78, A86, A87, A88, A89, A91, FL2	KEY ISSUES Key issue <i>Identification of key issues locally and for greater Kangaroo Island</i> (EPBC related)	Concerns exist in relation to the development impacting the natural environment (which may be considered pristine, unique or an area of environmental importance or significance), community and existing industry and business. Concerns also exist in relation to localised impacts from the development caused by particular aspects, such as building of a causeway, wastewater retention and detention basins, woodchip stockpiling, installation of lighting, demand for water resources to satisfy firefighting and dust suppression requirements and use of the local road network.	It has been recognised that aspects of the KI Seaport project may impact existing economic, social and environmental values of Smith Bay and Kangaroo Island. The key issues were identified and outlined in Chapter 8 of the Draft EIS. In choosing the Smith Bay site, KIPT undertook assessments which considered key values for Kangaroo Island such as condition of the natural environment, the location for main tourism activities, and the condition of existing services and infrastructure. Impact assessments and risk assessments have been undertaken for a variety of issues relevant to the proposed development, including the causeway (now no longer part of the KI Seaport design), wastewater retention and detention basins, lighting, potable water, firefighting and dust suppression water, road networks and transit routes. The Draft EIS and Addendum to the Draft EIS contain further detail. Risk assessments have identified the local infrastructure and services that would be affected by the construction and operation of KI Seaport. KIPT continues to engage with government, infrastructure and service managers to ensure impacts would be minimised as much as practicable. In many cases, the modifications and upgrades required to infrastructure to meet KIPT's needs would also benefit other users and businesses at Smith Bay and Kangaroo Island.
145	345	KEY ISSUES Key Issue <i>Illegal entry from international vessels</i>	Concerns exist in relation to illegal entry to Kangaroo Island via KI Seaport.	It is not anticipated that the development of the seaport at Smith Bay will encourage any greater rate of illegal entry to the country than exists at other Australian international seaports. The risk assessment for the KI Seaport has been updated to include "illegal entry", see Appendix F .
146	345	KEY ISSUES Key issue <i>Impact on Yumbah</i>	KI Seaport is a threat to Yumbah KI.	Much work has been undertaken to understand Yumbah's operations at Smith Bay and the potential threats posed by the KI Seaport. Chapter 11 of the Draft EIS (and Section 4.4 of the Addendum) outlines the impact assessment for land-based aquaculture. The EIS study team have endeavoured to fully understand and adequately consider Yumbah's operational aspects, the potential threats posed by KI Seaport and to determine how to best incorporate controls, including making substantial modifications to design, and ensure appropriate commitments are made, and necessary management strategies are planned to ensure no impacts. Yumbah's submissions to the Draft EIS and Addendum have been helpful in assessing the impacts of the seaport on Yumbah's operations and implementing significant changes to the port's design. KIPT continues to encourage Yumbah to work with them to validate their understanding of threats to the abalone farm at Smith Bay. All of the inputs and assumptions for the impact assessments to date have been sourced from publicly available information on Yumbah's Smith Bay operation, published research findings for abalone, available government records, Yumbah's company prospectus' and reports, government and industry reports, and the submissions Yumbah have made to the Draft EIS and Addendum for the KI Seaport development as part of the approval process. The implementation and regulation of approved management plans, including the Biosecurity Management Plan and Marine Pest Management (which will be developed in liaison with PIRSA –

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				Biosecurity SA and the Kangaroo Island Landscape Board) will provide a high level of assurance that activities will be undertaken in a manner that does not impact Yumbah.
148	A1, A81	KEY ISSUES Key issue <i>Social, economic and environmental values</i>	The location and design of the seaport presents social, economic and environmental risks and the EIS fails to consider this. Changes to design do not remove the overall impact of KI Seaport and attempts to appease Yumbah.	The social, economic and environmental risks and impacts have been addressed in the Draft EIS and Addendum, which complies with the assessment guidelines set by the DAC. Refer to Chapters 8 24 of the Main Report of the Draft EIS and Chapter 4 of the Addendum. The assessments undertaken for the KI Seaport do not indicate any 'catastrophic' risks to human health or the environment. The assessments indicate the overall impact of KI Seaport to the surrounding land and marine environments would be acceptable. The change of the design to remove building a causeway (and dredging) does not only appease Yumbah's concerns but also appeases the concerns raised by government, KI Council and some members of the general public.
153	819, A53, FL5	MARINE WATER QUALITY Fuel and chemical spills <i>Contamination of the marine environment</i>	There is a risk of fuel, oil and other contaminants being spilt and entering the marine via leachate or stormwater run-off.	The wharf would operate to the highest industry standards, which would ensure that the risk of marine pollution occurring at Smith Bay via spills of fuel, oil or other contaminants during construction or operation of the wharf is negligible. All sites where possible spills may occur would be bunded and have impervious pads. Details of spill mitigation procedures will be provided in the CEMP and the OEMP. A wide range of SA legislation imposes on individuals and companies not to pollute the environment, including the marine environment (See Chapter 5 of the Draft EIS).
154	1095	MARINE WATER QUALITY Fuel and chemical spills <i>Dredging risks</i>	Dredging plant and equipment may result in spills of chemicals into Smith Bay.	The issue of dredging operations resulting in spills of chemicals or fuel entering Smith Bay is resolved as dredging will not occur. However, there would be similar risks associated with other construction vessels. Details of the spill mitigation procedures would be provided in the CEMP. The 'Revised Water Quality and Coastal Process Impact Assessment' undertaken by BMT(see Addendum to the Draft EIS, Appendix C1) assessed the residual risk (i.e. after management/mitigation measures) of hydrocarbon and other chemical spills during construction and operations as Low. In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) agrees with this conclusion. He says: <i>'BMT's assessment of sediment deposition, mobilisation of contaminants and the risk of fuel/oil spills are all appropriate and industry standard positions for such impacts/risks.'</i>
156	1366, 500, 559, 707, 779, 867, FL5	MARINE WATER QUALITY Hydrodynamic model reliability <i>Incomplete sediment characterisation</i>	The hydrodynamic model outputs are flawed as the sediments in Smith Bay have not been completely characterised. This relates in particular to the deeper (> 1 m deep) sediments that could not be sampled due to core refusal during sediment sampling, and the potential generation of fine class 3 sediments as a result of rock grinding during dredging.	The issues of incomplete sediment characterisation and the reliability of the hydrodynamic model is resolved as dredging and construction of the causeway will not occur.

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160	A55	MARINE WATER QUALITY Jetty construction <i>Sediment plumes at Yumbah's intakes</i> (EPBC related)	Construction of the jetty will result in sediment plumes that will enter the abalone farm and suffocate abalone.	<p>The risk that the piling operation used to construct the jetty would result in sediment plumes in the water column is very low.</p> <p>Drill cuttings, potentially associated with piling through rock, would not affect water quality because they would be retained within the drill casing, or be collected and stored on the barge. BMT conclude that jetty construction would have such minor effects on water quality that additional water quality monitoring was not warranted. They further conclude that water quality effects at Yumbah's intakes would be negligible and indistinguishable from natural variation (see Addendum to the Draft EIS, Appendix C1).</p> <p>Yumbah provided corroborating evidence to support BMT's conclusion in its second submission. In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) agrees with this conclusion. He says: <i>'BMT's assessment of sediment deposition, mobilisation of contaminants and the risk of fuel/oil spills are all appropriate and industry standard positions for such impacts/risks'</i>. (p 2)</p> <p><i>'I agree with BMT's assessment of negligible effects of the revised KIPT design on ... sediment transport'</i>. (p 3)</p> <p><i>I agree with BMT's risk assessment that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks to a negligible consequence'</i>. (p 3)</p>
163	1366	MARINE WATER QUALITY Marine sediments <i>Incomplete sediment characterisation</i>	Sediments in Smith Bay have not been fully characterised and thus there is a high probability of larger amounts of fine sediments being suspended. The sediment characterisation cannot be confirmed for 1-3 m depth due to core refusal at 1 m, and 35% of the sediment samples were taken outside the dredge footprint. Increased levels of fine sediment will remain suspended for longer periods and present a much higher risk to abalone.	The issues of incomplete sediment characterisation, the reliability of the hydrodynamic model, and greater than predicted impacts on water quality are resolved as dredging will not occur.
164	867	MARINE WATER QUALITY Marine sediments <i>Nutrient release</i>	Dredging may result in nutrients being released from sediments that escape being pumped ashore. This issue may be significant as nutrients from Smith Creek may be 'locked' into sea sediments in Smith Bay.	The issue of nutrients being released from sediments during dredging is resolved as dredging will not occur

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165	1066	MARINE WATER QUALITY Marine sediments <i>Release of toxic phytoplankton (oyster industry effects)</i>	Sediment mobilisation would affect water quality, and potentially release toxic phytoplankton cysts that may impact the oyster industry and human health.	The issue of sediment mobilisation promoting toxic phytoplankton blooms that may potentially affect the oyster industry is resolved as dredging will not occur.
166	707	MARINE WATER QUALITY Marine sediments <i>Sediment resuspension effects</i>	The EIS neglects the impacts of TSS and sediment resuspension and equates the effects of sand with silt.	The issues of sediment resuspension and the varying effects of re-suspended sand and sediment are resolved as dredging and construction of the causeway will not occur.
171	A92	MARINE WATER QUALITY Propwash <i>Veracity of modelling and conclusions</i>	BMT's updated water quality assessment associated with propwash is questioned. No additional sediment samples were collected to parameterize the model for the new wharf location, the wrong median grain size was used in the model and incorrect vessels have been used to calculate seabed turbulence. There is no evidence to support the conclusion that ship operational propwash would have very minor effects on water quality in Smith Bay.	BMT suggest that AusOcean has misunderstood several aspects of the parameterisation of the model used in the propwash assessment as explained in detail in the Addendum to the Draft EIS, Appendix C1 and Appendix A . BMT therefore stands by its assertion that conservative assumptions have been made in regard to grain size for the propeller wash turbidity assessments. Furthermore, the vessels selected in the AusOcean document correspond to container ships, and not bulk carriers. Container ships are typically designed around speed, while bulk transport is designed around carrying capacity. The equivalent MAN Energy Solutions paper 'Propulsion trends in Bulk Carriers' contains values for SMCR Power consistent with what has been applied. BMT therefore stands by its modelling of seabed turbulence velocities in Smith Bay. Corroborating evidence to support BMT's conclusion has been provided by Yumbah in its second submission. In the " <i>Addendum review of water quality and coastal process</i> " commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) says: <i>'I agree with BMT's assessment of potential operational wash impacts on the TSS climate of the Yumbah KI intake water quality. Their assessment is reasonable'. (p 2)</i>
173	1366	MARINE WATER QUALITY Seagrass loss <i>Water quality effects</i>	Removal of seagrass via dredging would promote the resuspension of sediments, and decrease dissolved oxygen, both of which would affect abalone growth at Yumbah. It is also unclear whether seagrass loss has been factored into the hydrodynamic, sediment transport and wave models.	The issue of significant seagrass loss adversely affecting water quality in Smith Bay is resolved as dredging will no longer occur. Seagrass loss would reduce from 7.5 ha to a negligible area of 0.52 ha (see Addendum p 19) for the new design.
174	1098	MARINE WATER QUALITY Sediment plumes <i>Extent of plumes</i>	Sediment plumes are predicted to extend for approximately 5–6 km (expected case) or 8 km (worst case) along the coast. Subtidal currents during winter could carry it an additional 4 km. The prevailing Stokes Drift would push the material onshore and to the east.	The issue of dredging related sediment plumes being transported along a significant length of coast at Smith is resolved as dredging will no longer occur.

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175	345, 819, 956, A83(1), A83(2), A83(3)	MARINE WATER QUALITY Sediment plumes <i>General marine environmental impacts</i> (EPBC related)	Silt plumes would impact Yumbah's water quality, seagrass beds, benthic habitats and hooded plover habitats. The EIS proposes no mitigation or compensation if Yumbah is affected.	The issue of silt plumes resulting from dredging impacting the marine environment in Smith Bay is resolved as dredging will no longer occur. As discussed in the EIS, silt plumes associated with shipping movements would be largely confined to the immediate vicinity of the wharf, would be infrequent and will be of short duration. The intermittent effects on water quality in the vicinity of the wharf would be minor.
176	867, A83(1), A83(2), A83(3)	MARINE WATER QUALITY Sediment plumes <i>Impacts on seagrass and algae communities</i>	Sediments from dredging and vessels operations would affect seagrass and algae communities.	The issue of sediment plumes associated with dredging affecting seagrass and algae communities is resolved as dredging will no longer occur. Sediment plumes generated by vessel movements will be infrequent and confined to the wharf area where the cover of seagrass is minimal (< 3%) due to the depth (see Appendix C-1 of the Addendum).
177	867	MARINE WATER QUALITY Sediment plumes <i>Maintenance dredging</i>	Maintenance dredging of shipping channels and the berth pocket would present an ongoing risk to water quality in Smith Bay and the operation of the abalone farm.	The issue of maintenance dredging and associated sediment plumes is resolved as dredging will no longer occur.
178	1098	MARINE WATER QUALITY Sediment plumes <i>Mitigation of impacts via summer and neap tide dredging</i>	Seasonal consideration of waves and currents in the modelling would have revealed that the negative impact of dredging could be minimised by dredging only during summer, and only during neap tidal periods.	The issue of mitigating dredging related impacts via appropriate timing of dredging is resolved as dredging will no longer occur.
179	1366, 956	MARINE WATER QUALITY Sediment plumes <i>Resuspension of sediments during storms</i>	The EIS does not address the issue of storm waves resuspending sediments in the dredged basin and eroding the causeway, thereby increasing the base level of turbidity in Smith Bay.	The issue of storm events potentially mobilising sediments in the dredged basin and eroding the causeway is resolved as dredging and construction of the causeway will no longer occur.
180	956	MARINE WATER QUALITY Smith Creek effects <i>Causeway benefits questioned</i>	The impact of Smith Creek flows on the receiving waters of Smith Bay has been exaggerated. With the exception of storms in 2016, Yumbah claims that Smith Creek has had negligible effect on their operations. It is suggested that the issue is more easily addressed by revegetating the lower part of the creek.	It is understood that concerns exist in relation to the impact of Smith Creek discharges on the Smith Bay water quality based on recent approaches to the Department of Environment and Water to mitigate the effect by proposing to establish a stormwater detention dam/wetland at the mouth of Smith Creek to enable sediments to settle out prior to discharge. As discussed in the EIS, the Smith Creek catchment has been degraded by intensive agricultural use. At the Smith Bay reaches, banks of the creek are unstable and eroding, and pools of water in Smith Creek were noted to be highly enriched and supporting algal blooms. During storms the seawater in Smith Bay becomes highly turbid as a result of resuspension of sediment that is likely to have been discharged from creeks along the north coast of Kangaroo Island during previous months. If the Kangaroo Island catchments were stable, it is maintained that the seawater along the north coast of Kangaroo Island would be much less turbid during storms as there would be considerably less sediment in the nearshore system.

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				The issue of the causeway potentially providing a benefit to Yumbah by diverting sediment laden Smith Creek flows further offshore is resolved as the causeway will not be built.
184	1098	MARINE WATER QUALITY Wood chips (windblown) <i>Tannins and ocean acidification</i>	Tannins leaching from windblown wood chips could cause ocean acidification.	Tannins leaching from the small amount of wood chips and dust from the KI Seaport activities blown into Smith Bay (predicated average would be approximately 0.3 g/m ² /month, of which only a proportion (about half) would be wind-blown woodchip fines, see Chapter 17 of the Draft EIS) would be rapidly diluted and buffered to such an extent that it is inconceivable that it could have any measurable effect on the pH of Smith Bay seawater.
185	1043	MARINE WATER QUALITY Wood dust <i>Tannin toxicity</i>	Wood dust generated during loading has the potential to introduce toxicity and pathogens to the marine environment.	Tannins leaching from the small amount of wood dust that would enter Smith Bay during loading would be rapidly diluted to such an extent that it is inconceivable that it could have any measurable effect on Smith Bay seawater quality. Dilution would be of the order of part per billion after mixing in the water column. The predicated average wood chips and dust from the KI Seaport activities blown into Smith Bay would be approximately 0.3 g/m ² /month, of which only a proportion (about half) would be wind-blown woodchip fines, see Chapter 17 of the Draft EIS).
186	1043, 1095, FL5	MARINE WATER QUALITY Woodchip and log stockpile leachate <i>Contamination of the marine environment</i>	Leachate from woodchips and logs is likely to contain tannins and phenols that could enter the marine environment via groundwater or stormwater runoff. Plans to deal with the risks are inadequate.	The risk of leachate from woodchip and log stockpiles entering groundwater or run-off is negligible as the stockpiles would be bunded and have impervious bases. Leachate and stormwater run-off would be captured and treated in suitably sized ponds and constructed wetlands. It should be noted that the logs and woodchips are not treated with chemicals (fumigated) at the facility.
187	1068	COASTAL PROCESSES Causeway and dredge basin effects <i>Altered currents</i>	The causeway and dredged basin would change tidal flows in Smith Bay, which would be an environmental disaster for Smith Bay.	The issue of tidal currents being affected by the causeway and dredged basin are resolved as dredging and construction of the causeway will no longer occur.
188	956	COASTAL PROCESSES Causeway and dredge basin effects <i>Sediment deposition and resuspension</i>	The causeway and dredged basin would result in changes to sedimentation and resuspension processes.	The issue of the causeway and dredged basin altering sedimentation and resuspension patterns is resolved as dredging and construction of the causeway will no longer occur.
192	819	COASTAL PROCESSES Causeway effects <i>Reduced currents and flushing</i>	The causeway would reduce currents by up to 40%, which would result in reduced flushing, elevated water temperatures, accumulation of wrack and poorer water quality in the lee of the causeway. This could have catastrophic effects on Yumbah's operations.	The issues of the reduced currents and flushing resulting in increased seawater temperature and poor water quality in the lee of the causeway have been resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty.

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196	1098	COASTAL PROCESSES Hydrodynamic model reliability <i>Computation of 'Stokes Drift'</i>	It would have been useful to separate currents and waves by season, and separate tidal and non-tidal currents to enable the computation of 'Stokes Drift' and therefore enable meaningful estimates to be made of the waves' transport of sediments.	The AusOcean summary comments indicate that the Draft EIS has not been adequately reviewed or understood. The criticism of the wave and current modelling is not considered to be meaningful. For instance, the authors appear to have overlooked where both measured and modelled wave parameters were plotted in Figure 3-3 to Figure 3-7 (Appendix F2 of the Draft EIS). They also seem to have overlooked where the non-tidal (residual) current was reported in Figure 3-11 (Appendix F2 of the Draft EIS). It is possible that the authors only read Appendix G (Coastal Processes) and did not read Appendix F2 (Hydrodynamic Modelling), which describes the development of the hydrodynamic model. The strong seasonality of hydrodynamic conditions within Smith Bay was clearly acknowledged in the impact assessment methodology and reporting in the Draft EIS.
197	1098	COASTAL PROCESSES Hydrodynamic modelling <i>Longshore sand drift (controlling processes)</i>	The processes controlling littoral drift of sand in Smith Bay is probably identical to the processes along the Adelaide metropolitan beaches.	The issue of understanding the controlling processes of longshore sand drift in Smith Bay is resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty. The jetty will not affect longshore drift processes in Smith Bay. Yumbah provided corroborating evidence to support BMT's conclusion in its second submission. In the "Addendum review of water quality and coastal process" commissioned by Yumbah (see Yumbah (December 2019), Appendix 4), Romero (2019) agrees with this conclusion. He says: <i>'I agree with BMT's assessment of negligible effects of the revised KIPT design on water levels, currents, water temperatures, Smith Creek plumes, waves, sediment transport and seagrass wrack. I agree ...that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks to a negligible consequence'. (p 3)</i>
199	A55, A74	COASTAL PROCESSES Jetty effects <i>Currents and seawater temperature</i>	The jetty may affect coastal processes such as ocean currents at Smith Bay, which may increase water temperatures.	The expert assessment by BMT hydraulic engineers determined that the jetty would have a negligible effect (i.e. an unmeasurable effect) on coastal processes, including tidal flows under the jetty and seawater temperature (see Appendix C1, Table 3.1, of the Addendum). BMT considered additional hydrodynamic modelling was not necessary.
206	1053, 1056, 1095, 1115, 825, 898, A62, A71, A84	LAND-BASED AQUACULTURE Abalone farm productivity <i>General impacts on abalone (unspecified)</i>	Statements about the likely adverse effects of the KI Seaport on the productivity of the abalone farm. In essence these are statements that refer to multiple issues in a more general context and in most cases are associated with the proximity of the KI Seaport to Yumbah.	In various ways these submissions express concerns in relation to the proximity of the proposed KI Seaport to Yumbah presenting unacceptable risks to Yumbah's operation. A number of different impacts are referred to, but most frequently they refer to impacts on water quality (particularly changes in total suspended solids i.e. TSS), biosecurity, dust deposition, noise and light. Each of these issues has been dealt with in specific detail elsewhere in the response document and, whether individually or in combination none are incompatible with Yumbah's operations. Experts commissioned by Yumbah acknowledge this in Yumbah's second submission, in which it is stated that, in the absence of any remaining demonstrable negative effects on abalone farming, tactical opposition to the proposed KI Seaport should focus on possible threats to whales, rather than to aquaculture. Potential impacts to water quality have been resolved in the manner suggested by Yumbah in its first submission.

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207	1366, 559, 707, 867, A93	LAND-BASED AQUACULTURE Abalone susceptibility to suspended sediments <i>Abalone intolerance to fine sediments</i>	Contends that despite the various studies referred to in the EIS abalone are very sensitive to fine sediments and these will cause mortality even at low concentrations.	Various responses to the EIS have highlighted the importance of fully considering the particle size distribution of suspended sediments (not just the total suspended sediment loads). These concerns have been fully considered and taken on-board in the proposed design changes. Given that neither dredging nor the proposal to construct a causeway are any longer a part of this proposal, all related matters have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
208	1366, 559, 707, 825, 867	LAND-BASED AQUACULTURE Abalone susceptibility to suspended sediments <i>Abalone intolerance to high suspended sediment loads</i>	Contends that despite the various studies referred to in the EIS abalone are sensitive to suspended sediments and these will cause mortality even at low concentrations.	These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
209	1366	LAND-BASED AQUACULTURE Abalone susceptibility to suspended sediments <i>ANZECC guideline issues 10 vs 25 mg/L</i>	Contends that the ambient water quality in Smith Bay is very high and this means that the water quality guideline should not exceed the ANZECC recommendation of 10 mg/L.	These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
212	1366, 707, 825	LAND-BASED AQUACULTURE Abalone susceptibility to suspended sediments <i>Ecotoxicology study not adequate</i>	Contends that the small number of animals, the short duration of the tests and the absence of multiple treatments (particularly at different temperatures) means that the ecotoxicology work performed on juvenile greenlip abalone is of limited value in determining the vulnerability of abalone to suspended sediments.	It should be noted that Yumbah declined to supply animals for ecotoxicology testing, thereby limiting the sample size to those that could be caught by SARDI in the wild. Even so, the sample size that was obtained had the requisite statistical power, given the absence of any effects from sustained exposure to high sediment levels. However, these issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

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				Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
214	500, 707	<p>LAND-BASED AQUACULTURE</p> <p>Abalone susceptibility to suspended sediments</p> <p><i>Risks from bacteria bound to suspended sediments</i></p>	<p>Contends that higher levels of suspended sediments increase the risks to abalone because previous work has shown that bacteria (including <i>Vibrio</i> spp) are often found attached to sediment particles thus compounding the potential impacts.</p>	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
215	707	<p>LAND-BASED AQUACULTURE</p> <p>Air quality (Dust)</p> <p><i>Air quality impacts</i></p>	<p>Contends that wind-blown dust (including wood dust) will be transported across the Yumbah abalone farm where it will settle onto farming infrastructure and ultimately get washed into the raceways and nursery tanks causing elevations in suspended sediment loads in the water.</p>	<p>The impact of dust deposition on the Yumbah facility was addressed in the Draft EIS (see Section 11.5.5 and associated Appendices). The information presented in the Draft EIS provided a quantitative analysis of the expected rates of dust deposition onto the farming infrastructure and then undertook a worst-case analysis of the potential impact that dust deposition (at the expected rates) may have on the farming system. The analysis concluded that:</p> <ul style="list-style-type: none"> • Dust deposition would increase from current background levels by 10%-20%, which will not have a material effect on water quality for the abalone farm. The expected impact is to increase total suspended sediment loads by around 0.0014 mg/L to a maximum value of 0.007 mg/L. Under a worst-case analysis (assuming that all dust deposited accumulates until a rainfall event washes it through in one pulse) the levels may reach 8.0 mg/L (99th percentile value; noting that 80% to 90% of this comes from background sources and is typical of current operations). Irrespective, even the extreme case is well below the ANZECC water quality criteria for the protection of Aquaculture (10 mg/L). • The scenario discussed above assumes that all of the dust that is deposited washes through the shade-cloth and goes immediately into suspension. This is not likely given that Stringer (2018) experimentally observed that the time required for the wood dust component to go into suspension was around 2 hours which exceeds the typical retention time of water on the farm (around 20-30 minutes). This means that any wood dust (which would be expected to comprise some 54% of dust originating from the KI Seaport operations) would float on the surface of the water and thus flow out of the farm long before it went into suspension. Thus, even under the worst-case scenario, it is unlikely that the 99th percentile value for TSS would exceed 7 mg/L. • The ecotoxicology studies (Stringer, 2018) using fine hard-wood dust concluded that even if all of the wood-dust did go immediately into solution (which it doesn't), it was highly unlikely that farmed animals would be affected because there was no detectable impact of wood-dust on animal survival even at concentrations 10 times higher (35 mg/L) than the most extreme concentrations that could possibly occur (3.5 mg/L) and for exposures 50 times longer than would likely occur (due to short retention times on farm). On this basis and taking into account the time taken for wood-dust to leach, the experimental exposure tested by Stringer (2018)

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				<p>was likely to have been 100 to 1,000 times higher than the practical exposure levels that would be encountered.</p> <ul style="list-style-type: none"> • Rainfall events that might cause the wash-through of deposited dust are relatively infrequent, typically occurring on less than 9 days per year and hence this is not likely to be a chronic problem but rather episodic. This is effectively unchanged from the existing risk profiles when calculated using background dust deposition rates. <p>The results presented in the Draft EIS were modelled on a worst-case basis using a scenario in which there was no stockpile and the dust from all the fines left after reclaim of the woodchips was emitted from ground-level. This over-estimates the dust generation by a factor of 10 and thus a full height wood chip stockpile is likely to emit 1/10th the amount of dust predicted by the modelling.</p> <p>The modelling has assumed that conveyors are covered but further reductions would be realised from covering transfer points and the through the use of water sprays to suppress dust production.</p> <p>The construction of a 2 m high mesh covered fence (which has been identified as a mitigation tool for light spill) was not accounted for in the original air quality modelling. The National Pollutant Inventory Emission Estimation Technique (EET) guide for Mining v3.1, Table 4, specifies an “estimated control factor” for wind erosion from stockpiles of 30% for wind breaks. These are nominally “at source” controls, and so a boundary fence would be expected to be less effective. A 30% reduction in dust from the stockpile source would be equivalent to a reduction in the overall site dust generated of around 10%.</p> <p>In relation to air quality, the inclusion of the Yumbah sheds on the land immediately to the east of the project site and to which aquaculture licence FT00634 applies, introduces new sensitive receptors that were not included in the original modelling. Air quality impacts are a measure of the effect of an exposure to a given air quality over time. The covered sheds modify the exposure pathway by providing shelter from depositional processes. With regards to dust concentrations in ambient air, there is the potential that air with elevated concentrations of dust may be ventilated into the sheds and create an exposure scenario.</p> <p>Figure 17.11a of the Draft EIS shows the maximum 24-hour average ground-level concentration of PM₁₀ (and below)-sized dust particles. PM₁₀ is broadly (but not exactly) equivalent to “respirable” dust and is generally used as a health benchmark within the NEPM framework (National Environment Protection) Ambient Air Quality Measurement criteria. The modelling shows that the concentration of PM₁₀ dust in air on the worst day of the year, under our worst-case modelled scenario, would comply with the NEPM at the location of these sheds. On this basis and given the results from the wood-dust ecotoxicology studies, it is highly unlikely that there would be any effect on water quality inside aquaculture tanks inside these sheds that would have an effect on animal health.</p>
216	1115, 447	<p>LAND-BASED AQUACULTURE Air quality (Dust) <i>Impacts of timber toxins</i></p>	<p>Contends that timber toxins from the chemical treatments used in timber processing would leach from the system or be attached to windblown dust and that this material would impact on the neighbouring abalone farm.</p>	<p>The issue of chemicals used in the wood production processes were detailed in Chapter 4 of the Draft EIS. Woodchips would not be fumigated. Depending on customer requirements, logs may need insecticidal fumigation, but this would not take place at Smith Bay or anywhere on Kangaroo Island, but at another port, such as Portland in Victoria. As a consequence, methyl bromide would not be stored or used onshore at Smith Bay. It should be noted that methyl bromide is in the process of being phased out as a log fumigant and may no longer be in general use by the time the KI Seaport is operating.</p>

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				<p>Although herbicides and pesticides are used within some plantation forests in some parts of Australia, none would be used at Smith Bay and because leaf and bark are removed at the logging site there is no possibility of chemicals associated with herbicides and pesticides entering the marine environment at Smith Bay.</p> <p>In normal forestry practice on Kangaroo Island, herbicides are used only prior to plantation establishment, which is 15 – 35 years prior to harvest. Insecticides are rarely if ever used.</p> <p>Other chemical wastes generated at Smith Bay would be collected, contained and disposed of according to industry standards and consistent with the EPA's waste licence for the site. There is no possibility of these chemicals entering the marine environment at Smith Bay.</p>
225	447, FL5	<p>LAND-BASED AQUACULTURE</p> <p>Biosecurity risks <i>International shipping</i></p>	<p>Contends that biosecurity risks from international ship movements are substantial due to the ineffectiveness of both the existing management arrangements that aim to manage such risks as well as the level of compliance with the various regulatory arrangements.</p>	<p>Concerns in relation to international shipping have been raised in a number of submissions and broadly relate to the risk that ballast water discharge or hull fouling will provide vectors for the introduction of either exotic (and potentially invasive) species and/or abalone parasites or pathogens that pose a disease risk to the abalone farm. The EIS has documented this issue in detail (Appendix I5) providing a comprehensive outline of major vectors, priority pest species, potential diseases, institutional arrangements and policies to control marine pests, monitoring requirements, response strategies for incursions and a strategy for the development of management plans and procedures for Smith Bay should the development of the KI Seaport be approved.</p> <p>Since the Draft EIS was published there have been substantial changes to the regulatory arrangements in relation to international shipping and particularly around the issue of ballast water management (Appendix C). These regulatory changes have the effect of improving ballast water management by replacing a process-based approach (i.e. the D-1 standard which required ballast water exchanges) with an outcome-based approach which aims to ensure that ballast water is substantially free of exotic organisms. This new approach is referred to as the D-2 standard and specifies systems for the treatment of ballast water such that ships can only discharge ballast water that meets the following criteria:</p> <ul style="list-style-type: none"> • less than 10 viable organisms per cubic meter which are greater than or equal to 50 micrometres in minimum dimension; • less than 10 viable organisms per millilitre which are between 10 micrometres and 50 micrometres in minimum dimension; • less than 1 colony-forming unit (cfu) per 100 millilitres of Toxicogenic <i>Vibrio cholerae</i>; • less than 250 cfu per 100 millilitres of <i>Escherichia coli</i>; and • less than 100 cfu per 100 millilitres of Intestinal Enterococci. <p>Other than new build ships, which would be required to have a system that complies with Regulation D-2 immediately, a ballast water management system must be operational by the date of the next vessel survey but in any case, no later than the September 8, 2024.</p> <p>Meeting the D-2 standard may be achieved through fitting ballast water management systems. There are now many such approved systems available to operators, ranging from those which use physical methods such as ultraviolet light to treat the ballast water, to those using active substances. Those that use active substances have to go through an additional and comprehensive approval process.</p>

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				<p>KIPT have agreed that PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board would be consulted in the development of the Biosecurity Management Plan for the port.</p> <p>The detail provided in the EIS has met with approval from the relevant SA Government Agencies whose principle concern was that they should be consulted in the development of the Marine Pest Management Plan.</p>
228	1086, FL5	<p>LAND-BASED AQUACULTURE</p> <p>Biosecurity risks</p> <p><i>Proximity to Yumbah (Biosecurity)</i></p>	<p>Contends that biosecurity risks are inversely proportional to the degree of separation from the potential source and that a 5 nautical mile separation is required between a Port and an abalone farm.</p>	<p>The argument is made (Yumbah 2019) that the required separation between a Port and an aquaculture facility is 5 nautical miles (or more). This argument is based on an empirical observation that the Yumbah Narrawong farm is 5 nautical miles from the Port of Portland (Yumbah, 2019) and that the WA Department of Fisheries (Government of Western Australia, 2017) has argued that a separation of 5 nautical miles would be required to provide a reasonable distance between abalone farms and other farms or productive reefs.</p> <p>The framing of the Government of Western Australia (2017) recommendation is to protect productive reefs and abalone farms from infection by pathogens from other operating abalone farms. It is not an argument that 5 nautical miles is the required separation from an operating Port and an abalone farm; this latter is an inference by Yumbah (2019) and seems to be based on the fact that their Narrawong farm is around 5 nautical miles from an operating Port (Port of Portland).</p> <p>In practice, the proposal by the WA Government is based on a consideration of the risks that abalone farms pose to wild take abalone fisheries and to other abalone farms. Experience with the Victorian abalone farms at Port Fairy (Ocean Road Abalone) and Portland (now owned by Yumbah) during the Abalone viral ganglioneuritis (AVG) outbreak in 2005-2006 indicated that these farms presented a very high risk to coastal resources. Farms with infected animals present risks to surrounding systems because the high numbers of diseased animals can result in contamination of discharge waters which are likely to contain elevated numbers of disease (viral) particles (Department of Agriculture, 2014) and these will then present a risk to wild growing animals or other farms downstream of the discharge.</p> <p>The concerns expressed by Yumbah are understandable given that the impact on the Victorian industries (aquaculture and wild catch) due to AVG outbreak comprised losses in the vicinity of \$100 million (Department of Primary Industries, 2012).</p> <p>To quote (Department of Primary Industries, 2012):</p> <p><i>“Abalone viral ganglioneuritis was first confirmed in Victoria in early 2006, following reports of unusually high mortality rates at several Victorian abalone aquaculture farms. In May of that year, AVG was detected in wild populations in southwest Victoria and as far east as Cape Otway and as far west as the Discovery Bay Marine Park. Within this range, AVG has had a significant impact on abalone populations with mortality rates between thirty and ninety per cent.”</i></p> <p>Importantly however, while the origin of AbHV (the virus that causes AVG) in Australia is unknown the best fit scenario suggested that the source of infection was associated with interstate movements of live wild-caught abalone onto aquaculture farms in Victoria (Department of Agriculture, 2014). Notwithstanding this presumption the actual source has not been determined and legal action in relation to this event by wild-catch fishers was unsuccessful although an in-principle settlement was reached between fishers and one of the aquaculture businesses (https://www.holdingredlich.com/blog/state-of-victoria-faces-class-action-over-abalone-virus; accessed 23-Aug-2019).</p>

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				<p>Clearly AVG and other similar diseases represent an appropriate concern for a business such as Yumbah. Nevertheless, Yumbah's (2019) argument that a 5 nautical mile separation is required from an operating port becomes somewhat tenuous when it is noted that Yumbah themselves have recently applied to build another abalone farm at Bolwarra (to be called Yumbah Nyamat) which is only 2.6 nautical miles from the Port of Portland (Yumbah 2018). Furthermore, in invoking the WA Government Policy as a guideline they ignore the fact that this would negate their own proposal to establish the new farm at Bolwarra because it would only be 3 nautical miles from the existing Narrawong farm and thus does not meet the separation distance that they themselves are arguing should be applied.</p> <p>Irrespective of the basis for these various arguments, the real issue to be addressed is whether or not the biosecurity arrangements that frame the operating conditions for the KI Seaport are appropriate to the needs of the various stakeholders. In this context there is a need to develop a biosecurity plan for the KI Seaport that reflects a good understanding of the biosecurity practices of the abalone aquaculture industry. This has already been agreed to in that the Biosecurity Management Plan for the KI Seaport would be developed in consultation with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board. This plan would need to consider the various risks outlined by stakeholders including the information provided in Hewitt and Campbell (2019) which provides some good guidance on these matters.</p> <p>Yumbah (2019) also claims that that the withdrawal by Southwood Timber, from their plans to develop a port in Tasmania, is evidence that the operations are incompatible. This is disputed; all it demonstrates is that Southwood Timber chose not to pursue the opportunity in the face of opposition from the (salmon) aquaculture industry, among a number of other factors.</p>
229	447, 707, FL5	LAND-BASED AQUACULTURE Biosecurity risks <i>Source Port risks</i>	<p>Contends that biosecurity risk management should recognise the risks taking account of the source ports. Noting, for example, that the Port River in SA already has POMS and that many overseas ports are close to abalone facilities which are likely to have a variety of pathogens including Perkinsus and AVG.</p>	<p>Consistent with the management of risks from international shipping, the risks associated with domestic ship movements would need to be addressed through the development of a Biosecurity Management Plan. This would be undertaken in consultation with key agency representatives from both PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board.</p> <p>See the detailed information provided in the Response ID 222, which includes information relating to the known distributions of abalone disease causing agents and the associated management frameworks for the management of ballast water risks.</p>
231	1366, 559, 707, 825, 867	LAND-BASED AQUACULTURE Coastal processes <i>Causeway effects</i>	<p>Contends that the hydrodynamic model does not fully characterise the flow and mixing patterns in the lee of the causeway and therefore there is an increased risk of water quality impacts in the lee of the causeway.</p>	<p>The causeway is no longer part of the wharf design; this would result in a substantial reduction / elimination of issues associated with impacts of the development on coastal processes such that existing circulation patterns, wave regimes, tidal fluxes etc. would all continue and remain effectively unchanged. All issues associated with the causeway have been resolved including the potential risks associated with:</p> <ol style="list-style-type: none"> 1. Localised pooling and differential warming of water in the lee of the causeway. 2. Yumbah's wastewater discharge being entrained back through their seawater intakes causing an elevation of waste products (particularly nitrogenous wastes including ammonia) and compromising intake water quality.

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				<p>3. Yumbah's wastewater discharge being entrained back through their seawater intakes causing further increases in water temperatures associated with passage of the water through the farm which would further exacerbate the warming effects in summer.</p> <p>4. Decomposition of wrack in the lee of causeway causing increases in suspended organic carbon content with potential impacts on intake water quality including on the oxygen content of the water.</p> <p>Work by Teakle (2020) indicates that there may be a very slight wave shadow behind the pontoon, but this would not have any material effect on coastal processes and hence all of these issues are addressed by the design changes.</p> <p>The quality of Teakle's work and the robustness of the conclusions drawn from this work are endorsed by Yumbah's own consultants in Yumbah's second submission (Appendix 4).</p>
232	867	<p>LAND-BASED AQUACULTURE</p> <p>Coastal processes <i>Mitigating causeway impacts</i></p>	<p>Contends that the proposal to utilise gated culverts in the causeway may not address impacts on water quality (e.g. TSS or nutrient loads) or water temperature because the operational rules are not sufficiently detailed. Information was not provided about the management of the gates (e.g. who has responsibility for their operation or how decisions are made about when to open or close the gates).</p>	<p>This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway, as recommended by Yumbah in its initial submission.</p>
237	1366	<p>LAND-BASED AQUACULTURE</p> <p>Cumulative impacts <i>Cumulative impacts</i></p>	<p>Contends that there is a need to consider situations where individual stressors may not be important but where they add to a cumulative impact.</p>	<p>Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal and therefore all of the issues raised in relation to cumulative impacts (e.g. combined effects of reduced oxygen coupled with increasing temperature and increased TSS) would remain unchanged relative to the current situation.</p> <p>There would not be any impacts on water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity or microbial loading all of which would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>Accordingly, the risk of cumulative impacts, from synergistic interaction of stressors has been resolved in the manner recommended by Yumbah in its first submission.</p>
239	867	<p>LAND-BASED AQUACULTURE</p> <p>Dredging management <i>Maintenance dredging</i></p>	<p>Contends that maintenance dredging of shipping channels and the berth pocket will present an ongoing risk to the operation of the abalone farm.</p>	<p>Neither capital nor maintenance dredging are any longer a part of this proposal and, as a consequence, there would be no need for channel clearance dredging either during construction or later during the operation of the KI Seaport. As a consequence, there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would</p>

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				effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
245	707	LAND-BASED AQUACULTURE Farm infrastructure <i>Impacts on infrastructure</i>	Contends that various activities or processes (e.g. dredging) will result in wide ranging impacts on the Yumbah infrastructure (e.g. blockage of filters or inlet pipes) resulting in increased costs of maintenance and operation.	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
248	825	LAND-BASED AQUACULTURE For noting <i>EIS data quality</i>	Contends that insufficient data has been obtained particularly in the context of marine ecosystems and associated coastal processes. As a consequence, the conclusions drawn in the EIS are not based on robust knowledge but rather weak inference.	<p>The Draft EIS and the Addendum to that report have a solid foundation of data on which to base the analysis and interpretation provided. The basic data set comprises a detailed set of observations across a suite of environmental, ecological, social and economic parameters. While there may be some debate with the analysis and interpretation of the data, particularly where the conclusions drawn conflict with the views and opinions of certain stakeholders, this in no way diminishes the quality of the underlying data.</p> <p>The decision to address a number of stakeholder concerns through a change in the design of the in-sea components including the replacement of the causeway with a pier, the removal of all dredging from the proposal, and the placement of the berth face (pontoon) further offshore, has necessitated the collection of additional data particularly relating to the structure of benthic communities further offshore, where the berth-face will now be located. This additional information simply augments what is already a comprehensive data set and supports the broader analysis of the implications of the revised design.</p> <p>Environmental monitoring and analysis will continue to be undertaken as part of the Environmental Management Framework (see Chapter 26 of the Draft EIS) throughout the construction and operation of the KI Seaport. The data collected will be reviewed and used to improve and/or update monitoring programs and environmental management programs as required.</p>
250	1095, 1366, 707, 867, FL5	LAND-BASED AQUACULTURE Light spill <i>Effects of light spill</i>	Contends that abalone respond negatively to light spill which will cause abalone to move around at night. This will disrupt feeding impact on growth rates.	<p>There is no support in the literature for the claims being made (e.g. McShane 2019) that light spill will impact on abalone growth or mortality rates on the Yumbah farm (Appendix C). On the contrary the literature referred to by McShane (2019) suggests that light spill will either have no impact on growth rates (when 24 hour light exposure is compared to the current situation on the Yumbah farm of a 12:12 light/dark cycle) or alternatively, if lights of the correct colours are used, then there is a capacity to enhance feeding responses (Appendix C).</p> <p>The critique provided in the various submissions erroneously compares growth responses in 24-hour dark to that with a 12:12 light-dark cycle. Yumbah's Smith Bay farm, unlike a number of other abalone farms, does not fully cover its slab tanks in order to provide for 24 hour darkness; rather they use shade mesh to mimic the light dark cycle that abalone would receive at a depth of around 5 m in the natural marine environment. This is not the same as keeping animals permanently in the dark (as is done, for example, on the abalone farm at Port Fairy in Victoria or on the farm that operated at Streaky Bay). As such, the mooted benefits of not exposing animals to light spill is not supported by what has been reported (Appendix C).</p>

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				Importantly, some of the literature referred to by McShane (2019) actually showed positive benefits of red and orange light in enhancing abalone growth and reducing mortality rates (Appendix C). As such it is likely that using lights with outputs in the longer wavelengths would be an appropriate measure.
252	1095, 707	LAND-BASED AQUACULTURE Light spill <i>Mitigating light spill</i>	Contends that the EIS does not provide sufficient information on the mitigation of light spill from the KI Seaport.	<p>There is no evidence to support Yumbah's claims about the adverse impacts of light spill on farmed abalone (Appendix C). Notwithstanding, KIPT have identified a number of strategies to ensure that light spill is minimised including:</p> <ul style="list-style-type: none"> • The use of light baffles around fixed lighting to ensure that light is provided in the areas where it is required and does not spill across to the abalone farm. • Wherever possible using red or red-orange lights (rather than lights with blue or green outputs) because these have been shown to promote abalone growth and survival and thus any light spill that may occur would potentially be beneficial to farmed animals. • Placing a barrier fence around the land-based part of the KIPT facility with at least 90% shade-cloth to further limit the chance of light spill from ground-based operations (e.g. vehicle movements at night). This, coupled with Yumbah's 70% shade-cloth over their raceways, will ensure a 97% reduction in incidental light spill from sources such as vehicle operations. Areas with sheds will similarly not experience any light spill. <p>The use of security lights that, where possible, operate in the infra-red and thus do not provide a risk of light spill. Note however that Yumbah's own extensive security lighting appears to be of a normal white light composition.</p>
256	707	LAND-BASED AQUACULTURE Operational noise <i>Noise and vibration (terrestrial) impacts on abalone</i>	Contends that noise and vibration in the terrestrial environment, associated with both construction and operation of the KI Seaport, will impact on abalone aquaculture.	<p>Quantitative estimates of noise (Resonate 2018), were reported in the Draft EIS along with a narrative detailing that these were unlikely to affect Yumbah's Smith Bay farm through impacts on abalone. This information has been comprehensively addressed in Chapter 11 of the Draft EIS as well as in Sections 4.3.1 and 4.3.3 (Appendix H of the Draft EIS document). To reiterate the noise levels emanating from the KI Seaport would be lower than those generated on the abalone farm itself, based on the design specifications for noise levels at Yumbah's Nyamat farm design documentation (Yumbah 2018).</p> <p>Commentary by SA Government Agencies (see Table 6-4, EPA submission 33) although needing to be addressed elsewhere is not relevant in the context of the impact of noise on farmed abalone (rather the comment relates to the provisions of the Environmental Protection (Noise) Policy 2007 as it relates to rural living and residential and recreational amenity).</p>
262	1053, 1056, 1086, 1095, 1115, 1366, 707, 779, 898	LAND-BASED AQUACULTURE Proximity to Yumbah <i>Proximity to Yumbah (General)</i>	General concern that the KIPT Port and associated operations are too close to Yumbah and therefore they present a risk to the Yumbah operations.	<p>This concern has been stated in various ways through several submissions and is generally framed in the context that the proximity of the proposed development to Yumbah presents risks (to Yumbah's operation) associated with both the construction and operation of the KI Seaport facility. Several different impacts are referred to but most frequently they relate to either impacts on water quality (particularly changes in total suspended solids; TSS), biosecurity, dust deposition, noise and light.</p> <p>In all of these submission the proximity between the KI Seaport and the aquaculture farm is identified as a generic problem; given that each of these issues has been dealt with in specific detail elsewhere in the response document, there are no additional matters relating to the proximity per se that need to be discussed any further.</p>

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263	867, A93	LAND-BASED AQUACULTURE Ship operations <i>Elevated TSS due to prop-wash during ship operations</i>	Contends that ship manoeuvring would result in elevated TSS loads that would impact on intake water quality for the abalone farm.	Changes to the design of the in-sea infrastructure, in particular the decision to remove the causeway and to replace it with a piered structure that extends out to deep water, as recommended by Yumbah in its initial submission, mean that the berth-face for the port would be further away from the Yumbah seawater intakes. Teakle (2020) has confirmed, consistent with the previous advice, that there would be no measurable effect on total suspended sediment concentrations, associated with shipping operations, at the Yumbah seawater intakes. This conclusion has been supported by Yumbah's own consultants (Appendix 4, second submission).
264	1115	LAND-BASED AQUACULTURE Ship operations <i>Water quality impacts from ship operations (other than TSS)</i>	Contends that ship operations including loading (dust generation) and de-ballasting (discharge of contaminated water) present risks to water quality which would impact on the intake water quality for the abalone farm.	Issues associated with dust generation and biosecurity have been dealt with separately in this report (see Sections on Air quality and Biosecurity respectively). Risks to water quality from ship sourced discharges would be managed under standard operating procedures. All ports are required to implement procedures to manage the discharge of materials from ships and these include controls on ballast water discharge. Operational management of the KI Seaport would require ships to adhere to these regulations which are intended to ensure that water quality is not compromised by discharges. It should further be noted that Yumbah's intakes are located on the seafloor, whereas any wood dust escaping during ship loading operations would be deposited on the sea surface.
273	1366, 867	LAND-BASED AQUACULTURE Water quality <i>Impacts on Yumbah intake water quality (Temperature)</i>	Contends that the work detailing the impact of potential increases in water temperature in the lee of the causeway, does not provide a sufficiently robust basis for predicting impacts on Yumbah intake water quality. The principle concern is that the model predictions predict changes in water temperature in the lee of the causeway and this has potential to exacerbate existing problems with summer mortality.	These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
274	500, 559, 707, 779, 867, FL5	LAND-BASED AQUACULTURE Water quality <i>Impacts on Yumbah intake water quality (TSS)</i>	Contends that the work that has been done does not provide a sufficiently robust basis for predicting impacts on Yumbah intake water quality and that suspended sediment loads will be higher than acceptable for abalone. There are two principle concerns: 1) That the sediments in Smith Bay have not been properly characterised and therefore the associated risk from fine	These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline. Estimates of TSS associated with ship operations (bow wave and prop-wash) indicate that any effect on TSS levels at the Yumbah intakes would be below the detectable limit; in effect there

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			<p>sediments is greater than that stated.</p> <p>2) That the model predictions do not properly account for changes in water circulation with the causeway in place and this has a number of knock-on effects including impacts from decomposing wrack as well as the risk of entrainment of Yumbah discharges into the intake pipes.</p>	would be no increase in TSS from this source. Yumbah's consultants concur with this conclusion (Appendix 4 second submission).
288	A83(1), A83(2), A83(3)	MARINE ECOLOGY Benthic communities <i>Condition</i>	Smith Bay is one of the very few parts of Gulf St Vincent that has never been trawled for prawns. It therefore contains valuable benthic communities that are undamaged by prawn trawling.	If Smith Bay's offshore benthic communities have indeed never been trawled for prawns, it is agreed that they would likely contain more valuable benthic communities than areas that had been trawled for prawns. The total area that would be subject to disturbance by the KI Seaport's activities is reduced by the revised wharf design that eliminates the causeway and need for dredging. The KI Seaport development area would also occupy a small percentage of the area that makes up Smith Bay, see Figure 1 in Appendix A .
290	A92	MARINE ECOLOGY Benthic communities <i>Propwash effects</i>	The shipping approach contains species of high conservation significance. The site is susceptible to major sediment disturbance from propeller wash and a consequent increase in turbidity. Corals and seadragons may be susceptible to damage.	It is acknowledged that the infrequent passage of ships along the approach to Smith Bay would result in short-term increases in turbidity in the immediate vicinity of the approach. The effect would be relatively small as the seabed in the vicinity of the approach consists of relatively coarse sediment and gravel. It is unlikely that the increased turbidity and silt fall-out would have any significant ecological effects on the benthic communities of Smith Bay, including corals and seadragons.
291	867	MARINE ECOLOGY Benthic communities <i>Tolerance to sedimentation</i>	Further information is required on the tolerance of all Smith Bay benthic communities, particularly seagrass and other marine plants, to sedimentation.	The issue of the tolerance of benthic communities to sedimentation is resolved as dredging will no longer occur.
295	1061, 447, A100	MARINE ECOLOGY Corals and seagrass habitat <i>Dredging impacts</i>	Dredging would impact the 2 m high corals and seagrass communities, which provides habitat for fish and the Leafy Sea Dragon, respectively.	The issue of dredging and associated sediment plumes and sedimentation adversely affecting seagrass communities, leafy sea dragon habitat and the large corals occurring in Smith Bay are resolved as dredging will no longer occur.

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296	A92	MARINE ECOLOGY Fish communities <i>Noise impacts on behaviour</i> (EPBC related)	The impact of noise on fish behaviour should be adequately addressed.	Piling operations in Smith Bay would inevitably result in an aversion response i.e. fish would move away from the sound source. Soft starts would enable fish to move away from the piling location before piling commences with maximum energy. As piling would occur for approximately an hour each day during construction, the effect on fish behaviour would be relatively minor. It is likely noise associated with port operations, including shipping movements, would have a negligible effect on fish.
297	1184, 679	MARINE ECOLOGY Fisheries <i>Potential adverse impacts</i>	Construction of the wharf and dredging operations would adversely affect both recreational and commercial fisheries in Smith Bay, including the squid, snapper and whiting fisheries.	The issue of potential impacts on commercial and recreational fisheries in Smith Bay is resolved as dredging and construction of the causeway will not occur. Construction of the jetty would have a minor impact on the marine environment in Smith Bay and would provide reef habitat for a diversity of species including those of importance to fishers (e.g. snapper).
298	296	MARINE ECOLOGY Fishing charters <i>Potential adverse effects</i>	The development would affect commercial fishing charters by disrupting habitat and spawning areas. Vessels would also scare fish communities.	The issue of the development adversely affecting commercial fishing charters in Smith Bay is largely resolved as dredging and construction of the causeway will not occur. The construction of the jetty would have a minor impact on the marine environment in Smith Bay and would provide additional habitat for reef fish such as snapper. Operational vessel noise in Smith Bay would be infrequent and of relatively short duration during docking operations. Whilst docked in Smith Bay noise emanating from vessels would be minor. There is no evidence to suggest that vessels would cause any significant disruption to fish.
301	1098	MARINE ECOLOGY Habitat loss <i>Habitat fragmentation and connectivity</i>	The development, and in particular seagrass loss, would result in habitat fragmentation and disrupt the connectivity of marine habitats.	The issues of habitat fragmentation and disruption of habitat connectivity are resolved as dredging and construction of the causeway will not occur. The jetty design will neither fragment habitats, nor disrupt the connectivity of marine habitats.
302	1098	MARINE ECOLOGY Habitat loss <i>Offsets for reef loss</i> (EPBC related)	Environmental offsets need to account for not only seagrass loss, but the loss of other marine habitats such as rocky reef and sponge habitat.	The issue of environmental offsets to account for the loss of rocky reef and sponge habitat is resolved as dredging and construction of the causeway will no longer occur. A negligible amount of reef and sponge habitat will be lost during placement of the jetty piles (up to 0.02 ha). The jetty piles will be colonised by invertebrates, including sponges, and provide reef habitat for a diversity of fish and other species.
305	A55, A81	MARINE ECOLOGY Jetty effects <i>Barrier to species movement</i> (EPBC related)	The ability marine fauna to pass under the jetty is questioned. Furthermore, the suggestion that the longer piled jetty will be less of a barrier to the movement of marine species than the solid causeway is not borne out by science.	It is inconceivable that the jetty would present a significant barrier to the movement of marine species. Most species would move under the jetty, and the rest (e.g. whales) would move around the jetty, just as they do elsewhere along the north coast of Kangaroo Island when they encounter reefs and points.

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307	1098	MARINE ECOLOGY Macroalgae communities <i>Sedimentation effects</i>	Sedimentation resulting from dredging and ongoing port use would drive loss of diversity in Smith Bay through the promotion of turf-forming algae in place of macroalgae habitat.	The issue of sedimentation degrading macroalgae habitat is resolved as dredging will no longer occur. As the modelling in the EIS demonstrates, sediment fallout associated with ship movements would be at least two orders of magnitude less than dredging effects (i.e. negligible) (see Chapter 9, Section 9.5.8). Any sediment fallout that does occur would be rapidly dispersed by wave action. There are unlikely to be any measurable effect on macroalgae communities.
308	1115	MARINE ECOLOGY Marine biodiversity <i>Potential effects</i>	The Kangaroo Island marine environment is poorly known, pristine, rich and fascinating.	It is acknowledged that Kangaroo Island does support an interesting, diverse and relatively pristine marine ecosystem. The EIS studies show the proposed development would have only a very minor impact on the marine environment in the immediate vicinity of the wharf. There would be no impacts on marine biodiversity beyond the immediate vicinity of the wharf.
309	FL1	MARINE ECOLOGY Marine surveys <i>AusOcean survey</i> (EPBC related)	The results of the AusOcean 2018 underwater marine survey of Smith Bay should be considered in the EIS.	The AusOcean survey is a useful addition to the ecological database for Smith Bay and would be included in the ecological baseline. The EIS and AusOcean surveys are complementary, with each survey finding some species that the other did not find.
310	1067, 1117	MARINE ECOLOGY Marine surveys <i>Methods</i>	The methods used to acquire baseline data were rudimentary and unlikely to provide a good assessment. A mixed method approach should have been used during the marine survey. The assessment only occurred in the 'footprint' of the project, which is not adequate. This limits the ability for a comprehensive risk analysis to be undertaken. The marine survey wasn't conducted over a long enough timeframe.	It is maintained that the design of the marine survey undertaken in Smith Bay was suitable for the purpose of assessing potential impacts on the marine environment at Smith Bay. Subsequent more detailed marine surveys satisfying the requirements of a BACI monitoring program will be undertaken prior to construction commencing, should the project be approved.
311	822, FL1	MARINE ECOLOGY Marine surveys <i>Permits</i>	KIPT's marine ecology survey was conducted without permits and does little to establish confidence in their findings.	All necessary permits were acquired prior to the marine surveys being undertaken. All marine flora and fauna were identified in-situ during the marine survey dives, which required no samples to be taken.
312	A56, A57, A68, A72, A90	MARINE ECOLOGY New jetty design <i>Impact reduction</i>	The new design, including increasing the length of the jetty to 650 m, will not mitigate impacts on the existing marine life.	Increasing the length of the jetty eliminates the dredging and the causeway will not be built. These changes significantly mitigate the impacts on the marine communities in Smith Bay. The residual impacts on existing marine communities in Smith Bay are expected to be minor.

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314	A92	MARINE ECOLOGY Noise impacts <i>Fish with swim bladders</i> (EPBC related)	Underwater noise predictions and threshold distances for fish with swim bladders should have been included in the assessment.	The underwater noise assessment focussed on listed species such as whales and dolphins, which is consistent with other similar assessments. This approach is used so that meaningful mitigation strategies can be adopted to minimise potential impacts on these species, such as the use of marine mammal spotters, exclusion zones and shutdowns. Since similar strategies are not available for fish, the establishment of threshold distances was not considered to be useful. The most useful strategy to minimise impacts on fish is 'soft starts' during piling to enable fish to leave the area prior to piling with full energy.
315	1098, 547	MARINE ECOLOGY Pipefish <i>Dredging impacts</i> (EPBC related)	The direct and indirect loss of seagrass due to dredging, turbidity and sedimentation effects would result in substantial losses of critical syngnathid habitat. Habitat may be fragmented; populations may decrease, and breeding cycles may be disrupted. Construction activities would have a severe impact on the critically endangered pipefish and weedy seadragons.	The issue of the loss of up to 10 ha of seagrass habitat and potential impacts on pipefish habitat is resolved as dredging will not occur and the causeway will not be built. The jetty design will result in the loss of minimal pipefish habitat (0.52 ha). As discussed in the EIS, pipefish are relatively common in the seagrass habitat along the north coast of Kangaroo Island. They are not critically endangered and the impact on pipefish would be negligible. The development poses no credible risk to the viability of pipefish on the north coast of Kangaroo Island.
319	A62	MARINE ECOLOGY Seadragons <i>Potential impacts</i>	The AusOcean survey revealed the presence of the leafy and weedy seadragons in Smith Bay. The project risks killing off these significant species.	There is no evidence to suggest that the development at Smith Bay will have any adverse effects on the leafy and weedy seadragons inhabiting Smith Bay. A negligible amount of their seagrass and reef habitat in Smith Bay would be adversely affected by the development. On the contrary, it is likely that the jetty piles will be colonised by macroalgae and provide additional seadragon habitat in Smith Bay. It is noted that two of the most important sites for leafy seadragons in SA are the Rapid Bay and Edithburgh jetties.
320	A92	MARINE ECOLOGY Seadragons <i>Vessel approach</i>	The reef habitat located in the vessel approach supports weedy and leafy seadragons, which will be affected both during wharf construction and ongoing wharf use as a result of shipping movements.	The detection by AusOcean of the weedy and leafy sea dragon on low profile reef habitat near the eastern approach the proposed wharf is of interest. However, it is unlikely the occasional turbulence caused by the movement of ships and tugs to and from Smith Bay would have a significant impact on the population of weedy or leafy seadragons in Smith Bay. There is an abundance of similar reef habitat in Smith Bay that is suitable for use by weedy and leafy seadragons should they be displaced from the patch of reef in the shipping approach. It is also possible the seadragons may continue to inhabit the reef despite occasional ship induced turbulence, which in places is likely to be similar to seabed turbulence caused by large ocean swells that sometimes reach Smith Bay.
321	A21	MARINE ECOLOGY Seagrass and macroalgae communities <i>Turbidity effects</i> (EPBC related)	The increased turbidity and reduced PAR associated with the sediment plume would compromise the survival of seagrass and macroalgae. The effect has not been modelled or simulated.	The issue of increased turbidity and reduced PAR adversely affecting seagrass and macroalgae communities is no longer relevant because dredging will not occur, and the causeway will not be built. It is likely the increased turbidity associated with piling and other construction activities would be negligible in the context of natural variation.

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322	547, 559	MARINE ECOLOGY Seagrass communities <i>Dredging and causeway impacts</i>	A large area of mixed habitat, including seagrass, (10 ha) would be destroyed by dredging and causeway construction.	The issue of the loss of seagrass communities by dredging and causeway construction is resolved as dredging will not occur and the causeway will not be built. The jetty piles would result in the loss of 0.02 ha of seagrass and reef communities, which is considered to be negligible.
324	1115	MARINE ECOLOGY Seagrass communities <i>Sedimentation effects</i>	The EIS underestimates the real impacts of sedimentation on seagrass communities. These impacts on seagrass are never "temporary minor impacts" and dredging is never a once off event.	The issue of sedimentation effects on seagrass communities associated with dredging is resolved as dredging will not occur. Maintenance dredging will not be required for the development.
330	679, 956	MARINE ECOLOGY Seagrass loss <i>Offsets</i> (EPBC related)	Seagrass restoration in Nepean Bay (as an offset) is unlikely to prove to be successful as the contributing causes may never be addressed. The offset of replanting seagrass at Western Cove doesn't match the like for like principle.	Offsetting seagrass losses in Smith Bay by promoting seagrass recovery in Nepean through a catchment management program to reduce nutrient inputs to Nepean is no longer appropriate as the jetty design would result in minimal loss of seagrass in Smith Bay (i.e. 0.52 ha). The minor seagrass loss will be offset by making an appropriate financial contribution to the NVC.
332	1095, 1185, FL1	MARINE ECOLOGY Seagrass loss <i>Significance</i>	The development would result in the loss of 10 ha of seagrass, which is a significant impact. It makes no sense to allow the clearance of seagrass when there has been significant investment in restoring seagrass beds in other parts of the state.	The issue of seagrass loss is resolved as dredging and construction of the causeway will no longer occur. The jetty design will result in minimal seagrass loss (0.52 ha).
333	345, A54, A59, A82, A98	MARINE ECOLOGY Smith Bay flora and fauna <i>General impacts</i> (EPBC related)	Smith Bay is a shallow bay. KIPT want to dredge our Bay.....destroying our seabed grasses and sea creatures.	The issue of the development having an immeasurable impact on many species of marine flora and fauna (including pipefish) is no longer relevant as dredging and construction of the causeway will not occur. The impacts on flora and fauna associated with the jetty would be negligible.
334	1106, 251, A93, FL1, FL2	MARINE ECOLOGY Smith Bay marine ecosystem <i>Dredging impacts</i>	Dredging would result in the direct loss of seagrass, and effects associated with sediment plumes, and sedimentation effects. It would also degrade the ecosystem through other effects on water quality, including the bioavailability of pollutants and dissolved oxygen levels.	The issue of dredging adversely affecting the Smith Bay marine ecosystem in Smith Bay is resolved as dredging will not occur.

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335	1056, 1098, A22, A45, A47, A73, A83(1), A87, A88, A93	MARINE ECOLOGY Smith Bay marine ecosystem <i>Ecological value</i>	KIPT fails to accurately represent the ecological values of Smith Bay. It has no regard for Smith Bay as a CCZ and lacks concern for the ecological values. The statement in the EIS that “the site is not in an area of significant or high biodiversity value” is questioned.	<p>The CCZ (of the KIDP) covers most of the north coast of Kangaroo Island. The coastal waters of Kangaroo Island, including Smith Bay, are not within the boundaries of the Kangaroo Island Council. Therefore, the CCZ is not relevant to any assessment of the impacts on the marine ecology that may be attributed to development in the sea.</p> <p>It is acknowledged that Smith Bay is an area of high biodiversity value and supports many species of conservation significance. Smith Bay, however, is also similar to many other bays along the north coast of Kangaroo Island in terms of biodiversity and the species of conservation significance it supports. AusOcean reach the same conclusion in their submission (Smith Bay Marine Ecology Report, AusOcean 2019), which says:</p> <p>“Much like the rest of Kangaroo Island (emphasis added), Smith Bay’s marine environment exhibits high species richness and endemism supporting an abundance of emblematic and threatened species with high conservation value”. (p 29)</p>
336	1167	MARINE ECOLOGY Smith Bay marine ecosystem <i>Ecotourism</i>	The development would damage the marine environment of Smith Bay and disrupt ecotourism.	Any impacts on the ecological values of Smith Bay and, thus, ecotourism would be significantly mitigated by the proposal to construct a jetty rather than dredge and construct a causeway. Although ecotourism operations in Smith Bay may be affected to some degree during construction of the wharf, the effects during operation of the wharf would be minimal. There is no evidence to suggest that the wharf would have no ongoing effect on the ecological values of Smith Bay, including use by dolphins and whales, that make it an attractive area for ecotourism.
337	1185, 1217, 1219, 547, 689, 825, 913, A12, A15, A16, A17, A21, A35, A53, FL1	MARINE ECOLOGY Smith Bay marine ecosystem <i>General degradation (EPBC related)</i>	Construction and operation of the port would degrade the pristine Smith Bay marine ecosystem, including species of high conservation value and iconic species. In particular, there would be dredging related impacts to habitat, effects on water quality leading to anoxia and algal blooms, biosecurity issues, noise impact and displacement of the southern right whale.	<p>The issue of the development degrading the Smith Bay marine ecosystem is largely resolved as dredging and construction of the causeway would no longer occur. The marine ecological effects associated with construction of the jetty would be minimal. It is acknowledged that construction noise associated with piling is likely to result in whales and dolphins avoiding Smith Bay during construction.</p> <p>During the operational phase of the port, however, disturbance to marine communities is likely to be minimal given the expected low frequency of vessel movements, and short duration of operational vessel noise during docking operations. Noise emanating from vessels docked in Smith Bay would be minor and cause little or no disturbance to marine communities.</p> <p>As discussed in the EIS, biosecurity risks would be minimised by strict compliance with the existing government regulatory framework governing biosecurity. The wharf would be constructed and operated to the highest industry standards which would ensure that the risk of marine pollution occurring at Smith Bay via spills of fuel, oil or other contaminants during construction or operation of the wharf is negligible.</p>
338	A1	MARINE ECOLOGY Smith Bay marine ecosystem <i>Shipping effects</i>	The wharf will result in larger ships visiting Kangaroo Island, which could result in the fragile marine environment being damaged.	<p>Kangaroo Island currently experiences visits by large cruise ships. The KI Seaport would result in the visitation to Smith Bay by Handymax and Panamax size ships. The only way the increase of visits by larger ships to Kangaroo Island could potentially damage the marine ecosystem of Kangaroo Island is via the potential introduction of exotic pests.</p> <p>As described in the Draft EIS, strict marine biosecurity protocols would apply to ships operating at Smith Bay. These protocols would be developed and implemented in consultation with government regulatory authorities to minimise the risk of introducing marine pests to Smith Bay.</p> <p>Compliance with the ballast water management provisions of the Biosecurity Act will be required of international and national shipping operators accessing the Smith Bay seaport.</p>

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340	1098, A83(1), A83(2), A83(3)	MARINE ECOLOGY Smith Bay marine habitats <i>Deepwater reef habitat</i> (EPBC related)	The statement in the EIS that the seagrass progressively thins to a relatively bare seafloor at 13 to 14 m depth is questioned. AusOcean's surveys discovered rocky reef shelves from 14-16m depth supporting reef species, including pipefish.	A subsequent marine survey associated with the jetty design that extends into deeper water confirmed the presence of an area of rocky reef habitat at a depth of 14 to 16 m (see Appendix C2 of the Addendum to the EIS). It is understood that AusOcean subsequently surveyed this area of reef. This reef is typical of low-profile reefs occurring along much of the north coast of Kangaroo Island.
342	A92	MARINE ECOLOGY Underwater noise impacts <i>Sessile benthic invertebrates</i> (EPBC related)	Suggesting that species have the ability to simply 'move away' from underwater noise is inadequate as some species, particularly benthic invertebrates, lack the ability to move away.	It is acknowledged that there is little information available on the effect of underwater noise on benthic invertebrates. Piling may have adverse effects on benthic invertebrates near the construction site. However, the effect would be temporary and benthic communities would inevitably recover upon the completion of construction.
343	1220, A92	MARINE ECOLOGY Underwater noise impacts <i>Significance</i>	Proposing that noise-based behavioural changes are expected to be temporary and ecologically inconsequential contradicts relevant research. There can be significant implications at the population level.	There is no evidence to suggest that potential behavioural changes to marine fauna caused by construction noise associated with a project of this scale would continue upon the completion of construction. Similarly, there is no evidence to suggest that construction noise associated with a project of this scale could have significant impacts on marine species at the population level.
344	A1	MARINE ECOLOGY Wild abalone <i>Potential impacts</i>	The Smith Bay development site encroaches on mature abalone areas.	With the removal of dredging component of the project, there is no potential for silt fallout to damage adjoining reef habitat in Smith Bay. Consequently, wild abalone in the vicinity of Smith Bay would not be affected by the development.
345	1185, 956	TERRESTRIAL ECOLOGY Biosecurity risks terrestrial <i>Impacts from traffic are not acceptable</i>	Concerns about the potential elevated risk of spreading pathogens or disease, such as Phytophthora, by KI Seaport activities exists. There is a concern that vehicles moving between plantations and the seaport, and/or dust suppression activities creating moist soils, which may create a favourable environment for pathogens or disease such as Phytophthora, might occur. This would put the nationally threatened narrow leaved mallee community at risk.	Management measures for phytophthora would be included in the construction and OEMPs post approval.

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347	1054, 1095, 680	TERRESTRIAL ECOLOGY Glossy black cockatoo <i>Impacts from traffic are not acceptable</i> (EPBC related)	The corner of Rose Cottage Road and North Coast Road is known glossy-black cockatoo feeding habitat and potential future nesting habitat. Clearance, dust and noise pollution will have a detrimental impact on glossy-black cockatoos. How does KIPT plan to minimise disturbance to glossy-black cockatoos on the haul route?	Any road upgrades along the preferred traffic route would be subject to a separate and additional approvals process, subsequent to the approval of the KI Seaport and prior to any on-ground works commencing. The approvals process for vegetation clearance and impacts to listed fauna could also potentially include additional EPBC referrals. The Draft EIS only addresses proposed vegetation clearance within the study area. Appendix P6 of the Draft EIS provides a preliminary ecological assessment of the transport route options. This assessment used Department of Environment and Water mapping of known glossy-black cockatoo feeding and nesting habitat and potential future nesting habitat when undertaking the assessment of the three haul route options. It has been acknowledged in the Draft EIS that Defined Transport Option 2 represents a relatively higher risk to the glossy black cockatoo than does Defined Transport Option 1.
350	1095	TERRESTRIAL ECOLOGY Impact assessment <i>Impacts on listed fauna</i> (EPBC related)	Highly probable that echidnas, white-bellied sea-eagles and hooded plovers will be affected by construction and operation of the KI Seaport	The impact assessment process concluded that there would be no significant residual risk to the white-bellied sea-eagle or the hooded plover. Unfortunately, roadkill is an unavoidable consequence of road-based transport. Reasonably practicable measures will be undertaken to minimise the impact on fauna. As required KIPT will meet its obligations under the EPBC Act and will implement and adequately fund the approved offsets package for any significant residual impact on the KI echidna. The offset package will be approved by the DAWE and must deliver an overall benefit to the species. See Appendix A for further detail on the offsets package and an assessment of limiting operational hours for heavy vehicles. See Appendix B for further detail on the impact assessment process that was adopted for listed species.
351	1185	TERRESTRIAL ECOLOGY Impact assessment methodology <i>Impacts on listed flora</i> (EPBC related)	Threatened flora would be impacted on-site and en route, including the KI narrow leaved mallee TEC.	The Draft EIS only addresses in detail proposed vegetation clearance within the study area. The existing KI narrow leaved mallee TEC will not be impacted by the proposal. This vegetation will not be cleared as it is outside of the study area boundary and on land owned by a third party. All clearance along the proposed transport route would be subject to a separate and additional approvals process subsequent to the approval of the KI Seaport. The approvals process for vegetation clearance could also potentially require additional EPBC referrals, as required.
352	867	TERRESTRIAL ECOLOGY Impact assessment methodology <i>Impacts on white-bellied sea-eagle</i> (EPBC related)	The EIS does not assess impacts to the WBSE from light disturbance and industrial noise. WBSE are highly susceptible to anthropogenic sources of disturbance such as noise and light. The precautionary principle was not considered when the Draft EIS stated a buffer zone was not required for WBSE.	The proposed development will not impact upon any white-bellied sea-eagle breeding habitat or known nesting habitat. See Appendix J3 of the Draft EIS. There is no reasonable scientific uncertainty about the potential for the proposed KI Seaport to significantly impact on the species. The precautionary principle is therefore not relevant.

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353	1115	TERRESTRIAL ECOLOGY Impact assessment methodology <i>Light impacts on fauna</i>	The report has waved off a large number of animal species, including shorebirds and bats, which would be significantly affected by the development. Light is very detrimental to many species. The report overall demonstrates a poor understanding of both terrestrial and marine ecosystems, and ecological interactions.	Yumbah's adjacent facility is lit continuously 24 hours a day. Further detailed design will be undertaken and presented in a lighting plan see Appendix E of the Addendum. There is no evidence that the small amount of foreshore that would be impacted by the proposed development is any different from the remaining north coastline of Kangaroo Island. It does not provide any critical habitat to shorebirds.
354	540, A69	TERRESTRIAL ECOLOGY Impact assessment methodology <i>Roadkill estimates</i> (EPBC related)	The Draft EIS fails to address how many hours the trucks will travel during darkness when calculating roadkill estimates. The submission infers that roadkill by the proponent's vehicles will greatly increase the statistics.	The KIPT Transport Route Options Ecological Assessment (Appendix P6 of the Draft EIS) identified a list of species that have been recorded within 5km of the proposed transport route. This list (based on the EPBC Protected Matters Search Tool and the Atlas of Living Australia) includes both nocturnal and diurnal species. Roadkill estimates for the Kangaroo Island echidna were based on the total distance travelled and does not differentiate between daytime hours travelled and night-time hours travelled by trucks (See Appendix K6 of the Draft EIS and Appendix A for further detail on an assessment of limiting operational hours for heavy vehicles).
355	1214, 819	TERRESTRIAL ECOLOGY KI Brand <i>Impacts on existing businesses ecotourism</i> (EPBC related)	The biggest thrill for us as guides is to witness the sheer delight of our guests as they encounter wildlife. It is the PEACE that they love. This would all be SHATTERED by the noise and movement of huge trucks and equipment. The roadkill would be more than alarming. The industrial Seaport will overshadow this experience, and guests will need to venture away from Smith Bay to see all that Kangaroo Island has to offer.	Unfortunately, roadkill is an unavoidable consequence of road-based transport. All reasonably practicable measures would be implemented to minimise the impact on fauna via the Operational Environmental Management Plan. It is unlikely that the proposed development would deter native fauna from the Smith Bay area. A minor amount of native vegetation (2.93 ha) would be cleared for the development which is not considered to provide critical habitat for native fauna.
356	303, 678, 819	TERRESTRIAL ECOLOGY KI Brand <i>Roadkill mitigation measures</i> (EPBC related)	Roadkill numbers will be larger than stated as trucks will be operating during the high risk periods of dawn and dusk. There should be a heavy vehicle curfew between 7pm and 7am and ban on weekends and public holidays. Animals will suffer, the impact to flora and fauna will be devastating and tourists will find it ugly and horrifying. Council will	Roadkill is an unfortunate and unavoidable consequence of road-based transport. All reasonably practicable measures would be implemented to minimise the impact on fauna via the OEMP. As required KIPT will meet its obligations under the EPBC Act and will implement and adequately fund the approved offsets package. The offset package would be approved by the DAWE and must deliver an overall benefit to the species. KIPT will undertake inspections of the transport route to relocate carcasses from the immediate vicinity of the roadside, which act as a food source for scavenging animals and could result in additional roadkill to the scavengers. The local wildlife rescue network would be contacted in the event that roadside inspections uncover injured wildlife. Any echidna (and Rosenberg's goanna) carcasses will be provided to Dr Peggy Rismiller as part of her ongoing research on these two species. The final operational environmental management plan (OEMP) will be used to implement

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			have an increased workload to remove the roadkill.	these mitigation measures to address impacts to fauna. See Appendix A for further detail on the offsets package and an assessment of limiting operational hours for heavy vehicles.
358	1061	TERRESTRIAL ECOLOGY Site selection <i>Reduce traffic impacts on wildlife</i> (EPBC related)	KPT has stated up to 21 KI echidnas will die each year from its road transport operations, which is a significant number for the species. An alternative location, closer to the plantations, reducing distance travelled, and away from wildlife hotspots on the mid-north coast, would reduce this impact.	Roadkill is an unfortunate and unavoidable consequence of road-based transport. All reasonably practicable measures would be implemented to minimise the impact on fauna via the Operational Environmental Management Plan. KIPT would meet its obligations under the EPBC Act and would implement and fund the approved offsets package. The offset package would be approved by the Department of Agriculture, Water and the Environment (DAWE) and must deliver an overall benefit to the species. KIPT would undertake inspections of the transport route to relocate carcasses from the immediate vicinity of the roadside, which act as a food source for scavenging animals and could result in additional roadkill to the scavengers. The local wildlife rescue network would be contacted in the event that roadside inspections uncover injured wildlife. Any echidna and Rosenberg's goanna carcasses would be provided to Dr Peggy Rismiller as part of her ongoing research on these two species. The final operational environmental management plan (OEMP) would be used to implement these mitigation measures to address impacts to fauna. See Appendix A for further detail on the offsets package and an assessment of limiting operational hours for heavy vehicles.
361	1054, 1095, 1167	TERRESTRIAL ECOLOGY Traffic impacts <i>Impacts on flora are not acceptable</i> (EPBC related)	The Draft EIS does not include information on how roadside vegetation clearance could be avoided, minimised or offset. Traffic impacts would further compromise SA's biodiversity. How will roadside vegetation be managed, especially endangered plants?	The Draft EIS addresses in detail proposed vegetation clearance within the study area. However, a preliminary assessment of the roadside vegetation along the preferred transport route was undertaken (See Appendix P6 of the Draft EIS). The proposed development only requires the removal of 2.93 ha of poor to moderate quality vegetation within the study area. KIPT's preferred route option for transporting timber products to Smith Bay (see Draft EIS, Chapter 21) expressly considered the impact on native vegetation and roadside clearance. It is precisely because of these impacts that KIPT does not support the route preferred by the Kangaroo Island Council via Gap and Ropers Road. (see Draft EIS p 479-482) Existing roadside vegetation (along the transport route) is managed by the Kangaroo Island Council via their roadside vegetation management plan. A preliminary assessment of the roadside vegetation along the preferred transport route was undertaken (See Appendix P6 of the Draft EIS). All vegetation clearance and the potential impacts to fauna associated with the adoption of a preferred transport route would undergo a separate assessment process subsequent to the approval of the KI Seaport. The approvals process for vegetation clearance and road upgrading activities may also require assessment under the EPBC Act.

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362	1054, 1220, 680, 681	<p>TERRESTRIAL ECOLOGY</p> <p>Traffic impacts</p> <p><i>Impacts on wildlife are not acceptable scavenger species</i></p> <p>(EPBC related)</p>	<p>The proposed level of heavy traffic would have a significant impact on the island's wildlife, including threatened species such as the Kangaroo Island Echidna and Rosenberg's Goanna. Rosenberg's goanna is a scavenger species that will be attracted to the roadside due to the increase in carcasses and will also be impacted.</p>	<p>Roadkill is an unfortunate and unavoidable consequence of road-based transport. All reasonably practicable measures would be implemented to minimise the impact on fauna via the Operational Environmental Management Plan.</p> <p>KIPT would meet its obligations under the EPBC Act and would implement and fund the approved offsets package. The offset package would be approved by the Department of Agriculture, Water and the Environment (DAWE) and must deliver an overall benefit to the species.</p> <p>KIPT would undertake inspections of the transport route to relocate carcasses from the immediate vicinity of the roadside, which act as a food source for scavenging animals and could result in additional roadkill to the scavengers. The local wildlife rescue network would be contacted in the event that roadside inspections uncover injured wildlife. Any echidna (and other species of interest such as the Rosenberg's goanna) carcasses would be provided to Dr Peggy Rismiller as part of her ongoing research on these two species. The final operational environmental management plan (OEMP) would be used to implement these mitigation measures to address impacts to fauna. See Appendix A for further detail on the offsets package and an assessment of limiting operational hours for heavy vehicles.</p>
363	1054, 540, 678, 680, 681, 956, A15, A69, A93	<p>TERRESTRIAL ECOLOGY</p> <p>Traffic impacts</p> <p><i>Roadkill mitigation measures</i></p> <p>(EPBC related)</p>	<p>Does KIPT have a management plan for roadkill and wildlife road trauma victims? Volunteers are already overwhelmed by the level of injured/orphaned animals. Roadkill occurs predominantly between the period commencing 1 hour preceding sunset and 1 hour following dawn. If it is a 24-hour harvest, 66% of daily KIPT traffic would occur during the roadkill period. A & B double vehicles are much less manoeuvrable than passenger vehicles which results in more roadkill from heavy vehicle transport. Mitigation measures suggested by proponent do not address the real issues of direct fauna destruction.</p>	<p>Roadkill is an unfortunate and unavoidable consequence of road-based transport. All reasonably practicable measures would be implemented to minimise the impact on fauna via the Operational Environmental Management Plan.</p> <p>KIPT would meet its obligations under the EPBC Act and would implement and fund the approved offsets package. The offset package would be approved by the Department of Agriculture, Water and the Environment (DAWE) and must deliver an overall benefit to the species.</p> <p>KIPT would undertake inspections of the transport route to relocate carcasses from the immediate vicinity of the roadside, which act as a food source for scavenging animals and could result in additional roadkill to the scavengers. The local wildlife rescue network would be contacted in the event that roadside inspections uncover injured wildlife. Any echidna (and other species of interest such as the Rosenberg's goanna) carcasses would be provided to Dr Peggy Rismiller as part of her ongoing research on these two species. The final operational environmental management plan (OEMP) would be used to implement these mitigation measures to address impacts to fauna. See Appendix A for further detail on the offsets package and an assessment of limiting operational hours for heavy vehicles.</p>
364	1185, 1187, 540, 867	<p>TERRESTRIAL ECOLOGY</p> <p>Traffic impacts</p> <p><i>Impacts on listed flora and fauna are not acceptable</i></p> <p>(EPBC related)</p>	<p>Many threatened fauna species would be impacted, including white-bellied sea-eagles, Kangaroo Island echidnas (particularly en route!), glossy-black cockatoos. Nests and individuals would be affected by noise and dust generated by the proposal. Rare endemic plants along the route would also be</p>	<p>The Draft EIS only addresses proposed vegetation clearance within the study area. All vegetation clearance and the potential impacts to fauna associated with the adoption of a preferred transport route would undergo a separate assessment process subsequent to the approval of the KI Seaport. The approvals process for vegetation clearance and impacts to listed fauna could also potentially include additional EPBC referrals. The impact assessment undertaken for the Draft EIS did not identify any residual significant impacts from the proposal to the glossy-black cockatoo or the white-bellied sea-eagle.</p>

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			impacted. KIPT fails to address impacts to terrestrial biodiversity.	
365	956	TERRESTRIAL ECOLOGY Traffic impacts vegetation clearance <i>Offsets not defined or adequate</i> (EPBC related)	Vegetation clearance associated with transport routes is likely to be significant. KIPT refers to offsets in the western part of the Island that could be used for vegetation clearance. However, the vegetation communities are quite different to those likely to be cleared and would not be a suitable offset.	The Draft EIS only addresses proposed vegetation clearance within the study area. All clearance along the proposed transport route would be subject to a separate and additional approvals process subsequent to the approval of the KI Seaport. The approvals process for vegetation clearance could potentially include additional EPBC referrals. Any offsets that are required for vegetation clearance within the study area must be approved by the South Australian Native Vegetation Council prior to any on-ground works.
366	956	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Hooded plovers <i>General impacts construction, dredging, ship movements</i> (EPBC related)	Believe hooded plovers' nest at Smith Bay development will reduce or disturb their current nesting habitat	The revised project design does not include dredging, which therefore reduces the potential impacts on the hooded plovers. Shipping movements will be between 10 and 20 per year. The impact assessment determined that this would not have a significant impact on hooded plovers. The revised project design would move the vessels further offshore as the jetty would now extend approximately 600 m from shore. This would also reduce the potential impacts on the hooded plover. Breeding pairs have been seen and successfully reproduced at Seaciff beach on the Adelaide metropolitan coastline (Bartley 2018).
367	1115	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Impact assessment methodology <i>Consideration of native vegetation impacts</i>	Concerned about the conclusion that the seaport will not have an unacceptable impact on marine and terrestrial ecology given the damage to native vegetation.	A total of 2.93 ha of native vegetation (terrestrial) would be cleared on the project site. This vegetation is in poor to moderate condition. The dredging required for the original design would have affected 10 ha of seagrass (marine vegetation). The revised design for the marine infrastructure component (which eliminates the need for any dredging activity) would significantly reduce the impact on seagrass. The habitat loss associated with the revised jetty design would be approximately 0.52 ha. The impact assessment is considered to be a robust scientific assessment of the environment and the proposed development. The KI Seaport would not have an unacceptable impact on either the terrestrial or marine ecology.
368	1081	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Impact assessment methodology <i>Proposed action should not be approved by the Minister (at the State or Commonwealth level)</i> (EPBC related)	SA Minister for Planning should not approve the proposed action under s 155 and sch 8 cl 20 of the Planning Development and Infrastructure Act. Commonwealth Minister for Environment should refuse to approve, for the purposes of a controlling provision, the taking of the proposed action by KIPT.	See Appendix B for a detailed response to Baird submission. The KI Seaport proposal was declared a major development by the Minister for Planning under the South Australian <i>Development Act 1993</i> . Provisions of the new PDI Act have been undergoing implementation in a phased approach and not all provisions have come into effect.

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370	1081	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Impact assessment methodology <i>Veracity of evaluation of significant impacts on MNES</i> (EPBC related)	The proposed development will have a significant impact on MNES in the environment that may be affected. The EIS provides an inadequate response to a ruling of a controlled action under the EPBC Act. The proponent failed to: <ul style="list-style-type: none"> • evaluate or address impacts and risks in relation to MNES • take into account Significant Impact Guideline 1.1. when arriving at conclusions • demonstrate that potential impacts and risks have been reduced to as low as reasonably possible. 	See Appendix B for information resolving this issue.
371	1081	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Impact assessment methodology <i>Veracity of survey methodology</i> (EPBC related)	The proponent has an obligation to carry out detailed surveys the EIS failed to fulfil this requirement. Investigation into vegetation on surrounding properties and within the adjacent marine environment should also be undertaken to determine if the proposed development will impact upon these habitat areas and the species that may be reliant upon them.	The proposed survey methodology was developed by suitably qualified and experienced ecologists based on background research as well as the site-specific conditions. See Appendix B for further details. The field assessment, conducted by a team of trained and experienced ecologists, found that what little vegetation remained on site was highly degraded, highly fragmented and unlikely to be of high value as habitat for threatened or migratory species. See Appendix J2 of the Draft EIS which includes a survey on the patch of vegetation to the south of the study area. See also Appendix P5 of the Draft EIS which includes a survey of vegetation for a number of the potential options for the preferred transport route.
372	867	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Impact assessment process <i>Inclusion of upstream impacts</i> (EPBC related)	Full assessment of the impacts on other EPBC listed species should be undertaken by the proponent. Impacts to all MNES should be assessed in the full context of KIPTs proposal (i.e. including harvest and transport). Therefore, additional MNES that should also be included are: Glossy Black Cockatoo, White-bellied Sea-Eagle and the state listed Heath Goanna as well as the roadside	An impact assessment was undertaken on the four MNES species as nominated by KIPT based on desktop and on ground assessments for the KI Seaport development site and in the context of the declared project scope. Other MNES did not become evident with any subsequent investigations. The method used (commencing with a PMR) considered MNES additional to the four originally referred to the Minister. See Chapter 14 and Appendix K of the Draft EIS. The impact assessment followed the Significant Impact Guidelines (DoE 2013). Facilitated impacts (transport) on those four MNES species were considered as part of that assessment. The Draft EIS only addresses proposed vegetation clearance within the study area of the declared project. In relation to the ancillary activity of the movement of timber from plantation to the port, a high level Traffic Impact Assessment was completed. As part of that TIA a preliminary flora and

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			vegetation proposed to be cleared for road network upgrades.	<p>fauna assessment was undertaken on a number of options for the preferred transport route to inform the decision making process (see Appendix P6 of the Draft EIS).</p> <p>The adoption of a preferred transport route is subject to a separate and subsequent approvals process. Third party agreements are also required before a preferred route could be adopted. Subject to all required approvals and agreements being in place for a preferred transport route, then further assessment on roadside vegetation clearance and impacts to fauna would be required under the <i>Native Vegetation Act 1991</i> and/or the EPBC Act (plus other relevant legislation), prior to any on-ground works.</p> <p>Forestry operations are subject to secondary approvals that will be required subsequent to development approval. A statement on the environmental acceptability of the proposal is provided in Section 14.7 of the Draft EIS. The Executive Summary provides a limited summary of the conclusions of the whole document and is therefore needs to address all conclusions made in the Draft EIS.</p>
373	FL1	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impacts on listed species <i>Construction activities</i> (EPBC related)</p>	Smith Bay is host to a number of threatened and endangered species that will be impacted by this proposal. Construction will force those that survive the construction phase, away from Smith Bay to where?	<p>Chapter 12, 13 and 14 of the Draft EIS outlines the results of surveys conducted for the Smith Bay site. There is no evidence that any threatened or endangered species would be impacted by the proposal.</p> <p>In relation to MNES, there is no evidence that the southern brown bandicoot, white-bellied sea-eagle and the Kangaroo Island echidna use the proposed development site as critical habitat, for breeding, nesting or foraging. See Appendix J3 and Appendix K3 of the Draft EIS. The impact assessment as presented in the Draft EIS concluded that there would not be a significant residual impact on the white-bellied sea-eagle or the southern brown bandicoot.</p>
375	559, FL1	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impacts on listed species <i>Mortality (roadkill) rates of wildlife are not acceptable</i> (EPBC related)</p>	The operation of the Seaport including B-double truck movements around the clock – will inevitably contribute to unacceptable mortality rates. The additional roadkill could result in population decline that may be unrecoverable.	<p>KIPT would be responsible for a small increase in the total volume of traffic on Kangaroo Island. There is no evidence to suggest heavy vehicles are disproportionately responsible for roadkill, even allowing for such variables as the time of day at which vehicles are travelling.</p> <p>The Kangaroo Island Council, the South Australian government and the tourism industry on Kangaroo Island have a common goal of increasing visitor numbers to Kangaroo Island, which would inevitably mean growth in road use, and more roadkill. All parties accept that roadkill is, unfortunately, an unavoidable consequence of road-based transport.</p> <p>KIPT would implement all reasonable and practicable measures to minimise the impact on fauna. Such measures would be incorporated into the Operations Environment Management Plan.</p>
376	681	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Impacts on listed species <i>Offsets not fully funded or defined</i> (EPBC related)</p>	KIPT proposes a vague EPBC environmental offset for the impacts on the Kangaroo Island echidna. KIPT may never be able to meet its offset obligations due to current financial status	<p>Unfortunately, roadkill is an unavoidable consequence of road-based transport. Reasonably practicable measures will be undertaken to minimise the impact on fauna. As required KIPT will meet its obligations under the EPBC Act and contribute to an approved offsets package.</p> <p>The offset package will be approved by the DAWE (previously DoEE) and must deliver an overall benefit to the species.</p> <p>See Appendix A for further detail on the offsets package and an assessment of limiting operational hours for heavy vehicles.</p>

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377	1067, 1081	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Impacts on listed species <i>Species omissions</i> (EPBC related)	The draft EIS records 46 EPBC-listed migratory species within 10 km of Smith Bay, however the EPBC referral and Draft EIS considers only five marine mammals, one shark and 15 species of pipefish are likely to occur, or may possibly occur at times, in Smith Bay. The submission states that there are more MNES under the EPBC Act that should have been included in the Draft EIS. The Draft EIS misrepresented the number of MNES that may be affected by the proposal.	The EPBC referral included a robust process to determine the likelihood of a particular species being affected by the proposed development. An assessment was undertaken using the <i>Matters of National Environmental Significance: Significant Impact Guidelines</i> developed by the Department of the Environment. The Commonwealth Minister for the Environment and Energy (EPBC no. 2016/7814) determined the controlling provisions (i.e. the four MNES species) which were therefore the focus of the Draft EIS. See Chapter 12 and Appendix I1 of the Draft EIS for further detail. An impact assessment has been undertaken on the marine species that are likely to use Smith Bay. The proposal would not result in a significant impact to any marine species and does not meet the significant impact criteria. The causeway is no longer part of the wharf design. Dredging is no longer required for wharf operations. Both of these changes are considered to further reduce the risk to marine species. See Appendix B for further discussion on the methods adopted in assessing potential impact on MNES.
379	1117	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Impacts on listed species <i>Offset proposed not adequate</i> (EPBC related)	Offset proposed is not consistent with 'like for like' approach. Offsets will achieve very little in offsetting especially seagrass clearing.	Dredging is no longer be required for wharf operation. The revised offshore design will not require vegetation clearance. Installation of piles for the jetty will only require minor amounts of seagrass clearance
380	821	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Kangaroo Island echidna <i>Impacts on wildlife are not acceptable</i> (EPBC related)	Echidnas are common at Smith Bay, woodchips will create a haven for termites attracting more echidnas, which will in turn result in more roadkill.	The woodchip piles will be inspected for echidnas prior to loading onto the vessels. This requirement will be incorporated into the OEMP subsequent to development approval.
382	1054, 1115, 680, FL1	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Kangaroo Island echidna <i>Offset proposed not adequate</i> (EPBC related)	Mitigation measures that have been proposed by the proponent to offset roadkill impacts on the KI echidna does not address road deaths at the site of impact i.e. the western end of the Island. A study on the echidnas at the western end of KI is warranted to quantify the real impact. Will KIPT do the study? Who will monitor the outcomes?	Unfortunately, roadkill is an unavoidable consequence of road-based transport. Reasonably practicable measures will be undertaken to minimise the impact on fauna and will be implemented via the OEMP. As required, KIPT will meet its obligations under the EPBC Act and contribute to an approved offsets package that will deliver an overall benefit to the species to the satisfaction of DAWE (previously DoEE). See Appendix A for further detail on proposed mitigation, monitoring and offset in relation to the KI echidna.

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			<p>Any deliberate mortality of echidnas from KIPT vehicle traffic, should be considered unacceptable.</p> <p>To "offset" it's dead echidnas, KIPT says it will assist with a feral cat eradication program which it claims is "the main factor threatening the echidna population".</p>	
383	681, 956	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Kangaroo Island echidna</p> <p><i>Veracity of data and conclusions</i></p> <p>(EPBC related)</p>	<p>Echidna roadkill estimate is too low and not well supported by analysis</p>	<p>The KI echidna is a single subspecies that is found all over the island therefore any benefit to the species located in a region of Kangaroo Island will have an overall benefit to the entire population. KI echidna population numbers are estimates and existing published data on roadkill figures is very limited and also approximate, therefore the calculations to work out additional roadkill figures was a speculative process and will require verification once the wharf is operational. The methodology to produce roadkill figures was iterative and was refined based on receiving input from various sources. The calculations used all of the limited data that was available at the time of producing the Draft EIS see Appendix K6 of the Draft EIS.</p> <p>Discussions with relevant government agencies and local wildlife experts have been ongoing during the development of the offsets package and their input was used to refine the package. All approved offsets require an implementation plan which will incorporate any monitoring requirements and reporting to DAWE (previously DoEE).</p> <p>See Appendix A for further detail.</p>
384	1081	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Likelihood of a species being present</p> <p><i>Application of precautionary principle</i></p> <p>(EPBC related)</p>	<p>DPTI and DoEE should apply the precautionary principle in determining whether MNES are present in the Environment that may be affected (EMBA).</p>	<p>The application of the precautionary principle is considered in Appendix B. Essentially, however, this principle (which, as part of the principles of ESD, must be taken into account by the Commonwealth Minister when making a determination under the Act) applies in circumstances of reasonable scientific doubt about potential impacts on the environment from a proposed development "where there are threats of serious or irreversible environmental damage". The assessments undertaken by KIPT have been comprehensive and thorough and there is no basis for the application of this principle with respect to the proposed KI Seaport.</p>
388	A81	<p>MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE</p> <p>Marine mammals</p> <p><i>Adoption of spatial no go zones</i></p>	<p>Some important areas should be out of bounds for development activities as described in the EIS and Addendum. As temporal mitigation is problematic, spatial mitigation is the only reasonable solution.</p>	<p>The SA Government has established sanctuary zones within marine parks which in effect, achieve this outcome.</p> <p>The proposed development is located in Smith Bay, which is not within, or even adjacent to, a marine park. Indeed, that is one of the reasons why Smith Bay was chosen as the site for the KI Seaport (see Draft EIS, Ch. 3 Project Alternatives).</p> <p>Spatial mitigation would be considered when mitigating and managing risks associated with particular activities.</p>

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389	42	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Alternative project sites to protect whales</i> (EPBC related)	The EIS should have considered alternative locations for the KI Seaport to minimise threats to the southern right whale.	There is no compelling evidence to suggest that Smith Bay is more important than many other areas along the north coast of Kangaroo Island as breeding or nursery habitat for southern right whales. There are unlikely to be alternative locations around Kangaroo Island that would have less impact on southern right whales as they are known to visit most of the coastline.
390	1043, A81	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Conservation Management Plan for the southern right whale</i> (EPBC related)	The Smith Bay Port development is inconsistent with the Conservation Management Plan for the southern right whale 2011-2021 due to noise impacts, habitat modification and chemical pollution.	The development is not considered to be inconsistent with Conservation Management Plan for the southern right whale for the following reasons. Significant noise impacts will only occur as a result of piling during construction. If it is possible to complete piling in the summer months, construction noise will have no effect on whales as they will be in Antarctica. If piling occurs during winter, it is considered that the soft starts and the cessation of piling if whales approach with 1 km of the construction site would provide adequate protection for whales. During operations, noise impacts associated with shipping would be infrequent and minor. Habitat modification will not occur as dredging will no longer occur and the causeway will no longer be constructed. Construction and operation management plans will reduce the risk of marine pollution to an acceptable and non-significant level and KIPT will comply with all relevant obligations imposed by State and Commonwealth pollution management legislation.
391	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Cumulative impacts on whales</i> (EPBC related)	Cumulative impacts of the Smith Bay development on southern right whales needs to be considered in the context of the impact of warming oceans, disease, climate change factors, effects upon prey species, etc..	With the cessation of commercial hunting of southern right whales, the overwhelming threat to their survival has been removed. It is likely that the current cumulative threat to the survival of the southern right whales posed by human induced changes to the marine environment and shipping are negligible compared to the previous threat posed by commercial whaling. There is no evidence to suggest that the recovery of the southern right whale population will be impeded by the additional effect of the Smith Bay development.
392	1043, 1061, 1095, 447, 540, 586, 680, 956	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Displacement of cetaceans from Smith Bay</i> (EPBC related)	In-water construction and ship movements would discourage southern right whales and their calves from visiting Smith Bay. Port operations would also disrupt the dolphin population and potentially lead to a decline in their abundance in Smith Bay. It is noted that dolphin watching activities in Shark Bay resulted in a decline in the abundance of Bottlenose dolphins.	Whales and dolphins frequent many ports around Australia, including Outer Harbor in Port Adelaide, Sydney Harbour and Portland (where a whale watching platform has been constructed). It is therefore not considered credible that development of the wharf and associated facilities will result in whales and dolphins no longer visiting Smith Bay. It is acknowledged that construction noise associated with piling may result in fewer whales and dolphins visiting Smith Bay during construction. During the operational phase of the port, however, disturbance to whales and dolphins is likely to be minimal. Operational vessel noise in Smith Bay will be infrequent and of relatively short duration during docking operations. Whilst docked in Smith Bay, noise emanating from vessels will be minor and cause little or no disturbance to whales or dolphins. Shipping operations at Smith Bay are likely to result in less disturbance to whales and dolphins than recreational boating activity associated with fishing and dolphin watching tourism as there will only be on average several shipping movements per month in Smith Bay compared with sometimes daily recreational boating activity.

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394	A75	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Displacement of whale habitat</i> (EPBC related)	Extension of the jetty and berth face by 250 m will significantly displace core migration, coastal, breeding and calving habitat.	There is no evidence to suggest that the extension of the jetty a further 250 m offshore will have a significant effect on either the migration of southern right whales along the north coast of Kangaroo Island, or on their breeding and nursery habitat in Smith Bay. It is likely that the jetty would be no more of a physical impediment to whales than the reefs and points that extend into the sea along the north coast of Kangaroo Island (see Addendum, Appendix D for consideration of the potential impacts of the southern right whale from the proposed offshore infrastructure design).
395	867	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Diverting whales from Smith Bay</i> (EPBC related)	The current strategy for diverting southern right whales is inadequate and more effective strategies must be researched and developed.	No attempt will be made to divert southern right whales from areas of frequent visitation or from areas where they have been seen to calve. Intervention to mitigate impacts on southern right whales in the vicinity of Smith Bay during piling will be passive. This will comprise having trained monitors on-site during piling to constantly look out for whales or dolphins that may be approaching the construction site. Piling will cease if whales, dolphins or seals approach closer than 1 km to the construction site.
396	1043, 1065, A41, A68, A8	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Dolphin migration pathways</i> (EPBC related)	There is a very important migratory pathway for dolphins between North Cape and Dashwood Bay (both critical sites), with Smith Bay being in the middle. The development would interrupt the migration pathway of the local dolphin population and fragment important dolphin habitat. They would also migrate along the coast further offshore where they would be more susceptible to predation and calves would be subjected to colder water.	It is agreed that dolphins regularly traverse Smith Bay as they forage along the north coast of Kangaroo Island. As discussed in the Draft EIS, construction noise associated with piling may result in dolphins avoiding the construction site and traversing the Smith Bay area further out to sea. However, it should be noted that piling would only occur for about 20 minutes each day, with the remainder of the day being required to set up the next pile. The disturbance will be temporary, and the dolphins would inevitably return to Smith Bay upon completion of construction. There is no evidence to suggest that migration along the coast further out to sea in the Smith Bay area during construction would result in significantly greater predation that would affect their population. The seawater temperature would be only marginally colder further offshore and is unlikely to adversely affect dolphin calves. Effects on dolphin movement along the coast during the operational phase of the project are likely to be negligible. The open jetty structure will not impede the movement of dolphins through Smith Bay. Operational vessel noise in Smith Bay will be infrequent and of relatively short duration during docking operations. Whilst docked in Smith Bay noise emanating from vessels will be minor and cause little or no disturbance to dolphins. There is therefore no credible evidence to suggest that dolphins will not continue to migrate through Smith Bay during the operational phase of the port.
397	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Dolphins habitat requirements</i>	The loss of marine habitats in Smith Bay needs better description in the context of dolphin requirements.	The issue of the loss of important dolphin habitat in Smith Bay, principally seagrass and reef habitat, is resolved as dredging and construction of the causeway will no longer occur. Furthermore, the piered jetty will not impede dolphin movement along the coast. Dolphins are likely to temporarily avoid Smith Bay during construction due to underwater construction noise but would return upon the completion of construction.

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398	819	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Dredging effects on cetaceans</i> (EPBC related)	Dredging operations would significantly impact the southern right whales and dolphins in Smith Bay. Dredging would destroy the habitat of the prey of the southern right whale.	The issues of dredging operations and the loss of feeding habitat and resources adversely affecting whales and dolphins visiting Smith Bay is resolved as dredging will no longer occur. It should also be noted that southern Australian coastal waters provide breeding rather than feeding habitat for southern right whales. Their main feeding habitat is in the vicinity of Antarctica.
400	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Effect of port chemicals on dolphins</i>	Dolphins may be adversely affected by a range of chemicals that may enter the marine environment. Exposure of dolphins to chemical pollutants can result in greater susceptibility to disease.	Strict waste management measures would be implemented during construction and operation of the KI Seaport to ensure that chemical wastes associated with cleaning products, personal care products, plastics etc do not enter the marine environment. The likelihood of chemical pollutants affecting dolphins in Smith Bay is negligible
401	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Effects of piling noise on dolphins</i> (EPBC related)	Experience in the North Sea shows that piling can result in porpoise activity decreasing up to 100% within 2.6 km of the construction site.	Dolphins are likely to temporarily avoid Smith Bay during construction due to underwater construction noise but would inevitably return upon the completion of construction. Other bays along the north coast of Kangaroo Island would provide alternative similar habitat during construction.
403	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Effects of plantation chemicals on dolphins</i>	Pollution of Smith Bay by chemicals such as herbicides, pesticides (used in the plantation forests) and PCBs, and bioaccumulation in top predators such as dolphins is a serious threat to their health and survival. Some herbicides and the pesticides are now regarded as carcinogens and can cause hormonal Irregularities. Some marine mammals are physiologically susceptible to some pesticides.	Although herbicides and pesticides are used within the plantation forests, none will be used at Smith Bay. Fumigation of timber products will not occur at Smith Bay, but may occur on-board ships at a subsequent port, such as Portland, prior to shipment overseas. Consequently, there is no possibility of chemicals associated with herbicides and pesticides entering the marine environment at Smith Bay. Other chemical wastes generated at the KI Seaport would be collected, contained and disposed of according to best industry standards and the EPA's waste licence for the site. There is no possibility of these chemicals entering the marine environment at Smith Bay.

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405	1220, 559, FL1	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>General impacts on whales</i> (EPBC related)	The development at Smith Bay would expose the southern right whales to a variety of risks including vessel collisions, acute industrial noise associated with wharf construction, dredging and pile driving, and chemical pollution, which could disrupt feeding and breeding patterns.	The risks to the southern right whale from vessel strike and construction noise were rigorously assessed in the Draft EIS. Numerical modelling by BMT demonstrated that the risk to the southern right whale from vessel strike is negligible (i.e. 1 strike per 300 years). Vessels collisions in the vicinity of Smith Bay are considered unlikely as vessels would be travelling slowly when approaching or leaving the Smith Bay wharf. Noise impacts on whales during piling could be successfully managed through the adoption of appropriate management measures (e.g. soft starts, cetacean monitors, shutdowns). These measures are routinely used to protect marine mammals during marine piling throughout Australia. There would be no effects associated with dredging as dredging is longer required. The wharf would be operated to the highest industry standards which would ensure that the risk of marine pollution occurring at Smith Bay is negligible.
406	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Impact of algal / cyanobacterial blooms on cetaceans</i>	Dredging, maintenance dredging and vessel movements would lead to anoxia and algal blooms. Toxic algal blooms have been known to cause the mortality of whales. Cyanobacterial blooms can adversely affect the brains of dolphins that can result in strandings.	Issues associated with the release of nutrients from sediments promoting algal and cyanobacterial blooms are resolved as dredging and construction of the causeway would no longer occur. Furthermore, the jetty would not impede tidal flows along the coast and, therefore, would not create 'still water' conditions that promote algal blooms. Hydrodynamic modelling presented in the Draft EIS (Appendix F2) show that sediment plumes associated with shipping would be at least two orders of magnitude less than dredging related plumes and would have no possibility of causing algal blooms. Shipping-related plumes would be confined to the wharf area, which is an area of relatively strong tidal flows and therefore not prone to algal blooms.
407	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Impact of blue gum leaves on dolphins</i>	Extracts from blue gum leaves are toxic to mollusc larvae, which in turn are eaten by dolphins, potentially resulting in bioaccumulation.	Issues associated with the toxicity of blue gum leaves will not occur as the leaves will be stripped from the trees on the plantations prior to wood chipping. Therefore, no blue gum leaves will be included in the woodchip stockpile at Smith Bay.
408	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Impact of high pitched noise on dolphins</i>	High pitched noise associated with ferries, pleasure craft and sonar disrupt toothed whales, such as dolphins. Effects include shorter and fewer dives, catching less prey and stopping echolocating.	The noise associated with shipping is typically low-frequency. Therefore, the high pitched noise associated with ferries, pleasure craft and sonar, cited as disrupting the behaviour of toothed whales, is likely to be more relevant to recreational boat use along the north coast of Kangaroo Island than to shipping associated with the Smith Bay development.
409	A75	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Impact of piling noise</i> (EPBC related)	Piling noise will disrupt calving and breeding behaviour. Such noise impacts are unacceptable for a species that relies on auditory prowess for communication across communities.	As discussed in the Draft EIS, it may be possible to undertake piling operations outside the winter whale migration season. If this is not feasible, the potential impact of piling noise on whales would be effectively managed through the ongoing use of marine mammal monitors who would enable piling operations to be suspended should a whale approach closer than 1 km to the construction site.

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410	A41, A87, A88	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Impact on dolphin breeding</i>	The development will drastically compromise the ability of the common bottlenose dolphin to breed in the waters around Smith Bay.	There is no evidence to suggest that the development will have any effect on the breeding of bottlenose dolphins in the waters around Smith Bay. Dolphins, for example, inhabit and breed in the Port Adelaide River estuary, which is a busy port.
412	1043, 1061, 42, 867, A41, A43, A81	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Importance of Smith Bay to whales</i> (EPBC related)	Smith Bay is being recognised as a Biologically Important Area and critical habitat for the southern right whale (e.g. for calving, foraging, resting or migration). Over the past 13 years, Kangaroo Island Dolphin Watch volunteers have seen 57 southern right whales in and around Smith Bay, which refutes the numbers reported in the EIS. An ironstone reef that runs parallel to its shores may provide protection for young southern right whales. Whales may also use rocks in shallow water in Smith Bay to rub away sloughing and moulting skin.	The observation of an average of 6 whales per year in Smith Bay is not considered to be especially high usage of Smith Bay by whales compared with other sites in South Australia such as Encounter Bay and the head of the Great Australian Bight. It is considered likely that many other bays along the north coast of Kangaroo Island are likely to be visited by a similar number of whales each year. Access to Smith Bay is relatively good, which at least in part may explain why more whales are seen in Smith Bay than in other less accessible bays along the north coast of Kangaroo Island. The entire coastline of Kangaroo Island is considered to be seasonal calving habitat. Although whale births may have occurred in Smith Bay, there is no compelling evidence to suggest that it is an especially important calving area, or that juveniles and mothers use Smith Bay more than other bays along the north coast of Kangaroo Island. Similarly, many other bays along the north coast of Kangaroo Island would contain suitable rocks against which whales would be able to groom themselves.
413	1054	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Inadequate assessment of impacts on cetaceans</i> (EPBC related)	The EIS does not adequately address potential impacts to the southern right whale and bottlenose dolphins.	Chapter 9 and Appendix I2 of the Draft EIS presented a detailed review and assessment of potential impacts on the southern right whale associated with vessel strike, including modelling of the rate of vessel strike in Appendix I2. Chapter 18 of the Draft EIS presented an assessment of underwater noise, including noise impact modelling, that detailed the potential impacts on whales and dolphins and identified mitigation measures that may be applied in order to minimise the potential noise impacts. It is considered that the assessment provided a rigorous assessment of the potential impacts on whales and dolphins which is consistent with best industry standards.
414	1043, 1061, 1065	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Kangaroo Island Important Marine Mammal Area</i> (EPBC related)	The north coast of Kangaroo Island has been nominated and is likely to become an 'Important Marine Mammal Area' by the IUCN in 2020.	It is significant that the entire north coast of Kangaroo Island is being considered by IUCN as an 'Important Marine Mammal Area' (not just Smith Bay). This lends weight to the argument that Smith Bay is one of many bays along the north coast of Kangaroo Island that provide important habitat for whales. Whilst Smith Bay is regularly visited by whales, it is considered likely that many other bays along the north coast of Kangaroo Island are visited by a similar number of whales.

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415	1054, 251	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Light impacts on cetaceans</i> (EPBC related)	Light effects would exclude southern right whales and dolphins from their preferred habitat, which is critical for their survival. The management of light disturbance to marine mammals is queried.	It is inconclusive that light associated with the construction and operation of the Smith Bay development would have a significant effect on southern right whale and dolphin populations, and that displacement from critical habitat would occur. Measures would be taken to minimise light spill from construction and operational sites through the use of screens and baffles. Operational lights on the jetty and wharf would only be used when ships are being loaded, which is anticipated to occur 30 – 75 days each year.
416	1067, 867, A75, A81	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Mitigation of noise impacts</i> (EPBC related)	The measures to protect whales from sound impact would only partially mitigate issues of damaging sound. They don't take into account bad weather and whales swimming under the surface. Predicting months outside where cetaceans may be present will be difficult due to different whales' movements. Pile driving needs a trained crew to manage the protection of marine mammals. More details are required, including the identity of mammal watchers, a description of the 'soft start' procedures, and how acoustic receivers will be used to facilitate piling shutdowns.	The methods proposed to protect southern right whales and dolphins, in particular, from sound impacts during piling would be consistent with best industry practise. The whale monitoring protocol would be developed in consultation with government regulators to ensure that it complies with government requirements and provides an appropriate level of protection from noise injury for whales and dolphins. As discussed in Sections 12.5.6 and 18.4.5 of the Draft EIS, numerous measures would be adopted to protect marine mammals from noise impacts. If feasible, piling would be undertaken outside the whale migration season. 'Soft starts' would be used to encourage fish and marine mammals to move away from the construction site before piling begins. Experienced marine mammal monitors will be on-site at all times during piling. The potential use of underwater acoustic receivers would be investigated as a means of alerting the monitors of the presence of whales and/or dolphins the area and the potential need to shut down piling. Piling would be shut down should a marine mammal approach closer than 1 km to the piling site. Section 4.8.1 of the Addendum lists the proposed mitigation measures that would be adopted during piling activity. The mitigation measures are in accordance with the SA Piling Noise Guidelines. Table 7-2 of the Addendum details the modified commitments for the revised design. Commitment NVL39 details the mitigation measures applicable to marine mammals that would be implemented during piling activity. The marine mammal protection procedures to be followed during piling will be described in detail in the Construction Environmental Management Plan that will be prepared in consultation with the appropriate government regulators prior to construction commencing.
417	867	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Mitigation of propeller strike</i>	The types of propellers used by vessels should be reviewed as seals, bottle-nosed dolphins and common dolphins, which commonly occur in Smith Bay, may be injured/die as a result of propeller strike.	It would be impracticable for the propellers of tugs and ships operating in Smith Bay to be modified to minimise potential impacts on dolphins and seals. It is likely that the slow-moving timber carriers operating at the Smith Bay will result in a very small increase in the risk to dolphins and seals along the north coast of Kangaroo Island, relative to the risk already posed by the many commercial and recreational boats already operating in the area.

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418	FL1	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise and light effects during dredging</i> (EPBC related)	Noise and light from dredging operations would disrupt larger sea mammals.	The issues of noise and light during dredging impacting marine mammals is resolved as dredging will no longer occur.
419	1043, 1054, 251	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise and vibration impact on cetaceans</i> (EPBC related)	KIPT agree that construction may cause permanent hearing damage to whales and dolphins that come within 1 km of the wharf, and temporary damage for those that come within 6.5 km. It is suggested that human generated noise has been associated with the stranding of whales. Noise impacts is likely to displace whales and dolphins from their preferred habitat.	Chapter 18 of the Draft EIS presents an assessment of underwater noise that detailed the potential impacts and identified mitigation measures that may be applied in order to minimise the potential impacts. Without mitigation, the overall risk of adverse noise effects on the relevant marine mammal species was predicted to be low, except for a medium level of risk associated with impact piling potentially resulting in PTS in southern right whales. To minimise the environmental impacts of underwater noise, the following mitigation and management strategies would be implemented or investigated: potentially controlling the construction program to avoid noise exposure, including scheduling piling to occur outside the months when whales may be present in the area; implementing a soft-start procedure when piling begins; using marine mammal observers to monitor the presence of relevant species during piling; shutting down piling should a marine mammal approach closer than 1 km to the piling site. These measures are routinely used to protect marine mammals during marine piling throughout Australia. With these controls in place, the impacts from underwater noise associated with construction are likely to be minimal.
420	1043, 819	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise effects and safe separation for cetaceans</i> (EPBC related)	The basis for 900m and 6.5 km thresholds for permanent and temporary hearing loss is questioned. The interference with their hearing would be enormous and potentially have a catastrophic impact. Potential displacement from critical habitat will have diabolical consequences.	The determination of safe distances to prevent temporary hearing loss in southern right whales is based on a review of the scientific literature relating to the impact of underwater noise on marine mammals. The safe distances are recognized by government regulatory agencies as being appropriate. It is not considered credible that noise associated with the construction and operation of the Smith Bay development could have a potentially catastrophic impact on the Southern Right Whale population, and that potential displacement from critical habitat will occur. Construction noise will be relatively short-term and management measures would be in place to protect whales. Operational vessel noise will be infrequent.
421	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise effects on whales in offshore waters</i> (EPBC related)	Southern right and sperm whales travelling through the middle of Investigator Strait would be affected by construction noise (i.e. temporary threshold shift at 6500 m).	As discussed in the EIS, underwater noise will have no effect on whales at a distance of more than 6.5 km from Smith Bay. Whales travelling along the middle of Investigator Strait will be 20-25 km from Smith Bay and will not therefore be affected by construction noise.

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422	A81	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise impacts further offshore</i> (EPBC related)	Pushing the design further out into deeper water will result in construction/piling activity impacting more MNES and increase the chances of impacting the short-beaked common dolphin.	The extension of the jetty a further 250 m to 650 m from shore is unlikely to result in effects on whale and dolphin species inhabiting offshore waters in Investigator Strait as the separation distance would be far too great. The construction site in Smith Bay would be considered to be 'inshore waters'. An assessment of whether additional MNES should be assessed was undertaken and no additional MNES would be affected by the revised design.
423	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise related stress on whales</i> (EPBC related)	Exposure to low-frequency ship noise in Canada has been shown to be associated with potential chronic stress in whales and has implications for all baleen whales in heavy ship traffic areas.	Low frequency noise related stress in whales in Canada has occurred in heavy ship traffic areas. Smith Bay will in no way be considered a heavy ship traffic area. Exposure of whales to ship noise will be infrequent (up to 20 vessels per annum) and is unlikely to result in chronic stress in whales moving along the north coast of Kangaroo Island.
424	822	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Recovery of the southern right whale population</i> (EPBC related)	Southern right whale numbers at Smith Bay may increase as the population continues to increase in response to the cessation of whaling. The development may compromise this.	By far the greatest threat to the population of southern right whales was commercial whaling, which ceased long ago when it no longer became viable. With the population of southern right whales increasing, it is likely that the numbers of whales visiting southern Australia, including Smith Bay, will increase over the coming decades. It is acknowledged that construction noise associated with piling may result in fewer whales visiting Smith Bay during construction. However, operational vessel noise in Smith Bay will be infrequent and of relatively short duration during docking operations. Whilst docked in Smith Bay, noise emanating from vessels will be minor and cause little or no disturbance to whales.
426	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Soft starts during piling</i> (EPBC related)	Soft starts are inadequate and detrimental as it will displace the whales from critical habitat.	Soft starts, which are standard industry practice during piling, give marine mammals and fish time to move away from construction sites to prevent possible hearing damage during normal piling. Should piling occur during winter when whales may be present (which would be avoided if feasible), whales are likely to be displaced from Smith Bay for the duration of piling operations (i.e. at least several months). As discussed in the Draft EIS, there is no evidence to suggest that Smith Bay is unique or critical habitat for the Southern Right Whale. Whales would move to other similar bays along the north coast of Kangaroo Island. They would inevitably return to Smith Bay when piling operations cease.
427	1043, 1095	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Southern right whale south eastern population boundary</i> (EPBC related)	Dr Cath Kemper (Curator of Mammals at the SA Museum) is cited as expecting the Smith Bay whales to be predominantly from the south eastern population.	Noted. There appears to be some debate amongst whale biologists concerning the location of the separation between the south-southern and south-western populations of the southern right whale. Dr Kemper of the SA Museum 'expects' the whales visiting Smith Bay to be 'predominantly' from the south-eastern population. However, genetic studies by Carroll et al. (2011) to delineate the Australian subpopulations of the Southern Right Whale, and cited by DSEWPaC (2012), includes samples from Encounter Bay, near Victor Harbor, in its south-western group. Carroll et al. (2011) note also that there is evidence of some level of ongoing or recent historical interbreeding between the two groups.

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428	1095	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Tug strike risk to dolphins and seals</i>	The risk of tugs colliding with dolphins and seals hasn't been addressed.	It is considered that the risk to dolphins and seals from tugs operating in Smith Bay will be minor. Tugs will be operating at low speeds during docking operations, which should enable dolphins to easily avoid being struck. Furthermore, there is no indication that dolphins inhabiting the Port River are at significant risk from tugs operations.
429	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Uniqueness of Smith Bay habitat</i>	The presence of similar habitat to Smith Bay along the north coast of Kangaroo Island is questioned.	There is no evidence to suggest that Smith Bay is any different morphologically, oceanographically or ecologically from many of the other bays along the north coast of Kangaroo Island. As discussed in the Draft EIS, the presence of very similar habitat along much of the north coast of Kangaroo Island does mitigate the potential impact of whales avoiding Smith Bay during construction due to construction noise. Smith Bay is similar to many other areas along the north coast of Kangaroo Island in terms of biodiversity and the species of conservation significance it supports. AusOcean reach the same conclusion in their submission (Smith Bay Marine Ecology Report, AusOcean 2019), which says: <i>“Much like the rest of Kangaroo Island (emphasis added), Smith Bay’s marine environment exhibits high species richness and endemism supporting an abundance of emblematic and threatened species with high conservation value”.</i> (p 29) It is also significant that the entire north coast of Kangaroo Island is being considered by the International Union for Conservation of Nature (IUCN) as an 'Important Marine Mammal Area' (not just Smith Bay). This lends weight to the argument that Smith Bay is one of many bays along the north coast of Kangaroo Island that provide important habitat for whales. Whilst Smith Bay is regularly visited by whales, it is considered likely that many other bays along the north coast of Kangaroo Island are visited by a similar number of whales.
430	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Vessel / whale separation distance</i>	The safe distance between vessels and whales is noted to be 100 m. With a Panamax ship taking over 2 km to stop, it would not be able to avoid a collision. If it passes within 100 m of a whale it would be in breach of the Marine Mammal Act provisions.	It is unlikely that normal shipping operations at Smith Bay would be in breach of the 100 m separation provisions of the National Parks and Wildlife (Protected Animals—Marine Mammals) Regulations 2010, as the general intent of the Act is to prevent 'wilful' approaches to within 100 m of a whale.

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431	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Vessel strike calculations</i> (EPBC related)	BMT's modelling of the rate of vessel strike (1 strike per 300 years) is questioned. A probability of vessel strike of 1 in 37.5 is put forward for four ships.	The whale strike modelling undertaken by BMT is considered to be credible and conservative. The BMT modelling is based on two ship movements a month along the south coast of Australia (i.e. 24 movements per year), a total of 520 whales crossing the shipping route over two-month periods each year, the whales always being on the surface, the whales not taking any evasive action, ships cruising at 15 knots and whales swimming at 3 knots. The model was run for 10-million simulated years (each with a different set of random starting conditions for each whale). A vessel strike rate of one strike every 300 years equates to a strike rate of 1 per 7,200 ship journeys. Therefore, each ship journey has a 1:7,200 chance of striking a southern right whale. Doubling the shipping rate would result in a 1:3,600 chance of striking a whale each journey. It should also be noted that a vessel strike in the vicinity of the wharf in Smith Bay is considered to be unlikely as vessels would be travelling very slowly when approaching or leaving the port (i.e. several knots). Tugs will also have the ability to avoid collisions with whales by altering course.
432	1043, 1061, 1065, 1095, 559	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Vessel strike effects on the population of southern right whales</i> (EPBC related)	Southern right whales and other marine listed species are at risk from ship collisions. The EIS has not adequately addressed the impact of coastal developments and vessel strike on whales and the consequence of such an event on the species' recovery. In this context it is important to note that vessel disturbance to resting/nursing cow/calf pairs in near shore areas is also of concern. Any loss from the south eastern population of southern right whales will have a significant impact on this population. With a population estimated at only 411, a single death of a southern right whale from the south eastern population could precipitate an extinction event. The loss of a female individual would be considered significant.	The risk to the southern right whale from vessel strike and construction noise was rigorously assessed in the Draft EIS. Shipping associated with the development will represent a negligible increase in annual shipping movements in South Australia. Although records of vessels striking whales are likely to be incomplete due to under-reporting and undetected strikes, the modelling of vessel strike undertaken by BMT provides an unbiased computer-based assessment. The assessment is conservative, in that it assumes that the whales are always on the surface and they take no evasive action. The model predicted that the average rate of vessel strike associated with KIPT shipping is one strike every 300 years. The likelihood of vessel strike occurring in the vicinity of Smith Bay would be very low, as vessels will approach and leave the wharf at low speeds (i.e. 2-3 knots). Operational vessel noise in Smith Bay will be infrequent and of relatively short duration during docking operations. Noise emanating from vessels docked in Smith Bay would be minor. The risk to whales from shipping is considered to be negligible. Whilst there appears to have been a decline in the south eastern population of the southern right whale in recent years, the south western population is increasing at the maximum rate possible, despite there being many busy shipping ports along the coast of Western Australia. There is no evidence to suggest that ports or shipping are implicated in the recent decline of the south eastern population of the southern right whale.
433	1043	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Vessel strike whale confusion effects</i>	It is noted that there is literally no way of avoiding collisions between vessels and whales as whales will be confused and stressed by vessel noise.	The modelled frequency of vessel strike of one strike every 300 years would be reduced (i.e. become even less likely) in the event of whales being confused by vessel noise and behaving erratically because the model assumes a worst-case scenario in which whales take no evasive action (i.e. they stay the course, as do the vessels). Erratic whale behaviour would be just as likely to take the whale away from the vessel as towards it. By definition, erratic behaviour would reduce the risk, not increase it.

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435	1067	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Vessel strike statistics for whales</i> (EPBC related)	There are knowledge gaps concerning vessel strike data and as such the result may be biased/non-representative. Shipping activity is predicted to increase and therefore vessel strike rate will also increase.	Although records of vessels striking whales are likely to be incomplete due to under reporting and undetected strikes, the modelling of vessel strike undertaken by BMT provides an unbiased computer-based assessment. The assessment is conservative, in that it assumes that the whales are always on the surface and they take no evasive action. The model indicated that the average rate of vessel strike associated with KIPT shipping is one strike every 300 years. Should shipping double, the rate of strike would be one strike every 150 years. The risk is considered to be negligible.
436	1043, 1056	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Whale and dolphin watching industry</i> (EPBC related)	Construction could disrupt the migration of whales and dolphins, which could ruin huge tourism growth opportunities for the dolphin/whale watching industry. The fledgling whale watching industry on KI would be compromised by the development in Smith Bay, which is a 'hot Spot' for whales.	It is not credible to argue that development in Smith Bay would have any effect on the emerging whale watching industry on Kangaroo Island, or that the KI Seaport would affect the abundance of whales or dolphins traversing the north coast of Kangaroo Island, and there is no credible evidence to show Smith Bay is a so-called 'hot spot' for whales. Encounter Bay is recognised as an emerging habitat for southern right whales, but Smith Bay is not (see Conservation Management Plan for Southern Right Whales, p 3). The observation of an average of six whales per year in Smith is not considered to be especially high usage of Smith Bay compared with other sites in South Australia such as Encounter Bay and the head of the Great Australian Bight. It is considered likely a similar number of whales would visit other bays along the north coast of Kangaroo Island each year. It is acknowledged that construction noise associated with piling is likely to result in whales and dolphins avoiding Smith Bay during construction. During the operational phase of the port, however, disturbance to whales and dolphins is likely to be minimal. The frequency of vessel movements will be low and operational vessel noise will be of relatively short duration during docking operations. Vessel speeds will be low. Whilst docked in Smith Bay noise emanating from vessels will be minor and cause little or no disturbance to whales or dolphins.
437	1043, 1067, A68	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Whale migration pathways</i> (EPBC related)	The impact assessment should consider connectivity between aggregation areas for the southern right whale. The Smith Bay development would disrupt the migration pathway between two known nursery habitats.	The assessment presented in the Draft EIS assumed that southern right whales migrate along the north coast of Kangaroo Island each winter and, therefore, occasionally pass through Smith Bay. Habitat modification will no longer occur in Smith Bay as dredging and construction of the causeway will no longer occur. During piling, migrating whales may avoid Smith Bay by following a route further out to sea. During the operational phase the Smith Bay development will have only a minor effect on whale migration along the north coast of Kangaroo Island, with some whales potentially deviating around the jetty. Operational vessel noise in Smith Bay will be infrequent and of relatively short duration during docking operations. Whilst docked in Smith Bay noise emanating from vessels will be minor and cause little or no disturbance to whales. The Smith Bay development will therefore only have a minor temporary effect on the migration of southern right whales along the north coast of Kangaroo Island.

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439	1043, 1065, 680	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Whale visitation records for Smith Bay</i> (EPBC related)	KIPT claims that there has been only one registered sighting of a southern right whale in Smith Bay. There have been two or possibly more official sightings of southern right whales in Smith Bay according to SA Museum database. Smith Bay whale records of local residents need to be taken into account.	The Draft EIS used published sources to obtain background information on whale sightings. Government databases such as the Atlas of Living Australia, the EPBC Protected Matters Search Tool as well as the whale sighting database maintained by the South Australian Whale Centre. However, the Draft EIS relies upon freely accessible data that can be sourced and referenced according to best practice standards. The Smith Bay whale records of local residents (67 whales over 12 years) is useful information and will be included in the assessment.
440	1098	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Marine mammals <i>Noise impacts</i>	Construction and operational noise will make Smith Bay and adjoining areas noisier, which may impact marine mammals over an area of up to a thousand square km.	Chapter 18 and Appendix N of the Draft EIS and Section 4.8 presented the noise assessment for the proposed development. See Response ID 416 for further detail.
441	1081	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Migratory bird species <i>Project inconsistent with international agreements</i> (EPBC related)	Inconsistent with Australia's international obligations under the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention).	Approval of the proposed development by the Commonwealth Minister for the Environment would not contravene any aspects of Australia's international obligations in relation to migratory species listed under the Bonn Convention, including the southern right whale. See Appendix B for further detail.
445	867	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Southern brown bandicoot <i>Veracity of impact assessment</i> (EPBC related)	Other species likely to be impacted by KIPT traffic are not properly considered in the Draft EIS, for example the southern brown bandicoot. The impact of KIPT actions on the Southern Brown Bandicoot should be properly assessed as BDBSA records of distribution indicate likely interactions if the development proceeds which would also require offsets.	Figure 14-3 of the Draft EIS was developed using records obtained from the Biological Database of South Australia. See Reference List GIS Data Sources. The impact assessment determined that there would not be a significant residual impact to the southern brown bandicoot and therefore no offset would be required. See Appendix P5 Figure 4 which shows the BDSA records of listed fauna along the route options. The least preferred route option is route option 2 which has a higher number of records of threatened species along this route and therefore poses a higher risk to threatened species that may be found along this route.

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446	A81	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE Southern right whale <i>Veracity of evaluation of significant impacts on MNES</i> (EPBC related)	Assumption that the revised proposal would not generate any residual significant impacts on the southern right whale is false and based on convenience not science.	Appendix D of the Addendum provides an assessment against the significant impact criteria. The mitigation measures described in the Draft EIS and the Addendum are considered effective to manage any direct or indirect impacts to the southern right whale.
448	1054, 956	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE White-bellied sea-eagle <i>Potential impacts</i> (EPBC related)	The proposed development is considered to be a high-disturbance development that would impact white-bellied sea-eagle fledgling survival rates. Survey methods were not adequate. The loss of fishing ground for sea-eagles would decrease its opportunity for population growth.	Observations of sea-eagles flying over the site do not indicate that the site has critical habitat value to sea-eagles. The field survey did not observe any white-bellied sea-eagles nesting at the site or adjacent to the site. The site has no value as nesting habitat, and the nearest known nests are 4.1km away to the east (see Figure 13-7 of the Draft EIS). Smith Bay is likely to form a small part of a large area of feeding habitat for these birds. There will be no impact to nesting or fledgling sea-eagles. The separation between the nesting habitat and port is such that disturbance to the nesting habitat through noise or light impacts during construction and operation of the port are not considered to be credible. Noise associated with recreational and commercial boats regularly traversing the coastal cliffs near the nesting habitat is likely to be the main potential disturbance to the eagle's nesting habitat. The loss of marine feeding habitat for the white-bellied sea-eagle associated with the Smith Bay development is not considered to be credible in view of the mobility and potential foraging range of the raptor. Although construction and operational noise is likely to discourage the white-bellied sea-eagle from foraging within 1 km of the wharf, this would represent a minute percentage of marine foraging habitat along the north coast of Kangaroo Island.
454	1217	BIOSECURITY Impact assessment methodology <i>Omission Kangaroo Island's biosecurity</i>	The impact assessment process adopted in the Draft EIS is not adequate because it does not consider impacts to the marine environment of the Island as a whole if there was a biosecurity breach.	KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the initial discovery or suspected discovery of exotic pest species would be an integral component of these management plans. By default, these biosecurity measures would help to protect Smith Bay and benefit the entire Island. KIPT would continue to work with government agencies to protect the biosecurity status of Kangaroo Island.
459	447	BIOSECURITY KI Brand pest free <i>Impacts on existing businesses from exotic marine pests and diseases</i>	Biosecurity is a major concern for international shipping. Diseases brought into local waters could wipe out the Abalone Farm but also impact the honey industry, livestock and grain industries.	Ballast water discharge is regulated nationally through the <i>Biosecurity Act 2015</i> . That regulatory regime is described in Chapter 15 and in Appendix D2 of the Draft EIS. Biofouling is a joint Commonwealth State responsibility. KIPT would develop a Biosecurity Management Plan for the proposed KI Seaport in consultation with PIRSA and the Kangaroo Island Landscape Board, which would be implemented by KIPT and its sub-contractors.

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460	1217, 559, 956	BIOSECURITY KI Brand pest free <i>Impacts on Kangaroo Island community</i>	Kangaroo Island is a pristine environment that relies on its biosecurity status to thrive and survive. The proposed deep-water port facility puts both the agriculture and tourism industries at risk and therefore puts the whole community at risk. The development should not proceed at Smith Bay.	<p>There are a number of Acts dealing with biosecurity management that protect the biosecurity status of Kangaroo Island e.g. <i>Biosecurity Act 2015</i>, <i>Natural Resources Management Act 2004</i> (to be replaced by the <i>Landscape South Australia Act 2019</i> when it is enacted in July 2020), <i>Livestock Act 1997</i> and the <i>Plant Health Act 2009</i>. KIPT would work with relevant Commonwealth and State government agencies to ensure the company meets all of its legal obligations with respect to biosecurity.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the initial discovery or suspected discovery of exotic pest species would be an integral component of these management plans.</p> <p>The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species.</p> <p>By default, these biosecurity measures would help to protect Smith Bay and benefit the entire Island.</p>
461	A98, FL5	BIOSECURITY KI Brand pest free <i>Impacts on marine environment from exotic marine pests</i>	Concern about introducing specific marine pests to Smith Bay which is 'pest free'.	The unregulated discharge of ballast water can result in the introduction of exotic organisms into marine waters. The Commonwealth <i>Biosecurity Act 2015</i> addresses the management of ballast water discharged from international and domestic vessels. The introduction of pests on the hulls and surface of vessels is managed through Commonwealth State cooperation with SA legislation imposing specific obligations on vessel owners and operators.
462	1216	BIOSECURITY KI Brand pest free <i>Impacts on marine environment from exotic marine pests</i>	Not acceptable to establish a new international shipping port on KI at all. There are very few records of introduced species on Kangaroo Island.	Ballast water regulation and biofouling management is described in Chapter 15 of the Draft EIS. These regulatory systems are directed to minimising the risk of exotic marine pests and pathogens entering non-source environments. See Appendix A for further detail.
463	1115, 1185	BIOSECURITY KI Brand pest free <i>Impacts on tourism and natural environment</i>	An international seaport would mark the end of the island as a green and clean sanctuary. Marine pests would spread around Kangaroo Island. There is a high risk of introducing marine pests, plants and diseases via shipping into a high value ecological area. This could impact the unique marine environment of Kangaroo Island and the abalone farm. Marine pests are impossible to control and any attempts to control them will be borne by taxpayers.	<p>All international vessels are required to comply with the ballast water management obligations imposed by the <i>Biosecurity Act 2015</i>. These are intended to reduce the risk of exotic marine pests and pathogens to an acceptable level. Biofouling is regulated through a series of Commonwealth and State requirements. (See the Draft EIS, Chapter 15).</p> <p>Appendix T Risk Table of the Draft EIS determined the residual biosecurity risk from the proposed development to be low. However, this risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. See Appendix F for the revised risk ranking.</p>

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464	1061	BIOSECURITY KI Brand pest free <i>Impacts on Yumbah socio-economic</i>	The introduction of marine pests into the currently pest free environment of Smith Bay from shipping is a significant threat. AVG and Perkinsus olseni, can significantly impact the neighbouring Yumbah Abalone farm, a \$30 million export business and employer of 30 locals.	<p>It is important to note that the origin of AbHV in Australia is unknown. Based on the investigation into the Victorian outbreak of 2005, the best fit scenario indicated that the source of infection was associated with interstate movements of live wild-caught abalone onto aquaculture farms in Victoria (Department of Agriculture, 2014).</p> <p>An operational port that would be used to export timber is not considered a likely source of infection for AVG or any other known abalone pathogens.</p> <p>In the Draft EIS (see Chapter 15 and Section 8 for the final list of KIPT Commitments for the KI Seaport), KIPT indicated its commitment to protect and maintain the biosecurity status of Kangaroo Island.</p>
465	1220	BIOSECURITY KI Brand pest free <i>International shipping threats</i>	International shipping poses a significant threat to the marine environment of Smith Bay. Smith Bay is currently marine pest free, but the development would remove that status. The anticipated introduction of pests and disease to Kangaroo Island threatens biodiversity and existing industries, both aquaculture and agriculture.	<p>Currently, neither technology nor the regulatory framework are able to reduce to zero, the risk of introducing marine pests and pathogens to marine waters through ballast water discharge or biofouling.</p> <p>In the case of ballast water management internationally, by 2024 ships will be required to operate on-board ballast water management systems that will be a considerable improvement on the current predominant method of ballast water exchange on the high seas.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the initial discovery or suspected discovery of exotic pest species would be an integral component of these management plans.</p> <p>The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species.</p> <p>By default, these biosecurity measures would help to protect Smith Bay and benefit the entire island.</p>
466	251	BIOSECURITY KI Brand pest free <i>Introduction of marine pests to Smith Bay</i>	The proposal will introduce marine pests to Smith Bay which is considered to be a pristine environment. This will significantly impact the natural marine environment and the abalone farm.	<p>The movement of vessels from domestic and international waters means that there will never be a zero per cent risk of introducing marine pests. Appendix T Risk Table of the Draft EIS determined the residual biosecurity risk from the proposed development to be low. However, this risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. See Appendix F for the revised risk ranking.</p> <p>It is acknowledged that Kangaroo Island does support an interesting, diverse and relatively pristine marine ecosystem. It is concluded from the Draft EIS studies that the proposed development would have only a very minor impact on the marine environment in the immediate vicinity of the wharf. There would be no impacts on biodiversity beyond that immediate vicinity.</p>

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467	1043	BIOSECURITY KI Brand pest free <i>Regulatory framework is not adequate</i>	The introduction of invasive marine pest species will be unavoidable as existing legislation and guidelines are ineffective. The pristine north coast of Kangaroo Island is free of pest species, which will be impossible to eradicate once introduced.	<p>It is acknowledged that Kangaroo Island does support an interesting, diverse and relatively pristine marine ecosystem. It is concluded from the EIS studies that the proposed development would have only a very minor impact on the marine environment in the immediate vicinity of the wharf. There would be no impacts on biodiversity beyond the immediate vicinity of the wharf.</p> <p>There are a number of Acts dealing with biosecurity management that protect the biosecurity status of Kangaroo Island e.g. <i>Biosecurity Act 2015</i>, <i>Natural Resources Management Act 2004</i> (to be replaced by the <i>Landscape South Australia Act 2019</i> when it is enacted in July 2020), <i>Livestock Act 1997</i> and the <i>Plant Health Act 2009</i>. KIPT would work with relevant Commonwealth and State government agencies to ensure the company meets all of its legal obligations with respect to biosecurity.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the initial discovery or suspected discovery of exotic pest species would be an integral component of these management plans.</p> <p>The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species.</p>
468	251	BIOSECURITY KI Brand pest free <i>Residual risk unacceptable to marine environment and businesses</i>	<p>In 2018, Smith Bay was determined to be exotic marine pest free. Marine pests pose a significant threat to marine biodiversity as well as Kangaroo Island's commercial fishing and aquaculture industries.</p> <p>The introduction of exotic marine pests to Smith Bay via the seaport is a risk that cannot be adequately mitigated.</p>	<p>The movement of vessels from domestic and international waters means that there will never be a zero per cent risk of introducing marine pests. Appendix T Risk Table of the Draft EIS determined the residual biosecurity risk from the proposed development to be low. However, this risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. See Appendix F for the revised risk ranking.</p> <p>There are a number of Acts dealing with biosecurity management that protect the biosecurity status of Kangaroo Island e.g. <i>Biosecurity Act 2015</i>, <i>Natural Resources Management Act 2004</i> (to be replaced by the <i>Landscape South Australia Act 2019</i> when it is enacted in July 2020), <i>Livestock Act 1997</i> and the <i>Plant Health Act 2009</i>. KIPT would work with relevant Commonwealth and State government agencies to ensure the company meets all of its legal obligations with respect to biosecurity.</p>
469	1115	BIOSECURITY KI Brand pest free <i>Risks posed by importation of other timber</i>	Crucial aspects of biosecurity have been omitted. If logs from Yorke Peninsula are imported this presents a risk of introducing the tick <i>Amblyomma triguttatum triguttatum</i> . This tick would negatively affect tourism on KI and have a dramatic impact on people's wellbeing.	The KI Seaport would only export timber products grown and harvested on Kangaroo Island.

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470	1215	BIOSECURITY Management measures <i>Chartering vessels</i>	Suggests that it would be cost effective to charter a vessel that has discharged cargo in Port Adelaide and come to Smith Bay in ballast from Port Adelaide to take on KI products.	The discharge of ballast water from Port Adelaide into Smith Bay is not an acceptable proposition. In any event, vessels transporting timber from Kangaroo Island would likely be dedicated timber (logs and woodchips) carriers that would enter Australian waters in ballast, not laden with cargo. It is possible that ships entering Smith Bay may have previously loaded timber from Yorke Peninsula. Ballast water discharge for this purpose would have been sourced on the high seas as part of ballast water exchange process.
472	1115	BIOSECURITY Management measures <i>Inadequacies of regulatory framework</i>	Would ships coming from Indonesia (for example) follow the prescribed Biosecurity SA standards? "Consulting Biosecurity SA" is not going to stop invasions.	All international vessels must comply with the requirements of the <i>Biosecurity Act 2015</i> when entering Australian waters. See Appendix A for further detail.
473	FL2	BIOSECURITY Management measures <i>Inexperience to implement measures</i>	Smith Bay can't be protected from exotic marine pests as the proponent has no experience of marine environment management or infrastructure build of any sort, a cavalier attitude to biosecurity, and a belief that the community will cover the management costs.	The management of biosecurity risks will occur in cooperation and collaboration with regulatory authorities, the port operator, shipping companies and the Kangaroo Island community. The national regulatory scheme for the management of ballast water and any risks associated with its discharge is addressed in detail in Chapter 15 of the Draft EIS. It reflects international best practice with respect to managing the transmission of marine pests through the discharge of ballast water. The regulatory approach to managing the distribution of marine pests through vessel biofouling is also addressed in Chapter 15 of the Draft EIS. See Appendix A for further detail.
474	1215	BIOSECURITY Management measures <i>Omissions awareness of ship crew</i>	The Draft EIS doesn't provide adequate details on biosecurity risk management as part of the charter process (including crewmanship) for the timber vessels.	This reference on p 334 of the Draft EIS, is in relation to the small number of crew that would be onboard the cargo vessels when they arrive at Smith Bay. Illegal entry into Australia is regulated by the Commonwealth <i>Migration Act 1958</i> . It is not anticipated that the development of the seaport at Smith Bay will encourage any greater rate of illegal entry to the country than exists at other Australia international seaports. Because the numbers will be few, ensuring compliance with biosecurity protocols and other biosecurity requirements should not be a major challenge. Crew members would not be permitted to leave the vessel during their stay at the KI Seaport.
475	679	BIOSECURITY Management measures <i>Regulatory mechanisms customs/quarantine</i>	Where and how will the vessels arriving be checked by quarantine/customs?	Overseas vessels entering Australian water must proceed to a FPOE designated under the <i>Biosecurity Act 2015</i> . At this port, ships documentation and, if necessary, the vessel itself would be inspected. Details of entry and certification requirements for a FPOE are available at the Commonwealth DAWE website < https://www.agriculture.gov.au/biosecurity/avm/vessels/first-point-entry-and-non-first-point-entry >. Since the Draft EIS was published, KIPT has been advised it (or the port operator) must apply to the DIRDC to have the KI Seaport registered as a FPOE. DIRDC manage a whole of government process for operators seeking to establish or expand international maritime services. As the KI Seaport would not be used to import goods to Australia, the facility would be required to comply with the FPOE biosecurity standards which apply to export-only operations. The minimum set of standards that would apply include the: <ul style="list-style-type: none"> biosecurity incident response standard

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				<ul style="list-style-type: none"> waste goods management standard general port facility standard biosecurity risk awareness standard environmental management standard. See Appendix A for further detail.
476	1095, FL2	BIOSECURITY Management measures <i>Lack of accountability and funding</i>	<p>KIPT's response to the biosecurity risks posed by the KI Seaport is offensive and disrespectful. KIPT offers a low level of surveillance and no definitive resourcing. The SA public should not have to wear this risk.</p> <p>KIPT has committed to help fund a marine pest management monitoring program, but who will pay the remaining costs? Surveillance is necessary it does not remove the threat and exotic marine pests will remain in Smith Bay forever.</p>	<p>From a regulatory point of view, responsibility for such matters as ballast water management and biofouling falls to the Commonwealth and SA governments. These regulatory regimes have been developed in recognition of critical marine biosecurity issues. To the extent that it has the capacity to address biosecurity, KIPT has committed to the development of a CEMP and OEMP that would then inform, amongst other plans, a Biosecurity Management Plan (see chart, p 334, Chapter 15 of the Draft EIS) and a Marine Pest Management Plan.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the discovery or suspected discovery of exotic pest species would be an integral component of these management plans.</p> <p>The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species.</p> <p>KIPT would fund the marine pest monitoring program.</p>
477	1216	BIOSECURITY Management measures <i>Suggestions of proposed development conditions (EPBC related)</i>	To facilitate early detection of a potential exotic introduction, sub-sea video monitoring (divers or ROV) of port maritime structures and incoming vessel hulls should be made mandatory as a condition of development approval.	<p>Monitoring and detection are essential components of the regulatory process. Imposing such obligations on KIPT as a condition or approval may not be practicable (inspecting vessels) or lawful. The obligation lies largely with the relevant government agency.</p> <p>KIPT assumes that in the case of detected breaches of any relevant marine environmental legislation, appropriate compliance and/or enforcement action should be taken by relevant government agencies.</p>
478	1215, 1216	BIOSECURITY Management measures ballast water <i>Commitment to best practice on-board ballast water treatment</i>	Best practice should be applied to the KI Seaport which includes the chartering of vessels with on-board ballast water treatment systems rather than relying on traditional ballast water exchange and enforcement of regulations by the Commonwealth.	Ballast water management obligations are imposed by the Commonwealth <i>Biosecurity Act 2015</i> on international vessels entering Australian waters. At present the predominant lawful method of managing foreign-sourced ballast water requires discharge and uptake on the high seas. However, the International Ballast Water Convention requires all international vessels by 2024 to have installed and to operate on board ballast water management systems. The Commonwealth Biosecurity Act reflects this requirement. KIPT would seek compliance of all timber transport vessels with this requirement.

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479	1215	BIOSECURITY Management measures ballast water <i>Consultation timing and process</i>	Draft EIS, (Appendix D2 Section 8.5) is lacking in detail. What advice would be given by PIRSA?	The waters within the two SA Gulfs and waters around Kangaroo Island have been designated a "same risk area" for the purposes of taking up and discharging ballast water. This would not be a process adopted by international timber carriers entering Smith Bay. However, PIRSA (Biosecurity SA) has some concerns regarding the use of the same risk area by domestic shipping servicing the Smith Bay facility. PIRSA would be consulted to determine the biosecurity low risk locations (within the same risk area) from which ballast water could be taken and subsequently discharged at Smith Bay -if necessary. Specific protocols would be developed to manage ballast water and implemented via the OEMP.
481	1215	BIOSECURITY Management measures ballast water <i>Omissions process for chartering vessels</i>	The Draft EIS doesn't provide adequate details on biosecurity risk management as part of the charter process for the timber vessels.	For the purposes of ballast water management and other measures designed to protect the marine environment, the Commonwealth <i>Biosecurity Act 2015</i> is based on risk assessment and management. The proposed Biosecurity Management Plan (see Chapter 15 of the Draft EIS) would also adopt the notion of risk. To the extent that it is practicable, KIPT would endeavour to ensure that vessels are biosecurity compliant. It is emphasised that all vessels in Australian waters (chartered or otherwise) are required to comply with relevant biosecurity legislation. It is an offence to fail to do so. See Appendix A for further detail.
483	822	BIOSECURITY Management measures ballast water <i>Regulatory mechanisms implementation</i>	How is the proponent able to ensure that all ships entering Smith Bay have ballast water sourced from offshore areas to mitigate the incursion of pests? How will that compliance be policed?	Since 2017, the regulation of ballast water management has been the responsibility of the Commonwealth under the <i>Biosecurity Act 2015</i> . The DAWE is responsible for ensuring compliance with the Act's ballast water management provisions in conformity with the Department's Compliance and Enforcement policies and strategies (see http://www.agriculture.gov.au/biosecurity/legislation/compliance .) In the event that Commonwealth officers detect a non-compliance by a vessel leading to an unacceptable biosecurity risk, the Act provides the power to order that the vessel not be moved. It is also an offence to discharge ballast water in contravention of the ballast water management provisions of the Act.
484	42	BIOSECURITY Management measures ballast water <i>Residual risk not acceptable to Yumbah</i>	Regulatory compliance is not adequate to manage biosecurity risks posed by ballast water exchange. This response is wholly inadequate to manage the risks posed by exotic pests on Yumbah and the natural environment.	Currently, ballast water exchange on the high seas is the predominant method used by vessels for the purpose of controlling the introduction of pest organisms and pathogens into marine waters via ballast water discharge. However, by 2024 all international vessels entering Australian waters will be required to have installed on-board ballast water management systems that will treat ballast water prior to its discharge. Further text on this is provided in Appendix A .
485	1215	BIOSECURITY Management measures foodstuffs <i>Error</i>	The movement of food from Smith Bay to vessel is not a biosecurity risk should be removal of foods, plant material etc from vessel.	This error has been addressed in Appendix E .

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486	956	BIOSECURITY Management measures marine pests <i>Initial response to pest incursion not adequate</i>	The EIS does not recognise the need for prompt action to be taken when a marine pest is first discovered. There is no indication that the proponent recognises or intend to do this. Adherence to state and federal plans and strategies and policies is a woefully inadequate response.	KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the discovery or suspected discovery of exotic pest species would be an integral component of these management plans. The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species. By default, these biosecurity measures would help to protect Smith Bay and benefit the entire Island.
487	1217	BIOSECURITY Management measures marine pests <i>Lack of detail in management plans</i>	KIPT must demonstrate how they intend to stop international shipping activities destroying our marine environment by introducing exotic marine species.	Minimising the risk of exotic marine species being introduced to Smith Bay will be achieved, in the case of ballast water discharge, by compliance with the ballast water management provisions of the Commonwealth <i>Biosecurity Act 2015</i> and in the case of biofouling by Commonwealth guidelines and SA legislation and codes. KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. A response procedure to deal with the discovery or suspected discovery of exotic pest species would be an integral component of these management plans. The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species. By default, these biosecurity measures would help to protect Smith Bay and benefit the entire Island.
488	1215	BIOSECURITY Management measures marine pests <i>Lacking detail Construction activities</i>	No real mention of marine pest biosecurity during construction.	See Appendix A for further detail on the management of marine pests during construction.
489	1217	BIOSECURITY Management measures pest plants and pathogens <i>Impacts on agriculture</i>	KIPT must demonstrate how they intend to stop international shipping activities destroying the pure Ligurian bee population and apiculture industry by spreading pest species.	All international shipping activity must meet the requirements of the <i>Biosecurity Act 2015</i> to gain entry into Australian waters. The DAWE is responsible for issuing clearance and undertaking any fumigation activities at the FPOE.

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490	1217	BIOSECURITY Management measures terrestrial pests <i>Lack of detail in management plans to protect agricultural industry</i>	KIPT must demonstrate detailed plans on how it will protect agriculture industries from pests and diseases associated with international shipping.	KIPT would develop a Biosecurity Management Plan in consultation with relevant government agencies after the KI Seaport is approved. The Biosecurity Management Plan would include a risk assessment on the potential impacts that pests and diseases associated with international shipping activity could have on the various industries on Kangaroo Island. The Biosecurity Management Plan would be developed in consultation with the Kangaroo Island Landscape Board. The current proposal does not include international vessels importing goods to Australia via the KI Seaport which would be a likely source of pests and diseases that could impact agricultural industries.
491	1215	BIOSECURITY Management measures terrestrial weeds <i>Lack of commitment</i>	More commitment to manage weeds in the study area.	Weed and pest management is a commitment in the draft OEMP (see Appendix U-2 of the Draft EIS). KIPT would finalise the OEMP after the KI Seaport is approved. The OEMP would include reasonably practicable measures to address weeds and pests. See Appendix A for further detail.
492	1095, 1215, 681	BIOSECURITY Management measures terrestrial weeds <i>Lacking detail Construction activities</i>	Should be stipulated that imported machinery should be free of soil and plant material. Who will carry out vehicle inspections? The Draft EIS is lacking detail for phytophthora hygiene. Table 15-1 should include visual checks for soil and plant material for any importation of rock material.	Weed and pest management is a commitment in the draft CEMP (see Appendix U-1 of the Draft EIS). KIPT would finalise the CEMP after the KI Seaport is approved. The CEMP would include reasonably practicable measures to address weeds and pests. The final CEMP would also include details on management measures for phytophthora. The contractor would be required to implement the CEMP and KIPT would undertake compliance audits to assess compliance. See Appendix A .
494	1215	BIOSECURITY Management plans <i>Consultation timing and process</i>	Timing and process for the development and consultation of the CEMP and OEMP needs to be clarified it has not been raised with the membership of KINRMB.	The timing and details of the process to complete the CEMP and OEMP would be determined after the KI Seaport is approved. KIPT would consult with the Kangaroo Island Landscape Board about these matters at that time.
496	1215	BIOSECURITY Management plans <i>Omission biosecurity management plan</i>	A Biosecurity Management Plan and response procedure is critical to identify all proactive construction and operational activities to minimise biosecurity risk. A Biosecurity Management Plan, like the one Chevron Australia did for the Barrow Island LNG wharf and infrastructure should be included as part of the EIS.	KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies (e.g. PIRSA (Biosecurity SA) and the Kangaroo Island Landscape Board) after the KI Seaport is approved. A response procedure to deal with the initial discovery or suspected discovery of an exotic pest species would be an integral component of these management plans. The management plans would specifically include further detail on the monitoring program to detect any new exotic marine organisms in Smith Bay. The plans would list the species that present a potential risk to Kangaroo Island, rank the species according to the threat they pose, and detailed protocols would be developed to manage the high-risk species.

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				By default, these biosecurity measures would help protect Smith Bay and benefit the entire Island. The current proposal does not include international vessels importing goods to Australia via the KI Seaport. See Appendix A for further detail.
503	1216, 1368	BIOSECURITY Marine biosecurity <i>Potential risks and controls</i>	The introduction of marine pests and exotic species on boat hulls is a concern that has not been sufficiently addressed in the EIS. The introduction of exotic species to Smith Bay would alter the ecology of Smith Bay and Kangaroo Island and threaten Yumbah. Removal or eradication responses to the detection of introduced species are rare. "International best practice" should be adopted at the site.	<p>Bilge water collects in the lowest point of a vessel directly above its keel. It can contain a variety of industrial fluids from the ship's machinery spaces such as coolant, lubricants, fuels, oily residues, chemicals and cargo waste. The discharge of bilge water into SA waters is regulated under the <i>Protection of Marine Waters ((Prevention of Pollution from Ships) Act 1987 (SA)</i>. Within Commonwealth waters the relevant legislation is the <i>Protection of the Sea (Prevention of Pollution by Ships) Act 1983 (Commonwealth)</i>.</p> <p>It is acknowledged that biofouling on vessels can result in marine pests being introduced if they reproduce whilst at the wharf. In general, vessel owners endeavour to keep their vessels as free as possible of mature biofouling organisms as their presence has a significant effect in slowing vessel speed and increasing fuel consumption.</p> <p>Biofouling of vessels in SA Waters is regulated under State legislation and by Commonwealth Guidelines.</p> <p>Potential colonisation of the jetty and seafloor in the vicinity of the wharf would be monitored annually by suitably qualified marine biologists, in accordance with the Marine Pest Management Plan. Should a marine pest be detected, the discovery procedure would be enacted, and any control programs would be implemented as per the instructions given by the relevant government agencies.</p>
506	1215	BIOSECURITY Regulatory framework <i>Clarification of interpretation of legislation</i>	Indicates in this section 'the 'base' position of the Commonwealth under the Biosecurity Act is that it is an offence for a vessel to discharge ballast waters into Australia seas (waters)' this is a bit misleading and may indicate it is not allowed at all – this is not the case as it is impossible for bulk vessels to navigate without ballast on board which is discharged during loading activities.	The base position is that it is an offence to discharge ballast water into Australian seas with several exceptions. That is the way the ballast water management provisions of the <i>Biosecurity Act 2015</i> are framed. There are several exceptions to the offence. One of the exceptions is the discharge of ballast water where it has been sourced from the high seas. Another is the installation and use of approved on-board ballast water management systems which will be required for all international commercial vessels by 2024.
507	1215	BIOSECURITY Regulatory framework <i>Clarification on implementation and roles DAWE control</i>	Could have more emphasis on how the DAWE has ultimate control over international vessels and activities.	(An) aircraft or vessel becomes subject to biosecurity control when the aircraft or vessel enters Australian territory (<i>Biosecurity Act 2015</i> , section 191). All vessels subject to the Act must comply with biosecurity obligations imposed by the Act.

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509	1215	BIOSECURITY Regulatory framework <i>Clarification on implementation and roles regulatory compliance at berth</i>	No real indication of how vessels, when in port, will be monitored for compliance.	With respect to ballast water, compliance is based substantially upon the requirement under the Commonwealth <i>Biosecurity Act 2015</i> for vessels masters and owners to possess an approved Ballast Water Management Plan and to record ballast water management operations. Any discharge within Australian territorial seas must be reported to the Commonwealth DAWE. At first points of entry DAWE officers undertake inspections of ships' records and, where necessary, the vessel.
511	1215	BIOSECURITY Regulatory framework <i>Clarification on implementation and roles regulatory inspections</i>	No indication that pontoon will be inspected by DAWE or any divers engaged by KIPT prior to arriving at Smith Bay.	The pontoon will be required to undertake pre-arrival reporting using the Commonwealth's MARS. The pontoon will need to meet the requirements of the <i>Biosecurity Act 2015</i> and to comply with all SA biofouling laws when entering SA marine waters.
512	1215	BIOSECURITY Regulatory framework <i>Clarification on implementation and roles Same Risk Area ballast exchange</i>	Same risk area is a potential biosecurity issue for Smith Bay.	The "same risk area" is a separate concept under the Ballast Water Management Convention that essentially provides a dispensation for ships taking on and discharging ballast water within an area identified by a signatory. It is correct to identify this as a biosecurity issue and it is addressed in more detail at p 343, Chapter 15 of the Draft EIS). It is not anticipated that dedicated timber carriers would be carrying cargo to be unloaded at Port Adelaide thus requiring ballast water uptake after unloading and before proceeding to Smith Bay. For local shipping, KIPT is aware of the possible risk presented by use of the "same risk area" exception and will work with Biosecurity SA to ensure that ballast water management by vessels with the area is undertaken in an acceptable (low risk) manner.
513	1215	BIOSECURITY Regulatory framework <i>Clarification on implementation and roles terrestrial pests</i>	Reference to 'rodents on ships' – this is a responsibility of DAWE and any such risk would be managed at the first port. Ongoing pest control and wharf side monitoring should also be in place to manage terrestrial pests such as rats, mice and even possums.	Weed and pest management is a commitment in the draft OEMP (see Appendix U-2 of the Draft EIS). The OEMP would be finalised in consultation with relevant government agencies, after the KI Seaport is approved, and would include all reasonably practicable measures to address potential impacts from weeds and pests during operation. A detailed Biosecurity Management Plan would also be developed to address all potential biosecurity risks that the KI Seaport may pose. The Biosecurity Management Plan sits under the OEMP (refer to Figure 15-2 of the Draft EIS, Biosecurity Management Framework) and will share the same strategic goals. The Biosecurity Management Plan would include appropriate details for management measures and would be developed in consultation with relevant government agencies to ensure that all potential risks are managed accordingly. Additional details on the biosecurity framework are provided in Appendix A .
514	1215	BIOSECURITY Regulatory framework <i>Omission controls by Australian Customs</i>	There is no mention of the controls that are imposed by Australian Customs legislation.	This does not appear relevant or to raise a significant issue regarding the proposed KI Seaport. Relevant pre-arrival information is forwarded to DAWE using the Commonwealth's MARS. The inspection of records (ballast water management) regarding biosecurity and of vessels themselves, where necessary, takes place at a FPOE. In order for a port to be determined as a FPOE under Section 229 of the <i>Biosecurity Act 2015</i> , it must meet specific requirements to manage biosecurity risk.

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517	1098	BIOSECURITY Risks to marine environment <i>Effectiveness of regulatory framework for international shipping</i>	The proposal suggests that conventional ballast water management practices are adequate to manage the risk of biosecurity hazards.	<p>It is acknowledged that current technology and the international and national regulatory frameworks for the management of ballast water are not able to reduce to zero the risk of introducing marine pests and pathogens into waters visited by international vessels.</p> <p>Under the international ballast water management regime and the Commonwealth <i>Biosecurity Act 2015</i>, this is the current principle means of regulating the discharge of foreign-sourced ballast water. However, by 2024 all vessels to which the Convention applies will be required to have installed and to operate on-board ballast water treatment systems. This will apply to international and other vessels entering Smith Bay.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with PIRSA and the Kangaroo Island Landscape Board after the KI Seaport is approved. An integral component of these management plans would be the marine biosecurity response procedure to manage any discoveries or suspected discoveries of exotic marine organisms at the earliest possible time to limit their impact. The process that would be adopted to develop these management plans will include refining the list of species that are a potential risk to Kangaroo Island, ranking the species based on the threat they pose to KI and the development of detailed protocols to manage high risk species.</p>
518	1098	BIOSECURITY Risks to marine environment <i>Effectiveness of regulatory framework to remove risks</i>	Mitigation of risks does not guarantee removal of the risk. Yumbah disagrees that the biosecurity risk is reduced to an acceptable level by the adoption of rigorous biosecurity standards. What happens when the standards are not met?	<p>Risks cannot be totally removed by regulatory frameworks. Rigorous biosecurity standards are developed to mitigate and manage risks as much as practicable.</p> <p>Ballast water management is regulated in Australia using international best practice under the <i>Biosecurity Act 2015</i>. However, movement of vessels within domestic waters as well as vessel movements from international waters to domestic waters means that there will never be a zero per cent risk of introducing marine pests and pathogens regardless of how effective mitigation measures are.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with relevant government agencies after the KI Seaport is approved. An integral component of these management plans would be the marine biosecurity response procedure to manage any discoveries or suspected discoveries of exotic marine organisms at the earliest possible time. The process that would be adopted to develop these management plans would likely include refining the list of species that are a potential risk to Kangaroo Island, ranking the species based on the threat they pose to KI and the development of detailed protocols to manage high risk species.</p> <p>The federal DAWE is responsible for the implementation, compliance and enforcement of the <i>Biosecurity Act 2015</i>. See Appendix A for further detail.</p>
519	1061, 1095	BIOSECURITY Risks to marine environment <i>Impact on other users of Smith Bay</i>	Smith Bay is marine pest free. Vessel and tug ballast water releases into Smith Bay would increase the risk of the introduction of marine pests, increasing risks to biosecurity, Yumbah, professional and recreational fishers and to those who operate boats and	<p>In the Draft EIS (see Chapter 15), KIPT has indicated its commitment to protecting and maintaining the biosecurity of Kangaroo Island.</p> <p>Biosecurity risk from international vessels carrying ballast water will be addressed by the administration of the relevant provisions of the <i>Biosecurity Act 2015</i> by the Commonwealth Department of Agriculture, Water and Environment. Any vessels visiting Smith Bay from other Australian ports would also be subject to the relevant ballast water management provisions of the Biosecurity Act.</p>

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			yachts (increased inspections and hygiene activities). KPT's response to this is threat is inadequate. It has not stated any specific mitigation methods.	Through cooperation with the Kangaroo Island Landscape Board and PIRSA Biosecurity SA a CEMP and OEMP would be prepared and implemented after the KI Seaport is approved. Dedicated protocols will address issues such as ballast water management by domestic (local) shipping, particularly vessels moving within the waters of the Gulfs and the waters surrounding Kangaroo Island (a 'same risk area' under the Biosecurity Act) (p 343 of the Draft EIS).
520	819	BIOSECURITY Risks to marine environment <i>Impacts on existing businesses and Yumbah</i>	Exotic marine pests and diseases will have devastating effects on the aquaculture industry. Needs more detail on specifics of biosecurity standards, implementation of the marine pest management plan, and who pays when these standards are compromised?	With respect to ballast water management, the Commonwealth DAWE would implement relevant provisions of the <i>Biosecurity Act 2015</i> . Biofouling regulation would be the responsibility of the SA EPA and the Commonwealth DAWE. The Marine Pest Management Plan would be prepared by KIPT in consultation with PIRSA Biosecurity SA and the Kangaroo Island Landscape Board. Obligations to ensure that the Marine Pest Management Plan is effective would fall to KIPT. Any non-compliances that breach Commonwealth or State legislation would be addressed by relevant government agencies.
521	1115, 586, 761, A54, A85, A93	BIOSECURITY Risks to marine environment <i>Impacts on the natural environment, existing businesses and Yumbah</i>	Concerns exist in relation to management of ballast water and biofouling, and the risks and impacts of these activities on the natural environment, existing businesses and Yumbah.	The Draft EIS determined the residual biosecurity risk from the proposed development to be low (see Appendix T of the Draft EIS). However, this risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. See Appendix F for the revised risk ranking. Biosecurity risk arising from ballast water discharge is addressed by the requirements of the Commonwealth <i>Biosecurity Act 2015</i> . These provisions reflect Australia's obligations under the international Ballast Water Convention 2004. Biosecurity risk arising from biofouling in SA waters is addressed by a series of Commonwealth Guidelines and SA legislation and codes. KIPT has committed to working with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board to ensure that the Biosecurity Management Plan and the Marine Pest Management Plan for the proposed seaport reflect the environmental and commercial values of Kangaroo Island.
522	1095	BIOSECURITY Risks to marine environment <i>Impacts on Yumbah abalone disease</i>	The introduction of abalone diseases from elsewhere in Australia has potential impact on Yumbah Abalone farm.	Australian vessels operating between Australian ports are subject to the risk-based ballast water management regime contained in the Biosecurity Act.
523	707	BIOSECURITY Risks to marine environment <i>Impacts on Yumbah biosecurity</i>	KIPT's actions at Smith Bay will inevitably introduce invasive marine pests and disease agents that will immediately jeopardise Yumbah KI's operations. The potential biosecurity threats to the marine environment and aquaculture ballast water, hull-fouling and ships' bilge water is understated in the EIS.	An assessment of biosecurity is provided in Chapter 15 of the Draft EIS. Ongoing knowledge sharing, liaison with relevant government agencies, local agencies and industry bodies and the development and implementation of management plans, and monitoring programs, will minimise the likelihood of introducing invasive pests and diseases. Bilge water collects in the lowest point of a vessel directly above its keel. It can contain a variety of industrial fluids from the ship's machinery spaces such as coolant, lubricants, fuels, oily residues, chemicals and cargo waste. The discharge of bilge water into SA waters is regulated under the <i>Protection of Marine Waters ((Prevention of Pollution from Ships) Act 1987 (SA)</i> . See also the EPA Code of Practice for Vessel and Facility Management (Marine and Inland Waters), 2019 and the Harbors and Navigation Regulations 2009. Within Commonwealth waters the relevant legislation is the <i>Protection of the Sea ((Prevention of Pollution by Ships) Act 1983 (Commonwealth)</i> .

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			The Smiths Bay Seaport would place the Yumbah KI farm directly in the firing line of these threats greatly increasing the biosecurity risk to the farm. The EIS does not refer to any risks from bilge water and is void of any reference to its management. No consideration has been applied to risk the report poses to any other species the farm may grow in the future.	
524	867	BIOSECURITY Risks to marine environment <i>Impacts on Yumbah POMS</i>	Yumbah produce, and market Pacific oysters. POMS in Smith Bay would be a huge threat to the Yumbah business. Vessels that are coming from Japan or tugs coming from Port Adelaide should be excluded from Smith Bay to reduce the risk of introducing POMS.	Yumbah produce green-lip abalone, not pacific oysters. The discharge of ballast water into the sea is regulated by the Commonwealth Government under the <i>Biosecurity Act 2015</i> . The ballast water management provisions of the Act reflect the international approach to ballast water management as agreed by the parties to the International Convention for the Management of Ships' Ballast Water and Sediment 2004. See Appendix A for further detail. Tugs from Port Adelaide would not be used at Smith Bay, to minimise the risk of introducing the POMS virus.
525	956	BIOSECURITY Risks to marine environment <i>Impacts on Yumbah socio-economic</i>	EIS doesn't recognise that Yumbah will have to expend considerable resources if marine pests are established in Smith Bay.	The Draft EIS determined the residual biosecurity risk from the proposed development to be low (see Appendix T of the Draft EIS). However, this risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. See Appendix F for the revised risk ranking. It is acknowledged that current technology and the regulatory framework applying to the movement of international, national and local vessels are not able to reduce to zero the risk of introducing marine pests and pathogens. KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board after the KI Seaport is approved. An integral component of these management plans would be the marine biosecurity response procedure to manage any discoveries or suspected discoveries of exotic marine organisms at the earliest possible time to limit their impact.
527	1066	BIOSECURITY Risks to marine environment <i>Management measures evidence of effectiveness</i>	The SA Oyster industry has significant concerns regarding the increased risks to marine biosecurity from the introduction of marine pests through an international port. We seek evidence of adequate processes being adopted to guarantee that there is no increased biosecurity risk.	The Draft EIS determined the residual biosecurity risk from the proposed development to be low (see Appendix T of the Draft EIS). However, this risk ranking has been reviewed and updated to reflect submissions on this matter and further government consultation. See Appendix F for the revised risk ranking. It is acknowledged that current technology and the regulatory framework applying to the movement of international, national and local vessels are not able to reduce to zero the risk of introducing marine pests and pathogens. KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board after the KI Seaport is approved. An integral component of these management plans would be the marine

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				biosecurity response procedure to manage any discoveries or suspected discoveries of exotic marine organisms at the earliest possible time to limit their impact.
531	A90	BIOSECURITY Risks to marine environment <i>Omission bilge water</i>	Risks of bilge water are not discussed in any detail in the EIS, which was required by DAC. The design changes do not address negative effects of bilge water.	<p>Bilge water is the wastewater found low down in the machinery spaces of most ships and it is generated by various activities involved in keeping a ship running while at sea. Bilge water needs to be treated with care as it can contain concentrations of various industrial fluids from the ship's machinery spaces such as coolant, lubricants, and fuel. KIPT does not have direct control over shipping operations and vessel management. Owners and masters are responsible for complying with relevant legislation.</p> <p>The management and discharge of bilge water within SA waters is regulated under the <i>Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987 (SA)</i>. Within Commonwealth waters the relevant legislation is the <i>Protection of the Sea (Prevention of Pollution by Ships) Act 1983 (Commonwealth)</i>.</p> <p>KIPT would develop and implement a Biosecurity Management Plan in consultation with the relevant government agencies after the KI Seaport is approved. KIPT does not have any jurisdiction over vessel owners and how they manage bilge waters. The necessity for compliance with relevant legislation would be acknowledged in the Biosecurity Management Plan.</p>
532	956	BIOSECURITY Risks to marine environment <i>Omissions management measures at port of origin</i>	EIS doesn't recognise biosecurity actions at the port of origin the equipment that will build the port and the ships that will work it. Eradicating a marine pest in such an open site exposed to significant tidal movements and storms will be extremely difficult.	<p>International vessels are required to undertake pre-arrival reporting using the Commonwealth's MARS in order to gain biosecurity clearance into Australian waters.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board after the KI Seaport is approved. An integral component of these management plans would be the marine biosecurity response procedure to manage any discoveries or suspected discoveries of exotic marine organisms at the earliest possible time to limit their impact.</p> <p>In the case of a biosecurity event, KIPT would provide assistance where appropriate to the relevant authorities. Any practical response actions would be developed and implemented (as required) in consultation with all relevant government agencies and would be species-specific (see p 344 of the Draft EIS).</p>
533	FL5	BIOSECURITY Risks to marine environment <i>Port Adelaide interactions</i>	Concern about the tugs coming from Port Adelaide introducing pest species/diseases from the port.	<p>All biosecurity risks during construction would be managed by the CEMP, Biosecurity Management Plan and the Marine Pest Management Plan.</p> <p>KIPT would develop a Biosecurity Management Plan and Marine Pest Management Plan in consultation with PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board after the KI Seaport is approved.</p> <p>Tugs from Port Adelaide would not be used to avoid the risk transmitting the POMS virus. Appendix A discusses the construction activities and operational activities in more detail.</p>

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534	1054	BIOSECURITY Risks to marine environment <i>Regulatory mechanisms implementation</i>	What measures will be taken to monitor toxicity, introduction of marine pests, turbidity during dredging and monitoring where ballast water is collected/dumped? Is this self-regulated or are there independent bodies responsible for checking this?	Ballast water management and discharge is regulated by DAWE under the Commonwealth <i>Biosecurity Act 2015</i> . It is an offence to discharge and otherwise manage ballast water in contravention of the Act. Dredging is no longer required for wharf operation. Biofouling regulation in SA is the responsibility of the State government through agencies such as EPA and PIRSA. National guidelines on biofouling also apply. Pollution of SA waters is regulated by the EPA under the <i>EP Act</i> .
535	FL5	BIOSECURITY Risks to marine environment <i>Residual risk not acceptable with proposed management strategies</i>	The Draft EIS does not include any management strategies to avoid the introduction of marine pests and or diseases.	Reflecting the provisions of the International Ballast Water Convention, the Commonwealth Biosecurity Act 2015 regulates the discharge of ballast water from international vessels and those travelling between Australian ports. Biofouling is controlled in SA waters through a range of legislation administered by agencies such as the EPA and PIRSA. KIPT would finalise the Construction and OEMP's that would address biosecurity risk and supplement the regulatory mechanisms mentioned above. These Plans will be finalised after the KI Seaport is approved.
537	FL5	BIOSECURITY Risks to marine environment ballast water <i>Residual risk not acceptable</i>	PIRSA has expressed concerns at the prospect of ballast water being taken up by bulk carriers at Port Adelaide and then being discharged at Smith Bay.	It is considered highly unlikely that international bulk timber vessels would visit Port Adelaide immediately prior to accessing Smith Bay, take up ballast water then discharge it to Smith Bay (see Draft EIS, Chapter 15, p 343). However, it would be possible for domestic vessels to take up ballast water at Port Adelaide (or anywhere else in the designated 'same risk area' – the waters of the two SA gulfs and waters surrounding Kangaroo Island) and discharge it at Smith Bay. Special operating procedures and management requirements will be developed in consultation with PIRSA Biosecurity SA to minimise the risk to Smith Bay arising from domestic vessels discharging into Smith Bay ballast water taken up elsewhere in the same risk area (see Chapter 15, p 343 and map, p 344). Tugs from Port Adelaide would not be used at Smith Bay Further text on this is provided in Appendix A .
538	FL5	BIOSECURITY Risks to marine environment -biofouling <i>Residual risk not acceptable</i>	Biofouling from international vessels is also a major pathway for the introduction of exotic pest species and aquatic diseases into Smith Bay waters. Biofouling can also translocate marine pests and diseases from one part of the Australian coastline to another.	The IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species (Biofouling Guidelines) (resolution MEPC.207(62)) are intended to provide a globally consistent approach to the management of biofouling. There is no Commonwealth legislation directed specifically to the management of biofouling although the <i>Biodiversity Act 2015</i> provides broad powers to Commonwealth officers to identify and manage biosecurity risk. However, the National Biofouling Management Guidelines for Commercial Vessels outline the measures for operators of commercial vessels to adopt to reduce the introduction and distribution of marine pests (see Chapter 15 of the Draft EIS, p 341). Protection against pollution by harmful anti-fouling paints is provided through the Commonwealth <i>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006</i> , the relevant SA EPA Code of Practice (Vessels) and the Water Quality EPP.

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539	1215	BIOSECURITY Risks to terrestrial environment <i>Clarification timber loading equipment</i>	Importation of equipment for loading timber – I assume this is break bulk and not fixtures of the vessel? Vessels don't usually carry their own equipment for these cargoes other than vessel cranes which are fixed.	Woodchips would be loaded into cargo holds via permanent barge-mounted materials handling infrastructure at the KI Seaport. Timber logs would be transferred from the log yard storage to the pontoon by truck and would be loaded into the cargo holds by vessel cranes. No equipment on the ships would come to shore for loading activities.
540	1056	GEOLOGY, SOILS AND WATER Baseline soil assessment <i>Relevance to the EIS</i>	The Draft EIS is deliberately planned to discourage scrutiny of things that matter by writing lots about soil testing. Why is soil testing for previous pollution relevant? Should have contacted previous landowners instead of testing.	Baseline soil investigation is standard practice to provide assurance that site soils would not pose issues when they are disturbed by the development.
556	819	GEOLOGY, SOILS AND WATER Smith Creek <i>Impacts if used as a water source</i>	Smith Creek is pristine and will be impacted if it is used as a water source for the development.	Smith Creek is not considered pristine, and in any case, it would not be used as a water source for this project or be in any way negatively impacted. All site runoff is contained on site or treated and there is no removal of water from the creek or drainage to the creek proposed.
557	1056	GEOLOGY, SOILS AND WATER Smith Creek discharges <i>Impacts from flood discharges</i>	There is nothing in the EIS about water flow from Smith Creek. Concerns exist about floods from Smith Creek washing away woodchips and causing pollution in Smith Bay, low pressure systems and king tide impacts.	Smith Creek is well away from the KI Seaport site. Engineering design allows for predicted sea level rises, see Section 4.4 of the Draft EIS. The woodchip storage area would be designed to have significant surplus capacity to contain flood water, with contingency to overflow into a 10 ML basin. The site's elevations and topography would, however, suggest that flooding of the site is very unlikely.
558	1054, 1115, 1184, 1185, 1220, 251, 819, 956	GEOLOGY, SOILS AND WATER Stormwater management <i>Adequacy of pollution controls</i>	Concerns exist in relation to pollution of stormwater from KI Seaport activities, in particular timber storage.	Water from timber and woodchip storage areas (assumed to be leachate) would be managed via a controlled and closed system, including the bunding and impermeable base of the log and woodchip storage yards and all leachate from these yards would drain to a 10 ML lined retention basin. See Section 16.5.2 of the Draft EIS. The basin will be designed in accordance with the EPA Guideline for Wastewater Lagoon Construction 2019. For further detail, see Appendix A . As logs and woodchips stored will not have been chemically treated, the water captured in this system will not be classified as sewage or wastewater. Therefore, captured water from this system can be used for irrigation and dust suppression purposes or will be allowed to evaporate. A separate filtration system to remove sediments and fine debris will be provided for the irrigation and dust suppression systems to reduce suspended solids and organics in the water prior to usage. Dust suppression and wood lot watering will be designed to optimise water use (as per industry practice). The design of the system will also ensure that other potential environmental impacts are avoided (e.g. impacts to groundwater, which may result from excessive application). See Appendix A , for further information.

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568	1054, 432	GEOLOGY, SOILS AND WATER Wastewater management <i>Firefighting activities</i>	More detail on managing wastewater from fire-fighting activities, particularly for the woodchip pile, are required given the potential impacts from contamination risks.	Any surface water flows as a result of fire-fighting activities will be captured in onsite surface water management infrastructure and treated to applicable standards before reuse or release to the environment. Onsite storage of water for fire-fighting activities will be supplemented by seawater if necessary. All water runoff (whether rainfall or firefighting) would be contained within the bunded woodchip storage area and collected in the 10 ML lined retention basin. The basin capacity is considered sufficient to effectively contain and treat fire-fighting water run-off.
570	1043, 1095	GEOLOGY, SOILS AND WATER Wastewater management <i>Leachate from timber products</i>	Runoff and leachate from woodchips and logs could enter stormwater runoff and groundwater, and ultimately the marine environment. Details should be provided on the how leachate will be prevented from entering the environment.	Chapter 4 and Chapter 16 of the Draft EIS discuss the conceptual engineering design, controls, impact assessment and management associated with the storage of logs and woodchips at the KI Seaport. The risk of leachate from woodchip and log stockpiles entering groundwater or run-off is negligible as storage areas would be designed to prevent infiltration, and leachate or run-off would be captured and treated (see Section 4.4.6 and Appendix C3 of the Draft EIS). Additional information is provided in Appendix A .
572	432	GEOLOGY, SOILS AND WATER Wastewater management <i>Toxicity of leachate</i>	Clarification whether the bunding and impermeable base of timber log and wood chip storage yards will be the only mitigation measure for leachate.	In addition to controls such as bunding and having an impermeable base, timber log and wood chip storage yards would have systems to capture, control and treat any leachate or run-off (see Section 4.4.6 and Appendix C3 of the Draft EIS). In addition, stormwater management systems would be constructed to divert water away from storage areas. Roofed conveyors would also prevent woodchips from getting wet during loading.
574	345, FL5	AIR QUALITY Air quality and dust deposition <i>Choice of sensitive receptors (EPBC related)</i>	Dust-generating activities will be associated with the KI Seaport operations, resulting in a change in air quality and potential impacts to receptors.	An air quality assessment was presented in Chapter 17 of the Draft EIS. This assessment was conservative in nature and applied a number of realistic worst-case assumptions. The outputs of the air quality assessment indicated that all relevant legislated air quality criteria would be met at the nearest sensitive receptors (i.e. workplaces and residences). The dust emissions from the development would have no discernible impact on nearby sensitive receptors.
575	1054	AIR QUALITY Air quality and dust deposition <i>Specific impacts along the transport route dust pollution</i>	How is KIPT to deal with dust pollution affecting neighbouring properties along trucking routes?	Activities upstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the EIS set by DAC. The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the EIS to understand the freight task associated with the development and the potential impacts on the existing road networks associated with transporting timber from plantation to the port for export. High level desktop assessment of potential dust impacts associated with the timber haulage fleet was presented in Chapter 21 of the Draft EIS. Vehicles travelling on unsealed roads on Kangaroo Island generate dust. At times these emissions are frequent and intense, e.g. with the movement of harvested grains during the drier summer months.

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				<p>This assessment acknowledged that as a result of the increase in vehicle traffic, a reduction in amenity for some residences adjacent to less-travelled roads is likely. For its part, KIPT would ensure that all haulage vehicles are maintained in accordance with manufacturers recommendations such that they operate as effectively as possible, and would continue discussions with the Kangaroo Island Council and DPTI with a view to reducing impacts through the use of high-productivity vehicles, appropriate road maintenance and a defined road transport route.</p> <p>Additional assessment and authorisations or approvals would be required for some upstream activities, such as the operation of a dedicated timber haulage route.</p>
576	304	<p>AIR QUALITY Air quality and dust deposition <i>Specific impacts along the transport route exhaust emissions</i></p>	<p>Emissions from the movement of heavy vehicles on the island requires further discussion.</p>	<p>Activities upstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the EIS set by DAC.</p> <p>The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the EIS to understand the freight task associated with the development and the potential impacts on the existing road networks associated with transporting timber from plantation to the port for export.</p> <p>Chapter 19 of the Draft EIS presented an assessment of the contribution of greenhouse gas emissions from the truck fleet to South Australia and Australia's overall greenhouse gas emissions, at 0.007% and 0.0003%, respectively.</p> <p>More locally, the expected increase kilometres travelled as a result of the introduction of the haulage fleet would be approximately 6% over the current 57,000,000 km per annum travelled by vehicles on the island at present (see Chapter 21 of the Draft EIS). This relatively small increase is considered unlikely to materially change the existing impact of vehicle-related emissions on the surrounding environment.</p> <p>Additional assessment and authorisations or approvals would be required for some upstream activities, such as the operation of a dedicated timber haulage route.</p>
577	678	<p>AIR QUALITY Air quality and dust deposition <i>Specific impacts along the transport route visibility</i></p>	<p>The nature of transport-generated dust deposition required further discussion.</p>	<p>Activities upstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the EIS set by DAC.</p> <p>The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the EIS to understand the freight task associated with the development and the potential impacts on the existing road networks associated with transporting timber from plantation to the port for export.</p> <p>An assessment of dust impacts associated with the timber haulage fleet was presented in Chapter 21 of the Draft EIS. Vehicles travelling on unsealed roads on Kangaroo Island generate dust. At times these emissions are frequent and intense, e.g. with the movement of harvested grains during the drier summer months.</p> <p>The statement referred to by the Respondent specifically refers to impacts to roadside vegetation. To reiterate, no material impacts to roadside vegetation were noted during the ecological survey of segments of the transport routes. However, this vegetation may have adapted in response to the existing dust levels. Therefore, it is possible that an increase in immediate roadside effects to vegetation may occur as a result of the use of heavy vehicles on the transport route, but with long-term effects varying depending on the longevity of increase in traffic along these routes. It is expected that these effects would be limited to the immediate vicinity of the road, based on reviews of extensive literature related to road-generated dust generation.</p>

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				<p>Separately to vegetation impacts, dust-related reductions in visibility for passing vehicles would occur when vehicles meet on unsealed road surfaces, as they do now, and motorists would be required to exercise caution to avoid safety-related incidents. KIPT would continue discussions with the Kangaroo Island Council and DPTI related to the road network on Kangaroo Island with a view to reducing impacts through the use of high-productivity vehicles, appropriate road maintenance and a defined road transport route.</p> <p>Additional assessment and authorisations or approvals would be required for some upstream activities, such as the operation of a dedicated timber haulage route.</p>
578	1054	<p>AIR QUALITY</p> <p>Air quality and dust deposition</p> <p><i>Specific impacts on amenity odour</i></p>	<p>Odours from woodchip storage require further discussion.</p>	<p>Odour from woodchip stockpiles can be an issue if woodchips are left exposed to the environment, including rainfall, for a prolonged period of time and begin to decompose within the stockpile. This can result in an odorous leachate that requires management. The KI Seaport would be fitted with stormwater and wastewater (leachate) management systems (see Section 16.5.2, Chapter 16 of the Draft EIS) and Appendix A.</p> <p>The turnover of woodchips at the KI Seaport (i.e. at 8-10 vessel loading movements per annum for woodchips) is such that these conditions are not likely to eventuate and thus odours should be relatively minor, restricted to tree resin odours from chipped wood which are likely to be observed only in the immediate area of the stockpile.</p>
579	432	<p>AIR QUALITY</p> <p>Air quality and dust deposition</p> <p><i>Specific impacts on human health woodchip fire</i></p>	<p>Air pollution from a woodchip fire effect on nearby accommodation has not been addressed.</p>	<p>The Draft EIS has focussed largely on impact events, i.e. events that are predicted to occur. The possibility of a wood chip fire was addressed in the project risk assessment presented in Appendix T (Reference 56) and assessed as low on the basis that an Emergency Response Management Plan and a Bushfire Hazard Management Plan have been developed for the site.</p> <p>Further, the fire management at the KI Seaport would focus on the prevention of fires and would include discussions with the South Australian fire authorities. A firefighting water system would be established, consisting of a saltwater tank and pumping station to distribute water across the site. Appropriate firebreaks would be maintained where necessary for the protection of property and vegetation onsite. A bushfire hazard management plan, developed in liaison with CFS, would also be implemented.</p>
580	1115	<p>AIR QUALITY</p> <p>Air quality and dust deposition</p> <p><i>Specific impacts on surrounding ecology</i></p>	<p>The overall effect of the change in air quality on surrounding environments needs to be described.</p>	<p>Chapter 17 of the Draft EIS presented the air quality assessment for the Ki Seaport, and demonstrated that, even applying conservative assumptions, air quality at nearby residences would meet the requirements of the Environment Protection (Air Quality) Policy 2016 under all meteorological conditions.</p> <p>The SA EPP (Air quality) does not include factors for dust deposition, so these were adopted from interstate regulations and guidelines and applied to the Project. The assessment against these criteria demonstrated that the project would result in minor, but acceptable, increases in dust deposition rates that are within the bounds of existing natural variation.</p> <p>Section 12.5.8 of the Draft EIS addresses the impacts of dust deposition on the marine environment, concluding that effects on the marine ecology of Smith Bay would be negligible because of the low volume of deposition and rapid dispersion of deposited material.</p>

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586	559	AIR QUALITY Air quality and dust deposition <i>Specific impacts to abalone road dust</i>	Quality of air along the roads into Smith Bay and at the site will deteriorate. Yumbah will be directly affected.	The impact of dust emissions from operations at the KI Seaport was presented in Chapter 17 of the Draft EIS and demonstrated that the relevant air quality criteria defined in the Air Quality EPP would be met at Yumbah, even under realistic worst case assumptions. The assessment concluded that the small increase in the rate of dust deposition on the Yumbah facility would have no effect on the health of abalone. Dust that might be generated by vehicles traversing internal roads and Freeoak Road leading up to the site were considered in predictive modelling. Access to the KI Seaport is via the North Coast Road and Freeoak Road intersection which would be upgraded to be a fully paved intersection and would therefore result in negligible dust levels.
587	819	AIR QUALITY Air quality and dust deposition <i>Specific impacts to amenity responsibility of control measures</i>	Clarification of the responsibilities for ensuring that the air quality controls will be implemented is required.	Responsibilities for ensuring implementation of required air quality controls would be detailed in the CEMP, OEMP and specific plans that sit within them, such as an air quality or dust management plan. Plans would become part of management systems for construction and operation. KIPT would be responsible for implementing all aspects of the CEMP and OEMP, and operational personnel onsite would be responsible for the day-to-day compliance with the plans.
588	819	AIR QUALITY Air quality and dust deposition <i>Specific impacts to amenity – tourists</i>	The overall effect of the operation on existing air quality and amenity (which impacts tourism) needs to be described.	Chapter 17 of the Draft EIS presented the air quality assessment for the KI Seaport, and demonstrated that air quality at nearby residences would meet the requirements of the Air Quality EPP under all meteorological conditions, and therefore the risk of impact to tourism from dust is considered low. Conservative assumptions were also applied to predictive modelling, further reducing this risk.
590	819	AIR QUALITY Air quality and dust deposition <i>Specific impacts to human health fumigation</i>	Uncertainty regarding the fumigation process required clarifications	Fumigation matters were clearly described in Chapter 4 of the Draft EIS. To reiterate, woodchips do not need to be fumigated. Depending on customer requirements, logs may need insecticidal fumigation, but this would take place at another port, such as Portland in Victoria, not at Smith Bay.
591	819	AIR QUALITY Air quality and dust deposition <i>Specific impacts to human health waste/overburden</i>	The potential for air quality impacts associated with the disposal of the waste and overburden of the timber handling operations.	Woodchip waste management was addressed in Chapter 4 of the Draft EIS. Periodically, wood wastes deposited in the log and woodchip storage areas would be collected for transport off site to minimise the potential for dust generation at Smith Bay. Wood fines would be preferentially back loaded into empty woodchip haulage trucks and returned to the plantations to compost in place as part of nutrient recycling. A portion of the fines may also be used as garden mulch in local landscaping
592	1043	AIR QUALITY Air quality and dust deposition <i>Specific impacts to human health woodchips</i>	The potential acute health impacts of occupational exposures to wood chips required further discussion.	There are some hazards associated with the management and handling of woodchips. These are generally associated with interactions with timber leachates and chemicals (if they have been added to the timber during treatment and processing). There also exists the potential for composted organic materials, including woodchips, to pose a respiratory health risk due to the presence of microbial agents (biohazards) and their toxins. In relation to the specific incident referred to in the Submission ID 1043, the National Institute for Occupational Safety and Health (NIOSH) concluded that a health hazard existed at the time wood

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				<p>chips were being unloaded at Weatherwax Golf Course in June 1983, which was associated with exposure to mouldy dust from older and partially decomposed woodchips.</p> <p>Woodchips at the KI Seaport would be delivered fresh (and untreated) from the respective plantations and would be stored for a short time at the KI Seaport before being loaded onto vessels and exported. This would minimise the potential for the generation of conditions conducive to the formation of dust-related biohazards.</p>
598	1054	<p>AIR QUALITY</p> <p>Air quality modelling</p> <p><i>Nature of the modelling assumptions amount of woodchip emissions</i></p>	<p>The amount of dust emanation from the woodchip conveyor needs to be clarified.</p>	<p>Chapter 17 of the Draft EIS presented the air quality assessment for the KI Seaport. The operations emission inventory is outlined in Table 17-6, and includes emissions generated from the handling of woodchips on the site. Specifically, the inventory includes three woodchip handling operations – the transfer of woodchips to the stockpile, the reclaim of woodchips from the stockpile and the transfer and loading of woodchips to the export vessel. For the purposes of presenting a conservative assessment, no mitigation measures were assumed to be in place for these operations (e.g. no use of dust suppression water or enclosures etc.). Emissions from the actual conveyor system were not modelled on the basis that the conveyor system would be covered and therefore shielded from the wind, reducing the potential for dust emissions. This is consistent with the mitigation factors applied within the NPI documentation for conveyor materials handling systems.</p> <p>The assessment in the Draft EIS demonstrated that relevant air quality criteria (as defined in the Environment Protection (Air Quality) Policy 2016) can be easily and conservatively met at the nearby sensitive receptors under all meteorological conditions. This includes consideration of emissions associated with the woodchip materials handling system.</p>
600	432	<p>AIR QUALITY</p> <p>Air quality modelling</p> <p><i>Nature of the modelling assumptions conveyor should be covered</i></p>	<p>Dust emanation from the uncovered woodchip loading conveyor suggested that the conveyor should be covered.</p>	<p>The nature of wood chip fines is such that there may be some fire-related risks associated with a fully enclosed woodchip handling system. Chapter 17 of the Draft EIS demonstrated that relevant air quality criteria (as defined in the Environment Protection (Air Quality) Policy 2016) could be easily (and conservatively) met at the nearby sensitive receptors without the need to fully enclose the wood chip materials handling system, thus avoiding the need to accept such risks.</p>
613	A14	<p>NOISE AND LIGHT</p> <p>Construction/operation noise and light</p> <p><i>Impact on marine and terrestrial ecology</i></p>	<p>Concerned with the new design size, impact on flora, fauna and marine life from the light and operational noise and vibration with pile driving and construction.</p>	<p>KIPT acknowledges that the additional lighting would result in a change in the existing night-time amenity this is considered an unavoidable consequence of the need to provide adequate lighting to safely undertake site operational activities. A proposed framework for the project lighting was presented in Chapter 18 of the Draft EIS, to minimise the obtrusive effects of night-time lighting on nearby residences.</p> <p>Since the Draft EIS was submitted, a more detailed lighting design has been developed and assessed, which is presented in the Addendum as Appendix E. This demonstrates that the obtrusive effects of lighting can be adequately mitigated whilst maintaining a safe working environment for operational personnel.</p> <p>A revised noise assessment was undertaken to support the change in the design, indicating that noise levels would be largely the same (i.e. approximately 1dB less) than those presented in the Draft EIS, and thus the terrestrial and marine ecology assessments of potential impacts to flora, fauna and marine life remain valid for the revised proposal.</p>

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614	A55	NOISE AND LIGHT Conveyor vibrations <i>Impact on marine ecology</i> (EPBC related)	If the conveyor is operating, causing vibrations down to the ocean floor, how is this going to be managed or proven to have no effect on marine life?	Chapter 18 of the Draft EIS presented the noise and vibration assessment for the proposed KI Seaport, which included impacts to marine ecology as a result of construction activities. The potential impacts that have been considered in the risk assessment are, in increasing order of severity, behavioural change, temporary threshold shift in marine species' hearing, permanent threshold shift in hearing, and organ damage (possibly leading to death). Without mitigation, the overall risk of adverse noise effects on the relevant marine species is low, except for a medium level of risk associated with impact piling potentially resulting in PTS in southern right whales. Operational noise and vibration would have a correspondingly smaller impact on marine ecology than the construction (piling) operations, and thus impacts are expected to be minimal.
615	A14	NOISE AND LIGHT Lack of adequate studies <i>Noise and light studies</i>	Lack of adequate studies performed for these issues.	Sections 18.3 and 18.4 of the Draft EIS presented the noise and vibration assessment for the proposed KI Seaport, which included impacts to terrestrial and marine ecology as a result of construction and operational activities. Similarly, a conceptual lighting design was presented in Section 18.5 of the Draft EIS, and a lighting impact assessment is presented as Appendix E to the Addendum. In all cases, these assessments indicate that the potential impacts associated with changes in the noise and lighting environment as a result of the KI Seaport are expected to be low.
618	1054, 1184, 1220, 345, 819, A73	NOISE AND LIGHT Lighting effects and impacts <i>Project design related to lighting change current environment</i>	Lighting will change the current environment and night time amenity.	KIPT acknowledges that the additional lighting will result in a change in existing night-time amenity this is considered an unavoidable consequence of the need to provide adequate lighting to safely undertake site operational activities. A proposed framework for the lighting of the development was presented in Chapter 18 of the Draft EIS, defining aspects of the proposed lighting design that would be implemented to minimise the obtrusive effects of night-time lighting on nearby residences. Since the Draft EIS was lodged, a more detailed lighting design has been developed and assessed, which is presented as Appendix E to the Addendum. This demonstrates that the obtrusive effects of lighting can be adequately mitigated whilst maintaining a safe working environment for operational personnel.
619	559	NOISE AND LIGHT Lighting effects and impacts <i>Project design related to lighting disturbance to other users</i>	Lighting will harm productivity of Yumbah. Noise and light will disturb tourists and other users.	Lighting impacts on Yumbah were assessed in Chapter 11 of the Draft EIS. A review of literature failed to uncover evidence that artificial lighting would materially impact the feeding patterns of abalone; the evidence suggests artificial lighting may actually improve abalone growth. A proposed framework for the lighting of the Project was presented in Chapter 18 of the Draft EIS. Since the Draft EIS was lodged, a more detailed lighting design has been developed and assessed, which is presented as Appendix E to the Addendum. This demonstrates that the obtrusive effects of lighting can be adequately mitigated whilst maintaining a safe working environment for operational personnel.

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624	A81	NOISE AND LIGHT New jetty design <i>Use of old modelling</i> (EPBC related)	It is unscientific to suggest the previous underwater noise assessment is good enough for a jetty which is a further 250m out to sea. The water properties modelled in the EIS differ from those in the amended plan, and more comprehensive modelling should be undertaken. It is not appropriate to make decisions based on the modelling previously provided.	Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means there would be more piling, however the nature of the piling operations would not change from those assessed, assuming a single piling operation is undertaken at any one time. Piling in two places simultaneously would effectively double the number of blows per minute, which would increase the cumulative SEL noise level by 3 dB, and increase the 'threshold distances' for TTS and PTS onset by approximately 1.6 times over that presented in the Draft EIS, assuming the exposure time is the same. The change in project configuration does not change how piling would be undertaken, nor does it change the assumptions used for the model inputs; it would simply relocate the source of the noise a further 250 m out to sea, and move the subsequent noise contours about the same distance further offshore. This does not materially change the conclusions nor the proposed management measures designed to mitigate any risks.
630	1095	NOISE AND LIGHT Noise modelling <i>Noise mitigation measures none identified</i>	Further information is required with respect to what noise mitigation measures (if any) will be applied at the KI Seaport and how effective these may be.	Chapter 18 and Appendix N of the Draft EIS presented the noise assessment for the proposed operation, including the contribution of the on-site electricity generation infrastructure. This assessment show that, without further mitigation, the predicted noise levels would exceed the night-time criterion nominated in the Noise EPP. Clause 20(6) of the Noise Policy, however, permits the EPA to approve operations that are predicted to exceed the relevant noise criterion, after consideration of mitigating circumstances. These mitigating circumstances, detailed in Table 18-5 of the Draft EIS, demonstrate the project would be unlikely to have a significant noise impact. Further, with the change in project configuration presented and assessed in the Addendum to the Draft EIS, some noise sources would be further from sensitive receptors, which means the noise levels described in the Draft EIS represent a worst case scenario and the actual (as-built) noise levels would be lower.
631	1095, FL5	NOISE AND LIGHT Noise modelling <i>Noise sources</i>	Clarification is sought as to whether diesel generators were incorporated into the noise model for the proposed operation.	Chapter 18 and Appendix N of the Draft EIS included the contribution of on-site electricity generation.
632	540, 678	NOISE AND LIGHT Noise modelling <i>Traffic-related noise</i>	Road noise from these vehicles will create almost continuous noise pollution across a large portion of the Island as vehicles journey to and from.	A high-level assessment of the predicted noise levels associated with the timber transport fleet was presented in Chapter 21 of the Draft EIS. This indicated that the increases in noise levels would comply with relevant DPTI guidance regarding acceptable noise level increases associated with increases in road traffic volumes. This assessment acknowledged that as a result of the increase in vehicle traffic, a reduction in amenity for some residences adjacent to less-travelled roads is likely. As outlined in the Draft EIS, KIPT anticipates a transport solution would be negotiated with the Kangaroo Island Council and the South Australian Government as part of continuing discussions about mitigating the impacts of the haulage operations, including the noise impacts.

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635	A81	NOISE AND LIGHT Piling noise <i>Impact on marine ecology extension of impact</i> (EPBC related)	Piling is now at a magnitude 1.6 times that previously considered, that moves the potential for TTS impacts from 6.5m to 10kms, or greater, under new modelling. This means sound impacts will be affecting sensitive receptors in the middle of Investigator Strait.	<p>Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means there would be more piling, however the nature of the piling operations would not change, assuming a single piling operation is undertaken at any one time.</p> <p>Piling in two places simultaneously would effectively double the number of blows per minute, which will increase the cumulative SEL noise level by 3 dB, and increase the 'threshold distances' for TTS and PTS onset by approximately 1.6 times over that presented in the Draft EIS, assuming the exposure time is the same.</p> <p>The change in project configuration does not change how piling would be undertaken, nor does it change the assumptions used for the model inputs; it would simply relocate the source of the noise a further 250 m out to sea, and move the subsequent noise contours about the same distance further offshore. This does not represent a material change to the conclusions nor the proposed management measures designed to mitigate any risks.</p>
636	A57	NOISE AND LIGHT Piling noise <i>Impact on marine ecology hearing loss</i> (EPBC related)	Ridiculous number of piles proposed, eventuating hearing loss to marine life (and perhaps humans).	<p>Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means that more piling will occur, however the nature of the piling operations would not change, assuming a single piling operation is undertaken at any one time.</p> <p>The conclusion from this assessment was that, without mitigation, the overall risk of adverse noise effects on the relevant marine species is low, except for a medium level of risk associated with impact piling potentially resulting in PTS in southern right whales.</p> <p>The following mitigation and management strategies may be implemented to minimise the environmental impacts of underwater noise:</p> <ul style="list-style-type: none"> • using alternative piling methods; • implementing a soft-start procedure when piling begins; • controlling the construction program to avoid noise exposure, including scheduling piling to occur outside the months when cetaceans may be present in the area; and, • establishing safety and shut-down zones and using marine mammal observers to monitor the presence of relevant species. <p>With these controls in place, the impacts from underwater noise associated with construction are likely to be minimal.</p> <p>With respect to human health, the terrestrial noise assessment (presented in Section 18.3 of the Draft EIS and updated in Appendix H demonstrates that noise levels at the nearest residences would meet the criteria nominated in the Environment Protection (Noise) Policy, and thus human health would not be impacted. criteria nominated in the Noise EPP, and thus human health will not be impacted.</p>

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637	A55	NOISE AND LIGHT Piling noise <i>Impact on marine ecology pile installation</i> (EPBC related)	How does KIPT plan on putting the piles in? Will no doubt create noise and vibrations affecting marine life.	<p>The methodology associated with pile installation was detailed in Section 3.2.1 of the EIS Addendum.</p> <p>Section 18.4 of the Draft EIS presented the underwater noise assessment associated with piling operations. The change in project configuration means that more piling will occur, however the nature of the piling operations would not change from those assessed, assuming a single piling operation is undertaken at any one time.</p> <p>The conclusion from the Draft EIS was that, without mitigation, the overall risk of adverse noise effects on the relevant marine species is low, except for a medium level of risk associated with impact piling potentially resulting in PTS in southern right whales.</p> <p>The following mitigation and management strategies may be implemented to minimise the environmental impacts of underwater noise:</p> <ul style="list-style-type: none"> • using alternative piling methods; • implementing a soft-start procedure when piling begins; • controlling the construction program to avoid noise exposure, including scheduling piling to occur outside the months when cetaceans may be present in the area; and, • establishing safety and shut-down zones and using marine mammal observers to monitor the presence of relevant species. <p>With these controls in place, the impacts from underwater noise associated with construction are likely to be minimal.</p>
638	A90	NOISE AND LIGHT Piling noise <i>Impact on people with autism</i> (EPBC related)	If you can imagine the impact on whales from deafening of pile driving under water, it is not too much of a stretch to consider what people on the Autism Spectrum can pick up.	<p>KIPT acknowledge that the requirements of the Noise EPP apply to the KI Seaport Project during the construction phase (including piling activities), and that construction activities will be managed in such a way as to maintain compliance with the construction-related noise obligations contained within the Policy. Potential mitigation measures that may be applied during the construction phase to assist in achieving this were outlined in Table 18-7 of the Draft EIS.</p> <p>With respect to human health, the terrestrial noise assessment (presented in Section 18.3 of the Draft EIS has been updated and provided in Appendix H. See also responses to EPA's concerns in Table 6-4.</p>
641	432	NOISE AND LIGHT Terrestrial noise effects and impacts <i>Amenity definition</i>	Clarification regarding the use of the term amenity throughout the EIS is required.	<p>The term "amenity" refers generally to the pleasantness or attractiveness of a place or location. In noise terms, amenity refers to the existing noise environment and its prevailing noise characteristics.</p> <p>In the context of the road transport amenity means that there will be little, if any, change in the existing noise environment for residences located in populated areas on Kangaroo Island as a result of the introduction of the timber haulage fleet.</p>
646	559, 956, FL5	NOISE AND LIGHT Terrestrial noise effects and impacts <i>Justification for exceeding Noise Policy criteria at night</i>	Noise from the proposed KI Seaport may exceed the requirements of the EPP Noise Policy at night.	<p>Chapter 18 and Appendix N of the Draft EIS presented the noise assessment for the proposed operation. As noted, this demonstrates that, without further mitigation, the predicted noise levels would exceed the night-time criterion nominated in the Noise EPP.</p> <p>Clause 20(6) of the Noise Policy permits the EPA to approve operations that are predicted to exceed the relevant noise criterion, after consideration of mitigating circumstances. These were</p>

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				<p>detailed in Table 18-5 of the Draft EIS and demonstrate that there is not likely to be a significant noise impact associated with the project.</p> <p>Further, with the change in project configuration subsequent to the EIS submission, some noise sources have been moved further from sensitive receptors, and thus the described noise levels are considered to be a worst case scenario and actual (as-built) noise levels are expected to be less than presented in the Draft EIS.</p>
647	819	<p>NOISE AND LIGHT Terrestrial noise effects and impacts <i>Justification for exceeding Noise Policy criteria noise levels</i> (EPBC related)</p>	<p>The noises guests (Molly's Run) will be exposed to during construction and then ongoing during operations will be higher than 90 dBA. Unacceptable for luxury accommodation.</p>	<p>Chapter 18 and Appendix N of the Draft EIS presented the noise assessment for the proposed operation. As noted, this demonstrates that, without further mitigation, the predicted average noise levels would exceed the night time criterion nominated in the Environment Protection (Noise) Policy 2007. No exceedance of the peak noise criterion (60 dB(A)Leq) would occur at any sensitive receptor, day or night.</p> <p>Clause 20(6) of the Noise Policy permits the EPA to approve operations that are predicted to exceed the relevant noise criterion, after consideration of mitigating circumstances. These were detailed in Table 18-5 of the Draft EIS, and have been significantly expanded upon in Appendix H. This demonstrates that there is not likely to be a significant noise impact associated with the Project at any sensitive receptors in the vicinity of the Project. Further, with the change in Project configuration subsequent to the EIS submission, some noise sources have been moved further from sensitive receptors, and thus the described noise levels are considered to be a worst case scenario and actual (as-built) noise levels are expected to be less than presented in the Draft EIS.</p> <p>Regarding the sound power levels described by the Respondent, these are the sound levels as produced by the noise generating equipment, and not the noise experienced at the receptor. Table 18-6 of the Draft EIS demonstrates that the predicted noise level at Molly's Run is 40 dB, which is below the average background noise level measured at that site during night-time (44 dB) and daytime (52 dB) surveys. This suggests that for the majority of the time, noise from the KI Seaport would be no louder than existing noise levels.</p>
648	345, 956	<p>NOISE AND LIGHT Terrestrial noise effects and impacts <i>Justification for exceeding Noise Policy criteria noise pollution</i></p>	<p>Noise from the proposed KI Seaport may exceed the requirements of the Noise Policy for residents and tourism operators.</p>	<p>Chapter 18 and Appendix N of the Draft EIS presented the noise assessment for the proposed operation, including the contribution of the on-site electricity generation infrastructure. As noted, this demonstrates that, without further mitigation, the predicted noise levels would exceed the night time criterion nominated in the EPP Noise.</p> <p>Clause 20(6) of the Noise Policy permits the EPA to approve operations that are predicted to exceed the relevant noise criterion, after consideration of mitigating circumstances. These were detailed in Table 18-5 of the Draft EIS and demonstrate that there is not likely to be a significant noise impact associated with the Project.</p> <p>Further, with the change in Project configuration subsequent to the EIS submission, some noise sources have been moved further from sensitive receptors, and thus the described noise levels are considered to be a worst case scenario and actual (as-built) noise levels are expected to be less than presented in the Draft EIS.</p>

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649	1044	NOISE AND LIGHT Underwater noise effects and impacts <i>Impact on marine ecology</i> (EPBC related)	The potential impacts of marine construction noise on shellfish and other non-whale marine fauna should be investigated in accordance with the requirements of the various international conventions and standards.	<p>In formulating a response to this submission, KIPT's noise consultant reviewed the documentation mentioned in the feedback, specifically the Convention on Migratory Species (CMS) Noise EIA Guideline for Construction Works, CMS Noise EIA Guideline for Shipping Vessels Traffic, and CMS Noise EIA Guidelines Technical Support Information modules B.1, B.3, B.5, B.10, B.11 and B.12.</p> <p>The submission contends that "much of the information falls short of what is now accepted as marine species vulnerability to ocean noise. Importantly, impact to marine species extends beyond impact to hearing, especially for fish and shellfish".</p> <p>It should be noted that the EPBC Referral for the project does not list any fish (other than Great White Sharks) or shellfish as Threatened Species under the EPBC Act, which may occur or have habitat occurring within 10 km of the project site. There are a number of listed (non-threatened) fish species specified in the Referral, with 16 of these identified as possibly occurring within 10 km of the project site. There are no listed shellfish occurring within 10 km of the project site. The assessment presented in Chapter 18 and Appendix N of the Draft EIS focussed on the relevant species listed as Threatened under the EPBC Act.</p> <p>This assessment did consider behavioural response impacts to the relevant species, in addition to damage to hearing or other organs (e.g. refer to Appendix N of the Draft EIS, Table 16: Adopted underwater noise criteria). The criteria adopted in the assessment (including for behavioural response) are based on the same studies cited in CMS Noise EIA Guidelines, in particular NOAA Marine Mammal Acoustic Technical Guidance, and the Sound Exposure Guidelines for Fishes and Sea Turtles (Popper et al., 2014).</p> <p>In relation to the behavioural response for fish species, the CMS Noise EIA Guidelines cite Popper et al (2014) and note that due to the lack of experimental evidence, the subjective likelihood of an impact occurring is presented, rather than specific sound level thresholds. This approach was also adopted in the Draft EIS assessment. It should be noted that fish with swim bladders generally have additional sensitivity to noise (compared to species with no swim bladder), and typically have a high risk of behavioural response at near (tens of metres) and intermediate (hundreds of metres) distances from an impulsive source, and moderate risk far (thousands of metres) from an impulsive source. These criteria were not listed in Table 16 due to the non-threatened status of these species. It should also be noted that the Marine Ecological Assessment (6 September 2016) does not consider there is a credible risk to any fish species, based on distribution within the study area and availability of alternative habitat.</p>
654	128	CLIMATE CHANGE AND SUSTAINABILITY Climate change effects and impacts <i>Project design related to seagrass removal</i>	Destruction of sea grass is of concern for climate change. Reports indicate that preservation and promotion of sea grass and coastal marine environments is crucial in climate damage mitigation.	The changes to the in-sea structures presented and assessed in the Addendum to the Draft EIS (i.e. replacing the causeway structure with a piered jetty and eliminating the need for dredging) means the vast majority of seagrass will not be disturbed. The minor area of seagrass that would be removed under the new configuration would have no measurable impact on climate change.

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655	956	CLIMATE CHANGE AND SUSTAINABILITY Climate change effects and impacts <i>Specific impacts to Kangaroo Island</i>	The impacts of climate change described in the EIS may not be specific and/or current to Kangaroo Island and therefore the conclusions regarding the impact of climate change may not be accurate.	The greenhouse gas assessment for the Project was presented in Chapter 19 of the Draft EIS and demonstrated that the Project would have a negligible effect on South Australia and Australia's existing and projected greenhouse gas emissions (0.007% and 0.0003%, respectively). The 2015 literature used in setting the context for the greenhouse gas assessment in the EIS uses the current IPCC modelling outcomes which have not been updated in the time since publication, and therefore represent the current state of understanding of the potential effects of climate change on Kangaroo Island. Further, the Draft EIS did describe the existing Kangaroo Island Climate Change Position Statement which has been developed and endorsed by the Kangaroo Island Council and the Kangaroo Island NRM Board. The CO ₂ emissions from sources other than those assessed (such as emissions from the decomposition of putrescible wastes generated from the 20 personnel working on site), were excluded because they are trivial in the context of the diesel consumption-related emissions, and would represent a negligible increase in the existing waste-related emissions associated with the current Kangaroo Island waste management processes.
656	559	ECONOMIC ENVIRONMENT Benefits to KI <i>Alternatives to plantation timber</i>	The economic benefits have been over-estimated. A better outcome for the local community would be to harvest the trees and return the land to farming.	The estimates of economic impact were based on the input-output method (I-O), which is typically used by the South Australian government and local government to estimate the impact of new developments on a regional economy. For example, the Kangaroo Island Council used the same model to assess the economic impact of redeveloping the Kangaroo Island airport. The Draft EIS includes a per hectare comparison of the existing contribution of agriculture and the estimated contribution of forestry (refer p 445). This shows the employment intensity of forestry (i.e. jobs per 1000 hectares) is 230 per cent higher than agriculture, and the contribution in terms of gross regional product and household income is more than double.
658	1055, 956	ECONOMIC ENVIRONMENT Benefits to KI <i>Cost of road upgrades and maintenance</i>	Kangaroo Island residents/KI Council should not have to foot the bill for the cost of road upgrades and maintenance. The economic analysis doesn't include costs of upgrading the roads nor a commitment to fund them. There is also no consideration of the costs to Yumbah or the island economy if there are negative impacts on Yumbah's production/capacity to expand.	KIPT agrees with the general proposition that ratepayers should not be responsible for maintaining the roads which will be used to transport timber products to Smith Bay and from the outset KIPT has made this clear to the Kangaroo Island Council. However, KIPT is also one of the largest ratepayers on the Island (if not the largest), and the company encourages that these funds at least could be spent on the roads. Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot. KIPT believes that the injection of public funds from these sources into the upgrade and maintenance of a defined transport route is justifiable and appropriate The economic consequences if the seaport were to adversely affect Yumbah is explicitly addressed in the Draft EIS (see p 448-449). The analysis presented in the Draft EIS and the accompanying Addendum however shows there is no credible argument that the seaport and Yumbah's aquaculture operations cannot co-exist. The design of the in-water structures has been changed in response to feedback from Yumbah. KIPT has adopted the design recommended by Yumbah, which eliminates the need for dredging. Yumbah has recently committed to investing in its Smith Bay facility.

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659	1115	ECONOMIC ENVIRONMENT Benefits to KI <i>Costs to community</i>	Is it financially viable for the seaport to only be active a few weeks a year? Who will pay for the maintenance of the port, and who will pay for biosecurity?	KIPT will own the port infrastructure and will be responsible for its maintenance. These costs have been included in the numerous financial studies of the development which have been undertaken since the project was first conceived. All of these studies show the KI Seaport is financially sustainable even if it is only used to export the current estate of plantation timber on the island. Biosecurity measures agreed between KIPT and relevant SA agencies and incorporated into the proposed Biosecurity Management Plan and Marine Pest Management Plan will be implemented and funded by KIPT. The management of biosecurity issues arising from ballast water discharge and vessel biofouling will occur under relevant Commonwealth and State legislation and will be government funded under normal budgetary allocations.
660	1054, 128, 447, A54	ECONOMIC ENVIRONMENT Benefits to KI <i>Economic assessment methodology</i>	The economic benefits are overstated. The economic assessment does not consider cross-economy impacts, doesn't account for cost of transportation or impacts on other industries. There is an unexplained discrepancy between the number of jobs New Forest claimed and the number KIPT claim.	The estimates of economic impact were based on the input-output method (I-O), which is typically used by the South Australian government and local government to estimate the impact of new developments on a regional economy. This approach was agreed with the South Australian government before the assessment was commissioned, and the Kangaroo Island Council used the same model to assess the economic impact of redeveloping the Kangaroo Island airport. The economic benefits extend beyond the operation of the port itself and include the full array of benefits which accrue when harvesting begins including harvest operations, haulage, plantation management, and an expansion of KIPT's corporate functions on Kangaroo Island. The particular model used for this assessment, known as an extended RISE model, ensures the cost impacts on other industries is assessed when determining the net economic outcomes, and also enables the impact of employment growth on local population levels to be assessed. KIPT does not have access to economic modelling conducted by New Forests Asset Management.
662	1115, 779	ECONOMIC ENVIRONMENT Benefits to KI <i>Economic sustainability of commercial forestry</i>	At the stroke of a pen the market for woodchips could be completely changed, leaving KIPT with an unused wharf that still requires maintenance. The export markets for woodchips are not a reliable. What will happen when prices drop, and new and more competitive markets develop elsewhere?	Every business in every industry on Kangaroo Island (apart from the public sector) faces the challenge of operating in a competitive market. All commodity markets (e.g. wheat, canola, barley, wool, lamb, timber) are subject to market variations, as is tourism. The market for woodchips is relatively stable and predictable because the supply of woodchips is not affected by seasonal variations (unlike all other agricultural commodities produced on Kangaroo Island), and bluegum attracts a premium in the market because it is the most versatile input into a range of wood-based products.
664	819	ECONOMIC ENVIRONMENT Benefits to KI <i>Forestry</i>	If the development is approved Kangaroo Island will become a forestry dominated mono-culture and the movement of A-double trucks around the island will destroy the incredible atmosphere that makes our island internationally renowned.	The total area of plantation timber of Kangaroo Island is approximately 20,000 ha, which is less than 6% of Kangaroo Island. There is no prospect of Kangaroo Island becoming a forestry mono-culture. The Draft EIS discusses a number of options which would reduce the impact of trucks hauling timber products from the plantations to Smith Bay, including the use of A-double trucks (to halve the number of vehicle movements); choosing a route along which these vehicles would be authorised to travel that maximises safety and minimises impacts on other road users, adjoining land users, and the environment; and upgrading the route to the necessary engineering standards to allow A-

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				<p>doubles to operate year-round. These matters are discussed in some detail in the Draft EIS (see pp 459-482 and in Appendix P).</p> <p>The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, which has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.</p>
665	1095, 1181, 1220, 559	ECONOMIC ENVIRONMENT Benefits to KI <i>Forestry on KI</i>	<p>The Kangaroo Island community wants the forestry land to turn back to agriculture. KIPT have taken advantage of people's perception that this development will remove forestry from Kangaroo Island.</p> <p>Plantations effect on catchments.</p>	<p>The same applies to independent tree growers. KIPT has always maintained it will apply the land to its highest and best use; the analysis shown in Chapter 20 of the Draft EIS (see Comparative economic contribution, p445) shows forestry is the most productive use of the land by a considerable margin. Accordingly, there are no plans to reduce the area of plantation timber on Kangaroo Island. Scale is essential to a commercially sustainable timber industry.</p> <p>Development of the KI Seaport would not remove forestry from Kangaroo Island. KIPT has invested in the timber assets on Kangaroo Island because Kangaroo Island has a natural advantage as one of the best locations in Australia to grow trees, and the development will underpin a commercially and environmentally sustainable forestry industry on Kangaroo Island.</p> <p>Trees existed on Kangaroo Island before European settlement, covering most of the Island. There is no sense in which a timber plantation negatively affects catchments. In fact, trees help reduce eutrophication of waterways caused by cropping and grazing.</p>
666	1196	ECONOMIC ENVIRONMENT Benefits to KI <i>Housing impacts</i>	<p>Where will KIPT's employees stay when there is a shortage of housing on KI?</p>	<p>The construction program is scheduled to take 15 months. The construction workforce would be no more than 15 people at any one time, and it is anticipated that their accommodation needs would be met from within the existing supply of short-term accommodation on Kangaroo Island.</p> <p>There is some scope in the short-to-medium term (i.e. the first 12-24 months of operations) for the increased demand for housing accommodation to be met from the existing market. In the medium-to-long term the influx of workers from off the island will stimulate demand for new housing and will cause some absentee homeowners to move their properties into the rental market.</p> <p>A study by the Office of the Commissioner for Kangaroo Island concludes that securing home loans is a key barrier to purchasing a home on Kangaroo Island. The mobilisation of forestry on a large-scale on Kangaroo Island will make this easier because: the majority of new jobs would be permanent and full-time and pay more than the average income on Kangaroo Island (an average of \$74,000 per job compared to the current average of \$57,000); the industry will provide a significant boost to the Island's economy (Gross Regional Product (GRP) will grow by 16%); forestry is a sustainable industry, and the benefits of increased GRP and household incomes accrue throughout the year (i.e. forestry is not seasonal like tourism and agriculture) which will have a beneficial impact on the housing market on Kangaroo Island by reducing the risk of lending and borrowing.</p> <p>In short, increased demand for housing is a benefit of the development and an example of the stimulatory effect of increased employment and economic activity.</p>
667	1187	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact of haulage operations</i>	<p>Properties along the traffic route to Smith Bay will be adversely affected and no one will want to buy our farms or our homes that are along the traffic route.</p>	<p>The volume of traffic, including heavy vehicle traffic, along Kangaroo Island's major roads, such as Hogs Bay Road, Playford Highway and South Coast Road, is significantly greater than the volume of traffic which will be generated by harvesting, and yet there is no evidence to suggest this has any material impact on the demand for properties which adjoin these routes.</p>

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668	1053, 1054, 1061, 1106, 761	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact of migration to KI jobs</i>	The economic benefits of the proposed seaport are over-stated because most of the jobs will be filled by people who aren't on KI. Bulk of the employment will be seasonal and be performed by low-skilled FIFO contractors who will not bring families with them.	<p>The development will create 234 ongoing FTE jobs on Kangaroo Island: 163 directly and 71 from the immediate flow-on effects (using 2020-21 figures, see Table 20.4 of the Draft EIS). Most of these jobs will be stable, permanent jobs because, unlike agriculture and tourism, forestry is not a seasonal activity.</p> <p>KIPT has stated its preference will be to employ Kangaroo Island residents. However, given the low rate of unemployment on Kangaroo Island, it is likely that a large number of the jobs will be filled by people not currently living on Kangaroo Island. KIPT expects people currently living on the mainland will move to Kangaroo Island with their families to take up employment, especially as forestry activities decline in the Southeast of SA and in southern WA. Immigration to the island as a result of the seaport will unambiguously benefit the Island, for the reasons outlined in the Draft EIS (see pp 445-447). Training will be provided, as required, to maximise the opportunities for Kangaroo Island residents who wish to work for the company and its contractors.</p> <p>Construction will be staged over approximately 24 months and there is no inconsistency in the statements about construction jobs. KIPT does not intend to establish a Fly In Fly Out (FIFO) operation.</p> <p>Chapter 20 of the Draft EIS makes it clear that most jobs will be full-time, including most of the jobs at the Smith Bay facility itself. When ships are berthed (10-20 times per annum estimated) the onsite workforce will increase to manage the ship-loading activities. Most of the employment, however, will be in harvesting in the plantations and haulage operations.</p> <p>The jobs created will be neither seasonal nor relatively low-skilled. Most of the employment at the seaport itself, and in plantation management, harvesting and haulage is stable, year-round, full-time employment which is independent of the number of vessels using the port. This is borne out by the impact on household income. Once operational, the development would result in household income of almost \$74,000 per FTE job, which is almost 30% higher than the Island's average of \$57,900 at present (refer Draft EIS p 444).</p>
669	A21	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on existing industries</i>	Impact on existing industries such as tourism and aquaculture.	<p>With the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that the development and Yumbah's onshore aquaculture operation cannot co-exist. Similarly, no credible evidence has been presented to show Yumbah cannot expand should it choose to do so, subject to Yumbah obtaining all necessary approvals. Yumbah have recently publicly announced a large investment for their Smith Bay operation.</p> <p>There is no credible evidence to support the claim that the development at Smith Bay will have any material impact on Kangaroo Island's tourism industry. The submission from Tourism SA does not support this claim. One of the advantages of Smith Bay is that it is well away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast. Molly's Run and Kangaroo Island Marine Adventures conduct tourist operations in the immediate vicinity of an industrial-scale onshore abalone farming operation run by Yumbah. This has not negatively affected their business and there is no evidence to suggest that the proposed KI Seaport, which is further away, and less visible, from Molly's Run, would either.</p>

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670	679	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on fishers</i>	The wharf would have a direct impact on the income of two fishers, and KIPT has failed to estimate the impact on the income of two fishers and has not indicated how these losses will be mitigated.	The impact on two commercial fishers who fish in Smith Bay is discussed on p 449 of the Draft EIS.
672	1056, 447, 867, A54	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Molly's Run</i>	The seaport will have an adverse impact on the environment of Smith Bay, and on Molly's Run. The impact of dust and noise, and the risks to tourism, will force Molly's Run to close.	<p>The evidence presented in the Draft EIS shows the impact of dust and noise on Molly's Run will be minimal. Molly's Run is directly opposite Yumbah's on-land aquaculture facility at Smith Bay. The full extent of Yumbah's 6 ha of shade cloth are clearly visible from Molly's Run, and noise from Yumbah's pumps, which operate continuously, is clearly audible from the front door of the house, yet these impacts do not seem to have adversely affected Molly's Run.</p> <p>The risk to tourism from interactions with logging trucks can be reduced significantly by, amongst other things, permitting the use of high productivity vehicles such as B-doubles or A-doubles (to reduce the total number of vehicle movements), and selecting a 'core route' that these vehicles would use which minimises the interaction with other traffic e.g. by enabling trucks to access Smith Bay from the west rather than the east. These options are discussed more fully in Chapter 21 of the Draft EIS.</p>
673	819	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Molly's Run consultation</i>	KIPT has not consulted with Molly's Run (a nearby tourism accommodation business), which will be adversely affected by the development. Who will compensate us for our losses?	Executives from KIPT have had face to face and telephone discussions with the proprietors of Molly's Run. The first of these discussions was in 2016, and at that meeting KIPT's Approvals Manager indicated the company's willingness to meet at any time which suited Molly's Run. The extent of consultation since then has been determined by Molly's Run. There is no evidence of any compensable losses.
674	1056, 1214, 1217, 1220, 559, 599, 601, 678, 681, 867, A21, A83(1), A83(2), A83(3)	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on tourism (EPBC related)</i>	All eco-tourism businesses operating in and around the North Coast will be adversely affected because of the impacts which the seaport will have on visual amenity, noise, dust, light, loss of marine and avian species, dangerous travelling conditions and an increase in roadkill. The development will have a negative impact on Kangaroo Island's reputation which will have a flow-on effect on all SA tourism. It does not properly consider the impact of the development on the tourism industry, especially the growth of tourism on the north coast of KI.	Smith Bay is not a primary destination for tourists to Kangaroo Island. There is no credible evidence to support the claim that the development at Smith Bay will have any material impact on Kangaroo Island's tourism industry, and the submission from Tourism SA does not support that claim. One of the advantages of Smith Bay is that it is an industrialised site that is well away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast.

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675	1054	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on tourism forestry</i>	Tourism and forestry cannot co-exist on a small island.	Commercial forestry was established on Kangaroo Island in the early 2000s to give effect to national policy aspirations to promote large-scale plantation forestry, create regional employment opportunities and protect native forests. After careful consideration, both the South Australian Government and the Kangaroo Island Council supported this development. Supportive state government policies actively encouraged farm forestry, and also encouraged private-sector investment in so-called managed investment scheme (see Draft EIS, Section 2.2). There is no credible evidence to support the claim that the development at Smith Bay will have any material impact on Kangaroo Island's tourism industry. The submission from Tourism SA does not support this claim. One of the advantages of Smith Bay for the proposed seaport is that it is an industrialised site that is well away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast.
677	681	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on tourism job loss/growth</i>	Will this development lead to net job growth or net job losses for SA?	The estimates of economic impact were based on the input-output method (I-O), which is typically used by the South Australian government and local government to estimate the impact of new developments on a regional economy. For example, the Kangaroo Island Council used the same model to assess the economic impact of redeveloping the Kangaroo Island airport. The employment estimates presented in the Draft EIS represent net job growth. The economic contribution of the development will be the equivalent of 29 years' growth at the current rate of growth.
678	1106	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on tourism KI's reputation</i>	KI cannot be marketed as a 'pristine and unique nature experience' if the development is approved.	There is no credible evidence to support the claim that the development at Smith Bay will have any material impact on Kangaroo Island's tourism industry, and the submission from Tourism SA does not support that claim. One of the advantages of Smith Bay is that it is well away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast. The western end of Smith Bay has been industrialised for more than two decades; the site of the proposed seaport had been developed as an on-land aquaculture farm, and Yumbah's current facility has been operating since 2000. The landscape of Smith Bay is dominated by 6 ha of shade cloth enclosing Yumbah's industrial aquaculture operation. KIPT believes that it is better to concentrate industrial developments at one location rather than develop in pristine locations elsewhere on the island. The Kangaroo Island Development Plan supports this approach.
679	1086, 1117, 122, A23, A41	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Yumbah</i>	The economic benefits are overstated because the analysis ignores the direct losses which the project will cause to Yumbah's existing operation and the impact on Yumbah's future operations. The development will result in the closure of Yumbah and job losses.	With the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that Yumbah will close if the development proceeds, or that the development and Yumbah's on-land aquaculture operation cannot co-exist. The development will have no material impact on aquaculture activities on Kangaroo Island. Similarly, no credible evidence has been presented to show Yumbah cannot expand should it choose to do so, subject to Yumbah obtaining all necessary approvals. Should Yumbah choose to close its operation on Kangaroo Island, that will have nothing to do with the KI Seaport.

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681	1054, 1086, 707, 867, 956, A54	ECONOMIC ENVIRONMENT Benefits to KI <i>Impact on Yumbah expansion plans</i>	The economic benefits are overstated because they do not account for the lost opportunity when Yumbah shelve its expansion plans when the seaport is built. The development is preventing Yumbah from expanding its KI operations. The development will have numerous impacts on Yumbah which cannot be mitigated.	The Draft EIS explicitly quantifies the direct economic impact if Yumbah closes (see Draft EIS, pp 448-449). However, with the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that Yumbah will close if the development proceeds, or that the development and Yumbah's on-land aquaculture operation cannot co-exist. Similarly, no credible evidence has been presented to show Yumbah cannot expand should it choose to do so, subject to Yumbah obtaining all necessary approvals. The Draft EIS complies with the requirements in the Guidelines, which require an assessment of current aquaculture operations, not unknown and undisclosed future plans. Arguments about the loss of future benefits because of stalled investment are irrelevant to the assessment process because there is no objective evidence of such plans e.g. a planning application. No-one from State Government has at any time referred to any planned expansion or suggested that such plans are to be considered in the Draft EIS, or the response document. Nor is there any evidence that such plans, if they existed, would in any way be affected by the presence or absence of the proposed KI Seaport, which has been re-designed in accordance with Yumbah's recommendations.
685	599	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts on economy</i>	The development will adversely affect Kangaroo Island's image, and will not provide jobs, income or other benefits for the island.	For more than two decades, the Commonwealth Government and all state governments, including the South Australian government, have supported the development of large-scale plantation forestry to protect Australia's native forests and the biodiversity which they contain, and create sustainable regional economies. Rather than detract from the Island's clean and green image, plantation forestry gives meaning and credibility to that claim. The Draft EIS shows (see p 444) the expected annual average contribution to Kangaroo Island's economy (i.e. Gross Regional Product (GRP)) will be around \$42 million \$35 million directly and \$7m indirectly. Household income (i.e. wages and salaries) is a component of GRP. Household income on Kangaroo Island will grow by around \$16.2 million per annum, which is a direct injection of spending into the Kangaroo Island economy of more than \$300,000 each week. The development of plantation forestry would also broaden Kangaroo Island's economic base, which has been a long-standing objective of both the state government and the Kangaroo Island Council.
686	1061, 1068	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts on existing businesses</i>	The economic impacts could be disastrous for Yumbah, tourism and fishing. Threatens local jobs.	The economic impact of the development on Kangaroo Island will be substantial, equivalent to 29 years of economic growth at current rates. In addition, the development will stimulate population growth, increase the demand for new housing and make the Kangaroo Island economy more resilient, particularly in the face of the seasonal and cyclical economic variations that affect all small regional economies. There is no credible argument that the seaport will have any adverse impact on tourism, aquaculture or commercial and recreational fishing on Kangaroo Island.
687	1217, 865, A21	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts on existing industries</i>	Economic viability and returns to the Island will not outweigh the costs and possible impact on nature and biodiversity and existing industries that have supported Kangaroo Island to date.	Chapter 20 of the Draft EIS outlines the economic benefits to the island, including the impact on tourism and aquaculture. The impacts on nature and biodiversity are discussed in other chapters including Chapters 9-19.

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688	1095, 540, 586, A99	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts on KI's clean/green reputation and economy</i>	The proposed KI Seaport will risk Kangaroo Island's economic advantage of being a relatively pest free, clean and green environment and will also threaten tourism and aquaculture on the island.	<p>Although Kangaroo Island promotes its clean and green image, few businesses actually acknowledge and account for their contribution to carbon emissions and climate change.</p> <p>Plantation timber is a renewable and recyclable resource and is energy-efficient to produce. Timber acts as a carbon store, giving it an important role to play in reducing carbon emissions.</p> <p>Trees sequester or store carbon which has been emitted into the atmosphere. The amount of carbon stored is measured in terms of the equivalent amount of atmospheric carbon dioxide (CO₂-e.) The Draft EIS shows (see p 432-433) KIPT's plantations sequester approximately 6.8 million tonnes of CO₂-e. This amount remains relatively stable over the life of the plantations as individual plantations would be replanted or coppiced (i.e. grow again from the stumps) after harvest.</p> <p>The Draft EIS estimates KIPT will generate 1360 tonnes of CO₂-e of greenhouse gas emissions from operating the port (i.e. direct or Scope 1 emissions), and 340 tonnes of CO₂-e of greenhouse gas emissions from transporting timber products by road to Smith Bay (i.e. indirect or Scope 3 emissions). The total emissions represent 0.00025% of the carbon captured in the plantation timber. Rather than detract from the Island's clean and green image, plantation forestry gives meaning and credibility to that claim.</p> <p>For more than two decades, the Commonwealth Government and all state governments, including the South Australian government, have supported the development of large-scale plantation forestry to protect Australia's native forests and the biodiversity which they contain, and create sustainable regional economies. Governments recognise the social, economic and environmental values of sustainable timber plantations.</p> <p>With the proposed changes to the design of the in-water infrastructure, which were suggested by Yumbah, there is no credible argument that the development and Yumbah's on-land aquaculture operation cannot co-exist.</p> <p>There is also no evidence to support the claim that the development at Smith Bay will have any material impact on Kangaroo Island's tourism industry. The submission from Tourism SA does not support this claim. Smith Bay itself is not a tourist destination, and one of the advantages of Smith Bay is that it is an industrialised site that is well away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast.</p>
689	1181, 867	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts on surrounding businesses</i>	The principals of three businesses in the vicinity of the development, (Yumbah, Molly's Run and Kangaroo Island Marine Adventures) believe the proposal will ruin their businesses.	Chapter 20 of the Draft EIS addresses the economic environment and potential impacts as a result of the proposed development, including impacts on existing aquaculture, tourism, and commercial and recreational activities in the vicinity of the proposed development. The impacts on nature and biodiversity, which these activities rely on, are discussed in other chapters including Chapters 9-19.
690	A23, A59, A73, A78	ECONOMIC ENVIRONMENT Benefits to KI <i>Impacts on surrounding businesses</i>	The development will adversely affect Yumbah and many nearby small businesses.	<p>Chapter 20 of the Draft EIS addresses the economic environment and potential impacts as a result of the proposed development, including impacts on existing aquaculture, tourism, and commercial and recreational activities in the vicinity of the proposed development. The impacts on nature and biodiversity, which these activities rely on, are discussed in other chapters including Chapters 9-19.</p> <p>There is no credible argument that the seaport will have any material adverse impact on Yumbah KI or the very small number of nearby small businesses. The economic impact of the development on Kangaroo Island will, however, be substantial, equivalent to 29 years of economic growth at current</p>

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				rates. In addition, the development will stimulate population growth, increase the demand for new housing and make the Kangaroo Island economy more resilient, particularly in the face of the seasonal and cyclical economic variations that affect all small regional economies.
693	867	ECONOMIC ENVIRONMENT Benefits to KI <i>Socio-economic impacts cascade effect</i>	Loss of income to Kangaroo Island Marine Adventures and other businesses would create a cascade of negative impacts on the KI economy this is not properly addressed in the EIS.	There is no credible argument that the seaport will result in the loss of income for Kangaroo Island Marine Adventures or any other businesses, nor create a cascade of negative impacts on the KI economy. Chapter 20 concludes that Kangaroo Island would benefit economically from the development. .
694	586	ECONOMIC ENVIRONMENT Benefits to KI <i>Socio-economic impacts environment and roads</i>	The promise of jobs does not outweigh the environmental impacts, that will result from allowing such a development. The roads will be destroyed who will pay for them?	The Draft EIS shows the development would have minimal impact on the Kangaroo Island environment. The Draft EIS discusses a number of options which would reduce the impact of trucks hauling timber products from the plantations to Smith Bay, including the use of A-double trucks (to halve the number of vehicle movements); choosing a route along which these vehicles would be authorised to travel that maximises safety and minimises impacts on other road users, adjoining land users, and the environment; and upgrading the route to the necessary engineering standards to allow A-doubles to operate year-round. These matters are discussed in some detail in the Draft EIS (see p 459 482) and in Appendix P. The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, which has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.
696	417, 559	ECONOMIC ENVIRONMENT Benefits to KI <i>Socio-economic impacts only benefit to private entity</i>	I am not in support of a harvesting solution that delivers benefit only to the private entity and not to the community the entity's proposal is dividing. There would be significant potential economic losses.	The economic impact of the development on Kangaroo Island will be substantial, equivalent to 29 years of economic growth at current rates. In addition, the development will stimulate population growth, increase the demand for new housing and make the Kangaroo Island economy more resilient, particularly in the face of the seasonal and cyclical economic variations that affect all small regional economies. There is no credible argument that the seaport will have any adverse impact on tourism, hospitality or agriculture on Kangaroo Island.
697	1066	ECONOMIC ENVIRONMENT Benefits to KI <i>Socio-economic impacts other businesses</i>	Development on KI is supported, but not at the cost of existing, sustainable businesses.	Noted. Chapter 20 of the Draft EIS addresses the economic environment and potential impacts as a result of the proposed development, including impacts on businesses regionally, which includes those associated with agriculture and tourism; and the existing aquaculture, tourism, and commercial and recreational businesses in the vicinity of the proposed development. The impacts on nature and biodiversity, which many businesses and activities rely on, are discussed in other chapters including Chapters 9-19.
699	FL3	ECONOMIC ENVIRONMENT Benefits to KI <i>Socio-economic impacts workforce</i>	KIPT's claim that 230 FTE will be created is truly incredible. By comparison, two others much larger wood chipping facilities at the Port of Portland in Victoria and at Bunbury Fibre Exports in Bunbury, Western Australia employ less than	Direct employment depends upon the business model, the degree of vertical integration and the extent to which contractors are used. The two large wood chipping facilities at the Port of Portland in Victoria and a Bunbury Fibre Exports in Bunbury, Western Australia, referred to by the Respondent are not directly comparable enterprises with each other or with KIPT. Therefore, their employment numbers would differ between the three companies.

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			70 and 16 full time employees respectively. The entire workforce of OneFortyOne Plantations totals 64 FTE managing 80,000 hectares of Green Triangle plantations.	
700	821	ECONOMIC ENVIRONMENT Benefits to KI <i>Third-party use agriculture</i>	The port will provide no benefits for agriculture.	There will be considerable spare capacity available for third parties to use the port; KIPT expects ships would be berthed to load timber for about 20% of the time. The facility has been designed to accommodate vessels in a wide variety of weather conditions; rough weather is not expected to have any significant impact on the ability of vessels to use the seaport. Hence, the port would provide future opportunities and benefits for agriculture.
701	1055	ECONOMIC ENVIRONMENT Benefits to KI <i>Third-party use viability</i>	The volume of freight will be too low for the port to be of benefit to other industries, and grain could not be exported from the seaport without further infrastructure.	The port does not depend on third party cargo to be commercially viable. There will be considerable spare capacity available for third parties to use the port, should they choose to do so. Grain can be loaded from the same conveyor and ship loading system as woodchips, providing that the system is handed over clean. This occurs at a number of Australian ports. Such use, and the erection of the necessary silos, would be the subject of a separate planning application.
703	1115, 1117, 822	ECONOMIC ENVIRONMENT Benefits to KI <i>Veracity of the economic modelling costs</i>	The benefits for Kangaroo Island are over-stated. The EIS's social cost/benefit analysis does not provide a full valuation of the costs. The modelling of economic impacts should include ecosystem and biodiversity values. Financial modelling is needed including a better grasp of costs rather than presumed benefits.	The Draft EIS shows the development will have minimal impact on the Kangaroo Island environment. The estimates of economic impact were based on the input-output method (I-O), which is typically used by the South Australian government and local government to estimate the impact of new developments on a regional economy. For example, the Kangaroo Island Council used the same model to assess the economic impact of redeveloping the Kangaroo Island airport. Similarly, the cost-benefit study, which compares the net benefit of developing the seaport at Smith Bay with the net benefit of developing a port at Cape Dutton, was specifically requested by the South Australian government and the methodology used was endorsed before the assessment was undertaken. Both studies were approved by government agencies as meeting the requirements of the EIS Guidelines before the Draft EIS was released for public consultation
704	417	ECONOMIC ENVIRONMENT Benefits to KI <i>Veracity of the economic modelling Distributional (Equity) Effects study</i>	The Draft EIS does not include a Distributional (Equity) Effects study of the negative impacts on the residents of Smith Bay and northern Kangaroo Island.	The Guidelines do not require this. The Draft EIS uses an extended input-output model to assess the economic impacts of the proposed development. A cost-benefit study was also used to determine the net benefit of the proposed development. Both are widely accepted assessment tools, and their relevance to this assessment has been agreed with the SA government. Broader direct and indirect social impacts arising from the proposed development have been addressed in Chapter 22 of the Draft EIS.

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710	345	ECONOMIC ENVIRONMENT Smith Bay <i>Impact on existing businesses</i>	Needs to not encroach on existing business/residents.	One of the reasons for selecting the site at Smith Bay was because it had been used for industrial purposes previously (it was the site of a failed on-shore aquaculture facility), and is adjacent to Yumbah's onshore aquaculture facility, which is a substantial presence in the western end of Smith Bay. KIPT believes co-locating large scale industrial developments minimises the impact on the Kangaroo Island community, particularly along the north coast, west of Kingscote, and is a better option than developing in an otherwise pristine location elsewhere on the north coast or adjacent to a population centre.
712	1059, 1182	TRAFFIC AND TRANSPORT Funding road upgrades and maintenance <i>KIPT's contribution</i>	KIPT appeared to indicate that it was their intention to fully self-fund all road upgrades. Why has this apparent reversal of previous commitments has occurred?	KIPT indicated its willingness to fund the repairs and maintenance for the 'feeder roads' which connect the plantations to the main or core haulage route, as occurs elsewhere in SA, including in the green triangle. This remains KIPT's position.
713	417, 42, 586, A15, A79	TRAFFIC AND TRANSPORT Funding road upgrades and maintenance <i>Site selection</i>	The road issues have not addressed adequately, and Smith Bay is not the right choice. The port is poorly placed to be a piece of regional infrastructure and thus should not warrant or attract regional freight route funding. Why was the issue of alternative transport routes and their cost impacts not incorporated into the selection of the location for the port?	Traffic and transport impacts, including the cost of upgrading and maintaining the roads, were relevant factors influencing the selection of Smith Bay as the preferred site for the development. Many other factors influenced the decision. Ch3 of the Draft EIS summarises the process used to select Smith Bay. KIPT stands by this analysis; Smith Bay is the best location for the development. Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads.
714	1368	TRAFFIC AND TRANSPORT Funding road upgrades and maintenance <i>Site selection</i>	Give the drawbacks of other port sites closer to the forests it is better to address the road issues with serious engineering and funding than to withdraw support for the port at Smith Bay.	KIPT agrees.
715	1054, 1055, 1059, 1061, 1095, 1115, 1180, 1181, 1182, 1185, 1220, 128, 345, 417, 559, 599, 678, 761, 821, A12, A36, A73, FL3, FL5	TRAFFIC AND TRANSPORT Impact on roads <i>Funding road upgrades and maintenance</i>	The roads on Kangaroo Island are in no condition to handle these heavy vehicles, and ratepayers should not have to fund the necessary upgrades and maintenance. Who will fund this work?	KIPT agrees with the general proposition that ratepayers should not be responsible for maintaining the roads that will be used to transport timber products to Smith Bay and from the outset KIPT has made this clear to the Kangaroo Island Council. However, KIPT is also one of the largest ratepayers on the Island and would encourage Council to spend these funds on roads. Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot. Similar to existing industries that contribute to the regional and state economy, such as tourism and agriculture, plantation timber could also initiate the injection of funds from the Commonwealth, State and local governments to support the growth of industries, including investment in road upgrades.

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717	822	TRAFFIC AND TRANSPORT Road safety <i>Funding and implementation</i>	KIPT say road safety guidelines will be required to mitigate the risk of crashes due to the timber haulage operation. Who will pay and who will implement these?	KIPT commissioned the Centre for Automotive Safety Research to develop a set of complementary options to improve the safety of the timber haulage operations (See Draft EIS Section 21.5.5). These include safer roads, driver competency and training, in-vehicle technological aids and safer speeds. As outlined in the Draft EIS, KIPT anticipates these options would be negotiated with the Kangaroo Island Council and the South Australian Government as part of continuing discussions regarding the haulage operations.
718	678, 681	TRAFFIC AND TRANSPORT Road safety <i>Impact of bad weather and extreme events</i>	Will the harvest be delayed during times of extreme bushfire risk/extreme weather? Will this result in surges in transport activity? Will it require alternate routes due to road closures?	KIPT will, at all times, be responsible for scheduling truck movements to account the ever-changing impact of factors such road conditions, weather conditions, light, the seasonal pattern of road use (e.g. tourists and school buses) and the proximity and behaviour of wildlife. These responsibilities will also apply to KIPT's haulage contractors. Bushfires and some extreme weather events may cause some short-term delays in harvesting, and direct impacts to plantations or the road network may require some short-term adjustments to the harvest plans and the associated transport schedule. The rationale for establishing a woodchip stockpile and log storage facility at Smith Bay, however, is to ensure there is generally sufficient stock available at the seaport to ensure such events have no impact beyond the short-term and no material impact on the commercial viability of the underlying forestry business.
720	1095, 1181, 1186, 1187, 678, A40, FL5	TRAFFIC AND TRANSPORT Road safety <i>Impact on school buses</i>	The trucks will present risks to school buses using the same route, which is extremely hazardous to school children. KIPT has promised to not have trucks on the road at school bus drop off times. Will this be a legal agreement? Will new owners be required to adhere to this arrangement?	KIPT agrees safety should be the highest priority when considering the various options for transporting timber products to Smith Bay. KIPT (and its sub-contractors) will implement appropriate management controls to address this risk once operations begin, in consultation with the TSU and Kangaroo Island Community Education.
721	417	TRAFFIC AND TRANSPORT Road safety <i>Impact on tourism</i>	The KIPT EIS should clearly set out the numbers and the risk of accident and injury by combining tourists and very heavy freight vehicles.	KIPT agrees road safety should be the highest priority when considering the various options for transporting timber products to Smith Bay. The Draft EIS provides various estimates to illustrate the traffic and transport impacts. However, it is not possible to provide precise figures because there are a number of variables over which KIPT has no control. The frequency of truck movements is a function of several factors such as the volume of timber product to be delivered to Smith Bay (which varies from year to year, but is estimated to be 600,000 tonnes per annum on average), vehicle size and capacity (using A-doubles will halve the number of vehicle movements), and operating hours (restrictions on operating hours will increase the frequency of vehicle movements). The total kilometres travelled per annum is a function of the volume of timber products to be delivered to Smith Bay, vehicle size and capacity, and the proximity of the harvested plantation to Smith Bay. The Draft EIS presents a comprehensive set of options to reduce the risks associated with the timber haulage operation (see Section 21.5.5). These include the use of high-productivity vehicles

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				<p>(which could potentially halve the total number of truck movements), safer roads (a defined route designed to handle high productivity vehicles safely), driver competency standards and training, in-vehicle technological aids and safer speeds.</p> <p>No comprehensive solution to the various traffic and transport issues can be achieved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT.</p>
722	1059, 1181	TRAFFIC AND TRANSPORT Road safety <i>Impact on tourism</i>	KIPT claims that it may be possible for funding for joint tourist/haulage routes, but then states it should be possible to dissuade tourists from using these routes and that locals will learn to avoid these roads. These statements appear to be contradictory and require clarification.	<p>One of the advantages of the location of Smith Bay on the north of the Island is that conflict with the most heavily used roads and the main tourism routes is minimised. Nonetheless, all of the public roads which KIPT would use to deliver timber products to Smith Bay would be used, to varying degrees, by tourists as well.</p> <p>There is no traffic and transport option which will have no impact on other road users, just as there is no option where the growth of tourism and tourist numbers (for example) will not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities.</p> <p>That tourism and forestry can safely co-exist is demonstrated by the experience elsewhere in South Australia, including the Adelaide Hills and the South East.</p> <p>Tourists travelling on Kangaroo Island roads could be provided with information (e.g. road safety messages on the Sea Link ferry, and appropriate signage on specific roads) to alert them to the risks and suggest alternative routes which they may prefer to use.</p>
723	1059, 1095, 1167, 1181, 1182, 540, 678, 681, 819, A66, FL5	TRAFFIC AND TRANSPORT Road safety <i>Impact on tourists and tourism</i>	Tourists may be inexperienced in driving on unsealed roads, distracted, and not be used to driving on the left side of the road. There are also a growing numbers of tourist coaches and bicyclists. KIPT offers no strategies to reduce the level of risk faced by visiting tourists. The impact on the tourism industry cannot be overstated.	<p>KIPT agrees safety should be the highest priority when considering the various options for transporting timber products to Smith Bay.</p> <p>One of the advantages of Smith Bay's location on the north of the Island is that potential conflict with the most frequently used roads, including main tourism routes, minimises interactions with between KIPT traffic and other traffic. Nonetheless, there is no traffic and transport option which will have no impact, just as there is no option where the growth of tourism and tourist numbers (for example) will not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities.</p> <p>It is not possible to eliminate the risk of crashes and harm that is the consequence. The challenge is to determine the best way to manage and mitigate these risks and impacts.</p> <p>The Draft EIS presents a comprehensive set of options to reduce the risks associated with the timber haulage operation (see Section 21.5.5). These include the use of high-productivity vehicles (which could potentially halve the total number of truck movements), safer roads (a defined route designed to handle high productivity vehicles safely), driver competency standards and training, in-vehicle technological aids and safer speeds.</p> <p>KIPT would fund some of these initiatives such as the purchase of the high-productivity vehicles, driver competency training and the fitting of in-vehicle technological aids. Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads. As outlined in the Draft EIS, KIPT anticipates these options would be negotiated with the Kangaroo Island Council and the South Australian Government as part of continuing discussions regarding the haulage operations.</p>

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724	1059, 1095, 1182, 305, 345, 432, 678, 956, FL5	TRAFFIC AND TRANSPORT Road safety <i>Road crashes</i>	The risk of road accidents and fatalities will increase. Other than mentioning the increased number of accidents per annum, the EIS is mute on how this risk will be managed.	<p>KIPT agrees safety should be the highest priority when considering the various options for transporting timber products to Smith Bay.</p> <p>One of the advantages of the location of Smith Bay is that conflict with the most heavily used roads and the main tourism routes elsewhere on the Island is minimised. Nonetheless, there is no traffic and transport option which will have no impact, just as there is no option where the growth of tourism and tourist numbers (for example) will not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities.</p> <p>It is not possible to eliminate the risk of crashes and harm that is the consequence. The challenge is to determine what is the best way to manage and mitigate these risks and impacts.</p> <p>The Draft EIS presents a comprehensive set of options to reduce the risks associated with the timber haulage operation (see Section 21.5.5). These include the use of high-productivity vehicles (which could potentially halve the total number of truck movements), safer roads (a defined route designed to handle high productivity vehicles safely), driver competency standards and training, in-vehicle technological aids and safer speeds.</p> <p>KIPT would fund some of these initiatives such as the purchase of the high-productivity vehicles, driver competency training and the fitting of in-vehicle technological aids. Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads. As outlined in the Draft EIS, KIPT anticipates these options would be negotiated with the Kangaroo Island Council and the South Australian Government as part of continuing discussions regarding the haulage operations.</p>
725	1054, 819	TRAFFIC AND TRANSPORT Road safety <i>Training and safety initiatives</i>	What type of training will the truck drivers undertake and who will implement this training and pay for it?	The details of the training required will be determined after the port has been approved, and before trucking operations commence. KIPT will fund and monitor the training and safety initiatives, which will be implemented by KIPT and its haulage contractors.
726	1095	TRAFFIC AND TRANSPORT Road safety <i>Training and safety initiatives</i>	Conflicts with other road users have not been appropriately addressed with the EIS. Driver training and the publication of transport routes/schedules is not sufficient to mitigate to the risks associated with this volume of heavy vehicle traffic.	<p>Driver training and the publication of transport routes and schedules are just two of the mitigation strategies that would be implemented.</p> <p>The Draft EIS presents a comprehensive set of options to reduce the risks associated with the timber haulage operation (see Section 21.5.5). These include the use of high-productivity vehicles (which could potentially halve the total number of truck movements), safer roads (a defined route designed to handle high productivity vehicles safely, better signage), driver competency standards and training, in-vehicle technological aids and safer speeds.</p> <p>No comprehensive solution to the various traffic and transport issues can be achieved without the agreement of the Kangaroo Island Council, the SA government and KIPT.</p>
727	1054, 898	TRAFFIC AND TRANSPORT Road safety <i>Training and safety initiatives</i>	Will KIPT develop a driving brochure to educate other drivers on how to drive on Kangaroo Island and share the roads with large logging trucks?	KIPT will develop relevant information to inform and educate other roads users on how to drive safely and share the roads with large logging trucks.

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728	1059, 678, FL5	TRAFFIC AND TRANSPORT Road safety <i>Use of high productivity vehicles</i>	Running B-Doubles and A-Doubles will be a danger for other travellers along Kangaroo Island's road network, especially the unsealed roads.	KIPT agrees road safety should be the highest priority in considering the various options for transporting timber products to Smith Bay. KIPT favours the use of high productivity vehicles (i.e. B-doubles or A-doubles) because they are safer than semi-trailers. This issue is discussed in Section 21.5.5 of the Draft EIS. The roads would need to be upgraded to a standard suitable for these vehicles to operate. There are national regulations which prescribe mandatory standards for heavy vehicles using public roads. No comprehensive solution to the various traffic and transport issues can be achieved without the agreement of the Kangaroo Island Council, the SA government and KIPT. The Kangaroo Island Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.
729	1181, 1186, A40	TRAFFIC AND TRANSPORT Road safety risks <i>Use of communications technology</i>	KIPT have suggested an 'app' or GPS tracker could be used so that people will always know where their timber trucks are on the roads. However, there is little or no phone service along a lot of their preferred route.	The use of GPS trackers or mobile communications devices is one of several complementary measures which could be used to improve safety, which are discussed in Appendix P3 of the Draft EIS (Recommended Road Safety Policies and Practices, Centre for Automotive Safety Research, November 2017).
730	681	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on native fauna</i>	KIPT's assertion that local and tourist traffic would remain the most significant cause of roadkill is likely to be wrong.	KIPT will be responsible for a small increase in the total volume of traffic on Kangaroo Island. There is no evidence to suggest heavy vehicles are disproportionately responsible for roadkill, even allowing for such variables as the time of day at which vehicles are travelling. The Kangaroo Island Council, the South Australian government and the tourism industry on Kangaroo Island have a common goal of increasing visitor numbers to Kangaroo Island, which will inevitably mean growth in road use. Roadkill will increase as tourism increases.
732	A69	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Clarify data</i>	Table 21-4 of the main report indicates that Bark Hut Road recorded 55 traffic movements. The table does not clarify at what time of day these were recorded. Clarify the time of day these traffic recordings were measured?	The data is provided by the DPTI. It represents an annual daily average number of vehicle movements. There is no information available about when, during the day, these movements occur.
733	1054, 1059, 432, 681, A69, FL5	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Frequency of truck movements</i>	EIS does not coherently explain the impact of changes in traffic volume. Will trucks run 12 hours per day or 24 hours per day and how many days per year? The explanation about the frequency of truck movements is confusing.	The Draft EIS provides various estimates to illustrate the traffic and transport impacts. It is not possible to provide precise figures because there are a number of variables over which KIPT has no control. The frequency of truck movements is a function of several factors such as the volume of timber product to be delivered to Smith Bay, vehicle size and capacity (using A-doubles will halve the number of vehicle movements), and operating hours (restrictions on operating hours will increase the frequency of vehicle movements). The total kilometres travelled per annum is a function of the volume of timber products to be delivered to Smith Bay (which varies from year to year, but is estimated to be 600,000 tonnes per

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				<p>annum on average), vehicle size and capacity, and the proximity of the harvested plantation to Smith Bay.</p> <p>The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT.</p>
734	1055, 1186, 1187, 345, 392, 559, 678, 681, 761, 867, 956, FL5	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on amenity</i>	Quality of life will be severely affected by all using the roads, in addition to the danger. The trucks will add to the hazards on the roads caused by dust and stones.	<p>One of the advantages of the location of Smith Bay is that conflict with the most heavily used roads and the main tourism routes elsewhere on the Island is minimised. One of the advantages of the preferred route presented in the Draft EIS is that it has the fewest interactions with other road users, other industries (especially tourism) and adjoining properties, which means the impact of dust and stones is minimised.</p> <p>Nonetheless, there is no option which will have no impact, just as there is no option where the growth of tourism and tourist numbers (which is the common objective of the Kangaroo Island Council, the South Australian government and the tourism industry on Kangaroo Island) will not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities. In both cases (forestry and tourism) the challenge is to determine the best way to manage and mitigate these impacts.</p> <p>No comprehensive solution to the various traffic and transport issues can be achieved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT.</p>
735	1095	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on livestock</i>	Movement of livestock/farm machinery across and along road reserves may cause conflicts with the KIPT transport fleet	<p>KIPT agrees safety should be the highest priority when considering the various options for transporting timber products to Smith Bay. KIPT and its sub-contractors would consult regularly with the relevant stakeholders about minimising risk to farming activities such as moving of livestock and machinery once haulage operations begin.</p> <p>KIPT driver-training campaigns would alert drivers to the use of Kangaroo Island roads for a range of rural uses. Owners of livestock and farm machinery would also exercise the duty of care and responsibility to ensure good communications and safety for other roads users so that they are not placed at risk of harm when the public road network is used to move animals and machinery.</p>
736	867	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on native vegetation</i> (EPBC related)	The viability of the Smith Bay wharf development depends on clearing native vegetation to upgrade the roads. Any route to Smith Bay will affect road sections of extreme ecological sensitivity. The areas affected by this activity should be considered in the Draft EIS.	<p>The impact on native vegetation was one of the factors used in the multi-factor assessment of route options commissioned by KIPT which is discussed in the Draft EIS and summarised in Appendix P2 of the Draft EIS. Subsequent assessment of ecological impacts favoured Option 1 over Option 2.</p> <p>The Kangaroo Island Council subsequently commissioned its own assessment of route options, which is also discussed in Chapter 21 of the Draft EIS and is presented in Appendix P4 of the Draft EIS. That assessment, which excluded impacts on native vegetation, favoured a route which would use Gap Road and Roper Road. The significance of this omission was brought to the Council's attention in the subsequent study commissioned by KIPT (see KIPT Transport Route Options, Limitation Summary, Appendix P5 of the Draft EIS). The Council's favoured route would affect habitat for the critically endangered Glossy Black Cockatoo; would require a separate EIS and approval from the Commonwealth Government; and there would be little likelihood of obtaining such approval.</p> <p>KIPT has made clear it does not support this route option because the impacts on native vegetation, and the potential threats to Glossy Black Cockatoos, are unacceptable.</p> <p>The traffic and transport issues (including the impacts on native vegetation) cannot be resolved without the agreement of the Kangaroo Island Council, the South Australian government and KIPT.</p>

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				The Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.
738	A69	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on other roads</i>	Confirm the average, minimum and maximum distances from KIPT plantations to the KI Seaport? As well as the expected durations at each plantation, or plantation area?	The closest plantation is Yerda North on McBrides Road (approximately 21 km from the KI Seaport), and the furthest is Greenslopes on South Coast Road (approximately 100 km from the KI Seaport). The expected duration of harvest for each plantation will be determined by a number of factors including the size of the plantation, the type of timber grown, and the harvest method. A harvest schedule will be determined once operations begin.
739	1059, 1182	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on roads</i>	The suggestion that an increase of 6% traffic volumes is 'negligible' understates the impact because the increase in traffic will occur on a small subset of roads, not spread evenly over the entire network.	An increase of 6% in total traffic volumes is negligible, however it is acknowledged that this impact would be concentrated on a small subset of roads and not be spread over the entire network. The arguments (including safety) favouring a defined transport route are summarised in the Draft EIS (see Section 21.5.5).
740	1059, 1181, 1182, 1214, 1220, 392, 447, 578, 678, 821, 866, 956, A40, A59, A82, FL3	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Impact on roads</i>	These roads are not built for the wear and tear and wont cope. They are not built for the combination of tourism and the logging industry. A-doubles and B-doubles should never use unsealed roads.	From mid-2017 KIPT began working with the Kangaroo Island Council to explore a wide range of options to minimise and mitigate the impacts associated with transporting timber products to Smith Bay. This work is discussed in Chapter 21 of the Draft EIS, and the full studies are published in Appendix P of the Draft EIS. One of the advantages of the location of Smith Bay is that conflict with the most heavily used roads and the main tourism routes on the Island would be minimised. Nonetheless, there is no option which would have no impact, just as there is no option where the growth of tourism and tourist numbers (which is the common objective of the Kangaroo Island Council, the South Australian government and the tourism industry on Kangaroo Island) would not also have an impact on the Kangaroo Island road system and increase the risk to other road users, including the risk of road fatalities. In both cases (forestry and tourism) the challenge is to determine what is the best way to manage and mitigate these impacts.
743	1115, 1182, 302, 678, 681	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Operating hours for haulage</i>	The volume of trucks will adversely affect the peace and serenity on the island. The 24/7 schedule is completely inappropriate will put at risk people, including employees, and vast numbers of animals. Perhaps there should be a curfew.	The operating hours have not been yet been determined. One option is to operate on a 24-hour harvesting schedule, which is discussed in the Draft EIS. The principle benefit of this option is to reduce the frequency of the vehicle movements, but the principal disadvantage is that there would be no respite for other road users or nearby residents from these movements. The alternative option of reducing operating hours (e.g. a 12-hour schedule for 5 days each week, or 36% of the available operating hours) increases the number of vehicle movements each operating hour, but also provides respite because there would be no trucks operating most of the time.
744	A84	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Pollution</i>	Traffic pollution.	Trees sequester or store carbon which has been emitted into the atmosphere. The amount of carbon stored is measured in terms of the CO ₂ -e. The Draft EIS shows (see p 432-433) KIPT's plantations sequester approximately 6.8 million tonnes of CO ₂ -e. This amount remains relatively stable over the life of the plantations as individual plantations would be replanted or coppiced (i.e. grow again from the stumps) after harvest. The Draft EIS estimates KIPT will generate 1360 tonnes of CO ₂ -e of greenhouse gas emissions from operating the port (i.e. direct or Scope 1 emissions), and 340 tonnes of CO ₂ -e of greenhouse

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				gas emissions from transporting timber products by road to Smith Bay (i.e. indirect or Scope 3 emissions). The total emissions represent 0.00025% of the carbon captured in the plantation timber (see Chapter 19).
746	1095	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Route options</i>	No final route has been confirmed, which makes impact assessments challenging.	Two options were presented in the Draft EIS, and the assessment of the impacts of each option are discussed in some detail in Appendix P2, P4, P5, P6 and P7 of the Draft EIS. The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the SA government and KIPT. The Kangaroo Island Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.
747	1181, 601	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Route options</i>	Stokes Bay Road is one of the most highly used tourist roads on the island. The bridge over the Cygnet River on Stokes Bay road is hazardous for truck versus car.	There is no option which would have no impact on other traffic, or other road users, or nearby properties. KIPT supports an efficient road transport solution which reduces the impacts associated with transporting timber products to Smith Bay to a level which is as low as is reasonably practicable given all of the circumstances that apply on Kangaroo Island. The preferred route presented in the Draft EIS has the fewest interactions with other road users, other industries (especially tourism) and adjoining properties.
748	1181, 1187	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Route options</i>	Stokes Bay Road: If the route passes right to the end of Stokes Bay Road and then onto North Coast road it will impact heavily on the already existing businesses; The last hill on the Stokes Bay road before the T section onto North Coast road is steep, there is nowhere to put an arrester bed for heavily laden trucks; The bridge by the Stokes Bay café is one lane – during peak times this will cause large bottle necks of traffic; Areas of this road (Stokes Bay) have springs under them, needing repair. With planned increase of trucking traffic by KIPT there is no doubt this thin single layer of bitumen will soon be destroyed.	KIPT does not intend using this section of Stokes Bay Road and has not suggested it would. KIPT agrees road safety should be the highest priority in considering the various options for transporting timber products to Smith Bay.
749	1184	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Route options</i>	The North Coast Road is unsealed. The risk of fatal accidents on this winding narrow road cannot be underestimated. It would become extremely dangerous.	KIPT agrees road safety should be the highest priority in considering the various options for transporting timber products to Smith Bay. KIPT favours the use of high productivity vehicles (i.e. B-doubles or A-doubles) because they are safer than semi-trailers. This issue is discussed in Section 21.5.5 of the Draft EIS. The roads would need to be upgraded to a standard suitable for these vehicles to operate. There are national regulations which prescribe mandatory standards for heavy vehicles using public roads.

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
				No comprehensive solution to the various traffic and transport issues can be achieved without the agreement of the Kangaroo Island Council, the SA government and KIPT. The Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted.
751	1054	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Route options</i>	On all of the proposed trucking routes, there are many residential properties, sports clubs, tourist attractions, community halls, school bus routes and farms.	There is no option which would have no impact on other freight movements, or other users. KIPT supports an efficient road transport solution which reduces the impacts associated with transporting timber products to Smith Bay to a level which is as low as is reasonably practicable given all of the circumstances that apply on Kangaroo Island. The preferred route presented in the Draft EIS has the fewest interactions with other road users, other industries (especially tourism) and adjoining properties.
752	1186, 1187	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Site selection</i>	Development will change the nature of the island for all those living along the route and at Smit Bay. A more appropriate plan could be to truck to an already existing port along DPTI roads that will not be at a huge cost to KI Council.	There is no port on Kangaroo Island suitable for exporting the volume of timber, which is estimated to be 600,000 tpa on average for the first harvest.
753	1068	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Site selection</i>	Cape Dutton would be 50% closer to the timber source and would reduce cartage costs and traffic impacts.	Traffic and transport impacts, including the distance from the plantations to the port, were relevant factors influencing the selection of Smith Bay as the preferred site for the development. Many other factors influenced the decision. Chapter 3 of the Draft EIS summarises the process used to select Smith Bay. KIPT stands by this analysis; Smith Bay is the best location for the development.
754	345	TRAFFIC AND TRANSPORT Traffic impact assessment <i>Socio-economic impacts</i>	An efficient road network is required to support the development so that other freight movements are not affected.	There is no option which would have no impact on other freight movements, or other users. KIPT supports an efficient road transport solution which reduces the impacts associated with transporting timber products to Smith Bay to a level which is as low as is reasonably practicable given all of the circumstances that apply on Kangaroo Island. Significant grant funds are available from both the State and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot. Similar to existing industries that contribute to the regional and state economy, such as tourism and agriculture, plantation timber could also initiate the injection of funds from the Commonwealth, State and local governments to support the growth of industries, including investment in road upgrades.

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
756	678	TRAFFIC AND TRANSPORT Transport route <i>Route options</i>	If McBride's Road becomes unsuitable to use, they will travel along North Coast Road to Stokes Bay and Stokes Bay Road to Playford Highway. It won't take them long to destroy these roads. Roads will become impassable for normal traffic. The roads will deteriorate quickly, so KIPT will find other routes and destroy those too.	KIPT have the same rights as any other road user. The use of 19.0 m semi-trailers using any public road on Kangaroo Island is a worst-case outcome and is not KIPT's preferred solution. The arguments presented in favour of using a defined route suitable for high productivity vehicles are presented in the Draft EIS (see Section 21.5.5).
758	681	TRAFFIC AND TRANSPORT Upgrading and maintaining roads <i>Road funding</i>	The Walbridge & Gilbert route assessment inadequate. It assumes that minor roads will remain in suitably good condition after extremely heavy use. The Kangaroo Island Council cannot maintain the roads. KI roads regularly become temporarily impassable. This will cause trucks to be diverted to the paved roads. To improve these roads, it will require major investment. A proposed bridge and road works budget should be included.	One of the principal arguments in favour of defining a core route for hauling timber products to Smith Bay and upgrading that road so that it is suitable for use by high productivity vehicles (i.e. B-doubles or A-double) is to minimise the total cost of upgrading the road infrastructure, including the cost of repairing intersections, bridges, culverts and drainage. Significant grant funds are available from both the State and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot. Similar to existing industries that contribute to the regional and state economy, such as tourism and agriculture, plantation timber could also initiate the injection of funds from the Commonwealth, State and local governments to support the growth of industries, including investment in road upgrades.
759	822	TRAFFIC AND TRANSPORT Upgrading and maintaining roads <i>Road funding</i>	To maintain the current Kangaroo Island road network, at least \$5 million will be required annually.	No evidence has been provided to support the assertion that at least \$5million would be required annually to maintain the roads for the next decade. We acknowledge that Kangaroo Island Council's CAPEX for various road projects has been in the vicinity of \$2.5-\$3.5 million per annum for the last three years based on their published annual business plans.
760	A21	TRAFFIC AND TRANSPORT Upgrading and maintaining roads <i>Socio-economic impacts</i>	The economic viability and returns to the Island will not outweigh the costs in terms of damage to roads, risk to resident's road safety and visitors.	The returns to the island are discussed in Chapter 20 of the Draft EIS. The cost of upgrading and maintaining the roads to accommodate the increased traffic generated by hauling timber products to Smith Bay is a small fraction of the benefits to the island.
761	1053	TRAFFIC AND TRANSPORT Upgrading and maintaining roads <i>State and C/w should pay</i>	Improvements and modifications to the existing roads network should be funded at the State and Federal level.	KIPT agrees with the general proposition that ratepayers should not be responsible for maintaining the roads which will be used to transport timber products to Smith Bay and from the outset KIPT has made this clear to the Kangaroo Island Council. Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.

ID	Submission ID	Topic / Issue	Summary of issue raised by <u>Members of the Public</u>	KIPT response
763	FL3	SOCIAL ENVIRONMENT Accommodation, infrastructure and services <i>Supply/demand and costs</i>	Concerns exist in relation to the increase of population to Kangaroo Island during construction and operation, particularly in relation to impacts on accommodation (short and long term) and to energy and public infrastructure, and other services. Potential impacts include costs associated with supply/demand pressures and costs to provide new or additional services and infrastructure.	As outlined in Chapter 22 of the Draft EIS, the Office of the Commissioner for Kangaroo Island published a comprehensive report on housing on Kangaroo Island in 2017. A series of actions to address a number of issues (for example, housing affordability and housing stress levels) were recommended in this report, refer to Section 22.4.3 of the Draft EIS. KIPT would work with government agencies in relation to these recommendations and any new recommendations that may arise in the future. KIPT are currently liaising with local Kangaroo Island real estate agents and developers to secure accommodation arrangements for their permanent and temporary workforce. These negotiations are in their infancy and would involve commercial arrangements which are not yet finalised.
764	956	SOCIAL ENVIRONMENT Communities <i>Demographics</i>	EIS says population is aging but there has been an increase in the number of young farmers and an increase in the size of reception classes at Parndana school, and a general rejuvenation of the central and western island communities.	The demographic statistics presented in the Draft EIS come from the 2016 ABS census (refer to 22.4.2) and describe the trend for Kangaroo Island as a whole.
765	1185, 1196, 122, 337, 345, 540, 586	SOCIAL ENVIRONMENT KI Brand <i>Incompatibility of KI Seaport and KIPTs business on Kangaroo Island</i>	KI Seaport and any expanding activity by KIPT, does not fit with Kangaroo Island's image. There are concerns that KI Seaport and KIPT's forestry activities will ruin Kangaroo Island's quiet, peaceful, nature based reputation and is not compatible with local businesses, tourism and the KI Brand. KI Seaport will ruin Smith Bay and make the entire region a 'no go' zone due to loss in visual amenity and noise and light pollution.	Forestry has been a part of the Kangaroo Island economy for many decades. 20.4.5 of the Draft EIS indicates that the forestry with agriculture and fishing (all primary industries sector) is the highest contributor of GRP for Kangaroo Island (in 2015-16). KI Seaport can co-exist with other users in the Smith Bay area with implementation of appropriate controls and management strategies. The design of KI Seaport has been modified to minimise concerns for potential impacts and risks. KIPT will also comply with all of the conditions and requirements which attach to the planning approval for the seaport.
766	1115	SOCIAL ENVIRONMENT Social impacts <i>Omissions</i> (EPBC related)	Social omissions impacts of development (truck traffic, pollution, loss of serenity/nature, cumulative impacts, loss of business).	The EIS addresses all of the assessment issues set out in the Guidelines published by the (then) DAC. Chapter 22 of the Draft EIS assesses the potential social impacts that arise from the construction and operation of KI Seaport. The traffic and transport impacts are assessed in Chapter 21 and the economic impacts are assessed in Chapter 20. The various environmental impacts are assessed in a number of chapters including Chapters 9, 10 and 12 (marine environment), Chapters 13 and 16 (terrestrial environment), Chapter 15 (biosecurity) and Chapters 17 and 18 (air quality, noise and light).

ID	Submission ID	Topic / Issue	Summary of issue raised by <u>Members of the Public</u>	KIPT response
				It is considered that there have been no omissions.
767	1217, 251, 578, A89, FL4	SOCIAL ENVIRONMENT Socioeconomic impacts <i>Employment, training, communities and businesses</i>	<p>Concerns exist in relation to losses to Kangaroo Island's economy that is currently generated by agriculture (including horticultural ventures) and tourism (in particular nature-based tourism) as a result of KI Seaport's activities. With impacts to agriculture (including Yumbah's abalone farm) and tourism there are concerns that local and Kangaroo Island employment, communities and businesses will be impacted.</p> <p>Concerns exist in relation to employment opportunities for Kangaroo Island residents and that jobs won't go to local workers, rather workers outside of Kangaroo Island, or FIFO workers from Adelaide and other mainland centres, and that there are no plans to assist in training local residents.</p> <p>Members of the KI community, including nature-based tourism operators who rely on natural marine and wildlife experiences on the north coast of KI oppose the development.</p>	<p>Chapter 22 provides the assessment of potential impacts (and benefits) to the Kangaroo Island community. Chapter 20 provides the economic assessment.</p> <p>The EIS demonstrates that the KI Seaport and existing businesses can co-exist.</p> <p>The proponent selected Smith Bay for a number of reasons (see Chapter 3 of the Draft EIS). One of these being the site at Smith Bay was already disturbed and previously subject to commercial/industrial development; it was the site of a former on land aquaculture facility; and is within a more extensive area that has been subject to modifications for commercial/industrial purposes. KIPT believes co-locating large scale commercial/industrial developments minimises the impact on the Kangaroo Island community and is a better option than developing in an otherwise truly pristine location elsewhere on the north coast.</p> <p>Smith Bay is not generally a destination for tourists to Kangaroo Island and is some distance away from the major tourist destinations on the western end of Kangaroo Island, which are primarily located on the south coast.</p> <p>KIPT does not intend to establish a FIFO operation. KIPT has stated its preference will be to employ Kangaroo Island residents. Training will be provided, as required, to maximise the opportunities for Kangaroo Island residents who wish to work for the company and its contractors.</p> <p>Forestry currently contributes to the Kangaroo Island economy and its contribution would increase with the establishment of a port that will allow bulk exports.</p>
768	1054, 578	SOCIAL ENVIRONMENT Socioeconomic impacts <i>Loss of lifestyle</i>	<p>Owners of land on the north coast of Kangaroo Island near KI Seaport's location, feel that a quiet and clean life at their block is not achievable if KI Seaport were to proceed at Smith Bay. As a result, their plans to build their dream home and develop low-key tourist accommodation, and establish various horticultural ventures, on the property, is lost.</p>	<p>KI Seaport can co-exist with other users in the Smith Bay area with implementation of appropriate controls and management strategies.</p> <p>The design of KI Seaport has been modified to minimise concerns for potential impacts and risks. KIPT will also comply with all of the conditions and requirements which attach to the planning approval for the seaport. KIPT, however, respect and appreciate any ongoing concerns that owners of land in the vicinity of the Smith Bay site may have and will continue to engage with them on the proposed development.</p>

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
769	578, 956	SOCIAL ENVIRONMENT Socioeconomic impacts <i>Recreational boating and fishing</i>	Recreational boating and fishing will be disrupted in Smith Bay.	Generally, recreational boating and fishing would not be disrupted in the greater Smith Bay area. In the vicinity of the KI Seaport, a temporary exclusion zone will be established during construction. After the KI Seaport has been declared a port and harbour, exclusion zones of specified distances from port and harbour infrastructure and temporary exclusion zones for when vessels are berthed will apply. Exclusion zones will comply with relevant regulations and would be implemented to ensure safety and security requirements are met.
771	345, 559, 956, A16, A58, A71, FL5	VISUAL AMENITY Landscape character <i>Aesthetics and visual impacts to an agricultural landscape</i>	Changes to visual amenity of Smith Bay, which is an agricultural landscape, would be noticeable and are considered significant. Commercial operations would decrease visual amenity of the area. Is it correct that the Landscape Quality Rating (which reduces from 6.5 to 5) reduces by around 25%? Given the size of infrastructure at the KI Seaport, it would be difficult to screen from view of the public.	The EIS acknowledges that changes to visual amenity would occur. The on-land aquaculture farm is the only commercial/industrial facility along the northern coastline of Kangaroo Island and includes tanks, buildings, sheds and supporting structures for approximately 6ha of shade cloth. These features create an industrial-like landscape at the western end of Smith Bay, which has been assigned a scenic quality rating of 5, compared to the foreshore which is rated 6.5. It could be considered that the overall visual impact for Kangaroo Island would be minimised by locating the seaport adjacent to the on-land aquaculture farm at Smith Bay. It should also be noted that the landscape quality rating used by Lothian's assessment method is not a linear relationship, and a reduction in the scenic quality rating from 6.5 to 5 for the Smith Bay foreshore area is a 15% reduction in scenic quality rating, not a 25% reduction. Taller or higher infrastructure of KI Seaport may be difficult to screen and would be visible from numerous points around the Smith Bay area, if accessible. See Chapter 23 of the Draft EIS, and Chapter 4 of the Addendum, which outline results of 3D image renders showing expected views a person would be expected to experience from particular chosen locations.
772	1095, 345	VISUAL AMENITY Landscape character <i>Reduced value of property and tourism businesses</i>	Development would reduce the landscape quality of Smith Bay, to a rating of 5, from the current 6.5. This has the potential to reduce the value of property and tourism businesses operating nearby.	Property values are influenced by many factors. The landscape quality of Smith Bay would not be significantly reduced given the western end of Smith Bay already has a commercial/industrial character defined by the tanks, buildings, sheds and supporting structures for approximately six ha of shade cloth associated with Yumbah Aquaculture's on-land aquaculture farm.
775	1184, 345, A1, A68	VISUAL AMENITY Visual amenity <i>Aesthetics and visual impacts to a pristine environment</i>	KI Seaport will destroy the natural and pristine aesthetics of Smith Bay and North Coast Road and the general attractiveness of Kangaroo Island. Significant visual impacts to sensitive receptors would result from the development, which is incompatible with the coastal pristine landscape.	The EIS assessment of impacts to visual amenity concludes that developing the KI Seaport at the western end of Smith Bay, which is already disturbed and developed, would minimise the visual impact compared to locating the seaport in an undeveloped part of Kangaroo Island's coastline. The KI Seaport site at Smith Bay has historically been used for cropping, grazing and aquaculture. The development site has been cleared of native vegetation and includes remnant infrastructure from former aquaculture ventures. The existing abalone farm nearby includes approximately 6 ha of shade cloth, large pieces of infrastructure, lighting, plant and equipment, all of which compromise the visual amenity of Smith Bay. Large areas of Kangaroo Island's land mass have been developed, resulting in alteration of the natural environment for grazing, cropping, and establishment of infrastructure. This can be observed along North Coast Road, particularly in the vicinity of the development site.

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
776	635	VISUAL AMENITY Visual amenity <i>Aesthetics of the causeway</i>	Not included in the environmental assessment is the awful aesthetics of the rock structure.	The revised design of KI Seaport's offshore components no longer includes a rock causeway. The causeway is replaced by an open piled jetty structure, which would be less obtrusive in the landscape.
777	819	VISUAL AMENITY Visual amenity <i>Impact on Molly's Run</i>	Visual amenity of KIPT's seaport proposal will also have major impacts on Molly's Run and will have a significant effect on this tourism business.	Molly's Run is located immediately opposite Yumbah's onshore abalone farm, which can be seen from its guest quarters, as shown on the Molly's Run website. Yumbah also have night lighting. KI Seaport's lighting will add to night lighting of the area but will comply with relevant Australian standards (AS4282-1997: Control of obtrusive effects of outdoor lighting) and would be designed to minimise light spill as much as practicable at night whilst still maintaining safety and security for operators. Standard practice is to have lighting directed only onto site, and direct view of the bright parts of the light is prevented from positions of importance at eye height, on neighbouring properties. Vegetation screen plantings, choice of colour and design layout will all be used to minimise any potential visual impacts to neighbouring properties. It should be noted that some mature vegetation to the north-west of the residence (the direction of the proposed KI Seaport) would screen Molly's Run from some of the visual impact of the seaport.
778	345, 867	VISUAL AMENITY Visual amenity <i>Impact to KI Brand of clean, green and pristine</i>	Concerns that the KI Seaport would cause negative visual impacts in the marine environment and conflict with wildlife and compromise the image of a clean, green, pristine island, thus effecting tourism.	The EIS acknowledges there will be changes to the visual amenity of Smith Bay, but it is considered the impact of these changes will be mitigated by locating the seaport at the western end of Smith Bay, where the visual amenity is currently dominated by the tanks, buildings, sheds and supporting structures for an area of shade cloth associated with the operating land based aquaculture farm. The seaport would not significantly conflict with Kangaroo Island's marine wildlife given the impacted area would be very small, and insignificant, considering the total area of marine environment and coastline of Kangaroo Island. Much of the marine waters adjacent to Kangaroo Island's coastline are within marine parks, but the proposal would be in waters not protected by marine park status. It is well documented that dolphins frequent many locations on Kangaroo Island's coastline. For these reasons, it is unlikely that tourism would be affected by the proposed KI Seaport.
788	821	HERITAGE European heritage <i>Omissions</i>	The proponent seems to know nothing about local heritage. A pioneering family that had a flourishing orchard in Smith Bay from the 1880's, was not mentioned in the Draft EIS or Appendix S2.	A report was produced for the EIS that reviewed available records on the Smith Bay area (see Appendix S2 of the Draft EIS). The focus of the report was the land parcels that would be used for the proposed KI Seaport.
816	A81	MANAGEMENT OF HAZARD AND RISK Dolphins causing shut downs <i>Construction timeline</i>	Dolphins travel through Smith Bay on an almost daily basis this will mean enormous disruptions to construction through "shut down" mitigative practices. Makes situation untenable in terms of timelines in the Addendum.	Construction vessels and crews would operate in compliance with Part 2 Interaction with marine mammals of the National Parks and Wildlife (Protected Animals Marine Mammals) Regulations 2010 during marine works. It is not envisaged that vessels, equipment and works would cease for any lengthy periods of time.

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
823	1095, 956	MANAGEMENT OF HAZARD AND RISK Hazard identification <i>Assessment of third-party user impacts</i>	No adequate assessment on biosecurity risk, traffic/transport for expanding the port for other users.	Where prospective new third-party users of the KI Seaport needed to develop infrastructure to facilitate this use, they would need to obtain planning consent and environmental approvals under relevant SA and Australian legislation before progressing any commercial arrangement with the port owner and port operator for use of the port facilities. Issues such as biosecurity risk and the implications for traffic and transport would be addressed at that time.
825	345	MANAGEMENT OF HAZARD AND RISK Hazard identification <i>Health and wellbeing of Smith Bay residents</i>	Concerns of the hazards of KI Seaport and the associated with the health and wellbeing of residents at Smith Bay.	The key issues associated with the KI Seaport, including those relevant to the health and wellbeing of residents at Smith Bay, have been identified in Chapter 8 of the Draft EIS. These issues formed the basis of scoping baseline studies and subsequent impact assessments. Chapter 25 and Appendix T of the Draft EIS outlines the assessment of hazards and risks associated with the KI Seaport. All of the environmental, social and economic issues relevant to the health and wellbeing of Smith Bay residents (such as light, dust, noise, changes to existing aesthetics and additional traffic) have been assessed.
826	FL5	MANAGEMENT OF HAZARD AND RISK Hazard identification <i>Industrialisation of Smith Bay</i>	Smith Bay could become industrialised.	The KIDP supports orderly economic development, which includes substantial scale commercial development, including transport and bulk handling, which can only be established at a coastal interface. The western end of Smith Bay has been 'industrialised' for more than two decades. The development site had been used for a commercial aquaculture venture and is adjacent to Yumbah's on-land aquaculture facility, which is the largest commercial activity on the north coast of Kangaroo Island west of Kingscote. Developing the seaport at Smith Bay avoids commercialising other undeveloped coastal locations.
827	635	MANAGEMENT OF HAZARD AND RISK Hazard identification <i>Spontaneous combustion of woodchips</i>	Has the spontaneous combustion of woodchips, and associated water use, been considered?	The use of a radial stacker reclaimer to handle woodchips, combined with the relatively short periods that woodchips are stored onsite between ship loading operations, and the use of dust suppression sprinklers would significantly reduce the potential risk of spontaneous combustion. The Draft EIS outlines how materials would be managed at the KI Seaport (see Section 4.6.4). Specifically: <ul style="list-style-type: none">• woodchips would be stored at a height and angle that maintained stockpile stability• the stockpile would be arranged with suitable separation between it and surrounding infrastructure, to reduce the risk of fire spreading across the site• the woodchip stockpile area would be kept at least 20 m from the property boundary and from occupied buildings (offices) within the facility.• access would be maintained around the stockpile to provide greater access to firefighters during emergencies Dust suppression and fire-fighting would use water resources obtained from various sources. The Draft EIS summarises the water demand and supply for the development (see Section 4.8.2).
828	432	MANAGEMENT OF HAZARD AND RISK Hazard identification <i>Woodchip combusting</i>	Woodchip pile hasn't been identified as a potential spontaneous combustion hazard.	The risk assessment has been updated to include spontaneous combustion of woodchip stockpile. See Appendix F .

ID	Submission ID	Topic / Issue	Summary of issue raised by Members of the Public	KIPT response
833	432, 559, 681, 898	MANAGEMENT OF HAZARD AND RISK Ongoing legal compliance <i>New owner(s) or operator(s)</i>	How would port operation continue to legally comply if there is a change of ownership or operator. Who would ensure compliance? Could conditions 'loosen'? Would commitments of the development be met?	Any owner/operator of a port is strictly regulated under State and Commonwealth legislation and would include, but not be limited to the same legislation/regulations described in Chapter 5 of the Draft EIS. Any future owner of the KI Seaport and infrastructure is required under the Development Act to maintain and operate the development in accordance with the development authorisation. A new owner would normally be required to apply for transfer of any secondary approvals (for example, an authorisation issued under the EP Act). Primary responsibility for ensuring compliance rests with KIPT (as the port owner) and its designated port operator. Approval conditions and commitments would continue for the development through its life, for as long as they are relevant to the activities, risk profiles and applicable legislation.
836	1095	MANAGEMENT OF HAZARD AND RISK Risk assessment <i>Methodology</i>	Risk assessment approach was not consistent, acceptable or assesses in an objective manner. A more accurate risk assessment of construction and operations must be demanded of KIPT. The risk assessment and corresponding matrix are problematic. The residual risks are misleading and do not reflect the actual risk level.	The risk assessment methodology used in the Draft EIS (see Section 25.2) is consistent and aligned with accepted standards, (i.e. AS/NZS ISO 31000). The EIS team are bound by a Code of Ethics and Professional Conduct as environmental practitioners and have maintained objectivity in all the work undertaken for assessing impacts and risk of the KI Seaport development.
842	1215, 1368, 345	ENVIRONMENTAL MANAGEMENT FRAMEWORK Management plans <i>Implementation, regulation, compliance and best practice (EPBC related)</i>	EIS does not reflect the emphasis on environmental 'best practice' that was voiced in the SRG Workshop. Controls should be put in place and KIPT should be held accountable to implement them, and how this is to be achieved should be made clear to the public. Have relevant organisations been consulted to create the EMPs?	KIPT would be required to comply with any conditions set as part of the development approval. After KIPT has received planning consent (i.e. the primary approval) KIPT would be required to liaise with relevant government agencies to develop the CEMP. In some cases, their formal endorsement or approval would be required. KIPT would also be required to obtain relevant permits, licences and other approvals to comply with relevant legislation. KIPT would also be required to develop an OEMP, and obtain such other permits, licences and approvals as may be required to operate the KI Seaport. KIPT is a publicly listed company on the ASX, and would also be required, by law, to report on environmental performance.
844	A14	ENVIRONMENTAL MANAGEMENT FRAMEWORK Mitigation and management <i>Absence of management plans</i>	The absence of management plans makes it impossible to understand how impacts would be mitigated.	The EMF, and the associated EMPs (EMP), would be used to ensure all commitments and approval conditions are effectively implemented during all phases of the project. The Draft EIS provides preliminary drafts and working documents. KIPT would be required to ensure all contractors, sub-contractors and users of the facility comply with the EMP. The EMF itself would be periodically reviewed, updated and improved. These reviews would assess the effectiveness of the management measures. A formal review schedule would be developed to manage this process.

ID	Submission ID	Topic / Issue	Summary of issue raised by <u>Members of the Public</u>	KIPT response
845	1220	ENVIRONMENTAL MANAGEMENT FRAMEWORK Mitigation and management <i>Adequacy for maintaining the character of Kangaroo Island</i> (EPBC related)	Can impacts of the proposal be adequately minimised or mitigated to ensure that the character of the island is maintained?	The potential impacts of the KI Seaport have been assessed and various engineering controls have been incorporated into the design to minimise or mitigate the impacts. The operations of the KI Seaport would also be required to comply with the provisions or requirements of various pieces of legislation and associated regulations, and KIPT would also be required to comply with any conditions which may be attach to the planning approval.
846	1095	ENVIRONMENTAL MANAGEMENT FRAMEWORK Mitigation and management <i>Lack of details in EIS</i>	Mitigating actions do not have detailed plans, procedures or policies. Makes respondents uncertain from lack of detail. 'Impacts will be minor' has no clear evidence to prove this statement.	Mitigation actions for some aspects are included in the EIS and the associated draft CEMP and OEMP (see Appendix U of the Draft EIS). Chapter 26 outlines the framework for environmental management. Detailed and refined management measures and mitigation actions would be developed after KIPT receives planning consent for the proposed development (should that occur).

6.4 RESPONSE TO THE SOUTH AUSTRALIAN GOVERNMENT AGENCY SUBMISSION

Table 6-4 responds to issues contained within the South Australian Government's submission.

Table 6-4: Responses to issues raised by South Australian Government agencies (Submission ID 1381)

Agency	#	Topic / Issue	EIS Section	Description of SA Government issue raised/Requirement in response document (A – Required; B – Recommended; C – Editorial /Minor/ For Noting)	KIPT response
EPA					
EPA	1	Air quality	Main Report Chapter 17 Air Quality	The modelling for PM _{2.5} , PM ₁₀ , TSP and Deposition Dust appears to have been conservatively approached. The EPA is satisfied with the conservative inputs and the use of NPI estimation techniques and US EPA AP-42: Compilation of Air Pollutant Emissions Factors methodology. <i>For Noting - C</i>	The EPA indicates that the air quality assessment has been conservatively approached and that no significant adverse impacts are likely. The third-party peer review commissioned by Yumbah (see Appendix 6, Cook 2019, of Yumbah's submission to the Draft EIS), in that both indicate that the air quality assessment has been conservatively approached and that no significant adverse impacts are likely.
EPA	2	Air quality	Main Report Chapter 17 Air Quality Section 17.4 Assessment Methods	With regards to the ecological impact assessment aspect of dust deposition and greenlip abalone at the Yumbah Aquaculture facility, the air quality assessment for deposited dust is assessed against the NSW criterion for nuisance caused by deposited dust. That measure is a monthly measure which does not allow for management of significant deposited dust peaks. It does not appear that the potential for significant short term impacts (that still may meet the monthly criterion) on the abalone farm has been properly considered. <i>A thorough scientific analysis to confirm that the monthly NSW deposited dust criterion is appropriate for abalone farming and other sensitive receivers, taking peak deposition dust impacts into account. - A</i>	The impact of dust deposition on the Yumbah facility was dealt with in Section 11.5.5 of the EIS document. The information presented in the EIS provided a quantitative analysis of the expected rates of dust deposition onto the farming infrastructure and then undertook a worst case analysis of the potential impact that dust deposition (at the expected rates) may have on the farming system. That analysis concluded that: <ol style="list-style-type: none"> 1. Much of the dust, that would likely be deposited on infrastructure, would not become suspended into water flowing through the abalone farm. This conclusion was based on direct experimental studies that showed that the time required for wood dust to go into suspension was around 2 hours and this exceeds the typical retention time of water on the farm (around 20-30 minutes). This means that any wood dust that was deposited onto raceways or nursery tanks would float on the surface of the water and thus flow out of the farm long before it went into suspension. 2. The ecotoxicology studies using fine hard-wood dust concluded that even if all of the dust did go immediately into solution (which it can't), it was highly unlikely that farmed animals would be affected because there was no detectable impact of wood-dust on animal survival even at concentrations 10 times higher (35 mg/L) than the most extreme concentrations that could possibly occur (3.5 mg/L). 3. Furthermore, taking into account the time taken for wood-dust to leach the experimental exposure was likely to have been 100 to 1,000 times higher than the practical exposure levels that would be encountered. 4. Rainfall events that might cause the wash-through of deposited dust are relatively infrequent typically occurring on less than 9 days per year and hence this is not likely to be a persistent problem but rather episodic. This is unchanged by the building of the Port and thus there is no real change to existing risk profiles.

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					<p>5. Eighty to ninety percent of the dust deposited will be from background (ambient) sources (i.e. is not associated with the construction or operation of the Seaport). There is no evidence that the Yumbah farming systems are currently affected by atmospheric dust deposition so it is not clear why a relatively small (10-20 %) increase in deposition rates would create new problems particularly given the findings about the non-solubility of the wood dust and that there was no evidence of an impact on animals even at 10 times the likely maximum exposure.</p> <p>Notwithstanding that the quantitative analysis of dust emissions indicate that dust deposition would not be at a sufficient level to cause problems for abalone farm, a number of additional mitigation actions have been incorporated into the design of the systems and these include:</p> <ol style="list-style-type: none"> 1. Reducing the height of the stockpile; in practice this would reduce the potential for dispersion of the woodchip-related dust for a couple of reasons: <ol style="list-style-type: none"> a. The lower the height of the dust source, the less distance a given particle is likely to travel, given otherwise identical circumstances. The counter to this is that local concentrations (i.e. those closer to the pile) may be increased (assuming the area of the pile remains the same, but only the height is reduced) due to the lesser dispersion. b. The lower the height of the stockpile, the less the wind speed (generally, but not always) as the wind is subject to more boundary layer and terrain/obstacle disturbances. The less wind speed, the less likely a given particle is to be entrained and carried from the pile. <p>Irrespective, these changes would not change the results already presented in the Draft EIS because dust emissions were modelled on a worst-case basis using a scenario in which there was no stockpile and the dust was emitted from ground-level from all of the fines left after reclaim of the woodchips. This overestimates dust generation by a factor of 10 and thus a full height stockpile is likely to emit 1/10th the amount of dust predicted by the modelling.</p> <ol style="list-style-type: none"> 2. Modelling has assumed that conveyors are covered but further reductions would be realized from covering transfer points and the through the use of water sprays to suppress dust production. 3. The construction of a 2 m high mesh covered fence (which has been identified as a mitigation tool for light spill) was not accounted for in the original air quality modelling. The NPI EET guide for Mining v3.1, Table 4, specifies an “estimated control factor” for wind erosion from stockpiles of 30 % for wind breaks. These are nominally “at source” controls, and so a boundary fence would be expected to be less effective. A 30 % reduction in dust make from the stockpile source would be equivalent to a reduction in the overall site dust make of around 10 %. 4. In relation to air quality the inclusion of the Yumbah sheds on FT00634 introduce new sensitive receptors that were not included in the original modelling. Given that air

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					<p>quality impacts are a measure of the effect of an exposure of a given air quality over time the covered shed modifies the exposure pathway by providing shelter from depositional processes. With regards to dust concentrations in ambient air, there is the potential that air with elevated concentrations of dust may be ventilated into the shed and create an exposure scenario.</p> <p>Figure 17.11a of the Draft EIS shows the maximum 24-hour average ground-level concentration of PM₁₀ (and below)-sized dust particles. PM₁₀ is broadly (but not exactly) equivalent to “respirable” dust and is generally used as a health benchmark within the NEPM framework for Ambient Air Quality Measurement criterion. The modelling shows that the concentration of PM₁₀ dust in air on the worst day of the year, under our worst-case modelled scenario, would comply with the NEPM at the location of these sheds. On this basis, and given the results from the wood-dust ecotoxicology studies, it is highly unlikely that there would be any effect on water quality inside aquaculture tanks inside these sheds that would have an effect on animal health.</p>
EPA	3	Air quality	Main Report Chapter 17 Air Quality Section 17.5.5 Impact Assessment p 396	The ‘Human health’ section refers to ‘Schedule 3’ of the SA Air Quality EPP when referring to ground level concentrations. This is a typo and should be Schedule 2. <i>Typographical correction - C</i>	Corrected. p 396 of the Draft EIS now reads ‘Schedule 2’ instead of ‘Schedule 3’. See Appendix E.
EPA	4	Air quality	Main Report Chapter 17 Air Quality Section 17.5.5 Impact Assessment p 397	<p>‘Amenity’ section states: ‘The dust deposition rate has been used as an analogue for understanding amenity impacts on a basis that day-to-day operation associated with the development would significantly vary the volume of emitted dust’</p> <p>Again, this relies on the deposited dust criterion that is a 30-day average, which makes the day-to-day operation difficult to align against any deposited dust data.</p> <p><i>Information about managing visual dust on a continuous basis is required to ensure that measures are in place to identify when dust is being generated that may cause nuisance, call for cessation of works and correction of operations to ensure a mitigation of dust. This also should include a complaint register and the management measures to deal with and close-out issues.</i></p>	<p>The EMPs would be reviewed and updated post-approval. The CEMP and OEMP would need to be approved by the relevant government department or agency before works could commence.</p> <p>Specific details regarding dust management would be provided in the EMP, including information about managing visual dust on a continuous basis, to ensure that measures are in place to identify when dust is being generated that may cause nuisance. Protocols specifying when works may need to cease or be modified to ensure a mitigation of dust would also be included. The on-site management systems for both construction and operation would include a Complaints Register, and procedures for managing and resolving complaints.</p>

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				<i>Specific details can be included in EMPs, however reference and commitment to above should be included in the EIS. - A</i>	
EPA	5	Aquaculture	Main Report Chapter 11 Land based Aquaculture p 209 Appendix H1 Assessment of Risks to the Yumbah Aquaculture Facility and Proposed Mitigation Measures	Aquaculture Licence FT00634 is located on CT 6127/272, adjacent the affected area. This licensed site does not appear to have been adequately considered in any of the impact assessments. Although this site has not been in operation, the licence has been active prior to and during KIPT’s application process. <i>Potential impacts to the abalone farm directly adjacent the proposed seaport needs to be considered with respect to dust, light and water quality impacts. - A</i>	Yumbah has been issued a licence under the Aquaculture Act 2001 by PIRSA (Licence number FT00634). This licence identifies a number of species including a variety of abalone species (greenlip, blacklip and hybrids of these species) as well as four finfish species (yellowtail kingfish, rainbow trout, brown trout and greenback flounder). Allowed species are detailed in Appendix C . The licence identifies the permitted farming system for this site as “Tanks” and as such, while the facility may be used for the production of larvae or holding brood stock (all of which is currently done elsewhere on the Yumbah farm) there is no practical way that the facility can be used for animal rearing (simply because slab-tanks or raceways, which are used for commercial grow-out of adult and sub-adult abalone, cannot be used under this licence). The existing infrastructure on this site comprises three sheds (estimated floor area of 542 square metres) as well as a facility to draw in water from a previously disused seawater intake (shown in the Draft EIS Figure 11.2; westernmost intake pipeline). To the extent that FT00634 is relevant, the only activity that could occur on Lot 50 is fully contained within the three sheds on the property, and the only impacts that could be relevant are associated with dust, noise, and light. The fact that the activities are fully enclosed means there is no credible argument that activities on Lot 51 or Lot 52 could affect aquaculture on Lot 50. Any expansion of aquaculture on Lot 50 would require further planning approval and is therefore not relevant to the assessment. In any event, the recent change to the design of the in-sea infrastructure for the KI Seaport has effectively removed any possibility of an impact on the marine environment, including the risk of impacts at the Yumbah seawater intakes (see Addendum, Section 4.4.2).
EPA	6	Aquaculture	Main Report Chapter 18 Noise and Light pp. 423–425 Appendix H1 Assessment of Risks to the Yumbah Aquaculture Facility and Proposed Mitigation Measures	The EIS does not completely address impacts of light pollution on the abalone farm; only metabolic rate is considered but feeding rates may also be affected. Further information is required on where the lights are located and the extent of light spill, which is only very loosely addressed. This is particularly important for the farm (Aquaculture licence FT00634) directly adjacent the proposed facility. Research has demonstrated that photoperiod and light directly affect greenlip abalone behaviour, in particular foraging (hence why many farms use shade cloth or shelters). Freeman (2001) Aquaculture and related biological attributes of abalone species in Australia – a	There is no support in the literature for the claims being made (e.g. McShane 2019) that light spill would impact on abalone growth or mortality rates on the Yumbah farm (Appendix C). On the contrary the literature referred to by McShane (2019) suggests that light spill would either have no impact on growth rates (when 24-hour light exposure is compared to the current situation on the Yumbah farm of a 12:12 light/dark cycle) or alternatively, if lights of the correct colours are used, then there is a capacity to enhance feeding responses (Appendix C). The critique provided in the various submissions erroneously compares growth responses in 24-hour dark to that with a 12:12 light-dark cycle. Yumbah’s Smith Bay farm, unlike a number of other abalone farms, does not fully cover its slab tanks in order to provide for 24 hour darkness; rather they use shade mesh to mimic the light dark cycle that abalone would receive at a depth of around 5 m in the natural marine environment. This is not the same as keeping animals permanently in the dark (as is done, for example, on the abalone farm at Port Fairy in Victoria or on the farm that operated at Streaky Bay). As such, the

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			p 61	<p>review. Fisheries Research Report 128. Fisheries WA. Currie et.al. (2016) Ventral video graphic assessment of the feeding behaviour of juvenile greenlip and hybrid abalone in response to dietary and temperature manipulation, <i>Journal of Shellfish Research</i> 35(3). 641-651.</p> <p><i>Further assessment of potential light impacts on the abalone farm relating to the position and intensity of lighting. - A</i></p>	<p>mooted benefits of not exposing animals to light spill is not supported by what has been reported (Appendix C).</p> <p>Importantly, some of the literature referred to by McShane (2019) actually showed positive benefits of red and orange light in enhancing abalone growth and reducing mortality rates (Appendix C). As such it is likely that using lights with outputs in the longer wavelengths would be an appropriate measure.)</p>
EPA	7	Aquaculture	Appendix F2 Hydrodynamic Modelling Report p 49	<p>p 49 of Appendix F2 states that the modelling undertaken for the EIS is based on two scenarios – expected-case (wharf 450m offshore, dredge volume 100,000m³) and worst-case (wharf 370m offshore, dredge volume 200,000m³). In addition, based on Figures 5-11 and 5-12, it is difficult to determine if the modelled scenarios take into account the distance of the dredge footprint from the shoreline. If the worst-case scenario is required, the EIS predicts that the Yumbah Aquaculture intakes will be located within the zone of low to moderate impact (potential adverse impacts to aquaculture). It is unknown what factors may result in KIPT requiring to dredge under the worst-case scenario where potential impacts to the abalone farm are predicted. However, it is noted that even under the expected scenario, it is predicted that suspended sediments at the intake pipes will still be potentially elevated between 4 - 6 times that of ambient conditions.</p> <p><i>Clarify exactly how far offshore the wharf will be located (i.e. 370 m, 450 m or something else) – C</i></p> <p><i>Identify what factors will determine whether the dredge campaign will fall under the expected case scenario or the worst case scenario. – A</i></p> <p><i>Ideally, the proponent would provide a single scenario that describes the proposal rather than presenting options. - B</i></p>	Dredging is no longer required with the revised design, refer to the Addendum to the Draft EIS, hence issues associated with dredging have been resolved.
EPA	8	Marine water quality	Main Report	It is noted based on p 157 of the main document, that the assumptions concerning the sediment composition used in the sediment plume modelling	The issues of incomplete sediment characterisation and the reliability of the hydrodynamic model are resolved as dredging and construction of the causeway will no longer occur.

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			Chapter 9 Marine Water Quality p 157 Appendix C Project Description Appendix F1 Assessment of Marine Sediments	is based on the geotechnical investigation described in Appendix F1, Table 1. However, this table appears to only consider sediments sampled to a depth of 140 cm whereas Appendix C describes sediment characteristics from samples taken at depths of up to 17.5 m. Many of the borehole logs describe the sediment as fine sand, silt, clay at depths greater than the 140 cm reported in Appendix F1 which has been used to inform the plume model. Considering that dredging will occur to a depth of greater than 2 m, many of the sediments described in the borehole logs will be disturbed and are likely to contribute to the turbidity plume. The EPA has concerns that this has not been reflected in the sediment plume modelling. In addition, based on Figure 6 and Table 1, the core samples used to assess sediment composition (SB) do not appear to adequately cover the proposed dredge footprint. <i>Detail if the sediment composition at deeper depths as described in Appendix C been taken into consideration in the sediment plume model, and if not, how would the sediments described in Appendix C potentially impact the outcome of the model with respect to fate, concentration and duration of predicted sediment plumes? - A</i>	
EPA	9	Aquaculture	Appendix F3 Marine Water Quality Baseline Assessment and Impact Assessment p 80	Modelling has recommended that the dredging window occurs between October and May, as during winter plumes are more likely to travel in an easterly direction towards the abalone farm intakes. However, water temperature during this time ranges from 18°C to 20°C. Increased water temperature coupled with increased turbidity may increase the risk of abalone mortalities particularly considering it is estimated that pumping water elevates the temperature by ~2°C. Note: farms have recorded mortalities at 22-23°C and the ecotoxicity study was conducted at a temperature of 18°C for a period of 24 hours which may not reflect the actual conditions experienced during the dredging campaign.	Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As such, there are no predicted changes to either current suspended sediment loads or temperature. The risk of cumulative impacts from synergistic interaction of stressors is therefore resolved. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.

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				<i>Consider the risk of cumulative impacts associated with increased turbidity (caused by dredging) and warm water temperatures (during October to May) on the abalone farm. – A</i>	
EPA	10	Aquaculture	Appendix H1 Assessment of Risks to the Yumbah Aquaculture Facility and Proposed Mitigation Measures Section 4.25 p 56	It is noted that suspended sediment loads experienced at Yumbah Narrawong in their Nyamat application, which are considered good for abalone farming, are higher than the ambient suspended sediment loads experienced at Smith Bay or potentially during the dredging campaign. However, it needs to be recognised that sediment composition may vary between locations as suspended sediment at Narrawong is the result of natural conditions whereas suspended sediment at Smith Bay will be the result of construction works therefore may vary in composition and will result in an increase in suspended loads above ambient conditions. Differences in duration of sediment plumes and water temperatures may also need to be considered. <i>For Noting. - C</i>	Various responses to the EIS have highlighted the importance of fully considering the particle size distribution of suspended sediments (not just the total suspended sediment loads). These concerns have been fully considered and taken on-board in the proposed design changes. Given that neither dredging nor the proposal to construct a causeway are any longer a part of this proposal, all related matters have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.
EPA	11	Aquaculture	Appendix H2 Ecotoxicology Reports p 42	Vandeeper (2006) concluded in the paper, <i>Preventing summer mortality of abalone in aquaculture systems by understanding interactions between nutrition and water temperature</i> FRDC Project No. 2002/200, that suspended sediment can impact abalone health based on observations on SA abalone farms, which may be associated with an increase in pathogens that may attach to sediment particles. This is also supported in other research. Vandeeper's report also stated that monitoring of seawater supplied to the SA Abalone Developments site at Louth Bay during windy months (October - November) showed an increase in the levels of the bacteria, <i>Vibrio</i> sp., associated with increased suspended solids at this time. It is interesting to note that p 42 Appendix H2 of the EIS references the claim by McShane (2017) that the resuspension of sediments resulted in a 'mass mortality' within Yumbah KI; however the EIS report inferred that mortalities that may have been	Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As such all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.

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				<p>experienced on the farm were more likely to be due to elevated levels of bacteria (e.g. <i>Vibrio</i>) rather than suspended sediment. However, according to the Vandeppeer report, the presence of bacteria may have been due to the increased suspended sediment experienced at that point in time, therefore increased suspended sediments as a result of the dredging campaign and potentially during ships berthing may increase the potential of mortalities as a result of bacteria on the farms. This may be exacerbated during the warmer months.</p> <p><i>Assess the potential risk of impacts that pathogens may have on abalone that may result from increased levels of suspended solids resulting from dredging and potentially berthing of ships. - A</i></p>	
EPA	12	Aquaculture	Appendix H2 Ecotoxicology Reports	<p>Appendix H2 of the EIS states that it is unlikely that suspended sediments would impact on the filtration systems that may be used in both the hatchery and the nursery. However, there this is no evidence provided to support this statement. Elevated suspended sediments may also result in reduced flow rates through the hatchery and nursery systems, which are vital for optimal abalone health, depending on the extent of sediments accumulating on the filtration systems.</p> <p><i>Provide evidence that increased sediment loads will not impact filtration systems that are likely to be present in the hatchery and nursery - A</i></p>	<p>Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As such all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>The Smith Bay EIS has a solid foundation of data on which to base the analysis and interpretation provided in the EIS and this response document. The basic data set comprises a detailed set of observations across a suite of environmental, ecological, social and economic parameters. While there may be some debate with the analysis and interpretation of the data, particularly where the conclusions drawn conflict with the views and opinions of certain stakeholders, this in no way diminishes the quality of the underlying data. The decision to address a number of stakeholder concerns through a change in the design of the in-sea components (i.e. the replacement of the causeway with a pier, the removal of all dredging from the proposal, and the placement of the berth face (pontoon) further offshore) has necessitated the collection of additional data particularly relating to the structure of benthic communities in the region, further offshore, where the berth-face will now be located.</p>

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					Notwithstanding, this additional information simply augments what is already a comprehensive data set and supports the broader analysis of the implications of the revised design.
EPA	13	Aquaculture	Appendix H2 Ecotoxicology Reports	<p>Appendix H2 of the EIS claims that the construction of the causeway is likely to mitigate the potentially adverse effects that silt-laden discharges from Smith Creek may have on water quality at the abalone farm. The EPA is unsure of the difference in the circumstances surrounding the potential adverse effects of the discharges from Smith Creek on the Yumbah Aquaculture intake pipes in comparison to the potential adverse effects that suspended sediment plumes generated by dredging, which are identified in the EIS will have no adverse effects on Yumbah Aquaculture</p> <p><i>Identify the differences in circumstances between potential sediment impacts that may result from discharges from Smith Creek in comparison to potential impacts of increased sediment loads resulting from dredging. – A</i></p> <p><i>Explain why adverse effects from Smith Creek have been identified in the EIS by KIPT whereas it is concluded that there will be no adverse impacts from dredging sediment plumes. - B</i></p>	<p>As discussed in the EIS, the potential adverse effects on Yumbah's operations associated with Smith Creek flows are likely to be associated with the bacteria and algae that would be flushed into Smith Bay during rainfall events, rather than the suspended sediments as such. In particular, the bacteria <i>Vibrio</i>, which is known to adversely affect abalone, is sometimes associated with sediments and run-off from farmland. During a field inspection of Smith Creek, it was noted that the remnant pools were highly enriched and supported algal blooms.</p> <p>The relative merits of changing flow paths of Smith Creek discharges to mitigate potential adverse impacts on the Yumbah intake water quality are no longer relevant as dredging and construction of the causeway will no longer occur. Flows from Smith Creek will enter and mix with the waters in Smith Bay in the same way as they currently do, resulting in the status of quo of water quality at Yumbah's intakes being maintained.</p>
EPA	14	Aquaculture	Appendix H2 Ecotoxicology Reports Part B	<p>The eco-toxicity testing should be viewed with caution particularly as it did not take account of water temperature and stocking densities which vary under farm conditions and also impact survival rate of abalone. While the 10 x safety factor applied is good, it is an arbitrary number (although used in ANZECC). In reality a 24 hour test is not long enough for many gross endpoints (such as mortality) and many animals are likely to have enough energy reserves to provide resilience, particularly when the toxicity mode of action is not likely to be one of toxicity but more likely irritant (or similar). The toxicity tests show possible short-term impacts around the no observed effect concentration (NOEC) and the text should use this in this context particularly when</p>	<p>Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As such all related matters including the veracity of sampling and testing programs have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p> <p>While we do not resile from our previous conclusions that abalone are well adapted to environments with high TSS exposure (a view which is broadly supported by comments from the submission by Trent D'Antignana; p 2) a number of the issues that have been raised are valid and would, if the original proposal were to be pursued, warrant further work (particularly in the context of the susceptibility of abalone to suspended sediments</p>

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				<p>discussing possible triggers. This is also consistent with other trigger values that do not allow the water quality to reach the NOEC.</p> <p>Having said this, the EPA is aware of the lengths that KIPT have gone to in order to acquire animals for toxicity testing and the limitations this caused with respect to numbers of animals to test. The numbers and length of testing is inadequate to have high confidence in the results, but it does provide some information that is relevant in this assessment. Given this data and the existing ANZECC Guideline for aquaculture production, the use of the 10 mg/L TSS guideline value is recommended</p> <p><i>For Noting. - C</i></p>	<p>comprising a finer size range of particles). However, neither the dredging nor the proposal to construct a causeway are any longer a part of this proposal. As such all related matters including the veracity of ecotoxicology testing or the relative susceptibility of abalone to high suspended sediment loads or to sediments comprising finer particle size classes are no longer relevant as there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Various responses to the EIS have highlighted the importance of fully considering the particle size distribution of suspended sediments (not just the total suspended sediment loads). These concerns have been fully considered and taken on-board in the proposed design changes. Given that neither dredging nor the proposal to construct a causeway are any longer a part of this proposal, all related matters have been resolved and there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
EPA	15	Aquaculture	Main Report Chapter 11 Land based Aquaculture Section 11.5 Impact Assessment and Management p 217	<p>It is stated that juvenile abalone were used because Yoon and Park (2011) have shown that these are the most vulnerable phase in the life history; however, previous sections suggest that the larval phases are more sensitive to sediment than the larger sizes as these would be the more vulnerable life stage.</p> <p><i>Ensure consistency in discussion - C</i></p>	<p>These issues have been resolved in the manner initially suggested by Yumbah. Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As a consequence, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>
EPA	16	Aquaculture	Main Report Chapter 11 Land based Aquaculture Section 11.5 Impact Assessment and Management p 216	<p>The EIS mentions the poor quality of the data and, as such, the Narrawong water quality analysis is reasonable but should be viewed with caution as 86 data points over 17 years does not provide good coverage of water quality conditions. It is not known what the farm was doing on the days of high turbidity. In relation to the 37 mg/L maximum observed value, it is not known whether the farm was operating or not at the time. If it was not</p>	<p>Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. As such all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.</p> <p>Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline.</p>

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				operating, then such water quality would have had no impact on operation of the abalone farm. <i>For Noting - C</i>	
EPA	17	Aquaculture	Main Report Chapter 11 Land based Aquaculture Section 11.5.8 Seawater temperature pp. 224–226	<p>The predicted small increase in water temperature around the Yumbah water intakes may be a real issue of concern to the abalone farm. The EIS states that land based abalone farms are subject to pressure from water temperatures particularly when the temperature exceeds 21 degrees. A slight increase in water temperature associated with the proposed wharf has the potential to exacerbate the impact of heatwaves and the likely pressure from rising sea temperatures caused by climate change. Having said this, it may be true that the farm's water intakes are not climate change proof and will be subject to warmer waters in the future regardless of the proposed wharf. However, this should still be viewed as a high risk to continued operation of the abalone farm.</p> <p>The EIS (p 226) offers the option of an open bypass system to be installed in the near-shore section of the causeway to minimise the interruption to tidal currents and reduce the risk of increased water temperatures at the abalone farm's water intakes. In light of the high risk that the EPA considers increased water temperature poses to the abalone farm, it is recommended that the bypass system in the near-shore section of the causeway should be properly investigated.</p> <p><i>Investigate design options for an open bypass (or gated culvert) in the near-shore section of the proposed causeway, including hydrodynamic modelling to predict potential impacts on turbidity and temperature at the abalone farm water intakes. - A</i></p> <p><i>Identify what maintenance regimes would be necessary in association with each design option. - B</i></p>	<p>The causeway is no longer part of the design, and therefore further investigation of an open bypass (or gated culvert) in the near-shore section of the proposed causeway, is no longer relevant.</p> <p>The Addendum to the Draft EIS provides detail of the modified design and associated impact assessment.</p>
EPA	18	Dredging	Executive Summary	It is stated that up to 200,000m ³ of material would be dredged whereas in other parts of the	The issue associate with dredging scenarios is resolved as dredging will no longer occur.

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			Potential Impacts of Dredging on Water Quality p 53	Executive Summary it is stated that 100,000m ³ of material would be dredged. <i>The Executive Summary needs to state that two dredging scenarios have been modelled (expected case and worst case) and that the volume of material to be dredged is either 100,000m³ or 200,000m³ depending on which scenario is adopted. Alternatively, the EIS needs to be amended to state that the wharf will be located in a definite location (i.e. distance offshore) with a definite volume of material to be dredged. – C</i>	
EPA	19	Dredging	Main Report Chapter 4 Project Description Section 4.5.2 Dredging p 74	Further details of the proposed dredge spoil dewatering process should be provided. The model used an input TSS from the dewatering system of 50 mg/L. It is considered that best practice dewatering should be able to achieve lower TSS than this and this will be expected in the EPA's dredging licensing process. The spoil material placement area has not been defined or proposed for maintenance dredging campaigns given the settlement ponds will no longer be an option in the future. It should be noted that sea based disposal will not be viewed favourably. <i>In light of the EPA Dewatering Guidelines, the following issues need to be addressed:</i> <ul style="list-style-type: none"> • <i>Management of potential environmental impacts from settlement ponds has not been detailed including how excavated bund material will be managed (e.g. runoff/dust) etc., contingency arrangements for burst bund walls and potential large amount of fines in ponds.</i> • <i>Sediment quality of the dewatering location to determine potential leaching into water prior to discharge, and percentage of fines that may be entrained.</i> • <i>How will water quality be monitored and managed prior to (settlement time, flocculation) and during discharge events</i> 	The issues associated with dewatering the dredge spoil are resolved as dredging will no longer occur.

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				<p>(water quality monitoring). What are the contingency arrangements for NTU triggers being met/exceeded? – B</p> <p>Provide details of proposed spoil disposal location and management for maintenance dredging campaigns. - A</p>	
EPA	20	Dredging	Appendix F2 Hydrodynamic Modelling Report	<p>It is unclear why the 99th percentile has been used in triggers instead of the 95th percentile which is standard in other projects</p> <p>The values used to delineate the zones of impact need to be clearly outlined in a table including what the total TSS/NTU will be taking into account the ambient conditions.</p> <p><i>Justify the use of 99th percentile over the 95th for trigger values. – B</i></p> <p><i>Include a table that clearly outlines the values used in the development of the each of the zones of impact and how ambient values (including natural variability in natural turbidity) may change these values. Also include a discussion of the potential impact of this on the abalone farm and the wider ecology. - A</i></p>	<p>The issue of the use of the 99th percentile over the 95th percentile trigger values associated with the sediment plume zones of impact is resolved as dredging will not occur.</p> <p>The issue of the use of the 99th percentile over the 95th percentile trigger values associated with the sediment plume zones of impact is resolved as dredging will no longer occur. Similarly, issues associated with the derivation of the TSS zones of impact are resolved in light of the removal from the project of the need to dredge.</p>
EPA	21	Dredging	Main Report Chapter 12 Marine Ecology Section 12.5.4 Seagrass and other Benthic Communities	<p>The modelling of benthic PAR revealed that PAR under ambient conditions ranged from:</p> <ul style="list-style-type: none"> • 8–18 per cent surface irradiance over dense seagrass and macro-algae communities at 6 m depth • 3–10 per cent over dense seagrass communities at 10 m depth • 3–8 per cent over sparse seagrass communities at 14 m depth. <p>It can therefore be inferred that a drop in PAR to below 10 per cent could result in a reduction of seagrass vigour. Modelling presented in Appendix F2 of the 30-day average benthic PAR shows that only a small proportion of seagrass within Smith Bay would be likely to undergo such a reduction in PAR.</p>	<p>Issues associated with increased turbidity during dredging resulting in reduced PAR available to seagrass communities are no longer relevant as dredging will no longer occur. Turbidity effects associated with shipping movements will be negligible due to the low frequency of shipping movements, the short duration of the plumes, and the limited extent of the plumes.</p>

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				<p>This does not take into account a reduction in PAR from areas that are already below 10% PAR, whereby a further reduction will have significant effects.</p> <p>This section is vague and unclear. It is a very coarse assessment using only a 10 % boundary. It then automatically does not consider sparse seagrass communities in waters greater than 10 m deep as they already receive less than 10% SI. If these communities are present (as they are) this infers that there is enough light currently that allows growth and survival, but these have not been included in the assessment. This would suggest that any seagrass in the area outlined in Figure 5-16 in Appendix F2 that will be exposed to a reduction in SI in waters deeper than 10 m may be impacted. There is a large area that appears to have a 5% reduction in SI which might be significant, particularly in deeper waters. It also infers habitat extent and condition without the data to support it. The benthic mapping is inadequate to support the assessment.</p> <p><i>A more rigorous assessment of benthic impacts associated with the predicted reduction in PAR caused by dredging is required. - A</i></p>	
EPA	22	Groundwater	Main Report Table 8.3 Key issues associated with KI Seaport p 149 Ref. 42 – On-site diesel storage and use	<p>Table 8.3 identifies soil contamination and marine pollution and effects on marine communities as 'impacts to be assessed'. The EPA recommends that impacts on groundwater be added to Table 8.3 in this section.</p> <p><i>Add impacts on groundwater to Table 8.3 in this section. - C</i></p>	<p>Further discussion, to that presented in Chapter 16 of the Draft EIS, for potential impacts to groundwater is provided in Appendix A.</p> <p>Any editorial changes have also been acknowledged in Appendix E.</p>
EPA	23	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.2.6 Groundwater	<p>Section "16.2.6 Groundwater" states "The SA Government Water Connect database identifies four licensed wells within a 1 km radius of the site". Although these wells have been backfilled, they have still been tested as recently as 2015 and it would be helpful to show these on a map,</p>	<p>See Appendix A for map showing location of licensed wells within a 1 km radius of the site.</p>

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			p 357	especially to show the lack of coverage of wells in this area. <i>The location of licensed wells within a 1 km radius of the site should be shown on a map (perhaps Figure 16-7) in this section of the Main Report. - C</i>	
EPA	24	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.2.1 Geology p 355	The sentence starting, 'The study area lies within the northern coastal zone' ends on 'and hills on metamorphic'. The sentence is incomplete and needs to be fixed. <i>Undertake necessary editorial change. - C</i>	The sentence has been corrected and now complete in Appendix E .
EPA	25	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.2.1 Geology p 355	No conceptual model of the geology/hydrogeology is provided, and it would be helpful to better communicate the hydrogeological environment (i.e. a cross section of the site including underlying geology such as sediments, aquifers, etc.). <i>Provide conceptual model of geology/hydrogeology. - C</i>	See Appendix A . The investigation undertaken was of sufficient scope to establish risk scale from the proposed port development. The conceptual site model quality is considered sufficient to establish the conservative view that groundwater interacts with the marine environment and that groundwater is likely to be saline across the site This is sufficient to inform initial lagoon/basin design. Further investigation can be undertaken post-approval to inform a more refined design.
EPA	26	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.2.6 Groundwater p 357	It is stated that '...wells drilled depths ranged from 20 meters below ground level (mBGL) to 54 mBGL'. These should be corrected to the Australian Height Datum (AHD) to show the comparison of the bottom of the well as they could be at different heights. <i>Correct BGL to AHD. - C</i>	Published groundwater well data (DEWNR) does not include relative mAHD for the groundwater wells in the area. See Appendix A which details the respective mAHD levels which were deduced using site topographic map data.
EPA	27	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.2.6 Groundwater p 357	It is stated that 'it is anticipated groundwater flows north toward Smith Bay'. Generally, groundwater will follow topography and coastal aquifers will flow towards the coast; however, has any work been done to verify this? <i>Clarify whether work on groundwater flow direction has been undertaken - C</i>	It is commonly accepted that groundwater would flow towards a drainage point, and at the Smith Bay site, this is the adjacent sea, particularly given the proximity of the site in the coastal zone to the sea. Field observations and salinity of only one groundwater grab sample was measured, hence it is not possible to verify groundwater flow direction, but given the shallow observed depth of the groundwater, topography of the site and measured salinity (hypersaline) of GW02, it can be assumed that flow of groundwater is likely to be towards the sea.

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					Groundwater flow direction would be verified during more detailed baseline assessment for detailed engineering design and implementation of monitoring during construction and operation, at which point it is expected groundwater monitoring bores would be installed. See Appendix A for further information.
EPA	28	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.4.4 Groundwater p 365	It is stated that 'A groundwater grab sample was collected' Two groundwater grab samples are shown on Figure 16-8 but only one is referenced in the text. <i>Measurement details should be displayed on maps such as these to show the spatial distribution of groundwater chemistry, standing water levels etc.</i> <i>Clarify why only two grab samples were collected - C</i>	A single groundwater sample (GW01) was collected using grab sampling methodology from a soil bore (location BH13, see Figure 16.8 of the Draft EIS) following recovery of the soil core. That is, at the location BH13, the underlying shallow aquifer was intersected, and a sample of the groundwater within the borehole was collected as GW01. A liquid sample (identified as GW02) was collected from a 100 mm PVC pipe inspection point, which was possibly part of a disused septic tank system formerly operating at the site. This was not a groundwater sample, but a liquid sample. This was not a groundwater sample. Figure 16-8 has been updated to reflect that GW2 is an inspection point, see Appendix E . The objective of the site assessment was to determine whether there was any contamination or contamination source on the site. The function or purpose of the inspection point was uncertain, and water in it appeared to be contaminated, it was tested in order to determine whether it was a potential contamination source (or not). Only one groundwater (grab) sample was tested because additional groundwater investigations for a baseline for the EIS was not warranted, given there were no indications of contamination sources on the site. It was considered unlikely that there would be significant groundwater quality variation on this relatively small site close to the sea and that future investigations would be undertaken for the purposes of developing the site, should approval be given to the development. See Appendix A for further information.
EPA	29	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.4.4 Groundwater p 365	References are made to groundwater depth and salinity within one of the soil boreholes, but it is not clear as to which well was tested. <i>Clarify which well was tested. - C</i>	A single groundwater sample (GW01) was collected using grab sampling methodology from a soil bore (location BH13, see Figure 16.8 of the Draft EIS) following recovery of the soil core. That is, at the location BH13, the underlying shallow aquifer was intersected, and a sample of the groundwater within the borehole was collected as GW01. A liquid sample (identified as GW02) was collected from a 100 mm PVC pipe inspection point, which was possibly part of a disused septic tank system formerly operating at the site. This was not a groundwater sample, but a liquid sample. This was not a groundwater sample. Figure 16-8 has been updated to reflect that GW2 is an inspection point, see Appendix E .
EPA	30	Groundwater	Main Report Chapter 16 Geology, Soils and Water	Under the heading, 'Dredge Spoil Dewatering', it is stated that the groundwater is saline, but this is based on two data points and GW2's salinity (grab sample taken within the site) has not been referenced anywhere.	Groundwater sample GW01 was retrieved using grab sampling methodology from soil bore location BH13 after the recovery of the soil core (see Figure 16-8 in the Draft EIS). Salinity was measured for this sample.

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			Section 16.5.2 Environmental aspects with off-site impacts p 370	<i>Provide clarity on this matter - C</i>	A liquid grab sample, identified as GW02, was collected from a 100 mm PVC inspection point which was possibly part of a disused septic tank system. This was not a groundwater sample.
EPA	31	Groundwater	Main Report Chapter 16 Geology, Soils and Water Section 16.5.2 Environmental aspects with off-site impacts p 370	It is stated under the heading, 'Dredge Spoil Dewatering', that 'Sediment load will not impact groundwater'. <i>Provide justification for this statement - C</i>	Not relevant. Dredging is no longer required for wharf operation.
EPA	32	Groundwater	Main Report Chapter 26 Environmental Management Framework Table 26-1, p 538	There is no mention of groundwater contamination under 'Generation of waste and discharges'. <i>It is recommended that contamination of groundwater be included in Table 26-1. - C</i>	See Appendix A for the updated table. These editorial changes have also been acknowledged in Appendix E .
EPA	33	Noise (terrestrial)	Appendix N Part 6 Noise assessment (Resonate report) p 21 Main Report Chapter 18 Noise and Light Section 18.3.4 Impact assessment p 410	p 21 of the Resonate report states that: <i>"Noise levels at the Yumbah Aquaculture facility are expected to exceed the relevant daytime and night time criteria".</i> <i>"...the Rural Living criteria are intended for the protection of residential and recreational amenity, and prevention of sleep disturbance, and are not considered appropriate for assessing the impact of noise at this location based on existing land use."</i> p 410 of the Main Report states: <i>"KIPT is confident that the noise criteria at the residences will be complied with at all times for all phases of the development."</i> Cl.12(1)(a) of the Noise EPP states: <i>"For the purposes of this policy, measurements to determine the compliance with this policy of noise from a noise source are to be taken in relation to</i>	In accordance with the Environment Protection (Noise) Policy 2007 (the Policy), KIPT assessed the outputs of the predictive noise modelling with regard to the Indicative Noise Levels (INLs) presented within the Policy (see Section 18.3 and Table 9 of Appendix N to the Draft EIS) at the location of the various sensitive receptors. This included the application of the INLs as specified in the Respondent's feedback. For the purpose of the assessment, it was considered that the majority of proposed noise sources are broadband and continuous and are not expected to have tonal characteristics under normal operating conditions. Amplitude modulation may be associated with some sources (for example truck movements), however this is not expected to dominate the noise impact to the extent that a penalty for characteristics would be appropriate. In addition, the project configuration has been designed to maximise the separation from noise-generating activities to the nearest receptors (i.e. noise-generating activities have been placed, wherever possible, on the western side of the site, with offices established to the east to assist in blocking line-of-sight to Yumbah), with other mitigation (e.g. enclosure of diesel-fired electricity gensets, removal of re-chipping facility, limiting the number of simultaneous heavy vehicle movements, extending the wharf further out to sea to increase separation distances) also applied during Project design to reduce noise levels to as low as reasonably practicable.

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				<p><i>premises at which the noise is audible (noise-affected premises) that—</i></p> <p><i>(a) are in separate occupation from the noise source and used for residential or business purposes; (author bold and underline “business purposes”)</i></p> <p>Therefore, the Cl.20(3)&(4) predicted noise criteria should be met at not only residential premises but also at the adjacent Yumbah Aquaculture facility. The following noise criteria need to be met at the Yumbah Aquaculture facility:</p> <p>(a) 42 dB(A) Leq between the hours of 7 am and 10 pm when measured and adjusted#; and</p> <p>(b) 35 dB(A) Leq between the hours of 10 pm and 7 am when measured and adjusted#; and</p> <p>(c) 60 dB(A) LAmax between the hours of 10 pm and 7 am when measured;</p> <p>in accordance with the Noise EPP.</p> <p>#The above measured noise levels should be adjusted in accordance with the Noise EPP by the inclusion of a penalty for each characteristic where tonal/modulating/impulsive/low frequency characteristics are present.</p> <p><i>Undertake further investigation into the predicted noise criteria at the adjacent Yumbah Aquaculture facility. - A</i></p>	<p>The results of the assessment demonstrate that the INLs will be achieved for the nearby residences at all times and phases of the Project, however will be exceeded at the façade of the nearest buildings (sheds) at the adjacent Yumbah Aquaculture facility, with predicted noise levels ranging from 36 to 53 dB(A) Leq depending on location within the site. Predicted noise levels exceed the daytime criteria at assumed office building locations by 3 dB, and night time criteria by 10 dB. Greater exceedances are predicted at sheds to the west of the Yumbah site (up to 11 dB during the day). These noise levels are based on a scenario with all sources operating simultaneously under worst-case meteorological conditions. Actual noise levels are therefore expected to be significantly lower for the majority of the time. Noise emissions are expected to comply with the 60 dB(A) L_{max} INL in all locations within the Yumbah Aquaculture facility.</p> <p>Whilst the INLs are predicted to be exceeded at the Yumbah Aquaculture facility, it is important to make the distinction between an exceedance of the INLs and the potential of the Project to result in actual or potential environmental harm (which includes, in accordance with the <i>Environment Protection Act 1993</i> (SA), environmental nuisance). The Yumbah Aquaculture facility is located within a Coastal Conservation Zone under the current Kangaroo Island Council Development Plan. This zoning peculiarity results in a particularly stringent set of INLs because the Policy is based on the zone of the receiver, and not the actual land use. In practice, the noise levels associated with continuous operations at Yumbah are expected to be 40-50 dB within the buildings (as described within the EIS for the similar Yumbah Nyamat Abalone Farm situated in Victoria (Yumbah 2018)) and thus, with attenuation through the building façade, it is considered that the Project would not be audible inside the Yumbah workplaces, resulting in a negligible potential for environmental harm.</p> <p>Cl.20(6) of the Policy states that if the predicted noise levels exceed the relevant INLs, then the EPA must have regard to the matters listed in Cl.20(6)(a)-(f) in determining its response. KIPTs response to the matters listed in these clauses is detailed in the response to EIS Issue #34 and forms a part of the overall response to this issue.</p> <p>On the basis that KIPT has applied all reasonable and practicable mitigation measures, and that it is considered that no actual or potential environmental harm will result to Yumbah from the Project, KIPT considers that the it complies with the General Environmental Duty (Section 25 of the <i>Environment Protection Act 1993</i> (SA)) which states that “a person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm”.</p> <p>See Appendix H for an addendum to the noise assessment report provided in the Draft EIS.</p>

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EPA	34	Noise (terrestrial)	Appendix N Part 6 Noise assessment (Resonate report) p 21	<p>Cl.20(6) of the Noise EPP states that if the predicted noise levels exceed the relevant levels prescribed in subclause (3) or (4) then the Authority must have regard to the matters listed in Cl.20 (6)(a)-(f) in determining its response.</p> <p>On p 21 of the report Resonate attempts to address the abovementioned subclauses in a table but the information is not adequate.</p> <p><i>More information is required to comprehensively address clause 20(6) (a)- (f) of the Noise Policy needs to be provided; and/or - A</i></p>	<p>Clause20(6) of the Environment Protection (Noise) Policy 2007 (the Policy) states that if the predicted noise levels exceed the relevant Indicative Noise Levels (INLs), then the EPA must have regard to the matters listed in Cl.20(6)(a)-(f) in determining whether the Project will meet Section 25 of the <i>Environment Protection Act 1993</i> (SA), the General Environmental Duty.</p> <p>As detailed in the response to Issue #34, the Project is predicted to exceed the INLs at the Yumbah Aquaculture facility. KIPT believe that this will not result in actual or potential environmental harm. To support this, Cl.20(6) (a)-(f) of the Policy are outlined below along with additional information as requested by the Respondent.</p> <p><i>If a predicted source noise level (continuous) or predicted source noise level (maximum) for the development exceeds a relevant level prescribed in subclause (3) or (4) [of the Policy], the Authority must have regard to the following matters in determining its response:</i></p> <p><i>the amount in dB(A) by which the predicted source noise level (continuous) or predicted source noise level (maximum) exceeds the relevant level and the likely frequency and duration of the noise levels that give rise to that result.</i></p> <p>Predicted noise levels at the Yumbah Aquaculture facility buildings range from 36 to 53 dB(A) L_{eq} depending on location within the site. The highest noise levels (53 dB(A) L_{eq}, i.e. an 11 dB exceedance of the INL) are predicted at the sheds on the western side of the facility. On the basis that these sheds are enclosed structures with no windows nor ventilation, it is assumed that these are unlikely to be frequently occupied by personnel. Noise levels of approximately 45 dB(A) L_{eq} (i.e. a 3 dB exceedance of the INL) are predicted at the office and administration buildings on the eastern side of the facility. Noise emissions are expected to comply with the 60 dB(A) L_{max} criteria in all locations.</p> <p>The predicted noise levels are based on a modelled scenario with all sources operating simultaneously under worst-case meteorological conditions. Actual noise levels are therefore expected to be significantly lower for the majority of the time. Because of the complexity of the KI Seaport operation, there are multiple noise sources that contribute to the exceedance of the relevant INLs. These, together with their contribution, are described in the table below.</p> <table border="1"> <thead> <tr> <th>Noise-Generating Source</th> <th>Contribution at the nearest Yumbah building (dB(A) L_{eq})</th> </tr> </thead> <tbody> <tr> <td>Woodchip stacker</td> <td>49</td> </tr> <tr> <td>Ship loader</td> <td>42</td> </tr> <tr> <td>Wharf/jetty conveyor</td> <td>42</td> </tr> <tr> <td>Mobile fleet (trucks, log handlers, bulldozer)</td> <td>50</td> </tr> </tbody> </table>	Noise-Generating Source	Contribution at the nearest Yumbah building (dB(A) L_{eq})	Woodchip stacker	49	Ship loader	42	Wharf/jetty conveyor	42	Mobile fleet (trucks, log handlers, bulldozer)	50
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					<p>All sources (cumulative) 53</p> <p>any component of the ambient noise or extraneous noise that—</p> <ul style="list-style-type: none"> i. has a noise level similar to or greater than the predicted source noise level (continuous) or predicted source noise level (maximum); and ii. has a similar noise character or similar regularity and duration to the noise from the noise source; <p>Baseline monitoring of the environment around the Project (see Section 18.3 and Appendix N of the Draft EIS) demonstrated that, at the time of measurement, ambient noise levels associated with waves were of a similar magnitude to the noise levels predicted from the Project, noting that the character of background wave noises and Project-generated noise sources are not comparable.</p> <p>In terms of noise sources of similar character, noise source information described in the EIS for the similar Yumbah Nyamat Abalone Farm, located in Victoria (Yumbah 2018) predicts that local noise sources associated with water pumping infrastructure (pumps and pipes) will result in noise levels within the Yumbah facility of between 40-50 dB(A)_{L_{eq}}. Noise levels outside of the Yumbah buildings generally vary between 30-40 dB(A)_{L_{eq}} with short-term peaks associated with occasional heavy vehicle movements. This is consistent with baseline noise monitoring undertaken external to the buildings at Smith Bay.</p> <p><i>the times of occurrence of the noise from the noise source;</i></p> <p>It is understood that delivery trucks would likely be operated during daylight hours only (approximately 12 hours per day), while the materials handling system would operate 24 hours a day, for up to 30-50 days per year. There is a possibility that truck deliveries may occur on a 24/7 basis. Although this is not KIPT’s preferred option, this worst-case truck delivery scenario was adopted for the purposes of the assessment (i.e. predicted noise levels are based on all sources operating, which could occur during the daytime or night time).</p> <p>The EPA has previously advised that the EPA does not have evidence to suggest that the Yumbah site is a relevant receiver for the night-time period of the Policy, however noted that the INLs are relevant for day-time comparison.</p> <p><i>the number of persons likely to be adversely affected by the noise from the noise source and whether there is or is likely to be any special need for quiet at noise-affected premises;</i></p> <p>There is considered to be no “special need for quiet” at the Yumbah Aquaculture facility as compared to other industrial or primary production activities. Internal noise levels of 43 dB(A)_{L_{eq}} or less are predicted in all buildings within the Yumbah Aquaculture site (assuming a reduction of 10 dB through an open window, noting that the sheds immediately to the east of the Project area do not have windows). This is less than the maximum noise level of 50 dB(A)_{L_{eq}} recommended in AS/NZS 2107:2016 <i>Recommended</i></p>

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					<p><i>design sound levels and reverberation times for building interiors</i> for ‘industrial buildings’, including office, lunch room, laboratory and precision assembly areas.</p> <p>Further, noise source information described in the EIS for the similar Yumbah Nyamat Abalone Farm, located in Victoria (Yumbah 2018) predicts that local noise sources associated with water pumping infrastructure (pumps and pipes) will result in noise levels within the Yumbah facility of between 40-50 dB(A)_{L_{eq}}. This would effectively render noise from the Project inaudible within the working areas of the Yumbah Aquaculture facility.</p> <p>On this basis there is no actual or potential adverse impact on Yumbah Aquaculture activities or personnel as a result of Project-related noise generation.</p> <p>the land uses existing in the vicinity of the noise source;</p> <p>The existing land uses in the vicinity of the noise source are Rural Living (nearby residences) or Rural Industry (adjacent Abalone production). Although KIPT agree that the Rural Living land use category best aligns with the Kangaroo Island Council vision for the Coastal Conservation Zone (i.e., “[this] <i>land use category may be assigned to a locality that principally promotes a park or reserve set aside for public recreation or enjoyment in a country or non-urban setting</i>”), the current land use associated with the Yumbah Aquaculture facility better reflects Rural Industry land use, which is generally promoted within the greater Primary Production Zone in the Development Plan, where Rural Industry is described via example as “<i>in general farming zones, where the land use principally promoted is agriculture and residences are contemplated, the Rural Industry land use category would be assigned</i>”.</p> <p>any other matter required to be taken into account under section 25 of the Act or determined to be relevant by the Authority.</p> <p>Section 25(1) of the <i>Environment Protection Act 1993</i> (SA) requires that “<i>A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm.</i>” Further, Section 25(2) states: <i>In determining what measures are required to be taken under subsection (1), regard is to be had, amongst other things, to—</i></p> <ul style="list-style-type: none"> (a) <i>the nature of the pollution or potential pollution and the sensitivity of the receiving environment; and</i> (b) <i>the financial implications of the various measures that might be taken as those implications relate to the class of persons undertaking activities of the same or a similar kind; and</i> (c) <i>the current state of technical knowledge and likelihood of successful application of the various measures that might be taken.</i> <p>As described earlier in this response and in the response to Issue #33, KIPT believes that there will be no actual or potential environmental harm as a result of Project-generated noise due to the nature of the existing and proposed noise sources and the sensitivity and nature of the receiving environment as described in (a) through (e) above, and therefore</p>

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					considers that the Project will meet the General Environmental Duty. However, KIPT is committed to be a good neighbour to nearby receptors, and as such, has investigated the practicality of implementing further mitigation measures in order to reduce noise levels further. The specifics of this are described in the response to EPA Issue #35 (below). See Appendix H for an addendum to the noise assessment report provided in the Draft EIS.
EPA	35	Noise (terrestrial)	Main Report Chapter 18 Noise and Light Section 18.3.4 Impact assessment p 410	On p 410, Chapter 18 of the main report states: "The proposed KI Seaport is currently in detailed design. Pending this, the details of specific noise mitigation measures is not available. For the purposes of undertaking the noise impact assessment, the noise modelling did not consider any noise mitigation measures, ..." <i>The noise mitigation measures needed on the subject land to meet the abovementioned noise criteria at the adjacent Yumbah Aquaculture facility need to be provided. - A</i>	The proposed layout of the site incorporates a number of features which will provide incidental noise mitigation, including: <ul style="list-style-type: none"> • Location of generator, conveyor and chip stacking plant to the north and west of the site away from sensitive receivers. • Location of the administration buildings to the east of the site to provide a line-of-sight noise barrier • 3 m bund along the southern site boundary. • Modification of the jetty structure to place the offshore shiploading components a further 250+ metres out to sea. • Removal of on-site wood chipping infrastructure In addition, several design measures have been included in the preliminary design to reduce noise levels, including: <ul style="list-style-type: none"> • The enclosure of the diesel-fired electricity gensets • Limitations of the number of simultaneous truck movements on site A revised noise impact assessment is presented in Appendix H , reflecting the revised infrastructure layout and including the above mitigation. In order to satisfy Section 25(2) of the Environment Protection Act 1993 (SA), further predictive modelling was undertaken to assess the effectiveness and feasibility of additional mitigation. Due to the variety of noise-generating sources within the Project, this was assessed on a "per-source" basis. The outcomes of this are presented in the table in Appendix H .
EPA	36	Noise (underwater)	Executive Summary of Main Report p 41	Clause 9 of the Water Quality EPP states that "a person must comply with in taking all reasonable and practicable measures to prevent or minimize environmental harm resulting from undertaking an activity that pollutes or might pollute waters..." Additionally, the EP Act defines noise as a pollutant. As such the EPA regulates noise including underwater noise to prevent environmental harm. Accordingly, the EPA is	The underwater noise and vibration impacts have been assessed (see Section 18.4 of the Draft EIS and Appendix N). Resonate have revisited the modelling for current offshore design and to consider relevant submissions from the public consultation process. An Addendum to the report is attached as Appendix H , and Figure 1 of that report shows the predicted noise levels based on revised site layout. KIPT would prefer to avoid piling operations in winter during the whale migration season. However, should piling during the whale migration or dolphin breeding season be unavoidable, further details regarding the use of marine mammal observes and other procedures to mitigate impacts to these species would be included in the CEMP.

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				<p>concerned about potential impacts of underwater noise on marine mammals within the environment.</p> <p>Piling should not be undertaken during whale migration season nor when dolphins, which frequent the region, are present. There is a need for Marine Mammal Observers (MMOs) to stop works until marine mammal have left the caution zone. Dredging vessels need to use MMOs if dredging in dolphin breeding season and/or whale migration season.</p> <p>Further details are required regarding the use of MMOs and procedures which would ensure management of these species during sensitive seasons for migration and calving. The use of vibration piling should be considered rather than hammer piling methods to reduce underwater noise impacts.</p> <p>Required details can be included in EMPs.</p> <p><i>For Noting - C</i></p>	
EPA	37	Site contamination	<p>Appendix U1 – draft Construction Environment Management Plan</p> <p>Section 1.4 Environmental legislation, regulation and guidelines</p>	<p>Section states ..."Guidelines for Assessment and Remediation of Groundwater Contamination (EPA SA 2009) This guideline has been updated to SA EPA Guidelines for the assessment and remediation of site contamination (2018).</p> <p>The following other documents should also be considered:</p> <ul style="list-style-type: none"> • SA EPA Guideline for the assessment of background concentrations (2018). • SA EPA Regulatory and orphan site management framework (2017). <p><i>Editorial changes required. - C</i></p>	<p>The Draft CEMP will be reviewed and updated post-approval.</p> <p>The following environmental legislation, regulations and guidelines have been added to Section 1.4 in Appendix U1 of the Draft EIS:</p> <ul style="list-style-type: none"> • Guidelines for the Assessment and Remediation of Site Contamination (EPA South Australia, 2018) • Guideline for the assessment of background concentrations (EPA South Australia, 2018) • Regulatory and orphan site management framework (EPA South Australia, 2017. <p>These editorial changes have also been acknowledged in Appendix E.</p>
EPA	38	Site contamination	<p>Appendix U1 – draft Construction Environment Management Plan</p> <p>Table 1-2 Environmental aspects,</p>	<p>Section states accidental release/spill of chemicals/fuel/diesel resulting in soil contamination. As this may also impact groundwater due to the potential downward migration of contaminants it should also be included as a potential impact.</p> <p><i>Editorial changes required. - C</i></p>	<p>See Appendix A for the updated table. These editorial changes have also been acknowledged in Appendix E.</p>

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			objectives and potential impacts to be managed during construction		
EPA	39	Site contamination	Appendix U1 – draft Construction Environment Management plan Section 1.6 Marine disturbance	Section states that there will be a mobilisation of potentially contaminated sediments during dredging. If contaminated sediments are placed onto land that this may result in site contamination occurring in the area impacted by this material. <i>Provide details on measures to manage contamination that may result from placing potentially contaminated sediments on land. - B</i>	Dredging is no longer required for wharf operation.
EPA	40	Site contamination	Appendix U1 – draft Construction Environment Management Plan Section 1.9.1 Legal and other guidelines	This section should also consider the SA EPA Guidelines for the assessment and remediation of site contamination (2018) and any other relevant EPA guidelines <i>Editorial changes required. – C</i>	The Draft CEMP will be reviewed and updated post-approval. The following environmental legislation, regulations and guidelines have been added to Section 1.9.1 in Appendix U1 of the Draft EIS: <ul style="list-style-type: none"> National Environment Protection (Assessment of Site Contamination) Measure 1999 as revised 2013 Guidelines for the Assessment and Remediation of Site Contamination (EPA South Australia, 2018). These editorial changes have also been acknowledged in Appendix E .
EPA	41	Site contamination	Appendix U1 – draft Construction Environment Management Plan Section 1.12.1 Legal and other guidelines	This section should also consider the SA EPA Guidelines for the assessment and remediation of site contamination (2018) and any other relevant EPA guidelines. <i>Editorial changes required. - C</i>	The Draft CEMP will be reviewed and updated post-approval. The following environmental legislation, regulations and guidelines have been added to Section 1.12.1 in Appendix U1 of the Draft EIS: <ul style="list-style-type: none"> Guidelines for the Assessment and Remediation of Site Contamination (EPA South Australia, 2018). This editorial change has also been acknowledged in Appendix E .
EPA	42	Surface water quality/ stormwater	Main Report Chapter 4 Project Description Section 4.4.6 Onshore Infrastructure pp. 72–73 Appendix C3 WGA Stormwater	Onshore stormwater management: Timber storage areas including woodchip storage will be isolated from general site stormwater and retained on site (see comments below under wastewater). General site stormwater for up to the 1 in 20-year ARI will be collected in a series of open swale drains and treated in a wetland basin and detention storage. The wetland basin will be an infiltration basin allowing for infiltration to underlying soils. The proposed wetland is placed	Noted. Ongoing maintenance of systems and controls to segregate general stormwater from operational areas, and of management controls constructed as part of design to manage stormwater, would form part of operations.

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			Management Strategy 2018	<p>on the eastern boundary adjacent the landscape buffer. This approach is generally supported provided maintenance is strictly adhered to and runoff from all wood storage areas is kept separate from general site runoff. See comment below re maintenance.</p> <p><i>For Noting</i></p> <p><i>See comments below regarding maintenance of the system. - C</i></p>	
EPA	43	Surface water quality/ stormwater	Appendix C3 WGA Stormwater Management Strategy 2018	<p>Seaport (offshore) stormwater infrastructure: The transfer of woodchip will be via a covered conveyor over the causeway to the wharf. Spill kits are to be made available on the causeway. It is understood vehicles will not be stopping on the causeway.</p> <p>The wharf will have a drainage system with litter baskets in inlets and a gross pollutant trap with oil separation at the end of the main drain. It is indicated that this will be a class 3 separator. It is proposed to discharge any stormwater directly into the ocean after this treatment regime. With the nature of the product being loaded and vehicle movements there is a high risk of both woodchip product, fine dust and hydrocarbons from use of plant and equipment being in the stormwater discharge. Use of an oil water separator is supported, however the EPA recommends the use of class 1 separators for high risk areas where a class 1 separator is defined to achieve a discharge concentration of less than 5 mg/litre of oil under standard test conditions and should be used when the separator is required to remove very small oil droplets such as those from leakage. Furthermore, this system may not sufficiently trap fine dust that will fall on the wharf surface and become entrained in stormwater runoff on the wharf.</p> <p>As indicated in the stormwater strategy 'the wharfs stormwater treatment systems will be reliant up a strict maintenance regime'. See comment below it</p>	<p>Noted. The detail of design for the oil water separator and any water treatment systems to be installed at the KI Seaport would be confirmed and endorsed, in liaison with EPA, post-approval</p> <p>The detailed design would consider requirements for any fine dust and woodchip and incorporate the appropriate class of oil water separator to ensure treatment of potential pollution that may result from high risk areas of the KI Seaport operation.</p>

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				<p>is critical that these maintenance items are referred to in the OEMP.</p> <p><i>Review the type of oil water separator proposed to a class 1 separator. This should have a suitable high level alarm. - B</i></p> <p><i>The wharf treatment system will need to account for fine dust particles. Indicate how the proposed system treats fine dust.</i></p>	
EPA	44	Surface water quality/ stormwater	Appendix U2 Draft Operational Environmental Management Plan Appendix C3 WGA Stormwater Management Strategy 2018	<p>The WGA Stormwater Management Strategy 2018 outlines a number of key maintenance activities for both the onshore and offshore stormwater systems. These are considered critical to the ongoing operation of the system to ensure it functions as per the design. None of these maintenance activities are included in the draft OEMP and there is no reference to the stormwater strategy in the draft OEMP.</p> <p>All key maintenance activities for the stormwater system as outlined in the WGA Stormwater Management Strategy are to be referred to and incorporated as a minimum into EMPs.</p> <p><i>For noting - C</i></p>	The Draft EIS provides preliminary drafts and working documents. The EMP would be reviewed and updated after the development has been approved by the Minister for Planning (assuming that this occurs). All key maintenance activities for the stormwater system (as outlined in the WGA Stormwater Management Strategy, see Appendix C3 of the Draft EIS) would be referred to and incorporated into the finalised EMP.
EPA	45	Surface water quality/ stormwater	Main report Chapter 16 Geology, Soils and Water Section 16.5.2 Environmental aspects with off-site impacts pp. 370–371 Appendix U1 Draft Construction Environmental Management Plan	<p>The main report states:</p> <p>'The proposed operational wetland pond, retention basin and swale system will be constructed during the early phase of construction to function as sediment capture basins during the major earthworks and civil works construction phases'.</p> <p>It is not appropriate to use the wetland, designed for general site runoff during the operational phase, as a sediment capture device during the construction phase. Similarly, the retention basin is likely to need significant maintenance if used to capture sediment during construction. While the area proposed for these structures could be used as sediment capture zones during construction, the operational structures of the wetland and retention basin, should be completed or rehabilitated at the end of the construction phase</p>	<p>A Sediment Erosion and Drainage Management Plan will be developed post-approval in consultation with relevant regulatory authorities and stakeholders.</p> <p>The following text is added to Section 16.5.2 of the Draft EIS:</p> <p>'The location of the proposed operational wetland pond, retention basin and swale system will be partially excavated during the early phase of construction to function as sediment capture basins during the major earthworks and civil works construction phases. The operational structures of the wetland and retention basin will be rehabilitated and completed at the end of the construction phase to ensure they are operating as per the design for the operational phase.'</p>

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				<p>to ensure they are operating as per the design for the operational phase.</p> <p>Table 8-1 of the draft CEMP states “During the construction phase a SEDMP will be implemented in accordance with the EP Act.”</p> <p>The SEDMP must outline a range of features indicating how it is proposed to protect land stability, minimise erosion, rehabilitate and stabilise disturbed land surfaces and control drainage during construction to prevent sediment and construction pollutants entering the nearshore environment. It should clearly articulate how the retention basin and wetland basin will be managed if they are to be used for sediment capture during construction and how they will be reinstated for the operational phase.</p> <p>This SEDMP must be in place and implemented before construction commences. It should also be noted that the SEDMP is considered a dynamic plan that needs to be implemented and maintained with measures complimentary to the changing construction phases.</p> <p>Required details can be included in EMPs <i>For Noting - C</i></p>	
EPA	46	Wastewater	Main Report Chapter 4 Project Description Section 4.4.6 Onshore infrastructure p 70 and p 73	<p>On p 70 it is stated <i>‘woodchip stockpile area would be a concrete pavement’</i>.</p> <p>On p 73 it is stated: <i>‘Stormwater runoff from the timber log and woodchip storage hardstands would be isolated from general stormwater runoff generated from the other areas of the site. This will be achieved by grading the hardstands to create a single drainage flow path and providing an upstand to ensure runoff is directed to a single outlet point</i></p> <p>Furthermore, it is stated that the retention pond is to be lined to prevent infiltration. The lining of the pond and the concreting of the woodchip stockpile area are supported, however there is not sufficient detail provided to know if the proposed retention</p>	<p>Acknowledged. See Appendix A for further information on the retention basis and with regards to sustainable application of wastewater to land. The EPA guideline Wastewater lagoon construction (April 2019) would be met at the KI Seaport. A risk assessment matrix in accordance with the EPA (April 2019) guideline is included in Appendix A.</p> <p>A management plan in accordance with relevant EPA guidelines, including the EPA Guideline Wastewater Irrigation management plans (June 2009 or as amended), would be developed for the port operations.</p>

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				<p>pond will meet the design and construction requirements outlined in the EPA guideline Wastewater lagoon construction (April 2019).</p> <p><i>Provide further information on how the proposed retention basin meets the design and construction requirements outlined in the EPA guideline Wastewater lagoon construction (April 2019). – B</i></p> <p><i>Further information is required regarding sustainable application of wastewater to land (volume, quality, application rates, methods, location of land to be irrigated etc.), to ensure it is undertaken in accordance with environmental legislation. - B</i></p>	
EPA	47	Wastewater	Main Report Chapter 16 Geology, Soils and Water Section 16.5.2 Environmental aspects with off-site impacts p 371	<p>“Timber log and wood chip storage yards will be established with bunding and impermeable base, to isolate runoff from the general stormwater system and from groundwater. Stormwater runoff (assumed to be leachate) will drain via a concrete forebay (in the bunded area) to intercept gross sediment and debris and to a retention basin (holding pond) designed to contain flows from storm events.”</p> <p><i>Provide further information on how the proposed pond will meet the design and construction requirements outlined in the EPA’s guideline Wastewater lagoon construction (April 2019). - B</i></p>	Acknowledged. See Appendix A for further information on the proposed pond and the EPA guideline, Wastewater lagoon construction (April 2019), including the associated risk assessment matrix.
EPA	48	Wastewater	Main Report Chapter 4 Project Description Section 4.4.6 Timber log and woodchip storage areas p 73 Appendix C3 Stormwater Management strategy 2018	<p>The retention basin for leachate/runoff from the timber storage areas is stated as 10 ML in size. However, the figure <i>Onshore stormwater management strategy</i> in appendix D of the Wallbridge Gilbert Aztec report shows this as 7 ML.</p> <p><i>Confirm the size and meet the design and construction requirements outlined in the EPA guideline Wastewater lagoon construction (April 2019). - B</i></p>	The EPA guideline Wastewater lagoon construction (April 2019) would be met at the KI Seaport. See Appendix A for further information, including a risk assessment matrix in accordance with the EPA (April 2019) guideline. A management plan in accordance with relevant EPA guidelines, including the EPA Guideline Wastewater Irrigation management plans (June 2009 or as amended), would be developed for the port operations.

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EPA	49	Wastewater	Main Report Chapter 4 Project Description Section 4.8.7 Waste Management p 91	<p>It is stated:</p> <p>'It is envisaged that a septic tank of working capacity 16,500 L (with a tank capacity of 22,000 L) would capture effluent, which would then be collected and removed by a waste truck. The Kangaroo Island Council requires all septic tanks, irrespective of type, to be de-sludged every four years in line with Department of Health requirements'.</p> <p>It is not clear how the capacity of the septic tank has been calculated, if this is the capacity of the septic tank and holding tank for liquid effluent, or just the capacity of the septic tank, and how frequently the liquid effluent will need to be removed from the site. Noting that the above indicates sludge will be removed every 4 years, but not the storage of, and frequency of removal of the liquid effluent. If any land application including a soakage trench is to be considered, further details will be required</p> <p><i>Provide further details of the on-site wastewater management system proposed, including the equivalent persons on which the sizing is based and an assessment that this is adequately sized for the proposed workforce. The system must be as per the requirements of On-site wastewater systems code (2013).</i></p> <p><i>This must outline the capacity of the holding tank for the liquid effluent and how frequently this will need to be removed and all other requirements of for holding tanks as per the On-site Wastewater Systems Code.</i></p> <p><i>If land application is to be considered as part of the on-site wastewater management (post initial treatment), provide a report by a suitably qualified wastewater engineer indicating that the site and soil are suitable for long term effluent disposal as per the requirements of the On-site Wastewater Systems Code. In particular, all items in Table 8-1 must be addressed as a minimum. - B</i></p>	<p>Temporary solutions for sewage management would be established for the construction workforce, effective immediately at the time of site mobilisation. These systems will remain in place as the permanent operational sewage management system is built and commissioned, and then be removed as part of demobilisation post-commissioning.</p> <p>The operations workforce at KI Seaport would be up to 11 people, with an additional 10-14 staff required during ship loading. It is envisaged that a complete septic system will be installed with a working capacity 16,500 L, and the system would be periodically de-sludged using an island-based septic cleaning service, as required.</p> <p>The specifics of the sewage management system would be finalised in detailed design phase of the project. The ultimate objective would be to ensure best waste management practices are adopted for the site. The septic system will adhere to AS1546.1, and the SA Health On-site Wastewater Systems Code April 2013 including design, capacity, location, setbacks and maintenance considerations, among others. Appropriate permitting/licensing will also be obtained from the relevant agencies. See Appendix A for further detail.</p> <p>Assessment of the re-use of stormwater is provided in Section 16.5 of the Draft EIS and Appendix A.</p> <p>The CEMP and OEMP would also include specific controls and strategies to ensure that stormwater and wastewater is managed appropriately, in compliance with relevant regulations and specific license conditions, and there would be no impact to surface water, groundwater or marine waters of Smith Bay.</p>

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EPA/DEW					
EPA/DEW	1	Risk assessment	Appendix T Risk Assessment Table reference item/row 1	The Risk Assessment Table identifies the direct loss of approximately 10 ha of 'mixed habitat', including seagrass, and determines that the residual risk rating is Low due to the identified management measures. The EPA is concerned that the direct loss of this habitat is not an action that can be 'managed' and does not allow for a residual risk rating of Low. <i>Reassess the risk rating - C</i>	The issue of the residual risk level associated with the loss of 10 ha of mixed habitat is largely resolved with the elimination of dredging and the causeway from the design. The risk assessment was revised to reflect the negligible risk to marine communities (see Appendix G of the Addendum to the EIS). See Appendix F for the current risk assessment for the KI Seaport development.
EPA/DEW	2	Post-approval monitoring	Main Report Chapter 26 Environmental Management Framework Section 26.2.4 Monitoring programs p 542	Post dredge monitoring (up to 2 years post dredging) should be used to assess the recovery of the seagrass through a BACI design monitoring assessment. This is also critical as the extent of habitat assessment is lacking so there is uncertainty regarding the habitat types and their extent and condition in areas likely to be impacted by the dredging. BACI designed monitoring is critical. This will also link into the native vegetation clearance process. <i>A BACI habitat monitoring program will be required that incorporates both seagrass and rocky reef habitats to monitor for potential impacts from construction activities - B</i>	Dredging is no longer required for wharf operation. A BACI monitoring program would be developed and implemented during operations to monitor the effects of ship movements on marine communities near the wharf.
EPA/DEW	3	Risk assessment	Appendix T Risk Assessment Table reference item/row 3	The Risk Assessment Table identifies the loss of local seagrass and other benthic communities due to light reduction and smothering and identifies that the residual risk rating is Low due to the identified management measures. The EPA considers that the residual risk would not be reduced to Low unless turbidity was prevented from impacting sensitive habitats. Indirect impacts on seagrass have not been adequately assessed. The focus has been TSS impacts on the abalone farm, but the results indicate that the tolerance levels of the abalone is higher than seagrass which given their habitat mapping indicates that this is the likely sensitive habitat in the dredge plume.	Issues associated with seagrass turbidity triggers and zones of impact are resolved as dredging will not occur. The jetty design will result in the generation of negligible sediment plumes.

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				<p>Reassess the risk rating. – A</p> <p>Triggers used for zones of impact need to consider seagrass. Triggers established for the 2019 Outer Harbor channel dredging program would be useful to apply here. Maps need to be redone so that they delineate zones of impact using seagrass triggers not just abalone sensitivity. - B</p>	
EPA/DEW	4	Post-approval monitoring	Main Report Chapter 12 Marine Ecology Section 12.5.4 Seagrass and other benthic communities p 251	<p>The EIS states that “Sediment deposition is likely to result in reduced recruitment of macroalgae within several hundred metres of the dredge footprint through alteration of the substrate on which spores settle. However, this effect would probably be restricted to a single year of recruitment due to the relatively small depth of sedimentation (i.e. generally less than 10 mm except within 240 m of the dredge footprint) and the probable rapid dispersion of sediment during winter storms”.</p> <p>The EIS suggests that there will be significant (albeit short term) impacts to the reef. This has not been considered in the risk assessments and the overall assessment of habitats lost.</p> <p>A one year impact on large areas (potentially 240 m from the dredge area) would be considered a major impact.</p> <p>Sedimentation impacts to the reef are subject to uncertain recovery trajectories, so one year impact is uncertain and will need a BACI monitoring program.</p> <p>Required details can be included in EMPs <i>A BACI monitoring program is required - B</i></p>	Dredging is no longer required for wharf operation. A BACI monitoring program would be developed and implemented during operations to monitor the effects of ship movements on marine communities near the wharf.
EPA/DEW	5	Benthic habitats	Main Report Chapter 12 Marine Ecology Section 12.5.4 Seagrass and other benthic communities	<p>The EIS states a total area of 10.7 ha will be directly impacted by the dredging, causeway and pontoon development. Without detailed mapping of benthic habitats within this area it is unclear how the figure of 7.5 ha (p 253) of seagrass has been generated, or how it could be supported.</p> <p>Appendix I1 states that approximately 10 ha of sparse seagrass will be directly impacted</p>	<p>The jetty proposal will result in significantly less habitat loss compared with the superseded dredging and causeway design. The amount of habitat loss associated with the installation of 156 jetty piles is estimated to be a total of 0.02 ha of seagrass and reef habitat.</p> <p>For the purpose of SEB off-sets it is assumed that all of the habitat loss will be seagrass. The pontoon will result in the shading of approximately 0.5 ha of seafloor that supports a sparse cover of seagrass (1 to 5 %). Additional habitat survey studies associated with the jetty design are included in Appendix C2 of the Addendum.</p>

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			pp. 250–254	consisting mainly <i>Posidonia sinuosa</i> . Additionally, indirect effects due to turbidity and sedimentation are likely. This is not reflected in the EIS. <i>Figures used to explain the amount of habitat lost as a result if this project need to be supported by evidence or the maximum value must be taken. - A</i>	
DEW					
DEW	1	Alternate structures	Main Report Chapter 3 Project Alternatives Section 3.7 Alternative structures (in-water)	<p>The extent of assessment of alternate structures to minimise impacts (mainly environmental) is unclear. From a coastal impact perspective, an open jetty structure in lieu of a solid breakwater would likely minimise impacts on coastal processes and the coastal and marine environment.</p> <p>Table 3-9 (p 43) includes an assessment of the environmental/cost impact of each structure with the table identifying the suspended deck/piled suspended deck structure having the second least impact but this does not appear to be quantified or discussed in detail.</p> <p>The assessment data should be made available, with supporting analysis, to support the chosen design.</p> <p>There may also have been omissions in the base data, for example: <i>“Design life, maintenance cost and construction duration were excluded for the sake of simplicity”</i> p 44.</p> <p>“A significant and unjustified increase in construction cost would be unjustifiable” p 44. A cost/benefit analysis did not appear to be provided to support this statement.</p> <p>CMB notes the report’s advice that modelling concluded that wrack accumulation against the breakwater would not be a significant issue. However, given that this is a major development on the coastline with the potential for widespread environmental impacts, a detailed and transparent assessment of wrack accumulation for alternative designs would seem warranted.</p>	<p>The solid causeway design is no longer part of the KI Seaport design. Refer to Addendum to the Draft EIS.</p> <p>KIPT has modified the design of the in-water structures in response to Yumbah’s feedback (see Response ID 49). These changes will add a further \$9.0 M to the cost of construction. The changes, and the assessment of their impacts, are the subject of the Addendum to the Draft EIS.</p>

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				<p>Further, factors such as ongoing operational and maintenance costs of alternative structures are not included – this may be substantial if different structures significantly impact sand and wrack accumulation. Details as to how wrack may be moved (equipment, and how it accesses the foreshore etc.) are also not provided.</p> <p><i>Define the extent of the assessment completed. For example, were there any technical assessments completed for the alternate structures to support the current preference for a solid breakwater. – B</i></p> <p><i>Provide assessment data, including analysis, to support the chosen design – B</i></p> <p><i>Provide a cost/benefit analysis – B</i></p> <p><i>Undertake an assessment of wrack accumulation for alternative designs – B</i></p> <p><i>Provide details on how wrack would be managed for alternative designs - B</i></p>	
DEW	2	Coastal and marine environment Native vegetation clearance	Chapter 14 Matters of National Environmental Significance Chapter 12 Marine Ecology Section 12.5 Impact Assessment and Management Appendix I2 Potential Effects of Vessels on the Southern Right Whale Appendix I4 Ecological Effects of Dredging	<p>The environmental significance and/or ecological function of the coastal foreshore is given little weight throughout the document. The cobble foreshore is a coastal feature of the embayment and the extent of impact on it by the development, while relatively minor in terms of spatial distance, has not been discussed to a level of detail typical in an EIS.</p> <p>The terrestrial survey provided does not extend beyond the cadastre boundary. This should extend across the foreshore to meet the marine survey boundary to enable a full assessment of the potential impacts of the works.</p> <p>Similarly, the intertidal ecology requires further discussion or mapping. A direct loss of 10.2 ha of mixed habitat is expected and it is stated that the “ecological significance of the loss of this habitat would be minor as there is a large amount of similar habitat within Smith Bay” p 251-252. There has been no in depth analysis/discussion regarding the ecosystem/habitat value that this</p>	<p>Refer to Appendix J2 of the Draft EIS. The terrestrial ecology survey included the vegetation along the coastal foreshore (vegetation association 4).</p> <p>A survey of the intertidal community inhabiting the cobble foreshore was undertaken in September 2019 and is reported in Appendix C2 of the Addendum to the Draft EIS and satisfies the spatial gap in data for the intertidal area. The species encountered are typical of the intertidal communities occurring in similar habitats in South Australia. No listed or otherwise unusual species were found. At both high and low tides, the cobble foreshore would inevitably provide feeding habitat for a variety of reef species and shore birds, respectively. The installation of jetty piles would have a minimal and temporary impact on the intertidal community inhabiting the cobble foreshore.</p> <p>The issue of the ecological significance of the loss of 10 ha of mixed habitat is largely resolved as dredging will no longer occur and the causeway will no longer be constructed. Habitat loss associated with the jetty design will be approximately 0.52 ha.</p> <p>The issue of sedimentation associated with dredging adversely affecting benthic communities is resolved as dredging will no longer occur. Sedimentation effects on benthic communities associated with ship movements are likely to be minimal as ship movements will be relatively infrequent, and the seafloor in the vicinity of the wharf consists of undisturbed, relatively coarse rubbly material that will not be particularly prone to mobilisation.</p>

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			Appendix I5 Marine Pests and Diseases	<p>area may provide therefore the determination of minor ecological significance is not able to be substantiated.</p> <p>An investigation into the short term and long term impacts of potential sedimentation from construction including dredging has been undertaken for seagrass and macro-algae but is absent for the other benthic communities that are present immediately adjacent to or surrounding site. Invertebrate reef communities would be particularly susceptible to sedimentation, namely sessile filter-feeding organisms that can't move away from the threat such as ascidians, bivalves and sponges. These can become smothered and the apertures used to draw water through their bodies may be blocked. Further information/detail is required to ascertain whether these communities could recover from potential sedimentation or changes in water quality during construction.</p> <p>Impacts have largely been discussed in isolation, and cumulative impacts have been listed as insignificant (p 257). Cumulative impacts on intertidal communities (e.g. increased sedimentation + increased temperature) may have implications beyond the individual impacts which are advised as being insignificant. A more detailed discussion of cumulative impacts is required before the impact can be regarded as insignificant. For example, impacts may be compounded if the development coincides with an El Nino event.</p> <p>Seabed erosion and degradation of seagrass meadows, adjacent the dredge basin, as a result of dredging, has been considered to be unlikely because of the depth where dredging will occur and the lack of wave energy meeting the sea floor (p 253). However, seabed erosion and degradation of seagrass meadows has not been addressed for shallower waters adjacent the breakwater, including during construction. For example the seagrass meadow's ability to deal with a major stressor such as a storm, combined with a slight increase in sedimentation and/or water</p>	<p>The issue of potential cumulative impacts on intertidal communities as a result of sedimentation and temperature increases is resolved as dredging will no longer occur and the causeway will no longer be constructed.</p> <p>The issues of destabilisation of the seafloor adjacent to the causeway, the development of seagrass blowout and ongoing loss of seagrass through seabed erosion are resolved as dredging and construction of the causeway will no longer occur. The jetty design will have no adverse effects on the stability of the seafloor and losses of seagrass through seabed erosion are not expected to occur.</p> <p>With the elimination of dredging and the causeway from the design, the loss of seagrass in Smith Bay will be minimal. The jetty design will result in the direct loss of 0.02 ha of seagrass through the installation of 156 piles, and indirect effect through shading of 0.5 ha of sparse seagrass beneath the pontoon. Seagrass losses through turbidity and sedimentation effects associated with ship movements are likely to be minimal as the wharf area supports only sparse seagrass, ship movements will be relatively infrequent, and the seafloor in the vicinity of the wharf consists of undisturbed, relatively coarse rubble material that will not be particularly prone to mobilisation. Dredging of the berth location and shipping approaches will not be necessary as the extension of the jetty achieves greater water depths for vessels.</p> <p>With the elimination of dredging and the causeway from the design, the loss of seagrass in Smith Bay would be minimal. The jetty design will result in the direct loss of 0.02 ha of seagrass through the installation of 156 piles, and indirect effects through shading of 0.5 ha of sparse seagrass beneath the pontoon. Seagrass losses through turbidity and sedimentation effects associated with ship movements would be minimal as the wharf area supports only sparse seagrass, ship movements will be relatively infrequent, and the seafloor in the vicinity of the wharf consists of undisturbed, relatively coarse rubble material that will not be particularly prone to mobilisation.</p> <p>A seagrass monitoring project was not proposed in the Draft EIS as an offset. It was proposed to offset seagrass losses in Smith Bay by promoting seagrass recovery in Nepean through a catchment management program to reduce nutrient inputs to Nepean. This is no longer appropriate as the jetty design would result in minimal loss of seagrass in Smith Bay (0.52 ha). The minor seagrass loss will be offset by making an appropriate financial contribution to the NVC.</p>

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				<p>temperature, could lead to a gradual break down in the meadows functions e.g. natural recruitment, potentially leading to blowouts and ongoing physical erosion which can impact on a wider area.</p> <p>Management measures for seagrass loss include KIPT providing funds to monitor seagrass loss in Western Cove (p 254). This seems to be an abstract measure. The exact area (ha) of seagrass to be directly and indirectly impacted is inconsistently stated throughout the document.</p> <p><i>The response document needs to consider the importance of the cobble foreshore in relation to the current level of ecosystem functioning. – B</i></p> <p><i>Extend the survey for completeness. – B</i></p> <p><i>A more thorough description of the ecosystem including its species, and habitat value of the lost habitat, and an analysis as to whether it has particular significance within the Smith Bay ecosystem, or whether the percentage loss involved is of significance. – A</i></p> <p><i>Potential impacts from construction and operation need to be documented for the breadth of benthic communities present. Please include information relative to impacts on the adjoining invertebrate reef communities. – A</i></p> <p><i>Further discussion and consideration of cumulative impacts is required. – A</i></p> <p><i>Additional information required regarding impacts to shallower waters adjacent the breakwater. – B</i></p> <p><i>Identify the indirect impact area for seagrass. The indirect impacts need to be qualified (what is clearance and what is only temporary disturbance) to allow for calculation of the SEB required. – B</i></p> <p><i>Seagrass monitoring projects are not suitable as an SEB's under the Native Vegetation Act. - C</i></p>	
DEW	3	Coastal processes	Chapter 10 Coastal Processes	Modelling predicts that local processes will be altered as a consequence of the causeway, with impacts likely to be present in the lee of the structure (to the east). Impacts are expected to be	The issue of cumulative impacts associated with increased seawater temperature, reduced currents and reduced wave energy in the lee of the causeway has been resolved by the changes to the design of the in-sea structures which replace the causeway with a pierced jetty.

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			<p>Section 10.4.1 Section 10.4.2 Section 10.4.3 Section 10.4.6 Section 10.5.1 Section 10.5.2 Section 10.5.3 Section 10.5.4 Section 10.5.5 Section 10.5.6 Section 10.5.7 Section 11.5.1 Section 11.5.2 Section 11.5.4 Section 11.5.5 Section 12.5.4 Appendix F1 Assessment of Marine Sediments Appendix G Coastal Process Impact Assessment Appendix H1 Assessment of Risks to the Yumbah Aquaculture Facility and Proposed Mitigation Measures</p>	<p>reduced wave energy, reduction in current velocity, increased temperature (p 203-204). These impacts are not considered to be significant in terms of nearshore processes, however they are discussed in isolation and the cumulative effects may be more environmentally significant than assumed.</p> <p>It is stated in Appendix G that dense benthic flora assemblages will act to stabilise the seabed and limit active sediment transport. However, an area of these assemblages will no longer be present after the works, and this may impact on effectiveness of the adjacent assemblages in stabilizing the seabed, in terms of ability to maintain the density of the assemblages, combined with an increase in turbidity, increased water temperatures etc. These cumulative impacts may destabilise the seabed and increase sediment transport. The modelling appears to have only been undertaken for current conditions.</p> <p>Whilst modelling indicates that seagrass wrack accumulation will not be a significant issue, the mitigation strategies proposed for sand and wrack management are vague and require further consideration in the context of an operational wharf.</p> <p><i>Further information is required around the range of cumulative impacts considered and those which have not been addressed. – B</i></p> <p><i>Extend modelling to consider conditions beyond current conditions. – B</i></p> <p><i>Provide clarity on sand and wrack management options. - B</i></p>	<p>The issue of ongoing seabed instability in the vicinity of the dredged basin as a result of cumulative impacts associated with increased turbidity and water temperature has been resolved by the changes to the design of the in-sea structures which replace the causeway with a piered jetty.</p> <p>The issue of the management of sand and wrack accumulation around the causeway is resolved as the causeway will no longer be constructed.</p>
DEW	4	Construction of causeway	Chapter 4 Project Description	There is limited detail as to causeway construction, only a broad description. Of particular interest is the management of fill so that it cannot be re-suspended into the water column and transported	The causeway is no longer part of the wharf design.

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			Chapter 16 Geology, Soils and Water Chapter 26 Environmental Management Framework Appendix U1 Draft Construction Environmental Management Plan Appendix U2 Draft Operational Environmental Management Plan	from the site, including under larger wave and/or storm scenarios. It is not known whether the proposed source rock for the breakwater (a quarry on KI) suitable in terms of size and type. <i>Clarify matters regarding causeway construction. - A</i>	
DEW	5	Coastal hazards	Chapter 2 Project Justification Chapter 4 Project Description Chapter 9 Marine Water Quality Chapter 16 Geology, Soils and Water Chapter 25 Management of Hazard and Risk	It is stated that coastal hazards will be managed through engineering solutions with erosion/tidal movement managed by locating infrastructure outside erosion areas. It is not clear whether sea level rise has been considered in the locational criteria for any at-risk infrastructure. Coastal flooding and erosion hazard should be included in Chapter 19 - Climate change and Sustainability, Table 26-1 - Environmental aspects, objectives and potential impacts to be managed, p 538, Risk Assessment Analysis – Appendix T. This is critical to CMB assessment. Operation (Guidelines 19.2, 19.16, 19.17). As stated above the mitigation or management strategies proposed for sand and wrack management are vague and require clarification. This includes who is responsible for its management should it be required, the trigger for taking management action, the methodology for wrack management (machinery, use of foreshore etc.), potential impacts on the area/s where the wrack is to be placed, environmental impacts if sand and wrack is not adequately managed. Rehabilitation strategy and closure plan - Preliminary closure objectives do not reflect	Section 4.4.5 of the Draft EIS addressed the management of climate change impacts to the proposed KI Seaport design. This stated that under a worst-case emissions scenario, the predicted sea level rise at Smith Bay is up to 0.17 m by 2030, up to 0.33 m by 2050, up to 0.55 m by 2070 and up to 0.83 m by 2100. In accordance with the CPB Policy Document (dated 29 July 2016) a sea level rise of 0.3 m to the year 2050 was adopted for the causeway structure. With the change in project configuration to an all-piled jetty structure, piles established during the initial construction phase would be designed for predicted maximum sea level rise to 2100. Given the topography of the onshore components of the KI Seaport, it is not expected that the projected sea level rise at Smith Bay will adversely influence the onshore infrastructure, given that the jetty linking infrastructure has been designed to account for this. The causeway is no longer part of the wharf design. As such, sand and wrack management will no longer be required. The rehabilitation strategy and closure plan were discussed in Chapter 4 (Section 4.9) of the Draft EIS. Further detail is provided in Appendix D . The KI Seaport is the essential piece of infrastructure to support a commercially viable and environmentally sustainable timber industry on Kangaroo Island. The investment to establish the seaport is significant and is predicated on Kangaroo Island's natural advantage as a place to grow trees. The experience of the last two decades shows the plantations on Kangaroo Island are amongst some of the best yielding in Australia, with an average rate of growth one-third higher than the average of the mainland. The development of a Rehabilitation and Closure Plan is an iterative process designed to achieve specific defined objectives. For example, the Plan may be developed to scope or understand potential future liabilities for the site, or it may be developed to address the

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				<p>coastal/marine environmental values (e.g. removal of causeway on closure, rehabilitation of site or long term maintenance?), Table 26-4, p 543. What will these options mean for the project?</p> <p>Funding for rehabilitation as was required in Guideline 19.17 has not been addressed.</p> <p><i>Clarify if sea level rise has been considered in the locational criteria for any at-risk infrastructure. – C</i></p> <p><i>Include details of sand and wrack management and identify that KIPT will be responsible for the management of sand and wrack. – B</i></p> <p><i>Update Rehab strategy and closure plan - C</i></p>	<p>impending decommissioning of the facility. In either case, the process is undertaken in liaison with regulators, particularly if the objective is to ensure or provide confidence that any legacy issues are not inherited by the government of the day or the community if the port should close down.</p>
DEW	6	Risk assessment	<p>Main Report Chapter 12 Marine Ecology Section 12.4.1 Section 12.4.2 Section 12.4.3 Section 12.5.5 Appendix I1 Smith Bay Marine Ecological Assessments Chapter 14 Matters of National Environmental Significance Chapter 12 Marine Ecology Section 12.5 Appendix I2 Potential Effects of Vessels on the Southern Right Whale</p>	<p>The risk assessment should consider 'cumulative' impacts for each activity as this may increase the consequence.</p> <p><i>The following improvements should be made to the table in Appendix T:</i></p> <ul style="list-style-type: none"> <i>Reference 1: Identifying the habitat value that will be lost or impacted by the works is missing and should be added. This will include important pipefish habitat but should also consider other marine fauna that may be impacted by the dredging. - C</i> <i>Reference 3: Impacts are focused on seagrass communities but should be extended to include intertidal communities that will be particularly susceptible to sedimentation, temperature change etc. - C</i> <i>Reference 4. Impacts are focused on Yumbah but should be expanded to include intertidal communities as above. - C</i> <p><i>An additional point should be added for the impacts of the causeway construction on the foreshore.</i></p> <ul style="list-style-type: none"> <i>Reference 17: Causeway construction impacts on sand/wrack movement needs more work. Management measures proposed</i> 	<p>The issue of loss of marine habitat value as a result of dredging is resolved as dredging and construction of the causeway will no longer occur.</p> <p>The issue of potential impacts on intertidal communities as a result of sedimentation and temperature changes is resolved as dredging will no longer occur and the causeway will no longer be constructed.</p> <p>The risk table has been revised (see Appendix E) to reflect the negligible risk to marine communities in light of the elimination of dredging and the causeway from the design (see Appendix F for the updated risk assessment). It is considered that the cumulative risks to communities will also be negligible.</p> <p>The issue of the management of sand and wrack accumulation around the causeway is resolved as the causeway will no longer be constructed.</p> <p>With the elimination of dredging and the causeway from the design, the direct loss of marine habitat will be minimal, and the indirect loss through turbidity, sedimentation and shading effects negligible. The jetty design will result in the direct loss of 0.02 ha of habitat, and the indirect loss of 0.5 ha through shading effects, compared with loss of 10 ha for the dredging and causeway design (a 20 x reduction). The jetty will provide additional reef habitat that will be colonised by a variety of reef species. It is considered that the significance of the habitat loss associated with the jetty design will be offset by the additional reef habitat provided by the jetty. It was noted during the marine surveys that the most diverse reef communities in Smith Bay were those associated with the Yumbah seawater intake structures. Similarly, diverse and abundant communities would develop along the jetty.</p>

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			Appendix I4 Ecological Effects of Dredging Appendix I5 Marine Pests and Diseases	<i>are vague and not acceptable in their current form. – B</i> <i>The justification of ‘impacts will be low because there is similar habitat elsewhere’ is not accepted. There needs further work to support this statement to identify actual habitat value and discussion around how communities can/will adjust. Likewise, the sparse seagrass meadows that are to be impacted by the works (Appendix I1 p 23) may not recover as readily due to the already harsh conditions they contend with. - A</i>	
DEW	7		Appendix J2 Smith Bay Ecological Assessment	The Coast Protection Branch has noted the potential presence of a freshwater soak near a Eucalyptus tree at the base of the cobble ridge system. There may be additional annual flora species present which should be accounted for in any additional survey work. <i>Consider potential impacts to the soak. Any potential or known annual flora species should be included in the assessment. - C</i>	Refer to Appendix J2 of the Draft EIS. The terrestrial ecology survey included the vegetation along the coastal foreshore (vegetation association 4).
DEW	8	Native vegetation	Main Report Chapter 12 Marine Ecology p 253 Appendix J2 Smith Bay Ecological Assessment	There is reference to the use of the mining guidelines to determine the SEB. The mining guidelines do not apply. p 253 references an “SEB matrix” however it’s unclear in Appendix J2 which table is the matrix <i>Update p 253 of the EIS book to reflect Appendix J. - C</i>	The SEB requirement for remnant vegetation clearance was calculated based on the Native Vegetation Council (NVC) policy document Guidelines for a Native Vegetation Significant Environmental Benefit Interim Policy (DWLBC 2005). This document was used by the consultant to develop the matrix. At the time of the survey (August 2016) no other guidelines were available to calculate a SEB. The Native Vegetation Council wrote to KIPT to confirm that this methodology (and not the revised methodology under the Native Regulations 2017) was acceptable to use for the initial field survey. Table 3 of Appendix J2 is the SEB matrix. See Appendix E for correction to reference.
DEW	9	Native vegetation	Appendix J2 Smith Bay Ecological Assessment	It is unclear which vegetation will be impacted by the development. There is mention of vegetation outside of the footprint which has been assessed using a different methodology. <i>Clarify in the EIS or Appendix J which vegetation requires consideration for the EIS. - C</i>	The only vegetation that will be impacted by the development is the vegetation located within the proposed site for onshore facility as delineated by the red polygon in Figure 13-3 of the Draft EIS. Figure 4-3 of the Draft EIS shows the conceptual layout of the onshore infrastructure. Vegetation outside of the study area boundary was assessed as a requirement under the MNES Guidelines for the EIS (Guideline 1.3). Written confirmation was received from the NVC that the old methodology could be used to assess the vegetation of the study area, that is, the methodology required under the former NV Regs (the Stokes Guide, 2006). The requirements of the new NV Regs (2017) came into effect after the first survey but before the 2018 survey. However, as vegetation outside

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					of the study area, but immediately adjacent to it, was assessed at a later date, the NV Regs (2017) had come into effect and this new regulatory framework meant an assessment of the vegetation was required.
DEW	10	Threatened species	Appendix U1 Draft Construction Environmental Management Plan Table 1-10	<p>Table 1-10 mentions that “the transport route(s) would be inspected regularly for roadkill. The roadkill will be removed and disposed of, ...”</p> <p>This table assigns no responsibility for (i) undertaking this regular monitoring, (ii) nor does it identify what record keeping and reporting is required, or to whom reports should be submitted for compliance checking and analysis. Without this occurring the “Review of incidences of vehicle strike and identification of any trends” will not be possible.</p> <p>Further information is required in relation to who’s responsibility it is to monitor and report this information.</p> <p>Required details can be included in EMPs <i>For Noting - C</i></p>	All EMP would be reviewed and updated after the development has been approved by the Minister for Planning. Monitoring programs would be described in more detail in the updated EMP and would outline how monitoring programs would be implemented and who would be responsible for these activities and monitoring transport routes for roadkill. KIPT would implement and endorse roadkill monitoring programs. Further detail is provided in Appendix A.
KI NRMB					
KI NRMB	1	General comment - Biosecurity	Main Report Chapter 15 Biosecurity	<p>Concerns regarding ballast water exchanges within the Same Risk Area, particularly Port Adelaide, which is known to have presence of POMS (and potentially other aquatic pests and diseases) Development of Marine Pest Management Plan to be in consultation with the KI NRMB</p> <p><i>For Noting - C</i></p>	<p>Consistent with the management of risks from international shipping, the risks associated with domestic ship movements would be addressed through the development of a Biosecurity Management Plan. This would be undertaken in consultation with key agency representatives from both PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board.</p> <p>Concerns in relation to international shipping have been raised in a number of submissions and broadly relate to the risk that ballast water discharge or hull fouling will provide vectors for the introduction of either exotic (and potentially invasive) species and/or abalone parasites or pathogens that pose a disease risk to the abalone farm. The Draft EIS has documented this issue in detail (Appendix I5) providing a comprehensive outline of major vectors, priority pest species, potential diseases, institutional arrangements and policies to control marine pests, monitoring requirements, response strategies for incursions and a strategy for the development of management plans and procedures for Smith Bay should the development of the KI Seaport be approved.</p> <p>Since the Draft EIS was published there have been substantial changes to the regulatory arrangements in relation to international shipping and particularly around the issue of ballast water management (Appendix C). These regulatory changes have the effect of improving ballast water management by replacing a process-based approach (i.e. the D-1 standard which required ballast water exchanges) with an outcome-based approach which</p>

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					<p>aims to ensure that ballast water is substantially free of exotic organisms. This new approach is referred to as the D-2 standard and specifies systems for the treatment of ballast water such that ships can only discharge ballast water that meets the following criteria:</p> <ul style="list-style-type: none"> • less than 10 viable organisms per cubic meter which are greater than or equal to 50 micrometres in minimum dimension; • less than 10 viable organisms per millilitre which are between 10 micrometres and 50 micrometres in minimum dimension; • less than 1 colony-forming unit (cfu) per 100 millilitres of Toxicogenic <i>Vibrio cholerae</i>; • less than 250 cfu per 100 millilitres of <i>Escherichia coli</i>; and • less than 100 cfu per 100 millilitres of Intestinal Enterococci. <p>Other than new build ships, which would be required to have a system that complies with Regulation D-2 immediately, a ballast water management system must be operational by the date of the next vessel survey but in any case, no later than the September 8, 2024.</p> <p>Meeting the D-2 standard may be achieved through fitting ballast water management systems. There are now many such approved systems available to operators, ranging from those which use physical methods such as ultraviolet light to treat the ballast water, to those using active substances. Those that use active substances have to go through an additional and comprehensive approval process.</p> <p>KIPT have agreed that PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board would be consulted in the development of the Biosecurity Management Plan for the port.</p> <p>The detail provided in the EIS has met with approval from the relevant SA Government Agencies whose principle concern was that they should be consulted in the development of the Marine Pest Management Plan.</p>
KI NRMB	2	General comment – research timeframe	Main report Chapter 26 Environmental Management Framework	<p>Concerns that the assessment and management actions identified in the EIS are based on a short research timeframe and pose a level of unknown environmental risk. Environmental management understanding on actions and consequence are more robust over a longer period term monitoring and analysis period.</p> <p><i>For Noting - C</i></p>	<p>The Draft EIS and the Addendum to the Draft EIS have a solid foundation of data on which to base the analysis and interpretation provided. The basic data set comprises a detailed set of observations across a suite of environmental, ecological, social and economic parameters. While there may be some debate with the analysis and interpretation of the data, particularly where the conclusions drawn conflict with the views and opinions of certain stakeholders, this in no way diminishes the quality of the underlying data.</p> <p>The decision to address a number of stakeholder concerns through a change in the design of the in-sea components including the replacement of the causeway with a pier, the removal of all dredging from the proposal, and the placement of the berth face (pontoon) further offshore, has necessitated the collection of additional data particularly relating to the structure of benthic communities further offshore, where the berth-face will now be located. This additional information simply augments what is already a comprehensive data set and supports the broader analysis of the implications of the revised design.</p>

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					Environmental monitoring and analysis will continue to be undertaken as part of the Environmental Management Framework (see Chapter 26 of the Draft EIS) throughout the construction and operation of the KI Seaport. The data collected will be reviewed and used to improve and/or update monitoring programs and environmental management programs as required.
KI NRMB	3	General comment – pile driving	Appendix U1 Draft Construction Environmental Management Plan Appendix N Environmental Noise Impact Assessment Table 25	Concerns regarding the soft start approach – is it 3, 5 or 10 mins gradual increase – all mentioned in the EIS <i>Clarification required – C</i> <i>Note - KI NRMB preference is for 10 mins</i>	Details of the soft start approach for piling works during construction would be included in the CEMP. The CEMP would be finalised in liaison with relevant government agencies and in accordance with any relevant conditions set for the development. Table 25 (p 65), of Appendix N of the Draft EIS (Resonate 2018), recommends a period of three to five minutes, however KI NRM Board's (now the Kangaroo Island Landscape Board) preference for 10 minutes will be considered, and confirmed, when finalising the CEMP.
KI NRMB	4	General Comment – transport	Main Report Chapter 21 Traffic and Transport	Concern regarding impacts on the road network, including maintenance costs, and community/social impacts <i>For Noting - C</i>	From mid-2017 KIPT began working with the Kangaroo Island Council to explore a wide range of options to minimise and mitigate the impacts associated with transporting timber products to Smith Bay. This work is discussed in Chapter 21 of the Draft EIS, and the full studies are published in Appendix P. The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the South Australian Government and KIPT. The Council has indicated it is unwilling to discuss these matters further with KIPT until a planning approval has been granted. Officers from DPTI (the relevant State Government agency) have indicated they will not consider these matters until KIPT has reached an agreement with the Council. Significant grant funds are available from both the state and Commonwealth Governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.
KI NRMB	5	General comment – KI threatened species	Chapter 13 Terrestrial Ecology Chapter 14 Matters of National Environmental Significance Appendix J2 Smith Bay	The EIS does not list all Kangaroo Island threatened species and proposed management actions. <i>Document all threatened species, including issues, assessment and management actions associated with each. – B</i> <i>Assess the traffic impacts on the vulnerable Rosenberg Goanna, acknowledging that the goanna is attracted to roads to consume roadkill - B</i>	The Draft EIS only addresses proposed vegetation clearance in the project site boundary. All vegetation clearance along the proposed transport route as well as the potential impacts to fauna by adopting a preferred transport route would be subject to a separate and additional approvals process subsequent to the approval of the KI Seaport. The approvals process for vegetation clearance and impacts to listed fauna could also potentially include additional EPBC referrals, as required. Nevertheless, in accordance with the EIS Guidelines, the Draft EIS provides an initial traffic and transport assessment which addresses potential ecological impacts (Chapter 1). Appendix J2 of Chapter 21 provides a full list of all state and federally listed species that have the potential to be found near the project site at Smith Bay. Additionally, Appendix 2 of the Transport Route Options Ecological Assessment (See Appendix P6) identifies threatened fauna species that have been recorded within a 5km

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			Ecological Assessment Appendix P6 KIPT Transport Route Options Ecological Assessment Chapter 21 Traffic and Transport		radius of the project area, which is the preferred transport route from the plantations to the KI Seaport. This table identifies state and federally listed fauna species. Further information is provided in Appendix A . With regards to the Rosenberg's Goanna, refer to response in ID 362 and further text is provided in Appendix A . Activities downstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the EIS set by DAC. The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the EIS to understand the potential impacts the KI Seaport development would have on the road networks associated with transporting timber from plantation to the port for export. Any road upgrades or establishment of haul routes would require additional approvals outside the Draft EIS and prior to any works commencing Additional assessment and authorisations/approvals would be required following the approval of a port at Smith Bay. The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the SA Government and KIPT.
PIRSA					
PIRSA	1	General comment	Main Report Chapter 15 Biosecurity	It is understood that the deep-water port development is not without risks and that the EIS outlines how risks are proposed to be managed and mitigated. To minimise the risks associated with the proposed development PIRSA emphasises the importance of the proponent implementing, and complying with, the mitigation measures that are described in the EIS, particularly relating to the Dredge Management Plan, the Marine Pest Management Plan and the Biosecurity Management Plan. To minimise risks the risks to the adjacent abalone farm's future operations, it will be important for the risk mitigation measures outlined in the EIS to be appropriately documented in KIPT's Dredge Management Plan, and for that Plan to be adequately implemented and complied with. The Dredge Management Plan must include use of a real-time monitoring system to inform adaptive management and cessation of dredging activity if	The causeway is no longer part of the wharf design. Changes to the in-water design of the seaport would result in extension of the piled jetty and distance from shore, resulting in increased separation from any shipping activity to Yumbah seawater intakes. Dredging is no longer required for wharf operation. Consequently, all issues related to the management of the dredging program will be removed and there will be no dredge related impacts. Specific management plans, including the Marine Pest Management Plan and the Biosecurity Management Plan, will be developed in consultation with relevant stakeholders and key agency representatives, including from PIRSA – Biosecurity SA and the Kangaroo Island Landscape Board. Consistent with the management of risks from international shipping, the risks associated with domestic ship movements would need to be addressed through the development of a Marine Pest Management Plan and Biosecurity Management Plan. Concerns in relation to international shipping have been raised in a number of submissions and broadly relate to the risk that ballast water discharge or hull fouling will provide vectors for the introduction of either exotic (and potentially invasive) species and/or abalone parasites or pathogens that pose a disease risk to the abalone farm. The EIS has documented this issue in detail (Appendix I5) providing a comprehensive outline of major vectors, priority pest species, potential diseases, institutional arrangements and policies to control marine pests, monitoring requirements, response strategies for incursions and a

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				<p>the triggers identified in the EIS for suspended sediment loads are reached.</p> <p>Development of the Dredge Management Plan, Marine Pest Management Plan and Biosecurity Management Plan must be prepared in consultation with, and to the reasonable satisfaction of, PIRSA.</p> <p><i>For Noting - C</i></p>	<p>strategy for the development of management plans and procedures for Smith Bay should the development of the KI Seaport be approved.</p> <p>Appendix C provides further information on biosecurity matters related to abalone and known distributions of abalone disease causing agents and the associated management frameworks for the management of ballast water risks.</p> <p>It is acknowledged that the revised design (i.e. removal of the causeway) which will reduce the amount of available substrate for the attachment of invasive species, and implementation of these plans will not remove all risks to biosecurity associated with a port development and that ongoing monitoring and reporting of the plan's implementation, in liaison with key stakeholders and government agencies, remains exceptionally important the port development and operation.</p>
PIRSA	2	General comment – aquaculture licences	Main Report Chapter 11 Land based Aquaculture	<p>PIRSA notes that while green lip abalone are currently the only species farmed at the Yumbah site, the aquaculture licence permits the farming of a number of other species, including oysters, scallops and come finfish. It is noted that the EIS only addresses risks, impacts and mitigation measures for abalone</p> <p><i>Reference of licence permit for other species at the Yumbah site. - C</i></p>	<p>Yumbah Kangaroo Island Pty Ltd (Yumbah) operate with three aquaculture licences FT00558, FT00634, FT00702 as detailed in the EIS (Section 6.2.7 p 112). Consistent with the <i>Aquaculture Act 2001</i> and Aquaculture Regulations 2016 these licences relate to specific properties owned by or under the management control of Yumbah. For each of these licences there is a list of permitted species and of permitted farming systems which have been detailed in Appendix C.</p> <p>In total 21 species are identified including a variety of abalone, finfish, bivalve and crustacean species (Appendix C). The licences also variously provide for the use of two different farming systems comprising tanks and channels (which would include slab-tanks or raceways).</p> <p>Notwithstanding that a large number of species have been included on the licencing documentation, it is evident that many of those species could not be farmed (in a practical way) for a variety of reasons (Appendix C) including a lack of available commercial systems (e.g. King George Whiting and Rock Lobster) or a requirement for additional farming systems (e.g. in-sea leases for rearing a number of the bivalve and finfish species).</p> <p>Yumbah have been issued a licence under the Aquaculture Act 2001 by PIRSA (Licence number FT00634). This licence identifies a number of species including a variety of abalone species (greenlip, blacklip and hybrids of these species) as well as four finfish species (yellowtail kingfish, rainbow trout, brown trout and greenback flounder). Allowed species are detailed in Appendix C.</p> <p>The existing infrastructure on this site comprises three sheds (estimated floor area of 542 m²) as well as a facility to draw in water from a previously disused seawater intake (shown in the EIS Figure 11.2; westernmost intake pipeline).</p> <p>The licence identifies the permitted farming system for this site as "Tanks" and as such, while the facility may be used for the production of larvae or holding brood stock (all of which is currently done elsewhere on the Yumbah farm) there is no practical way that the facility can be used for animal rearing (simply because slab-tanks or raceways, which are</p>

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					<p>used for commercial grow-out of adult and sub-adult abalone, are not permitted under this licence).</p> <p>Given the above and the fact that the existing aquaculture operation at Smith Bay produces only abalone, the EIS has not considered it necessary to address potential impacts on any other farmed species.</p> <p>Furthermore, the change to the design of the in-sea infrastructure for the KI Seaport has effectively removed any possibility of an impact on the marine environment, including the risk of impacts at the Yumbah seawater intakes. To the extent that FT00634 is relevant, the only activity that could occur on Lot 50 is fully contained within the three sheds on the property, and the only impacts that could be relevant are associated with dust, noise, and light. The fact that the activities are fully enclosed means there is no credible argument that activities on Lot 51 or Lot 52 could affect aquaculture on Lot 50. Any expansion of aquaculture on Lot 50 would require further planning approval and is therefore not relevant to the assessment.</p>
CFS					
CFS	1	Escape routes in event of a large fire event	Appendix U4 Draft Bushfire Hazard Management Plan	<p>In the event of a large fire, the only means of escape from the site will be via land – this is as it is presumed there will be no bushfire bunker as such on the site, nor does the water provide a safe refuge. In addition, emergency services do not have the capacity to rescue occupants of the site via a water response.</p> <p>The SA CFS requires maps/details on potential escapes routes/refuges etc. from the site for people who may be occupying the site</p> <p>Required details can be included in Fire Safety and Hazard Management Plans</p> <p><i>For Noting - C</i></p>	<p>Specific details of escape routes, refuges, both active and passive fire suppression systems and onsite buffers will be determined in ongoing consultation with CFS and provided in the final Bushfire Hazard Management Plan and the Emergency Response Management Plans. The management plans will be updated with detailed site design and layout plans, fire suppression system documentation and detailed maintenance plans outlining how they will be maintained through site operational activities.</p>
CFS	2	Communication with CFS on Total Fire Ban Days	Appendix U4 Draft Bushfire Hazard Management Plan	<p>It is critical that firm plans are cemented to ensure there is clear responsibility and knowledge amongst the site's operators and occupants about how the SA CFS is notified of KIPT's plans for each Total Fire Ban Day. The best option would be for a senior person on site to ring the SA CFS Region 1 HQ to advise of operations on the next day once that day's fire rating is known (at 4pm the day prior).</p> <p>The SA CFS requires a document/letter/statement clarifying the policies and protocol in place for this</p>	<p>Specific details of escape routes, refuges, both active and passive fire suppression systems and onsite buffers will be determined in ongoing consultation with CFS and provided in the final Bushfire Hazard Management Plan and the Emergency Response Management Plans. The management plans will be updated with detailed site design and layout plans, fire suppression system documentation and detailed maintenance plans outlining how they will be maintained through site operational activities.</p>

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				to occur, as well as an agreement to continue ongoing liaison with the SA CFS Development Assessment Service during the rest of the assessment and constructions phases of the project. Required details can be included in Fire Safety and Hazard Management Plans <i>For Noting - C</i>	
CFS	3	Management of fire on site and risk of fire escaping site	Appendix U4 Draft Bushfire Hazard Management Plan	Given the machinery, vehicles, processes and storage of goods on the site, it is likely that a fire (structure or bush fire) could ignite on the site and due to the flammability of surrounding areas, as well as unpredictable weather patterns, such fires could escape the site and spread into the landscape. Detailed plans of how such would be managed (details of both passive and active fire suppression systems) are required. <i>Plans and details of both passive and active fire suppression systems, as well as how fire escape would be prevented/managed. - B</i>	Specific details of escape routes, refuges, both active and passive fire suppression systems and onsite buffers will be determined in ongoing consultation with CFS and provided in the final Bushfire Hazard Management Plan and the Emergency Response Management Plans. The management plans will be updated with detailed site design and layout plans, fire suppression system documentation and detailed maintenance plans outlining how they will be maintained through site operational activities.
CFS	4	Buffers	Appendix U4 Draft Bushfire Hazard Management Plan	Buffers provide clear space between areas of vegetation to lower the forward rate of spread of a bushfire. These buffers will aid suppression of a fire and also may minimise asset and life loss from an uncontrolled bushfire. Such buffers may include roads, fire tracks, clearings, waterways, manicured gardens or other forms. <i>A site plan clearly showing where proposed bushfire buffers will be located, as well as details of how they will be maintained moving forward. - B</i>	Specific details of escape routes, refuges, both active and passive fire suppression systems and onsite buffers will be determined in ongoing consultation with CFS and provided in the final Bushfire Hazard Management Plan and the Emergency Response Management Plans. The management plans will be updated with detailed site design and layout plans, fire suppression system documentation and detailed maintenance plans outlining how they will be maintained through site operational activities.
CFS	5	On Site Fire Suppression	Appendix U4 Draft Bushfire Hazard Management Plan	There are many ways in which fires can be suppressed on site. Whilst largely a Building Code issue, given the size of the development, as well as its isolated location, it is important that these be looked at now. This will also assist the SA CFS with its forward planning in determining how best to resource the various local volunteer brigades who will response to any fires on this site.	Specific details of escape routes, refuges, both active and passive fire suppression systems and onsite buffers will be determined in ongoing consultation with CFS and provided in the final Bushfire Hazard Management Plan and the Emergency Response Management Plans. The management plans will be updated with detailed site design and layout plans, fire suppression system documentation and detailed maintenance plans outlining how they will be maintained through site operational activities.

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				<i>Plans and documentation details the proposed fire suppression systems to be used on the site. - B</i>	
CFS	6	Details Management/ Response Plans	Appendix U4 Draft Bushfire Hazard Management Plan	<p>Management and response plans will detail how emergencies are responded to on the site. Development of these plans to be in consultation with the relevant emergency services agencies.</p> <p>The SA CFS requires a document/letter/statement clarifying the proposed management and response plans, as well as an agreement to continue ongoing liaison with the SA CFS Development Assessment in relation to this topic.</p> <p>Required details can be included in Fire Safety and Hazard Management Plans</p> <p><i>For Noting - C</i></p>	Specific details of escape routes, refuges, both active and passive fire suppression systems and onsite buffers will be determined in ongoing consultation with CFS and provided in the final Bushfire Hazard Management Plan and the Emergency Response Management Plans. The management plans will be updated with detailed site design and layout plans, fire suppression system documentation and detailed maintenance plans outlining how they will be maintained through site operational activities.
DPTI (Transport)					
DPTI (Transport)	1	Preferred route	Main Report Chapter 21 Traffic and Transport	<p>DPTI notes that the subject site for the proposed port does not directly abut any arterial roads however DPTI notes that the access to the proposed port will utilise the existing road network including the Playford Highway, a portion of which is an arterial road under the care, control and management of the Commissioner for Highways.</p> <p>DPTI (Transport) considers that a defined transport route is an appropriate approach and supports the preferred (Option 1) in principle.</p> <p><i>For Noting - C</i></p>	Noted.
DPTI (Transport)	2	Vehicle types	Main Report Chapter 21 Traffic and Transport	<p>The subject arterial roads (Playford Highway) are currently gazette for up to 23.0 m B-Double movements, and improvements will be required if larger vehicles are to be used.</p> <p>It is DPTI' s preference for the arterial road network that the roads be gazette for use by the vehicles required to be used rather than the use of permits. This matter can be resolved during the planning phases of the project</p> <p><i>For Noting - C</i></p>	Noted. KIPT would also prefer the routes were gazetted.

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DPTI (Transport)	3	Funding of road upgrades and maintenance	Main Report Chapter 21 Traffic and Transport	<p>Given the significant increase in traffic volumes is directly related to the development, it is necessary for all road improvements and on-going road maintenance required for the development to be funded by the proponent.</p> <p>This approach is based upon the principle that if infrastructure is required to accommodate traffic increases (whether that be traffic volume, vehicle types etc.) resulting from the development, and hence is specific and direct benefit to the development, then the proponent should fund this infrastructure.</p> <p>It is possible for the proponent to directly undertake any necessary road upgrades/maintenance works at their cost subject to an appropriate deed and authorisation being executed with the relevant road authority (in this instance both DPTI and the Council).</p> <p>On the basis that the proposal proceeds using 19.0 m semi-trailers only, a formal agreement is not required for improvements to the arterial road network.</p> <p><i>If vehicles larger than 23.0 m B-Doubles are to be used, proponent to identify required arterial road improvements to accommodate the desired vehicle in consultation with DPTI.</i></p> <p><i>Proponent to outline proposed arrangements for funding of identified upgrades and on-going maintenance of such.</i></p> <p><i>Proponent to commit funding the identified upgrades and on-going maintenance to accommodate vehicles to be used by the proponents. This may include entering into a funding agreement with the State Government. – A</i></p>	<p>The traffic and transport issues cannot be resolved without the agreement of the Kangaroo Island Council, the SA Government and KIPT. The Council has indicated it is unwilling to discuss these matters further with KIPT until a planning authorisation has been granted.</p> <p>Significant grant funds are available from both the state and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) is eligible to apply for these funds. Private developers such as KIPT cannot.</p> <p>Tourism and agriculture also damage the roads on Kangaroo Island and yet there has been a considerable injection of funds from the Commonwealth, State and local governments to support the growth of both industries, including investment in road upgrades, because of the significant economic contribution each industry makes to the regional and state economy. Given the economic benefits which will flow from forestry, KIPT remains of the view that it is neither unreasonable nor unrealistic to argue that it is in the public interest that similar government funds will be provided to address the issues raised in the public consultation process.</p> <p>It is acknowledged that a transport plan would be required after the KI Seaport is approved. The role of all parties (i.e. the proponent, the Kangaroo Island Council, the South Australian Government and the Commonwealth Government) will be determined at that stage.</p>
DPTI (Transport)	4	Use of semi-trailers	Main Report Chapter 21 Traffic and Transport	<p>DPTI notes that the proponent has indicated that until the defined transport route for Higher Productive Vehicles (HPV) is resolved, 19.0 m semi-trailers would be used to transport goods to the port as an interim solution.</p>	<p>The use and impact upon local roads has been considered in liaison with the Kangaroo Island Council and DPTI, See Chapter 21, Table 21-1 and Appendix P of the Draft EIS. It is acknowledged that that both the Kangaroo Council and State Government play a key role in the solution for the freight task of moving timber to the seaport.</p>

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				The use and impact upon local roads is a matter for the assessment noting that both Council and State Government play a key role in this matter. <i>For Noting - C</i>	The use of 19.0 m semi-trailers is a worst case outcome and is not KIPT's preferred solution. No comprehensive solution to the various traffic and transport issues can be achieved without the agreement of the Kangaroo Island Council, the SA government and KIPT. Significant grant funds are available from both the SA and Commonwealth governments which could be used to upgrade and maintain the roads. However, only the Kangaroo Island Council (as the owner of the roads) has the standing to apply for these funds. KIPT cannot.
AAR					
AAR	1	Aboriginal Heritage	Main Report Chapter 24 Heritage	Previous AAR correspondence (10/4/17 and 30/10/18) highlighted the need for an archaeological and anthropological on-ground survey to inform a risk management and heritage discovery process (not done). <i>No commitment given in EIS to Aboriginal heritage survey. Indicate whether on- ground survey will be undertaken. - C</i>	KIPT will commit to undertaking an on-ground archaeological and ethnographical survey subsequent to approval for the KI Seaport. The survey will be undertaken with representatives of the relevant traditional owner groups and will be undertaken prior to the start of construction works. KIPT would continue to liaise with AAR for all matters related to heritage interests, in the development of a CHMP and for cultural heritage awareness training.
AAR	2	Aboriginal Heritage	Appendix S1 Smith Bay Heritage Assessment (Desktop)	EBS desktop heritage report does not acknowledge the Smith Bay Artefact Site (40 artefacts) located approx. 900 m to the east of the development area. Also, no mention of the nearby Smiths Creek location and its potential for Aboriginal heritage discoveries commonly associated with water courses. p 7 notation RE no sites on adjacent areas incorrect. <i>Acknowledge proximity to artefact site & Smiths Creek in the vicinity, and the possibility for sub-surface Aboriginal heritage discoveries (see monitoring below). - C</i>	The report presented in the Draft EIS (see Appendix S1) has been replaced by the Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019, which is attached as Appendix G . EBS Heritage have undertaken an additional search of the Central Register which was undertaken with a wider radius from the proposed development site. This is provided as Appendix 3 of the revised Smith Bay Kangaroo Island Heritage Assessment (Desktop) (see Appendix G) and shows the approximate location of the Artefact Site. The revised report includes an updated Predictive Risk Assessment (see Table 4 of Appendix G) which acknowledges the coastal location of the Project Site as well as the nearby drainage features.
AAR	3	Aboriginal Heritage	Main Report Chapter 24 Heritage p 525	EIS states Aboriginal site monitors may be present for ground disturbing works <i>Clarification needed as to whether the monitors will be engaged. - C</i>	KIPT would commit to undertaking an on-ground archaeological and ethnographical survey subsequent to development approval for the KI Seaport. The survey would be undertaken with representatives of the relevant traditional owner groups and done prior to the start of construction works. KIPT has committed to archaeological monitoring by the relevant Aboriginal groups during earthworks to detect possible subsurface deposits, see final commitments for the KI Seaport development in Section 8 .
AAR	4	Aboriginal Heritage	Main Report	EIS mentions CHMP but gives no details as to when and how it will be completed, nor any details	EBS Heritage have completed a revision of the desktop heritage assessment. See Appendix G for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing

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			Chapter 24 Heritage p 518 Appendix S1 Smith Bay Heritage Assessment (Desktop) Appendix T Risk Assessment Table	of Aboriginal interested party's involvement in its design. A CHMP is required to be completed, with input from relevant Aboriginal groups engagement, prior to commencement of works <i>For Noting - C</i>	Appendix S1 to the Draft EIS. See Section 9 of the updated desktop heritage assessment for further detail. A CHMP will be developed subsequent to KIPT receiving Development Approval for the proposed KI Seaport. The CHMP will be developed, in consultation with the relevant traditional owners, subject to the outcomes of the on-ground heritage survey and the results of further consultation with the relevant Aboriginal parties. This document will be developed prior to any on-ground works. The Plan will address (but not be limited to): <ul style="list-style-type: none"> • legal obligations/framework • details of any Aboriginal cultural heritage sites identified • consultation undertaken • recommendations to manage the protection of heritage. See Appendix F for the revised risk assessment for the KI Seaport.
AAR	5	Aboriginal Engagement	Main Report Chapter 7 Stakeholder Consultation and Engagement	No demonstrated contact achieved with Ramindjeri Heritage Association who have advised an interest in KI (advised per previous AAR correspondence 10/4/17 and 30/10/18 above). Proponent is required to engage with Ramindjeri Heritage Association in discussions about heritage significance prior to works. <i>For Noting - C</i>	Ongoing engagement and consultation with Ramindjeri groups would occur as part of KIPT's stakeholder engagement plan, particularly during early phases of planning site preparation, civil and marine works for construction works. Consultation with relevant Aboriginal groups is ongoing. The most recent consultation which has been with the two Aboriginal groups who have asserted their interest, the Ramindjeri Heritage Association Inc. and the Original Southern South Australian Tribes Indigenous Corporation. This was undertaken during the review and update of the Smith Bay Heritage Assessment, provided as Appendix G . A CHMP will be developed subsequent to KIPT receiving Development Approval for the proposed KI Seaport. The CHMP will be developed, in consultation with the relevant traditional owners, subject to the outcomes of the on-ground heritage survey and the results of further consultation with the relevant Aboriginal parties. Initial discussions for the on-ground survey have already taken place.
AAR	6	Aboriginal Heritage	Main Report Chapter 24 Heritage	Suggested corrections to copy: <ol style="list-style-type: none"> 1. Main Report abbreviations table – replace DSD-AAR with DPC-AAR 2. p 8 (1.4.2) – Acknowledge Draper N 1991 Rocky River 1200bp date and Cape Du Couedic 400bp date (pers comm). Statement at 1.4.2 "Archaeological evidence suggests that Indigenous groups left Kangaroo Island about 2500 years ago" is incorrect 3. p 102 under heading "Application to the development" statement is not accurate "KIPT 	<ol style="list-style-type: none"> 1. Refer to Appendix E. At the time the letter from AAR was received, the agency was located in the Department of State Development. However, it is acknowledged that the agency is now located within the Department of the Premier and Cabinet. 2. EBS Heritage have completed a revision of the desktop heritage assessment. See Appendix G for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing Appendix S1 to the Draft EIS. 3. Other changes as documented by AAR have been summarised in the Appendix E. 4. Consultation with relevant Aboriginal groups is ongoing. The most recent consultation undertaken was between KIPT and the two Aboriginal groups who have asserted their interest, the Ramindjeri Heritage Association Inc. and the Original Southern South

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				<p>has consulted with Indigenous groups to ensure compliance with the Act during construction and operation". KIPT has consulted with one Aboriginal group only and consultation does not ensure compliance with the Act</p> <p>4. p 122 guideline 16.2 statement "...disconnect of Traditional Owners with Kangaroo Island" is misleading and possibly offensive</p> <p>5. p 128 under heading "Consideration for the EIS" aboriginal should always be with a capitalised "A" and third line from bottom should be 'beliefs' not 'believes'</p> <p>6. p 133 statement relating to employment and training opportunities (including for Aboriginal people) is not quantified in any way</p> <p>7. p 136 statement RE identification of key (Aboriginal) stakeholders for ongoing engagement and consultation.</p> <p><i>Amend copy. – C</i> <i>Amend copy at 1.4.2 to "AAR has advised that Aboriginal occupation of Kangaroo Island has been dated to as recently as 400bp". – C</i> <i>Amend copy. – C</i> <i>Amend copy. – C</i> <i>Amend copy. – C</i> <i>State how employment and training will be actioned and quantified. – B</i> <i>State how ongoing engagement and consultation with all Ramindjeri groups will occur. – B</i></p>	<p>Australian Tribes Indigenous Corporation. Other activities undertaken to comply with the Act include completion of a Cultural Heritage Assessment for the KI Seaport site to assist in making decisions for Aboriginal heritage matters associated with the development. An updated assessment is attached in Appendix G.</p> <p>KIPT is aware of its obligations under section 23 of the <i>Aboriginal Heritage Act 1988</i>. Following development approval for the KI Seaport, KIPT will commission an on-ground archaeological and ethnographical survey to minimise the risk of breaching section 23 of the Act. The survey will be undertaken with representatives of the relevant traditional owner groups and will be undertaken prior to the start of construction works.</p> <p>KIPT is committed to archaeological monitoring by the relevant Aboriginal groups during earthworks to detect possible subsurface deposits.</p> <p>5. Changes will be made as per comments. This is documented in Appendix E.</p> <p>6. Changes will be made as per comments. This is documented in Appendix E.</p> <p>7. The p 133 (of the Draft EIS) statement relating to employment and training opportunities (including for Aboriginal people) is not quantified at this early stage. Further assessment of training for KIPT's business, discussions with government agencies and training bodies and with Aboriginal groups are required to provide quantities.</p> <p>Section 20.6.4 of the Draft EIS briefly outlines current Indigenous employment for Kangaroo Island. KIPT is an equal-opportunity employer and would ensure training and employment opportunities were available for members of the Indigenous community. Section 22.6.1 of the Draft EIS outlines the arrangements proposed for training and skills formation, in liaison with relevant government agencies and training organisations. Discussions would continue as part of KIPT's stakeholder engagement, to ensure appropriate actions are implemented to encourage Indigenous employment and training during construction and operation of KI Seaport.</p> <p>8. EBS Heritage have revised the desktop heritage assessment. See Appendix G for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing Appendix S1 to the Draft EIS.</p> <p>Other changes as documented by AAR have been summarised in the Appendix E.</p>
AAR	7	Aboriginal Heritage	Main Report Chapter 22 Social Environment Section 22.4.5 Indigenous communities	p 496 – Statement that "Indigenous groups ceased to inhabit Kangaroo Island about 2500 years ago" is not accurate; Radiocarbon dates for archaeological assemblages range from approximately 7500 BP to as recently perhaps as 350-400 BP (see Draper, N., Islands of the dead? Prehistoric occupation of Kangaroo Island and	EBS Heritage have completed a revision of the desktop heritage assessment. See Appendix G of the Response Document for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing Appendix S1 to the Draft EIS. Section 5 of the updated desktop heritage assessment addresses this comment. Other changes as documented by AAR have been summarised in the Appendix E .

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				other southern offshore islands and watercraft use by Aboriginal Australians, Quaternary International (2015), http://dx.doi.org/10.1016/j.quaint.2015.01.008). Aboriginal descendants live on Kangaroo Island currently. <i>Amend to reflect more recent dates for Aboriginal occupation. - C</i>	
AAR	8	Aboriginal Heritage	Main Report Chapter 24 Heritage	p 513 – Notation of “See Chapter 26” appears to be incorrect. Should be “See Chapter 24”. <i>Amend copy. - C</i>	Changes will be made as per comments. This is documented in Appendix E .
AAR	9	Aboriginal Heritage	Main Report Chapter 24 Heritage Section 24.1 Introduction Figure 24-1	p 515 – Second para should read “...- Aboriginal archaeological sites, objects and remains, and sites of significance according to Aboriginal tradition, archaeology, anthropology or history”. p 516 - Table at foot of page incorrectly states, “Aboriginal occupation of Kangaroo Island ceased” (Approx. 2,250 years ago). <i>Amend copy. – C</i> <i>Amend to delete this notation. - C</i>	Changes will be made as per comments. This is documented in Appendix E .
AAR	10	Aboriginal Heritage	Main Report Chapter 24 Heritage Section 24.2 Historical Overview	p 515 – Lampert’s (1980) assertion that “distribution of (Aboriginal) sites on KI shows no special association with the island’s present shoreline” has been eclipsed by the discovery of more recent coastal sites (see Draper, 1987, 1988, 1991, 1999, 2006). The conclusion in the EIS (and in the EBS report at p9) that “This is relevant to the proposal, as it is less likely that works along the shoreline would encounter sites...” is not accurate. <i>Amend text to delete reference to the assertion in the EIS that “it is less likely that works along the shoreline would encounter sites”. - C</i>	Changes will be made as per comments. This will be documented in Appendix E . EBS Heritage have completed a revision of the desktop heritage assessment. See Appendix G of the Response Document for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing Appendix S1 to the Draft EIS. The revised report includes an updated Predictive Risk Assessment (see Table 4 of Appendix G) which acknowledges the coastal location of the Project Site as well as the nearby drainage features.
AAR	11	Aboriginal Heritage	Main Report Chapter 24 Heritage Section 24.3	p 517 – Eighth dot point incorrect ‘Kuarna’ spelling. <i>Change spelling to ‘Kaurna’. - C</i>	Changes will be made as per comments. This is documented in Appendix E .

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AAR	12	Aboriginal Heritage	Main Report Chapter 24 Heritage Section 24.4.1 Aboriginal heritage	p 518 – Reference to “The strategy would be detailed in the Heritage Management Plan” is not quantified. <i>Advise whether a CHMP will be developed prior to ground disturbance works. - C</i>	The CHMP will be developed subsequent to KIPT receiving Development Approval for the proposed KI Seaport. The CHMP will be developed, in consultation with the relevant traditional owners, subject to the outcomes of the on-ground heritage survey and the results of further consultation with the relevant Aboriginal parties. This document will be developed prior to any on-ground works. The Plan will address (but not be limited to): <ul style="list-style-type: none"> • legal obligations/framework • details of any Aboriginal cultural heritage sites identified • consultation undertaken • recommendations to manage the protection of heritage.
AAR	13	Aboriginal Heritage	Main Report Chapter 24 Heritage Section 24.5.4 Discovery protocol Section 24.6.1 Aboriginal heritage	p 524 – Discovery Protocol – no mention of the requirement to notify SAPOL pursuant to the <i>Coroner’s Act 2003</i> of the discovery of any human remains. p 525 – Conclusions state a Heritage Management Plan <i>would</i> be developed, an archaeologist <i>would</i> monitor early site works and Aboriginal site monitors <i>may</i> be present. <i>Include requirement concerning the discovery of any human remains. – B</i> <i>Provide accurate information as to whether these activities will be undertaken. - C</i>	EBS Heritage have completed a revision of the desktop heritage assessment. See Appendix G of the Response Document for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing Appendix S1 to the Draft EIS. A revised discovery protocol for skeletal remains is included in the updated report (see Appendix G). The CHMP will be developed subsequent to KIPT receiving Development Approval for the proposed KI Seaport. The CHMP will be developed, in consultation with the relevant traditional owners, subject to the outcomes of the on-ground heritage survey and the results of further consultation with the relevant Aboriginal parties. This document will be developed prior to any on-ground works. KIPT will undertake archaeological monitoring by the relevant Aboriginal groups of the Project Site during earthworks. See Appendix G for further details.
AAR	14	Aboriginal Heritage	Appendix S1 Smith Bay Heritage Assessment (Desktop)	EBS report Executive Summary 4th dot point indicates “high risk” of discovery of Aboriginal heritage, and yet this does not appear to be reflected or acknowledged anywhere in the EIS. <i>Acknowledge EBS assessment of “high risk” of Aboriginal discoveries in EIS. - C</i>	Changes will be made as per comments. This is documented in Appendix E . EBS Heritage have completed a revision of the desktop heritage assessment. See Appendix G for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing Appendix S1 to the Draft EIS.
SA Housing Authority					
SA Housing Authority	1	Accommodation for employees during construction phase	Main Report Chapter 22 Social Environment	Accommodation needs for up to 15 workers involved in construction works. It is expected that those needs will be met by existing short-term housing. However, short-term rental opportunities can be costly, especially given that works may continue during high tourist season.	KIPT are liaising with local Kangaroo Island real estate agents and developers to secure accommodation arrangements for their permanent and temporary workforce. These negotiations are in their infancy and would involve commercial arrangements not yet finalised. The Office of the Commissioner for Kangaroo Island published a comprehensive report on housing on Kangaroo Island in 2017. A series of actions to address a number of issues (for

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			Section 22.5.3 Housing and accommodation	<i>Include details of opportunities for provision of accommodation for construction workers on longer term basis at reduced rental charges. - B</i>	example, housing affordability and housing stress levels) were recommended in this report, refer to section 22.4.3 of the Draft EIS. KIPT would work with government agencies in relation to these recommendations and any new recommendations that may arise in the future.
SA Housing Authority	2	Housing needs (including affordable housing options) for the expected increased population during operational phase	Main Report Chapter 4 Project Description Section 4.8.4 Workforce demand and supply	Accommodation needs for extra 330 people (workers and their families) during operational stage. KIPT owns and ready to provide approx. 30 potential residential allotments to respond to predicted population increase. The remainder residential dwellings should be provided by market and government support may be sought to ensure sufficient housing supply. Proponent to liaise with Council and Government regarding the anticipated population growth and accommodation needs that arise from this. Required details can be included in a Social Management Plan For Noting - C	Noted. KIPT would continue to liaise with relevant government agencies, Kangaroo Island Council, local real estate agents, local residential property developers and the community to determine strategies to support their workforce.
SATC					
SATC	1	Cruise Ships	Main report Chapter 1 Introduction Section 1.6.2 Scope p 10	The scope outlines the following - <i>The maintenance/building of a new public boat ramp at Smith Bay and use of the KI Seaport by cruise ships (both of which were described in the initial proposal put forward) is no longer within the scope of the development.</i> The matter of cruise ships has been previously discussed between SATC and KIPT and was removed post consultation. The SATC would like to reiterate that with regards to cruise ships, the SATC does not see any benefit at this time for considering Smith Bay as an option. Smith bay would create a significant logistical challenge in dispersing passengers along with it having no immediate tourism attractions around it. The State has what is described as 'high quality' facilities by cruise lines at Penneshaw with highly effective tourist focused facilities with immediate access to transport options. It also provides	Noted. Ongoing engagement by KIPT with SATC and the local tourism industry would continue conversations between KIPT and SATC

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				significant benefit to Penneshaw and rives economic outcomes beyond tours. <i>For Noting - C</i>	
Education					
Education	1	School bus routes	Main Report Chapter 21 Traffic and Transport Appendix P7 KI Seaport Traffic Impact Assessment	The Department for Education's TSU currently operates 12 school bus routes across Kangaroo Island. We note that these have been included in the discussion and risk analysis of appendix P of the draft EIS. Should the proposal move forward, the TSU requests involvement with KIPT to discuss options for minimising the risk of school bus interaction with haul trucks. In order to avoid hazardous road situations for students (particularly while crossing roads and waiting at bus stops), buses, and trucks, there are options which could be pursued including using alternate routes or timing haulage movements around bus timetables. Requirement can be included in a Traffic Management Plan. <i>For Noting - C</i>	KIPT agrees safety is the highest priority in considering the various options for transporting timber products to Smith Bay. KIPT consulted with Kangaroo Island Community Education in preparing the Draft EIS and will consult regularly with the TSU and relevant stakeholders once haulage operations begin. KIPT acknowledges that school bus routes and the number of buses using these routes will vary from term to term. KIPT and its sub-contractors will consult regularly with the Transport Services Unit of the Department of Education and Kangaroo Island Community Education about minimising risk to school transport and students once haulage operations begin. KIPT acknowledges that relevant stakeholders require adequate notice prior to the start of haulage operations.
EPA					
EPA	A1	Noise – terrestrial	Addendum Section 4.8 Noise and Light	The EPA advises that construction noise from the activity will now vary from the original proposal, but the construction noise requirements under the Noise EPP for the proposal will not change <i>For noting - C</i>	KIPT acknowledge that the requirements of the Noise EPP apply to the KI Seaport Project, and that construction activities will be managed so that compliance with the construction-related noise obligations contained within the Policy is maintained. Potential mitigation measures that may be applied during the construction phase to assist in achieving this were outlined in Table 18-7 of the Draft EIS.
EPA	A2	Water Quality	Addendum Section 4.2 Marine Water Quality	The EPA considers it likely that the potential water quality impacts would be significantly reduced as a result of the redesign of the wharf and the removal of the need to dredge. The EPA considers that any potential water quality impacts that may still result during construction and operation of the jetty could be adequately managed to not significantly affect the abalone farm. <i>For noting - C</i>	Noted

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EPA	A3	Water Quality	Addendum Section 4.2 Marine Water Quality	The EPA notes that whilst impact to water quality impacts have been addressed with the amendment in design, there are still other matters raised in the EPA's comments on the EIS that need addressing. <i>For noting - C</i>	Noted. Responses to the other matters raised by EPA on the EIS are provided above against EPA's comments.
EPA	A4	Dredging	Addendum Section 3 Revised Design	The EPA notes that dredging is no longer proposed to be undertaken and advises that any future capital dredging would require an EPA referral under the Planning and Design Code and the Planning, Development and Infrastructure (General) Regulations 2017. <i>For noting - C</i>	Noted and understood.
EPA	A5	Pile driving - impacts on marine water quality	Addendum Section 4.8.1 Assessment of potential impacts	The EPA notes that the Addendum has removed mitigation measures that were proposed in the EIS. In Section 14.4.3 of the EIS the following specific mitigation measure for piling activities was included: <ul style="list-style-type: none"> 'Evaluating alternative piling methodologies that have lower noise emissions' Section 18.4.5 of the EIS the following was stated: <ul style="list-style-type: none"> 'Low-noise-impact techniques such as suction piling or vibro-piling should be used in preference to impact piling where possible.' The EPA raises concern that the two proposed mitigations methods have not been included in Section 4.8.1 of the Addendum. <i>The EPA is of the opinion that these measures are still relevant and should be included in the Addendum. - B</i>	KIPT remains committed to reducing the impact of the piling operations wherever possible. The use of alternative piling methodologies is an aspect that KIPT is investigating, noting that alternative piling methodologies are subject to various advantages and disadvantages and suit different environments. For example, vibro-piling is only generally effective on granular and non-cohesive soils, and the necessary densification generally cannot be achieved when the granular soil contains more than about 12 to 15 per cent silt or more than about 2 per cent clay. This, in-turn, necessitates a comprehensive analysis of the soil profile via continuous sampling or in-situ testing prior to pile construction, which greatly effects the economics and scheduling of the piling activities. KIPT maintain that the potential impacts of the proposed piling activities represent a medium risk to the most sensitive receptors without mitigation. Mitigation measures will therefore be applied including: <ul style="list-style-type: none"> using a 'soft start' in which the piling impact energy would be gradually increased over 10 minutes to deter fauna from remaining close enough to risk injury after operations reached normal levels establishing a 1 km shutdown zone around the site, equivalent to the most conservative distance threshold to prevent permanent hearing damage using marine mammal observers to monitor this zone, with an additional perhaps complemented by acoustic equipment to detect mammals; pile driving would stop if a marine mammal was sighted in the zone no pile driving at night, when it might be difficult to detect marine mammals scheduling piling to occur outside the primary months when cetaceans may be present in the area With these measures applied, the risk is assessed to be low. KIPT would finalise the CEMP subsequent to the development approval of the KI Seaport.

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EPA	A6	Piling – impacts on marine water quality	Addendum Section 7 Commitments	The EPA review of the Addendum and advice is based upon the assumption that all drill cuttings would be retained on the construction barge for subsequent land disposal (should any rock drilling be required to install the piles). The EPA advises that this mitigation measure should form a commitment from KIPT or a condition of approval. <i>For noting - C</i>	The advice from EPA is noted. A new commitment relating to disposal of drill cuttings has been developed and included in Section 8 . The commitments are presented as a final set of commitments for the KI Seaport.
EPA	A7	Piling -impacts on cetaceans	Addendum Section 4.8.1 Assessment of potential impacts	The EPA is concerned about potential impacts of pile driving on cetaceans. It is stated in the Addendum that construction of the deck, including piling, is expected to take 309 days, but 'the use of two piling rigs would reduce the total duration of piling.' The EPA advises that shortening the piling period by using two piling rigs, thereby being able to avoid months when cetaceans are likely to be present, could result in a more effective risk mitigation strategy than restricting the total piles/blows per day, which would extend the duration of piling activity <i>Consider use of two piling rigs as the preferred option over restricting piles/blows per day. - B</i>	Shortening the piling period by using two piling rigs will be considered by KIPT and the engineering team, understanding that it would assist in avoiding the period when cetaceans are likely to be present. The use of two piling rigs would be dependent on the availability of two piling rigs for the construction program and feasibility assessments. KIPT and its construction partners would explore opportunities to use multiple piling rigs, however there are logistical reasons that present potential additional management risks associated with this solution, including scheduling risks that may result in adverse economic outcomes. As described in the Addendum to the Draft EIS, the total duration of piling on any particular day is likely to be only around 40 minutes (assuming two piles installed per day) and it is considered that the risks can be adequately mitigated as described in the response to #5. KIPT would finalise the CEMP subsequent to the development approval of the KI Seaport.
EPA	A8	Piling – risk mitigation	Appendix G of the Addendum (Updated Risk Assessment)	There is inconsistency with the Addendum, which states that if use of multiple rigs is not possible due to 'logistical reasons', the proponent is confident that risk can be mitigated. However, the risk assessment includes multiple mitigation measures in the one assessment category, which reflect the overall residual risk. If any mitigation measures are removed, then the risk should change. The EPA considers that unless all risk mitigation measures listed in each category of the risk assessment are undertaken then the risk assessment is not accurately reflecting residual risk <i>Review risk mitigation measures in relation to pile driving options. - B</i>	The inherent risk without mitigation has been assessed as generally low, with the exception of potential risks to southern right whales, which was assessed as medium. The proposed mitigation measures described in Reference 11 of Appendix G to the Addendum outline a number of mitigation measures, each of which, in isolation, provide for mitigation of the risks to southern right whales. These do not need to be applied as a package in order to provide adequate mitigation of risk, and neither does the application of all of the measures reduce the risk to zero. It is considered that the residual risk rating of low accurately reflects the residual risk to southern right whales with the application of some or all of the nominated mitigation measures. KIPT would finalise the CEMP subsequent to the development approval of the KI Seaport. The CEMP would include methods for mitigating risks to marine mammals, particularly southern right whale, during construction.

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DEW					
DEW	A1	Intertidal and marine environment	Addendum Section 2 Design Changes	The open wharf design largely ameliorates DEW's original, primary concerns with the project that of potentially significant impacts on the nearshore intertidal and marine environment that would have resulted from a solid causeway, along with the construction and management issues around that.	Noted. Management measures for avoiding, reducing or minimising any impacts on nearshore intertidal and marine environment from an open jetty structure would be incorporated into the Construction and Operational EMPs.
PIRSA					
PIRSA	A1	First port of call	Addendum Multiple sections	Should this port be intended to be a future first port of call, KIPT needs to discuss the matter with the Australian Government regarding design requirements that need to be met for FPOE ports. <i>For noting - C</i>	Noted and understood. Discussions are underway with the Australian Government and KIPT have registered their interest in establishing KI Seaport as a future first point of call and a 'new international port', which is defined as any port that seeks to introduce international services where no border services are currently provided. KIPT are aware of their obligations under the <i>Biosecurity Act 2015</i> and Biosecurity Regulation 2016. KIPT also acknowledge that the 'First point of entry Biosecurity Standards (Ports), DAWR 2017' must be met prior to designation of a new first point of entry. Appendix A provides an overview of First point of entry requirements that would be applicable to an export only operation at the KI Seaport.
PIRSA	A2	Reduction of substratum without the causeway reduced risk	Addendum 4.7.1 Potential Risks 4.7.3 Conclusions	While the risk of exotic marine pests establishing is reduced through less surface area without the causeway, there will still be establishment risk on the pillions. Encouraging indigenous fauna and flora to colonise the pillions should reduce establishment risk on the built structures. Shipping movement itself presents a risk of introduction of exotic marine pests, albeit to be managed through vessel ballast water and biofouling measures to be detailed in the Marine Pest Management Plan/Biosecurity Management Plan. Hence it is not strictly correct to say the following (underlined): 'The revised design removes the risks associated with importing rock material and dredging, and would not introduce any additional risks to the biosecurity status of Kangaroo Island' <i>For noting / editorial change - C</i>	The scope of the Addendum to the Draft EIS was to address the changes to the offshore design. The biosecurity risks posed by vessel movements to Smith Bay is addressed in Chapter 15 of the Draft EIS. The risk of biofouling from visiting vessels (and the regulatory measures to address this risk) would not materially change as a consequence of the revised jetty design. Section 4.7.2 of the Addendum to the Draft EIS states that 'Anti-fouling coating would not be applied to the steel piles and therefore marine growth is expected on the jetty pylon'. The additional substrate that forms part of the revised design would not pose a material biosecurity risk to Smith Bay. See Appendix E for correction to wording.
PIRSA	A3	Incorrect sentence	Addendum Section 4.4.2	"The decision to redesign the in-sea infrastructure, to remove the necessity for any dredging activities and to remove the causeway, would address all of the concerns raised by Yumbah" This sentence is	This matter has been addressed by revision (via publication of an errata corrige) to the EIS Addendum Document (see Appendix E).

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			Design change solution	<p>not accurate; there are remaining concerns particularly with regard to the risks from biofouling / ballast water due to increased shipping in close proximity to Yumbah.</p> <p><i>Should be reworded to reflect the residual risks after no dredging - C</i></p>	<p>This concern has been stated in various ways through several submissions and is generally framed in the context that the proximity of the proposed development to Yumbah presents risks (to Yumbah’s operation) associated with both the construction and operation of the KI Seaport facility. A number of different impacts are referred to but most frequently they relate to either impacts on water quality (particularly changes in TSS), biosecurity, dust deposition, noise and light.</p> <p>In all of these submissions the proximity between the KI Seaport and the aquaculture farm is identified as a generic problem with regard to these various issues; given that each of these issues has been dealt with in specific detail elsewhere in the response document, there are no additional matters relating to the proximity</p> <p>The argument is made (Yumbah 2019) that the required separation between a Port and an aquaculture facility is 5 nautical miles (or more). This argument is based on an empirical observation that the Yumbah Narrawong farm is 5 nautical miles from the Port of Portland (Yumbah 2019) and that the WA Department of Fisheries (Government of Western Australia, 2017) has argued that a separation of 5 nautical miles would be required to provide a reasonable level of distance between abalone farms and other farms or productive reefs.</p> <p>The framing of the Government of Western Australia (2017) recommendation is to protect productive reefs and abalone farms from infection by pathogens from other operating abalone farms. It is not an argument that 5 nautical miles is the required separation from an operating Port and an abalone farm; this latter is an inference by Yumbah (2019) and seems to be based on the fact that their Narrawong farm is around 5 nautical miles from an operating Port (Port of Portland).</p> <p>In practice, the proposal by the WA Government is based on a consideration of the risks that abalone farms pose to wild take abalone fisheries and to other abalone farms. Experience with the Victorian abalone farms at Port Fairy (Ocean Road Abalone) and Portland (now owned by Yumbah) during the AVG outbreak in 2005-2006 indicated that these farms presented a very high risk to coastal resources. Farms with infected animals present risks to surrounding systems because the high numbers of diseased animals can result in contamination of discharge waters which are likely to contain elevated numbers of disease (viral) particles (Department of Agriculture 2014) and these will then present a risk to wild growing animals or other farms downstream of the discharge.</p> <p>The concerns expressed by Yumbah are understandable given that the impact on the Victorian industries (aquaculture and wild catch) due to AVG outbreak comprised losses in the vicinity of \$100 million (Department of Primary Industries 2012).</p> <p>To quote (Department of Primary Industries 2012): “Abalone viral ganglioneuritis was first confirmed in Victoria in early 2006, following reports of unusually high mortality rates at several Victorian abalone aquaculture farms. In May of that year, AVG was detected in wild populations in southwest Victoria and &nbsp;&nbsp;&nbsp;as far east as Cape Otway and as far west as</p>

Agency	#	Topic / Issue	EIS Section	Description of <u>SA Government</u> issue raised/ <i>Requirement in response document</i> (A – Required; B – Recommended; C – Editorial /Minor/ For Noting)	KIPT response
					<p>the Discovery Bay Marine Park. Within this range, AVG has had a significant impact on abalone populations with mortality rates between thirty and ninety per cent.”</p> <p>Importantly however while the origin of AbHV in Australia is unknown the best fit scenario suggested that the source of infection was associated with interstate movements of live wild-caught abalone onto aquaculture farms in Victoria (Department of Agriculture, 2014). Notwithstanding this presumption the actual source has not been determined and legal action in relation to this event by wild-catch fishers was unsuccessful although an in-principle settlement was reached between fishers and one of the aquaculture businesses (Krafchek and McKinley 2013).</p> <p>Clearly AVG and other similar diseases represent an appropriate concern for a business such as. Nevertheless, Yumbah’s (2019) argument that a 5 nautical mile separation is required from an operating Port becomes somewhat tenuous when it is noted that Yumbah themselves have recently applied to build another abalone farm at Bolwarra (to be called Yumbah Nyamat) which is only 2.6 nautical miles from the Port of Portland (Yumbah 2018). Furthermore, in invoking the WA Government Policy as a guideline they ignore the fact that this would negate their own proposal to establish the new farm at Bolwarra because it would only be 3 nautical miles from the existing Narrawong farm and thus does not meet the separation distance that they themselves are arguing should be applied.</p> <p>Irrespective of the basis for these various arguments, the real issue to be addressed is whether or not the biosecurity arrangements that frame the operating conditions for the KI Seaport are appropriate to the needs of the various stakeholders. In this context there would be a need to develop a biosecurity plan for the KI Seaport that reflects a good understanding of the biosecurity practices of the abalone aquaculture industry. This has already been agreed to in that the Biosecurity Plan for the KI Seaport would be developed in consultation with PIRSA Biosecurity. This plan would need to consider the various risks outlined by stakeholders including the information provided in Hewitt and Campbell (2019) which provides some good guidance on these matters.</p> <p>Yumbah (2019) also claim that that the withdrawal by Southwood Timber, from their plans to develop a port in Tasmania, is evidence that the operations are incompatible. This is disputed; all it demonstrates is that Southwood Timber chose not to pursue the opportunity in the face of opposition from the aquaculture industry.</p>

6.5 RESPONSE TO THE DAWE SUBMISSION

Table 6-5 responds to issues contained in the DoEE (now DAWE) submission.

Table 6-5: Responses to issues raised by DoEE (now DAWE) (Submission ID 1385)

Ref.	#	Topic / issue	EIS Section	Description of the <u>DAWE (DoEE) issue raised/ Requirement for applicant in Response Document</u>	KIPT response
DoEE					
DoEE	1	Southern right whales - vessel strike	Main Report Chapter 14 Matters of National Environmental Significance	As noted previously the Department has concerns about the likely impacts of the proposed action on southern right whales (particularly during the calving period). Noting this, the Department may require additional information or discussion on the complexities of vessel strike and the consequence of such an event on the species' recovery. In this context it is important to note that vessel disturbance to resting/nursing cow/calf pairs in near shore areas is also of concern and that facilitative impacts (e.g. additional third-party vessel movements – discussed further below) should be considered by the proponent.	<p>The risk to the southern right whale from vessel strike and construction noise was rigorously assessed in the EIS. Shipping associated with the development will represent a negligible increase in annual shipping movements in SA. Although records of vessels striking whales are likely to be incomplete due to under-reporting and undetected strikes, the modelling of vessel strike undertaken by BMT provides an un-biased computer-based assessment.</p> <p>The assessment is conservative in that it assumes that the whales are always on the surface and they take no evasive action. The model predicted that the average rate of vessel strike associated with KIPT shipping is one strike every 300 years. The likelihood of vessel strike occurring in the vicinity of Smith Bay would be very low, as vessels will approach and leave the wharf at low speeds (i.e. 2-3 knots). Operational vessel noise in Smith Bay will be infrequent and of relatively short duration during docking operations.</p> <p>Noise emanating from vessels docked in Smith Bay would be minor. The risk to whales from shipping is considered to be negligible. Whilst there appears to have been a decline in the South Eastern population of the southern right whale in recent years, the south western population is increasing at the maximum possible rate, despite there being many busy shipping ports along the coast of Western Australia. There is no evidence to suggest that ports or shipping are implicated in the recent decline of the south eastern population of the southern right whale.</p> <p>It is noted that compensatory actions may be required in the case of a vessel strike involving a southern right whale.</p>
DoEE	2	Facilitative impacts	Main Report Chapter 14 Matters of National Environmental Significance	Facilitative impacts (i.e. downstream impacts to protected matters that are facilitated by an action) are a relevant and important consideration for assessments under the EPBC Act. Impacts from additional ship movements (e.g. biofouling, vessel disturbance/strike etc.) facilitated by the proposed port have still not been discussed nor have estimates been provided on the expected volume of additional use. Additional information on these matters are likely to be required during the assessment of this action.	Any future use of the wharf by third parties will require separate regulatory approval in which the cumulative effects of the existing and proposed operations will need to be assessed. It is impossible at this stage to determine whether there will be third party use of the wharf, and therefore the volume of such use. A likely third-party use would be to transport containerised agricultural product off Kangaroo Island as deck cargo on woodchip and timber vessels, this would result in no additional shipping movements.

Ref.	#	Topic / issue	EIS Section	Description of the <u>DAWE (DoEE)</u> issue raised/ <i>Requirement for applicant in Response Document</i>	KIPT response
DoEE	3	Vehicle movements - echidnas	Main Report Chapter 14 Matters of National Environmental Significance	<p>The timing of vehicle movements to avoid potential peak active times for echidnas (e.g. dawn/dusk during warmer weather or during the breeding season) has not been identified or discussed in the EIS as a potential mitigation strategy to reduce the risk of vehicle strike. Further discussions on these options may be beneficial.</p> <p>The EIS recommends that larger trucks be used to minimise the number of vehicle movements and that haulage speed limits be decreased to reduce the risk of vehicle strike, however, the EIS does not make firm commitments to these measures and thus it is unclear whether they will actually be adopted. This makes the assessment of vehicle strike risk to the echidna difficult. Additional clarification on this issue will likely be required.</p>	<p>The potential mitigation strategy of avoiding peak active times for echidnas was considered. However, this is not practicable for a 24/7 operation. Further text on this potential option is provided in Appendix A.</p> <p>Adoption of larger trucks to transport timber from the plantations to the KI Seaport is subject to other regulatory processes. KIPT is currently not able to commit to this option without third-party agreements and upgrades to the road network. The road network on Kangaroo Island is currently not gazetted for A-doubles and few roads are gazetted for B-doubles. The road network on Kangaroo Island is managed and maintained by the DPTI and the Kangaroo Island Council and is therefore subject to agreements with third parties.</p> <p>KIPT does not have the ability to directly implement any of the required upgrades to the road network that would be required to facilitate the transport of timber products using high-productivity vehicles (see Chapter 21 Traffic and Transport of the Draft EIS for further detail).</p> <p>The frequency of truck movements, operating hours and the use of high productivity vehicles (HPV) are inter-related issues. The frequency of truck movements is a function of several factors such as the volume of timber product to be delivered to Smith Bay, vehicle size and capacity and operating hours.</p> <p>KIPT does not favour the use of standard semi-trailers (i.e. 19 m general mass vehicles). The use of 26 m B-doubles would increase payload by 54 % and reduce the total number of truck movements by one third. The use of 36.5 m road trains (A-doubles) would increase the payload by 100 % and halve the number of vehicle movements.</p> <p>KIPT would accept some limit on operating hours if that is a genuine community preference. However, limiting operating hours increases the frequency of truck movements. For example, limiting operating hours to 12 hours a day 5 days a week (i.e. 60 hours in total) reduces total operating hours by 65 %. The frequency of truck movements would triple if operations were restricted in this way.</p> <p>KIPT will develop a transport plan after development approval is received for the KI Seaport. The transport plan will be consistent with the Offsets Implementation Plan. KIPT acknowledges that the hierarchy of controls prioritises avoidance of impacts wherever practicable (see Section 14.4 of the Draft EIS) and this will be incorporated into the Offsets Implementation Plan.</p> <p>KIPT will undertake awareness training for all drivers to help increase awareness of vehicle strike. Drivers will be required to report any vehicle strike that occurs when they are transporting timber to the KI Seaport. Reports should include species (if known), time of day, date and location details, as a minimum.</p>

Ref.	#	Topic / issue	EIS Section	Description of the <u>DAWE (DoEE)</u> issue raised/ <i>Requirement for applicant in Response Document</i>	KIPT response
					<p>However, KIPT acknowledge that there is significant scope for error in this approach to recording vehicle strike. Drivers may or may not report the vehicle strike for a number of reasons which could include fear of retribution or complacency. Vehicle strike may also go unnoticed especially during times of low light and night-time driving. Therefore, to compensate for any roadkill events that are not reported by truck drivers dash-cams will be installed on the trucks to record instances of roadkill along the haulage routes.</p> <p>An annual review of roadkill data along the transport route would be undertaken to determine how many echidnas were the victims of vehicle strike. The annual review would verify driver reports against dash-cam footage and any other relevant information to determine a suitably robust roadkill number. This data would also be cross-checked with Dr Peggy Rismiller who maintains a database on echidna roadkill.</p>
DoEE	4	Echidna strikes/offset	Main Report Chapter 14 Matters of National Environmental Significance	<p>The Department is supportive of the proposed offset strategy but notes that additional clarification on the following will be required to fully assess the likely conservation benefits of additional funding to the feral cat eradication program:</p> <ul style="list-style-type: none"> • further detail on baseline data collection for vehicle strike fatalities along the proposed haulage routes • details on the monitoring regimes to be implemented to track vehicle strike • goals, budgeting arrangement and tracking mechanism to ensure that the proposed offset strategy is delivering a conservation gain for the species' impacted by the proposed action • timeframes for the implementation of these offset measures noting that the Department's Offset Policy requires that compensatory measures to be implemented in advance of any impact 	<p>Further detail is provided in Appendix A.</p> <p>The financial arrangement with DEW allows the Department to have full discretion when it comes to spending the money. The Department will allocate the funds to a particular management action that will deliver the greatest overall benefit to the program and will be spent on a management action that is required at that point in time based on previous monitoring results, environmental conditions at the time and the best available technology.</p> <p>Funds provided by KIPT would provide additional assistance (i.e. additional to federal government funding already allocated) to DEW to achieve the goal of eradication of feral cats from Kangaroo Island by 2023. Work could begin on controlling the feral cat population in the western end of the Island at an earlier date with the monies provided by KIPT as an offset under the EPBC Act.</p> <p>An annual review of roadkill data along the transport route would be undertaken to determine how many echidnas were the victims of vehicle strike. The annual review would verify driver reports against dash-cam footage and any other relevant information to determine a suitably robust roadkill number. This data would also be cross-checked with Dr Peggy Rismiller who maintains a database on echidna roadkill.</p> <p>An analysis would be undertaken on an annual basis to review feral cat estimates, locations of where feral cats were captured and any census data for echidnas.</p> <p>Adaptive management framework</p> <p>The Feral Cat Eradication Program is currently in stage two (2019 – 2023). Construction on the cat barrier fence across the narrow isthmus of Kangaroo Island, which is being erected to prevent re-invasion from the west, began in December 2019 (DEW 2019). A proposed adaptive framework for the review of offset contributions for the KI Seaport project is provided in Appendix A. A baseline contribution would be provided to DEW for feral cat control activities on the western end of the Island or to provide additional resources for work on the Dudley Peninsula. This baseline contribution amount would then be reviewed and adjusted annually based on the actual number of echidna roadkills and the economic environment.</p>

Ref.	#	Topic / issue	EIS Section	Description of the <u>DAWE (DoEE)</u> issue raised/ <i>Requirement for applicant in Response Document</i>	KIPT response
					A baseline amount of \$20,000 per annum is currently proposed for the offset amount. This figure is based the following parameters, presented in the Draft EIS, which include the estimated number of echidna roadkill (upper estimate of 21 per year), the total distance travelled by KIPT vehicles (3.4 million km/year which is based on the upper production rate of 700,000 t per annum) and KIPT vehicles travelling from the plantations to the KI Seaport. Appendix A presents the proposed offset contribution for the first three offset contributions only. At the end of the year two of timber haulage, the offsets would be subject to a comprehensive review of all relevant data that had been obtained over the previous years as well as a review of the project status at that point in time. Further details on the review would be provided in the Offset Implementation Plan.
DoEE	5	General comment	Main Report Chapter 14 Matters of National Environmental Significance	<p>However, the Department again notes that the EIS and OEMP makes a number of suggestions for actions that will be undertaken to mitigate or manage project impacts (e.g. using large vehicle to reduce vehicle movements), however, neither document makes a firm commitment as to whether these actions will actually be undertaken.</p> <p>Note: Management plans must use terms such as 'will' and 'must' when committing to management actions, instead of 'where possible', 'as required', 'should' or 'may'. The Department will consider the terms used when assessing the proposed management measures within the management plan and may require further assurance in relation to measures which reduce potential impacts to EPBC Act listed species.</p>	<p>The management plans will be updated and finalised subsequent to the receipt of development approval.</p> <p>Adopting the use of high-productivity vehicles is something that is out of the control of KIPT as it relies upon upgrades to the road network. All vegetation clearance along the proposed transport route, as well as the potential impacts to fauna by adopting a preferred transport route, would be subject to a separate and additional approvals process subsequent to the approval of the KI Seaport. A decision on the adoption of a preferred transport route is yet to be made or approved. Adoption of a preferred transport route is subject to separate processes that involve the DPTI as well as the Kangaroo Island Council. Subject to all required approvals and agreements being in place for a preferred transport route, then further assessment on roadside vegetation clearance would be required which could potentially include EPBC referrals. Associated impacts such as vegetation clearance and impacts to fauna along the transport route cannot be assessed further at this stage of the process.</p>

6.6 RESPONSE TO GENERAL STATEMENTS OF OPINION

Some issues were categorised 'general statement' items and are considered to be statements of opinion that did not demand a response. Table 6-6 responds to general statements of opinion expressed in submissions.

Table 6-6: Responses to general statements of opinion expressed in submissions

ID	Submission ID	Topic / Issue	Summary of <u>general statements</u> of opinion raised	KIPT response
895	1372	GENERAL STATEMENT Alternative sites <i>Other sites - not suitable</i>	It is acknowledged that the four sites assessed by KIPT (American River, De Mole River, Kangaroo Head and Penneshaw) are not suitable.	Noted.
896	A1376	GENERAL STATEMENT Causeway effects <i>Issue improved</i>	Open wharf design largely ameliorates DEW's original, primary concerns with the project, and that of potentially significant impacts on the nearshore intertidal and marine environment	Noted. Management measures for avoiding, reducing or minimising any impacts on nearshore intertidal and marine environment from an open jetty structure would be incorporated into the Construction and Operational EMPs.
897	1371	GENERAL STATEMENT Commitments <i>Implementation</i>	Nineteen of the 48 commitments will be difficult to implement and consistently maintained and so are unlikely to be reliably met on an ongoing basis. It is most unlikely they could or would be enforced.	The commitments presented in the Draft EIS have been carefully considered by KIPT. Their implementation would be the subject of further discussions with relevant government agencies and as the Construction Environmental Management Plan and the Operations Environment Management Plan are finalised.
898	1372	GENERAL STATEMENT Commitments <i>Missing all mitigation and management measures</i>	Several mitigation and management measures have been specified that are unlikely to be firm commitments of KIPT.	Some of the proposed mitigation and management measures are not considered to be commitments for the KI Seaport development. The reasons for this could be one or more of the following: <ul style="list-style-type: none"> • they are standard due diligence practice and would be undertaken in any case • they are requirement by legislation or regulations and would be undertaken to ensure compliance • they are subject to change with continuous improvement or reassessment of risks. Commitments for the KI Seaport comprise of actions that are specific to key issues associated with the KI Seaport development.
899	819	GENERAL STATEMENT Echidna <i>Impacts from traffic are not acceptable</i> (EPBC related)	KIPT confirming this development will kill 21 echidnas annually. Echidna abound in the general area of Smith Bay, see them in relative abundance in the Smith Creek area.	Unfortunately, roadkill is an unavoidable consequence of road-based transport. All reasonably practicable measures would be implemented to minimise the impact on fauna. As required, KIPT would meet its obligations under the EPBC Act and contribute to an approved offsets package that would deliver an overall benefit to the species.

ID	Submission ID	Topic / Issue	Summary of <u>general statements</u> of opinion raised	KIPT response
900	1371	GENERAL STATEMENT Economy of KI <i>Yumbah and KIPT should be able to co-exist</i>	Council views Yumbah as an industry that fits well with the image of Kangaroo Island. Also views opportunities with the KIPT forests as having the potential to provide positive outcomes. Both industries should be able to exist with each other.	Noted.
901	A1374	GENERAL STATEMENT EPA comments on EIS <i>Still need addressing</i>	Whilst impact to water quality impacts have been addressed with the amendment in design, there are still other matters raised in the EPA's comments on the EIS that need addressing.	Noted. Responses to the other matters raised by EPA on the Draft EIS are provided above against EPA's comments.
902	679	GENERAL STATEMENT Fishers of the area <i>Concerns raised</i>	The MFA, at both WCFS board meetings, raised concerns about various aspects of the project to which none to date have been answered.	All matters raised by the WCFS in its correspondence of 19 December 2017 have been addressed in the Draft EIS and in the Addendum to the Draft EIS.
903	865	GENERAL STATEMENT Forestry industry <i>Viability</i>	Deep water port appears necessary but where? Paperless world approaches, the pigs and koalas multiply in the plantations. Climate changes will reduce the optimistic outlook of KIPT.	Various assessments by experts have been conducted and presented in the Draft EIS for the proposed development. The Draft EIS outlines KIPT's justification for the KI Seaport, their assessment of alternative locations and the economic, social and environmental impact assessments for establishing a port at their preferred location at Smith Bay.
904	1372	GENERAL STATEMENT GHD review <i>Concerns raised</i>	GHD review findings highlight concerns with the assessment of noise and vibration in the EIS.	See responses to issues contained in the submission made by EPA as part of the South Australian government's submission in Table 6-4
905	1372	GENERAL STATEMENT Questions authors capability <i>Abalone knowledge</i>	EIS team experts are not recognised in contemporary onshore abalone farming.	Experts that make up the Draft EIS team consists of highly experienced, capable and qualified members who undertake their research, assessment and provide objective recommendations using rigorous, contemporary, systematic and scientific methods.
906	1372	GENERAL STATEMENT Site selection <i>Intent to cause harm</i>	If other sites are possible and available – then why is there such intent to make Yumbah KI unviable and, with it, Smith Bay?	KIPT have no intention of making Yumbah KI (or any organisation) unviable. The Draft EIS has extensively considered potential impacts to Yumbah and Smith Bay and have demonstrated that both the KI seaport and Yumbah KI can co-exist.

6.7 RESPONSE TO 'OUT OF SCOPE' ISSUES

Some issues contained in submissions are considered to be not within the scope of the Guidelines of the EIS for the KI Seaport. These issues have been labelled 'Out of Scope' and responses to them are provided in Table 6-7.

Table 6-7: Responses to 'Out of Scope' issues

ID	Submission ID	Topic / Issue	Summary of <u>Out of Scope</u> issue raised	KIPT response
1	867	NOT IN EIS - OUT OF SCOPE Future growth <i>Re-zoning of Coastal Protection Zone</i>	No consideration in the EIS for future residential development and associated tourism expansion on the north coast.	Arguments about future growth on the north coast are speculative. Future residential development and associated tourism expansion on the north coast is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.
2	A80	NOT IN EIS - OUT OF SCOPE Future plans <i>Forestry operations</i>	Proponent has aired an ambition to double plantations - fails to consider in Addendum.	Expansion of plantation areas is an activity that is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.
3	681	NOT IN EIS - OUT OF SCOPE Harvest of plantations <i>impacts to Rosenberg's goanna (EPBC related)</i>	Harvest will negatively impact the goanna population. We expect the goanna will soon be added to the EPBC list and therefore we request that an EPBC offset be added. Goanna deaths will likely grow exponentially when harvest starts.	The harvesting of timber plantations and ancillary activities, with the exception of the KI Seaport, is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC. Additional assessment and authorisations or approvals would be required for some upstream activities, such as harvesting of plantations.
4	A93	NOT IN EIS - OUT OF SCOPE Illegal experimentation <i>Koalas</i>	KIPT and Hanson Bay Wildlife Sanctuary are performing an illegal experiment on Tasmanian blue gum felling and coppicing and observing responses of koalas to this activity.	Koala research is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC. In any case, KIPT is not engaged in any experiments or research involving koalas.
5	1377	NOT IN EIS - OUT OF SCOPE Impact assessment <i>Omissions - Rosenberg's Goanna (EPBC related)</i>	The EIS does not list all Kangaroo Island threatened species and proposed management actions.	See response ID 362 and Appendix B which responds to the Baird submission. Activities upstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC. The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the Draft EIS to understand freight task associated with the development and the potential impacts on the road networks associated with transporting timber from plantation to the port for export. Additional assessment and authorisations/approvals would be required following the approval of a port at Smith Bay. KIPT have been engaged with various stakeholders for all aspects of their business to understand future requirements should the KI Seaport be approved.

ID	Submission ID	Topic / Issue	Summary of <u>Out of Scope</u> issue raised	KIPT response
6	A82	NOT IN EIS - OUT OF SCOPE KI Seaport <i>Encourage industrialisation</i>	It will no doubt set a precedent for other similar industrial projects to be based on Kangaroo Island. KI is for tourism and to promote a place or location of unspoilt natural beauty.	Conjectural and not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.
7	681, 689	NOT IN EIS - OUT OF SCOPE KIPT's financials <i>Port will be sold if approved</i> (EPBC related)	KIPT is highly indebted and it has negative net cash flow. Long term viability of the proponent is uncertain. No guarantee that the company will ever be profitable. If Smith Bay port is not approved KIPT will shrink. If it is approved KIPT will likely be sold. Hidden agenda - on-selling a strategically placed port to wealthy international interests because it's not possible for the island's small timber industry to build or sustain the scope of the port planned.	Speculative. KIPT is an ASX-listed company ((ASX:KPT) and their financial reports published at < www.kipt.com.au > and < www.asx.com.au >.
8	821	NOT IN EIS - OUT OF SCOPE Land attributes <i>Suitability for forestry</i>	Inaccuracies about timber and agricultural industries, soil acidity in relation to agricultural production and the use of gypsum.	Use of land for timber plantations, or other agricultural production, is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.
9	1055, 1056	NOT IN EIS - OUT OF SCOPE Land use productivity <i>Forestry operations</i>	KIPT plan to increase tonnage exported per hectare somewhere between 50 to 110 fold. It should also be considered that these forests haven't had any produce exported since planting commenced. KIPT sees agriculture on KI as minor and unimportant regarding economy and employment.	Use of land for timber plantations, or other agricultural production, is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.
10	1054, 1095, 1220	NOT IN EIS - OUT OF SCOPE Forestry activities <i>Dust</i>	Dust assessments have only been made for the port site and not for the transport route or onsite chipping sites.	Activities upstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC. The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the Draft EIS to understand the freight task associated with the development and the potential impacts on the existing road networks associated with transporting timber from plantation to the port for export. Additional assessment and authorisations or approvals would be required for some upstream activities, such as the operation of wood chipping equipment.
11	1054, 1056, 1061, 1106, 1115, 1185, 1214, 1368, 251, 408, 559, 680, 681, 819, A2, FL1	NOT IN EIS - OUT OF SCOPE Timber plantations <i>Koalas</i> (EPBC related)	Concerns about koala management	The management of koalas in the timber plantations is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.

ID	Submission ID	Topic / Issue	Summary of <u>Out of Scope</u> issue raised	KIPT response
12	1054, 1167, 678	NOT IN EIS - OUT OF SCOPE Trucking routes <i>Noise from trucks on transport route</i>	Noise pollution along trucking routes. KIPT expect people to noise proof their homes and pay for it. Hard to protect against low frequency truck noise	Activities upstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC. The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the Draft EIS to understand the freight task associated with the development and the potential impacts on the existing road networks associated with transporting timber from plantation to the port for export. Additional assessment and authorisations or approvals would be required for some upstream activities, such as operation of a specified haul route for timber.
13	1372	NOT IN EIS - OUT OF SCOPE Licence application <i>Cease and desist issue</i>	In 2017, KIPT was issued a “cease and desist” order from the South Australian Government after it failed to obtain the required approvals to drill in Smith Bay. Activities caused significant damage to the seagrass floor of Smith Bay.	A licence (Reference 11230771) for a portion of subjacent land at Smith Bay, vested in the Minister for Transport and Infrastructure, pursuant to the <i>Harbors and Navigation Act 1993</i> , was issued in April 2017 to KIPT for permission to undertake geotechnical testing and soil investigations of the seabed. There is no evidence to suggest that activities caused significant damage to the seagrass or sea floor of Smith Bay.
14	1372	NOT IN EIS - OUT OF SCOPE KIPT’s financials <i>Future risk</i>	Reassurance that KIPT will have the financial resources to remedy any damage caused by the wharf development and operation?	Speculative. KIPT is an ASX-listed company ((ASX:KPT) and their financial reports published at < www.kipt.com.au > and < www.asx.com.au >.
15	1372	NOT IN EIS - OUT OF SCOPE Not in scope <i>Woodchip site</i>	No assessment of wood chipping at KI Seaport.	Wood chipping will not be undertaken at the KI Seaport.
16	A62	NOT IN EIS - OUT OF SCOPE Out of scope <i>Shareholders (EPBC related)</i>	Paradise investments is a big holder of mining and like Soul Pattison’s have no association with KI and are located in Sydney.	Kangaroo Island Plantation Timbers is listed on the Australian stock exchange (ASX:KPT). The composition of KIPT’s share register is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.
17	1372, 956	NOT IN EIS - OUT OF SCOPE Sustainable forestry plantations <i>Impact on KI economy</i>	Long-term forestry is not in line with community expectations, is at odds with the Kangaroo Island Development Plan and negatively impacts on potential expansion of agricultural, tourism, aquaculture and renewable energy industries, all of which underpins the island’s clean and green reputation. The impacts of extending plantation life with future rotations and re-planting has not been adequately addressed. The Island’s economic base is targeting increased tourism and new industries in areas of horticulture, aquaculture and renewable energy. The island’s clean, green reputation underpins these industries.	Mature trees in the existing plantations on Kangaroo Island justifies the need for the KI Seaport. Plantation forestry, as a long-term industry on Kangaroo Island, is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC. The history of plantation forestry on Kangaroo Island is outlined in Section 2.2 of the Draft EIS. It is the intention of KIPT to maintain a sustainable plantation forestry industry on Kangaroo Island.

ID	Submission ID	Topic / Issue	Summary of <u>Out of Scope</u> issue raised	KIPT response
18	1372	NOT IN EIS - OUT OF SCOPE Sustainable forestry plantations	The KI Plan does not support the development of forestry, which it sees as providing fewer social and economic benefits than other industries. The KI Plan provides a clear hierarchy of areas which should be protected for environmental reasons, and there is existing infrastructure on KI which should be used for the proposed seaport.	The history of plantation forestry on Kangaroo Island is outlined in Section 2.2 of the Draft EIS. It is the intention of KIPT to maintain a sustainable plantation forestry industry on Kangaroo Island. See Section 6.3 of the Draft EIS for assessment of the proposed development against the Kangaroo Island Plan. See Chapter 3 of the Draft EIS which outlines the process leading up to KIPT deciding that Smith Bay is the preferred site for the KI Seaport.
19	345	NOT IN EIS - OUT OF SCOPE Timber mill	Erection of a timber mill at Smith Bay will impact long established homes and the well-being of Smith Bay residents.	A timber mill is not a component of the KI Seaport development.
20	1186, 1187	NOT IN EIS - OUT OF SCOPE Traffic and transport impacts <i>Socio-economic impacts</i>	Impacts from trucks (dust and increased traffic) will impact on Stokes Bay Community Hall and those who use it as well as other small home-based businesses along the transport routes.	Activities upstream of the KI Seaport are not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC. The DAC Guidelines however, required that a Traffic Impact Assessment undertaken as part of the Draft EIS to understand the freight task associated with the development and the potential impacts on the existing road networks associated with transporting timber from plantation to the port for export. Additional assessment and authorisations or approvals would be required for some upstream activities, such as the operation of dedicated timber haulage route.
21	1372	NOT IN EIS - OUT OF SCOPE Biosecurity <i>Guidelines applied to land based abalone farms</i>	An objective of the DAWR's National Guidelines - Biosecurity Plan Guidelines for land based abalone farms is to strengthen existing biosecurity within abalone farms and implement preventative biosecurity measures, rather than reacting to a disease outbreak.	Noted. Chapter 15 of the Draft EIS and Section 4.7 of the Addendum provides information on potential biosecurity impacts that have been considered for the KI Seaport. See Table 6-4 which responds to concerns raised by PIRSA on biosecurity matters. Further information is also provided in Appendix A . KI Seaport must also meet the requirements in section 58 of the Biosecurity Regulation 2016. The First Point of Entry Biosecurity Standards (ports), DAWR 2017, is the appropriate guidance for operators on how to meet these regulatory requirements.
22	345	NOT IN EIS - OUT OF SCOPE Forestry <i>Location of plantations</i>	Forestry should be in a sustainable location, make use of existing roads.	Forestry is not within the scope of the major development declared by the Minister or the Guidelines for the Draft EIS set by DAC.
742	681	NOT IN EIS - OUT OF SCOPE Traffic impact assessment <i>Impact on watersheds</i>	More details are needed on the impact of vehicle traffic on roads and plantation land that intersect the watersheds. A detailed protection and remediation plan is required. Who will supervise and fund the protection of these watersheds?	The Guidelines for the Draft EIS do not require response to this issue.

7. MANAGEMENT OF HAZARD AND RISKS

The assessment of risks for hazards and environmental aspects associated with the KI Seaport development was undertaken throughout the EIS. The risk assessment presented in the Draft EIS was revised as a result of KIPT implementing changes to the design (see the Addendum to the Draft EIS), and with consideration to relevant feedback received during public consultation on the EIS.

A final risk assessment for the KI Seaport, at the conclusion of the EIS process, is attached as **Appendix F**.

8. KIPT COMMITMENTS

Table 8-1 presents the list of commitments for the KI Seaport development at the completion of the EIS process, cross-referenced to the relevant section of the EIS and, where applicable, the regulatory agency or authority that is considered relevant, at this time, to the aspect being addressed and/or an anticipated secondary approval process. KIPT would confirm commitments with DPTI and relevant agencies/authorities as detailed design, or other factors, associated with the assessment, approval or progression of the development warrants it.

Table 8-1: KIPT commitments for the KI Seaport

Identifier	EIS Chapter/ Section reference			Commitment	Relevant agencies/authorities
	Draft EIS	Addendum	Response Document		
Design and infrastructure based					
BIOSEC43	15.5.5			Potential surface treatments or alternative structures to minimise the impact from exotic species to be investigated during detailed design.	PIRSA
GSW8	16.5.1			The site would be designed to contain and manage all stormwater runoff during construction and operation to eliminate uncontrolled water channelling and concentrated runoff streams - no site stormwater would discharge to surface water bodies untreated.	EPA
GSW9	16.5.1			The internal network of open drains, culvert, pipes and wetland will be designed to ensure sufficient carrying capacity with gradients and appropriate controls to prevent bed erosion and damage.	EPA
GSW10	16.5.1			Erosion at the outlet of the wetland system will be managed via a porous rock weir at the wetland outlet to distribute water flow over a wide area.	EPA
GSW18	16.5.2			Timber log, wood chip and forest product storage yards will be established with bunding and impermeable base, to isolate runoff from the general stormwater system and from groundwater. Stormwater runoff (assumed to be leachate) will drain via a concrete forebay (in the bunded area) to intercept gross sediment and debris and to a retention basin (holding pond) designed to contain flows from storm events. There will be no discharge of leachate to surface water or groundwater.	EPA
GSW21	16.5.2			The proposed operational wetland pond, retention basin and swale system will be constructed during the early phase of construction to function as sediment capture basins during the major earthworks and civil works construction phases.	EPA
AQ5	17.5.4			Layout will be designed to minimise onsite vehicle movements.	DPTI
CCS8	19.4.4			Marine and coastal infrastructure design will take into account the predicted worst-case sea level rise and sea temperature rise. (This would prevent the flooding of infrastructure and ensure that construction materials were adequate for the predicted sea temperature and acidity changes.) Consideration would also be given to the predicted increase in storm intensity and frequency.	DPTI

Identifier	EIS Chapter/ Section reference			Commitment	Relevant agencies/authorities
	Draft EIS	Addendum	Response Document		
CCS10	19.4.4			The sizes of surface water catchments, including sedimentation ponds and drainage/diversion infrastructure, to be determined by considering the likely worst-case changes in the magnitude and duration of rainfall events, to prevent below-quality water being discharged to the environment.	EPA
CCS11	19.4.4			Construction materials for on-shore infrastructure will be designed to cope with the expected change in surface temperatures and different wind conditions associated with increased storm intensity and frequency.	DPTI
CCS13	19.4.4			Energy efficient buildings will be designed to promote passive cooling, thereby reducing energy demands and creating a comfortable environment for the workforce, in accordance with relevant standards, legislation and regulations.	DPTI
CCS15	19.4.4			Floating pontoon would be used for the berth face itself, to ensure that the wharf height above water is maintained at a constant level despite predicted changes in sea level.	DPTI
NVL1	18.3.4			The potential shielding provided by site topography, woodchip and log stockpiles and intervening buildings would be taken into account in locating plant and equipment.	EPA
NVL3	18.3.4			Noisy plant, site access roads and site compounds would be located as far from occupied premises as practicable.	EPA
NVL4	18.3.4			Equipment that emits noise predominantly in a particular direction will be sited so that the noise is directed away from occupied premises where feasible.	EPA
NVL5	18.3.4			Where safe and practical, acoustic enclosures would be installed around above-ground equipment where noise levels are predicted to exceed the relevant noise level targets at sensitive land uses.	EPA
AC2	11.5.4			Stormwater diversion channels, compacting proposed storage areas, construction of first-flush ponds and the use of closed conveyors and telescopic ship loaders, would reduce the potential impacts to negligible at the abalone farm's three seawater intake points.	EPA
TT7	21.5.5			Road design considerations (where upgrades are proposed and undertaken by KIPT), including adjustment to the vertical and horizontal alignments, low noise pavement surfaces, road gradient modifications, speed limit reduction and traffic management measures, where these do not affect the function and safety of the road.	DPTI

Identifier	EIS Chapter/ Section reference			Commitment	Relevant agencies/authorities
	Draft EIS	Addendum	Response Document		
Schedule based					
NVL39	18.4.5	4.6		<p>Strict protocols will be adopted during construction to mitigate the potential impact of pile driving on marine mammals. Protocols will include:</p> <ul style="list-style-type: none"> • risk assessments on likelihood of observing marine mammals in the development area • using a 'soft start' in which the piling impact energy would be gradually increased over 10 minutes to deter fauna from remaining close enough to risk injury after operations reached normal levels • establishing a 1 km shut-down zone around the site, equivalent to the most conservative distance threshold to prevent permanent hearing damage • monitoring of this zone, with an additional buffer area, by marine mammal observers, perhaps complemented by acoustic equipment to detect mammals; pile driving would stop if a marine mammal was sighted in the zone • avoid pile driving at night, when it might be difficult to detect marine mammals. 	EPA
Equipment based					
BIOSEC2	15.5.3			Earthmoving equipment would be sourced locally wherever possible.	-
BIOSEC32	15.5.4			Equipment used during construction would meet the national standards for biofouling management.	DAWE
BIOSEC41	15.5.4			The pontoon (purchased in Korea as a barge) has been sandblasted and repainted with anti-fouling paint and would be inspected by Australian engineers before arrival at Smith Bay.	DAWE
AQ14	17.5.4			Variable-height woodchip stackers and/or telescopic chutes to be considered for ship loading to minimise risks of dust emissions.	EPA
CCS1	19.4.4			Electricity consumption to be minimised through the use of energy-efficient infrastructure such as low-friction conveyors, lighting and air-conditioning.	-
CCS2	19.4.4			The installation of solar photovoltaic panels to supply electricity to site buildings and for site lighting to be investigated, to minimise the potential for downtime associated with power outages under peak load situations.	-
MNES16	14.4.4			The number of vehicles required to transport timber/forest products would be minimised wherever possible by using high productivity vehicles such as B-doubles and A-doubles.	DPTI
NVL2	18.3.4			Processes and equipment that generate lower noise levels would be selected where feasible.	EPA
NVL25	18.4.1			Low-vibration plant alternatives, such as the smallest practicable vibratory compactor, would be used where feasible.	EPA
TT2	21.5.5			Where permitted, KIPT will use high productivity vehicles, specifically Performance Based Standard (PBS) Level 2A (B-double) and/or PBS Level 2B (short road train or A-double) vehicles.	DPTI

Identifier	EIS Chapter/ Section reference			Commitment	Relevant agencies/authorities
	Draft EIS	Addendum	Response Document		
AC2	11.5.4			Stormwater diversion channels, compacting proposed storage areas, construction of first-flush ponds and the use of closed conveyors and telescopic ship loaders, would reduce the potential impacts to negligible at the abalone farm's three seawater intake points.	EPA
Process methodology					
NVL2	18.3.4			Processes and equipment that generate lower noise levels would be selected where feasible.	EPA
NVL25	18.4.1			Low-vibration plant alternatives, such as the smallest practicable vibratory compactor, would be used where feasible.	EPA
MWQ4	9.5.1	4.5		<p>Realtime monitoring and reactive management will provide protection against acute plume impacts at key sensitive receptors including:</p> <ul style="list-style-type: none"> • monitoring water quality at the Yumbah seawater intakes and at an appropriate location between construction activities and the seawater intakes • water quality monitoring sensors that provide 'real time' data on water quality via telemetry • assessing monitoring data in 'real time' against threshold triggers; • providing the monitoring data in 'real time' to the construction contractors, KIPT environmental management personnel and EPA • triggering audible stop work alarms on construction activities if thresholds are exceeded • construction activities cease until turbidity levels return to acceptable levels and have stabilised. <p>Turbidity trigger exceedances would be closely monitored and the timescale for management response actions would be short (~30 minutes) in order to be of practical benefit in mitigating acute plume impacts.</p>	EPA
NEW MWQ20		4.2.2		Any drill cuttings generated during piling would be disposed of on land, in accordance with relevant regulatory requirements as part of the CEMP.	EPA
Offsets					
MNES43	14.5.1			KIPT would commit funds towards the Kangaroo Island Feral Cat Eradication Program, a joint program, led by DEW and the Kangaroo Island Council, with the aim of eradicating feral cats, as part of KIPT's offset for potential impacts to Kangaroo Island echidna.	DEW (Kangaroo Island Landscape Board)
TE2	13.5.2			Under the <i>Native Vegetation Act 1991</i> , clearing a small amount of terrestrial native vegetation would require the preparation of an offset strategy developed in consultation with the NVC (see Chapter 26 – EMF). The offset package would likely include an on-ground SEB to protect an area of vegetation and provide fauna habitat.	DEW - NVC

Identifier	EIS Chapter/ Section reference			Commitment	Relevant agencies/authorities
	Draft EIS	Addendum	Response Document		
TE14	13.5.3			KIPT proposes to continue providing significant ongoing support to the Glossy-Black Cockatoo Recovery Program on Kangaroo Island to ensure that KIPT's activities on Kangaroo Island result in a net environmental benefit to the glossy black-cockatoo species.	DEW (Kangaroo Island Landscape Board)
Utilities					
CCS4	19.4.4			Seeking to use grid electricity wherever possible and increase the use of renewable electricity, to reduce the reliance on diesel-powered on-site generation.	-
CCS14	19.4.4			Minimising on-site water requirements by investigating alternative sources of industrial water to meet needs such as for dust suppression. This would reduce the risk of supply shortages that may occur as a result of greater evaporation rates and/or higher consumption associated with warmer weather.	-
Other					
BIOSEC61	15.7			KIPT would fund the marine pest and eradication surveys of Smith Bay in addition to implementing an operational Marine Pest Management Plan.	DEW (Kangaroo Island Landscape Board)
NVL31	18.2.1			Purchase the nearest sensitive receptor (R1).	EPA
SE2	22.6.2			KIPT would assist government with understanding housing needs, where it can, and sees benefit to the company and the community in having a settled resident workforce, living and working permanently on Kangaroo Island.	SA Housing Authority
SE3	22.6.2			With the existing scope to increase the size of Parndana township through residential subdivision. The Kangaroo Island Community Club (based in Parndana) has specific plans to subdivide and release housing allotments created from the scrubland immediately to the west of the township between Smith Street and Rowland Hill Highway. KIPT has committed to provide a seed loan of up to \$100,000 to cover the initial project costs prior to the marketing and sale of housing lots.	-
SE4	22.6.2			KIPT would consider options of establishing residential allotments at suitable locations on land that they own on Kangaroo Island in liaison with planning authorities and in accordance with planning legislation.	DPTI
NEW H11	24.5.1		5.4	KIPT would undertake an on-ground heritage survey of the study area, involving the relevant traditional owners, before any construction activity commences.	DPC - AAR
NEW H12	24.5.1		5.4	Relevant Aboriginal groups would be engaged by KIPT to undertake heritage monitoring during earthworks.	DPC - AAR
NEW TT14			5.2	KIPT will develop relevant information for their own truck drivers and other users to ensure awareness of shared use of roads, how to driver and interact safety on roads, and a contact for queries, concerns or complaints.	DPTI

9. FURTHER INFORMATION AND REFERENCES

9.1 ERRATA CORRIGE

Errors in text, maps or in referencing identified in the Draft EIS and Addendum, and the associated corrections, are summarised in **Appendix E**. Errors identified are not of a technical nature and are, therefore, immaterial for the assessment process.

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10. ABBREVIATIONS AND GLOSSARY

10.1 ABBREVIATIONS

Abbreviation	Definition
AAR	Aboriginal Affairs and Reconciliation
ABARES	Australian Bureau of Agricultural Economics and Sciences
AbHV	Abalone herpesvirus
ABS	Australian Bureau of Statistics
AS	Australian Standard
ASX	Australian Stock Exchange
AVG	Abalone viral ganglioneuritis
BACI	Before and After Control and Impact
CBD	Central Business District
CCZ	Coastal Conservation Zone
CEMP	Construction Environmental Management Plan
CFS	Country Fire Service
CHMP	Cultural Heritage Management Plan
CMS	Convention on Migratory Species
CO ₂	Carbon dioxide
CO ₂ -e	Equivalent amount of atmospheric carbon dioxide
CPB	Coastal Protection Board
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAC	Development Assessment Commission
DAWE	Department of Agriculture, Water and the Environment
dB	decibel
DEW	Department for Environment and Water
DEWNR	Department of Environment, Water and Natural Resources
DIRDC	Department of Infrastructure, Regional Development and Cities
DoE	Department of the Environment
DoEE	Department of the Environment and Energy
DPC	Department of the Premier and Cabinet
DPTI	Department of Planning, Transport and Infrastructure
DSEWPac	Department of Sustainability, Environment, Water, Population and Communities
DWLBC	Department of Water, Land and Biodiversity Conservation
EET	Emission Estimation Technique
EEZ	Exclusive Economic Zone
EFT	Employed Full Time
EIS	Environmental Impact Statement
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EPA	Environment Protection Authority (South Australia)
EP Act	<i>Environment Protection Act 1993</i> (Government of South Australia)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Australian Government)

Abbreviation	Definition
EPP	Environment Protection Policy
FIFO	Fly In Fly Out
FIT	Forestry Investment Trust
FOB	free-on-board
FPOE	First point of entry
FTE	Full time equivalent
GED	General Environmental Duty
GIS	Geographic Information System
GPS	Global Positioning System
GRP	Gross Regional Product
Ha	hectares
IMO	International Maritime Organisation
I-O	Input-output
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organisation for Standardization
IUCN	International Union for Conservation of Nature
KI	Kangaroo Island
KIDP	Kangaroo Island Development Plan
KIPT	Kangaroo Island Plantation Timbers
Km	kilometres
L	litres
Leq	Equivalent Continuous Sound Level
Lmax	Maximum sound level
m	metres
mAHD	Metres Australian Height Datum
MARS	Maritime Arrivals Reporting System
MAZ	Marine Activity Zone
MEPC	Marine Environment Protection Committee
mg	milligram
ML	megalitre
MNES	Matters of National Environmental Significance
MWO	Mitsui Bussan Woodchip Oceania Pty Ltd
MTOFSA	Marine Transport and Offshore Facilities Security Act 2003
NEPM	National Environment Protection Measures
NIOSH	National Institute for Occupational Health and Safety (United States)
Nm	nautical miles
NOAA	National Oceanic and Atmospheric Administration (United States)
NPI	National Pollutant Inventory
NRM	Natural Resources Management
NVC	Native Vegetation Council
NZS	New Zealand Standard
OEMP	Operational Environmental Management Plan
OIE	World Organisation for Animal Health

Abbreviation	Definition
PAR	Photosynthetically Active Radiation
PBS	Performance Based Standard
PCB	Polychlorinated biphenyl
PDC	Principles of Development Control
PDF	Portable Document Format
PIRSA	Primary Industries and Regions South Australia
PM _{2.5}	Particulate matter 2.5 micrometres or less in diameter
PM ₁₀	Particulate matter 10 micrometres or less in diameter
POMS	Pacific Oyster Mortality Syndrome
PSP	Paralytic shellfish poisoning
PTS	Permanent threshold shift
RARB	Recognised Aboriginal Representative Body
SA	South Australia
SAPN	SA Power Networks
SARDI	South Australian Research and Development Institute
SATC	South Australian Tourism Commission
SEB	significant environmental benefit
SEL	Sound exposure level
SEDMP	Soil Erosion and Drainage Management Plan
SMCR	Specified Continuous Maximum Rating
SRG	Stakeholder Reference Group
TAPM	The Air Pollution Model
TEC	Threatened Ecological Community
Tpa	tonnes per annum
TSP	Total suspended particles
TSS	Total suspended solids
TSU	Transport Services Unit
µm	micrometres

10.2 GLOSSARY

Term	Definition
A-double truck	Two semi-trailers linked by a converter dolly between the two trailers.
Amenity (visual)	The pleasantness of a place taken in by sight.
Anthropogenic	Caused by human activity.
Aquaculture	The cultivation of aquatic organisms (including fish, shellfish and crustaceans) for the purposes of human use or to replenish wild stocks.
Aquifer	A water-bearing bed of permeable rock, sand or gravel.
Armour rock	Rock used to armour shorelines and shoreline structures against erosion
Articulated	Having two or more sections connected by a flexible joint
Ascidian	A small filter-feeding, sac-like marine invertebrate; commonly known as a seasquirt.
Australian height datum (AHD)	The official applied datum for measuring altitude in Australia, which sets mean sea level as zero elevation.
Backhoe dredge	A pontoon equipped with a hydraulic excavator.
Ballast water	Water carried in ships' ballast tanks to improve stability, balance and trim.
Barge	A long, flat-bottomed boat for transporting bulk goods, either under its own power or towed by another
Baseline	A basic standard, level or initial known value usually regarded as a reference point for comparison.
Bathymetric (survey)	The measurement of the underwater depth of the ocean floor and the mapping of the ocean floor topography.
Bathymetry	Measurement of depth of water in oceans, seas, or lakes.
Benchmark	Standard used as a point of reference for evaluating level of quality or against which things may be compared. Benchmarking often refers to the process of evaluating various aspects of a process in relation to 'best practice'.
Benthic community	Animals and plants that live on the bottom of the ocean floor.
Bilge water	Foul water that collects inside a ship's bilges.
Biofouling	Growth of marine organisms on the surfaces of underwater structures such as ship hulls.
Biofuel	A fuel that is derived from biomass
Biomass	Renewable, organic matter that can be used to produce energy e.g. wood is burned to create heat.
Biosecurity	Security measures taken against the transmission of disease to the plants or animals of a particular region.
Buffer zone	A designated area of land within or around the Project area used to identify and study matters of national environmental significance.
Bund	An area protected by a low wall built to prevent the spread of dangerous substances.
CALPUFF	An advanced, integrated puff modelling system for the simulation of atmospheric pollution dispersion.
Carbon capture	The capture of carbon dioxide (CO ₂) directly from industrial or power plant fossil fuel sources and its removal to secure subsurface reservoirs for long-term storage, either on land or beneath the seabed of the ocean.
Carbon sequestration	A process by which carbon dioxide is removed from the atmosphere and held in long-term storage.
Catchment	An area of land, usually surrounded by mountains or hills, over which water flows and is collected.
Causeway	A raised road, path or railway on top of an embankment usually across a broad body of water, low or wet ground.
Coastal processes	Coastal processes are processes which cause coastal erosion.
Cutter suction dredge	A stationary dredger equipped with a cutter device that excavates the soil before it is sucked up by the flow of the dredge pump(s).
Cyst	A protective capsule enclosing the larva of a parasitic worm or the resting stage of an organism.
Deep-water port	A port which has the capability to accommodate a fully laden Panamax and/or Handymax ship, the size of which ship is determined principally by the dimensions of the Panama Canal's lock chambers.
Desludging	The process of draining and clearing a tank of waste or other sediment (e.g. septic tank).
Deballasting	To remove ballast from a vessel

Term	Definition
Dewatering	Remove or drain groundwater or surface water from a riverbed, construction site, caisson, or mine shaft, by pumping or evaporation.
Diatoms	Single-celled algae.
Dispersion	The transportation of aerial pollutants in the outdoor atmosphere after being emitted from a source
Dolphin restraint	A man-made marine structure that extends above the water level and is not connected to shore. Usually installed to provide a fixed structure for berthing and mooring of vessels when it would be impractical to provide a dry-access facility. Restraint dolphins are dolphins used to keep a floating structure at its station.
Dredge spoil	The sediment, rock, sand and soil removed from the ocean floor during the excavation process.
Dredging	An excavation activity using heavy machinery to remove earth from the bottom of the ocean or river.
Easement	A right to make use of the land of another for the installation and operation of linear infrastructure such as a road, pipeline or transmission line. Also referred to as a right of way.
Ecological receptor	Any living organisms other than humans, the habitat which supports such organisms, or natural resources which could be adversely affected by environmental contaminations as a result of a release at or migration from a site.
Ecotoxicology	The branch of toxicology concerned with the study of toxic effects caused by natural synthetic pollutants to the constituents of ecosystems, animal (including human), plant and microbial, in an integral context.
Endemic	Regularly found in a certain area
Entrained/re-entrainment	When something is drawn in and transported by the flow of a gas or liquid.
Environmental offset	An environmental offset involves compensating for residual adverse impacts or consequences of an action on the environment at one site, through activities at another site.
Epifauna	Animals living on the surface of the seabed or a riverbed.
Errata Corrige	A list of errors and their respective corrections
European fan worm	A filter-feeding tube worm with leathery tube and spiral feeding fan, found in shallow subtidal areas.
Exotic organisms	Plants or animals, which are introduced by human intervention to a non-native region or ecosystem.
Free-on-board (FOB)	This term indicates whether the seller or the buyer is liable for goods that are damaged or destroyed during shipping.
FSC Mix Credit	An FSC Mix Credit claim contains 100% FSC credit material. When this claim is used, somewhere in the supply chain (Chain of Custody, COC) there has been a mix with FSC controlled wood (CW).
Grab sampling methodology	A sampling technique in which a single sample or measurement is taken at a specific time or over as short a period as is feasible.
Greenhouse gas emissions	Greenhouse gases are gaseous compounds released into the Earth's atmosphere that are capable of absorbing infrared radiation, thereby trapping heat in the atmosphere. They are released into the atmosphere primarily through human activities such as burning fossil fuels for electricity, heat and transportation. The primary greenhouse gases are: carbon dioxide (CO ₂); nitrous oxide (N ₂ O); methane (CH ₄); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF ₆).
Ground level concentration	Measured or established concentrations of a pollutant at ground level; estimated values are derived from pollutant dispersion models.
Groundwater	The water found underground in the cracks and spaces in soil, sand and rock.
Gulf	A portion of an ocean or sea that is partly enclosed by land.
Gypsum	A soft sulphate mineral composed of calcium sulphate dehydrate. It is a very common mineral and is used as a fertiliser, and as the main constituent in many forms of plaster, blackboard chalk and wallboard.
Habitat protection zone	Established to protect habitats and biodiversity within a marine park and to allow uses that do not harm habitats or the functioning of ecosystems. Refer to the <i>Marine Parks Act 2007</i> and the South Spencer Gulf Marine Park Management Plan 2012.
Handymax vessel	A naval architecture term for bulk cargo ships in the Handysize class which typically have a capacity between 40,000 to 50,000 deadweight tonnage.
Hardstand	Open ground, having a hard surface, used for the storage of material or the parking of vehicles

Term	Definition
Hardwood	Any of the broadleaved, angiospermous trees with sieve tubes for the conduction of nutrient solutions, most of which have hard wood, such as the eucalypts, but includes trees such as the balsa, despite the wood itself being soft.
Heavy vehicle	This term generally applies to vehicles with a GMV of more than 4.5 tonnes and includes trucks, B-doubles and road trains amongst other vehicles that transport goods across Australia.
Heritage Agreement	An agreement is entered into by the appropriate government minister and a landholder to preserve the heritage significance of a heritage property.
Heritage values	The values embodied in objects and qualities such as historic buildings, unspoilt countryside, and cultural traditions that have been passed down from previous generations.
Hydrocarbon	Any class of compound containing only hydrogen and carbon atoms.
Hydrodynamic modelling	The study of fluids in motion by simulating currents, water levels, sediment transport and salinity.
Hydrogeology	Hydrogeology is the study of water both on and beneath the earth's surface.
Interface (land use)	The area at which land uses interact and affect each other.
Leachate	Liquid that takes in substances from the material through which it passes, often making the liquid harmful or poisonous.
Lee side	The sheltered side of something; the side away from the wind.
Ligurian bees	Bees imported into Kangaroo Island from the Ligurian Alps (now Italy) in the early 1880's, they are the last remaining pure stock of this be found anywhere in the world.
Limestone	A sedimentary rock composed mainly of calcium carbonate and the remains of marine organisms such as coral, shell and molluscs.
Linkspan	A type of drawbridge used mainly in the operation of moving vehicles on and off a roll-on/roll-off vessel or ferry, which particularly allows for changes in water levels.
Lithology	The description of rocks on the basis of colour, mineralogical composition and grain size.
Littoral	Relating to or situated on the shore of the sea or a lake.
Live load	Live loads include any temporary or transient forces that act on a building or structure. They are usually unstable or moving loads such as people, furniture and vehicles.
Longshore drift	Various coastal processes such as wind, climate, waves, currents and tides create landforms along the coast.
Macroalgae	Refers to several species of macroscopic, multicellular marine algae which form a plant.
Mallee woodland	Semi-arid systems dominated by eucalypt species that produce multiple stems from an underground rootstock known as lignotuber.
Marine ecology	The scientific study of living things in the ocean and how they interact with each other and their surrounding environment including abiotic (non-living) factors.
Marine parks	The South Australian government has designed a network of 19 marine parks in South Australia. The Southern Spencer Gulf Marine Park Management Plan and the Marine Parks Act 2007 provide the legal framework for the objectives of the subject marine park. The objectives are to protect and conserve marine ecology, habitat, environment, and the natural, cultural heritage of the area, as well as to allow for public participation and enjoyment of the amenity.
Marine pests	Marine plants or animals which are introduced by human intervention to a non-native marine environment and have a harmful effect on that environment.
Matters of national environmental significance (MNES)	Matters of national environmental significance are defined in the Environmental Protection and Conservation Biodiversity Act 1999, which provides a legal framework for the protection of important features in the environment.
Mean (mathematics)	A quantity having a value intermediate between the values of other quantities; an average (e.g. mean monthly rainfall).
Metamorphic (geology)	Metamorphic rocks are sedimentary or igneous rocks that have been altered by heat and/or pressure.
Meteorological conditions	Meteorological conditions that influence air pollution are air temperature, relative humidity, evapotranspiration, wind speed and direction, solar radiation, soil temperature and rainfall.
Meteorology	The interdisciplinary scientific study of the atmosphere that focuses on weather processes and forecasting.
Methyl bromide	An ozone depleting compound gas, bromomethane, is produced industrially and biologically.

Term	Definition
Microbial load	The number and type of microorganisms contaminating an object or organism
Mooring	A permanent structure to which a vessel may be secured
Native Vegetation Council (NVC)	An independent statutory body charged with monitoring the overall condition of South Australia's vegetation and making decisions on wide ranging matters concerning native vegetation in the State.
Nautical mile (nmi)	A unit of measurement of length, used in marine and aeronautical navigation: 1852m.
Noise amenity	The pleasantness of a place auditorily.
Ocean acidification	A reduction in the pH of the ocean over an extended period of time
Oceanographic processes	Oceanographic processes are the physical processes within the ocean, especially the motions and physical properties of ocean waters.
Offsets	Actions taken outside a development area to 'compensate' for environmental impacts created within the development area that relate directly to the conservation values affected by the development.
Particulate	Also referred to as particulate matter (PM), aerosols or fine particles. Particulates are tiny particles of solid (smoke) or liquid (aerosol) suspended in a gas. They range in size from less than 10 nanometres to more than 100 micrometres in diameter.
Pathogen	A bacterium, virus, or other microorganism that can cause disease.
Payload	The part of a vehicle's load from which revenue is derived.
Percentile	A measure used in statistics indicating the value below which a given percentage of observations in a group of observations fall.
pH	A measure of how acidic/basic water is. The scale ranges from 0 to 14, with 7 being neutral. A pH of less than 7 indicates acidity, and a pH of greater than 7 indicates a base.
Phenol	Also known as carboic acid, phenol is a white, crystalline soluble solid.
Photosynthesis	The process by which green plants and some other organisms use sunlight to synthesise nutrients from carbon dioxide and water.
Phytophthora	A genus of plant-damaging oomycetes (water moulds), whose member species are capable of causing enormous economic losses on crops worldwide, as well as environmental damage in natural ecosystems.
Plume	Refers to a column of one fluid moving through another. The term may be used in the context of air or water.
Pontoon	An air-filled structure providing buoyancy.
Propwash	The disturbed mass of air or water pushed aft (or fore when in reverse) by the propeller of an aircraft or propeller-driven watercraft.
Putrescible waste	Solid organic waste capable of decaying or decomposing to a putrid state.
Renewables	Resources that can be used repeatedly and replaced or replenished naturally in good time. Examples include oxygen, fresh water, solar energy and wind energy.
Resuspension (sediments)	Dislodging of bedded sediment particles during the dredging process, and consequent transport and settlement of those particles at a new location
Retention pond	An artificial pond designed with additional storage capacity to attenuate surface runoff during rainfall events. Also described as a retention basin.
Risk	A concept that denotes a potential negative impact to an asset or some characteristic of value, including objectives that may arise from some present process or future event. Risk is measured in terms of 'consequence' and 'likelihood'.
Risk management	The process of measuring, or assessing, risk and developing strategies to manage it. The culture, processes and structures that are directed towards effective management of potential opportunities and adverse effects.
Seagrass wrack	Marine vegetation that is floating in the sea or has been cast ashore.
Sedimentation	The process of settling of being deposited as a sediment
Seismic	Relating to earthquakes or other vibrations of the earth and its crust.
Semi-trailer	A semi-trailer attached to a tractor unit with a fifth wheel hitch.
Sensitive receptor/receiver	People or other organisms that may have a significantly increased sensitivity or exposure to contaminants by virtue of their health, age, proximity to the contamination or the facilities they use.
Sessile	Anchored to a substrate and cannot move about freely.

Term	Definition
Significant environmental benefit (SEB)	An action that results in a positive impact on the environment greater than the negative impact of clearing native vegetation.
Silane	One of a group of silicon hydrides which, applied to concrete, will protect it from surface damage. They either impregnate the pores in the concrete to reduce absorption of water and salts or form an impregnable layer that prevents materials from passing.
Silt plumes	A flow of silt through water.
Softwood	Any of the generally coniferous, gymnospermous trees with sieve cells for the conduction of nutrient solutions, which include pine, spruce and some trees with much harder wood. The timber is light and easily cut.
Solar panels	An interconnected assembly of solar cells (also called solar photovoltaic panels or cells) that convert energy from the sun into electricity.
Stockpile	A large supply of (timber products) held for later use.
Stormwater retention pond	An artificial lake with vegetation around the perimeter used to manage stormwater runoff to prevent flooding and downstream erosion, and improve water quality in an adjacent river, stream, lake or bay.
Stormwater runoff	Stormwater runoff is rainfall that flows over the ground surface. It is created when rain falls on roads, driveways, parking lots, rooftops and other paved surfaces that do not allow water to soak into the ground.
Suspended jetty	A jetty extending over water, anchored and supported only at the shore.
Sustainable (development)	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Swale	A linear, depressed channel that collects and carries stormwater
Swells (ocean)	A distant series of waves generated by storm winds over a long period and over a large area of the ocean. Swells are different to waves that are raised by winds blowing locally.
Synergistic	Relating to the interaction or cooperation of two or more organizations to produce a combined effect greater than the sum of their separate effects
Tailwater	Water below a dam or waterpower development; or excess surface water draining.
Tannins	Naturally occurring, water-soluble polyphenols that are found in plants, seeds, bark, wood, and leaves.
Telescopic chutes	Dust control equipment, primarily used when loading bulk material into open trucks, bulkers and containers; also referred to as a loading spout especially used in port mechanisation i.e. in the loading of barges and ships.
Terrestrial ecology	The study of how land-based organisms interact with each other and their environment.
Traditional owner	A descendant of the tribe or ethnic group that occupied a particular region before European settlement, especially when the occupation is recognised by Australian law.
Threatened ecological community (TEC)	A term used for ecosystems in danger of being lost due to some threatening process.
Toxicants	Any toxic (or poisonous) substance.
Turbidity	The amount of fine, solid particles, such as clay and organic matter, that are suspended in water and that prevent light from being transmitted. This results in a loss of transparency, or 'cloudiness'.
Vector (of pest species)	An organism which transmits a disease or parasite from one plant or animal to another.
Vegetation	A general term for all plant life.
Vessel	Any kind of vessel used in navigation by water and includes 'an installation' and 'any floating structure'.
Wave energy	The kinetic energy (i.e. the energy possessed due to motion) of an ocean wave.
Wetland system	An engineered sequence of water bodies designed to filter and treat waterborne pollutants found in sewage, industrial effluent or stormwater runoff. They are used for wastewater treatment or for greywater treatment.
Wind vectors	A graphic tool used by meteorologists to indicate wind direction and speed.
Wrack	Material such as seaweed or seagrass that is cast up onto the seashore by waves.

PART THREE

APPENDICES

Appendix A – Additional Information to Responses

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1. LAND USE AND PLANNING

The location of the KI Seaport site within Smith Bay is shown in Figure 1. Smith Bay is situated on the northern coast of Kangaroo Island and has been subject to significant modification and development for commercial/industrial purposes. The level of development can be seen in Figure 1, which also provides details on the extent of Smith Bay's coastline (more than 5 km in length), the site's proximity to National Park and Wildlife SA reserves and Marine Park areas, and the main community centres and road networks of Kangaroo Island. Video footage is available on KIPT's website, <https://kipt.com.au/smith-bay/>.



Figure 1: Site location of KI Seaport

2. LEGISLATIVE FRAMEWORK

Amended text to replace section 2.2 of Appendix D-1 of the Draft EIS (Appendix D-1 – KI Seaport Legislative Framework)

“2.2 Planning, Development and Infrastructure Act 2016 (SA)

The *Planning, Development and Infrastructure Act 2016 (SA)* was passed by Parliament to replace the existing Development Act. Implementation of that Act is occurring in stages and it is expected to be fully operational in 2020. Meanwhile, transitional provisions under the new legislation are expected to ensure a smooth change from the current planning regime to the new one and to protect the interests of parties in processes commenced under the current Development Act.

Regulations under the *Planning, Development and Infrastructure Act 2016* refer specifically to the situation where projects in certain parts of the State (including coastal waters) are declared to be major developments or projects under section 46 of the Development Act prior to the date on which the comparable ‘impact assessed development’ provisions of the new Act come into effect. This situation applies to the KIPT proposal.

The regulations provide that the relevant provisions of the Development Act will continue to apply to the proposal. However, the Minister rather than the Governor, as is the case under the Development Act, will make the final decision about the proposed development”.

3. MARINE WATER QUALITY

Additional text for submissions relating to propwash modelling (Submission IDs: A92, A80)

BMT's response to AusOcean's criticism of propwash modelling

1. The assumption that the original sampling sites are sufficient to model the revised area is unfounded, as indicated by the sheer heterogeneity in substrate observed.

Response: Review of the updated sediment sampling (Addendum to the Draft EIS – Appendix F) indicates the sample sites in proximity to the revised wharf location (zz3-zz9) have a lower proportion of fines than samples further inshore, but are very consistent with the general population. The bed characteristics used in the modelling are thus conservative, as they produce greater levels of suspended sediment (turbidity) than if coarser grained surface sediments were assumed.

2. The selected median grain diameter for modelling is far larger than the medians of the investigated sites and therefore not conservative.

Response: The AusOcean document has incorrectly inferred that the reported median grain diameter ($D_{n50}=0.5\text{mm}$) has been used to calculate sediment mobilisation; instead, it was used to calculate the friction coefficient used to model the bed shear stress generated by propeller wash. In this context it is conservative to apply assumptions which maximise the applied bed shear stress. See the next response in relation to the grain size assumptions relating to sediment mobilisation.

3. The justification for using large grain diameter for maximising the friction coefficient is invalid as susceptibility to suspension is negatively correlated to grain size.

Response: The parameters relating to sediment mobilisation, being threshold shear stress and erosion rates, have been consistently applied throughout all sedimentation modelling on this project. The sediment mobility parameters do not relate to the grain size assumption that is being questioned by AusOcean. In calculating the rate of sediment mobilisation, the overall proportion of fines (clay and silt sized particles) in the surface sediments has been conservatively assumed to be ~33%, which is at the upper bound of all COOE surface sediment samples.

Based on responses 2 and 3 we stand by our assertion that conservative assumptions have been made regarding the grain size assumptions for the propeller wash turbidity assessments.

4. Finally, the selected vessel characteristics do not result in maximum theoretical seabed velocity, as other vessels under the dimensional limits of the wharf were found to result in higher seabed velocities, with higher concomitant damage.

Response: the vessels selected in the AusOcean document correspond to container ships, and not bulk carriers. Container ships are typically designed around speed, while bulk transport is designed around carrying capacity. The equivalent MAN Energy Solutions paper 'Propulsion trends in Bulk Carriers' contains values for SMCR Power consistent with the values that have been applied.

4. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

4.1 Kangaroo Island Echidna – Mitigation Strategies

Additional text for submissions relating to echidna roadkill (Submission IDs: DoEE-3 (1385))

The evaluation of the various options for transporting logs and woodchips to the KI Seaport at Smith Bay showed that, based on an average annual production rate of 600,000 tonnes, the number of Average Annual Daily Traffic (AADT) truck movements ranges from 55 to 110 for A-double and semi-articulated trucks respectively.

An increase in overall road traffic on Kangaroo Island would be likely to increase the risk of vehicles striking echidnas (and other native animals). It is therefore assumed that minimising the number of vehicle movements would also minimise the potential for vehicle strikes.

KIPT assessed a number of scenarios to determine the most appropriate mitigation measures to address vehicle strikes and investigated a number of different options during the process of developing the proposed offsets package. These scenarios included:

- using the existing road network and semi-articulated trucks to transport timber from the plantations to the KI Seaport
- adopting a preferred route (subject to gazettal and all other third-party approvals) and larger trucks (A-double or B-double) to transport timber from the plantations to the KI Seaport
- analysing the behavioural patterns of the Kangaroo Island echidna to determine if there was any potential season and/or time of day that could be avoided by KIPT forestry traffic, which would result in a significant reduction in the likelihood of echidna roadkill.

Adoption of a preferred transport route and the use of larger trucks

The adoption of a preferred route and the use of larger trucks (A-double or B-double) to transport timber from the plantations to the KI Seaport are subject to a number of other regulatory processes that are outside the control of KIPT. A preferred route would deliver efficiencies to the project as well as minimise the number of vehicle movements on the Kangaroo Island road network.

The road network on Kangaroo Island is currently not gazetted for A-doubles and few roads are gazetted for B-doubles. The road network is managed and maintained by the Department for Planning, Transport and Infrastructure and the Kangaroo Island Council.

KIPT does not have the ability to directly implement any of the required upgrades to the road network that would be required to facilitate the transport of timber products using high-productivity vehicles (see Chapter 21 Traffic and Transport of the Draft EIS for further detail).

KIPT has had ongoing discussions with DPTI and the Kangaroo Island Council to facilitate this option however at this stage, no agreements have been reached and therefore KIPT cannot commit to using the preferred route. DPTI have indicated that if KIPT wish to have the road network gazetted for B-doubles and/or A-doubles then KIPT would have to pay for the required road upgrades which would be a prohibitive cost to the proposed development.

Dr Peggy Rismiller (pers. comm., 18 July 2018) has identified a number of roadkill hotspots (see Figure 2) that coincide with the roads that KIPT would use in the open network (see Section 25.5.1 Transport task – of the Draft EIS), as well as the feeder roads that are used to access the plantations themselves. These hotspots are based on years of research on the Kangaroo Island echidna and Rosenberg's goanna and include:

-
- West End Highway
 - South Coast Road
 - Stokes Bay/North Coast Road

Unfortunately, KIPT cannot avoid using these roads as part of the haulage operations due to the location of the timber plantations. The roadkill hotspots are also on the common tourist routes on KI.

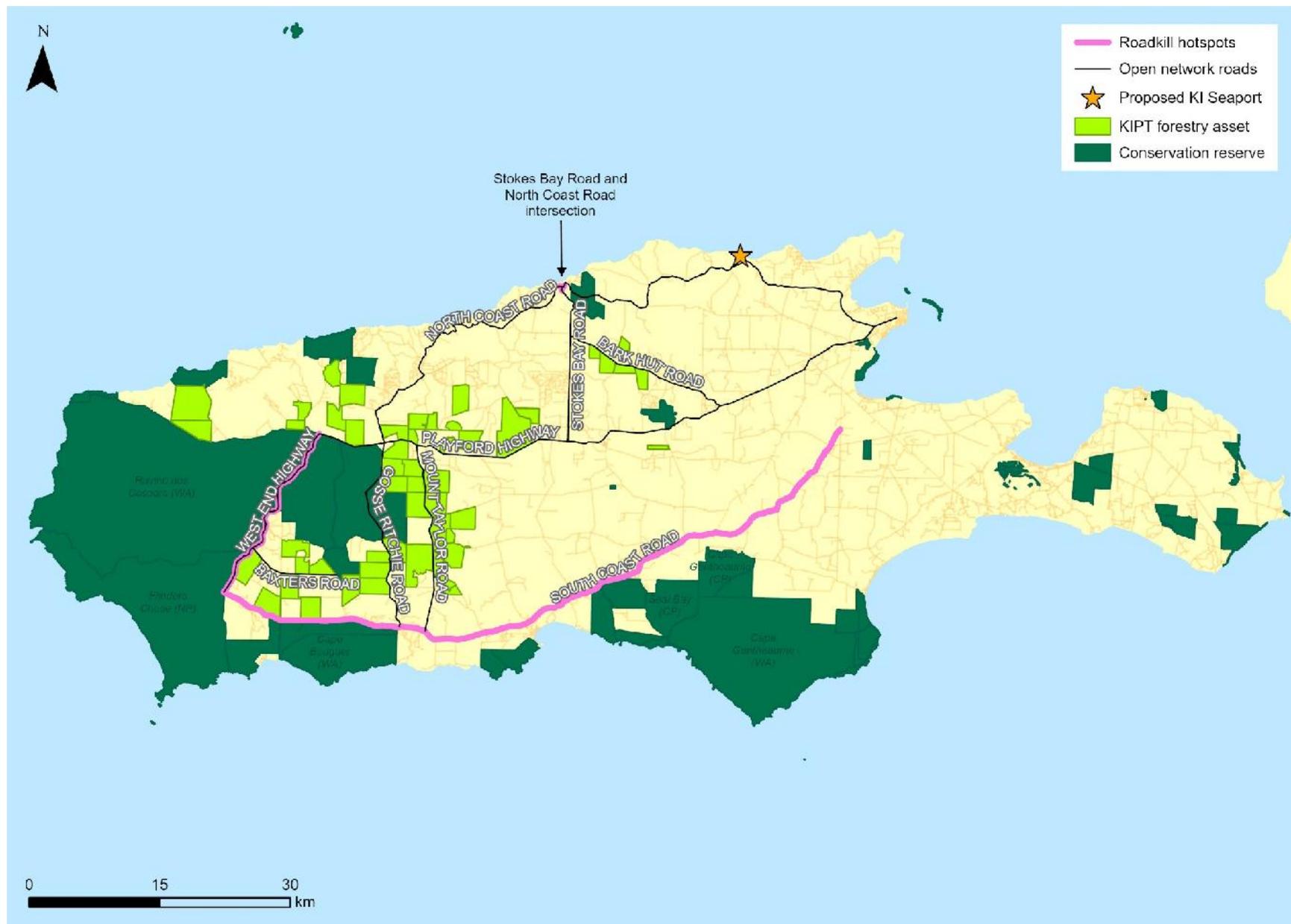


Figure 2: Kangaroo Island roadkill hotspots as identified by Dr Peggy Rismiller

Echidna ecology and vehicle movements

Echidnas experience periods of torpor during winter (long periods of inactivity and reduced metabolism) (page 41, Augee 1995 and Rismiller & McKelvey, 2000). They have a low body temperature of 31-33° Celsius which is not as controlled as other mammals and can fluctuate by up to 10° Celsius over the course of the day (Augee et.al 1970).

During the warmer months (September to April) echidnas are less active in open areas during the daytime in order to escape the heat and they compensate by being more active at night when it is cooler. However, in areas where there is dense vegetation cover, temperatures would not fluctuate as much as in areas with less vegetation cover, and therefore activity levels of echidnas would be constant throughout the day and night (Rismiller, P 2018, pers. comm., 15 July).

During the cooler months (May to August) echidnas will engage in courtship, breeding and lactating activities. Echidnas are active both day and night-time. Males will travel vast distances in search of a mate and will form mating 'trains' behind a female in the hope of mating with her (see Figure 3). Female mortalities could result in the death of any young that she may be carrying in her pouch. There is a reported increase in vehicle strikes at this time of the year and numerous reports of a single vehicle strike resulting in multiple echidna deaths (Rismiller, P 2017 pers. comm., 14 August).



Figure 3: Echidna mating 'train' (Source: <https://stroudcommunityweb.com/2012/08/13/echidna-love-trains/>)

Mitigating potential vehicle strikes based on the behavioural patterns of the echidna is not considered an effective option because:

- In the absence of an agreement with the Kangaroo Island Council and the SA Government about the use of high productivity vehicles on a gazetted haulage route, KIPT requires the optionality available to all other road users i.e. the ability to transport timber to the Seaport 24 hours per day 7 days per week, on the open road network, in order to meet export and production requirements.
- The plantations are generally located in the western part of the Kangaroo Island. The routes that the trucks would take to get to the KI Seaport traverse a wide variety of roads that have varying degrees of vegetation cover on the roadside. If trucks were to be limited to day-time travel only during the summer months i.e. to avoid driving when the temperature is cooler and echidnas are generally more active, this is not considered effective at reducing roadkill as echidnas will remain active in areas of dense roadside vegetation regardless of the ambient temperature, and still be susceptible to roadkill.
- Limiting vehicle movements during the cooler months (May – August) which is the breeding season, is also considered an ineffective way of mitigating the risk to echidnas. Echidnas are active both day and night-time at this time of the year, therefore there isn't a specific time of day during the cooler months that could be avoided that would minimise the impact on echidnas. Traffic movements at night would have reduced visibility which would not result in a reduction of vehicle strike
- If truck movements were managed to avoid dawn and dusk, this would also impact KIPT's capability to transport enough timber product to the wharf and therefore meet their production rates and export

requirements. Echidna behaviour is too variable to pinpoint a period of the day where trucks could avoid echidnas on the road network.

In conclusion there is not a clearly defined time of the day or time of the year that should be avoided by vehicle movements that would result in a significantly reduced likelihood of echidna roadkill. There is also a great deal of variation in roadside vegetation on the Island which is one of the factors that determine movement patterns of echidnas on a day-to-day basis. Mitigation measures that could work to reduce impacts on one part of the road network would not work in other parts of the Island.

4.2 Echidna Offset

Additional text for submissions relating to the echidna offset (Submission IDs: DoEE-4 (1385) and DEW-10 (1376))

4.2.1 Baseline data collection of vehicle strike

The Department of the Environment and Energy (now the Department of Agriculture, Water and the Environment) (DoEE) and the Department for Environment and Water (DEW) requested further detail on the collection of baseline data for vehicle strike fatalities along the proposed haulage routes.

KIPT would undertake a baseline survey of the roads that would be most likely to be used frequently (in an open network) (see Section 25.5.1 and Figure 21-3 of the Draft EIS):

- Playford Highway
- Stokes Bay Road
- Bark Hut Road
- Ropers Road
- Gap Road
- Miller Road
- Gum Creek Road
- Springs Road
- Rose Cottage Road
- Boxer Road
- Ten Tree Lagoon Road
- Birchmore Road
- North Coast Road
- South Coast Road
- West End Highway
- Baxters Road
- Church Road
- Gosse Ritchie Road
- Mount Taylor Road
- Jump Off Road
- Turkey Lane
- Snug Cove Road
- Tin Hut Road
- Yacca Jacks Road.

Data would be collected, and a baseline level of roadkill would be established for the Western part of Kangaroo Island. The data would be collected over a minimum of a 12-month period to provide an adequate representation of seasonal variation in traffic movements and animal behaviour.

It is anticipated that video cameras could be mounted on the truck fleet to record sightings of echidnas and record any vehicle strike. This data would be used in addition to driver reports.

Data would also be compared against the roadkill database that Dr Peggy Rismiller has maintained for approximately 30 years.

This would potentially be a post-graduate research project in conjunction with University of South Australia or the Adelaide University and would complement the findings presented in the honours thesis of Leeuwenburg 2004

4.2.2 Monitoring of vehicle strikes

DoEE and DEW also requested further details on the monitoring regimes to be implemented to track vehicle strike:

KIPT will undertake awareness training for all drivers to help increase awareness of vehicle strike. Drivers will be required to report any vehicle strike that occurs when they are transporting timber to the KI Seaport. Reports should include species (if known), time of day, date and location details, as a minimum.

However, KIPT acknowledge that there is significant scope for error in this approach to recording vehicle strike. Drivers may or may not report the vehicle strike for a number of reasons which could include fear of retribution or complacency. Vehicle strike may also go unnoticed especially during times of low light and night-time driving. Therefore, to compensate for any roadkill events that are not reported by truck drivers dash-cams will be installed on the trucks to record instances of roadkill along the haulage routes.

An annual review of roadkill data along the transport route would be undertaken to determine how many echidnas were the victims of vehicle strike. The annual review would verify driver reports against dash-cam footage and any other relevant information to determine a suitably robust roadkill number. This data would also be cross-checked with Dr Peggy Rismiller who maintains a database on echidna roadkill.

4.2.3 Mechanism to deliver a conservation gain

Government agencies requested further detail on the goals, budgeting arrangement and tracking mechanism to ensure that the proposed offset strategy is delivering a conservation gain for the species' impacted by the proposed action:

The overarching goal of the offset strategy is to reduce the impact of feral cats on the Kangaroo Island echidna by reducing the population of feral cats in the western part of Kangaroo Island.

The objectives of the Draft Offset Strategy are to:

- Contribute to the Island-wide efforts to maintain the current range and abundance of the Kangaroo Island echidna
- Deliver a timely and long-lasting benefit
- Build on the existing knowledge base for the Kangaroo Island echidna
- Assist in the recovery of the Island after the 2019-2020 bushfires
- Use local businesses wherever possible.

KIPT would work with the local landholders, local Non-Government Organisations (NGOs), the Kangaroo Island Council and with the Department for Environment and Water (DEW) to implement an Island-wide approach to this problem.

Activities would include:

- developing an Offset Implementation Plan to provide further detail on the offset program, within six months of project commencement
- providing additional funds to the Feral Cat Eradication Program i.e. in addition to existing program funding. An agreement would be entered into with DEW to track the spending of this additional funding and to track the number of feral cats euthanised by the additional control devices/traps
- purchasing two additional Felixer™ Grooming Traps (budget of approximately \$30,000)*
- purchasing additional control devices (which may be a combination of thermal scopes for nocturnal cat shooting or toxic baits) (budget of approximately \$20,000)*
- details of the additional mitigation measures would be finalised in consultation with DEW and would be subject to the timing of approval and the status of the Feral Cat Eradication Program at that point in time
- provide funding to NGOs (Kangaroo Island Land for Wildlife and/or the Pelican Lagoon Wildlife and Research Centre) to deliver feral cat awareness programs to landholders (budget approximately \$5,000)*
- the activities would be ongoing for the life of the proposed forestry operation.

*It must be noted that, the financial arrangement with DEW allows the Department to have full discretion when it comes to spending the money. The Department will allocate the funds to a particular management action that will deliver the greatest overall benefit to the program and will be spent on a management action that is required at that point in time based on previous monitoring results, environmental conditions at the time and the best available technology.

The Wildlife Detection Dog Project is another offset option. Funding for training has been provided for this component of the Feral Cat Eradication Program through the Australian Government's Regional Land Partnerships program (DEW 2019), however money provided by KIPT could be used to train additional detector dogs and handlers that would be used west of the cat barrier fence to eradicate feral cats and stop immigration into the Dudley Peninsula. The money could also be used for a baiting program on the western part of the Island. *Curiosity*™ is a cat bait that contains Par-aminopropiophenone (PAPP) imbedded in a capsule that is designed to dissolve in the cat's stomach. This method is more humane than using 1080 and Envisage Environmental Consulting recommended the use of this product on Kangaroo Island in their recent report to DEW (2019). *Curiosity*™ was registered for use as an agricultural chemical product for cat control by the Australian Pesticides and Veterinary Medicines Authority on 24 January 2020 (APMVA 2020).

Funds provided by KIPT would provide additional assistance (i.e. additional to federal government funding already allocated) to DEW to achieve the goal of eradication of feral cats from Kangaroo Island by 2023. Work could begin on controlling the feral cat population in the western end of the Island at an earlier date with the monies provided by KIPT as an offset under the EPBC Act.

An annual review of roadkill data along the transport route would be undertaken to determine how many echidnas were the victims of vehicle strike. The annual review would verify driver reports against dash-cam footage and any other relevant information to determine a suitably robust roadkill number. This data would also be cross-checked with Dr Peggy Rismiller who maintains a database on echidna roadkill.

An analysis would be undertaken on an annual basis to review feral cat estimates, locations of where feral cats were captured and any census data for echidnas.

Echidna population estimates were approximately 5,000 (estimates are prior to the 2019-2020 bushfire) and feral cats on Kangaroo Island are also estimated at 5,000. KIPT would continue to work closely with DEW (namely the Feral Cat Eradication Program Manager) to share all data obtained from implementing the offset program.

Adaptive management framework

The Feral Cat Eradication Program is currently in stage two (2019 – 2023). Construction on the cat barrier fence across the narrow isthmus of Kangaroo Island, which is being erected to prevent re-invasion from the west, began in December 2019 (DEW 2019). Table 1 is the proposed adaptive framework for the review of offset contributions for the KI Seaport project. A baseline contribution would be provided to DEW for feral cat control activities on the western end of the Island or to provide additional resources for work on the Dudley Peninsula. This baseline contribution amount would then be reviewed and adjusted annually based on the actual number of echidna roadkills and the economic environment.

A baseline amount of \$20,000 per annum is currently proposed for the offset amount. This figure is based on the following parameters, presented in the Draft EIS, which include the estimated number of echidna roadkills (upper estimate of 21 per year), the total distance travelled by KIPT vehicles (3.4 million km/year which is based on the upper production rate of 700,000 t per annum) and KIPT vehicles travelling from the plantations to the KI Seaport. Table 1 presents the proposed offset contribution for the first three offset contributions only. At the end of the year two of timber haulage, the offsets would be subject to a comprehensive review of all relevant data that had been obtained over the previous years as well as a review of the project status at that point in time. Further details on the review would be provided in the Offset Implementation Plan.

Table 1: Adaptive framework for offset contributions by KIPT

Timing	Year	KIPT contribution	Detail
Prior to commencement of the KI Seaport project	Year zero	\$55,000 provided to the Feral Cat Eradication Program	Includes \$30,000 for two additional Felixer™ Grooming Traps, \$20,000 for additional control devices and \$5,000 for landholder awareness programs Note that DEW would have full discretion to spend the funds in order to maximise the benefits from that money at the time it is made available
Within six months of approval of the KI Seaport	Year zero – within six months of approval of the KI Seaport		Development of the Offset Implementation Plan in consultation with DEW and DAWE
At the end of year one (i.e. on the first anniversary of the start date of haulage of timber from plantations to the KI Seaport)	Year one	A retrospective payment for the number of Kangaroo Island echidnas that were victims of roadkill as a direct result of the KI Seaport project over the previous 12-month period	Review of all roadkill data to determine the exact number of Kangaroo Island echidnas that were the victims of roadkill as a result of the KI Seaport. A baseline amount of \$20,000 will be paid as an offset contribution at the end of year one. This amount will be adjusted (only upwards and not downwards) to account for the actual number of roadkill deaths that are attributed to KIPT haulage traffic, based on timber production rates for the previous 12-month period.

Timing	Year	KIPT contribution	Detail
At the end of year 2 (i.e. on the second anniversary of the start date of haulage of timber from plantations to the KI Seaport)	Year two	A retrospective payment for the number of Kangaroo Island echidnas that were victims of roadkill as a direct result of the KI Seaport project over the previous 12-month period	Review of all roadkill data to determine the exact number of Kangaroo Island echidnas that were the victims of roadkill as a result of the KI Seaport. A baseline amount of \$20,000 will be paid as an offset contribution at the end of year two. This amount will be adjusted (only upwards and not downwards) to account for the actual number of roadkill deaths that are attributed to KIPT haulage traffic, based on timber production rates for the previous 12-month period.
Year 3	Year three		Comprehensive review of offset contributions based on echidna roadkill data, timber production rates, KIPT vehicle use, the status of the Feral Cat Eradication Program plus any other relevant information.

4.2.4 Timeframes for implementation

Timeframes for the implementation of these offset measures will be consistent with the Commonwealth Department's Offset Policy (DAWE) requiring that compensatory measures to be implemented in advance of any impact.

KIPT would provide the money for the offset program prior to the commencement of any construction activity associated with the KI Seaport. Work on eradicating feral cats on Kangaroo Island would commence immediately the funds have been administered which would have an immediate impact on reducing the threat to the Kangaroo Island echidna by feral cats.

4.3 Impacts of the 2019-2020 Bushfires

The 2019/2020 bushfires have had a devastating impact on Kangaroo Island. Two human lives were lost, and countless animals were injured or killed. Almost half the Island was burnt by the fires. The bushfires broke out on Kangaroo Island on 20 December 2019 in the Duncan area and in the Ravine des Casoars Wilderness Protection Area on 30 December 2019. Approximately 95% of KIPTs plantations were affected by the bushfires.

The Department of Environment and Energy undertook an analysis of species listed under *the Environment Protection and Biodiversity Conservation Act 1999* which occur in areas affected by bushfires between 1 August 2019 and 13 January 2020 in southern and eastern Australia. Analysis of data occurred on 14 January 2020 to start the process of understanding the impact from bushfires on species' distribution and abundance. It should be noted that results are preliminary and will be updated with local data as it becomes available. Some areas are still not safe to enter and therefore have not been ground-truthed.

The analysis in January indicated that:

- Kangaroo Island echidna: between 50 and 80 % of their modelled likely or known distribution affected within the fire extent
- Kangaroo Island dunnart: greater than 80 % of their modelled likely or known distribution affected within the fire extent
- southern brown bandicoot (eastern) between 10 and 30 % of their modelled likely or known distribution affected within the fire extent

-
- glossy-black cockatoo between 50 and 80 % of their modelled likely or known distribution affected within the fire extent.

At the time of preparing this document there was no data available to indicate that the distribution of the Kangaroo Island narrow-leaved mallee (*Eucalyptus cneorifolia*) threatened ecological community (TEC) was affected by the bushfires.

In January 2020, the Minister for the Environment asked the Threatened Species Commissioner to convene an Expert Panel to help prioritise recovery actions for species and communities impacted by the recent bushfires. The Panel will inform the Australian Government's future response to the fire events to support the recovery process (DoEE, 2020).

4.3.1 How echidnas respond to fire

Echidnas have evolved alongside fire and are considered survivors. Survival of echidnas following a fire has been reported by Nowack et. al. (2016). During a fire and immediately after a fire (up to three weeks) echidnas will bury themselves deep into soil, lowering their heart rate, metabolism, respiration and body temperature to survive the fire. This reduction in activity level is known as torpor. Echidnas can also survive having their spines burnt or melted. The spines are modified hairs that will be replaced.

Observations after the 2019-2020 Kangaroo Island bushfire

Dr Peggy Rismiller and Mike McKelvey, of the Pelican Lagoon Wildlife and Research Centre, have been studying echidnas and Rosenberg's goanna (*Varanus rosenbergi*) on Kangaroo Island for the past 30 years. Their extensive field observations have found that nursery burrows are also well insulated from the outside environment and maintain a temperature range of between 17-20 °C independent of surface temperatures (Rismiller, P 2020, pers. comm., 3 February). Echidnas also trap soil between their spines, when they bury themselves, to provide insulation from a fire.

A number of surveys have been carried out by Rismiller and McKelvey in the fire grounds in the western part of the Island. Based on their observations and communications in February 2020, the likely impacts of the 2019-2020 bushfires include:

- some echidnas would have been killed in the bushfire, however, there have been sightings along the roads that have since been re-opened in the areas of KI that were recently burnt
- feral cat numbers may have been impacted by the fires but will be quick to re-populate due to their breeding capacity
- it is likely that core populations of echidnas and other fauna species, would congregate around any remaining vegetation as this is a food source and provides cover
- echidnas will increase their foraging activity after a fire, to compensate for the reduction in vegetation and food availability, which is then likely to place them at a higher risk of roadkill
- puggles (echidna young) will also be at a higher risk from predation by feral cats due to the reduced vegetation cover that normally provides protection
- the fires occurred at a time of the year when young echidnas are about to be weaned (late January to February). If a female with young in the nursery burrow did not survive the fire, then the young are considered close enough to weaning that they would be able to survive without their mother
- significant rainfall was recorded on Kangaroo Island on 1 February 2020 which has helped regeneration of the vegetation (32.8 mm rainfall at Parndana, 58.8 mm rainfall at Kingscote and 34.4 mm rainfall at Cape Willoughby was recorded by the BOM).



Figure 4: Echidna sightings on West End Highway and Tin Hut Road, 25 January 2020, source Dr Peggy Rismiller



Figure 5: Echidna sightings on Tin Hut Road Kangaroo Island, 25 January 2020, source Dr Peggy Rismiller

4.3.2 Significant residual impact – post bushfire

Whilst the impact of the bushfires on the echidna population cannot be ignored, there are no plans by government or researchers to undertake a census post-bushfire to ascertain a revised population estimate. It is simply not practical due to the cryptic nature of the echidna. Reduced habitat and food availability will likely increase the foraging activity of echidnas and therefore increase their exposure to roadkill. Echidnas are found all over the Island which means it is likely that many echidnas in areas outside of the fire ground would not have been affected by the 2019-2020 bushfires.

Vast areas of vegetation that were burnt are located within the Kangaroo Island conservation network, including National Parks, Conservation Parks and a Wilderness Protection Area. Both the South Australian Government and Commonwealth Government have already started the recovery process within the conservation areas which currently includes undertaking aerial surveys, 3D mapping, on-ground reconnaissance, fauna rescue, seed collection, feral pig surveys and aerial culling of feral pigs.

KIPT has committed to provide additional funding for the Feral Cat Eradication Program as well as funding for engagement with landholders. Revegetation of KIPT plantations, independent plantations or other property owned by KIPT would not be beneficial to the Kangaroo Island echidna at this point in time. Broadscale revegetation programs will be managed and implemented by State Government agencies and will achieve better results than small isolated efforts. Although the plantations have been extensively damaged, approximately 15,000 ha of plantations will need to be felled in the short to medium term, in order to return the land to production (Lamb 2020). As a result of the fires, the proponent is assessing a number of options for managing these plantations which will take into account the impact of the bushfires as well as changes to best practice in forestry.

The focus of KIPT's offset strategy will remain on managing one of the main threats to the echidna, which is feral cats, as well as contributing to awareness programs for landholders. KIPT will continue to work with all stakeholders to share data, knowledge and resources so that feral cats can be eradicated from KI. A precautionary approach will be adopted and implemented during the tracking of vehicle strike which will include verifying all roadkill reports from drivers against dash-cam footage to capture roadkill events caused by KIPT traffic.

4.4 Other Threatened Species

Additional text for submissions relating to other threatened species (Submission IDs: KI NRMB-5 (1377.05))

See Appendix J2 of the Draft EIS which provides a full list of all state and federally listed species that have the potential to be found in the study area at Smith Bay.

See Appendix P-6 of the Draft EIS: KIPT Transport Route Options Ecological Assessment. Appendix 2 of Appendix P-6, identifies database search results of threatened fauna species that have previously been recorded within a 5 km buffer of the roads that make up the preferred transport route from the plantations to the KI Seaport. This table identifies state and federally listed fauna species that could be found in the study area.

KIPT acknowledges that there is potential for forestry traffic to impact Rosenberg's goanna (*Varanus rosenbergi*) due to their attraction to roadkill. KIPT will continue to work collaboratively with the Kangaroo Island Landscape Board and all other stakeholders to develop scientifically robust management plans for the proposed KI Seaport.

Subsequent to development approval, detailed management protocols will be developed and included in the Operational Environmental Management Plan (OEMP) to manage all aspects of roadkill. The management protocols will include the following:

- the transport route will be inspected by KIPT for roadkill on a regular basis
- echidna carcasses will be provided to Dr Peggy Rismiller for her research on the Kangaroo Island echidna
- goanna carcasses will also be provided to Dr Peggy Rismiller for her research on Rosenberg's goanna
- other roadkill carcasses will be relocated to the edge of the road reserve (i.e. they will not be relocated onto private property) to continue to provide a food source for Rosenberg's goanna
- the KI Wildlife Care Network will be notified if any injured native animals are located on the roadside.

As described in Chapter 4 of the Draft EIS and depicted in Figure 4-1: KIPT operations, the scope of the EIS was defined as the shiploading and export components of the overall KIPT Project. Preliminary assessments have been undertaken along the preferred transport route options to inform the decision-making process.

However, the adoption of a preferred transport route is subject to a separate and subsequent approvals process. Third party agreements are also required before a preferred route could be adopted. Subject to all required approvals and agreements being in place for a preferred transport route, then further assessment on roadside vegetation clearance and impacts to fauna would be required under the *Native Vegetation Act 1991* and/or the *Environment Protection and Biodiversity Conservation Act 1999* (plus other relevant legislation), prior to any on-ground works commencing.

5. BIOSECURITY

5.1 Ballast Water Management

Additional text for submissions relating to the issue of ballast water management (Submission IDs: FL2, FL5, 42, 1098, 1372)

The EIS describes the regulatory regime under the Commonwealth *Biosecurity Act 2015* for the management of ballast water carried by international vessels visiting Australian waters. The Act reflects the requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediment (BWM Convention) (IMO 2004) to which Australia is a signatory.

As required by the Convention, the Australian Government is phasing out the existing process of ballast water exchange on the high seas (the "D1 Standard") as vessels convert to on-board ballast water management systems required by the Convention (the "D2 Standard"). These systems are designed to treat ballast water to an acceptable risk level prior to discharge.

The Convention (as amended) contains a Schedule for the adoption of on-board ballast water management systems depending principally on the age of each vessel and the due date for renewal of its international oil pollution prevention certificate (IOPPC) under the International Convention for the Prevention of Pollution from Ships (MARPOL).

The International Maritime Organisation (IMO) has recently produced a graphic illustrating the schedule (see Figure 6). Importantly, the graphic indicates that by 8 September 2024 all vessels to which the BWM Convention applies must have on-board an operating ballast water management system.

As KIPT is anticipating that the KI Seaport will be commissioned some time in 2022, it follows that there will be a window of approximately 2 years during which some vessels accessing the KI Seaport may not have on-board ballast water management system and will therefore rely on ballast water exchange on the high seas as described in the Draft EIS.

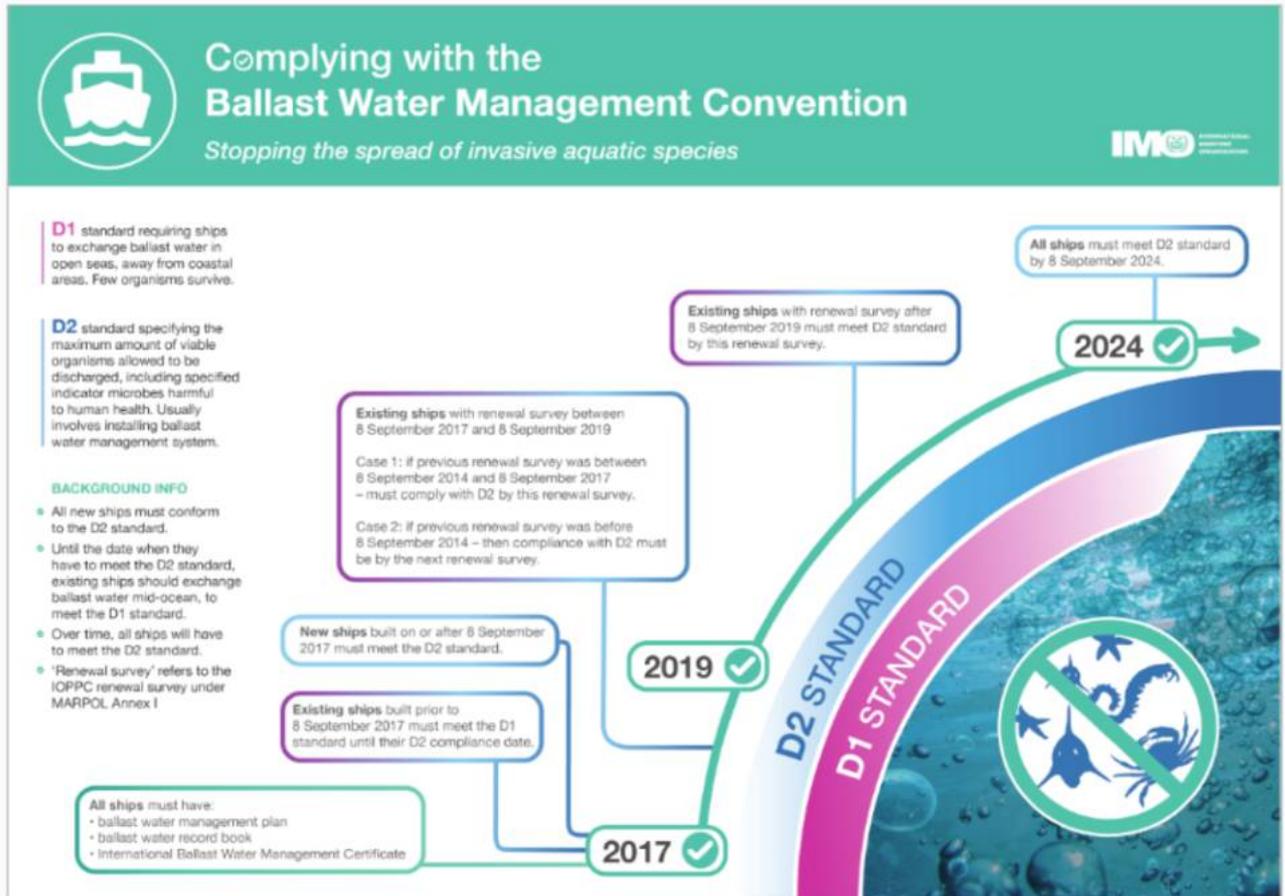


Figure 6: Complying with the Ballast Water Management Convention (IMO 2019)

5.2 Biosecurity Risks Posed by Tugboats and Barges

Additional text for submissions relating to biosecurity risks posed by tugs and barges (Submission IDs: 1372, FL5, 1217, 1098)

Ocean-going tugs, will bring the pontoon to Smith Bay from its original location in south-east Asia. These tugs are likely to use seawater ballast tanks.

Tugs will also be used to tow barges to and from Smith Bay for construction activity. Similarly, barges will be used to transport piles from Port Adelaide to Kangaroo Island. Tugs from Port Adelaide would not be used to avoid the risk transmitting the Pacific Oyster Mortality Syndrome (POMS) virus. All piling activity will be undertaken from a piling barge.

Tugs will also be required to berth timber vessels during operation of the KI Seaport.

Any seawater used by tugs for ballast purposes would be subject to the ballast water management provisions of the *Biosecurity Act 2015* (as described in Section 15.5.4 of the Draft EIS).

5.2.1 Risks posed by tugboats

Tugboats can be susceptible to biofouling and translocate marine pests due to:

- long periods spent operating at low-speed in ports and coastal areas
- long periods spent stationary in ports and anchorages

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- damage to antifouling coatings as a result of work activities
 - tug movement between ports or different coastal regions
 - contact with berthing lines and cables from ships visiting that port from a different port (Marine Pest Sectoral Committee 2009).

5.2.2 Proposed additional mitigation measures – Tugboats

The following additional mitigation measures are proposed for the KI Seaport:

- selecting, applying and maintaining an effective antifouling coating appropriate to the vessel's operating profile and docking cycle, including regular inspection, scheduled dry-dockings, cleaning and maintenance as necessary
- ensuring that warps and lines are free of any biofouling or entangled biofouling by physical removal by hand and/or high-pressure hosing. The warps and lines must be allowed to dry thoroughly before being stowed or re-used in a new location
- visually inspecting lines received from visiting vessels to check that there is no obvious biofouling either attached or entangled
- vessel operators must maintain a biofouling record book to provide evidence of preventative measures undertaken for that particular tugboat
- the biofouling record book should meet the requirements of the National Biofouling Management Guidelines for Non-trading Vessels, 2009.

5.2.3 Barges

Barges can be susceptible to biofouling and assist in the translocation of marine pests due to:

- periods spent stationary or operating and being towed at low-speed in ports and coastal areas
- biofouling has little impact on a towed barges' efficiency through the water, therefore there is less incentive for vessel owners to adopt high performance antifouling coatings
- damage to antifouling coatings from work activities and regular groundings (as for landing barges)
- mud, sediments and biofouling entangled in anchors and other related equipment
- transfers between coastal areas and islands, accentuating marine pest translocation risks (Marine Pest Sectoral Committee 2009).

These risks can be minimised by:

- selecting, applying and maintaining an effective antifouling coating appropriate to the vessel's operating profile and docking cycle, including regular inspection, scheduled dry-dockings and cleaning and maintenance as necessary
- ensuring that anchors and cables are cleaned after use, and checked clear of mud, sediments, biofouling or entangled biofouling (seaweeds) before stowage
- physically removing any obvious biofouling from berthing lines (by hand and/or high pressure washdown), then leaving lines to thoroughly dry before stowage
- if the chosen antifouling coating is in line with the operating profile of the vessel, regular maintenance regimes should be followed, although due to the vessel's operating profile, regular inspections of the niche areas may be necessary to ensure that they are free of biofouling
- using an effective marine growth prevention system (MGPS) or other inspection and treatment routines, for any internal seawater systems.

Operators of landing barges that regularly ground should be aware of the need for regular hull inspection and maintenance to prevent biofouling accumulation on damaged coating areas. It is also recommended that the antifouling coating be repaired as necessary to maintain its effectiveness and longevity.

5.2.4 Additional mitigation measures for tugboats and barges – construction

The following additional mitigation measures are proposed for the KI Seaport:

- no vessels will be allowed to enter the Smith Bay Marine Activity Zone (MAZ) without clearance by the KIPT Construction Manager based on the results of the marine pest inspection report
- no vessels will be allowed to enter the Smith Bay MAZ without clearance by the KIPT Construction Manager subject to the vessel operator demonstrating that the antifouling coating of the vessel (applies to tugboats and barges) is regularly maintained in accordance with the vessel's operating profile
- vessels should maintain a biofouling record book in accordance with the requirements of the National Biofouling Management Guidelines for Non-trading Vessels, 2009
- reference will be made to the New Zealand Ministry for Primary Industries' publication (March 2018) Guidance for vessel owners: developing a Biofouling Management Plan, which also includes guidelines on keeping a biofouling record book.

5.2.5 Implementation

Obligations for complying with the requirements of all applicable legislation in relation to ballast water and biofouling management normally remain with the vessel owner or master of that vessel.

KIPT does not own and does not propose to own any vessels. All vessels that will be used during construction activities and operation of the KI Seaport will be owned by a third party.

KIPT will be the entity issued with any development approval and any associated conditions. It is assumed that any approvals issued to KIPT under the Commonwealth EPBC Act and the South Australian Development Act will include reference to statutory ballast water management requirements and biofouling controls.

KIPT will develop a final Construction Environmental Management Plan (CEMP) following development approval by the Minister for Planning to address any potential adverse impacts that construction activities may have on the environment. The CEMP will also give effect to any approval conditions imposed upon KIPT. The CEMP would apply to all contractors and subcontractors involved in the construction of the KI Seaport and will be included in contractor documentation. KIPT is unlikely to directly charter vessels for construction purposes. Any contractor or subcontractor chartering or using vessels in the construction phase will be required to comply with all relevant legislation.

An Operational Environmental Management Plan (OEMP) will also be developed for the KI Seaport once it becomes operational. The OEMP will operate the same way as the CEMP and will give effect to any conditions imposed upon KIPT. KIPT undertakes to ensure that any contractors or subcontractors are aware of the requirements stipulated in the OEMP. All vessel operators in charge of a vessel during the operational phase of the project must comply with relevant legislative requirements.

5.2.6 Smith Bay – first point of entry

Subject to approval, it is anticipated that KIPT (or the port operator) will apply for Smith Bay to be determined as a first point of entry under the Biosecurity Act (section 229 of the *Biosecurity Act 2015*). This will facilitate movement of international goods out of Smith Bay (i.e. export only).

Before a port can be determined as a first point of entry, the Department of Agriculture, Water and the Environment (DAWE) will first assess its general eligibility based on the biosecurity risks posed by the proposed port's operations.

Once DAWE has determined that the risks can be acceptably managed, all operators facilitating international arrivals at the port must be assessed to ensure they comply with regulatory standards. The port must also meet the requirements in section 58 of the Biosecurity Regulation 2016. The First Point of Entry Biosecurity Standards (Ports), DAWR 2017, provides a guide for operators on how to meet these regulatory requirements (DoA 2019). Section 7 provides further details on first point of entry.

In conclusion, all biosecurity risks posed by construction and operation activity at Smith Bay will be managed in accordance with all relevant legislation, regulations and standards.

5.3 Biosecurity Management – Implementation

Additional text for submissions relating to implementation of biosecurity management measures (Submission IDs: 559, 956, 1217, 1372, 11159, 1215, 681, 1095, 1098)

Figure 7 and Figure 8 provides diagrammatic representations of how biosecurity risks will be managed during the construction and operational phases of the proposed KI Seaport.

As previously stated, it is the intention for Smith Bay to apply for and be determined a first point of entry under the *Biosecurity Act 2015* for the operational phase. Facilities and systems will be required to ensure that port operations comply with section 58 of the Biosecurity Regulation 2016 (requirements to be met before determining a port to be a first point of entry). KIPT will work closely with the relevant government agencies to achieve these standards.

BIOSECURITY MANAGEMENT – CONSTRUCTION (MARINE VESSELS)

KIPT – will develop the overarching Construction Environmental Management Plan (CEMP), which will set objectives relevant to biosecurity. Details for the implementing mitigation measures will be included in the Biosecurity Management Plan and Marine Pest Management Plan. (See Draft EIS Figure 15-2, p334 for the biosecurity management framework).

Ballast Water (pontoon – a ‘vessel’ under the Biosecurity Act 2015 (Clth)) – person in charge or operator of a vessel must comply with ballast water management (BWM) provisions of *Biosecurity Act 2015* on entry into Australian waters (see Draft EIS, Chapter 15, Section 15.5.4 & Appendix D2). The Commonwealth Department of Agriculture, Water and Environment (DAWE) is the responsible authority. BWM documentation is inspected at first point of entry. Vessels are inspected when necessary. Proposed that pontoon will be in freshwater ballast from Vietnam to Smith Bay. Further uptake will occur at Smith Bay to achieve necessary stability and height requirements. Any discharge of ballast water from the pontoon is subject to the provisions of the Act. Special exemption may be necessary/ possible.

Ballast Water (tugs) – tugs that use seawater ballast will be required to discharge in conformity with the Biosecurity Act.

Biofouling (pontoon) – national biofouling guidelines for non-trading vessels apply on entry of the pontoon into and within Australian waters. An International Anti-fouling Certificate is required. Also, South Australian biofouling legislation and guidelines apply to the pontoon within SA coastal waters (see Draft EIS, Chapter 15, Section 15.5.3).

Biofouling (tugs) – the above guidelines (as well as relevant SA legislation) apply. To avoid transmitting the Pacific Oyster Mortality Syndrome (POMS) virus it is intended that tugs from Port Adelaide not be used.

Offshore Construction Equipment – National biofouling guidelines apply within Australian waters. Also, South Australian biofouling legislation and guidelines apply within SA waters. Dumb barges with no ballast water discharge are exempt from BWM provisions of the Biosecurity Act.

BIOSECURITY MANAGEMENT – ONSHORE

Onshore Construction Equipment – the contractor will manage weeds, pest plants and animals during construction activity, as required under the *Natural Resources Management Act 2004*. The *SA Livestock Act 1997* and *Plant Health Act 2009* are also relevant. Mitigation measures will be implemented via the CEMP and the Biosecurity Management Plan.

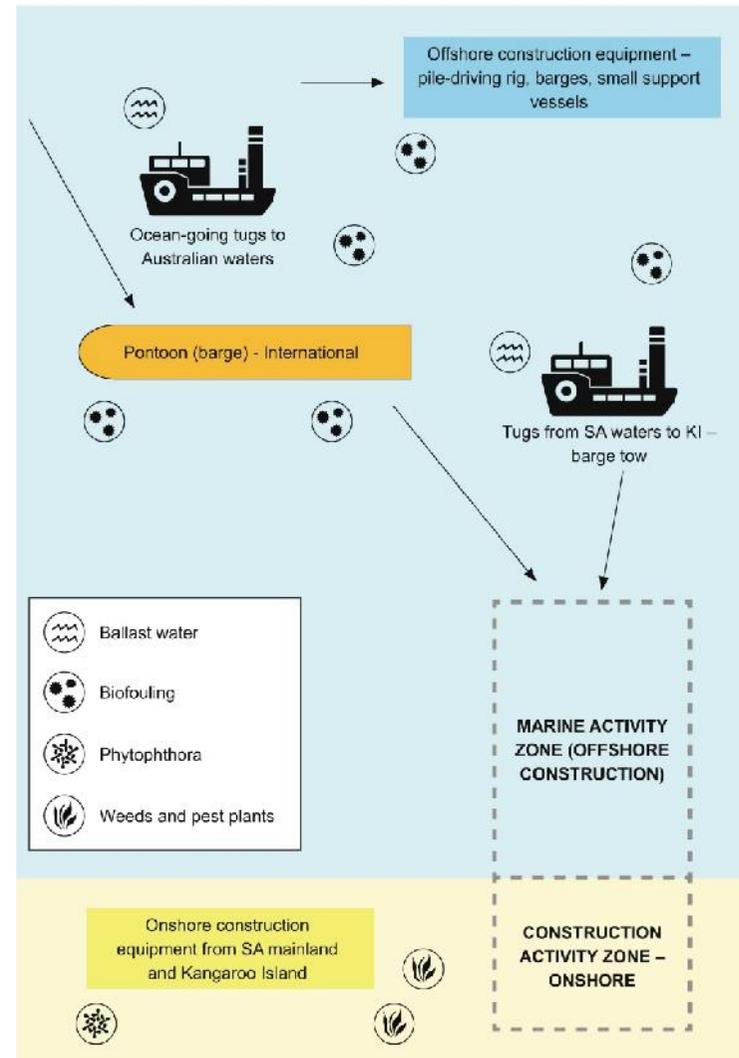


Figure 7: Biosecurity management during construction of the KI Seaport

MARINE BIOSECURITY MANAGEMENT—OPERATIONS

KIPT – will develop the overarching Operational Environmental Management Plan (OEMP) which will set objectives relevant to biosecurity. Details for implementing mitigation measures will be included in the Biosecurity Management Plan and Marine Pest Management Plan. (See Draft EIS Figure 15-2, p334 for the biosecurity management framework).

Ballast Water (international vessels) – person in charge or operator of a vessel must comply with ballast water provisions of Commonwealth *Biosecurity Act 2015* on entry into Australian waters (see Draft EIS, Chapter 15, Section 15.5.4). The Commonwealth Department of Agriculture, Water and Environment (DAWE) is the responsible authority. BWM documentation is inspected at first point of entry. Vessels are inspected when necessary. It is proposed that the operator will apply to register Smith Bay as a first point of entry, under section 229 of the *Biosecurity Act*.

Ballast Water (Tugs) – tugs that use seawater ballast and will be required to discharge in conformity with the *Biosecurity Act*.

Biofouling – national biofouling guidelines for commercial vessels apply on entry of international timber carriers into and within Australian waters. Also, carriers would require an International Anti-Fouling Certificate. South Australian biofouling legislation and guidelines apply to vessels within SA coastal waters (see Draft EIS, Chapter 15, Section 15.5.4). For tugs, the national biofouling guidelines for non-trading vessels apply (as well as SA legislation). To avoid transmitting the Pacific Oyster Mortality Syndrome (POMS) virus, it is intended that tugs from Port Adelaide not be used.

Pest animals (not marine organisms) – subject to Commonwealth control under the *Biosecurity Act* and State control under the *Natural Resources Management Act 2004*.

.....
TERRESTRIAL BIOSECURITY MANAGEMENT – OPERATIONS

Department for Environment and Water (DEW) – responsible for existing pest monitoring programs and implementation of the *Natural Resources Management Act 2004*.

KIPT to prepare (in consultation with Primary Industries and Resources South Australia (PIRSA) and DEW) and implement a Biosecurity Management Plan. The Flora and Fauna Management Plan will also address biosecurity matters.

During operations at the KI Seaport, weeds, pest plants and animals must be managed as required under the *Natural Resources Management Act 2004*. The *SA Livestock Act 1997* and *Plant Health Act 2009* are also relevant. Mitigation measures will be implemented via the OEMP.

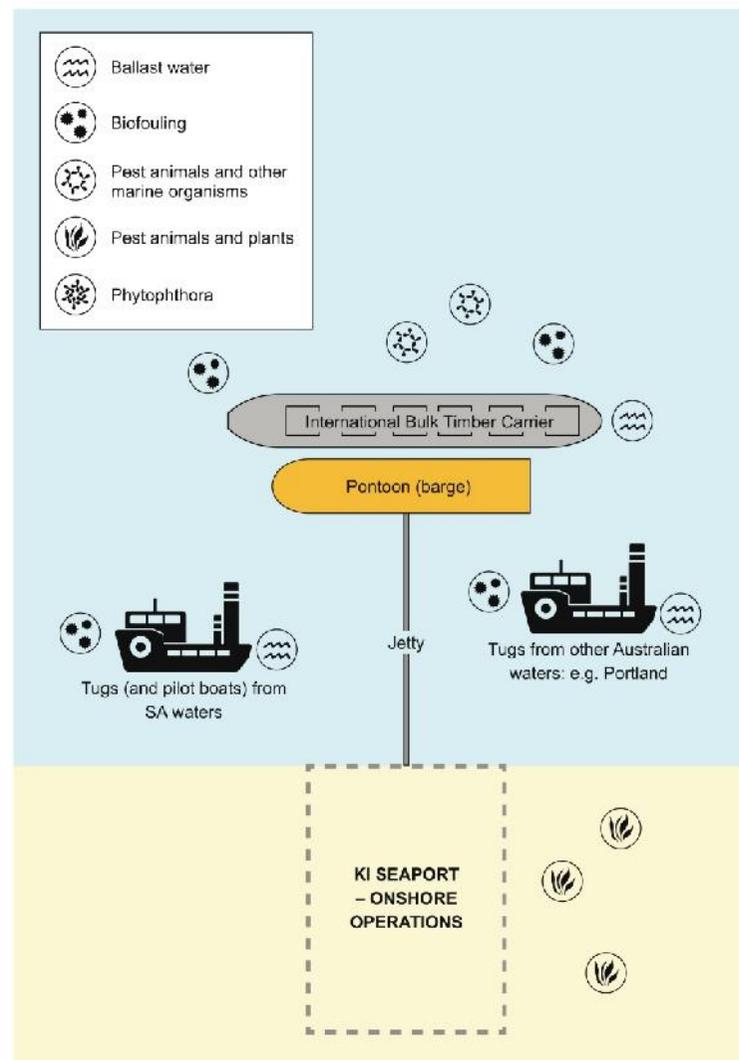


Figure 8: Biosecurity management during operations at the KI Seaport

6. GEOLOGY, SOILS AND WATER

6.1 Groundwater Impacts

Additional text for submissions relating to groundwater impacts (Submission IDs: EPA-22 (1374)).

Table 2 is an edit to Table 8.3 in the Draft EIS.

Table 2: Update to Table 8-3 of the Draft EIS

Ref.	Activity	Key issue	Assigned assessment priority	Impact to be assessed	Values to be protected
Operations					
42	On-site diesel storage and use	Diesel spillage	Medium	Soil contamination Groundwater Contamination Marine pollution and effects on marine communities	Soil quality Groundwater quality Healthy marine ecosystem

6.2 Groundwater Wells

Additional text for submission relating to groundwater wells (Submission ID: EPA-23 (1374))

This plan (Figure 9) was included in early versions of Chapter 16 in the Draft EIS but was removed due to a lack of relevance.



Figure 9: Registered bore locations

6.3 Conceptual Model of Smith Bay

Additional text for submission relating to the conceptual model of Smith Bay (Submission ID: EPA-25 (1374))

A conceptual site model (CSM) of the site is shown in Figure 10. The interpreted cross-section of the site shows underlying geology and aquifers.



Figure 10: Conceptual site model

6.4 Groundwater Contamination

Additional text for submission relating to the groundwater contamination (Submission ID: EPA-32 (1374) and EPA-38 (1374))

Table 3 is an edit to Table 26-1 in the Draft EIS and Table 1-2 in Appendix U1 of the Draft EIS 'Draft CEMP'.

Table 3: Update to Table 26-1 in the Draft EIS and Table 1-2 in Appendix U1 of the Draft EIS

Environmental aspect	Objective	Activity	Potential impacts
Generation of waste and discharges <ul style="list-style-type: none"> stormwater runoff waste generation accidental release/spill of chemicals/fuels/diesel ballast water discharge 	To ensure that the quality and quantity of discharged surface water and stormwater affected by site activities meets required standards and objectives. No adverse effects on marine water quality. No introduction of marine pests. No significant contamination of soils and groundwater as a result of storage and/or use of hazardous materials or generation of leachate. To minimise the generation of general wastes, maximise their reuse and recycling, and ensure safe and lawful disposal of waste.	Onshore activities On-site diesel storage and use On-site fuel/chemical storage and use Shipping – ballast water and biofouling Woodchip storage and leachate generation	<ul style="list-style-type: none"> accidental release/spill of chemicals/fuels/ diesel resulting in soil or groundwater contamination generation of wastes requiring disposal leachate from woodchip or log stockpiles entering groundwaters or stormwater runoff marine pollution and effects on marine communities potential introduction of pest species and diseases (particularly the abalone disease AVG and the abalone parasite Perkinsus)

6.5 Stormwater Management

Additional text for submissions relating to stormwater management (Submission IDs: EPA-46 (1374) and EPA-48 (1374))

Timber log and woodchip storage areas

Stormwater runoff from the timber log and woodchip storage hardstands would be isolated from general stormwater runoff generated from the other areas of the site. This will be achieved by grading the hardstands to create a single drainage flow path and providing an upstand to ensure runoff is directed to a single outlet point. At the outlet point of each hardstand, stormwater would enter a concrete forebay sediment and debris trap. Stormwater will then enter the retention basin (holding pond), which would have the following features:

- 10 ML storage volume, determined after analysis of approximately 100 years of rainfall data to develop the site water balance (see Section 4.8.2 in the Draft EIS)
- no discharge to the internal stormwater network or the receiving environment
- lined to prevent infiltration. Water management would be achieved via evaporation losses and reclaim of the water for use in irrigation of the adjacent landscape buffer and for dust suppression (noting that the irrigation system has a separate filter system to remove sediments and fine debris prior to use).

The retention basin would collect stormwater runoff from the woodchip and log storage area dedicated concrete forebay. The logs and woodchips are not treated with chemicals at the facility. In accordance with Appendix 3A of EPA Guideline Wastewater Lagoon Construction 2019 which referenced contaminated stormwater, the type of stormwater runoff collected from the concrete forebays of the storage areas are not classified under Schedule 4 of the Environment Protection Water Quality Policy 2015 nor will it be used in pipes and gutters through which stormwater runoff from the remainder of the site is conveyed. Notwithstanding, a risk assessment has been conducted during concept design which determined a membrane lined basin with no outlet will be constructed. The basin will be designed taking the following EPA criteria into consideration:

- No overflow – this has considered continuous rainfall from historical data spanning over 100 years from Kingscote Station gauge. Infiltration losses and irrigation use were set to nil to be conservative. There is no

overflow or outlet for the retention basin. The capacity of the basin (10 ML) will have available capacity during operation as stored water will be used for irrigation of landscape buffer, dust suppression and potentially firefighting.

- The retention basin is planned to be membrane lined in accordance with Category 3 which is in line with EPA recommendation of the type of liner to be used over a clay subgrade. During detailed design, analysis of various liner types will be conducted to determine a final liner material for the basin.
- Leakage detection – the requirement for leakage detection will be determined during detailed design in consultation with the liner vendor to incorporate ongoing monitoring methods such as integrity survey assessment using electrical methods at installation and after scheduled maintenance. The membrane liner will take into consideration EPA requirements during detailed design.
- Other considerations such as material cover over liner, de-sludging access, subgrade preparation, embankment slope will be in accordance with EPA requirements and details will be submitted for approval during detailed design.
- In addition, upstream catchment overland flows will be intercepted and diverted through the site to the detention basin (wetland) so that it is controlled and prevents contamination and/or interaction with that from the log and woodchip storage areas. During construction, temporary drainage systems will be utilised with diversion drains and sedimentation basins to intercept all flows.
- Volume – the designed volume of the retention basin has been assessed with a water balance model. The model defines the size of the storage based on run off volumes from the log and woodchip storage areas. The model considered continuous rainfall historical data spanning over 100 years from the Kingscote Station gauge with evaporation losses while infiltration losses and irrigation was set to zero to ensure the most conservative scenario. Note that some storage water will be used as irrigation of the buffer vegetation zone and hence the additional storage volume will be available. The result of the model indicates that a holding volume of 10 ML will retain all stormwater runoff volumes generated from the storage areas with no overflow. The assessment is undertaken using a DRAINS model and the volume plot against time is seen in Figure 11.

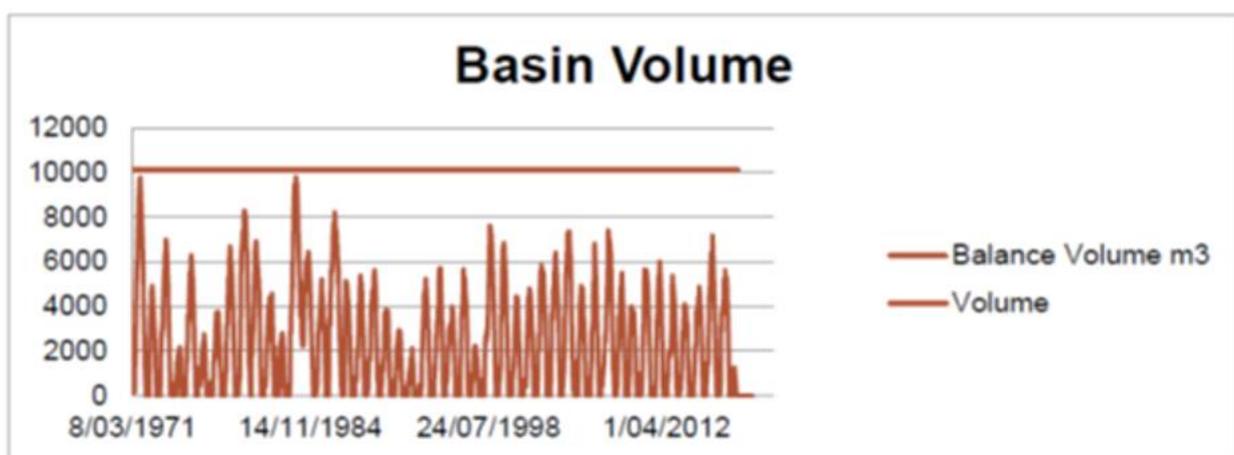


Figure 11: DRAINS model plot

- Quality - The retention basin receives flow from the woodchip and log storage areas. The open swale drains are isolated from other general stormwater runoff at the site. The hardstands at the storage area are graded to provide a single drainage flow path directed to a single outlet point prior to entering the retention basin. The outlet point of each hardstand will have a sediment and debris trap in the form of mesh screen to ensure large debris is not transferred into the retention basin.

After sediments have settled and organics have broken down, captured water will evaporate or be used for woodlot watering and dust suppression.

A separate filtration system to remove sediments and fine debris will be provided for the irrigation and dust suppression systems to reduce suspended solids in the water. The framework covered under the Australian Guideline for Water Recycling focusses on water recycled from sewage treatment plant and from greywater. The guideline focusses on microbial reduction from sewage. It should be noted that the type of runoff capture from the site is stormwater in contact with chemically untreated woodchips and logs. As such, the nature of stormwater runoff from the storage areas does not classify it as sewage or wastewater and its reuse is not covered under the guideline. The quality of stored stormwater is met through retention of litter greater than 50 mm for flows up to a 3 month Average Recurrence Interval peak flow and no discharge of organically loaded stormwater to the receiving environment. This is ensured with the storage volume designed for the retention basin.

Application rates for irrigation and dust suppression have yet to be determined. Dust suppression and wood lot watering will be designed to optimize water use (as per industry practice) and would not be applied in enough volume to cause groundwater impacts. The application of treated water to land is specifically designed not to exceed the absorption capacity of the woodlot. Irrigation for dust suppression is designed to promote crusting of the upper surface of the stockpiled material, rather than occur as a fine mist, which would result in inefficient application. These issues will be resolved during detailed design when additional information is available on soil types, irrigated areas, actual number of irrigation points, types of discharge nozzles, flow monitoring requirements and the pump system are all known. It should be noted that the volume of the retention basin has been modelled based on no losses from irrigation and dust suppression, hence a conservative flowrate can be reasonably applied for the application rate during detailed design for each irrigated area.

Land to be irrigated is a vegetation buffer zone along the eastern side of the site. This buffer zone will receive irrigation water from the retention basin.

General stormwater runoff from the site, excluding the storage area for woodchips and logs, will be captured by swales crossing the site and treated by detention basin (or wetland). This system will manage residual chemicals in stormwater from fuel, oil and chemical spills during operation. This system will be partially constructed during the construction phase to contain runoff from any spills in this period. Clean water in the detention basin (not leachate) will also be used, as available.

A schematic diagram of the proposed on-shore surface water management system is presented in Figure 4-11 of the Draft EIS.

6.6 On-Site Wastewater Management System

Additional text for submissions relating to the on-site wastewater management system (Submission IDs: EPA-49 (1374), 819, 1372)

Wastewater management

Sewage and grey wastewater generated on site will be directed to a septic tank for disposal via an appropriately licensed third-party provider. The septic tank is located on a natural slope at a lower level than the administration/amenities building/workshop. It is located 9 m from the nearest building, which is the administration building and 18 m from the road easement. The location of the septic tank would be provided on drawings issued for construction purposes and will meet relevant industry codes and planning requirements. An indicative permanent direct employment (FTE) of 11 is expected for maintenance, management and security coverage. During ship-loading operations, an additional 14 FTE is envisaged. Therefore, the total FTE of 25 during normal operations coinciding with

ship-loading operations is expected to require a septic tank of minimum effective capacity of 8,750 L with four yearly de-sludging frequency. The concept design report written for the EIS has allowed for 16,500 L working capacity and the effluent would then be collected and removed by a truck provided by an appropriate licensed third-party service provider. The design requirements are in accordance with the On-site Wastewater Systems Code, April 2013.

The Kangaroo Island Council requires all septic tanks, irrespective of type, to be de-sludged every four years in accordance with Department of Health requirements. Contractors de-sludging septic tanks are required to advise the council when tanks are de-sludged and pay a fee per tank de-sludged when disposed at the Kangaroo Island Resource Recovery Centre. A review of public registers (Kangaroo Island Council 2018) identified at least two septic cleaning services available on Kangaroo Island with the potential to provide the required services to the KI Seaport.

Wastewater generated from sewage will be collected in the septic tank and will not be used for land application. Land application water will be from stormwater runoff collected in the retention basin.

7. FIRST POINT OF ENTRY

7.1 Definition

A first point of entry (FPOE) broadly describes the place, usually an international port, where an alien (i.e. a passenger), and/or goods on board a transport vehicle (e.g. aircraft and marine vessels) makes initial contact to enter a country. For the purposes of the KI Seaport, this summary relates to FPOE in the context of marine vessels.

The proposed KI Seaport is being designed for the export of timber products grown and harvested on Kangaroo Island. Domestic cargo loaded onto a vessel that is subject to biosecurity control (an international vessel) becomes exposed and is subject to biosecurity control. Consequently, requirements under biosecurity legislation apply.

7.2 Regulatory Obligations for Incoming Vessels

FPOEs are established in Australia (including its external territories – Norfolk Island, Christmas Island, and the Cocos (Keeling) Islands) under the Commonwealth *Biosecurity Act 2015* (the Biosecurity Act) to manage potential biosecurity threats that aliens and/or goods may pose to human health, animals, plants and/or the environment. The Act, which replaced the *Quarantine Act 1908*, provides for the prevention, elimination, minimisation and management of biosecurity risks; and for other related purposes. The Biosecurity Act applies immediately goods and conveyances enter Australia and its territorial coastal sea, which generally extends 12 nautical miles (NM) from the coast. The Act is administered by the Department of Agriculture, Water and the Environment (DAWE).

The Biosecurity Act groups individual biosecurity risks and their corresponding requirements into four chapters – human health; goods; conveyances; and ballast water and sediment.

The Act, under section 229(1), empowers the Director of Biosecurity or the Director of Human Biosecurity to determine that a specified port in Australian territory is a FPOE for:

- (a) vessels generally, or a specified class of vessels, that are subject to biosecurity control;
- (b) specified goods, or a specified class of goods:
 - (i) that are subject to biosecurity control; or
 - (ii) in relation to which an exposed goods order is in force.

For the purposes of the Act and pursuant to subsection 229(1b), goods are defined under section 19(1) of the Act to include an animal; a plant (whether moveable or not); a sample or specimen of a disease agent; a pest; mail; any other article, substance or thing (including, but not limited to, any kind of moveable property).

It is mandatory requirement that all international vessels arriving in Australian territory arrive at a docking area that has been determined to be a FPOE under section 229 of the *Biosecurity Act 2015*, unless permission has been granted by the DAWE to dock at a non-first point of entry under section 247(2) of the Act. At the FPOE, the documentation of arriving ships and, if necessary, the ships themselves would be subject to inspection. Details of entry and certification requirements for a FPOE are available at the Commonwealth Department of Agriculture, Water and the Environment website <https://www.agriculture.gov.au/biosecurity/avm/vessels/first-point-entry-and-non-first-point-entry>

7.3 The KI Seaport

KIPT's proposal to construct a seaport at Smith Bay (i.e. the KI Seaport) is to facilitate only the exportation of timber products grown and harvested on Kangaroo Island. As outlined in the Draft Environmental Impact Statement (Draft

EIS), woodchips would be loaded into cargo holds via permanent barge-mounted materials handling infrastructure at the KI Seaport. Timber logs would be transferred from the storage yard to the pontoon by truck and would be loaded into the cargo holds by vessel cranes. No equipment on the ships would come to shore for loading activities.

In the Draft EIS, KIPT indicated that the KI Seaport would not be a FPOE. However, as a result of discussions with relevant federal government agencies, the port would need to be a FPOE. This assertion is justified by the fact that there is no existing port on Kangaroo Island, and therefore, the proposed construction of the port at Smith Bay requires that a FPOE be established to facilitate the export of goods from Australia. Accordingly, KIPT would have to make a formal application seeking to designate the KI Seaport as a FPOE (for the export of goods only).

DAWE is the Australian Government regulator that has the responsibility for monitoring compliance with both import and export legislation and will enforce laws and take action to address non-compliance where deemed necessary.

7.4 Application Process for Border Services at New International Ports

Since the Draft EIS was published, KIPT has been advised it (or the port operator) must apply to the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) to have the KI Seaport registered as a FPOE.

There is a whole of government process for operators seeking to establish or expand international services that is coordinated by DITRDC. DITRDC coordinates advice that is provided to the Australian Government in consultation with the Department of Home Affairs, the Department of Agriculture Water and the Environment, and other relevant agencies.

Broadly, there is a formal four-phase procedure in the application for gazettal as a FPOE. An outline of the process and information on the roles of various government agencies is provided in this advisory document produced by the Australian Government (<https://www.infrastructure.gov.au/aviation/international/files/applying-for-border-services.pdf>).

Initially KIPT (or the port operator) would have to prepare a proposal, outlining an evidence-based business case with relevant documentation that addresses the assessment criteria. The proposal should, at minimum, establish the financial feasibility of the seaport, provide details of infrastructural developments and associated regulatory approvals, as well as the indicative costs associated with the establishment of border services at the seaport. The proposal is also required to be supported by a firm commitment from an international carrier.

The second phase of the application process is the formal submission of the proposal by KIPT (or the port operator) to the DITRDC for assessment.

The third phase is the assessment of the proposal. During this phase, the assessment will be conducted in a consultative manner, where DITRDC will coordinate the Australian Government's consideration of the proposal against the assessment criteria to determine the national interest. At the minimum, the proposal would be assessed against international and domestic transport connectivity; relationship to existing international ports; biosecurity, national and border security. The proposal would also be assessed to determine if there are any tourism, trade and investment benefits that would result from approval of the proposal. The expected rural, regional and social gains and impacts would be assessed.

The final phase of the application process is the decision on the proposal. At this stage, the Australian Government will decide whether or not to support the proposal (i.e. whether to provide new or enhanced border services at the port). The Australian Government's decision would be communicated to KIPT (or the port operator) by DITRDC.

If the proposal is successful, DHA and DAWE would work closely with KIPT (or the port operator) to establish a border services capability, provided that all agreed infrastructure requirements have been met. All costs associated with the provision of border services capability will be the responsibility of KIPT.

7.5 Biosecurity Standards

If KIPT's application to become a FPOE is supported, KIPT (and operators of the KI Seaport) would be required to comply with relevant FPOE biosecurity standards. Specifically, KIPT and operators of the KI Seaport would be subject to section 58 of the Biosecurity Regulation 2016. A guide to meeting section 58 of the Biosecurity Regulation 2016 is available at <https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/biosecurity/avm/vessels/point-entry-ports.pdf>.

As the KI Seaport would not be used to import goods to Australia, the facility would be required to comply with the FPOE biosecurity standards which apply to export-only operations. Table 4 to Table 7 outline the minimum set of standards that would apply to the KI Seaport for the purposes of export operations only (i.e. no imports). The relevant standards include:

- Biosecurity incident response standard
- Waste goods management standard
- General port facility standard
- Biosecurity risk awareness standard
- Environmental management standard.

Table 4: Biosecurity incident response standard

Standard	Evidence	Responsibility
Biosecurity incident preparedness	Written evidence ^a that is easily accessible to staff and that includes: <ul style="list-style-type: none"> • clearly articulated requirement to isolate and contain biosecurity risk and report it immediately to the department • nominated contacts responsible for initiating an immediate response on behalf of the first point of entry • where there are no approved treatment providers close to the port, specific arrangements approved by the Department of Agriculture and Water Resources for containing detected or suspected exotic pests • for common user facilities, all operators acknowledge and accept their responsibility for biosecurity incident preparedness and response through contractual arrangements or under their terms and conditions for use of common user berths. 	Port authorities that manage general areas of the port must have incident preparedness plans for these areas. Individual operators must have incident preparedness plans for all berths they own/lease or operate within the first point of entry where goods and conveyances subject to biosecurity control are managed. Owners or managers of common user berths must include compliance with biosecurity response and preparedness plans in their terms and conditions of use to ensure users are aware of their obligations. Berth managers should make these plans available to the department when required.
	Access arrangements in place that enable treatment providers to undertake urgent responses (for example, fogging treatment of premises) in a timely manner	Port authority Berth operators
Containment of risk – insect or pest infestation	Infrastructure and equipment easily accessible to enable an incident response including: <ul style="list-style-type: none"> • permethrin based knockdown spray • appropriately sized tarpaulins for containment of infested goods. 	Entities (for example, berth operators) that operate physical areas within the first point of entry where goods or conveyances subject to biosecurity control are managed.
	Hardstand ^b available for isolation of infested goods	Entities (for example, berth operators) that operate physical areas within the first point of entry where

Standard	Evidence	Responsibility
		goods and conveyances subject to biosecurity control are managed. Not required at berths that do not land goods.
Containment of risk – spillage	Appropriate accessible equipment for dealing with spillage, including brooms, shovels, buckets, absorbent litter, tarpaulins and a supply of department-approved disinfectant.	Berth operators Not required at berths that do not land goods

a. Port operators can also provide written evidence using the Department's First Point of Entry Biosecurity Risk Management template. Other forms of written evidence (such as extracts from existing plans) are also acceptable.

b. The hardstand does not need to be permanently designated for this purpose, but must be available for use at short notice, segregated from other goods and secured from unauthorised access.

Table 5: Waste goods management standard

Standard	Evidence	Responsibility
Waste goods – collection and treatment (vessels)	Arrangement for the collection and treatment of waste goods subject to biosecurity control from international vessels arriving at the port: 1. Arrangement with a department-approved waste management provider or 2. Held on board the vessel or 3. Where option 1 is not available, an alternative arrangement approved by the Department of Agriculture and Water Resources.	Shipping line/master of vessel The department is responsible for notifying shipping lines of their responsibilities in this area. Owners/operators of berths facilitating non-commercial vessels (including yachts) subject to biosecurity control.
Waste goods – collection and treatment (onshore)	Arrangement for the collection and treatment of waste goods subject to biosecurity control from the port and berth precincts: 1. Arrangement with department-approved waste management provider or 2. If option 1 is not viable, an alternative arrangement approved by the Department of Agriculture and Water Resources.	Entities that operate physical areas within the first point of entry where goods and conveyances subject to biosecurity control are managed, for example: • port authority • berth operators. Not required at berths that do not land goods
Waste goods – containment	Approved biosecurity waste receptacle to be made available for disposal of waste goods subject to biosecurity control and loose items of biosecurity risk that do not form part of the documented consignment ^a . Waste goods subject to biosecurity control must be: 1. double bagged or 2. stored in re-usable receptacles that are sealed or closed securely to prevent escape of live insects or seeping of biosecurity waste goods. Receptacles must be: • maintained free of cracks, tears and damage that could prevent them from effectively containing waste goods subject to biosecurity control • cleaned and disinfected with approved disinfectants at an approved rate before re-use if they have come into contact with waste goods subject to biosecurity control.	Entities that operate physical areas within the first point of entry where goods and conveyances subject to biosecurity control are managed, for example: • port authority • berth operators. Not required at berths that do not land goods
Waste goods – security	Waste bags/receptacles must be: • clearly marked as 'biosecurity waste' • secure.	Entities that operate physical areas within the first point of entry where goods and conveyances subject to biosecurity control are managed, for example: • port authority • berth operators. Not required at berths that do not land goods.

Standard	Evidence	Responsibility
Dunnage	International dunnage that does not have an ISPM 15 stamp must be: <ol style="list-style-type: none"> returned to the vessel or stored in a clearly marked and secured dunnage container prior to treatment by a department approved provider within 14 days or stored in a clearly marked and secured dunnage container prior to collection by department-approved waste management provider 	Individual berth operators Not required at berths that do not land goods.

a. For example, soil, seeds, bags, fruit cartons or plant or animal contamination.

Table 6: General port facility standard

Standard	Evidence	Responsibility
Signage ^a	Capacity for the display of appropriate biosecurity signage or messaging when required.	Port authority Individual berth operators
Office facilities ^b at sites where biosecurity officers are permanently assigned and where there is no department office nearby	Provision of a secure area of adequate size to accommodate workstations, computers, printers, photocopiers and general supplies storage.	Port authority responsible for determining where facilities will be provided and how costs of provision of office space will be attributed to port operators.
Amenities	Access to clean, serviced toilets.	Port authority Individual berth operators
Parking/access	Provision of designated parking areas for staff, close to sites where biosecurity officers and human biosecurity officers are to perform functions under the <i>Biosecurity Act 2015</i> . Ready access (and escort if required) to berth or other areas where biosecurity officers and human biosecurity officers are to perform functions under the <i>Biosecurity Act 2015</i> .	Port authority Individual berth operators

a. Signage or content for messaging will be provided by Department of Agriculture and Water Resources or Department of Health.

b. Requirements will be based on number of staff located permanently at the port.

Table 7: Biosecurity risk awareness standard

Standard	Evidence	Responsibility
Awareness	Biosecurity awareness package (provided by the Department of Agriculture and Water Resources) is made available to relevant staff members. Biosecurity awareness information is included in induction packages and berth handbooks	Port authorities, berth managers and operators, and shipping lines are responsible for their staff. The department is responsible for notifying shipping lines of their responsibilities in this area. Owners or managers of common user berths must include adherence to biosecurity risk awareness and reporting requirements in their terms and conditions of use to ensure users are aware of their obligations.
Biosecurity risk reporting	Procedures (including contact numbers) for reporting biosecurity incidents are accessible to all staff. At common-user facilities Operators acknowledge and accept their responsibility for ensuring staff are aware	Port authorities, berth managers and operators, and shipping lines are responsible for their staff. The department is responsible for notifying shipping lines of their responsibilities in this area. Owners or managers of common user berths must include adherence to biosecurity risk awareness and reporting

Standard	Evidence	Responsibility
	of and report biosecurity risk; operators should do this through contractual arrangements and in their terms and conditions for use of common user berths.	requirements in their terms and conditions of use to ensure users are aware of their obligations.

Table 8: Environmental management standard

Standard	Evidence	Responsibility
Feral animal control	Regular trapping/baiting/surveillance regimes. Documentation of activity provided to the department on request.	Port authority for general areas of the port precinct Port authority for general areas of the port precinct Berth manager at common user facility Individual berth operators
Rodent control	Regular trapping/baiting/surveillance regimes. Documentation of activity provided to the department on request.	Port authority for general areas of the port precinct Berth manager at common user facility Individual berth operators
Vegetation control	Regular vegetation control regimes including mowing/pruning/weed spraying activities to prevent establishment and flowering of exotic species. Documentation of activity to be provided to the department on request.	Port authority for general areas of the port precinct Berth manager at common user facility Individual berth operators
Management of pooling water	Activities to manage pooling water, including monitoring sites such as drains, tyres, construction bollards and tanks. Where necessary, water accumulation points are treated to prevent vector breeding	Port authority for general areas of the port precinct Berth manager at common user facility Individual berth operators
Rubbish management	Rubbish management strategies.	Port authority for general areas of the port precinct Berth manager at common user facility Individual berth operators

7.6 Determination Process

The facility (i.e. the KI Seaport), if approved, must be developed in accordance with the FPOE standards listed above. Once the development is complete, the FPOE team from the Australian Government will undertake an assessment of the seaport against the relevant standards.

Prior to determination as a FPOE, the general eligibility (relating to potential biosecurity risks) of the KI Seaport would also have to be assessed by DITRDC. When the assessment indicates that the potential risks can be reasonably managed, KIPT and the operators of the KI Seaport, third-party operators, stevedores (i.e. personnel employed at the

seaport to load and unload ships) and other logistical agents that facilitate international arrivals at the seaport would be assessed to ensure they comply with applicable regulatory standards.

If deemed fully compliant with the applicable regulatory controls and standards, DAWE would then draft an evidence brief and the FPOE determination. Relevant information must then go through a legal approval process involving a number of sections and delegates in the relevant departments for a final decision on if the KI Seaport will be determined a FPOE under the Biosecurity Act.

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Appendix B-
Response to the Baird
Submission (ID 1081)

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Appendix A

Study Area Coordinates

Appendix B

Protected Matters Search Tool Summary

EXECUTIVE SUMMARY

On 14 December 2016 under the Environment Protection and Conservation Act 1999 (the EPBC Act,) the Commonwealth Minister for the Environment and Energy determined the KIPT proposal for a wharf development (now referred to as the KI Seaport) at Smith Bay on Kangaroo Island to be a “controlled action” for the purposes of the Act. This decision was based on the potential for the proposal to have a significant impact on matters of national environment significance (MNES).

In June 2017, the South Australian Minister for Planning declared the proposal to be a major development for the purposes of environmental assessment under the Development Act 1993. The State’s Development Assessment Commission (DAC) then required the proponent to prepare an environmental impact statement (EIS). Under Commonwealth-SA arrangements, the assessment process was undertaken under the State’s Development Act in accordance with Project Guidelines that included Commonwealth requirements in relation to the four MNES identified by the Commonwealth Minister. These were the southern right whale, the Kangaroo Island echidna, the hooded plover (eastern) and the southern brown bandicoot (eastern).

The draft environmental impact assessment (Draft EIS) was released for public consultation on 28 March 2019. A detailed submission was received from Ms Janice Baird regarding the assessment of potential impacts on MNES under the EPBC Act. Ms Baird essentially argues that KIPT has failed to comply with the EPBC Act and relevant Commonwealth Guidelines and, specifically, that:

- i. it may be inferred that species identified within the large area defined for the purposes of the initial protected matters search (PMS) are present in the much smaller study area
- ii. it is not open to KIPT to determine otherwise based on the environmental conditions of the site and the habitat requirements of the particular MNES (species)
- iii. in any event, KIPT has omitted or misrepresented relevant information that would indicate the presence of 43 MNES within the study area.

Ms Baird also asserts that with respect to MNES that may be present ‘in the environment that may be affected’ by the proposal, KIPT was obliged to undertake detailed surveys – presumably in relation to each of the 43 MNES identified by Baird.

Ms Baird further argues that in those circumstances the precautionary principle (under the EPBC Act) should be applied to the proposal by the Commonwealth and State governments and approval therefore refused. Ms Baird asserts that approval of the proposal would breach Australia’s obligations under several international wildlife protection agreements.

KIPT rejects these arguments. Ms Baird misuses the protected matters search tool which is indicative only of the presence of MNES in a specified area (in this case a 10 km radius around the study area). Substantially more information is required to identify the material presence of a species at a particular location within the study area. KIPT has acquired this information and reached its conclusions that only the four MNES specified by the Commonwealth are likely to be found in the study area and only one of these may be significantly impacted by the proposal thus requiring an offset.

Baird’s conclusions that there are 43 relevant MNES with a material presence in the study area are based on the application to the study area of a range of high level management plans and/or distribution mapping without appropriate ground-truthing or other evidence to demonstrate the material presence of any of those species within the study area.

KIPT has undertaken a rigorous assessment for the purposes of determining the presence or otherwise of MNES within the study area. This assessment complies with the requirements of the EPBC Act, the EIS Guidelines issued by the DAC and relevant Guidelines issued under the Act, in particular the Commonwealth’s Matters of National Environmental Significance - Significant Impact Guidelines 1.1.

Commonwealth field survey guidelines are not mandatory and alternative methods have been adopted to determine the presence or otherwise of MNES within the study area. The assessment process is presented in detail in this response.

KIPT rejects Ms Baird's submission as erroneous and misconceived. The level of expertise and thoroughness of investigation applied to assessing the potential for the KI Seaport proposal to significantly impact on any MNES removes any reasonable scientific doubt about its potential impact on any MNES. The precautionary principle is therefore not relevant.

Given the conclusions reached about the negligible impact on all but one MNES identified as having a material presence in the study area (the Kangaroo Island echidna requiring an offset) an approval of the proposal would not breach Australia's obligations under international wildlife protection agreements to which it is a signatory.

1. INTRODUCTION

The Smith Bay Wharf Draft Environmental Impact Statement (Draft EIS) was prepared by Kangaroo Island Plantation Timbers (KIPT) in accordance with the EIS Guidelines (released by the South Australian Government in June 2017). Reflecting the Assessment Bilateral Agreement between the Commonwealth and South Australian government, the Guidelines included Commonwealth assessment requirements with respect to matters of national environmental significance (MNES).

The South Australian Minister for Planning authorised the release of the Draft EIS for public consultation for a period of 40 working days from 28 March 2019 to 28 May 2019. All submissions were received and collated by the Department of Planning, Transport and Infrastructure (DPTI) before being forwarded to KIPT for consideration.

This document has been prepared to respond to a public submission received from Janice Baird (email address: janicebaird@protonmail.com, dated 28 May 2019, submission ID 1081). Baird made a subsequent submission on the Addendum to the Smith Bay Wharf Draft EIS. The submission focuses on the potential impacts that the revised offshore design may have on the southern right whale (*Eubalaena australis*). The response to this submission is included in the main body of the Response Document (submission ID A75).

The author of the submission raised a number of concerns about the process that was followed to identify relevant matters of national environmental significance (MNES) as listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and how the proponent determined whether any MNES would be significantly affected by the proposal.

This response:

- summarises the arguments in the Baird submission
- identifies KIPT's environmental assessment obligations under the EPBC Act
- refers to the assessment process recommended by the Significant Impact Guidelines 1.1 issued by the Commonwealth Department of the Environment
- details the assessment methods adopted by EBS Ecology and SEA in determining the potential impacts on any MNES from the proposed KI Seaport
- specifies the conclusions drawn from the assessment.

The response rejects the arguments presented by Baird.

This document uses the terms 'controlled action', 'proposal', 'proposed action' and 'proposed development' interchangeably depending on the context.

2. THE BAIRD SUBMISSION

2.1 Summary

Baird's covering letter to the South Australian Minister for Planning summarises her submission as follows:

1. KIPT substantially misrepresented the number of MNES that may be affected by the proposal.
2. Once KIPT was aware of the known, likely, or potential presence of MNEs in the environment that may be affected (EMBA) by the proposal, it had an obligation to carry out detailed surveys, in accordance with best practice standards and DoEE (now DAWE) survey guidelines. KIPT and its consultant, EBS Ecology, substantially failed to fulfill this requirement.

-
3. KIPT and EBS' failure as set out in 3 (sic) above, should be grounds for DPTI and DoEE (now DAWE) to apply the precautionary principle in determining whether MNES are present in the EMBA.
 4. KIPT, for the most part, has failed to evaluate or address the environmental impacts and risks associated with the proposed action in relation to MNES. It has also failed to take into account Significant Impact Guideline 1.1 in relation to making such evaluations.
 5. The proposed development will have a significant impact on MNES in the EMBA.
 6. KIPT has failed to demonstrate that potential impacts and risks of the proposed action have been reduced to as low as reasonably possible (ALARP).
 7. The proposed (sic) is inconsistent with Australia's international obligations under the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), Japan Australia Migratory Bird Agreement (JAMBA), the China-Australia Migratory Bird Agreement (CAMBA), the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA) and the Agreement on the Conservation of Albatrosses and Petrels (ACAP).

2.2 The Approach to Identifying Relevant MNES- Baird's Argument and KIPT's Response

2.2.1 Baird

As a basis for identifying MNES that may be significantly affected by the proposal, Baird adopts the report (Protected Matters Report) (PMR) generated by EBS Ecology through the Protected Matters Research Tool managed by the Department of Agriculture, Water and the Environment (DAWE). EBS Ecology used this report for the purpose of their initial desktop assessment of species that may have a material presence at the project site and its adjacent surrounds (the study area).

Baird adopts the PMR classifications indicating the presence of species within the PMR area – that they 'may', are 'likely' or are 'known' to occur within the PMR area.

For the purpose of determining whether MNES have a relevant presence within the study area (the project site and its surrounds), EBS have taken into account the habitat requirements of species identified from the PMR search and compared these with the environmental conditions of the site. The majority of the 78 species identified for the area defined for the purpose of the PMR search were determined either not to have a material presence¹ within the study area or, where a potential presence was identified, those species were assessed to be unlikely to be affected by the proposal. In the case of each MNES, the basis for these conclusions are summarized in Appendix J-3 of the EIS. Only four MNES were identified as at risk of significant impact.

Baird disputes these conclusions. Her argument appears to be as follows:

- i. once a relevant MNES (species) has been determined to have a presence in the PMR area, it may be inferred that the MNES is present within the study area
- ii. in particular, once a MNES is 'known' or 'likely' to be present within the PMR area (and thus according to Baird, the study area) it is not open to KIPT to determine otherwise based on the environmental conditions of the site and the habitat requirements of the particular MNES (species)
- iii. in any event, KIPT has either omitted or misrepresented relevant information that would indicate a material presence of 43 MNES at the site and its surrounds (the study area).

¹ The term 'material presence' is used here to indicate a pressure that exposes the particular species to at least the likelihood of significant impact from the proposal.

Baird supplies further information from various sources that she claims refutes the KIPT conclusions that all but four MNES have a material presence within the study area.

2.2.2 KIPT

KIPT rejects Baird's arguments. Firstly, they involve an incorrect use of the PMR. That tool assists in the initial desktop studies and broadly identifies the range of species that may be assessed for the purposes of the Act. It does not suggest or confirm the presence of any MNES at a particular site located within the PMR area. Second, it may not be inferred from the use of a PMR that a MNES (species) identified as 'may', as 'known', or as 'likely' to be present within the PMR area is materially present within the study area. Finally, the additional information sources referenced by Baird in support of her conclusion that 43 MNES have a material presence within the study area are generally high-level management plans and/or distribution maps. Information and data from these sources have been attributed by Baird specifically to the study area without any ground-truthing or substantive evidence to demonstrate that the proposal would have a significant impact on any of the 43 species.

Baird asserts that once KIPT was aware of the known, likely or potential presence of MNES in the environment that may be affected, detailed surveys should have been undertaken – presumably in relation to the 43 species identified in her submission as potentially significantly impacted by the proposed action.

As indicated above, Baird's conclusions regarding material presence of 43 MNES in the study area are rejected. Furthermore, as discussed below, neither the Act, the Significant Impact Guidelines nor relevant Survey Guidelines oblige KIPT to undertake field surveys where potentially affected MNES are identified, including the four species identified by KIPT as potentially at risk of significant impact.

The submissions by Baird that the precautionary principle should be applied to this proposal and that international obligations would be breached if the project were approved depend on the validity of her principle assertion that KIPT has substantially misrepresented the number of MNES that may be affected by the proposal. For the reasons provided in this response document Baird's principle assertion is rejected. It follows that the precautionary principle is not relevant and that there is no potential breach of Australia's wildlife conservation obligations under international law.

3. IMPACT ASSESSMENT REQUIREMENTS OF THE EPBC ACT

3.1 Offence- Impact on MNES

The obligation on KIPT, in the absence of approval from the Commonwealth Minister for the Environment, is to not undertake an action that 'has, will have or is likely to have' a significant impact on a MNES. It is an offence to do otherwise. The process to be followed to obtain approval from the Minister is detailed in the Act and addressed in Section 5.

In addition to a lack of approval, there are two fundamental requirements to be met before an offence may be committed: that the damage to an MNES should be at least 'likely' and that any such damage should be 'significant'. With respect to the impacts of a proposed development (an 'action') on fauna and flora protected by the EPBC Act, the impact must be on a listed species, a listed ecological community or a listed migratory species, as the case may be. It will be a matter of fact and degree as to whether the impact on an individual member or population of the species is significant with respect to that species.

3.2 The Referral Process

In the event that there is potential for a proposal to have a significant impact on any MNES, the referral process under the EPBC Act provides for a proposal to be forwarded by the proponent to the Minister for a determination as to whether or not the proposal is a 'controlled action' and, if so, what further assessment is required from the proponent under the Act.

It is at the stage of deciding whether to refer a proposal that the process of identifying potentially affected MNES commences. A decision to refer a proposal to the Minister involves the provision of information enabling him or her to identify at an early stage those MNES that may attract more detailed evaluation.

In considering a referral, the Minister may determine that there are MNES likely to be affected to a significant degree by the proposal and, if so, that it is a controlled action for the purposes of assessment under the EPBC Act. This does not exclude further assessment of any MNES identified in a subsequent environmental assessment process as being at risk. However, it involves an early identification of those MNES most likely to be significantly affected by the proposal. The identification process applied by KIPT is outlined in Section 5.

To assist a proponent in determining whether to refer a proposal to the Minister, the Commonwealth Environment Department has issued the Matters of National Environmental Significance – Significant Impact Guidelines 1.1²

The steps under the Significant Impact Guidelines are:

- i. Determine whether any MNES is located within the area of the proposed action^{3 4},
- ii. If so, is there potential for impact?
- iii. Are there measures that can be taken to reduce the impact to below the ‘significant’ threshold?
- iv. Are any (residual) impacts likely to be significant?

These steps are addressed below.

3.3 What is Meant by ‘located within the area of proposed action’?

The term ‘located’ is not defined in the Significant Impact Guidelines. However, the Macquarie dictionary⁵ defines the term ‘locate’ as meaning, amongst other things, ‘to set, fix, establish in a place, situation or locality’. This would suggest some form of permanent or regular presence of the relevant species in the area of the proposed action.

The term ‘area of the proposed action’ is not defined in either the EPBC Act or the Significant Impact Guidelines. However, the latter states that ‘... the area of the proposed action’ is broader than the immediate location where the action is undertaken...’.

For the purposes of referral to the Minister under the EPBC Act, KIPT therefore defined by coordinates a study area substantially larger than the immediate location of the several onshore and offshore elements comprising the proposed action. The geographical extent of the study area is discussed further in Section 5.3.1.

3.4 The Type and Degree of Impact Required – A ‘Significant’ Impact

The term ‘impact’ is defined in the EPBC Act as follows:

For the purposes of this Act, an event or circumstance is an impact of an action taken by a person if:

- (a) the event or circumstance is a direct consequence of the action; or
- (b) for an event or circumstance that is an indirect consequence of the action the action is a substantial cause of that event or circumstance.⁶

² Australian Government. Department of the Environment. 2013. Matters of Environmental Significance – Significant Impact Guidelines 1.1, Environment Protection and Biodiversity Conservation Act 1999.

³ Necessarily larger than the project-specific site area.

⁴ Protected Matters Search assists – but covers a broad area and is not definitive of the presence of identified species at the site proper.

⁵ Macquarie Dictionary Online. 2019. <https://www.macquariedictionary.com.au/>

⁶ Environment Protection and Biodiversity Conservation Act 1999, section 527E,

The term 'significant impact' is not defined in the EPBC Act or the Regulations. Instead the Commonwealth has published the Significant Impact Guidelines referred to above to assist in determining whether a proposed development may have a significant impact on any relevant MNES. The Guidelines at page 2 state:

A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts.

These are guidelines only and are not binding on any proponent. They are published to assist proponents and others to comply with the EPBC Act. Whilst the Guidelines will normally be relied upon by a proponent, they are neither mandatory nor exclusive.

As indicated above, a potentially significant impact must be at least likely in order to warrant referral to the Commonwealth Minister for the Environment. The EPBC Act does not define the term 'likely' in the context of a potential impact. However, the Significant Impact Guidelines define the term as follows:

'To be 'likely', it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility'.⁷

KIPT has adopted the above definition in determining the likelihood of significant impact on species materially present within the study area. In applying the above terms, the EIS has concluded that there are only four MNES, as declared by the then Minister for the Environment and Energy, and not any additional species, that required detailed attention as part of the assessment process for the proposed KI Seaport.

3.5 When is a Detailed Site Survey Appropriate?

At some stage in the referral process and any subsequent assessment, a detailed site survey may be necessary to determine a species' presence or absence at a site and the significance of the site for any species, populations of which are determined to be present.

However, neither the EPBC Act nor the Significant Impact Guidelines require that once an MNES (in this case listed threatened species and listed migratory species) is known to be present, is likely to be present or is potentially present⁸ within an area of a proposed action, detailed field studies or surveys must be undertaken with respect to every species so identified. The Survey Guidelines for Australia's Threatened Birds⁹ state, for example:

Alternatives to a dedicated survey may also be appropriate. For example, a desktop analysis of historic data may indicate that a significant impact is not likely. Similarly, a regional habitat analysis may be used to determine the importance of a site to the listed birds. (see Guidelines, page 1).

The nature of that presence (permanent, transient, temporary, seasonal etc.) will contribute to determining the potential for significant impact by the proposed development on those identified species and will assist in determining whether the proposal warrants further assessment under the Act. If so, the various Survey Guidelines published by the Commonwealth Environment Department will assist in more detailed evaluation of whether a target species is present, absent or in low abundance in a project area.¹⁰

⁷ See Significant Impact Guidelines, page 3.

⁸ See Baird Submission, Covering Letter, page 1.

⁹ See Baird Submission, Covering Letter, page 1.

¹⁰ Survey Guidelines for Australia's Threatened Birds, DEWHA, 2008, page 3.

3.6 The Precautionary Principle

Baird suggests that the method adopted by EBS warrants DPTI and DoEE (now DAWE) applying the precautionary principle in determining whether MNES are present in the EMBA. As one of the principles of ecologically sustainable development (ESD), the EPBC Act states the precautionary principle as follows:

*If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*¹¹

The Commonwealth Minister for the Environment is required to take into account the principles of ESD, including the precautionary principle, in deciding whether to approve a proposed action and, if so, what conditions should apply.¹²

On behalf of KIPT, EBS have undertaken a rigorous, scientific assessment to determine whether or not, and if so, to what extent, the proposed KI Seaport is likely to have a significant impact on any MNES – in this case relevant listed threatened or listed migratory species.

In light of the careful and thorough approach taken by EBS, their conclusions are clear and defensible. Consequently, the application of the precautionary principle is unnecessary and inappropriate.

3.7 Summary- Identifying Relevant MNES

Identifying relevant MNES (in this case listed threatened and listed migratory species) is critical to determining whether a proposed action should be referred to the Commonwealth Minister for the Environment for a decision as to whether it is a controlled action thus warranting further assessment of its potential impacts.

The EPBC Act does not prescribe the methods that should be applied in assessing whether any MNES is likely to be significantly impacted by a proposed action. A variety of factors will be taken into account including identifying whether any members or populations of the MNES are in any material sense located within or in proximity to the site of the proposed action. If so, the nature of that presence (for example, transitory, permanent or regular) will be considered and in the light of this, the potential for the proposed action to have a significant impact on the particular species as a whole, will be relevant.

The temporary, incidental or transient presence of a species in proximity to the site of a proposed action may be of a type that can, relying on existing data, be reasonably determined to be unlikely to be affected by the proposed action.

That a species (or members or relevant populations) is accepted as being located within the area of the proposed action (the study area) does not necessarily require the undertaking of site surveys with respect to the species. Other existing information may be adequate to assist in assessing the nature of that presence and the potential for significant impact on the species.

From inception, KIPT has determined, using existing relevant information and additional site data, that there are four MNES with the potential to be significantly affected by the proposed action. The proponent has concluded that in three cases the proposed KI Seaport will not have a significant impact on the relevant species. In one instance, (the Kangaroo Island Echidna) there is potential for residual significant impact that requires an offset under the EPBC Act.

¹¹ Environment Protection and Biodiversity Conservation Act, 1999, section 3A

¹² Environment Protection and Biodiversity Conservation Act, 1999, section 136(2).

4. INTERNATIONAL OBLIGATIONS

Baird suggests that in approving this proposal the Commonwealth Minister for the Environment would breach section 140 of the EPBC Act. That section requires that in determining whether to approve a proposed action and, if so, what condition to apply, the Minister must not act inconsistently with obligations imposed by a range of international treaties seeking to protect migratory animals, particularly migratory birds, to which Australia is a party.¹³ Australia is a party to JAMBA, CAMBA, ROKAMBA, ACAP and the Bonn Convention. Australia must list under the EPBC Act all birds included in annexes to the first three conventions and has obligations to protect those listed in Appendices I and II of the Bonn Convention and ACAP.

Baird's assertion that approval of the proposed Seaport would breach section 140 of the EPBC Act, relies on the assumption that the species referred to have a relevant 'presence' in the study area and that, further, the proposed development would damage birds protected by the various treaties.

As indicated in the Draft EIS (Appendix J-3), through EBS, KIPT have identified no listed migratory bird species with a material presence within or in proximity to the study area. The majority of listed species, including migratory species, have been assessed as 'not present', 'unlikely to be present' or 'potentially present but unlikely to be affected by the proposal'. On this basis, there would be no breach of Australia's international obligations to protect migratory bird species should the proposal be approved.

5. IMPACT ASSESSMENT PROCESS- SMITH BAY WHARF

Figure 1 provides a diagrammatic representation of the impact assessment process that was adopted for the Smith Bay Wharf EIS. The following sections of text provide further description of the process followed during the development of the Draft EIS.

Wherever possible, KIPT adopted definitions published by government sources and/or other industry bodies.

The steps under the Significant Impact Guidelines referred to in Section 3.23.2 are stated to apply to the referral process. However, the DAWE website contains the following:

*The significant impact guidelines provide overarching guidance on determining whether an action is likely to have a significant impact on a matter protected under national environmental law – the Environment Protection and Biodiversity Conservation Act 1999*¹⁴

On this basis, the methods adopted by EBS and SEA on behalf of KIPT for assessing the potential for significant impact on any MNES from construction and operation of the proposed seaport reflect the requirements of the Significant Impact Guidelines and are addressed below in the context of the stages identified in Section 3.2.

¹³ Convention on the Conservation of Migratory Species of Wild Animals, opened for signature 3 June 1992, 331 UNTS 327 (entered into force 21 March 1994) (the Bonn Convention); Japan-Australia Migratory Bird Agreement, developed 6 February 1974 (entered into force 30 April 1981) (JAMBA); China-Australia Migratory Bird Agreement, developed 20 October 1986 (entered into force 1 September 1988) (CAMBA); Republic of Korea-Australia Migratory Bird Agreement (entered into force 13 July 2007) (ROKAMBA); Agreement on the Conservation of Albatrosses and Petrels (entered into force 1 February 2004) art 3(1)(a) (ACAP).

¹⁴ <http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance>

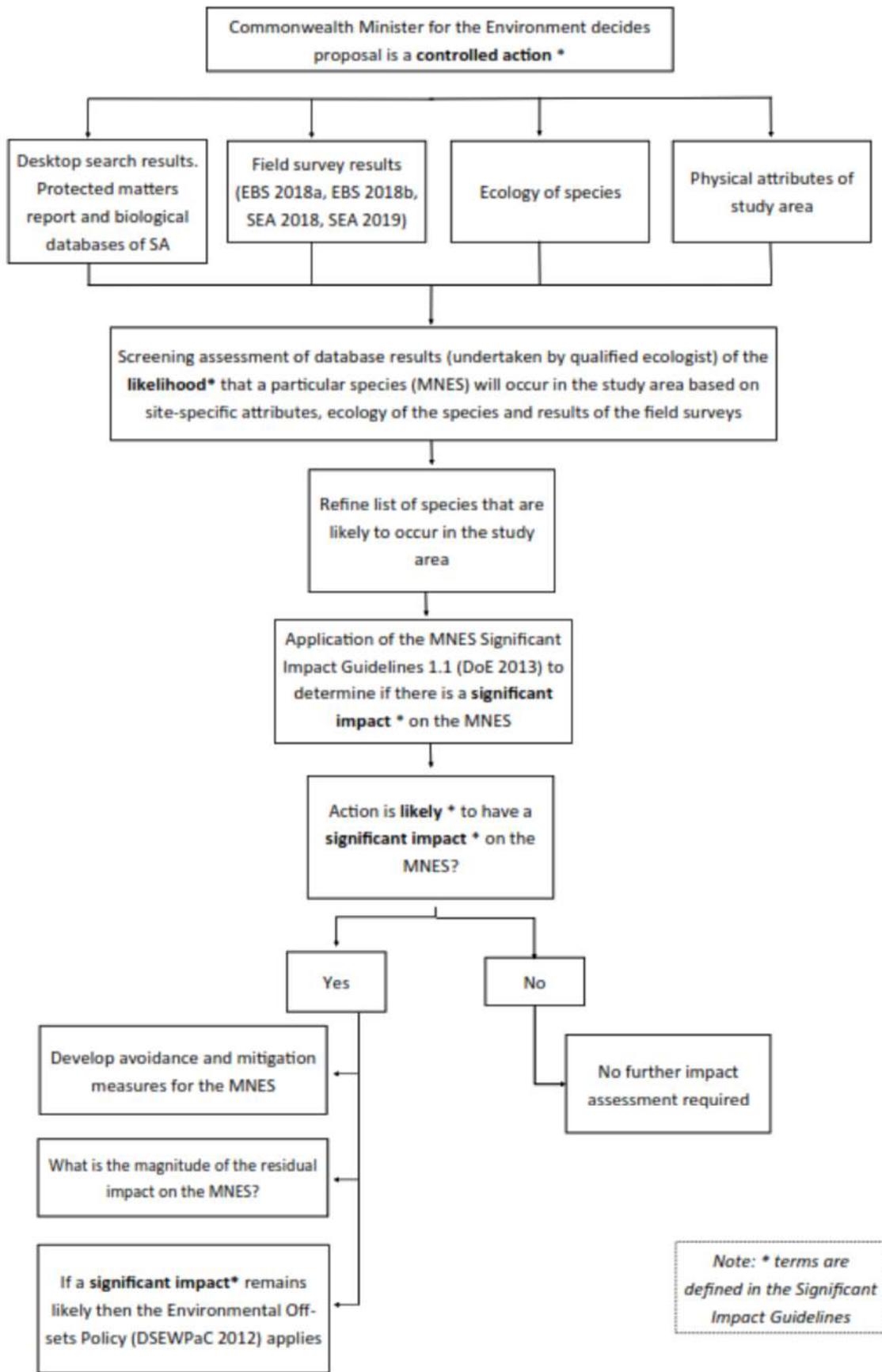


Figure 1: Impact assessment process flowchart

5.1 Define the ‘action’

Chapter 4 of the Draft EIS provides a description of the proposal, i.e. the KI Seaport. As described in Section 4.4.1 of the Draft EIS, the key project components include a deep-water wharf suitable for loading logs and woodchips into Panamax vessels, with the option to load onto smaller Handymax vessels as required. The key components also include associated onshore facilities necessary for the storage and handling of timber and timber products. Table 4-3 of the Draft EIS provides additional details about the key project components.

The action is defined in the EPBC referral as follows:

Following a recently announced acquisition, Kangaroo Island Plantation Timbers Ltd (KIPT) will own and manage approximately 19,500 ha of timber plantations on Kangaroo Island, much of which is either already mature or is approaching maturity. In order to export harvested plantation timber to overseas markets KIPT proposes to build a deep-water wharf at Smith Bay on the north coast of Kangaroo Island (Figure1). There is no such facility on the island at present. The facility will consist of a hard stand causeway extending approximately 200 m into the sea to a floating pontoon berth whose outer edge will be positioned at the 10 m depth contour (i.e. approximately 230 m from shore). It is not anticipated that specialised equipment will be required at the wharf as logs will be loaded by ships’ cranes. Timber will be stockpiled on-shore adjacent to the wharf facilities over an area of approximately 5.6 ha.

Ancillary services will include power, water, septic/sewerage facilities, telecommunications and security. Harvested timber will be transported to the wharf via public roads using semi-trailer trucks. KIPT is committed to developing the wharf as a multi-user, multi-cargo facility. Other freight, which is likely to be containerised and/or carried as deck cargo, will also be loaded using ships’ cranes. It is anticipated that log ships would use the wharf for about 50 to 75 days a year and would have priority over other vessels. The proposed development is considered to be of major economic and social importance to not only Kangaroo Island, but to South Australia.

The referral was originally submitted in July 2016 and over the course of the life of the project the proposed action description was refined to:

- remove specified construction timeline dates to reflect the understanding that the project timelines would be informed by relevant approval processes
- reduce the timber product storage area
- add woodchip to the type of timber products to be stored and exported
- clarify the use of the term ‘genuine multi-user’ facility
- remove the use of the port by cruise ships
- remove the establishment of a public boat ramp
- clarify that timber products includes both log and woodchip
- increase timber production rate figures, include the potential use of high productivity vehicles, include Panamax size vessels (in addition to Handymax size), clarify shipping rates and change expected use of the port for timber export from 50-75 days to 30-75 days per year to reflect the purchase of additional mature plantations
- remove the causeway, include an extended piled-jetty structure further out to sea, and remove the requirement for dredging and reduce offshore footprint.

Correspondence was provided to DoEE (now DAWE) in late 2019 which presented an assessment of the changes (as required under the EPBC Act). Refinements made to the project description (proposed action) were detailed in the Addendum to the Smith Bay Wharf Draft EIS which was submitted to the Minister for Planning in October 2019.

5.2 EPBC Referral to Commonwealth Minister

A referral was submitted to the Commonwealth Minister for the Environment and Energy in July 2016. The proposed action presented in the EPBC referral is described in full in section 2.1 of Appendix K-1 of the Draft EIS.

The Minister determined (EPBC no.2016/7814 and Appendix A-4 and K-4 of the Draft EIS) that the proposed action is likely to, or may have, as the case may be, a significant impact on the following MNES:

- southern right whale (*Eubalaena australis*)
- Kangaroo Island echidna (*Tachyglossus aculeatus multiaculeatus*)
- hooded plover (eastern) (*Thinornis rubricollis rubricollis*)
- southern brown bandicoot (eastern) (*Isoodon obesulus obesulus*).

In December 2016, KIPT was notified by the Department of the Environment and Energy that their proposal was a controlled action for the purposes of the EPBC Act. In February 2017 it was determined under the South Australian Development Act that an EIS would be required. In the context of the Commonwealth Significant Impact Guidelines 1.1, the assessment process undertaken by KIPT is summarised in the following sections.

5.3 Significant Impact Guidelines Step 1: Determine whether any MNES are located within the area of the proposed action

5.3.1 Define the study area

Terminology

Item 2 of Baird's submission refers to the term 'environment that may be affected' or EMBA. This terminology is not geographically defined in Baird's submission nor is it used in the EIS Guidelines or the Significant Impact Guidelines.

The terminology used throughout the Draft EIS is 'study area'. Various study areas are defined in the Draft EIS from a project perspective (Certificate of Title references), for the purpose of terrestrial flora and fauna assessments and by GPS locations for the marine ecology assessments.

Importance of defining the study area

The selection of appropriate study areas and boundaries is critical to the process of accurately identifying those listed threatened and migratory species that are likely to be significantly impacted by a proposed action. A study area must be sufficiently large so as to not unreasonably exclude species from the process but not so large as to include species that could not reasonably be considered by virtue of their location as potentially affected by the proposal.

The EIS team has carefully defined the terrestrial and marine study area (the area of proposed action – see Significant Impact Guidelines) for the purpose of identifying those MNES that may be significantly affected by the proposal from an initial desktop survey with a radius of 10 km from the project site. The study area has been identified in conformity with the Significant Impact Guidelines and the EIS Guidelines.

The approach adopted

The identification of both the terrestrial and marine study areas followed the initial desktop surveys that used a 10 km radius from the project site. The study areas are described as the immediate footprint of the proposed action plus an area extending beyond the footprint, taking into account potential emissions and discharges and the likely receptors. Since the study areas were initially defined for the purpose of referral to the then Commonwealth Minister for the Environment and Energy they have been extended for the reasons presented in the following section.

The study area on referral and subsequent refinement

For the purposes of the EPBC referral, KIPT defined by coordinates an onshore and offshore 'study area'. As required by the EIS Guidelines, the surrounding areas were identified as the parcels of land immediately adjacent to the study area.

Table A5 (Appendix A of this document) provides the coordinates of the study area as presented in the original EPBC referral (Appendix K-1 of the Draft EIS). Figure 2 shows the former coordinates in red.

Figure 2 also shows new offshore coordinates (red with white centres) as per the updated EPBC referral that followed receipt of comments on the Draft EIS and modification to the proposal. (See Table A5 and Table A6 in Appendix A).

The terrestrial study areas have not altered as a consequence of the offshore revision and remain as described in the Draft EIS.

The study areas adopted for the EPBC referral and the variation to the referral were generously defined based on industry best practice.

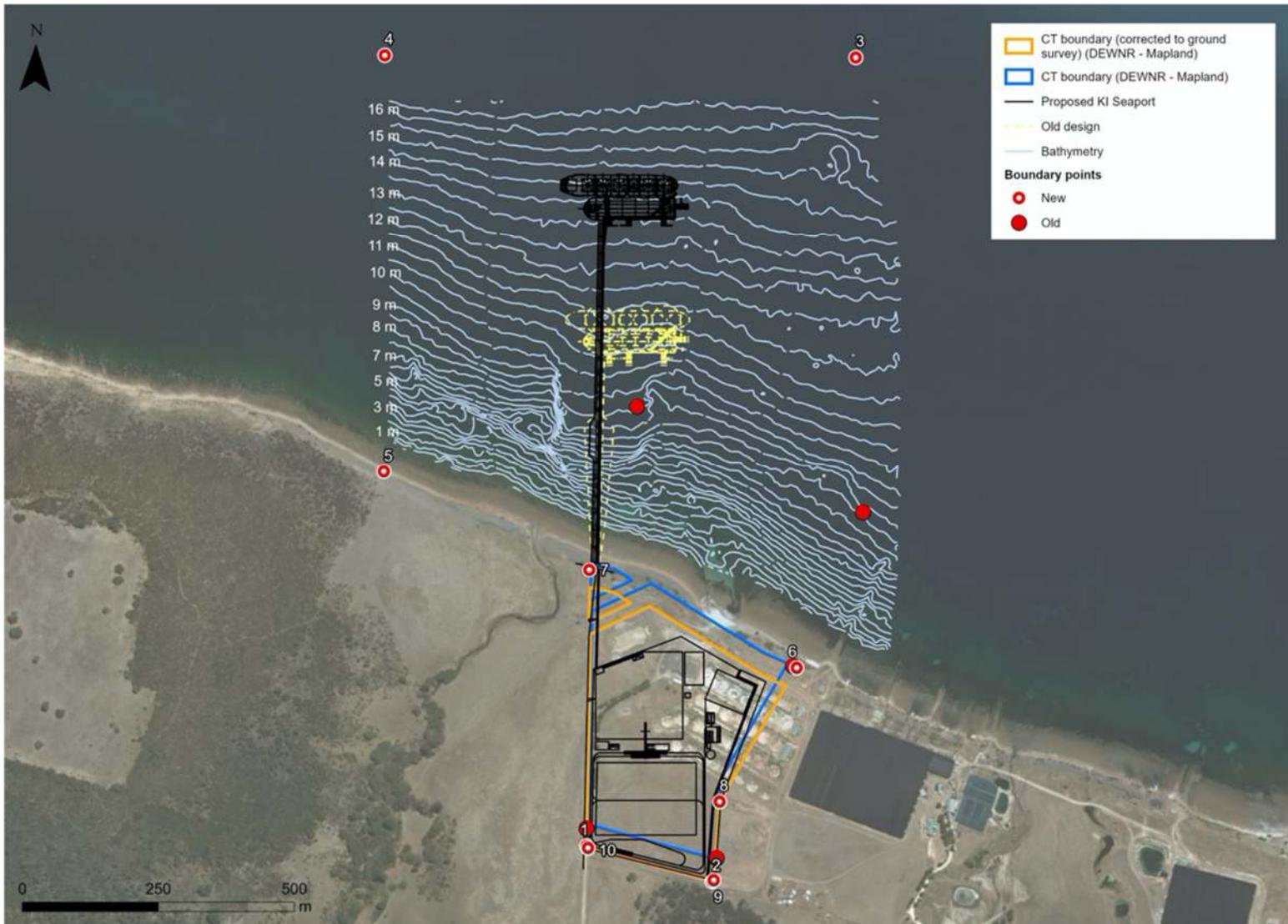


Figure 2: Project boundary (Location points 1-10)

Terrestrial study area- preparation of the EIS

The terrestrial study area boundaries for the proposal differ depending on the purpose of three different components of the terrestrial studies.

The land-based study area adopted for the initial database searches was defined as Allotments 51 and 52, Certificate of Title Volume 6127, Folio 273 (see Figure 3). This area was selected on the basis that any immediate and significant impacts were likely to arise from construction activities on the project site. However, as discussed below (see Section 5.3.2 and Appendix B) for the purposes of initial identification of species that could potentially be found in the study area, a 10 km radius from the land-based study area was adopted.

The terrestrial component of the study area, for the purposes of the 2016 field survey undertaken by EBS Ecology (EBS 2018a), was larger than Allotments 51 and 52 in order to address potential impacts on the environmental values of adjacent coastal allotments and to map the vegetation of the coastal foreshore which overlaps with Crown Reserve Allotments 361, 362, 467 and 471. Vegetation associations mapped during the field surveys are shown in Figure 13-3 of the Draft EIS.

The 2018 terrestrial vegetation survey (EBS 2018b) covered the area defined by Certificate of Title, Volume 6096 Folio 131, Hundred of Menzies, Deposited Plan 110800 (see Figure 4). This parcel was surveyed to address EIS Guideline 1.3, requiring the proponent to describe the environment and management practices of the surrounding areas and other areas that may be affected by the proposal. The EIS Guidelines do not define the terms 'surrounding area', or 'other areas that may be affected by the proposal', nor does any of the published material by DAWE that relates to EPBC assessment. Therefore the impact assessment has assumed the surrounding area to be defined as the parcel of land immediately adjacent to the study area which is defined in Figure 6-1 of the Draft EIS and reproduced as Figure 3 in this document. The vegetation mapped is shown as Associations 6 and 7 in Figure 13-3 of the Draft EIS.

Therefore, the entire terrestrial study area ultimately comprised:

- Allotments 51 and 52, Certificate of Title Volume 6127, Folio 273
- Allotment 361, Crown Record Volume 5754, Folio 946
- Allotment 362, Crown Record Volume 5744, Folio 565
- Allotment 467 Crown Record Volume 5754, Folio 947
- Allotment 471 Crown Record Volume 5744, Folio 574.

This study area is shown in Figure 6-1 of the Draft EIS.



Figure 3: The designated or study area



Figure 4: Surrounding area assessed to meet EIS Guideline 1.3

Marine study area

Section 3 of Appendix I-1 (of the Draft EIS) describes the locations of the three separate marine field surveys undertaken in 2016, 2017 and 2018 respectively. These lie within the original study area defined for the purpose of the referral. An additional marine survey was undertaken in September 2019 for the Addendum to the Smith Bay Wharf Draft EIS (see Appendix C-2 of the Addendum to the Smith Bay Wharf Draft EIS).

The initial surveys traversed the Smith Bay site (i.e. the direct footprint of the then proposed marine infrastructure and the surrounding area as well as the dredged approaches and the berthing pocket) (See Appendix A – Table A5 and Figure 5).

Following the release of the Draft EIS and receipt of public and government submissions, KIPT modified the design of the marine infrastructure. Reflecting these changes, the marine survey undertaken in 2019 adopted new coordinates and GPS markers as presented in Appendix A, Table A6, Table A7 and Figure 5.

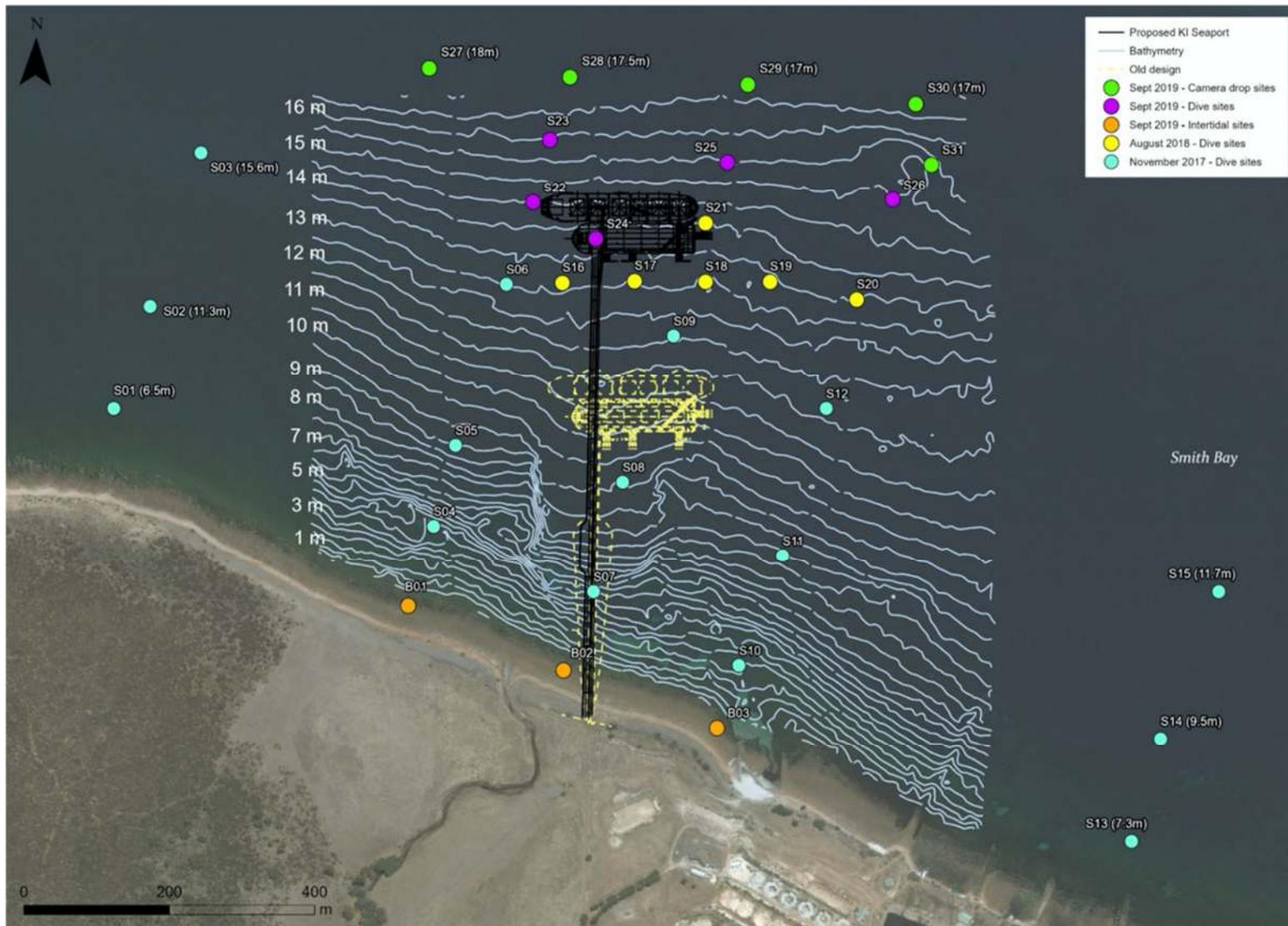


Figure 5: Location of marine and intertidal survey sites in Smith Bay

Conclusion

The study areas identified for the purposes of determining the potential for significant impact on any MNES have been rigorously defined. The assessments conducted for the Draft EIS are considered robust and spatially adequate to assess potential impacts on MNES from the proposed development.

5.3.2 Identifying relevant MNES

Database searches

The following database searches were undertaken to develop a list of listed species that have the potential to be found in the study area for both marine and terrestrial components. This is an essential but preliminary step in determining those MNES that may be significantly impacted by the proposed development.

Protected Matters Search tool

The protected matters search tool can be used to generate a report that will help determine whether MNES or other matters protected by the EPBC Act are likely to occur in a specific user-defined area of interest. As indicated in Section 3.3, the tool is maintained by the Department of Agriculture, Water and Environment (DAWE). As stated on the DAWE website, the search results are general and...

*'Any information provided through this facility is indicative only, and local knowledge and information should also be sought where possible'*¹⁵

This tool is designed to assist members of the public to search for matters protected under the EPBC Act. The user will select an area, which can be a point, line, extent or a polygon, and then define a search radius. The tool then generates a list of protected matters that may occur in or near the area.

The tool draws from many data sources which include mapped locations of World Heritage properties, Ramsar wetlands, threatened, migratory and many marine species, threatened ecological communities and protected areas. Further detail on data sources, their degree of resolution, information sources and details on the components of a protected matters search report is provided in Appendix B.

Depending on the size of the of the area searched and the level of detail available, the report generated will provide early assistance to anyone proposing a development (i.e. a proponent) to determine whether their development is likely to significantly affect any MNES and consequently require referral for consideration of whether or not it warrants assessment and approval under the EPBC Act.

For the purposes of the Smith Bay Wharf EIS, a Protected Matters Search report was generated, using a 10 km buffer from the study area to identify any MNES under the EPBC Act that may occur or may have suitable habitat occurring within the study area.

The 10 km radius for an EPBC Protected Matters Search is considered an appropriate industry standard when completing a search of the database and was adopted for both terrestrial and marine components.

¹⁵ <https://www.environment.gov.au/epbc/protected-matters-search-tool>

Biological Databases of South Australia (BDSA)

The BDSA comprises an integrated collection of corporate databases which meet the SA Department for Environment and Water (DEW) standards for data quality, integrity and maintenance. The BDSA is a central access point for all biological data within South Australia. The database is publicly accessible via NatureMaps (www.naturemaps.sa.gov.au) and Atlas of Living Australia (www.ala.org.au).

The BDSA also contains copies of datasets from partner organisations including Birdlife Australia and the SA Museum.

Outputs of the BDSA provide an indication of the existing and historic flora and fauna that have been found in a specific area. The Atlas of Living Australia generates maps for the area of interest indicating the location of survey records (i.e. presence) and data can also be exported in list format. NatureMaps will also generate a map of survey records and can export this data into spreadsheet format.

Components of the BDSA include:

- survey data
 - floristic and structural composition of the site
 - physical attributes
 - survey effort
 - vertebrate fauna
- historic South Australian government species lists for reserves and public land
- roadside vegetation survey data
- plant population data including threatened species abundance and distribution information
- information on physical plant specimens held by the SA State Herbarium.

A search of the BDSA was generated using a 10 km buffer from the study area (as used for the Protected Matters Search) to identify flora and fauna species previously recorded within and around the project area. The 10 km radius was used for the BDSA search to reasonably limit the number of marine species records that would be produced by having a wider search radius.

5.3.3 A screening process- Gathering additional information on the ecology of species

Additional background information on species that are considered likely to occur in the study area (determined from the database searches) was undertaken. Reputable data sources were used to provide additional information on species that were identified during the database searches and literature review. Resources typically include:

- ecology textbooks
- SPRAT profiles – Species Profile and Threats Database which is managed by DAWE
- other peer reviewed scientific journal articles or published resources
- management plans
- State government websites and published material.

Several published sources were used to identify listed marine species as described in Section 12.3.2 of the Draft EIS.

Literature review

A literature review of marine fauna, seagrasses, macroalgae and marine habitats recorded in the vicinity of the development was undertaken to identify:

- under the EPBC Act:
 - listed threatened species
 - listed migratory species
 - listed marine species
- under the National Parks and Wildlife Act 1972
 - native plants
 - protected animals
- under the Fisheries Management Act 2007
 - protected species

Determining the physical attributes of the study area

Prior to the terrestrial field surveys being undertaken, aerial photography was reviewed to develop an understanding of the general site conditions and the level of vegetation cover to expect when undertaking the field survey. Figure 1-4 of the Draft EIS shows the degraded condition of the terrestrial component of the study area and the remains of previous on-land aquaculture operations.

5.3.4 Designing the survey methodology and implementation

Collating all the existing desktop background information, the survey methodology was then developed for the Smith Bay study area(s).

Survey guidelines

The Commonwealth Department of Agriculture, Environment and Water (and its predecessors) has produced a number of guidelines on field survey methodology. These include:

- Survey guidelines for Australia's threatened mammals Guidelines for detecting mammals listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (DSEWPaC 2011b)
- Draft survey guidelines for Australia's threatened orchids: Guidelines for detecting orchids listed as 'Threatened' under the *Environment Protection and Biodiversity Conservation Act 1999* (DoE 2013)
- Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the EPBC Act (DEWHA 2010)

The application of these survey guidelines helps to determine the presence or the probability of presence of relevant listed species. However, as indicated above (see Section 3.5) these guidelines are not mandatory.

Site-specific conditions were used to develop and refine the survey methodology adopted for the Draft EIS. Published guidelines that were used for the terrestrial field surveys are provided in Table 1.

Table 1: Survey guidelines adopted for the Smith Bay

Survey	Guideline adopted	Comments
EBS Ecology 2018a – field survey undertaken in August 2016	Draft Guide to the Roadside Vegetation Survey Methodology for South Australia (Stokes et.al. 2006)	Adopted for use in the study area. These guidelines were considered industry best practice at the time of the field survey (2016) Field observations such as echidna diggings, overhead observations of white-bellied sea-eagles were also recorded and incorporated into the survey report (see Figure 15 of Appendix J-2 of the Draft EIS)
	The New Atlas of Australian Birds (Barrett et al. 2003)	Birds were opportunistically recorded in the study area and immediate surrounds. This resource was used to identify the species
	Kangaroo Island narrow-leaved mallee (<i>Eucalyptus cnerifolia</i>) Woodland: a nationally protected ecological community guideline (DoE 2014)	Assessment of vegetation along Freeoak Road within the Public Road Reserve (see vegetation association 5 shown on Figure 13-3 of the Draft EIS) Vegetation assessed to meet the requirements of Guideline 1.3
EBS Ecology 2018b – field survey undertaken in February 2018	The Native Vegetation Council (NVC) Bushland Assessment Manual (Government of SA 2017)	Assessment of vegetation surrounding the study area, described as Section 326, CT6096/131. See vegetation association 6 and 7 as shown in Figure 13-3 of the Draft EIS Vegetation assessed to meet the requirements of Guideline 1.3

Field Survey 2016

EBS Ecology conducted a field survey in August 2016 to validate and verify the database search results.

As described in Section 13.3.2 of the Draft EIS, the following information was recorded for the study area:

- flora species (identification to species level where possible)
- identification of vegetation communities
- location and coverage (metres or hectares) of each vegetation association using hand-held GPS
- photographs of each vegetation association.

The adopted methodology for the field survey (fauna) focused on identifying potential fauna habitat and then recording any fauna observed in that particular habitat type. Birds were opportunistically recorded and identified using The New Atlas of Australian Birds (Barrett et al. 2003).

As described in Section 13.3.2 of the Draft EIS, the following activities were undertaken during the fauna survey:

- mapping of a general search of each vegetation association
- recording of numbers of individual fauna species observed opportunistically
- recording of activity (including signs of fauna) and location of the individual fauna species, observed opportunistically.

Field survey 2018

EBS Ecology conducted an additional field survey in February 2018 to assess the vegetation to the south of the study area as required by Guideline 1.3. The survey methodology was in accordance with the Native Vegetation Council's (NVC) Bushland Assessment Manual (Government of SA 2017).

The Kangaroo Island narrow-leaved mallee (*Eucalyptus cneorifolia*) is a nationally protected threatened ecological community (TEC) and was assessed using the criteria provided in the 'Kangaroo Island narrow-leaved mallee (*Eucalyptus cneorifolia*) Woodland: a nationally protected ecological community' guideline (DoE 2014).

This patch of vegetation met the criteria and is therefore a threatened ecological community. The Draft EIS acknowledges the presence of this TEC (see Figure 13-3).

An accredited EBS Ecology consultant, endorsed by the South Australian Native Vegetation Council (NVC), conducted the field surveys in August 2016 and February 2018.

Migratory bird species

The 'DoEE EPBC Act Policy Statement 3.21 Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species' has been issued by the Commonwealth to 'assist proponents in avoiding, assessing and mitigating significant impacts on migratory shorebirds listed under the EPBC Act'. Again, this is not a **mandatory** survey requirement.

Based on the activities associated with the proposal, the location of the development, the spatial extent of potential impacts and the likelihood of migratory bird species being present in the study area, it was not considered necessary to conduct dedicated surveys for migratory bird species. However, other data sources were used including personal communication from Dr Grainne Maguire of Birdlife Australia who provided information on the biennial count data for Smith Bay in relation to records of the hooded plover (eastern).

Marine survey methodology

Section 12.3.1 of the Draft EIS provides a detailed description of the methodology used during the three surveys to describe the benthic communities (organisms that live on the bottom surface or in the sediments) in the study area (SEA 2018 and SEA 2019). There are no specific marine survey guidelines that need to be adopted when completing marine surveys. The method adopted by SEA was designed to efficiently and thoroughly characterise the benthic communities in the study area, including seagrass, macroalgae and invertebrates, at an appropriate scale and level of replication. It was undertaken by a marine scientist who has undertaken more than a thousand similar surveys and is experienced in field identification of benthic communities. The methodology was based on the Reef Life Survey program (Reef Life Survey 2015) and is considered industry best practice.

Conclusion

The survey methodologies adopted for the terrestrial and marine components of the study area are considered adequate based on the site-specific conditions and the nature of the proposed development. The outcome of this element of the impact assessment process ensured that all species with the potential to be present within the study area were identified for the purposes of determining whether they are in fact likely to be present.

5.4 Significant Impact Guideline Step 2: Is there potential for impact on any MNES?

5.4.1 The principle factors

Whether or not listed threatened species or listed migratory species under the EPBC Act may be significantly impacted by a proposed development will depend principally on two factors:

- whether the species (or representatives of) is likely to be present in any material sense within the study area and its surrounds and
- the potential for significant impact from the development on that species.

5.4.2 Determining the likelihood that a species will be present in the study area

The database searches, particularly the use of the PMR and the BDSA, identified 78 species listed under the EPBC Act that had a known distribution within the search area (using a 10 km radius from the site) or species for which a presence can be inferred. The assessment then required consideration of the likelihood of any of those species being present in the study area.

The following parameters were used to determine the likelihood that a species would be present in the terrestrial study area:

- database search results which include historical survey results
- previous land-use
- habitat requirements for that species
- site-specific conditions at Smith Bay.

This assessment was undertaken by a suitably experienced and qualified scientist. The impact assessment process also considered the mobility of each species, their range (i.e. the area that they use to forage, nest, breed etc.) as well as their distribution in the study area (how often they had been recorded in the study area). Four species (those identified by the EPBC referral decision EPBC/2016/7814) were confirmed as likely to be present within the study area.

5.4.3 Determination of a Significant Impact

The Significant Impact Guidelines (DoE 2013) list significant impact criteria for MNES which vary depending upon the conservation status of the MNES. Of relevance to the four species identified as likely to be present within the study area (the southern right whale, the Kangaroo Island echidna, the hooded plover (eastern) and the southern brown bandicoot (eastern)) are those significant impact criteria prepared for critically endangered and endangered species and for vulnerable species.

The following definitions were adopted for the impact assessment as described in the Draft EIS. The definitions are taken from the Significant Impact Guidelines (DoE 2013).

Action – is defined broadly in the EPBC Act and includes: a project, a development, an undertaking, an activity or a series of activities, or an alteration of any of these things

Indirect and offsite impacts – include a) downstream or downwind impacts b) upstream impacts and facilitated impacts which result from further actions which are made possible or facilitated by the action.

Significant impact – is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value and quality of the environment

which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. You should consider all of these factors when determining whether an action is likely to have a significant impact on matters of national environmental significance.

When is a significant impact likely? – to be 'likely' it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility (see Section 3.4).

All relevant aspects of the action were assessed against the significant impact criteria to determine if the action was likely to have a significant impact on any of the four identified MNES considered **likely** to occur in the study area. The relevant significant impact criteria were then applied to each of the MNES. See Table 14-4, Table 14-6, Table 14-8 and Table 14-10 of the Draft EIS.

5.4.4 Assessment outcomes

General

The proposed Seaport was referred to the Commonwealth which determined that the proposal had the potential to significantly impact upon four MNES as listed in the referral decision (EBPC/2016/7814). The assessment subsequently undertaken by KIPT for the purposes of preparing this EIS identified no further MNES with the potential to be significantly affected by the proposal.

Migratory bird species

The impact assessment for migratory bird species that were identified in the database searches is presented in Appendix J-3 (Appendix J-3 – MNES Impact Assessment – Flora and Fauna) of the Draft EIS.

Migratory bird species were described as 'marine, pelagic, aerial species' in Appendix J-3. The word pelagic is defined as 'living at or near the surface of the ocean, far from land, as certain animals or plants' in the Macquarie Dictionary. The marine footprint of the proposed development is approximately 1.6 ha.

It is acknowledged that Kangaroo Island does support an interesting, diverse and relatively pristine marine ecosystem. It is concluded from the EIS studies that the proposed development will have only a very minor impact on the marine environment in the immediate vicinity of the wharf. There will be no impacts on biodiversity beyond the immediate vicinity of the wharf. Smith Bay is not considered to be a unique environment along the northern coastline of Kangaroo Island. The likelihood that any of the migratory bird species would be present in the study area (during construction or operation) is low, there is no significant habitat in the study area or in close proximity to the study area (including breeding or nesting sites) therefore there was no requirement to assess these species any further. See also Section 6 of this document.

5.5 Significant Impact Guidelines Steps 3 and 4: Mitigation measures and residual impacts

Section 5.5 describes the component of the impact assessment process that addresses steps 3 and 4 of the Significant Impact Guidelines: Are there measures that can be taken to reduce the impact to below the 'significant threshold'? Are any (residual) impacts likely to be significant?

5.5.1 Mitigation measures

General and as-required species-specific mitigation measures were developed for flora and fauna species that may be impacted by the proposal. A draft Construction Environmental Management Plan and draft Operational Environmental Management Plan were included in the Draft EIS as Appendix U. These management plans will be finalised once development approval has been received.

A number of specific management plans will also be developed in conjunction with the relevant government agencies, including the Biosecurity Management Plan and the Marine Pest Monitoring Plan.

Mitigation measures have been addressed with respect to all four MNES identified through the assessment process as being potentially at risk of significant environmental harm.

The mitigation measures proposed in the Draft EIS are in accordance with industry best practice and any species-specific advice that may have been obtained from government agencies and/or experts. For example, with respect to the Kangaroo Island echidna, numerous discussions were held with Dr Peggy Rismiller from the Pelican Lagoon Wildlife and Research Centre. Dr Rismiller and her colleagues have undertaken considerable research into echidnas, which includes investigating echidna deaths and extends to echidnas that are the subject of roadkill as reported through the Echidna Watch program. The Centre's work includes numerous studies on ecology, behaviour and conservation and has been used as a resource for the impact assessment process.

5.5.2 Outcomes

Of the four species on which the Minister based his decision that the KI Seaport proposal was a controlled action for the purposes of the EPBC Act only one (the Kangaroo Island echidna) has been determined by the EIS process to be at risk of residual significant impact from the proposed development. An offset under the EPBC Act is required in this case.

6. EXAMPLE SPECIES

6.1 The Impact Assessment Process- MNES

The impact assessment process, as described in Section 5 of this document and adopted for the preparation of the Draft EIS, has been applied to three species referred to in the Baird submission. This demonstrates in further detail how the conclusions that are presented in the Draft EIS were reached. It also demonstrates that the preparation of the Draft EIS was in accordance with the requirements of the EPBC Act and the EIS guidelines.

Table 2: Example impact assessment process for *Pultenaea villifera* var *glabrescens* (splendid bush pea)

Step in EIS impact assessment process	Relevant comments, background information	Conclusion	Statement in Janice Baird's submission
Desktop searches			
EPBC Protected Matters Search	The EPBC Protected Matters Search Tool identified <i>Pultenaea villifera</i> var. <i>glabrescens</i> as 'species or species habitat known to occur within the area'		
BDSA search	The closest record of <i>Pultenaea villifera</i> var. <i>glabrescens</i> is at Dashwood Bay which is approximately 4 km west of the study area. Refer to Appendix J2 of the Draft EIS, Figure 3.	The species is known in the area, but the closest record is approximately 4 km away and will not be impacted by the proposal See Figure 6 of this document - the star depicts the location of the proposed KI Seaport	
Ecology of species	See Figure 6 for a map of the known distribution of the splendid bush-pea on Kangaroo Island. (taken from Appendix 2 of the Nationally Threatened Plant Species on Kangaroo Island Recovery Action Plan 2003-2013). There is potential habitat to the west of the study area (depicted by the star), however the known recordings of the species are further to the west. Critical habitat for this species is approximately 17 km to the south of the study area.	Critical habitat for this species is approximately 17 km away from the study area. The proposal will not impact this critical habitat.	
Physical attributes of the study area	Weed infestation Severely degraded 78% of the study area was exotic grassland/herb land	Given the generally degraded nature of remnant vegetation on the site, it is considered unlikely to exist in the study area. Soil type is not a basis for determining the likelihood that a species is present.	Sandy loam – these soils are present in the proposal area.
Survey results EBS 2016 and 2018	The field survey (August 2016 undertaken by EBS Ecology) did not find this species <i>Pultenaea villifera</i> var. <i>glabrescens</i> . Not present. <i>Eucalyptus cladocalyx</i> was recorded in vegetation association 7 which is located outside of the study area. See Figure 12 of Appendix J2 in the Draft EIS. This parcel of	Not present	Survey area contains known vegetation associations with the yellow bush-pea according to the Background paper: Nationally Threatened Plant Species on Kangaroo Island Recovery Action Plan 2003-2013. This includes the primary species of <i>Eucalyptus cladocalyx</i> .

Step in EIS impact assessment process	Relevant comments, background information	Conclusion	Statement in Janice Baird's submission
	land is owned by a third party and will not be impacted by the proposal.		
Likelihood that a species will be present		Given the generally degraded nature of remnant vegetation on the site, it is considered unlikely to exist in the study area	
Determination of significant impact		The proposal is not likely to have a significant residual impact on this species.	

Figure 2.13. The known distribution of Splendid Bush-pea on Kangaroo Island (Davies 1996; Department for Environment and Heritage SA Database 2002; Overton and Overton 1992; Taylor 2003a).

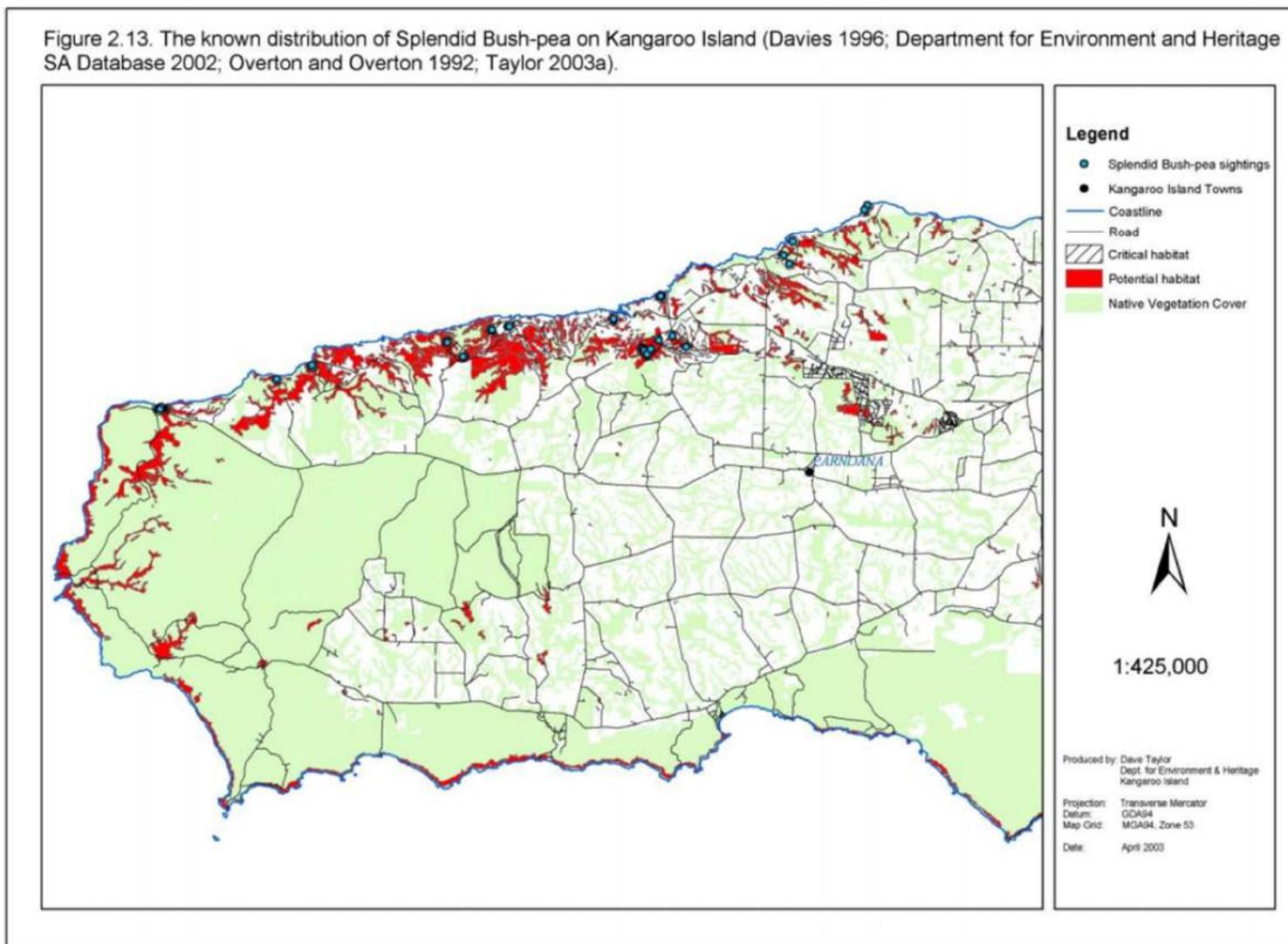


Figure 6: The known distribution of splendid bush-pea on Kangaroo Island (Source Taylor 2003)

Table 3: Example impact assessment process for *Diomedea antipodensis* (*Diomedea exulans antipodensis*) (Antipodean albatross)

Step in EIS impact assessment process	Relevant comments, background information	Conclusion	Statement in Janice Baird's submission
Desktop searches			
EPBC Protected Matters Search	Foraging, feeding or related behaviour likely to occur within the area		
BDSA search	Not recorded within 10 km of the study area		
Ecology of species	<p><i>Diomedea antipodensis</i> does not breed near Kangaroo Island and neither do any of the albatross or giant petrel species listed in the National recovery plan for threatened albatrosses and giant petrels 2011-2016 (DSEWPaC 2011a). See Figure 7 and Section 6.1.1 of this document.</p> <p><u>Foraging habitat</u></p> <p>'Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat' (DSEWPaC 2011a).</p> <p>The Antipodean albatross is endemic to New Zealand and its primary foraging habitat is in south-eastern Australia and New Zealand.</p> <p><u>SPRAT profile extracts:</u></p> <p>The Antipodean Albatross feeds primarily on cephalopods, fish and crustaceans (BirdLife International 2009; Gales 1998).</p> <p>Large seabirds, such as Albatrosses, feed on or close to the surface of the water. Their foraging behaviours, such as flying long distances to search for food, following boats, feeding aggressively on offal and diving for baits, make them susceptible to being drowned in longline fishing gear).</p>	<p>The published literature that the Antipodean albatross covers vast oceanic distances and feed primarily on cephalopods, fish and crustaceans. The impact of the marine infrastructure will have a small direct footprint along the entire northern coastline of Kangaroo Island, which is just one small area of the potential foraging habitat for all migratory birds along the coastline of southern Australia.</p> <p>As shown in Figure 8: Foraging area for the Antipodean albatross as mapped in the Conservation Values Atlas (DoEE 2015) the Conservation Values Atlas identifies the foraging area of this species on the southern coastline of Kangaroo Island.</p>	<p>'... the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time.' The proposal area encompasses waters south of 25 degrees and therefore contains critical foraging habitat for the Antipodean albatross</p>
Physical attributes of the study area	The offshore marine footprint (infrastructure footprint) for the study area is approximately		

Step in EIS impact assessment process	Relevant comments, background information	Conclusion	Statement in Janice Baird's submission
	<p>1.6 ha.</p> <p>The waters of Smith Bay are not particularly different to other waters along the northern coastline of Kangaroo Island and would provide similar foraging habitat for this species.</p>		
<p>Survey results EBS field survey in 2016 (EBS 2018a)</p>	<p>Not observed during the field survey in 2016</p> <p>The correct extract from page 14 of Appendix J-2 should be 'Pelagic seabirds have not been included within section 5.1.4 (of Appendix J-2) as they <u>are expected to occur within the marine habitats of the project area (and not the terrestrial habitats of the project area)</u>'.</p> <p>This statement refers to the location within the Draft EIS that relates to pelagic seabirds. Appendix J-2 focused on the terrestrial species and the marine species (macroalgae, seagrass, fish, mobile invertebrates, sessile invertebrates, mammals, reptiles, sharks, whales and other cetaceans) were assessed in Appendix I-1.</p> <p>The impact assessment and concluding statements for all species (terrestrial, marine, flora and fauna) were provided in Appendix J-3 of the Draft EIS.</p>	<p>Appendix J-3 of the Draft EIS (MNES Impact Assessment – flora and fauna) concluded that the Antipodean albatross was unlikely to be present in the study area.</p>	<p>EBS Ecology 2018 Survey (Appendix J2) did not state that the species was unlikely to be present in the study area. To the contrary, p14 of the survey stated that 'Pelagic seabirds have not been included within section 5.1.4 as they <u>are expected to occur within the project area</u>'</p>
<p>Likelihood that a species will be present</p>	<p>Based on the ecology of the species, the offshore marine footprint of the infrastructure (1.6 ha) it is unlikely that there would be any individual Antipodean albatrosses in the direct impact footprint of the proposed KI Seaport. The species is not known to frequent South Australian waters and no suitable nesting sites exist in the area. The closest foraging area (biologically important area) is at least 60 km away from the study area (development site) as shown in Figure 8.</p> <p>Vessels will traverse through the foraging area before and/or after leaving the port, however it remains unlikely that a vessel will encounter this migratory species considering the vast</p>	<p>Unlikely that this species will occur in the study area</p> <p>Unlikely that this species will occur in the same area as a vessel (before and after it has left the port – i.e. upstream impacts</p>	<p>Species and species habitat are likely to occur within the area</p> <p>The Protected Matters Report provides that the foraging, feeding or related behaviour is likely to occur within the area</p>

Step in EIS impact assessment process	Relevant comments, background information	Conclusion	Statement in Janice Baird's submission
	<p>expanse of the ocean and the relatively small size of the bird.</p>		
<p>Determination of significant impact</p>	<p>There are no aspects of the proposal that would have a significant impact on this species.</p> <p>Shipping activity (i.e. upstream impacts of the proposal) after the vessels have left the port will traverse the foraging area of this species however the additional vessel movements will not contribute to a significant impact on this species. The vessels are cargo ships (i.e. not fishing vessels) and will not attract migratory bird species with bait.</p>	<p>The proposal is not likely to have a significant residual impact on this species.</p>	

6.1.1 Albatross and Petrels- breeding in the Australian jurisdiction

Locations where breeding activity occurs is considered habitat critical to the survival of a species in accordance with the Significant Impact Guidelines.

Albatrosses and giant petrels breed at only six localities under Australian jurisdiction. These are:

- Macquarie Island (including Bishop and Clerk Islets)
- Albatross Island
- Pedra Branca
- Mewstone
- Heard and McDonald Islands
- the Australian Antarctic Territory (Giganteus Island, Hawker Island and the Frazier Islands).

These remote islands as shown in Figure 7, constitute the only suitable breeding habitat under Australian jurisdiction and should be regarded as habitat that is critical to the survival of albatrosses and giant petrels in Australian waters. The proposal will not have an impact on these six locations.

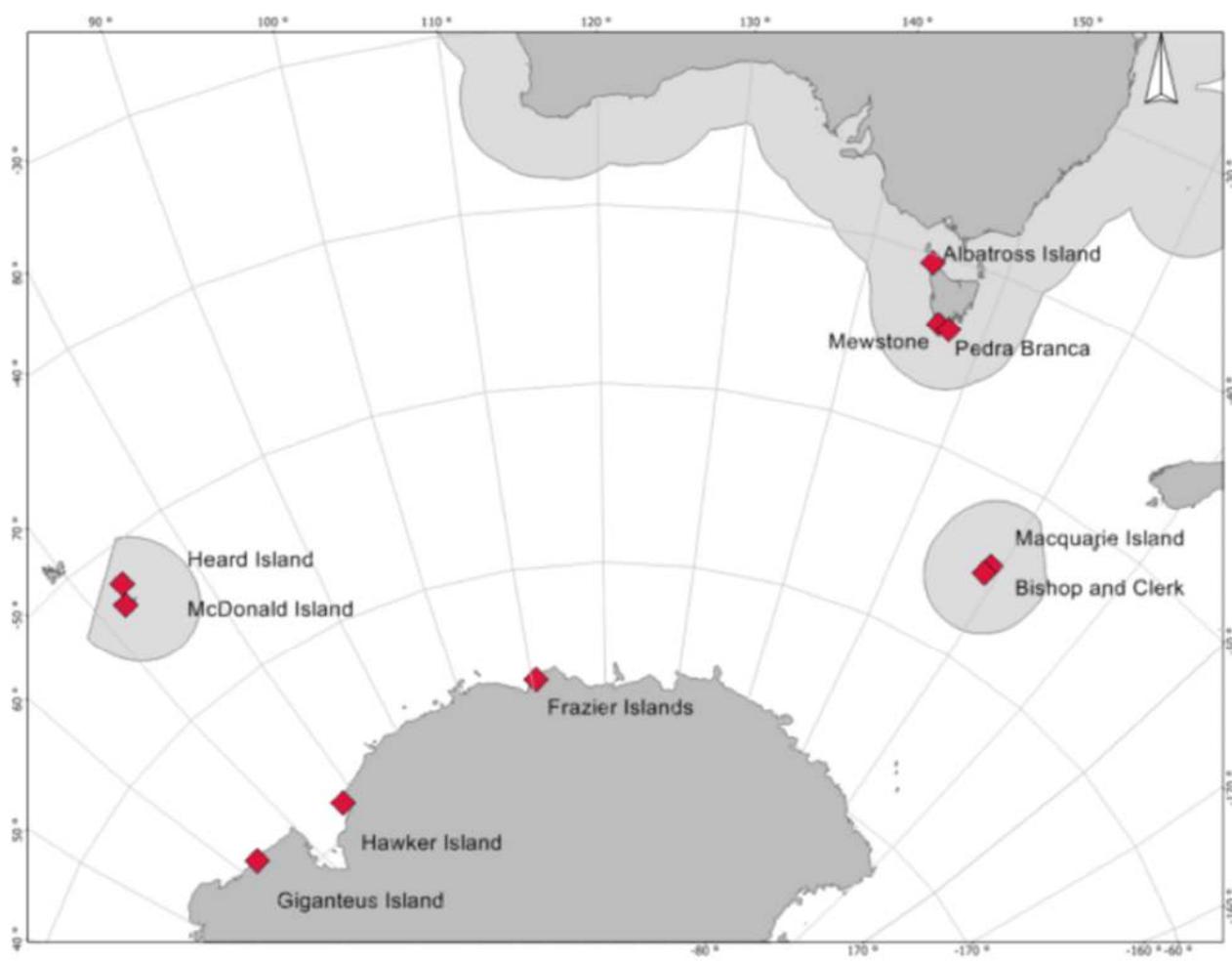


Figure 7: Location of albatross and giant petrel breeding colonies within Australian jurisdiction (Source: DSEWPaC 2011a)



Figure 8: Foraging area for the Antipodean albatross as mapped in the Conservation Values Atlas (DoEE 2015)

Table 4: Example impact assessment process for *Sternula nereis nereis* (Australian fairy tern)

Step in EIS impact assessment process	Relevant comments, background information	Conclusion	Statement in Janice Baird's submission
Desktop searches			
EPBC Protected Matters Search	Breeding likely to occur within area Mapping from the Conservation Values Atlas shows breeding occurs off the coast of Western Australia. Whereas the BirdLife International distribution map (see Figure 9) shows the whole of Kangaroo Island is recorded as Native breeding.		Disagree with KIPT's assessment that the species presence is 'possible'. Species and species habitat are likely to occur within area.
BDSA search	The sighting closest to the study area was of 23 individuals observed feeding and roosting at the Bay of Shoals on 19 October 2005 (ALA 2016 as cited by EBS 2018a), which is approximately 10 km east of the study area		
Ecology of species	<u>SPRAT profile:</u> Within Australia, the fairy tern occurs along the coasts of Victoria, Tasmania, South Australia and Western Australia, occurring as far north as the Dampier Archipelago near Karratha. In Australia, the subspecies breeds in October to February in colonies of various sizes (generally between 2–400 pairs) on coral shingle on continental islands or coral cays, on sandy islands and beaches inside estuaries, and on open sandy beaches (Hill et al. 1988; Higgins & Davies 1996). They nest in clear view of the water and on sites where the substrate is sandy and the vegetation sparse.		
Physical attributes of the study area	The site does not contain critical habitat for the species. Breeding has not been recorded at the study site in any of the published sources and including the BirdLife Australian biennial census counts.		
Survey results EBS 2018	Not sighted during the 2016 survey		

Step in EIS impact assessment process	Relevant comments, background information	Conclusion	Statement in Janice Baird's submission
Likelihood that a species will be present	'May occasionally fly over the study area or use the remnant habitat in the area. The Australian fairy tern may forage occasionally on the coastal beach created by the boat ramp within the area. The study area itself, however, is not an important or critical habitat for this species. Being highly mobile, they would relocate to alternative habitat that is abundant throughout the region' – page 278 of the Draft EIS.	Possible (coastal) The public boat ramp is approximately 1.4 km east of the study area. The proposal will not impact (directly or indirectly) on the beach at the public boat ramp. The BirdLife International distribution map (see Figure 9) shows the whole of Kangaroo Island is recorded as Native breeding. The small part of the northern Kangaroo Island coastline that will be directly impacted by this proposal is not unique and therefore the rest of the coastline could be used by this species.	Further: Breeding is likely to occur within area according to the Protected Matters Report The BirdLife International Distribution Map for the Australian fairy tern includes the proposal area.
Determination of significant impact	Not required	Not required as the proposal will not adversely impact critical habitat for this species, nor adversely impact the population in any other way. The proposal does not meet any of the significant impact criteria for a vulnerable species.	

Distribution map



Legend

- Native resident
- Native breeding
- Native non breeding
- Passage
- Season uncertain
- Reintroduced
- Introduced
- Possibly extant
- Possibly extinct
- Extinct
- Origin uncertain

Figure 9: Distribution map of the Australian fairy tern (*Sternula nereis*) (from Birdlife International 2019)

7. AUSTRALIA'S INTERNATIONAL OBLIGATIONS FOR MIGRATORY SPECIES

7.1 Suggested Breaches of International Law

The concluding statement (page 115) of Baird's submission suggests that the proposed action would be inconsistent with Australia's international obligations under several conventions. This assertion has been addressed in Section 4.

In support of her submission Baird seeks to link specific obligations under several international wildlife treaties to areas defined as foraging grounds for petrels and albatrosses and to the concept of the East Asian Australasian Flyway Partnership. However, neither concept in itself imposes any obligations on the Australian government either internationally or nationally.

7.2 Foraging Grounds for Albatrosses and Petrels

Baird's submission suggests that the proposed action would impact on 'foraging grounds for petrels and albatrosses' as a 'biologically important area' (BIA). This is not a term adopted under the EPBC Act and, in itself, imposes no obligations on the Australian Government.

If a proposed development were to be likely to significantly impact upon the foraging grounds of petrels and albatrosses listed under the EPBC Act, then Commonwealth approval may be needed before such a project could proceed. However, that is not the case here. The studies undertaken by EBS Ecology for the purposes of this EIS have considered albatross and petrel species identified in the PMR search and in all cases concluded that their presence at or near the site would either be 'unlikely' or a 'possible fly-over' as the case may be.

The nature of the presence, if any, of these species at or in proximity to the study area coupled with their wide-ranging foraging behaviour suggests that any significant impact of the project on the species would be highly unlikely.

7.3 The East Asian Australasian Flyway Partnership

The East Asian-Australasian Flyway Partnership is an 'informal and voluntary initiative (which) aims to protect migratory waterbirds, their habitat and the livelihoods of people dependent upon them'. Its membership includes government, intergovernmental and non-governmental agencies ¹⁶.

Whilst the aim of the organisation is shared by its members, the network in itself imposes no obligations on them. In the case of government members, including Australia, obligations are imposed by international agreements to which they are parties and are implemented through domestic law.

Whilst the Flyway includes many sites of importance for the conservation of waterbirds (e.g. Ramsar listed wetlands), no additional obligations are imposed on nation members other than those imposed by international law.

The fact that the Flyway extends to the southern regions of Australia does not add any significant factor to the determination of the acceptability of the proposed KI Seaport under the EPBC Act or suggest any additional international obligation is imposed on the Australian government in complying with its obligations under international wildlife laws.

¹⁶ <https://www.eaaflyway.net/>

7.4 Obligations Under International Wildlife Agreements

The range of international agreements seeking to protect migratory species of birds and other animals is addressed in Section 4 of this document. As previously stated KIPT have identified no listed migratory bird species with a material presence within or in proximity to the study area. On this basis, there would be no breach of Australia's international obligations to protect migratory bird species should the proposal be approved.

8. CONCLUSION

The Draft EIS for the Smith Bay Wharf was informed by a rigorous and science-based process to assess the proposal and the potential impacts on listed flora and fauna. The impact assessment process adopted for the KI Seaport, and further explained in this document, meets the requirements of the EPBC Act, the Significant Impact Guidelines prepared under that Act and the EIS guidelines issued for the proposal. Approval of this project with conditions based on the Draft EIS would not contravene any of the provisions of the Act that protect listed threatened and migratory species. Australia's international obligations to protect migratory species would not be contravened. The Australian Government would not breach any international obligations by approving the project.

The main arguments presented in the Baird submission are:

- i. once a relevant MNES (species) has been determined to have a presence in the PMR area, it may be inferred that the MNES is present within the study area
- ii. in particular, once a MNES is 'known' or 'likely' to be present within the PMR area (and thus according to Baird, the study area) it is not open to KIPT to determine otherwise based on the environmental conditions of the site and the habitat requirements of the particular MNES (species)
- iii. in any event, KIPT has either omitted or misrepresented relevant information that would indicate a material presence of 43 MNES at the site and its surrounds (the study area).

The corresponding responses are:

- i. the database searches identify listed species that may be present in the search area (as identified when undertaking the PMR search). Additional evaluation is then required to determine listed species that may be present in the study area, which is a smaller subset of the original PMR area
- ii. if a MNES is 'known' or 'likely' to be present in the study area, additional site-specific and species-specific information is used to further refine the list of species that are likely to be found in the study area (and be potentially impacted upon by the proposal)
- iii. the assessment process was robust, broad-scale data was reviewed and calibrated for the specific study area in Smith Bay and included an objective assessment of relevant information pertinent to MNES that may be present in the study area.

The Minister for the Environment and Energy determined that proposal was a controlled action under the Act based on the potential to impact four matters protected by the EPBC Act (EPBC/2016/7814). The further and detailed assessments undertaken as part of the EIS process have confirmed that no additional MNES is at risk of significant impact from the construction and operation of the proposed KI Seaport.

It has been established that of the four species listed in the referral decision, that the potential impacts for three of the species would be negligible. In the case of only one, the Kangaroo Island echidna, is there the potential for residual significant impact. In this case an offset under the EPBC Act is required.

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APPENDIX A

Study Area Coordinates

Table A5: Latitude and longitude coordinates used to define the study area (as provided in Appendix K1 of the Draft EIS)

Location marker	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
SW	35	35	45.59	137	25	34.20
NW	35	35	30.30	137	25	33.94
NW sea	35	35	20.55	137	25	37.13
NE sea	35	35	26.51	137	25	53.82
NE	35	35	35.69	137	25	48.99
SE	35	35	47.14	137	25	43.75

Table A6: Latitude and longitude coordinates used to define the study area for the Response Document

Updated location points	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
1	-35	35	46.60	137	25	34.22
2	-35	35	48.51	137	25	43.45
3	-35	34	59.59	137	25	52.47
4	-35	35	0.15	137	25	18.09
5	-35	35	24.78	137	25	18.76
6	-35	35	35.77	137	25	49.25
7	-35	35	30.29	137	25	33.94
8	-35	35	43.81	137	25	43.86
9	-35	35	48.44	137	25	43.57
10	-35	35	46.72	137	25	34.34

Table A7: GPS marks of marine and intertidal survey sites

Site	Latitude (degrees)	Longitude (degrees)
November 2017- dive sites		
S01	-35.58803	137.41891
S02	-35.58676	137.41942
S03	-35.58485	137.42014
S04	-35.58937	137.42381
S05	-35.58838	137.42410
S06	-35.58638	137.42482

Site	Latitude (degrees)	Longitude (degrees)
S07	-35.59014	137.42625
S08	-35.58878	137.42665
S09	-35.58696	137.42737
S10	-35.59100	137.42848
S11	-35.58963	137.42911
S12	-35.58781	137.42972
S13	-35.59304	137.43451
S14	-35.59177	137.43491
S15	-35.58995	137.43575
August 2018- dive sites		
S16	-35.58635	137.42567
S17	-35.58630	137.42676
S18	-35.58629	137.42784
S19	-35.58627	137.42882
S20	-35.58646	137.43014
S21	-35.58557	137.42782
September 2019- dive sites		
S22	-35.58537	137.42520
S23	-35.58459	137.42543
S24	-35.58580	137.42616
S25	-35.58481	137.42813
S26	-35.58523	137.43065
September 2019- camera drop sites		
S27	-35.58375	137.42357
S28	-35.58382	137.42571
S29	-35.58385	137.42841
S30	-35.58404	137.43096
S31	-35.58478	137.43122
September 2019- intertidal sites		
B01	-35.59037	137.42346
B02	-35.59111	137.42584
B03	-35.59177	137.42818

APPENDIX B

Protected Matters Search Tool Summary

Description of the Protected Matters Search tool

The protected matters search tool can be used to generate a report that will help determine whether matters of national environmental significance (MNES) or other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 are likely to occur in a specific user-defined area of interest. The tool is maintained by the Department of Agriculture, Water and the Environment (DAWE). As stated on the DAWE website, the search results are general and...

'Any information provided through this facility is indicative only, and local knowledge and information should also be sought where possible'.

(<https://www.environment.gov.au/epbc/protected-matters-search-tool>).

This tool was designed to assist members of the public to search for matters protected under the EPBC Act. The user will select an area, which can be a point, line, extent or a polygon, and then define a search radius. The tool then generates a list of protected matters that may occur in or near the area.

The tool draws from many data sources which include mapped locations of World Heritage properties, Ramsar wetlands, threatened, migratory and many marine species, threatened ecological communities and protected areas. Further detail on data sources and their degree of resolution is provided in Table B8.

The report generated will assist anyone proposing a development (i.e. a proponent) to determine whether their development is likely to affect a MNES and consequently require referral for assessment and approval under the EPBC Act.

Information sources

Maps have been collated from a range of sources, at various resolutions. For example: the maps of boundaries of World Heritage properties, Ramsar wetlands and conservation reserves were provided by state government agencies, which have primary responsibility for land tenure. These are generally captured at a scale of 1:250K or better.

The tool also contains information on the distribution of threatened species. This information varies in resolution according to existing scientific knowledge; some species are well known, while other species have yet to be fully investigated.

For threatened ecological communities where the distribution is well known, maps have been derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps have been digitised from sources such as recovery plans and detailed habitat studies.

For species whose distributions are less well known (i.e. greater levels of uncertainty), point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated; which are then validated by experts. In some cases, the distribution maps are based solely on expert scientific knowledge.

In summary depending on the extent and resolution of existing scientific knowledge, maps for different MNES will provide varying distribution information which ranges from highly specific to indicative on a broader scale.

Data sources

The database includes data from a range of sources including:

- relevant state environment departments
- natural history museums of Australian states and territories
- herbariums from the states and territories of Australia
- Australian National Herbarium
- Birdlife Australia
- eBird Australia
- Ocean Biogeographic Information System (www.obis.org)
- Atlas of Living Australia (CSIRO) (www.ala.or.au)
- Department of Defence
- Geoscience Australia
- Australian Antarctic Data Centre
- Australian Institute of Marine Science
- Australian Government National Environmental Science Program

The full list of data sources is available at <http://www.environment.gov.au/webgis-framework/apps/pmst/pmst-help.jsf#about>.

Components of a Protected Matters Report

Table B8 provides a summary of the components that are included in the Protected Matters Report i.e. the output of the protected matters search tool.

Table B8: Summary of the components of a protected matters search

Aspect	Descriptor used	Data	Further information
Matters of National Environmental Significance			
World Heritage Properties		Australia, World Heritage Areas dataset https://data.gov.au/dataset/ds-nsw-4000651a-96da-4f07-85a7-54cd54704aca/details?q=world%20heritage	Further details and listings are provided in the Australian Heritage Database, managed by DAWE http://www.environment.gov.au/heritage/publications/australian-heritage-database
National Heritage Places	Name and proximity of national heritage places	National Heritage List dataset https://data.gov.au/dataset/ds-nsw-1fc22c13-9f2a-40ec-a5a6-9ac91a09a9f5/details?q=heritage%20national	Further details and listings are provided in the Australian Heritage Database, managed by DAWE http://www.environment.gov.au/heritage/publications/australian-heritage-database
Wetlands of International Importance (Ramsar)	Name and proximity of any Ramsar wetlands	spatial and textual information about government, Indigenous and privately protected areas for Australia protected areas must meet the IUCN definition of protected areas (IUCN 2008) (https://www.iucn.org/theme/protected-areas/about)	Further details are included in the Australian Wetlands Database, managed by DAWE http://www.environment.gov.au/water/wetlands/australian-wetlands-database
Great Barrier Reef Marine Park			See the Great Barrier Reef Marine Park Authority http://www.gbrmpa.gov.au/
Commonwealth Marine Areas	Name of the Commonwealth Marine Area Name of any applicable marine bioregional plans	the Commonwealth Marine Area is generally described as stretching from three nautical miles to two hundred nautical miles from the coast Commonwealth Marine Regions dataset	
Listed Threatened Ecological Communities (TEC)	Community likely to occur within area Community may occur within area Community known to occur within area	Where distribution is well known, maps are derived from recovery plans, state vegetation maps, remote sensing imagery and other sources Where distribution is less well known, existing vegetation maps and point location data are used to produce indicative distribution maps Threatened Species and Ecological Communities of National Environmental Significance dataset National Vegetation Information System (NVIS) dataset	Further details are provided in the Species Profile and Threats database (SPRAT) profile, managed by DAWE. http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl
Listed threatened species	Species or species habitat may occur within area Species or species habitat likely to occur within area Species or species habitat known to occur within area	Threatened Species and Ecological Communities of National Environmental Significance dataset National Vegetation Information System (NVIS) dataset https://data.gov.au/dataset/ds-	Further details are provided in the Species Profile and Threats database (SPRAT) profile, managed by DAWE http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

Aspect	Descriptor used	Data	Further information
	Breeding likely to occur within area Breeding known to occur within area Foraging, feeding or related behaviour likely to occur within area Foraging, feeding or related behaviour known to occur within area	environment-ab942d6d-9efd-4cf2-bec7-4c1521b83803/details?q=nvis	
Listed migratory species	Species or species habitat may occur within area Species or species habitat likely to occur within area Species or species habitat known to occur within area Breeding likely to occur within area Breeding known to occur within area Foraging, feeding or related behaviour likely to occur within area Foraging, feeding or related behaviour known to occur within area	Australia - Species of National Environmental Significance Database (Bioregional Assessment Programme) dataset https://data.gov.au/dataset/ds-dga-11d4b1bc-fe65-4743-8c1c-4eee8c099894/details?q=liste d%20migratory%20species	Further details are provided in the Species Profile and Threats database (SPRAT) profile, managed by DAWE. http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl
Other Matters Protected by the EPBC Act			
Commonwealth land			
Commonwealth Heritage Places	Presence of Commonwealth Heritage Place Name of Commonwealth Heritage Place	Commonwealth Heritage List dataset https://data.gov.au/dataset/ds-nsw-9ba5ddd0-9c61-4797-8192-c1422206b8e2/details?q=herit age	Further details and listings are provided in the Australian Heritage Database, managed by DAWE http://www.environment.gov.au/heritage/publications/australian-heritage-database
Listed marine species	Species or species habitat may occur within area Species or species habitat likely to occur within area Species or species habitat known to occur within area Breeding likely to occur within area Breeding known to occur within area Foraging, feeding or related behaviour likely to occur within area Foraging, feeding or related behaviour known to occur within area	Threatened Species and Ecological Communities of National Environmental Significance dataset Australia - Species of National Environmental Significance Database (Bioregional Assessment Programme) dataset https://data.gov.au/dataset/ds-dga-11d4b1bc-fe65-4743-8c1c-4eee8c099894/details?q=liste d%20migratory%20species	Further details are provided in the Species Profile and Threats database (SPRAT) profile, managed by DAWE. http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl
Whales and other cetaceans	Species or species habitat may occur within area Species or species habitat likely to occur within area Species or species habitat known to occur within area Breeding likely to occur within area	Threatened Species and Ecological Communities of National Environmental Significance dataset Australia - Species of National Environmental Significance Database (Bioregional Assessment Programme) dataset	Further details are provided in the Species Profile and Threats database (SPRAT) profile, managed by DAWE. http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

Aspect	Descriptor used	Data	Further information
	Breeding known to occur within area Foraging, feeding or related behaviour likely to occur within area Foraging, feeding or related behaviour known to occur within area	https://data.gov.au/dataset/ds-dga-11d4b1bc-fe65-4743-8c1c-4eee8c099894/details?q=liste d%20migratory%20species	
Critical habitats			
Commonwealth reserves terrestrial	Presence of Commonwealth reserve Name of the reserve	spatial and textual information about government, Indigenous and privately protected areas for Australia protected areas must meet the IUCN definition of protected areas (IUCN 2008) https://www.iucn.org/theme/protected-areas/about	
Australian Marine Parks	Marine Park name and label	spatial and textual information about government, Indigenous and privately protected areas for Australia protected areas must meet the IUCN definition of protected areas (IUCN 2008) https://www.iucn.org/theme/protected-areas/about	
Extra Information			
State and Territory Reserves	Name of State or Territory Reserve	spatial and textual information about government, Indigenous and privately protected areas for Australia protected areas must meet the IUCN definition of protected areas (IUCN 2008) https://www.iucn.org/theme/protected-areas/about	
Regional Forest Agreements		spatial and textual information about government, Indigenous and privately protected areas for Australia protected areas must meet the IUCN definition of protected areas (IUCN 2008) https://www.iucn.org/theme/protected-areas/about	
Invasive species	Species or species habitat likely to occur within the area	20 species of national significance (WoNS) Includes other species that pose a particularly significant threat to biodiversity at a state or territory level Maps are from Landscape Health Project, National Land and Water Resources Audit 2001	
Nationally important wetlands		spatial and textual information about government, Indigenous and privately protected areas for Australia	Further details are included in the Australian Wetlands Database, managed by DAWE

Aspect	Descriptor used	Data	Further information
		protected areas must meet the IUCN definition of protected areas (IUCN 2008) (https://www.iucn.org/theme/protected-areas/about)	http://www.environment.gov.au/water/wetlands/australian-wetlands-database
Key ecological features (marine)			

Data: datasets from www.data.gov.au

Appendix C- Aquaculture Studies

Smith Bay EIS – Revised assessment of risks and mitigation strategies to the Yumbah Aquaculture Facility from the Construction and Operation of the proposed KI Seaport

**Prepared for
Kangaroo Island Plantation Timber Pty Ltd**

**By
Prof. Anthony Cheshire B.Sc. Ph.D.
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March 16, 2020

Document control

Title	Smith Bay EIS – Revised assessment of risks and mitigation strategies to Land based Aquaculture from the Construction and Operation of the proposed KI Seaport
Master version	2
Author	Anthony Cheshire
Client	Kangaroo Island Plantation Timber Pty Ltd
Date saved	16 March 2020
Distribution	Keith Lamb, Managing Director, KIPT Peter Lockett, Director, KIPT
Final for public release	

For citation purposes this document should be referred to as:

Cheshire, A.C. (2020) Smith Bay EIS – Revised assessment of risks and mitigation strategies to Land based Aquaculture from the Construction and Operation of the proposed KI Seaport. Prepared for Kangaroo Island Plantation Timber Pty Ltd: pp 91.

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GLOSSARY AND ABBREVIATIONS

Term	Definition
actual FCR see also 'effective FCR'	The FCR (see below) as measured in a laboratory where controlled conditions account for wastage, un-eaten food and where other losses cannot occur. This measure tells us more about the nutritional value of the food that is eaten rather than about the commercial reality of the production outcomes.
aquaculture	Farming of aquatic organisms for the purposes of trade or business or research but does not include an activity declared by regulation not to be aquaculture.
aquaculture equipment	Includes: <ol style="list-style-type: none"> 1. a farming structure; or 2. equipment used to anchor or indicate the presence of farming structures; or 3. a barge used to feed aquatic organisms; or 4. equipment used to mark-off or indicate the boundaries of a licence area; or 5. other equipment used for the purposes of aquaculture.
aquaculture - farming system	A term that refers to the way in which farming is conducted and includes but is not limited to: <ol style="list-style-type: none"> 1. Flow-through systems where water is extracted from the environment (e.g. the ocean, a river, creek, stream or bore) and then flows through the operation before being discharged back to the environment. 2. Re-circulation system where water is circulated through the farming system and then treated (e.g. filtered, sterilized) before being sent back through the farming system. 3. Intensive farming where animal density is kept high requiring a high level of attention to husbandry, feeding, disease control. 4. Extensive farming where animal densities are lower and farming may be conducted with no (or only a small amount of) external inputs such as food. <p>This list cannot be exhaustive as novel farming systems are continually being developed and modified.</p>
aquatic organism	Any species that lives some or all of its life in water, and includes the reproductive products and body parts of the organism.
DAC	Development Assessment Commission
DEWNR or DEW	SA Department of Environment, Water and Natural Resources now named the SA Department of Environment and Water
discharge to State Waters	Release of waste or used water into State Waters. In the context of this review this includes the release of waters from an aquaculture farm into any water body that is defined as State Waters.
ecologically sustainable development	An activity that is managed to ensure that communities provide for their economic, social and physical well-being while: <ol style="list-style-type: none"> 1. natural and physical resources are maintained to meet the reasonably foreseeable needs of future generations; and 2. biological diversity and ecological processes and systems are protected; and 3. adverse effects on the environment are avoided, remedied or mitigated.
effective FCR	The FCR as measured in a farming situation where total feed input is measured against total animal production. This measure includes food that is wasted, not eaten, or, in sea-farms, eaten by other animals. It is the best measure to use in assessing farm management.
EMP	Environmental Monitoring Program as defined in the Aquaculture Regulations (2016).
environment	Means land, air, water, organisms and ecosystems, and includes: <ol style="list-style-type: none"> 1. human-made or modified structures or areas; 2. the amenity values of an area.

environmental harm	Any harm or potential harm to the environment (of whatever degree or duration) and includes: <ol style="list-style-type: none"> 1. an environmental nuisance; 2. anything declared by regulation (after consultation under section 5A of the <i>Environment Protection Act 1993</i>) or by an environment protection policy to be environmental harm.
environmental management system	A systematic approach to dealing with the environmental aspects of an organisation's operation; a 'tool' that enables an organisation of any size or type to control the impact of its activities, products, or services on the natural environment.
environmental nuisance	Under the <i>Environment Protection Act 1993</i> an environmental nuisance means: <ol style="list-style-type: none"> (a) any adverse effect on an amenity value of an area that— <ol style="list-style-type: none"> (i) is caused by pollution; and (ii) unreasonably interferes with or is likely to interfere unreasonably with the enjoyment of the area by persons occupying a place within, or lawfully resorting to, the area; or (b) any unsightly or offensive condition caused by pollution;
EPA	South Australian Environment Protection Authority
ESD	See Ecologically Sustainable Development
exotic species	A species which does not naturally occur in the location where aquaculture is being conducted (e.g. pacific oyster or other imported species) but may also include species which, while native to South Australia, are not naturally found in the area where they are being farmed.
farming of aquatic organisms	An organised rearing process involving propagation or regular stocking or feeding of the organisms or protection of the organisms from predators or other similar intervention in the organisms' natural life cycles.
farming structures	Structures used for the farming of aquatic organisms and land based infrastructure including hatcheries or raceways but also includes sea cages and racks, longlines and submerged lines used for aquaculture, together with their associated baskets, barrels, lanterns and other culture units.
FCR	Food Conversion Ratio – reported as the ratio of the amount of food fed to fish divided by the amount of the total fresh-weight of product. Typical values might be around 1.0 to 3.0. This implies that between 1.0 to 3.0 t of feed is required for every tonne of product (whole live weight). Note that this is not reported as dry matter input over dry matter production; pelleted feeds, in particular, are typically low in moisture content and the product is weighed fresh (i.e. with a high moisture content) so it is technically possible to get values of less than 1.0 (i.e. produce more than 1 t of product for every tonne of food) but only under very tight management arrangements and when using an optimal feed formulation.
FRDC	Fisheries Research and Development Corporation
FTE	Full Time Equivalent – assumes full time is 37.5 hours per week e.g. 0.5 FTE is working half-time.
general environmental duty	Means that a person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm as per Part 4 of the <i>Environment Protection Act 1993</i> .
KIPT	Kangaroo Island Plantation Timber Pty Ltd
notifiable disease	Under the <i>Livestock Act 1997</i> , there are a number of diseases of aquatic organisms that, when suspected by owners, licence holders, vets or laboratories must be reported to an Inspector of Livestock within a defined timeframe.
PIRSA	Primary Industries and Regions South Australia, Fisheries and Aquaculture Division
PER	Public Environmental Report
risk	A probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through preemptive action.

risk - environmental risk	Actual or potential threat of adverse effects on living organisms and environments by effluents, emissions, wastes, diseases, exotic escapes, resource depletion, etc., arising out of an organization's activities. In the context of this study relating to the conduct of a development.
risk – inherent risk	The probability of loss arising out of circumstances or existing in an environment, in the absence of any action to control or modify the circumstances. In the context of this study the environmental risk present without taking account of any risk management strategies or other practices.
risk - residual risk	Exposure to loss remaining after other known risks have been countered, factored in, or eliminated. In the context of this study the environmental risk present after taking account of the risk management strategies and practices adopted to manage the development and acknowledging the nature (ecological and environmental values) of the receiving environment.
TEPS	Threatened endangered and protected species: generally considered to be species of conservation significance that warrant attention during any environmental risk assessment.

1. Executive Overview

1.1. Background

The material presented in this document has been developed to provide a response to the public submissions to the KI Seaport EIS and the associated EIS Addendum (which provided a revised design for the in-sea infrastructure) where the submission addressed a concern relating to abalone aquaculture.

1.2. Approach

All public submissions have been read and all comments that require a response, either in the form of clarification or additional analysis or interpretation of the available information, have been identified.

Comments from different submissions that were substantively the same in content have been aggregated.

Those comments which identified a number of fundamentally different concerns have been disaggregated and individual responses have been written for each concern that has been raised. In such cases the complete response to the specific comment may comprise additional advice and information that pertains to a number of the sections in the body of this report.

In all cases where multiple comments have been aggregated the source comments have been tabulated and referenced by the author and the page/item number. Each comment has then been allocated an Issue code which uniquely identifies each and every comment that has been addressed. A master list of these issues is held by Environmental Projects and KIPT.

1.3. Conclusions

This document has provided a response to every issue that has been raised. While in some cases the final resolution will necessarily be in the form of secondary approvals (e.g. the need to develop a biosecurity plan for the KI Seaport) most issues have been responded to either through:

1. Recommended changes to the design of the in-sea infrastructure to ensure that issues that were problematical have been addressed by redesigning relevant parts of the proposal.
2. Collection of additional data or information to provide increased certainty.
3. Clarification of issues where there may have been a lack of understanding by the reader.

2. Introduction

Kangaroo Island Plantation Timbers (KIPT) propose to develop a deep-water wharf at Smith Bay on the north coast of Kangaroo Island (Figure 1). The wharf will be capable of accommodating 30,000 DWT bulk carrier ships. Although the primary purpose of the wharf will be to export timber from plantations on the island, KIPT proposes to make it available for other shipping uses.

Following submission of the Draft EIS there have been design changes to some of the key project components. The main marine design changes for the development at Smith Bay will be:

- Replacement of the causeway with a suspended deck jetty extending to a floating wharf, approximately 650m offshore; and
- No requirement for capital or maintenance dredging.

In addition, a number of questions were addressed to KIPT in relation to the original EIS and this document expands on the previous advice to provide further information to support the assessment.

The purpose of this report is therefore to expand on the information provided in the original assessment concerning potential impacts to land-based aquaculture with specific reference to the Yumbah abalone farm and to address both the requests for additional information that arose during the public consultation and to summarise the implications of the subsequent design changes to the in-sea infrastructure. This document builds upon and revises the report previously provided (Cheshire 2018).



Figure 1 - Conceptual layout of the KI Seaport infrastructure (overlying the previous design)

3. Implications of the in-sea design changes

From the perspective of land-based aquaculture the major consequence of the design change is that it has removed the need for any dredging (either capital dredging or maintenance dredging) and addressed the potential risks associated with the construction of a causeway. The revised design now comprises a piered jetty that extends almost twice as far (650 m) out to sea (as per Figure 1). In turn, this means that there will be no impacts on water quality in the bay either associated with dredging or resulting from changes in coastal processes that may have occurred with a constructed causeway (thus maintaining existing patterns of water circulation, sedimentation and heat fluxes).

The revised design has therefore resolved more than half of the issues raised during the public consultation and that were identified as potential risks to the land-based aquaculture farm. The full analysis of these changes and their effects on coastal processes and water quality has been documented in Teakle (2019) and their conclusions have been interpreted below in the context of land-based aquaculture.

Teakle's analysis concluded that the removal of dredging and the use of sediment capture during piling means that there are no longer any risks that the construction will affect water quality in Smith Bay through the suspension of sediments that would lead to increases in total suspended sediment loads or increased levels of fine sediments. Similarly, the removal of the causeway means that there are no longer risks of either increased levels of suspended sediments associated with causeway construction and there will be no impacts on water circulation in Smith Bay that may indirectly cause either localised warming, self-pollution of the farm or increasing the risk of algal blooms due to reduced rates of mixing of abalone farm waste discharges. Concerns about the composition of fill material for the causeway are no longer relevant as the causeway will not be built.

Teakle (2019) also assessed the placement of the pontoon further offshore and concluded that while there may be a small wave shadow associated with this structure it would not have a material effect on circulation or mixing processes in Smith Bay and that wave propagation and tidal currents would be largely unaffected.

In summary, the decision not to build a causeway will address all issues associated with coastal processes by ensuring that existing circulation patterns, wave regimes and tidal fluxes will continue with no measurable changes. This design change will also remove the risk that the KI Seaport will exacerbate climate change risks (e.g. through changes in heat flux in the lee of the causeway) beyond those already experienced on-farm.

By removing these risks the attendant issues (including debate around the relative sensitivity of abalone to elevated levels of sediments or to elevated levels of fine sediments, the veracity of the associated ecotoxicology studies and the information about past mortality events at Yumbah) become irrelevant as the revised design does not present risks to the water quality at the Yumbah intakes.

Other issues raised during the public consultations including those associated with ballast water discharge and biosecurity risks from an operating Port have not been directly addressed by these specific design changes and therefore form the focus of the discussion in the material presented in the remainder of this document.

Issue group: Aquaculture licencing

Consideration of the full suite of aquaculture species permitted under current licencing including licence FT00634.

Implications of the revised design for the in-sea infrastructure

The revised build proposal will have no effect on these matters.

Specific matters to be addressed

Capacity to farm other species

Paraphrasing of issues to be addressed

Yumbah's aquaculture licences permit the farming of species in addition to abalone and these have not been fully considered in the EIS documentation.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 1 – Capacity to farm other species was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 40	1372.111
1378	PIRSA	Item 2	1378.02

Response summary

Yumbah Kangaroo Island Pty Ltd (Yumbah) operates with 3 aquaculture licences FT00558, FT00634, FT00702 as detailed in the EIS (Section 6.2.7 page 112). Consistent with the *Aquaculture Act 2001* and Aquaculture Regulations 2016 these licences relate to specific properties owned by or under the management control of Yumbah. For each of these licences there is a list of permitted species and of permitted farming systems which have been detailed in Table 2.

In total 21 species are identified including a variety of abalone, finfish, bivalve and crustacean species (Table 2). The licences also variously provide for the use of two different farming systems comprising tanks and channels (which would include slab-tanks or raceways).

Notwithstanding that a large number of species have been included on the licencing documentation, it is evident that many of those species could not be farmed (in a practical way) for a variety of reasons (Table 2) including a lack of available commercial systems (e.g. King George Whiting and Rock Lobster) or a requirement for additional farming systems (e.g. in-sea leases for rearing a number of the bivalve and finfish species).

Expanded discussion of issue

Yumbah Kangaroo Island Pty Ltd (Yumbah) operate with 3 aquaculture licences FT00558, FT00634, FT00702 as detailed in the EIS (Section 6.2.7 page 112). Consistent with the *Aquaculture Act 2001* and Aquaculture Regulations 2016 these licences relate to specific properties owned by or under the management control of Yumbah. For each of these licences there is a list of permitted species and of permitted farming systems (Table 2).

Table 2 - List of species and farming systems that are licenced for each of the 3 Yumbah aquaculture licences. Note that while a species may exist on a licence this does not mean it can practically be farmed if other requirements are not met. For example commercial production of most finfish (e.g. Mulloway and Kingfish) would normally require access to sea cages for growout. Similarly, Southern Rock Lobster has never been successfully farmed on a commercial basis in Australia.

Licence ID	Species permitted	Farming system
FT00558	Abalone, Greenlip (<i>Haliotis laevis</i>)	Channels
FT00558	Abalone, Blacklip (<i>Haliotis rubra</i>)	Channels
FT00558	Abalone, Brown (<i>Haliotis conicopora</i>)	Channels
FT00558	Abalone, Roes (<i>Haliotis roei</i>)	Channels
FT00558	Abalone, Staircase (<i>Haliotis scalaris</i>)	Channels
FT00558	Mulloway (<i>Argyrosomus japonicus</i>)	Channels
FT00558	Kingfish, Yellowtail (<i>Seriola lalandi</i>)	Channels
FT00558	Snapper (<i>Pagrus auratus</i>)	Channels
FT00558	Whiting, King George (<i>Sillaginodes punctata</i>)	Channels
FT00558	Bream, Black (<i>Acanthopagrus butcheri</i>)	Channels
FT00558	Oyster, Pacific (<i>Crassostrea gigas</i>)	Channels
FT00558	Scallops, Dough Boy (<i>Mimachlamys asperimus</i>)	Channels
FT00558	Lobster, Southern Rock (<i>Jasus edwardsii</i>)	Channels
FT00558	Scallops, Queen (<i>Equichlamys bifrons</i>)	Channels
FT00558	Oyster, Native (<i>Ostrea angasi</i>)	Channels
FT00558	Flounder, Greenback (<i>Rhombosolea tapirina</i>)	Channels
FT00558	Sea Urchin (<i>Heliocidaris erythrogramma</i>)	Channels
FT00558	Seahorse, Pot Bellied (<i>Hippocampus abdominalis</i>)	Channels
FT00558	Abalone, Blacklip x Greenlip (<i>Haliotis rubra</i> x <i>H. laevis</i>)	Channels
FT00634	Abalone, Greenlip (<i>Haliotis laevis</i>)	Tanks
FT00634	Abalone, Blacklip (<i>Haliotis rubra</i>)	Tanks
FT00634	Kingfish, Yellowtail (<i>Seriola lalandi</i>)	Tanks
FT00634	Trout, Rainbow (<i>Oncorhynchus mykiss</i>)	Tanks
FT00634	Trout, Brown (<i>Salmo trutta</i>)	Tanks
FT00634	Flounder, Greenback (<i>Rhombosolea tapirina</i>)	Tanks
FT00634	Abalone, Blacklip x Greenlip (<i>Haliotis rubra</i> x <i>H. laevis</i>)	Tanks
FT00702	Abalone, Greenlip (<i>Haliotis laevis</i>)	Tanks
FT00702	Abalone, Blacklip (<i>Haliotis rubra</i>)	Tanks
FT00702	Abalone, Brown (<i>Haliotis conicopora</i>)	Tanks
FT00702	Abalone, Roes (<i>Haliotis roei</i>)	Tanks
FT00702	Abalone, Staircase (<i>Haliotis scalaris</i>)	Tanks
FT00702	Abalone, Blacklip x Greenlip (<i>Haliotis rubra</i> x <i>H. laevis</i>)	Tanks

It is not practicable for Yumbah to farm many of the species which are listed on these licences simply because of a mismatch between the aquaculture requirements for the various species and the actual farming systems which are permitted under these licences. Most notably is that Licence FT00702 only permits farming using tanks while FT00558 only permits farming in channels; in fact the farming systems currently occupying the land specified in each of these licence areas represents a mix of farming systems (not necessarily restricted to those listed on the licence) comprising tanks for larval

and juvenile rearing and channels (variously referred to as slab-tanks or raceways) for the rearing of sub-adult and adult animals.

In addition, many of these species would generally be farmed using sea-cages (e.g. yellowtail kingfish and mulloway) or other in-sea infrastructure (e.g. most scallop species) and Yumbah do not hold in-sea leases that would permit sea farming at Smith Bay.

For at least 2 of the species (King George whiting and rock lobster) farming systems have not yet been commercially proven anywhere in Australia.

On this basis, and while it is acknowledged that a number of species other than abalone are listed on the licences, there is negligible risk that the development of the KI Seaport could have any material effect on the farming of these other species.

Issue resolution

The EIS has noted that a variety of species are covered in the licencing documentation but, for all intents and purposes, most of the species that are permitted, but not currently farmed, could not practically be farmed either because the permitted farming systems wouldn't support the production of animals (much beyond the production of juveniles i.e. spat and or fingerlings for a limited subset of species) or because other requirements have not been addressed (e.g. proven commercially viable production systems or in-sea leases for sea-cage production). Furthermore, in relation to Licence FT00634, even if farming was practically possible the only farming that could be undertaken would be inside the existing sheds which in and of themselves provides protection from dust, light and noise.

Yumbah have argued, although this point is not conceded, that abalone are not resilient in the face of elevated suspended sediments which would imply that there are no differences in the water quality requirements for any of these other species when compared to abalone. On balance, therefore, the proposed changes to the built design of the in-water structures for the KI Seaport (with no dredging and no causeway) means that even if there were a legal entitlement to farm these other species there would be no practical impact on the intake water quality for any of the licenced areas.

Implications for licence FT00634

Paraphrasing of issues to be addressed

Argues that whilst the licence has been non-operational it does provide for farming of abalone (and a number of other species) on the site which is substantially closer to the proposed facility than the existing infrastructure.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 3 – Implications for licence FT00634 was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 5	1374.05
1378	PIRSA	Item 2	1378.02

Response summary

Yumbah have been issued a licence under the *Aquaculture Act 2001* by PIRSA (Licence number FT00634). This licence identifies a number of species including a variety of abalone species (greenlip, blacklip and hybrids of these species) as well as four finfish species (yellowtail kingfish, rainbow trout,

brown trout and greenback flounder). The licence also identifies the permitted farming system as "Tanks".

If Yumbah were to be restricted to the use of tanks for aquaculture there would be numerous practical limitations in what could be practically farmed under this particular licence. For example, other than early stage larval rearing or broodstock holding, none of the abalone species permitted under this licence could be grown out in significant numbers using this infrastructure. As such, while the facility may be used for the production of larvae or holding broodstock (all of which is currently done elsewhere on the farm) there is no practical use for the facility in terms of animal rearing (simply because slab-tanks or raceways, which are used for commercial grow-out of adult and sub-adult abalone, are not permitted under this licence).

The existing infrastructure on this site comprises three sheds (with an estimated floor area of 542 square metres) as well as a facility to draw in water from a previously disused seawater intake (shown in the EIS Figure 11.2; westernmost intake pipeline). PIRSA have noted that there is potential for the KI Seaport construction and or operations to impact on this site in a manner which would compromise its utility for use in aquaculture.

The change to the design of the in-sea infrastructure for the KI Seaport has effectively removed any possibility of an impact on water quality for the Yumbah seawater intakes. To the extent that FT00634 is relevant to the EIS, the only activity that could occur on Lot 50 is fully contained within the three sheds on the property, and the only impacts that could be relevant are associated with dust, noise, and light. The fact that the activities are fully enclosed means there is no way in which dust, noise or light could affect tank-based aquaculture inside these sheds.

Furthermore, the Department of Planning have advised that any new development on the site covered under licence FT00634 would require a new development approval. In the absence of such approvals there is no requirement for the EIS to account for activities that might occur were such approvals given.

Issue resolution

The list of species permitted for farming on FT00634 has been reviewed along with issues associated with the licencing (i.e. permitted farming systems). The change to the design of the in-sea infrastructure for the KI Seaport has effectively removed any possibility of an impact on water quality at any of the Yumbah seawater intakes. Aquaculture operations on the area covered by FT00634 can only take place within the existing sheds which act to protect activities from noise, dust and light. Any expansion of aquaculture on this site would require Development Approval and hence there is no need to address any claims associated with potential impacts on other uses for the site.

Issue group: Proximity to Yumbah

General concerns about the proximity of the facility to Yumbah and questioning whether co-location of these operations is possible.

Implications of the revised design for the in-sea infrastructure

The issue of proximity is still relevant in the context of dust, light, noise and biosecurity but other issues (e.g. suspended sediments, wrack accumulation, changes in circulation patterns, localised warming etc) are removed.

Specific matters to be addressed

Proximity to Yumbah (General)

Paraphrasing of issues to be addressed

General concern that the KIPT Port and associated operations are too close to Yumbah and therefore they present a risk to the Yumbah operations.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 4 – Proximity to Yumbah (General) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1053	Kevin Riggs	Page 1	1053.01
1056	Ian Turner	Page 1	1056.12
1095	Jeanette Gellard	Page 3	1095.17
1115	Dr S Petit	Page 3	1115.14
1366	Trent D'Antignana	Page 2	1366.02
1372	Yumbah	Page 8, Page 12, Page 22, Page 36, Page 37, Page 48, Page 52, Page 53	1372.001, 1372.016, 1372.028, 1372.029, 1372.094, 1372.164, 1372.633, 1372.635, 1372.636, 1372.645
1374	EPA	Item 8	1374.08
1378	PIRSA	Item 2	1378.02
707	Savva, N.	Page 1, Page 2	707.01, 707.02
779	Peter Brauer	Page 1	779.01
898	Megan Harvie	Page 1	898.01
A80	Yumbah	Page 12, Page 19, Page 20, Page 31	A80.17, A80.26, A80.40, A80.7a

Response summary

This concern has been stated in various ways through several submissions and is generally framed in the context that the proximity of the proposed development to Yumbah presents risks (to Yumbah's operation) associated with both the construction and operation of the KI Seaport facility. Several different impacts are referred to but most frequently they relate to either impacts on water quality (particularly changes in TSS), biosecurity, dust deposition, noise and light.

In all of these submission the proximity between the KI Seaport and the aquaculture farm is identified as a generic problem; given that each of these issues has been dealt with in specific detail elsewhere

in the response document, there are no additional matters relating to the proximity that need to be discussed any further.

Issue resolution

The issue of proximity is not, in and of itself an issue, rather it is used generically to frame various comments and concerns including risks to water quality and biosecurity, or potential impacts from dust, noise or light; each of these individual concerns has been either rebutted or alternatively addressed through the proposed design changes and therefore this matter does not require separate consideration.

Construction and operation risks of revised seaport design

Paraphrasing of issues to be addressed

An additional 250m offshore does not provide an effective buffer between port operations and aquaculture.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 5 – Construction and operation risks of revised seaport design was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
A80	Yumbah	Page 12, Page 19, Page 20, Page 31	A80.17, A80.26, A80.40, A80.7a

Response summary

The revised design does a number of things that reduce the risk from Port Operations including:

- 1) Coastal processes modelling indicates that an increase in separation between the Yumbah seawater intakes and the berth face means that predicted suspended sediment loads from ship operations (pressure wave and prop-wash effects) will be below the measurement threshold at the seawater intakes (effectively reduced to zero).
- 2) Increased distance will also result in a further dilution of any waters discharged due to increased mixing between discharge point and the abalone farm seawater intakes. Note however that discharges will also be controlled through operational guidelines and the newly implemented international standards on ballast water management and discharge.
- 3) Replacement of the causeway with a piered structure will substantially reduce the surface area for the establishment of exotic marine species and also make detection and treatment more practicable.

Issue resolution

The increased distance will provide further protection in relation to any residual impacts on water quality at the Yumbah seawater intakes. Given that the overall design change has effectively removed the risk of any water quality changes at the intakes (in relation to changes in temperature or increases in suspended sediment loads) then this increased separation is probably of relatively little additional benefit, but it certainly is not a dis-benefit.

Issue group: Biosecurity risks

Biosecurity risks (introductions of invasive species and/or abalone pathogens or parasites) from both coastal and international shipping movements.

Implications of the revised design for the in-sea infrastructure

The causeway is no longer part of the wharf design. This will substantially reduce the available substratum for attachment of introduced species. Extension of the pier will also increase the separation between the Yumbah seawater intakes and the berth face which would further reduce risks to the farming operation.

Specific matters to be addressed

Proximity to Yumbah (Biosecurity)

Paraphrasing of issues to be addressed

Contends that biosecurity risks are inversely proportional to the degree of separation from the potential source and that a 5 nm (nautical mile) separation is required between a Port and an abalone farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 6 – Proximity to Yumbah (Biosecurity) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 52, Page 53, Page 54, Page 57	1372.257, 1372.632, 1372.633, 1372.635, 1372.636, 1372.642
1372.AP2	McShane, P.	Page 11, Page 12	1372.AP2.125, 1372.AP2.126
A1378	PIRSA	Page 3	A1378.03
A80	Yumbah	Page 19, Page 20, Page 34	A80.26, A80.45, A80.7a
FL5	Community	Page Marine Biosecurity 5	FL5.11

Response summary

The argument is made (Yumbah 2019a) that the required separation between a Port and an aquaculture facility is 5 nm (or more). This argument is based on an empirical observation that the Yumbah Narrawong farm is 5 nm from the Port of Portland (Yumbah 2019a) and that the WA Department of Fisheries (Government of Western Australia 2017) has argued that a separation of 5 nm would be required to provide a reasonable distance between abalone farms and other farms or productive reefs.

The framing of the Government of Western Australia (2017) recommendation is to protect productive reefs and abalone farms from infection by pathogens from other operating abalone farms. It is not an argument that 5 nm is the required separation from an operating Port and an abalone farm; this latter is an inference by Yumbah (2019a) and seems to be based on the fact that their Narrawong farm is around 5 nm from an operating Port (Port of Portland).

In practice, the proposal by the WA Government is based on a consideration of the risks that abalone farms pose to wild take abalone fisheries and to other abalone farms. Experience with the Victorian abalone farms at Port Fairy (Ocean Road Abalone) and Portland (now owned by Yumbah) during the Abalone Viral Ganglioneuritis (AVG) outbreak in 2005-2006 indicated that these farms presented a

very high risk to coastal resources. Farms with infected animals present risks to surrounding systems because the high numbers of diseased animals can result in contamination of discharge waters which are likely to contain elevated numbers of disease (viral) particles (Department of Agriculture 2014) and these will then present a risk to wild growing animals or other farms downstream of the discharge.

The concerns expressed by Yumbah are understandable given that the impact on the Victorian industries (aquaculture and wild catch) due to AVG outbreak comprised losses in the vicinity of \$100 million (Department of Primary Industries 2012).

To quote (Department of Primary Industries 2012):

“Abalone viral ganglioneuritis was first confirmed in Victoria in early 2006, following reports of unusually high mortality rates at several Victorian abalone aquaculture farms. In May of that year, AVG was detected in wild populations in southwest Victoria and as far east as Cape Otway and as far west as the Discovery Bay Marine Park. Within this range, AVG has had a significant impact on abalone populations with mortality rates between thirty and ninety per cent.”

Importantly however, while the origin of AbHV in Australia is unknown the best fit scenario suggested that the source of infection was associated with interstate movements of live wild-caught abalone onto aquaculture farms in Victoria (Department of Agriculture 2014). Notwithstanding this presumption the actual source has not been determined and legal action in relation to this event by wild-catch fishers was unsuccessful although an in-principle settlement was reached between fishers and one of the aquaculture businesses (<https://www.holdingredlich.com/blog/state-of-victoria-faces-class-action-over-abalone-virus>; accessed 23-Aug-2019).

Clearly AVG and other similar diseases represent an appropriate concern for a business such as Yumbah. Nevertheless, Yumbah’s (2019) argument that a 5 nm separation is required from an operating Port becomes somewhat tenuous when it is noted that Yumbah themselves have recently applied to build another abalone farm at Bolwarra (to be called Yumbah Nyamat) which is only 2.6 nm from the Port of Portland (Yumbah 2018). Furthermore, in invoking the WA Government Policy as a guideline they ignore the fact that this would negate their own proposal to establish the new farm at Bolwarra because it would only be 3 nm from the existing Narrawong farm and thus does not meet the separation distance that they themselves are arguing should be applied.

Irrespective of the basis for these various arguments, the real issue to be addressed is whether or not the biosecurity arrangements that frame the operating conditions for the KI Seaport are appropriate to the needs of the various stakeholders. In this context there is a need to develop a biosecurity plan for the KI Seaport that reflects a good understanding of the biosecurity practices of the abalone aquaculture industry. This has already been agreed to in that the Biosecurity Plan for the KI Seaport would be developed in consultation with PIRSA Biosecurity. This plan would need to consider the various risks outlined by stakeholders including the information provided in Hewitt and Campbell (2019) which provides some good guidance on these matters.

Yumbah (2019a) also claim that that the withdrawal by Southwood Timber, from their plans to develop a port in Tasmania, is evidence that the operations are incompatible. This is disputed; all it demonstrates is that Southwood Timber chose not to pursue the opportunity in the face of opposition from the salmon aquaculture industry, among a number of other factors.

Issue resolution

There is no basis, in the documentation referred to by Yumbah, to support the claim that there needs to be a 5 nm separation between an operating Port and an Aquaculture facility. Irrespective, the

development of a Biosecurity Plan for the KI Seaport will be done in consultation with relevant regulatory authorities including PIRSA Biosecurity and the KI NRM Board. The plan should consider issues associated with invasive plant and animal species as well as known abalone pathogens and would include appropriate operating guidelines to manage the risks.

International shipping

Paraphrasing of issues to be addressed

Contends that biosecurity risks from international ship movements are substantial due to the ineffectiveness of both the existing management arrangements that aim to manage such risks as well as the level of compliance with the various regulatory arrangements.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 7 – International shipping was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 50, Page 51, Page 57, Page 58	1372.630, 1372.631, 1372.640, 1372.643
1372.AP2	McShane, P.	Page 12	1372.AP2.126
1377	KI NRM Board	Item 1	1377.01
1378	PIRSA	Item 1	1378.01
447	Vic Lodge	Page 1	447.01
FL5	Community	Page Marine Biosecurity 5	FL5.11

Response summary

Concerns in relation to international shipping have been raised in a number of submissions and broadly relate to the risk that ballast water discharge or hull fouling will provide vectors for the introduction of either exotic (and potentially invasive) species and/or abalone parasites or pathogens that pose a disease risk to the abalone farm. The EIS has documented this issue in detail (Appendix I5) providing a comprehensive outline of major vectors, priority pest species, potential diseases, institutional arrangements and policies to control marine pests, monitoring requirements, response strategies for incursions and a strategy for the development of management plans and procedures for Smith Bay should the development of the KI Seaport be approved.

Since the Draft EIS was published there have been substantial changes to the regulatory arrangements in relation to international shipping and particularly around the issue of ballast water management (see below). These regulatory changes have the effect of improving ballast water management by replacing a process-based approach (i.e. the D-1 standard which required ballast water exchanges) with an outcome-based approach which aims to ensure that ballast water is substantially free of exotic organisms. This new approach is referred to as the D-2 standard and specifies systems for the treatment of ballast water such that ships can only discharge ballast water that meets the following criteria:

- less than 10 viable organisms per cubic meter which are greater than or equal to 50 micrometers in minimum dimension;
- less than 10 viable organisms per milliliter which are between 10 micrometers and 50 micrometers in minimum dimension;
- less than 1 colony-forming unit (cfu) per 100 milliliters of Toxicogenic *Vibrio cholerae*;

- less than 250 cfu per 100 milliliters of *Escherichia coli*; and
- less than 100 cfu per 100 milliliters of Intestinal *Enterococci*.

Other than new build ships, which would be required to have a system that complies with Regulation D-2 immediately, a ballast water management system must be operational by the date of the next vessel survey but in any case, no later than the September 8, 2024.

Meeting the D-2 standard may be achieved through fitting ballast water management systems. There are now many such approved systems available to operators, ranging from those which use physical methods such as ultraviolet light to treat the ballast water, to those using active substances. Those that use active substances have to go through an additional and comprehensive approval process.

KIPT have agreed that PIRSA Biosecurity and the KI NRM Board would be consulted in the development of the Biosecurity Management Plan for the Port.

The detail provided in the EIS has met with approval from the relevant SA Government Agencies whose principle concern was that they should be consulted in the development of the Marine Pest Management Plan.

Issue resolution

Existing documentation within the EIS provides a comprehensive treatment of these issues along with the agreement to consult with PIRSA Biosecurity and the KI NRM Board during the development of the Biosecurity Plan for the KI Seaport.

Importantly recent changes in the international regulatory environment with a commitment by Australia to move from the D-1 to the D-2 standard has provided for a substantial reduction in risks associated with ballast water discharges.

Domestic shipping

Paraphrasing of issues to be addressed

Contends that biosecurity risks from domestic ship movements are substantial because there are no regulatory processes in place to manage ship movements between domestic (Australian) ports.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 8 – Domestic shipping was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 51, Page 58	1372.631, 1372.643
1372.AP2	McShane, P.	Page 12	1372.AP2.126
1377	KI NRM Board	Item 1	1377.01

Response summary

Consistent with the management of risks from international shipping the risks associated with domestic ship movements will need to be addressed through the development of the KI Seaport Biosecurity Plan. This will be undertaken in consultation with key agency representatives from both PIRSA and the KI NRM Board.

Issue resolution

Existing documentation within the EIS (including this response document) provides a comprehensive treatment of these issues and along with the agreement to consult with PIRSA Biosecurity and the KI NRM Board during the development of the Biosecurity Plan for the KI Seaport.

Source Port risks

Paraphrasing of issues to be addressed

Contends that biosecurity risk management should recognise the risks taking account of the source ports. Noting, for example, that the Port River in SA already has POMS and that many overseas ports are close to abalone facilities which are likely to have a variety of pathogens including Perkinsus and AVG.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 9 – Source Port risks was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 50, Page 57, Page 58	1372.630, 1372.640, 1372.643
1377	KI NRM Board	Item 1	1377.01
1378	PIRSA	Item 1	1378.01
447	Vic Lodge	Page 1	447.01
707	Savva, N.	Page 2	707.02
FL5	Community	Page Marine Biosecurity 5	FL5.11

Response summary

Consistent with the management of risks from international shipping, the risks associated with domestic ship movements will need to be addressed through the development of the KI Seaport Biosecurity Plan. This will be undertaken in consultation with key agency representatives from both PIRSA and the KI NRM Board.

Note also the detailed information provided below (Abalone Disease Risks) which includes information relating to the known distributions of abalone disease causing agents and the associated management frameworks for the management of ballast water risks.

Issue resolution

Existing documentation within the EIS (including this response document) provides a comprehensive treatment of these issues and along with the agreement to consult with PIRSA Biosecurity and the KI NRM Board during the development of the Biosecurity Plan for the KI Seaport.

Abalone disease risks

Paraphrasing of issues to be addressed

Contends that the establishment of the KI Seaport facility will expose the Yumbah farm to increased risks from a range of known disease agents including AVG, Perkinsus and Vibrio as well as risks from paralytic shellfish poisoning and other (unspecified) disease agents.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 10 – Abalone disease risks was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 57	1372.638, 1372.639, 1372.640

Response summary

In the development of a Biosecurity Plan for the KI Seaport there would be a need to consider a broad range of published information on abalone disease risks of relevance to the land-based farm. The principle safeguard would be to ensure that ships using the KI Seaport adhere to the requisite management arrangements as discussed in the preceding sections.

General animal health issues for abalone

The Australian Government has published the National Biosecurity Plan Guidelines for the Australian land-based abalone industry (Spark et al. 2018); the document provides a framework for industry to support their development of site-specific biosecurity plans for individual farms. Spark et al. (2018) also identifies the reportable diseases of abalone which are acknowledged as those diseases that present the greatest risks to the farmed abalone industry as well as risks presented by the aquaculture sector to the wild catch sector.

The reportable diseases (Spark et al. 2018) are Abalone Viral Ganglioneuritis (AVG) a viral pathogen that is endemic to Australia, Abalone Withering Disease (*Xenohaliotis californiensis*) which is caused by an exotic bacterial pathogen (to date this has not been reported in Australia) and *Perkinsus olseni* (a zoo-parasite) that is endemic to Australia and is frequently found in farmed stock.

Abalone viral ganglioneuritis

AVG (AbHV – Abalone Herpes Virus) is endemic within Australia although it has not been reported west of Discovery Bay Marine Park in Victoria and, to date, has not impacted on South Australian farms. Otherwise AVG has only been reliably recorded from Chinese Taipei (OIE 2019) which is not a likely source port for ships that would use the KI Seaport.

Perkinsus olseni

Perkinsus olseni has a widespread distribution through-out the tropical Pacific, including Japan (OIE 2019) and as such would be a potential risk from within the area where international ships may originate. One of the key problems with *Perkinsus olseni* is that the parasite is known to infect many different species (Table 11) including, for example, the Pacific Oyster (*Crassostrea gigas*): it is notable that Spark et al. (2018) identify sharing water between different species as being a High Risk on farm activity and this is, in part, because species such as *Perkinsus olseni* can move from one host species (e.g. oysters) to other host species (e.g. abalone). Given the principle vector for the introduction of diseases onto farms is via the introduction of infected stock from elsewhere (Department of Agriculture 2014) this means that holding multiple species on a farm significantly increases the risk due to the additional introduction pathways that farming of multiple species presents. This is relevant in the context of the licencing for multiple species on a given farm in that the decision to farm other species will increase the disease risks to all species being farmed.

Table 11 – Species known to be susceptible to *P. olseni* (after Australian Government Department of Agriculture, Fisheries and Forestry 2012)

Common name	Scientific name
Sydney cockle	<i>Anadara trapezia</i>
New Zealand cockle ^a	<i>Austrovenus stutchburyi</i> , <i>Macomona liliana</i> and <i>Barbatia novae-zelandiae</i>
Pacific oyster ^a	<i>Crassostrea gigas</i>
Kumamoto oyster	<i>Crassostrea sikamea</i>
Whirling abalone ^a	<i>Haliotis cyclobates</i>
Greenlip abalone ^a	<i>Haliotis laevis</i>
Blacklip abalone ^a	<i>Haliotis rubra</i>
Staircase abalone ^a	<i>Haliotis scalaris</i>
Sand cockle	<i>Katelysia rhytiphora</i>
Silverlip pearl oyster	<i>Pinctada maxima</i>
Pearl oyster	<i>Pinctada sugillata</i> , <i>P. margaritifera</i> and <i>P. martensii</i>
Venerid commercial clam ^a	<i>Pitar rostrata</i>
Grooved carpet shell or venerid clam ^a	<i>Ruditapes decussatus</i> , <i>R. semidecussatus</i>
Crocus clam ^a	<i>Tridacna crocea</i>
Giant clam ^a	<i>Tridacna gigas</i>
Elongated giant clam or rugose giant clam ^a	<i>Tridacna maxima</i>
European aurora venus clam ^a	<i>Venerupis aurea</i>
Asian littleneck clam ^a	<i>Venerupis philippinarum</i>
Manila clam	<i>Venerupis philippinarum</i>
Pullet carpet shell	<i>Venerupis pullastra</i>

^a Naturally susceptible (other species have been shown to be experimentally susceptible)

Xenohaliotis californiensis

Xenohaliotis californiensis has never been recorded in Australia. Consequently, there are no records of infection of either *H. laevis* or *H. rubra* but *X. californiensis* has been found in many other *Haliotis* species. *Xenohaliotis californiensis* is known from the south-west coast of North America but infected abalone have been transported from such areas to other locations including Japan and other Asian locations.

Paralytic shellfish poisoning (PSP)

PSP is not listed in any of the recognised aquatic animal health references (e.g. OIE 2019, Spark et al. 2018) or related documents. Yumbah (2019a) have however raised concerns about the "imminent risk of paralytic shellfish poisoning (PSP)"; this issue is also referenced in McShane (2019). In neither case do the authors provide any evidence that they have any real understanding of PSP related risks and indeed the literature that they refer to, particularly Dowsett et al. (2011) makes it clear that there is no risk of this ever occurring in relation to abalone. Dowsett et al. (2011) undertook a study in which they actually fed abalone a diet that was enriched with PSP producing algae (*Alexandrium minutum*) at the rate of 80,000 cells per gram of feed over a period of 50 days. They concluded that even after this exposure the levels of the toxins in tissues were barely detectable and around 50 times lower than the maximum permissible limit in human foods.

The critical issue in this context is that abalone are not filter feeders and would not actively feed on micro-algae even if these algae were present in the water column at these extreme levels. Any algal

cells that they did manage to ingest would be entirely incidental and would likely be in trivial numbers compared to the loads that they were exposed to under the experimental treatment (80,000 cells/g). Dowsett et al. (2011) concluded the "... low level of PST uptake when abalone were exposed to high numbers of *A. minutum* cells over a prolonged period may indicate a low risk of PSP poisoning to humans from the consumption of *H. laevigata* that has been exposed to a bloom of potentially toxic *A. minutum* in Australia." This conclusion is unsurprising and fully addresses any concerns raised by Yumbah.

Issue resolution

The development of a Biosecurity Plan for the KI Seaport will need to take cognizance of published information on the distribution and threats of potential abalone disease agents particularly including the notifiable diseases AVG, *Perkinsus olseni* and abalone withering syndrome.

Paralytic shellfish poisoning is not a risk to farmed abalone but irrespective, the abalone farm is the primary source of additional inorganic nutrients into Smith Bay and therefore the responsibility for the management of such risks properly sits with Yumbah and the EPA/PIRSA who are responsible for setting standards and regulating the discharge of waste water from the farm.

Invasive species risks

Paraphrasing of issues to be addressed

Contends that marine pest species that have already become established in Australia have not been adequately addressed in the EIS documentation.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 12 – Invasive species risks was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 57	1372.642

Response summary

It is noted that a number of existing invasive species have already become established in SA or elsewhere in Australia including the dinoflagellate (*Gymnodinium catenatum*), the European fan worm (*Sabella spallanzanii*), *Codium fragile* ssp *tomentosoides*, the Northern Pacific Seastar (*Asterias amurensis*) and the Japanese kelp (*Undaria pinnatifida*). Many of these species do present potential risks (or are already well established) in South Australia and have long been the targets for routine surveillance programs by Biosecurity SA, SARDI and other agencies (including CSIRO). At least two invasive species are already known from Kangaroo Island including *Sabella spallanzanii* and the European sea-squirt (*Cioina intestinalis*). Historic introductions are likely to have occurred as a result of domestic shipping traffic between other Australian Ports and Kangaroo Island. Consistent with the management of risks from international shipping the risks associated with domestic ship movements will need to be addressed through the development of the KI Seaport Biosecurity Plan. This will be undertaken in consultation with key agency representatives from both PIRSA and the KI NRM Board.

Issue resolution

This matter has been addressed through an agreement to consult with PIRSA Biosecurity and the KI NRM Board during the development of the Biosecurity Plan for the KI Seaport.

Biosecurity plan

Paraphrasing of issues to be addressed

Contends that existing regulatory arrangements are not adequate to provide the requisite level of protection that Yumbah believe is needed to safeguard their operation.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 13 – Biosecurity plan was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 58	1372.643, 1372.644

Response summary

It is acknowledged that there is a need to develop a biosecurity plan for the KI Seaport and this will comprise a component of the work undertaken in relation to secondary approvals.

Issue resolution

This matter has been addressed through an agreement to consult with PIRSA Biosecurity and the KI NRM Board during the development of the Biosecurity Plan for the KI Seaport.

Issue group: Light spill

Concerns about the impact of light spill from the facility onto the Yumbah farming systems. This includes both fixed lights as well as vehicle lights during night-time truck movements.

Implications of the revised design for the in-sea infrastructure

This matter will not be affected by the proposed changes in the design of the in-sea infrastructure and the associated issues will still need to be addressed.

Specific matters to be addressed

Effects of light spill

Paraphrasing of issues to be addressed

Contends that abalone respond negatively to light spill which will cause abalone to move around at night. This will disrupt feeding and impact growth rates.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 14 – Effects of light spill was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1095	Jeanette Gellard	Page 3	1095.17
1372	Yumbah	Page 9, Page 25, Page 36	1372.003, 1372.067, 1372.645
1372.AP2	McShane, P.	Page 5, Page 12	1372.AP2.096, 1372.AP2.128
1374	EPA	Item 6	1374.06
707	Savva, N.	Page 2, Page 3	707.02, 707.07
867	John Hodgson	Page 4	867.22
A80	Yumbah	Page 36, Page 40	A80.47, A80.53
FL5	Community	Page Pollution and amenity 4	FL5.16

Response summary

There is no support in the literature for the claims being made (e.g. McShane 2019) that light spill will impact on abalone growth or mortality rates on the Yumbah farm (see below). On the contrary, the literature referred to by McShane (2019) suggests that light spill will either have no impact on growth rates (when 24 h light exposure is compared to the current situation on the Yumbah farm of a 12:12 light/dark cycle) or alternatively, if lights of the correct colours are used, then there is a capacity to enhance feeding responses (see below).

The critique provided in the various submissions erroneously compares growth responses in 24 h dark to that with a 12:12 light-dark cycle. Yumbah KI, unlike a number of other abalone farms, does not fully cover its slab tanks in order to provide for 24 h darkness; rather they use shade mesh to mimic the light dark cycle that abalone would receive at a depth of around 5 m in the natural marine environment. This is not the same as keeping animals permanently in the dark (as is done, for example, on the abalone farm at Port Fairy in Victoria or on the farm that operated at Streaky Bay). As such, the mooted benefits of not exposing animals to light spill is not supported by what has been reported (see below).

Importantly, some of the literature referred to by McShane (2019) actually showed positive benefits of red and orange light in enhancing abalone growth and reducing mortality rates (see below). As such, it is likely that using lights with outputs in the longer wavelengths would be an appropriate mitigation measure.

Expanded discussion of issue

While a number of submissions through the public consultation addressed the issue of the impact of extraneous light on abalone (light spill effects), most simply echoed the comments made by McShane (2019) without providing any new information in this respect. However, two submissions (EPA - State Agency and McShane 2019) not only argued that light spill would have an adverse effect on abalone but also provided references which they argued supported their claims. These references have been reviewed against the advice that we originally provided in the EIS and in all cases it was found that the evidence provided in these submissions did not lend any support to the claim that extraneous light from the land based operations would have a negative impact on abalone aquaculture given that Yumbah currently operate there facility such that abalone are exposed to a natural cycle of light exposure during the day.

The State Agency comments were made with reference to two reports (Freeman 2001 and Currie et al. 2016). Both reports make reference to abalone movement in response to light but neither actually demonstrated any adverse impact on either growth rates or survival in response to changes in light period (where light period represents the light/dark cycle that animals are exposed to). In essence, both these reports undertook studies of phototaxis (in particular reverse phototaxis, the tendency for abalone to move away from light) but they did not make any measurement of the effect this may or may not have on growth rates or survival.

Similarly, McShane (2019) argued that the EIS had dismissed the impact of extraneous light on abalone feeding and growth and included references to a number of papers specifically including Garcia-Esquivel et al. (2007), Gao et al. (2016) and Xiaolong¹ et al. (2016) which McShane argued provided evidence of the adverse effects from light spill. However, a careful reading of these papers reveals a fundamental misunderstanding by McShane (2019) of what the authors actually concluded about abalone behaviour and notably that they did not report any measurable impact on the key performance indicators of either growth rates or survival (mortality rates) of abalone.

In fact, Garcia-Esquivel et al. (2007) reported that there were **no significant differences** in growth between abalone exposed to 24 h light when compared to those grown in a 12:12 light/dark cycle (Figure 2). Xiaolong et al. (2016) concluded similarly, that there were **no significant differences** between animals grown in the dark versus those exposed to natural light (i.e. a 12:12 light/dark cycle; Figure 3 and Figure 4). In both these studies the researchers used measurements of growth and mortality rates as a basis for their conclusions (i.e. not simply reporting movement in response to light but rather quantitative data on specific growth rates and mortality rates).

The difference between the two papers was that Garcia-Esquivel et al. (2007) found that abalone kept in 24 h darkness did perform slightly better than those kept under either the 12:12 light/dark or the 24 h light treatments while Xiaolong et al. (2016) concluded that there were no such differences. Irrespective, these findings are relevant because, while the Yumbah farm at Kangaroo Island uses

¹ Note that the lead author (Gao Xiaolong), referred to as “Gao, X” is the same person as in Xiaolong et al. (2016); in this review we have followed the authorship detailed in the journal papers.

shade-cloth to reduce the daytime light intensity, this does not result in 24 h darkness. To quote Yumbah (2019a) "... onshore production mimics natural cycles by ensuring darkness at feeding times".

To obtain 24 h darkness the farm would need to use plastic sheeting (or something similar) that would completely block out daytime light such that animals were kept in the dark during both day and night. Given that Yumbah do not do this the relevant basis for comparison of the Yumbah KI farm is to compare a 24 h light exposure (making the extreme assumption that lighting of the KI Seaport provides sufficient light to achieve that result) and a 12:12 light dark cycle. In short none of the reports referred to by McShane (2019) or by the EPA have demonstrated any difference between abalone growth rates or mortality rates under a natural light/dark cycle when compared to a permanently lit condition.

The view that light spill has an adverse effect on abalone performance (growth and mortality) is a strongly held view by some industry proponents to the extent that some farms in Australia use opaque plastic sheeting to block out all light from their farming systems (i.e. effectively keep their animals in permanent darkness). Examples include the Ocean Road Abalone farm in Port Fairy, Victoria and the Streaky Bay Farm in South Australia. In both cases their approach to farming represents an attempt to capture (in a commercial situation) the perceived benefit of 24 h darkness by blocking out the light during the daytime period as well as ensuring that there is no light spill at night. Irrespective, the Yumbah farm does not employ this approach and therefore their animals are exposed to light on a roughly 12:12 light/dark cycle (varying seasonally). On this basis, the evidence from the research studies provided by McShane (2019) clearly show that there is no difference in those abalone exposed to light spill when compared to those experiencing a natural 12:12 cycle.

While McShane (2019) has clearly misinterpreted the results from these studies he has highlighted some ideas that may be useful in ensuring that light spill from the Seaport does not impact on abalone production. Importantly, while Xiaolong et al. (2016) showed no difference between animals exposed to a natural light environment and those kept permanently in the dark, their study did demonstrate that exposure to red or orange light will in fact **increase both growth** (Figure 3) and **survival** (Figure 4) rates for animals while blue and or green light will result in negative effects (impacting both growth and survival).

This information is valuable as it can be used to ensure that any lighting used on site consists of lights that have low emissions towards the blue end of the visible light spectrum or alternatively have coloured filters to remove blue-green light from the colour spectrum. Under such circumstances any light spill that cannot be addressed through the use of baffles would not be expected to have an adverse effect and may, in fact, improve abalone performance on the farm.

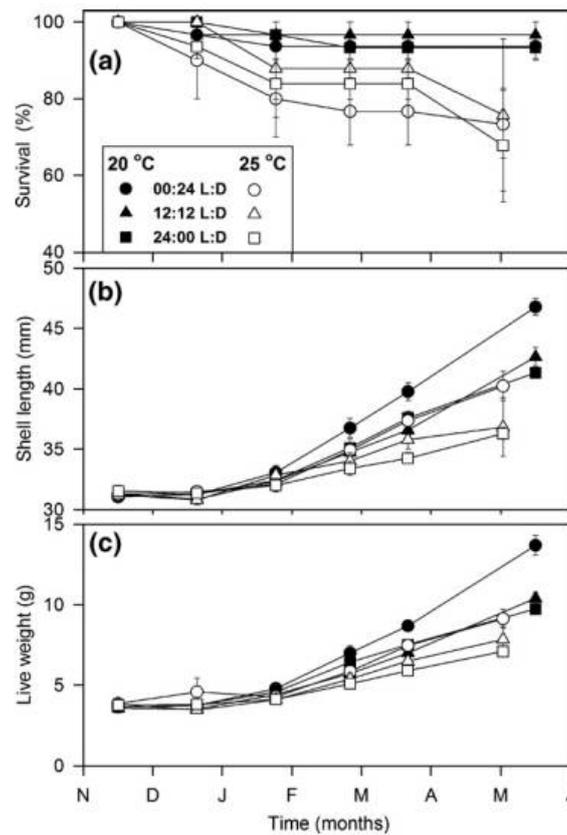


Fig. 1. Monthly changes in cumulative survival (a), size (b) and weight (c) of juvenile green abalone, *Haliotis fulgens*, reared during six months at two temperatures (20 °C and 25 °C) and three photoperiods (00:24, 12:12 and 24:00 light:dark hours) with a balanced diet.

Figure 2 - Fig. 1 from Garcia-Esquivel et al. 2007 (including caption) showing (a) survival (b) shell growth rate and (c) live weight changes under different light regimes. Note that while 24 h darkness provides a higher growth rate than other light regimes it comes with a marginally lower survival rate than the 12:12 L:D regime. The key result is that 24 L is not different to 12:12 L:D regime.

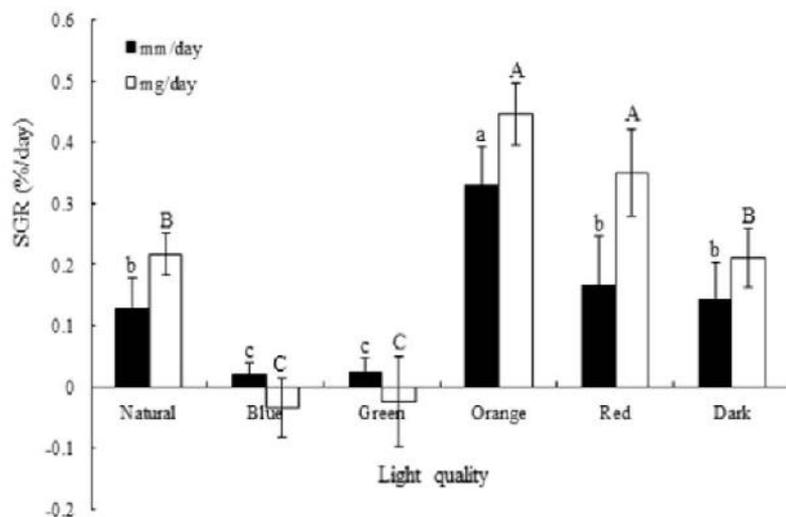


Fig. 2. Effect of LED light quality on the specific growth rate of juvenile abalone (*H. d. discus*). Capital letters indicate the difference among the mean body-weight specific growth rate, whereas lowercase letters indicate the difference among the mean shell-length specific growth rate. There was no significant difference between bars with the same letter, whereas significant differences occurred between bars with different letters.

Figure 3 - Copy of Fig. 2 (including caption) from Xiaolong et al. (2016) showing that animals grow better when exposed to red and particularly orange light when compared to animals kept in the dark. Key result was that there were no differences in the growth rate of animals kept in the dark compared to those exposed to a natural light dark cycle.

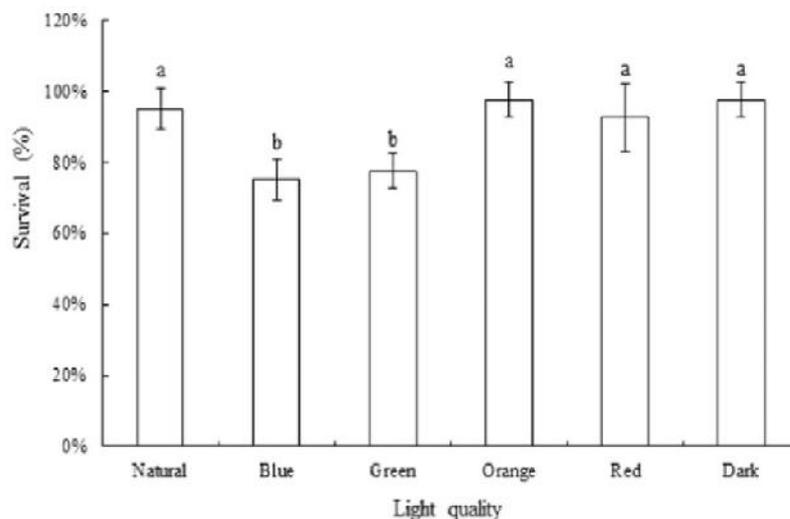


Fig. 1. Effect of LED light quality on the survival rate of juvenile abalone (*H. d. discus*). There was no significant difference between bars with the same letter, whereas significant differences occurred between bars with different letters.

Figure 4 - Fig. 1 from Xiaolong et al. 2016 (including caption) showing survival rates under different light regimes. Note reduced survival under blue and green light. Key result was that there were no differences in survival rates between animals kept permanently in the dark compared to those growing under natural light conditions.

Issue resolution

This matter has been resolved in that the available evidence suggests that there would be no material impacts on abalone. However, while there is no evidence to support the claims being made that light

spill will have a detrimental impact, the available mitigation strategies (detailed below) are sufficient to address any remaining uncertainty by minimising the likelihood of extraneous light spill.

Mitigating light spill

Paraphrasing of issues to be addressed

Contends that the EIS does not provide sufficient information on the mitigation of light spill from the KI Seaport.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 15 – Mitigating light spill was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1095	Jeanette Gellard	Page 3	1095.17
1372	Yumbah	Page 9	1372.003
707	Savva, N.	Page 3	707.07
A80	Yumbah	Page 36	A80.47

Response summary

There is no evidence to support Yumbah’s claims about the adverse impacts of light spill on farmed abalone (see below). Notwithstanding, KIPT have identified a number of strategies to ensure that light spill is minimised including:

1. The use of light baffles around fixed lighting to ensure that light is provided in the areas where it is required and does not spill across to the abalone farm.
2. Wherever possible using red or red-orange lights (rather than lights with blue or green outputs) because these have been shown to promote rather than negatively impact on abalone growth and survival and thus any light spill that may occur would potentially be beneficial to farmed animals.
3. Placing a barrier fence around the land-based part of the KIPT facility with at least 90% shade-cloth to further limit the chance of light spill from ground-based operations (e.g. vehicle movements at night). This, coupled with Yumbah’s 70% shade-cloth over their raceways, will ensure a 97% reduction in incidental light spill from sources such as vehicle operations. Areas with sheds will not experience any light spill.
4. The use of security lights that, where possible, operate in the infra-red and thus do not provide a risk of light spill.

Issue resolution

There are a range of mitigation strategies that will be implemented to ensure that light spill is effectively minimized and where light spill is likely that the lighting used is dominated by light at the red-orange end of the colour spectrum (which has been proven to have a beneficial effect on abalone growth rates and in reducing mortality rates).

Issue group: Operational noise

Concerns about noise impacts from the facility on the Yumbah farming systems.

Implications of the revised design for the in-sea infrastructure

This matter will not be affected by the proposed changes in design and the associated issues will still need to be addressed. In addition, there may be some new issues associated with additional noise (pile-driving) during construction.

Specific matters to be addressed

Noise and vibration (marine)

Paraphrasing of issues to be addressed

Contends that noise and vibration in the marine environment, associated with the construction and operation of the KI Seaport, would impact on abalone aquaculture.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 16 – Noise and vibration (marine) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 35	1374.35

Response summary

There is no mechanism whereby underwater noise would impact the abalone farm.

Issue resolution

This matter is resolved in that there is no mechanism whereby underwater noise would impact the abalone farm.

Noise and vibration (terrestrial) impacts on abalone

Paraphrasing of issues to be addressed

Contends that noise and vibration in the terrestrial environment, associated with both construction and operation of the KI Seaport, will impact on abalone aquaculture.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 17 – Noise and vibration (terrestrial) impacts on abalone was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 33, Item 35	1374.33, 1374.35
707	Savva, N.	Page 3	707.07

Response summary

Quantitative estimates of noise (Resonate 2018) were reported in the EIS along with a narrative detailing that these were unlikely to affect the Yumbah farm through impacts on abalone. This information has been comprehensively addressed in Chapter 11 of the EIS as well as in Sections 4.3.1

and 4.3.3 (Appendix H of the EIS document). To reiterate, the noise levels emanating from the KI Seaport would be lower than those generated on the abalone farm itself (based on the design specifications for noise levels at Yumbah's Nyamat farm design documentation (Yumbah 2018)).

Commentary by SA Government Agencies (Item 33), although needing to be addressed elsewhere, is not relevant in the context of the impact of noise on farmed abalone (rather the comment relates to the provisions of the Environmental Protection (Noise) Policy 2007 as it relates to rural living and residential and recreational amenity).

Issue resolution

All issues associated with noise impacts on the abalone farm have been addressed in the original EIS. That document noted that the noise levels experienced on the abalone farm would be less than the design specifications for noise levels at Yumbah's Nyamat farm design documentation (Yumbah 2018) and therefore were presumed to be well below the levels which would be likely to impact on abalone aquaculture.

Issue group: Air quality (Dust)

Concerns about air-quality and particularly dust deposition onto farming infrastructure due to mobilisation of material including wood-dust from land-based operations.

Implications of the revised design for the in-sea infrastructure

This matter will not be affected by the proposed changes in design and the associated issues will still need to be addressed.

Specific matters to be addressed

Air quality impacts

Paraphrasing of issues to be addressed

Contends that wind-blown dust (including wood dust) will be transported across the Yumbah abalone farm where it will settle onto farming infrastructure and ultimately get washed into the raceways and nursery tanks causing elevations in suspended sediment loads in the water.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 18 – Air quality impacts was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 9, Page 36, Page 45	1372.002, 1372.147, 1372.645
1374	EPA	Item 2, Item 4	1374.02, 1374.04
707	Savva, N.	Page 2, Page 3	707.02, 707.07

Response summary

The impact of dust deposition on the Yumbah facility was dealt with in section 11.5.5 of the EIS document (and associated Appendices). The information presented in the EIS provided a quantitative analysis of the expected rates of dust deposition onto the farming infrastructure and then undertook a worst-case analysis of the potential impact that dust deposition (at the expected rates) may have on the farming system. That analysis concluded that:

1. Dust deposition would increase from current background levels by 10%-20% which will not have a material effect on water quality for the abalone farm. The expected impact is to increase total suspended sediment loads by around 0.0014 mg/L to a maximum value of 0.007 mg/L. Under a worst-case analysis (assuming that all dust deposited accumulates until a rainfall event washes it through in one pulse) the levels may reach 8.0 mg/L (99th percentile value; noting that 80% to 90% of this comes from background sources and is typical of current operations). Irrespective, even the extreme case is well below the ANZECC water quality criteria for the protection of Aquaculture (10 mg/L).
2. The scenario discussed above assumes that all of the dust that is deposited washes through the shade-cloth and goes immediately into suspension. This is not likely given that Stringer (2018) experimentally observed that the time required for the wood dust component to go into suspension was around 2 hours which exceeds the typical retention time of water on the farm (around 20-30 minutes). This means that any wood dust (which would be expected to comprise some 54% of dust from the KI Seaport operations) would float on the surface of the water and thus flow out of the farm long before it went into suspension. Thus, even under the worst-case scenario, it is unlikely that the 99th percentile value for TSS would exceed 7 mg/L.

3. The ecotoxicology studies (Stringer 2018) using fine hard-wood dust concluded that even if all of the dust did go immediately into solution (which it doesn't), it was highly unlikely that farmed animals would be affected because there was no detectable impact of wood-dust on animal survival even at concentrations 10 times higher (35 mg/L) than the most extreme concentrations that could possibly occur (3.5 mg/L) and for exposure time 50 times longer than would likely occur (due to short retention times on farm). On this basis, taking into account the time taken for wood-dust to leach, the experimental exposure tested by Stringer (2018) was likely to have been 100 to 1,000 times higher than the practical exposure levels that would be encountered.
4. Rainfall events that might cause the wash-through of deposited dust are relatively infrequent typically occurring on less than 9 days per year and hence this is not likely to be a chronic problem but rather episodic. This is effectively unchanged from the existing risk profiles when calculated using background dust deposition rates.

Notwithstanding that the quantitative analysis of dust emissions has concluded that dust deposition would not be at a sufficient level to cause problems for the abalone farm, a number of additional mitigation actions have been incorporated into the design of the systems and these include:

1. Reducing the height of the stockpile; in practice this will reduce the potential for dispersion of the woodchip-related dust because:
 - a. The lower the height of the dust source, the less distance a given particle is likely to travel, given otherwise identical circumstances. The counter to this is that local concentrations (i.e. those closer to the pile) may be increased (assuming the area of the pile remains the same, but only the height is reduced) due to the lesser dispersion.
 - b. The lower the height of the stockpile, the less the wind speed (generally, but not always) as the wind is subject to more boundary layer and terrain/obstacle disturbances. The less wind speed, the less likely a given particle is to be entrained and carried from the pile.
2. Modelling has assumed that conveyors are covered but further reductions would be realized from covering transfer points and the through the use of water sprays to suppress dust production.
3. The construction of a 2 m high mesh covered fence (which has been identified as a mitigation tool for light spill) was not accounted for in the original air quality modelling. The National Pollutant Inventory Emission Estimation Technique (EET) guide for Mining v3.1, Table 4, specifies an estimated control factor for wind erosion from stockpiles of 30% for wind breaks. These are nominally at source controls, and so a boundary fence would be expected to be less effective. A 30% reduction in dust make from the stockpile source would be equivalent to a reduction in the overall site dust make of around 10%.
4. In relation to air quality the inclusion of the Yumbah sheds on FT00634 introduce new sensitive receptors that were not included in the original modelling. Given that air quality impacts are a measure of the effect of an exposure of a given air quality over time the covered shed modifies the exposure pathway by providing shelter from depositional processes. With regards to dust concentrations in ambient air, there is the potential that air with elevated concentrations of dust may be ventilated into the shed and create an exposure scenario but these would only be slightly elevated from current background levels which (assuming that the dust goes directly into solution) would have an impact in the order of 0.0017 mg/L which is effectively below detection levels.

Figure 17.11a of the Draft EIS shows the maximum 24-hour average GLC of PM₁₀ (and below) sized dust particles. PM₁₀ is broadly (but not exactly) equivalent to respirable dust and is generally used as a health benchmark within the NEPM framework for Ambient Air Quality Measurement criterion. The modelling shows that the concentration of PM₁₀ dust in the air on the worst day of the year, under our worst-case modelled scenario, would comply with the NEPM at the location of these sheds. On

this basis, and given the results from the wood-dust ecotoxicology studies, it is highly unlikely that there would be any effect on the water quality of the aquaculture tanks inside these sheds that would have an effect on animal health.

Issue resolution

Redesign of the stockpile and the inclusion of a perimeter fence will both act to further reduce risks associated with dust mobilisation and subsequent deposition on the abalone farm. Re-examination of the data taking account of the sheds on FT000634 indicates that air quality impacts would not threaten aquatic animal health at this location.

Veracity of air quality assessment

Paraphrasing of issues to be addressed

Questions the veracity of the air quality assessment and particularly the basis for estimating background deposition rates and whether or not peak loads would change as a basis of this estimation.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 19 – Veracity of air quality assessment was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 9	1372.002
1374	EPA	Item 2, Item 4	1374.02, 1374.04

Response summary

The veracity of the air quality assessment has been reviewed and updated to take account of key matters in relation to design of the stockpile and the proximity of activities on Licence Area FT00634. The original conclusions that there was no reasonable likelihood of an effect on Yumbah's operations (as discussed previously) stands.

Issue resolution

Redesign of the stockpile and the inclusion of a perimeter fence will both act to further reduce risks associated with dust mobilisation and subsequent deposition on the abalone farm. Re-examination of the data taking account of the sheds on FT000634 indicates that air quality impacts would not threaten aquatic animal health at this location.

Impacts of timber toxins

Paraphrasing of issues to be addressed

Contends that timber toxins from the chemical treatments used in timber processing would leach from the system or be attached to windblown dust and that this material would impact on the neighbouring abalone farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 20 – Impacts of timber toxins was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1115	Dr S Petit	Page 3	1115.14

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 45, Page 46, Page 66	1372.147, 1372.152, 1372.637
447	Vic Lodge	Page 1	447.01

Response summary

The issue of chemicals used in the wood production processes were detailed in Chapter 4 of the Draft EIS. Most relevant is that woodchips do not need to be fumigated. Depending on customer requirements, logs may need insecticidal fumigation, but this would not take place at Smith Bay but at another port, such as Portland in Victoria. As such, methyl bromide, would not be stored or used onshore at Smith Bay. It should be noted that methyl bromide is in the process of being phased out as a log fumigant and may no longer be in general use by the time the KI Seaport is operating.

Although herbicides and pesticides are used within some the plantation forests in some parts of Australia, none will be used at Smith Bay and because leaf and bark are removed at the logging site there is no possibility of chemicals associated with herbicides and pesticides entering the marine environment at Smith Bay.

In normal forestry practice on Kangaroo Island, herbicides are used only prior to plantation establishment, which is 15 – 35 years prior to harvest. Insecticides are rarely if ever used.

Other chemical wastes, generated at Smith Bay will be collected, contained and disposed of according to industry standards and consistent with the EPA's waste licence for the site. There is no possibility of these chemicals entering the marine environment at Smith Bay.

Issue resolution

This issue is resolved because no chemicals will be used in the treatment of the timber at Smith Bay and any chemical residues that may have been used on the standing forests will be removed due to the bark and leaf removal from the wood that occurs at the logging site and before the material is transported to Smith Bay.

Issue group: Stockpile leachates

Concerns that contaminated water will leach from the wood stockpile and then be discharged to Smith Bay further compromising the quality of water in the Bay and particularly at the Yumbah seawater intakes.

Implications of the revised design for the in-sea infrastructure

This matter will not be affected by the proposed changes in design and the associated issues will still need to be addressed.

Specific matters to be addressed

Management of leachates resulting in contamination of coastal waters

Paraphrasing of issues to be addressed

Contends that leachates from the wood stockpile would seep out of the facility and contaminate coastal waters.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 21 – Management of leachates resulting in contamination of coastal waters was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 46	1372.152

Response summary

Leachates from the log and chip stockpile storage areas will be managed through the use of an impermeable membrane that will cover the area under the stockpiles. This will be augmented with a series of drainage lines that will direct all runoff flowing through the stockpile (from rainfall or dust suppression systems) into the water treatment pond. This water will then be treated on-site and any discharges that subsequently occur will conform with discharge water quality standards specified under relevant EPA licences and permits. This means that there will be no risk of contamination of coastal waters from these sources and thus stockpile leachates will not impact on abalone farm water quality.

Issue resolution

The wood stockpile and storage areas will be built to ensure that there is no infiltration of surface waters into the groundwater and that all runoff waters are contained within the on-site water treatment facilities. This will eliminate any risk that such discharges will cause contamination of coastal waters and prevent any impact on the intake water quality for the abalone farm.

Issue group: Ship operations

Concerns that ship operations will generate impacts associated with suspension of sediments from prop-wash and the discharge of wastes including diesel residues and wood dust or leachates.

Implications of the revised design for the in-sea infrastructure

This will not be affected by the proposed changes other than the berthing will be at a greater distance from the abalone farm, lowering the overall risk particularly in relation to sediments mobilised during ship manoeuvres.

Specific matters to be addressed

Water quality impacts from ship operations (other than TSS)

Paraphrasing of issues to be addressed

Contends that ship operations including loading (dust generation) and deballasting (discharge of contaminated water) present risks to water quality which would impact on the intake water quality for the abalone farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 22 – Water quality impacts from ship operations (other than TSS) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1115	Dr S Petit	Page 3	1115.14
1372	Yumbah	Page 85	1372.420
1374	EPA	Item 11	1374.11
A80	Yumbah	Page 20, Page 31	A80.40, A80.7a

Response summary

Issues associated with dust generation and biosecurity have been dealt with separately in this report (see sections on Air quality and Biosecurity respectively).

Risks to water quality from ship sourced discharges will be managed under standard operating procedures. All Ports are required to implement procedures to manage the discharge of materials from ships and these include controls on ballast water discharge. Operational management of the KI Seaport will require ships to adhere to these regulations which are intended to ensure that water quality is not compromised by discharges.

Issue resolution

This issue will require some secondary approvals in relation to the management of discharges.

Elevated TSS due to prop-wash during ship operations

Paraphrasing of issues to be addressed

Contends that ship manoeuvring would result in elevated TSS loads that would impact on intake water quality for the abalone farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 23 – Elevated TSS due to prop-wash during ship operations was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
867	John Hodgson	Page 4	867.05
A80	Yumbah	Page 20, Page 31	A80.40, A80.7a
A93	David Ellis	Page 0	A93.04

Response summary

Changes to the design of the in-sea infrastructure, in particular the decision to remove the causeway and replace it with a piered structure that extends out to deep water, means that the berth-face for the Port will now be further away from the Yumbah seawater intakes. Teakle (2019) has confirmed, consistent with the previous advice, that there would be no measurable effect on total suspended sediment concentrations, associated with shipping operations, at the Yumbah seawater intakes.

Issue resolution

Changes to the in-sea infrastructure have eliminated the risk associated with elevations in suspended sediments associated with ship movements to and from the KI Seaport.

Issue group: Farm infrastructure

Concerns about impacts on farming infrastructure that have not been dealt with elsewhere (e.g. sediment loading on filters and deposition of suspended sediments within raceways and drainage channels).

Implications of the revised design for the in-sea infrastructure

Dredging is no longer required for wharf operation; this issue is unlikely to be a concern as there will not be any substantive changes to suspended sediment loads or types in the intake water. As a result, all issues associated with filter maintenance or the deposition of sediments across raceways and within the drainage channels will likely be resolved although we will need quantitative data on the likely rates of sediment generation under the revised construction plan relative to the original plan.

Specific matters to be addressed

Impacts on infra-structure

Paraphrasing of issues to be addressed

Contents that various activities or processes (e.g. dredging) will result in wide ranging impacts on the Yumbah infrastructure (e.g. blockage of filters or inlet pipes) resulting in increased costs of maintenance and operation.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 24 – Impacts on infra-structure was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 12	1374.12
707	Savva, N.	Page 3	707.05

Response summary

Neither dredging nor the construction of a causeway are required as part of the revised design. As such all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Issue group: Climate change

Disputes claims about the potential risks to the abalone industry from climate change.

Implications of the revised design for the in-sea infrastructure

This matter will not be affected by the proposed changes in design and will still need to be addressed.

Specific matters to be addressed

Veracity of climate change impacts on Yumbah as presented in EIS

Paraphrasing of issues to be addressed

Contends that Climate Change impacts detailed in the EIS are overstated and that the abalone industry is not at risk.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 25 – Veracity of climate change impacts on Yumbah as presented in EIS was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 119	1372.589

Response summary

KIPT have noted that the long-term viability of abalone farming has been questioned by the industry and leading aquaculture scientists, as reported in a seminal study by (Doubleday et al. 2013). This study was part funded by the FRDC with contributions from various Australian State Governments. The work concluded (as reported in Cheshire 2018) that climate change presented serious risks to the abalone aquaculture industry because the industry has not been able to find a solution to the problem of summer mortality. While ongoing work has focussed on trying to breed for greater temperature tolerance this has not delivered a solution at this point in time. Therefore, it is likely that the industry will continue to face challenges from this source and, if it is not addressed, it will limit the capacity of the industry to expand production in coming years.

Issue resolution

Issue for noting.

Issue group: Coastal processes

Concerns about the accuracy of the EIS in characterising currents, wave regimes, sediment transport and related matters (including wrack deposition) within Smith Bay along with the potential impacts of the causeway on these processes and the associated impacts on the Yumbah abalone farm's intake water quality.

Implications of the revised design for the in-sea infrastructure

The causeway is no longer part of the wharf design; this will result in a substantial reduction/elimination of issues associated with impacts of the development on coastal processes such that existing circulation patterns, wave regimes, tidal fluxes, etc will all continue and remain effectively unchanged. As a consequence, there will be substantial reductions in coastal management issues including those that relate to wrack deposition and accumulation. Work by Teakle (2019) indicates that there may be a very slight wave shadow behind the pontoon, but this will not have any material effect on coastal processes.

Specific matters to be addressed

Causeway effects

Paraphrasing of issues to be addressed

Contends that the hydrodynamic model does not fully characterise the flow and mixing patterns in the lee of the causeway and therefore there is an increased risk of water quality impacts in the lee of the causeway.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 26 – Causeway effects was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 3	1366.08
1372	Yumbah	Page 9-10, Page 22, Page 24, Page 25, Page 30, Page 46, Page 47, Page 57, Page 79, Page 81, Page 85	1372.010, 1372.027, 1372.049, 1372.062, 1372.075, 1372.150, 1372.154, 1372.156, 1372.158, 1372.369, 1372.378, 1372.379, 1372.420, 1372.641
1372.AP2	McShane, P.	Page 5, Page 11, Page 12	1372.AP2.095, 1372.AP2.097, 1372.AP2.119, 1372.AP2.127
1374	EPA	Item 13	1374.13
559	Naomi Murton	Page 2	559.06
707	Savva, N.	Page 2	707.02
867	John Hodgson	Page 4	867.22

Response summary

The causeway is no longer part of the wharf design; this will result in a substantial reduction/elimination of issues associated with impacts of the development on coastal processes such that existing circulation patterns, wave regimes, tidal fluxes etc will all continue and remain effectively unchanged. All issues associated with the causeway have been resolved including the potential risks associated with:

1. Localised pooling and differential warming of water in the lee of the causeway.

2. Yumbah's wastewater discharge being entrained back through their seawater intakes causing an elevation of waste products (particularly nitrogenous wastes including ammonia) and compromising intake water quality.
3. Yumbah's wastewater discharge being entrained back through their seawater intakes causing further increases in water temperatures associated with passage of the water through the farm which would further exacerbate the warming effects in summer.
4. Decomposition of wrack in the lee of causeway causing increases in suspended organic carbon content with potential impacts on intake water quality including on the oxygen content of the water.

Work by Teakle (2020) indicates that there may be a very slight wave shadow behind the pontoon, but this will not have any material effect on coastal processes and hence all of these issues are addressed by the design changes.

The quality of Teakle's work and the robustness of the conclusions drawn from this work are endorsed by Yumbah's own consultants in Yumbah's second submission (Appendix 4).

Issue resolution

This issue has been fully resolved by the proposed design changes.

Wrack accumulation

Paraphrasing of issues to be addressed

Contents that the accumulation of wrack will impact on water quality for Yumbah through both clogging of the intakes but also through deposition and decomposition of material in the lee of the causeway. Such accumulations would impact on water quality through the resultant mobilisation of fragmented organic material (increasing TSS load) and in impacts on the oxygen content of the water (from microbial digestion processes).

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 27 – Wrack accumulation was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 30, Page 33, Page 36, Page 79, Page 80, Page 81	1372.075, 1372.081, 1372.082, 1372.366, 1372.367, 1372.368, 1372.369, 1372.370, 1372.371, 1372.372, 1372.378, 1372.645

Response summary

This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway. The construction of the pier rather than a causeway means that there will not be any issues associated with wrack accumulation.

Issue resolution

This issue has been fully resolved by the proposed changes in the design of the in-sea infrastructure.

Mitigating causeway impacts

Paraphrasing of issues to be addressed

Contents that the proposal to utilise gated culverts in the causeway may not address impacts on water quality (e.g. TSS or nutrient loads) or water temperature because the operational rules are not

sufficiently detailed. Information was not provided about the management of the gates (e.g. who has responsibility for their operation or how decisions are made about when to open or close the gates).

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 28 – Mitigating causeway impacts was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 9-10, Page 22, Page 24, Page 30, Page 47, Page 85	1372.010, 1372.027, 1372.049, 1372.075, 1372.162, 1372.420
1374	EPA	Item 17	1374.17
867	John Hodgson	Page 4	867.22

Response summary

This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Parameterising coastal-processes model

Paraphrasing of issues to be addressed

Contends that the coastal processes modelling was not correctly parameterised specifically including information in the model relating to characterisation of sediments. As a consequence, the model cannot provide accurate predictions about potential impacts on water quality of the Yumbah intake.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 29 – Parameterising coastal-processes model was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 24, Page 34, Page 40	1372.044, 1372.049, 1372.085, 1372.086, 1372.110
1374	EPA	Item 8	1374.08

Response summary

This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway. While Yumbah has responded to the revised design by arguing that it still does not address the issues of coastal processes, their own submission in relation to the revised design (Yumbah 2019a) includes the expert advice they sought which concluded "... that the revised design has effectively 'engineered/designed out' all water quality and coastal process risks to a negligible consequence."

Appendix 4 of the second Yumbah submission acknowledges this and goes on to suggest that Yumbah should focus its objections on possible harm to whales, rather than farmed abalone.

Issue resolution

This issue has been fully resolved by the proposed design changes for the in-sea infrastructure and the revisions to the model parameterisation that takes account of the revised design.

Reliance on coastal-processes model

Paraphrasing of issues to be addressed

In a number of cases the results of the coastal hydrodynamic model are quoted in submissions even while the submission argues that the model is not correctly parameterised and thus the results cannot be trusted.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 30 – Reliance on coastal-processes model was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 24, Page 26	1372.049, 1372.068

Response summary

This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway. Coastal processes have been re-analysed by WBM BMT (Teakle 2020) using the hydrodynamic model parameterised with the revised design for the in-sea infrastructure. The results show that there are no measurable effects on either water quality or coastal processes associated with the revised design. In particular there is no detectable rise in suspended sediments associated with ship operations and no effects of temperature or sediment loads associated with changes in coastal processes. All exceedances of water quality criteria are those associated with storm driven processes as would occur (and has previously occurred) in the absence of the KI Seaport.

Issue resolution

This issue has been fully resolved by the proposed design changes for the in-sea infrastructure and the revisions to the model parameterisation that takes account of the revised design.

Requirement for coastal processes modelling to be redone

Paraphrasing of issues to be addressed

New modelling is required to quantify impact on Yumbah.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 31 – Requirement for coastal processes modelling to be redone was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
A80	Yumbah	Page 15, Page 34	A80.22a, A80.45

Response summary

Coastal processes have been re-analysed by WBM BMT (Teakle 2020) using the hydrodynamic model parameterised with the revised design for the in-sea infrastructure. The results show that there are

no measurable effects on either water quality or coastal processes associated with the revised design. In particular there is no detectable rise in suspended sediments associated with ship operations and no effects of temperature or sediment loads associated with changes in coastal processes. All exceedances of water quality criteria are those associated with storm driven processes as would occur (and has previously occurred) in the absence of the KI Seaport.

Issue resolution

Coastal process models have been re-run to account for the revised design of the in-sea infrastructure. The revised model shows that all exceedances in water quality parameters at the Yumbah seawater intakes are associated with natural (storm driven) processes and that there are no detectable impacts associated with ship or Port operations.

Risk classification is not correct

Paraphrasing of issues to be addressed

The risk assessment in Appendix C1 is unacceptable. Indicates that Degradation in marine water quality causing adverse impacts to sensitive ecological receptors (e.g. seagrass) and aquaculture receptors is deemed a negligible consequence. It is not a negligible consequence for an abalone farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 32 – Risk classification is not correct was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
A80	Yumbah	Page 20	A80.27

Response summary

The downward revision to the consequence rating for construction water quality impacts was based on the substantial reduction in potential for plume generation under the proposed suspended jetty construction methodology. That is, Teakle (2020) concluded that both Consequence and Likelihood were significantly mitigated by the proposed change in design. The consequence was previously Minor and has been revised down to Negligible, while the Likelihood was previously Possible and has been revised down to Unlikely. The consequence rating was reduced because any plumes associated with either construction or Port operation will not be detectable at the most proximate Yumbah seawater intake. On this basis the consequence of a plume (with effectively no additional suspended sediments in it) would have no impact and therefore is of negligible consequence. The setting for Likelihood is then somewhat immaterial because both the inherent and residual risk level would remain as Low.

Issue resolution

The reported risk classification is correct in the context of risks to abalone aquaculture, because the revised design means that there will not be an increase in total suspended sediments at the Yumbah seawater intakes (Teakle 2020) and therefore no associated risk to abalone health from this source.

Issue group: Water quality

Concerns about activities that would impact on the quality of Yumbah’s intake waters including issues associated with elevated TSS, organic detritus, elevations in temperature and the mobilisation of pollutants and contaminants.

Implications of the revised design for the in-sea infrastructure

The causeway is no longer part of the wharf design and dredging is no longer required for wharf operation. The proposed design changes largely resolve these issues both from an operational and construction perspective. There will be a need to reiterate that sediment generation through prop-wash will not be at a level that would cause measurable changes to Yumbah intake water quality.

Specific matters to be addressed

Impacts on Yumbah intake water quality (TSS)

Paraphrasing of issues to be addressed

Contends that the work that has been done does not provide a sufficiently robust basis for predicting impacts on Yumbah intake water quality and that suspended sediment loads will be higher than acceptable for abalone. There are two principle concerns:

- 1) That the sediments in Smith Bay have not been properly characterised and therefore the associated risk from fine sediments is greater than that stated.
- 2) That the model predictions do not properly account for changes in water circulation with the causeway in place and this has a number of knock-on effects including impacts from decomposing wrack as well as the risk of entrainment of Yumbah discharges into the intake pipes.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 33 – Impacts on Yumbah intake water quality (TSS) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 9, Page 23, Page 24, Page 25, Page 27, Page 30, Page 36, Page 37, Page 38, Page 39, Page 40, Page 41, Page 85	1372.005, 1372.034, 1372.040, 1372.044, 1372.045, 1372.058, 1372.062, 1372.072, 1372.075, 1372.093, 1372.098, 1372.099, 1372.101, 1372.103, 1372.104, 1372.107, 1372.108, 1372.110, 1372.112, 1372.118, 1372.122, 1372.420, 1372.645
1372.AP2	McShane, P.	Page 5, Page 6, Page 7	1372.AP2.094, 1372.AP2.099, 1372.AP2.106
1374	EPA	Item 9	1374.09
500	Mark Gervis	Page 2	500.01
559	Naomi Murton	Page 2	559.06
707	Savva, N.	Page 2	707.02
779	Peter Brauer	Page 1	779.01
867	John Hodgson	Page 4	867.05, 867.22
A80	Yumbah	Page 20	A80.27
FL5	Community	Page Pollution and amenity 1	FL5.13

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Estimates of TSS associated with ship operations (bow wave and prop-wash) indicate that any effect on TSS levels at the Yumbah intakes would be below the detectable limit; in effect there would be no increase in TSS from this source.

Issue resolution

This issue has been fully resolved by the proposed design changes particularly the removal of the causeway (and replacement with a piered structure) and the increase in separation distance of the berth face from the Yumbah intakes (with concomitant reductions in TSS associated with ship operations). The results show that there are no measurable effects on either water quality or coastal processes associated with the revised design. In particular there is no detectable rise in suspended sediments associated with ship operations and no effects of temperature or sediment loads associated with changes in coastal processes. All exceedances of water quality criteria are those associated with storm driven processes as would occur (and has previously occurred) in the absence of the KI Seaport.

Impacts on Yumbah intake water quality (Temperature)

Paraphrasing of issues to be addressed

Contends that the work detailing the impact of potential increases in water temperature in the lee of the causeway, does not provide a sufficiently robust basis for predicting impacts on Yumbah intake water quality. The principle concern is that the model predictions predict changes in water temperature in the lee of the causeway and this has potential to exacerbate existing problems with summer mortality.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 34 – Impacts on Yumbah intake water quality (Temperature) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 3	1366.08
1372	Yumbah	Page 9-10, Page 30, Page 36, Page 40, Page 47, Page 81, Page 85	1372.010, 1372.075, 1372.112, 1372.154, 1372.158, 1372.160, 1372.378, 1372.379, 1372.420, 1372.645
1372.AP2	McShane, P.	Page 5, Page 11	1372.AP2.095, 1372.AP2.097, 1372.AP2.119
1374	EPA	Item 9, Item 17	1374.09, 1374.17
867	John Hodgson	Page 4	867.22

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes particularly the removal of the causeway (and replacement with a piered structure) and the increase in separation distance of the berth face from the Yumbah intakes. The results show that there are no measurable effects on either water quality or coastal processes associated with the revised design. In particular there is no change in temperature associated with changes in coastal processes.

Algal blooms from concentration of nutrients in lee of causeway

Paraphrasing of issues to be addressed

Contends that impacts on tidal, wind and wave induced circulation in the lee of the causeway may cause nutrient discharges from the abalone farm to concentrate in the receiving waters and then to be re-entrained into the abalone farm intake pipes; effectively resulting in self-pollution of the farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 35 – Algal blooms from concentration of nutrients in lee of causeway was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 24, Page 57, Page 85	1372.047, 1372.420, 1372.641, 1372.642
1372.AP2	McShane, P.	Page 5, Page 11, Page 12	1372.AP2.095, 1372.AP2.125, 1372.AP2.127

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Coastal processes

Paraphrasing of issues to be addressed

Provides general commentary about the impact of the causeway on coastal processes and particularly impacts on circulation patterns affecting both temperature and mixing of waste waters.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 36 – Coastal processes was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 25	1372.062

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Impacts on Yumbah intake water quality (Wrack decomposition)

Paraphrasing of issues to be addressed

Contends that the seagrass and seaweed wrack will build up in the lee of the causeway which will then decompose and impact water quality through elevations in suspended organic detritus, blockage of input filters and potentially impacting on the oxygen levels in the water. Such effects would compromise abalone health and the infrastructure operational and maintenance costs.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 37 – Impacts on Yumbah intake water quality (Wrack decomposition) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 33, Page 79, Page 80, Page 81, Page 85	1372.081, 1372.082, 1372.366, 1372.370, 1372.371, 1372.378, 1372.420

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not

be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Data from Yumbah Nyamat proposal (Narrawong farm) relating to TSS loads are misrepresented

Paraphrasing of issues to be addressed

Contends that suspended sediments from Narrawong farm are likely to have a different PSD to those from Smith Bay and therefore the comparison of TSS from Narrawong to that for Smith Bay needs to account not just for TSS loads but also the PSD of the material.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 38 – Data from Yumbah Nyamat proposal (Narrawong farm) relating to TSS loads are misrepresented was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 41	1372.125

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes in that there is no longer a need to rely on water quality data from Yumbah Nyamat as a comparison for Smith Bay.

Accelerated increases in water temperature from re-uptake of abalone farm effluent

Paraphrasing of issues to be addressed

Contends water circulation in the lee of the causeway would be reduced and hence waste water from the farm, which may be warmed by as much as 2°C, could be taken back up through the intake pipes

and this would result in even further elevations in water temperature on the farm. During periods of high ambient water temperature this would magnify the risks to farmed animals.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 39 – Accelerated increases in water temperature from re-uptake of abalone farm effluent was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372.AP2	McShane, P.	Page 11	1372.AP2.119
1374	EPA	Item 17	1374.17

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Pumping elevates water temperature

Paraphrasing of issues to be addressed

Contends that pumping water elevates water temperature.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 40 – Pumping elevates water temperature was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 9	1374.09

Response summary

This statement is not correct; it is the passage of the pumped water through the farm (not pumping *per se*) that may give rise to warming depending on the ambient air temperature.

Irrespective, neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Issue group: Smith Bay sediments

Concerns about the veracity of work done to characterise sediment composition across the dredge footprint and more generally throughout Smith Bay.

Implications of the revised design for the in-sea infrastructure

Dredging is no longer required for wharf operation and, as a consequence, these issues are resolved.

Specific matters to be addressed

Inadequate characterisation of sediments

Paraphrasing of issues to be addressed

Contends that sediments in Smith Bay have not been fully characterised and thus there is a high probability of larger amounts of fine sediments being suspended. This will result in reduced water quality due to the persistence of these fractions in the water column which in turn will result in increased levels of fine suspended materials that present a much higher risk to abalone than the material so far documented.

This issue would be exacerbated by the need to undertake rock grinding that will further increase the amount of fine material in suspension and present even more risks to water quality for abalone the broader ecology of coastal waters.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 41 – Inadequate characterisation of sediments was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 2	1366.02
1372	Yumbah	Page 23	1372.034, 1372.038, 1372.040

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Veracity of sediment sampling process

Paraphrasing of issues to be addressed

Contends that sediments in Smith Bay have not be properly characterised because the sediment sampling methodology was not appropriate and further that changes in the design footprint meant areas that should have been sampled were not sampled adequately (if at all).

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 42 – Veracity of sediment sampling process was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 26, Page 40	1372.068, 1372.069, 1372.110
1374	EPA	Item 8	1374.08

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Clarify issues relating to contaminated sediments

Paraphrasing of issues to be addressed

Contends that contaminated sediments would be encountered in the dredging program and causeway construction which would lead to pollutants and toxicants being released into the water column thereby impacting on intake water quality for the abalone farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 43 – Clarify issues relating to contaminated sediments was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 39	1374.39

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not

be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Issue group: Previous abalone mortality

Consideration of new information that better documents the causes of previous abalone mortality events. This information provides evidence that mortality was caused by elevated sediments during extreme weather conditions.

Implications of the revised design for the in-sea infrastructure

Dredging will no longer be required for wharf operation and therefore this issue is unlikely to be a concern as there will not be any substantive changes to suspended sediment loads or types in the intake water. Teakle (2019) has provided further quantitative estimates of the likely impacts of sediments from the pile-driving operations which concluded that there would be no substantive changes in suspended sediment loads and that the only time that suspended sediment loads would exceed the 10 mg/L ANZECC water quality guidelines would be during periods when natural sediment suspension occurs typically under winter storm conditions.

Specific matters to be addressed

Causes of previous mortalities

Paraphrasing of issues to be addressed

Contends that previous storm events, notably the massive Storm of September 2016, resulted in high levels of mortality on the Yumbah farm. Furthermore, those mortalities have been ascribed to impacts of sediments on abalone particularly in relation to fine-sediment impact on gills; additional information has been provided to support these claims.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 44 – Causes of previous mortalities was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 43	1372.133
1372.AP2	McShane, P.	Page 10, Page 7	1372.AP2.109, 1372.AP2.117

Response summary

The information presented by Yumbah has been taken into consideration in formulation of the revised design for the in-sea infrastructure.

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including impacts on water quality from elevated levels of suspended sediments are no longer relevant.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

The information presented in relation to previous mortalities has been considered in the formulation of the proposed design changes to in-sea infrastructure.

Issue group: Abalone susceptibility to suspended sediments

Comments about the susceptibility of abalone to elevated TSS and from fine vs coarse sediment fractions.

Implications of the revised design for the in-sea infrastructure

Dredging is no longer required for wharf operation and, as a consequence, these issues are resolved.

Specific matters to be addressed

Abalone intolerance to high suspended sediment loads

Paraphrasing of issues to be addressed

Contends that despite the various studies referred to in the EIS, abalone are sensitive to suspended sediments and these will cause mortality even at low concentrations.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 45 – Abalone intolerance to high suspended sediment loads was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 2	1366.02
1372.AP2	McShane, P.	Page 5, Page 6, Page 7, Page 8, Page 9, Page 10	1372.AP2.097, 1372.AP2.100, 1372.AP2.101, 1372.AP2.102, 1372.AP2.103, 1372.AP2.105, 1372.AP2.107, 1372.AP2.108, 1372.AP2.110, 1372.AP2.113, 1372.AP2.115, 1372.AP2.116, 1372.AP2.117, 1372.AP2.118
1374	EPA	Item 10, Item 14, Item 15, Item 16	1374.10, 1374.14, 1374.15, 1374.16
559	Naomi Murton	Page 2	559.06
707	Savva, N.	Page 3	707.08
867	John Hodgson	Page 4	867.05

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Abalone intolerance to fine sediments

Paraphrasing of issues to be addressed

Contends that despite the various studies referred to in the EIS abalone are very sensitive to fine sediments and these will cause mortality even at low concentrations.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 46 – Abalone intolerance to fine sediments was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 2	1366.02, 1366.03
1372	Yumbah	Page 38, Page 39, Page 40, Page 41, Page 42, Page 43, Page 44, Page 45, Page 66	1372.099, 1372.101, 1372.103, 1372.104, 1372.108, 1372.110, 1372.112, 1372.117, 1372.118, 1372.121, 1372.122, 1372.125, 1372.128, 1372.129, 1372.131, 1372.132, 1372.133, 1372.134, 1372.136, 1372.137, 1372.140, 1372.142, 1372.146, 1372.637
1372.AP2	McShane, P.	Page 5, Page 6, Page 7, Page 9, Page 10	1372.AP2.097, 1372.AP2.100, 1372.AP2.101, 1372.AP2.102, 1372.AP2.103, 1372.AP2.104, 1372.AP2.105, 1372.AP2.107, 1372.AP2.108, 1372.AP2.109, 1372.AP2.112, 1372.AP2.113, 1372.AP2.115, 1372.AP2.116, 1372.AP2.117, 1372.AP2.118
1374	EPA	Item 10, Item 14, Item 15	1374.10, 1374.14, 1374.15
559	Naomi Murton	Page 2	559.06
707	Savva, N.	Page 2, Page 3	707.02, 707.05, 707.08
867	John Hodgson	Page 4	867.05
A93	David Ellis	Page 0	A93.04

Response summary

Various responses to the EIS have highlighted the importance of fully considering the PSD of suspended sediments (not just the total suspended sediment loads). These concerns have been fully considered and taken on-board in the proposed design changes. Given that neither dredging nor the construction of a causeway are part of the revised design, all related matters have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

From the perspective of fine sediments mobilised during in-sea construction this issue has been fully resolved by the proposed design changes.

Differential vulnerability of different abalone life history phases (juvenile vs larval) to fine sediments

Paraphrasing of issues to be addressed

Contends that the EIS is contradictory in the statements about the relative vulnerability of different abalone life history phases (juvenile vs larval phases) to elevated TSS and in particular to exposure to fine sediments.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 47 – Differential vulnerability of different abalone life history phases (juvenile vs larval) to fine sediments was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 15	1374.15

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Ecotoxicology study not adequate

Paraphrasing of issues to be addressed

Contends that the small number of animals, the short duration of the tests and the absence of multiple treatments (particularly at different temperatures) means that the ecotoxicology work performed on juvenile greenlip abalone is of limited value in determining the vulnerability of abalone to suspended sediments.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 48 – Ecotoxicology study not adequate was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 2-3, Page 3	1366.05, 1366.06
1372	Yumbah	Page 24, Page 44	1372.045, 1372.136, 1372.137, 1372.140, 1372.142
1372.AP2	McShane, P.	Page 7, Page 9	1372.AP2.109, 1372.AP2.111, 1372.AP2.112, 1372.AP2.113

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 14	1374.14
707	Savva, N.	Page 3	707.06

Response summary

Neither the dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of ecotoxicology testing or the relative susceptibility of abalone to high suspended sediment loads or to sediments comprising finer particle size classes are no longer relevant as there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

TSS dose response (time by concentration)

Paraphrasing of issues to be addressed

Content that the ecotoxicology data presented in the EIS from other published studies shows clear evidence of a dose response (time by concentration) with longer exposures giving rise to elevated levels of mortality. On this basis the extended period over which the dredging program would be run is likely to cause elevated rates of mortality that would not be predicted using the result of short-term experiments.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 49 – TSS dose response (time by concentration) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372.AP2	McShane, P.	Page 7	1372.AP2.107, 1372.AP2.108

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Risks from bacteria bound to suspended sediments

Paraphrasing of issues to be addressed

Contends that higher levels of suspended sediments increase the risks to abalone because previous work has shown that bacteria (including *Vibrio* spp) are often found attached to sediment particles thus compounding the potential impacts.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 50 – Risks from bacteria bound to suspended sediments was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 11	1374.11
500	Mark Gervis	Page 2	500.01
707	Savva, N.	Page 3	707.05

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

ANZECC guideline issues 10 vs 25 mg/L

Paraphrasing of issues to be addressed

Contends that the ambient water quality in Smith Bay is very high and this means that the water quality guideline should not exceed the ANZECC recommendation of 10 mg/.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 51 – ANZECC guideline issues 10 vs 25 mg/L was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 2, Page 3	1366.04, 1366.05, 1366.06
1372	Yumbah	Page 37, Page 44	1372.095, 1372.142
1372.AP2	McShane, P.	Page 7, Page 8	1372.AP2.108, 1372.AP2.110

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 11, Item 14, Item 16	1374.11, 1374.14, 1374. 16

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Characterisation of water quality at Yumbah Narrawong

Paraphrasing of issues to be addressed

Contends that the TSS data from Yumbah Narrawong does not lend support to the conclusion that abalone are not affected by elevated levels of suspended sediments.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 52 – Characterisation of water quality at Yumbah Narrawong was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 41	1372.121

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Issue group: Microalgal productivity

Impacts on microalgal (diatom) productivity associated with changes in water quality and particularly due to impacts of turbidity on the light field in coastal waters.

Implications of the revised design for the in-sea infrastructure

This matter will be fully addressed through the design changes.

Specific matters to be addressed

Effects on diatom production

Paraphrasing of issues to be addressed

Contends that elevated turbidity associated with increased levels of suspended sediments would reduce PAR penetration in coastal waters which, in turn, would impact on diatom productivity.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 53 – Effects on diatom production was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 24, Page 27, Page 36, Page 46	1372.043, 1372.044, 1372.072, 1372.149, 1372.151, 1372.645
1372.AP2	McShane, P.	Page 5, Page 11	1372.AP2.094, 1372.AP2.120, 1372.AP2.122, 1372.AP2.123, 1372.AP2.124

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters have been resolved and there will not be any impacts on water quality (including water turbidity) or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the changes in design of the in-sea infrastructure including the removal of the causeway and any need to undertake dredging.

Importance of diatoms

Paraphrasing of issues to be addressed

Contends that diatoms are a critical part of abalone diet across all phases of the abalone farming process.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 54 – Importance of diatoms was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372.AP2	McShane, P.	Page 11	1372.AP2.120, 1372.AP2.121, 1372.AP2.122

Response summary

The design changes that replace the causeway with a piered structure and remove the need to dredge mean that there would not be any impacts on turbidity in coastal waters sufficient to change micro-algal (and particularly diatom) productivity in the near shore regions of Smith Bay and by association, no changes would occur in the rates of diatom uptake by the Yumbah seawater intakes.

Issue resolution

This issue has been fully resolved by the changes in design of the in-sea infrastructure including the removal of the causeway and any need to undertake dredging.

Issue group: Abalone farm productivity

Potential for the development of the KI Seaport to impact on the productivity of the abalone farm.

Implications of the revised design for the in-sea infrastructure

The revised build will address all of the impacts that relate to dredging and / or the construction of the causeway.

Specific matters to be addressed

General impacts on abalone (unspecified)

Paraphrasing of issues to be addressed

Statements about the likely adverse effects of the KI Seaport on the productivity of the abalone farm. In essence these are statements that refer to multiple issues in a more general context and in most cases are associated with the proximity of the KI Seaport to Yumbah.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 55 – General impacts on abalone (unspecified) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1053	Kevin Riggs	Page 1	1053.01
1056	Ian Turner	Page 1	1056.12
1095	Jeanette Gellard	Page 3	1095.17
1115	Dr S Petit	Page 3	1115.14
1372	Yumbah	Page 85, Page 120	1372.420, 1372.590
898	Megan Harvie	Page 1	898.01
A1378	PIRSA	Page 3	A1378.03
A62	Nigel Gammon	Page 3	A62.03
A71	Molly Watters	Page 0	A71.02
A84	Ashleigh Younger	Page 0	A84.01

Response summary

This concern has been stated in various ways through several submissions and is generally framed in the context that the proximity of the proposed development to Yumbah presents risks (to Yumbah's operation) associated with both the construction and operation of the KI Seaport facility. A number of different impacts are referred to but most frequently they relate to either impacts on water quality (particularly changes in TSS), biosecurity, dust deposition, noise and light.

In all of these submission the proximity between the KI Seaport and the aquaculture farm is identified as a generic problem with regard to these various issues; given that each of these issues has been dealt with in specific detail elsewhere in the response document, there are no additional matters relating to the proximity

Issue resolution

The issue of proximity is not, in and of itself an issue, rather it is used generically to frame various comments and concerns; given that each of these individual concerns have been either rebutted or

alternatively addressed through the proposed design changes this matter does not require separate consideration.

Issue group: Project design

Concerns about the project design including information presented about the construction of the causeway and associated in-sea infrastructure. This has been substantially revised with a redesign of the in-sea infrastructure including use of piered jetty going further offshore to replace the causeway and remove the need for dredging.

Implications of the revised design for the in-sea infrastructure

The changes in design will address all issues associated and uncertainties about the location (spatial footprint), timing and scale of the dredging or causeway construction activities. Plans detailing the length of the pier, the placement of the pontoon and pylons have been provided as part of the engineering brief and the coastal modelling has been rerun consistent with these changes in design.

Specific matters to be addressed

Composition of causeway fill material

Paraphrasing of issues to be addressed

Questions the source of material for the causeway and whether it will introduce contaminants.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 56 – Composition of causeway fill material was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 9	1372.005

Response summary

This matter has been resolved by the decision not to dredge and to build a pier rather than a causeway. The removal of the causeway means that the composition and/or sourcing of fill material for that causeway is no longer relevant.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Causeway permeability vs causeway design

Paraphrasing of issues to be addressed

Contends that the design of the causeway will impact on coastal processes and in particular circulation in the lee of the causeway. Concludes that the causeway should not be built.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 57 – Causeway permeability vs causeway design was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 24, Page 30, Page 9	1372.005, 1372.049, 1372.075

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Use of anti-corrosion paints

Paraphrasing of issues to be addressed

Use of anti-corrosion marine paints is flagged. Details of paint are unknown - poses risk to abalone.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 58 – Use of anti-corrosion paints was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
A80	Yumbah	Page 7	A80.05

Response summary

Anti-corrosion marine paints will be used to treat steel piles, but all application of these paints will be done off-site hence there is no real risk that such materials will enter the marine environment. While Yumbah make the claim that abalone are particularly sensitive to chemicals and exhibit a greater degree of toxicity than other marine species, no evidence is presented to support this contention. Furthermore, a search of the literature suggests that there is no published scientific evidence to support that contention. On the contrary, the fact that abalone are a major aquaculture species in coastal waters of China, Korea and Japan, all of which have much high levels of toxic residues than Australian waters suggest that abalone are probably not more sensitive than other marine species.

Irrespective, anti-corrosion paints are designed to prevent seawater from corroding steel structures. This anti-corrosion effect is achieved by creating a long-lasting impermeable barrier to seawater and oxygen on the surface of the metal pylons. Because the purpose is to provide a long-lasting barrier such compounds, once cured, are not reactive or easily dissolved in seawater and thus retain their integrity without leaching into the surrounding environment.

Issue resolution

There is no evidence that anti-corrosion paints, particularly if applied and cured off-site (as is proposed for this development), will present any risk to abalone aquaculture.

Use of anti-fouling on exposed concrete (silane)

Paraphrasing of issues to be addressed

Use of anti-fouling product silane on concrete surfaces poses a significant risk to the environment and Yumbah.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 59 – Use of anti-fouling on exposed concrete (silane) was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
A80	Yumbah	Page 12	A80.16a

Response summary

“Silane” is a very general term used to describe a class of compounds that are typically used to protect concrete structures and comprise a range of paint like materials used in the building industry. One common use of silanes is in the formulation of grout which is used to seal the gaps between tiles in residential bathrooms. Similarly, some caulking compounds (silicone sealers) which are frequently used in industrial and domestic processes (including in the food processing industry) are formulated using silane compounds. Silane compounds are used because they react with the inorganic materials in concrete to form an impervious barrier to water.

While silane gas (SiH₄) is a toxic, pyrophoric gas this is nothing like the silane compounds that are used to treat concrete products from water exposure. It is clear that Yumbah have misunderstood this and hence their comments that [silane] is easily ignited in air [and] is toxic by inhalation [and] is a strong irritant to skin, eyes and mucous membranes. All of these comments refer to silane gas and not to the silane formulations used to treat concrete and stonework.

In fact, the silane compounds used in the construction sector are actually paints, generally formulated as creams which assists with application preventing drips and runoff, these compounds react with the concrete to create an impervious layer that is waterproof (much as they do in domestic shower stalls); this then protects the concrete from water damage and reduces the cost of ongoing maintenance.

In Australia there are a number of commercial providers of silane compounds that manufacture products using materials such as n-Octyl triethoxy silane as the active ingredient. This compound is formulated as a cream, used like a paint and sticks to surfaces being treated. It is specifically designed to prevent dripping or runoff, is non-toxic and designed to seal concrete surfaces that are exposed to air but likely to be splashed by water (due to wave and storm activity).

These products have been used on many structures in sensitive marine environments including, for example, the Phillip Island bridge in Western Port Bay, Victoria (Bizjak, D. 2020 personal communication via email. 15-Jan-2020).

Issue resolution

The use of silane compounds is standard procedure in the building of concrete structures like piers and bridges. Manufacturers advise that silanes are non-toxic compounds routinely used where there is a need to protect concrete (or stone) from intrusion of water (Bizjak, D. 2020 personal communication via email. 15-Jan-2020; Kebao, R. 2020 personal communication via email 16-Jan-

2020). The product is typically formulated as a cream and used like a paint so that it sticks to the surfaces being treated to prevent dripping or runoff.

The use of this treatment to provide a protective coating on the exposed surfaces of the pier is unlikely to present any risk to abalone aquaculture.

Issue group: Dredging management

Concerns about the management of the dredge program with particular reference to systems and processes that will be required to prevent impacts on water quality within Smith Bay.

Implications of the revised design for the in-sea infrastructure

Dredging is no longer required for wharf operation as a consequence all issues related to the management of the dredging program will be removed and there will be no dredge related impacts.

Specific matters to be addressed

Use of NAGD

Paraphrasing of issues to be addressed

Contends that the work that has been done will not meet the National Assessment Guidelines for Dredging (NAGD 2009).

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 60 – Use of NAGD was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 23, Page 25, Page 27	1372.038, 1372.058, 1372.072

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Issue resolution

This issue has been fully resolved by the proposed design changes.

CSD rock-grinding

Paraphrasing of issues to be addressed

Contends that the presence of rock in the dredge area will result in the CSD being used for rock grinding and that this will generate plumes of very fine sediments which will severely impact on water quality at the abalone farm intakes.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 61 – CSD rock-grinding was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 23-24	1372.034

Response summary

Neither dredging nor the proposal to construct a causeway are any longer a part of this proposal. No rock grinding would be required other than in relation to pylon placement for the piers, where shallow rock is encountered. This grinding, should it be required, occurs within the pile and is thereby contained. Quantitative estimates of the likely composition of any small amounts of sediment released during this process have been provided (Teakle 2020) and these confirm that levels would not be sufficient to have a measurable effect at the seawater intakes for the Yumbah abalone farm. This conclusion is supported by Yumbah’s experts (Appendix 4 of second submission).

Issue resolution

This issue has been fully resolved by the proposed design changes.

Timing of dredging program

Paraphrasing of issues to be addressed

Questions are raised about the timing of the dredging program noting that different periods throughout the year will all have associated problems. This will likely be exacerbated by cumulative impacts (e.g. summer dredging will likely give rise to elevated sediment loads when abalone are already stressed by water temperature).

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 62 – Timing of dredging program was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 44	1372.140

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Scale of dredge program

Paraphrasing of issues to be addressed

Contends that the scale of the dredge footprint is not properly detailed and this needs to be finalised before any approvals can be considered.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 63 – Scale of dredge program was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 18, Item 7	1374.07, 1374.18

Response summary

Neither dredging nor the construction of a causeway are part of the revised design and therefore all of the issues raised in relation to cumulative impacts (e.g. combined effects of reduced oxygen coupled with increasing temperature and increased TSS) will remain unchanged relative to the current situation.

There will not be any impacts on water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity or microbial loading all of which will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Accordingly, the risk of cumulative impacts, from synergistic interaction of stressors is therefore resolved.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Pro-active management of dredging

Paraphrasing of issues to be addressed

The critique fails to take account of the opportunity to manage the dredge program pro-actively by using the hydrodynamic model to predict periods of high connectivity and shutting down the dredge accordingly.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 64 – Pro-active management of dredging was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 48	1372.164
1374	EPA	Item 14	1374.14
1378	PIRSA	Item 1	1378.01

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the veracity of sampling and testing programs have been resolved and there will not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah’s abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-

annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Setting trigger values

Paraphrasing of issues to be addressed

Contends that trigger values should be based on 95th not 99th percentile values for factors such as TSS loads.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 65 – Setting trigger values was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 20	1374.20

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As a consequence, the issue of trigger values is no longer relevant.

Issue resolution

This issue has been fully resolved by the changes in design of the in-sea infrastructure including the removal of the causeway and any need to undertake dredging.

Maintenance dredging

Paraphrasing of issues to be addressed

Contends that maintenance dredging of shipping channels and the berth pocket will present an ongoing risk to the operation of the abalone farm.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 66 – Maintenance dredging was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
867	John Hodgson	Page 4	867.05

Response summary

Neither capital nor maintenance dredging are any longer a part of this proposal and, as a consequence, there would be no need for channel clearance dredging either during construction or later during the operation of the KI Seaport. As a consequence, there would not be any impacts on water quality or on coastal processes that are likely to have any measurable or practical effect on Yumbah's abalone farming systems.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading would

effectively remain unchanged from the current situation and would continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the changes in design of the in-sea infrastructure including the removal of the causeway and any need to undertake either the capital dredging or subsequent maintenance dredging programs.

Issue group: Smith Creek

Concerns relating to the potential for discharges from Smith Creek to impact on farming operations and the merits of mitigation strategies.

Implications of the revised design for the in-sea infrastructure

The causeway is no longer part of the wharf design as a consequence the development will have no impact on the water quality of Smith Creek discharges.

Specific matters to be addressed

Impacts of Smith Creek and catchment on coastal water quality

Paraphrasing of issues to be addressed

Contends that Smith Creek does not impact on water quality in Smith Bay or, if it does, it is not a substantive impact.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 67 – Impacts of Smith Creek and catchment on coastal water quality was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 37	1372.095
1374	EPA	Item 11, Item 13	1374.11, 1374.13

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, all related matters including the relative merits of changing flow paths from Smith Creek so that they do not have an adverse impact on the Yumbah intake water quality are no longer relevant. Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions. Flows from Smith Creek will enter and mix with the waters in the Bay in the same way as they currently do.

Issue resolution

This issue is no longer relevant due to the proposed design changes.

Issue group: Cumulative impacts

Argues that there is a need to consider situations where individual stressors may not be important when considered in isolation but where they add to a cumulative effect that may impact on eco-systems or abalone farming systems.

Implications of the revised design for the in-sea infrastructure

The causeway is no longer part of the wharf design and dredging is no longer required for wharf operation. This will mean that many of the stressors relating to dredging and causeway development and operation, that could have contributed to cumulative impacts, will be removed. Other matters, not be affected by the proposed changes, will still need to be addressed as will any new issues that arise as a consequence of the revised design.

Specific matters to be addressed

Cumulative impacts

Paraphrasing of issues to be addressed

Contents that there is a need to consider situations where individual stressors may not be important but where they add to a cumulative impact.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 68 – Cumulative impacts was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1366	Trent D'Antignana	Page 2-3	1366.05
1372	Yumbah	Page 40, Page 47	1372.112, 1372.158
1374	EPA	Item 9	1374.09

Response summary

Neither dredging nor the construction of a causeway are part of the revised design. As such, there are no predicted to be any changes to either suspended sediment loads or temperature. The risk of cumulative impacts from synergistic interaction of stressors is therefore resolved.

Water quality in terms of temperature, total suspended sediment loads, sediment composition, organic content (from wrack decomposition), oxygen holding capacity and microbial loading will effectively remain unchanged from the current situation and will continue to track seasonal and inter-annual processes for the northern Kangaroo Island coastline and thus will not differ materially from ambient conditions.

Issue resolution

This issue has been fully resolved by the proposed design changes.

Issue group: Errata to EIS Addendum

Issues for noting that have been addressed through editorial revision.

Implications of the revised design for the in-sea infrastructure

These matters may or may not be affected by the proposed changes in design and the associated issues may still need to be addressed.

Specific matters to be addressed

Errata to EIS Addendum

Paraphrasing of issues to be addressed

Matters that have been addressed by revisions to the wording in the EIS Addendum Document

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 69 – Errata to EIS Addendum was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
A1378	PIRSA	Page 3	A1378.03

Response summary

This matter has been addressed by revision (via publication of an *errata corrige*) to the EIS Addendum Document as an Appendix to the EIS Response Document.

It is acknowledged that aspects other than marine water quality affect Yumbah. These are addressed elsewhere in the EIS and the response document.

Issue resolution

This matter has been addressed through publication of an erratum.

Issue group: For noting

General comment for noting no response required.

Specific matters to be addressed

Defining sustainable aquaculture

Paraphrasing of issues to be addressed

Contends that any impact on conservation values of Smith Bay would impact on the “sustainable aquaculture” status of Yumbah.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 70 – Defining sustainable aquaculture was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 15	1372.017

Response summary

This attempts to make the case that threats to species of conservation significance by a 3rd party is a de facto threat to sustainable aquaculture.

Sustainable aquaculture is a concept that defines how an aquaculture operation should be conducted such that it does not negatively impact on the social, economic and ecological values of the local environment within which the business operates. In this context the world bank (for example) has defined a series of operating principles that recognises sustainability of a venture as a dynamic concept noting that the sustainability of an aquaculture system will vary with species, location, societal norms and the state of knowledge and technology.

They go on to note that some essential practices include:

- Environment practices: particularly in the context of managing effluent discharge; the management of sediment and sludge; soil and water conservation; efficient fishmeal and fish oil use; responsible sourcing of broodstock and juvenile fish; control of escapes and minimizing biodiversity and wildlife impact.
- Community practices: particularly in relation to treatment of workers, suppliers and buyers.
- Sustainable business and farm management practices: including biosecurity and disease control systems; minimal use of antibiotics or pharmaceuticals, etc.

Yumbah have attempted to redefine this concept in a way which confuses their responsibilities with that of third parties. Whether or not Yumbah’s aquaculture operation is construed as Sustainable Aquaculture, is defined by the impact that their operation itself has on the environment. More specifically, the sustainability of the Yumbah operation can only be construed in the context of how well they manage their impacts including their capacity to control diseases and pathogens from being discharged from their farming system and whether or not their waste discharge has an impact on external environmental values of Smith Bay (e.g. through elevating levels of nutrients or organic wastes) in adjacent coastal waters. Similarly, issues associated with where they source the food for their farm and whether they use foods that are manufactured from sustainably grown and harvested materials are all determinants of whether or not they have a Sustainable Aquaculture venture. As

such, there would be no basis for inferring that the operations of a 3rd party in any way affect the sustainable operation of their own venture.

Issue resolution

This matter is resolved in that there is no context in which the operations of a 3rd party can be construed as affecting whether or not Yumbah operate a Sustainable Aquaculture venture.

Claimed inaccuracies in EIS

Paraphrasing of issues to be addressed

Contends that some of the material presented in the EIS is either inaccurate or wrongly interpreted.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 71 – Claimed inaccuracies in EIS was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1372	Yumbah	Page 36, Page 47	1372.091, 1372.162
1372.AP2	McShane, P.	Page 11	1372.AP2.120, 1372.AP2.121

Response summary

The claims that information on abalone aquaculture are inaccurate or do not fully represent the particulars of their operation may be correct in that Yumbah almost certainly operate systems that differ in some respects from those described in the EIS. Nevertheless, the descriptions of abalone aquaculture in the EIS are based on direct commercial and research experience with abalone aquaculture facilities around the world including farms in Australia, Chile, China and Malaysia.

While the Yumbah operations will certainly differ in some respects from those elsewhere (indeed one would expect that a sophisticated aquaculture enterprise would have developed proprietary knowledge and systems that they expect will give them an edge in commercial production) there are no fundamental errors in the information provided in the EIS.

Arguments by Yumbah that the production figures for their SA businesses are wrong may in fact be true but ultimately those are the figures provided by the industry to the Australian Bureau of Agricultural and Resource Economics (ABARES). As such, it is ABARES who have either wrongly interpreted or reported the information provided to them by the SA Government, who in turn have provided the information given to them by SA participants in the industry.

Issue resolution

This author stands by the expert advice and information contained in the EIS.

EIS data quality

Paraphrasing of issues to be addressed

Contends that insufficient data has been obtained particularly in the context of marine ecosystems and associated coastal processes. As a consequence, the conclusions drawn in the EIS are not based on robust knowledge but rather weak inference.

This issue category comprised one or more comments that were raised in the submissions as detailed in the following table.

Table 72 – EIS data quality was raised in the submissions detailed below

DPTI Document ID	Document Author	Page/Item references	Issue references
1374	EPA	Item 12	1374.12
1377	KI NRM Board	Item 2	1377.02

Response summary

The Smith Bay EIS has a solid foundation of data on which to base the analysis and interpretation provided in the EIS and this response document. The basic data set comprises a detailed set of observations across a suite of environmental, ecological, social and economic parameters. While there may be some debate with the analysis and interpretation of the data, particularly where the conclusions drawn conflict with the views and opinions of certain stakeholders, this in no way diminishes the quality of the underlying data.

The decision to address a number of stakeholder concerns through a change in the design of the in-sea components including:

- the replacement of the causeway with a pier;
- the removal of all dredging from the proposal; and
- the placement of the berthface (pontoon) further offshore

has necessitated the collection of additional data particularly relating to the structure of benthic communities in the region, further offshore, where the berth-face will now be located.

Notwithstanding, this additional information simply augments what is already a comprehensive data set and supports the broader analysis of the implications of the revised design.

Issue resolution

Additional data has been collected to support analyses associated with the change in the design of the in-sea infrastructure.

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Appendix D –
Draft Closure Plan
Framework

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1. SCOPE AND PURPOSE

The purpose of this document is to establish how the closure and rehabilitation of the KI Seaport facility will be undertaken to meet the expectations of stakeholders as well as to minimise environmental impacts so that the environment within and around the site can recover to a state comparable to that prior to the development.

In accordance with guidelines 19.16 and 19.17 of the guidelines for the preparation of the EIS, this plan will be developed to provide details on the long-term management/maintenance arrangements for the decommissioning and closure of the facility as well as rehabilitation strategies to be adopted upon closure. This document will be updated as the project progresses to provide more detail on these aspects.

This draft closure and rehabilitation plan will provide the framework for the planned closure of the KIPT seaport facility and the rehabilitation of the site. This plan does not account for unexpected closure, which is covered separately in the Draft EIS in section 26.3.4 – Unplanned Closure.

2. PROJECT SUMMARY

Kangaroo Island Plantation Timbers Ltd (KIPT) proposes to build and operate a deep-water port at Smith Bay on Kangaroo Island from which it will export logs and woodchips. The facility would also be available to third parties and could be used for other cargoes, provided the appropriate approvals have been obtained. The seaport has been designed to accommodate Panamax-class vessels of up to 60,000 deadweight tonnes (DWT), which have a draft of up to 11.75 metres.

The design of the facility has been an iterative process to ensure that the requirements for the facility as well as the needs of relevant stakeholders are met. Project components that are included as part of the revised design are summarised in Table 1.

Table 1: Project components

Parameter	Description
Port/offshore components	Navigation aids
	Floating pontoon wharf
	Restraint dolphin for restraint of pontoon
	Mooring dolphin at either end of wharf for vessel head and stern lines
	Linkspan bridge
	Approach (suspended deck)
	Tug mooring facility/pen
On-shore components	Development footprint of approximately 11 ha with 0.1 ha being on Crown Land
	Storage areas for logs and woodchips, including any battered edges of the areas to achieve required tier storage area levels
	Internal access roads
	Site access road to North Coast Road. The intersection between this access road (Freeoak Road) and North Coast Road designates the project boundary (including the intersection itself)

Parameter	Description
	Stormwater drainage and retention system
	Site security fencing and lighting
	Site offices, product testing room and crib/lunchroom
	Generator, diesel tanks and associated spill bunding
Materials handling components	Receive, stockpile, reclaim and export conveyor system, including: <ul style="list-style-type: none"> • receive and sampling facility • stockpile management system • reclaim hopper/s • export conveyor • shiploader feed conveyor • shiploader
	Truck weighbridge
	Truck wash facilities (if required)

2.1 Closure Considerations

Closure considerations include the fate of infrastructure and equipment associated with the facility following its closure. KIPT will investigate opportunities for alternative uses of the site and for infrastructure and equipment to be on-sold for reuse.

Where no buyers for onshore equipment and infrastructure can be found, these items will need to be removed and disposed of appropriately. It is noted that the most appropriate disposal option will vary between different types of equipment and infrastructure. With the exception of the suspended deck, all offshore infrastructure will need to be removed and either sold for reuse or scrap.

The fate of the suspended deck will be one of the key closure considerations which must be determined. If the structure is able to be divested the suspended deck approach may remain a permanent structure to be open for use as a public jetty. However, this is dependent on whether an appropriate owner can be found. If no divestment agreements for the structure can be reached, KIPT will be responsible for either the ongoing maintenance of the structure or its demolition.

Other closure considerations include the state of the site with regard to its environmental values following the closure of the facility. For example, any areas that have been contaminated as a result of KIPT activities will need to be remediated and managed appropriately.

It is also noted that all environmental authorisations and other licenses and permits that have been obtained for the operation of the facility will be surrendered, cancelled or transferred where required, in accordance with relevant legislation.

3. PLANNING ACTIONS

The following section outlines planning work that will be undertaken during the construction and operational phases of the facility. This section will be updated regularly to address any relevant findings and issues which arise as a result of the construction and operation of the facility.

This section demonstrates what resources will be allocated to allow the activities described in section 3 to be undertaken, what these activities intend to achieve and how their success will be measured.

3.1 Determination of Closure Obligations and Commitments

All relevant environmental legislation will be reviewed to determine the legal obligations that are applicable to the closure of the facility. Identified obligations will be compiled into a legal obligations register. Other, non-legislated closure obligations will be determined in conjunction with stakeholders. All identified obligations will be considered when developing closure objectives.

KIPT has committed to providing financial resources to allow for the closure of the facility and rehabilitation works, as well as resources to plan for these activities to ensure that they are carried out appropriately. As part of corporate responsibility and organisation accounting, KIPT will always have both an asset and a liability value allocated to the KI Seaport. These values will be considered in determining resources that are to be dedicated to closure and rehabilitation works.

3.2 Development of Closure Objectives

Draft closure objectives (see Table 2) have been developed to support this plan. Note that finalised closure objectives will be developed and refined in liaison with applicable stakeholders, including government agencies.

Table 2: Draft closure objectives

Aspect	Draft Closure Objectives
Marine environment	Diversity and abundance of marine flora and fauna returns to levels comparable to nearby marine environments of a similar nature
Soil quality	Ensure the physical and chemical properties of surface soils are compatible with agreed post-closure land uses
Water quality	No reduction in the beneficial use of natural water drainage systems, streams, rivers or groundwater as a result of development-related contamination
Air quality	No human health impacts as a result of dust emissions No nuisance impacts to local landholders as a result of post-closure dust emissions No reduction in vegetation and habitat abundance and diversity as a result of post-closure dust emissions
Groundwater resources	No adverse impact to existing groundwater users (including groundwater-dependent ecosystems) as a result of changes to groundwater levels or groundwater flow patterns
Surface water systems	Ensure post-closure flow systems reinstate pre-operation flow patterns, to a practicable extent Ensure post-closure flows did not make built landforms unstable, release contaminated sediment to natural drainage lines or cause waterlogging or flooding
Vegetation	Ensure the diversity and structure of revegetated areas showed a satisfactory trend, approaching comparable values for species richness, species abundance and vegetation condition in appropriate analogue communities
Safety	Ensure engineering landforms are stable and/or safe through effective access controls Leave no reactive, chemically toxic or radioactive materials on the land surface, or place these in locations where they could cause pollution that harmed the environment
Landscape amenity	Ensure permanent landforms are compatible with the surrounding landscape
Social	Minimise disruption and/or impact on the community caused by infrastructure closure
Economic	Ensure the South Australian community and future generations bear no residual liability or costs for land rehabilitation or post-closure maintenance

3.3 Development of Completion Criteria

A comprehensive set of completion criteria (and set out in Table 3) will be developed to provide a basis to determine whether rehabilitation and closure activities have been successful and if the aforementioned closure objectives have been met. Where applicable, each objective will be assigned preliminary completion criteria, to initially assess whether closure activities have been adequately carried out. Ongoing performance indicators will also be assigned, to assess whether the actions taken to meet this objective have been effective.

As with the closure objectives, completion criteria, performance indicators and monitoring and measurement requirements will be developed in liaison with stakeholders.

4. CLOSURE EXECUTION

The following section provides a preliminary description of the activities which would occur as part of the closure of the KI Seaport. This section will be updated as the project progresses in order to provide a more detailed account of the activities that would take place and how these activities will be undertaken.

4.1 Pre-Closure Activities

It should be noted that all pre-closure activities will be undertaken well before closure commences. This is so that effective strategies for the management of any previously unforeseen closure issues and plans for their implementation may be developed as required.

4.1.1 Stakeholder consultation

Prior to closure, relevant stakeholders will be consulted to inform decisions around the closure of the facility and develop expectations around the rehabilitation of the site. These stakeholders will include:

- Kangaroo Island Council
- nearby landholders, including Yumbah Aquaculture
- the wider Kangaroo Island community
- government agencies.

A key activity that will be undertaken is communication with the Kangaroo Island Council, government agencies and other stakeholders in order to assess the potential interest in the purchase of the site for alternative uses. This may include selling the site as a whole or selling individual pieces of infrastructure and equipment used at the facility.

4.1.2 Collection and analysis of closure data

Prior to closure, relevant environmental data will be collected and analysed. This data will provide the basis to determine the status of closure objectives. Based on the draft closure objectives proposed in this document, it is anticipated that data will be collected to provide information on the following aspects:

- stability of any engineered landforms
- levels and flow patterns of groundwater
- water quality of surface and groundwater systems
- marine water quality
- air quality
- soil quality
- health of vegetation
- diversity and abundance of terrestrial and marine flora and fauna.

Analysis will include comparison to pre-development baseline data, which will aid in identifying any site-specific issues which have arisen as a result of the construction or operation of the KI Seaport.

4.1.3 Identification and management of closure issues

Based on the outcomes of the consultation with stakeholders and the results of the closure data analysis, KIPT will identify any closure issues which have become apparent. Once these issues have been identified, strategies to manage and resolve these issues can be developed and subsequently implemented as part of closure activities.

4.2 Closure and Rehabilitation Activities

4.2.1 Lead-up

In the lead-up, site timber product inventories together with chemical, hydrocarbon and spare parts inventories, would be reduced to minimise the volume of materials requiring subsequent rehandling and/or return.

4.2.2 Closure and decommissioning

Prior to the shutdown of operations, this section will be updated to include a detailed decommissioning plan.

4.2.3 Site clearance

Following decommissioning, the site would be cleared of all wastes and redundant equipment to allow for rehabilitation activities to take place. This will include the following activities:

- any wastes associated with the facility will be removed from the site and disposed of appropriately
- all redundant onshore surface infrastructure would be removed and either transported to an appropriately licensed landfill for disposal or salvaged and on-sold wherever possible
- offshore infrastructure would be removed, with the floating wharf and bridge/ramp towed away for sale and reuse or for scrap. Dolphins and associated navigational aids would be removed (these may be cut at sea-bed level, where removal would be too difficult and/or disruptive).

It is envisioned that the suspended deck approach would remain a permanent structure that would be open for public use. However, this depends on the outcome of stakeholder consultation which will occur before the closure of the facility. This structure may be demolished and removed if no plan for the future usage and ongoing maintenance of the structure is settled upon with stakeholders.

4.2.4 Rehabilitation

Following the removal of redundant development-related infrastructure, the site will be rehabilitated so the landscape function will match the pre-operational function and/or will be returned to a condition similar to that of the surrounding landscape.

To accomplish this, the following rehabilitation activities will be undertaken:

- former log and woodchip storage areas may be reshaped to resemble the surrounding topography, ensuring that there is no increase in soil-laden runoff to Smith Bay
- concrete footings would be removed, and hardstand areas reclaimed and ripped to encourage revegetation.

Any strategies which have been developed to resolve environmental issues that have been identified would also be implemented as part of the rehabilitation activities. This may include plans to remediate contaminated land or to actively revegetate areas that were cleared for the development.

4.3 Post-closure Activities

The extent of the post-closure activities that will be required is dependent upon stakeholder engagement outcomes, any divestment or legal and/or commercial agreements surrounding closure.

4.3.1 Maintenance

Any infrastructure which is to remain after the closure of the facility which has not been divested will be maintained by KIPT to ensure that this infrastructure does not cause negative impacts to stakeholders or environmental receptors. Maintenance activities would continue until another owner is found or alternative arrangements are agreed upon with stakeholders.

4.3.2 Monitoring

KIPT will implement procedures following the closure of the facility to monitor the success of rehabilitation activities. This is likely to include activities such as the ongoing monitoring of revegetated sites.

The extent of this monitoring program, including the activities to be undertaken and the time for which they must continue, will be agreed upon with relevant stakeholders. In instances where land and infrastructure have been divested by KIPT, the responsibility for monitoring requirements following closure would be determined in conjunction with the new owner(s).

Appendix E- Errata Corrige

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Table 1: EIS Main report and appendices errata

Draft EIS section	Submission ID	Issue	Alteration
Main Report Abbreviations Table	AAR 6 (1)	DSD-AAR should be DPC-AAR	At the time the letter was received (Dec 2017) Aboriginal Affairs and Reconciliation was within the Department of State Development. KIPT acknowledges that AAR is currently located within the Department of the Premier and Cabinet.
Chapter 1 Introduction Section 1.4.2	AAR 6 (2)	Acknowledge Draper N 1991 Rocky River 1200bp date & Cape Du Couedic 400bp date (pers comm). Statement a1.4.2 "Archaeological evidence suggests that Indigenous groups left Kangaroo Island about 2500 years ago" is incorrect.	EBS has updated the desktop heritage assessment see Appendix G for the updated version of the report titled, Smith Bay Kangaroo Island Heritage Assessment (Desktop) – Revised, EBS 2019. Section 1.4.2 should read 'recent research suggests that the Rocky River region was occupied until 1200 BP and Cape du Couedic was occupied as late as 350-400 BP (Draper 2015)'.
Chapter 5 Legislative Framework Table 5-6	AAR 6 (3)	Under heading "Application to the development" statement is not accurate "KIPT has consulted with Indigenous groups to ensure compliance with the Act during construction and operation". KIPT has consulted with one Aboriginal group only and consultation does not ensure compliance with the Act.	Page 102 should read "Aboriginal group" instead of "Indigenous interest groups".
Chapter 7 Stakeholder Consultation and Engagement Guideline 16.2 'Comments'	AAR 6 (4)	"...disconnect of Traditional Owners with Kangaroo Island" is misleading and possibly offensive	Page 122 should read 'See Chapter 24 – Heritage, which outlines the connection of Traditional Owners with Kangaroo Island'.
Chapter 7 Stakeholder Consultation and Engagement Table 7-1	AAR 6 (5)	Column "Consideration for the EIS" and row "Aboriginal groups/organisations", 'aboriginal' should be with a capitalised 'A'.	Page 128 should read 'Kaurna Aboriginal group' not 'Kaurna aboriginal group'.
Chapter 7 Stakeholder Consultation and Engagement Table 7-1	AAR 6 (5)	Column "Consideration for the EIS" and row "Aboriginal groups/organisations", third line from bottom should be 'beliefs' not 'believes'	Page 128 should read 'beliefs' not 'believes'.
Chapter 7 Stakeholder Consultation and Engagement Table 7-4	AAR 6 (7)	Column 'Specific investigative actions resulting from discussions' row 'Department of Premier and Cabinet', should read 'Identification of key (Aboriginal) stakeholders for ongoing engagement and consultation.'	Page 136 should read 'Identification of key (Aboriginal) stakeholders for ongoing engagement and consultation' not 'Identification of key stakeholders for ongoing engagement and consultation'
Chapter 22 Social Environment Section 22.4.5	AAR 7	P496 – Statement that "Indigenous groups ceased to inhabit Kangaroo Island about 2500 years ago" is not accurate; Radiocarbon dates for archaeological assemblages range from approximately 7500 BP to as recently perhaps as 350-400 BP (see Draper, N., Islands of the dead) Prehistoric occupation of Kangaroo Island and other southern offshore	Page 496 should read 'recent research suggests that indigenous groups occupied the Rocky River region was occupied until 1200 BP and Cape du Couedic was occupied as late as 350-400 BP (Draper 2015)'

Draft EIS section	Submission ID	Issue	Alteration
		islands and watercraft use by Aboriginal Australians, Quaternary International (2015), http://dx.doi.org/10.1016/j.quaint.2015.01.008). Aboriginal descendants live on Kangaroo Island currently.	
Chapter 24 Heritage Guideline 16.3 'Comments'	AAR 8	'See Chapter 26' should be 'See Chapter 24'.	Page 513 should read 'See Chapter 24' not 'See Chapter 26'.
Chapter 24 Heritage Section 24.1	AAR 9 (1)	Second paragraph should read "...- Aboriginal archaeological sites, objects and remains, and sites of significance according to Aboriginal tradition, archaeology, anthropology or history".	Page 515 should read "...- Aboriginal archaeological sites, objects and remains, and sites of significance according to Aboriginal tradition, archaeology, anthropology or history" not "Aboriginal archaeological sites, objects and sites of significance according to Aboriginal tradition..".
Chapter 24 Heritage Section 24.2	AAR 9 (2)	"..Aboriginal occupation may have ended about 2250 years ago."	Section 24.2 should read recent research suggests that the Rocky River region was occupied until 1200 BP and Cape du Couedic was occupied as late as 350-400 BP (Draper 2015).
Chapter 24 Heritage Section 24.1	AAR 10	P515 – Lampert's (1980) assertion that "distribution of (Aboriginal) sites on KI shows no special association with the island's present shoreline" has been eclipsed by the discovery of more recent coastal sites (see Draper, 1987, 1988, 1991, 1999, 2006). The conclusion in the EIS (and in the EBS report at p9) that "This is relevant to the proposal, as it is less likely that works along the shoreline would encounter sites..." is not accurate.	EBS Heritage have completed a revision of the desktop heritage assessment. See Appendix G for an updated version of Appendix S1 - Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised EBS 2019. This new report will replace the existing Appendix S1 to the Draft EIS. The revised report includes an updated Predictive Risk Assessment (see Table 4 of Appendix G) which acknowledges the coastal location of the Project Site as well as the nearby drainage features. Figure 4 of Appendix G shows that the risk level for the Project area along the coastal foreshore, is rated as high with respect to disturbing cultural heritage sites, places and objects during construction.
Chapter 24 Heritage Section 24.3	AAR 11	P517 – Eighth dot point incorrect 'Kuarna' spelling.	Page 517 should read 'Kaurna' not 'Kuarna'.
Chapter 24 Heritage	AAR 14	EBS report Executive Summary 4th dot point indicates "high risk" of discovery of Aboriginal heritage, this is not reflected or acknowledged in the EIS.	Amend EIS to mention the "high risk" of discovery of Aboriginal heritage. The revised desktop report includes an updated Predictive Risk Assessment (see Table 4 of Appendix G) which acknowledges the coastal location of the Project Site as well as the nearby drainage features. Figure 4 of Appendix G shows that the risk level for the Project area along the coastal foreshore, is rated as high, with respect to

Draft EIS section	Submission ID	Issue	Alteration
			disturbing cultural heritage sites, places and objects during construction.
Chapter 26 Environmental Management Framework Table 26-4	DEW 5	Preliminary closure objectives do not reflect coastal/marine environmental values. Update rehab strategy and closure plan.	Table 26-4 to be updated to include closure objectives reflecting coastal and marine environmental values. See Appendix D for the Draft Closure Plan framework.
Appendix J-2	DEW 8	There is reference to the use of the mining guidelines to determine the SEB. The mining guidelines do not apply. Pg 253 references an "SEB matrix" however it's unclear in Appendix J2 which table is the matrix	The SEB requirement for remnant vegetation clearance was calculated based on the Native Vegetation Council (NVC) policy document Guidelines for a Native Vegetation Significant Environmental Benefit Interim Policy (DWLBC 2005). This document was used by the consultant to develop the matrix. At the time of the survey (August 2016) there weren't any other guidelines available to calculate an SEB. KIPT have in writing from the Native Vegetation Council that this methodology was acceptable to use. Table 3 of Appendix J2 is the SEB matrix.
Chapter 8 Key Issues Table 8-3	EPA 22	Table 8-3 identifies soil contamination and marine pollution and effects on marine communities as 'impacts to be assessed'. The EPA recommends that impacts on groundwater be added to Table 8.3 in this section.	Table 8-3 now includes the impacts to groundwater. See Appendix A for the updated table.
Chapter 16 Geology, Soils and Water Section 16.2.1 Geology	EPA 24	The sentence starting, 'The study area lies within the northern coastal zone' ends on 'and hills on metamorphic'. The sentence is incomplete and needs to be fixed	Page 355 should read 'and hills on metamorphic rock' instead of 'and hills on metamorphic'.
Chapter 16 Geology, Soils and Water Section 16.2.6 Groundwater	EPA 26	It is stated that '...wells drilled depths ranged from 20 meters below ground level (mBGL) to 54 n BGL'. These should be corrected to the Australian Height Datum (AHD) to show the comparison of the bottom of the well as they could be at different heights.	On page 357, third dot point should now read 'The wells' drilled depths ranged from 20 metres below ground level (mBGL) to 54 mBGL. Depth to groundwater was recorded as 5 mBGL in one well (drilled to 54 mBGL). Published well data does not include mAHD elevations for these wells but the approximate depth of wells, based on site topography map, suggested well depth ranged from – 19.5 mAHD to – 44 mAHD.'
Chapter 26 Environmental Management Framework Table 26-1	EPA 32	There is no mention of groundwater contamination under 'Generation of waste and discharges'. It is recommended that contamination of groundwater be included in Table 26-1	Table 26-1 now includes groundwater contamination. See Appendix A for the updated table.
Appendix U – Draft Construction Environmental Management Plan Part 1.4	EPA 37	Section states "...Guidelines for Assessment and Remediation of Groundwater Contamination (EPA South Australia 2009)	The references in the final CEMP will reflect the current naming of the guideline (SA EPA Guidelines for the assessment and remediation of site contamination (2018)).

Draft EIS section	Submission ID	Issue	Alteration
		This guideline has been updated to SA EPA Guidelines for the assessment and remediation of site contamination (2018)	The legislation, regulations and guidelines that have been added are listed in the response to EPA 37 in the Government submissions table.
Appendix U – Draft Construction Environmental Management Plan Table 1-2	EPA 38	Section states accidental release/spill of chemicals/fuel/diesel resulting in soil contamination. As this may also impact groundwater due to the potential downward migration of contaminants it should also be included as a potential impact.	Table 1-2 of the CEMP now includes groundwater contamination. See Appendix A for the updated table.
Appendix U – Draft Construction Environmental Management Plan Section 1.9.1	EPA 40	Section does not include reference to relevant EPA guidelines, including SA EPA Guidelines for the assessment and remediation of site contamination (2018)	Relevant guidelines have been added to section 1.9.1. The legislation, regulations and guidelines that have been added are listed in the response to EPA 40 in the Government submissions table.
Appendix U – Draft Construction Environmental Management Plan Section 1.12.1	EPA 41	Section does not include reference to relevant EPA guidelines, including SA EPA Guidelines for the assessment and remediation of site contamination (2018)	Relevant guidelines have been added to section 1.12.1 – The legislation, regulations and guidelines that have been added are listed in the response to EPA 41 in the Government submissions table.
Chapter 5 Legislative Framework Table 5-1, row 2, column 4		Explanatory text on the application of the <i>Planning, Development and Infrastructure Act 2016</i> (SA) to the development. Text in column 4 of Table 5-1 Major Development Assessment Legislation to be amended to include reference to Appendix D1. Appendix D1, Section 2.2 text to be improved to provide clarity.	Row 2, column 4 of Table 5-1 of the Draft EIS should read, As the proposed facility has been declared a major development under the <i>Development Act 1993</i> , the Environmental Impact Assessment (EIA) process under that Act will continue to apply to the development even if the EIA process under the new Act comes into effect before the assessment is completed. However, the Minister for Planning will make the final decision, not the Governor (as is currently the case under the <i>Development Act 1993</i>). See Appendix D1 for further detail. Text added to Section 2.2 of Appendix D1 of the Draft EIS, see Appendix A.
Chapter 9 Marine Water Quality Section 9.3.5		Superseded date for risk assessment guidelines were referenced.	'ISO 31000:2009' should read 'ISO 31000:2018'.
Chapter 9 Marine Water Quality Table 9-5		The table header is incorrect – 'Location' should be 'Wave height'	In the table header change 'Location' to 'Wave height'
Chapter 10 Coastal Processes Section 10.3		Wrong risk assessment guidelines were referenced.	'ISO 31000:2009' should read 'ISO 31000:2018'.
Chapter 12 Marine Ecology Section 12.3.2		Second dot point reads 'Native Plant and Wildlife Act' – should read 'National Parks and Wildlife Act 1972'	Amend dot point to read 'National Parks and Wildlife Act 1972'

Draft EIS section	Submission ID	Issue	Alteration
Chapter 12 Marine Ecology Section 12.3.3		Superseded date for risk assessment guidelines were referenced.	'ISO 31000:2009' should read 'ISO 31000:2018'.
Chapter 15 Biosecurity	1215	Importation of foods by shipping crews – refers to movement of food from Smith Bay to vessel, instead of vessel to Smith Bay.	On page 336 the mention of the movement of food from Smith Bay to vessel marked as a biosecurity risk is now swapped to the movement of food from vessel to Smith Bay. This point should be about the prohibition of removal of foods, plant material etc from vessel which is controlled by DAWE.
Chapter 15 Biosecurity		KI Seaport is not currently proposed to be a first point of entry. International vessels arriving there would need to have travelled via a first point of entry where biosecurity control measures would be undertaken. The position on this matter has changed. The Port Operator will apply to be determined as a first point of entry under section 229 of the <i>Biosecurity Act 2015</i> .	Statement from page 342. The position has changed on this matter. Smith Bay is now proposed to be a first point of entry under the <i>Biosecurity Act 2015</i> . See Appendix A for further detail.
Chapter 17 Air Quality Section 17.5.5		The 'Human health' section refers to 'Schedule 3' of the South Australian Environment Protection (Air Quality) Policy 2016 when referring to ground level concentrations. This is a typo and should be Schedule 2.	Page 396 now reads 'Schedule 2' instead of 'Schedule 3'.
Chapter 25 Management of Hazard and Risk		Superseded date for risk assessment guidelines were referenced.	'ISO 31000:2009' should read 'ISO 31000:2018'.
Chapter 25 Management of Hazard and Risk Section 25.5.1		Typographical error on page 460 'Snug Cove Raod'	On page 460 'Snug Cove Raod' should read 'Snug Cove Road'.
Chapter 25 Management of Hazard and Risk Section 25.5.1		Typographical error on page 460 'Mays Raod'.	On page 460 'May Raod' should read 'Mays Road'.
Chapter 26 Environmental Management Framework Table 26-1		Inconsistent terminology. Third objective for Land disturbance reads: 'No disturbance to Aboriginal or European heritage items (unless prior approval obtained from relevant legislation)' The corresponding potential impact reads: 'potential impacts on Aboriginal or non-Aboriginal heritage items'	On page 537, third objective for Land disturbance should read: No disturbance to Aboriginal or non-Aboriginal heritage items (unless prior approval obtained from relevant legislation).

Draft EIS section	Submission ID	Issue	Alteration
Chapter 27 Commitments Table 27-1		A duplication of the 'AC2' commitment has occurred under the bottom of the 'Equipment-based' section in table 27-1.	The 'AC2' commitment under the 'Equipment-based' section that reads 'Stormwater diversion channels, compacting proposed storage areas, construction of first-flush ponds and the use of closed conveyors and telescopic shiploaders, will reduce the potential impacts to negligible at the abalone farm intake area.' should be deleted.
Chapter 27 Commitments Table 27-1		Typographical error on page 548 'in a particular direction wasbe sited	On page 548 'in a particular direction wasbe sited' should read 'in a particular direction will be sited....'
Appendix F-2 Section 4.3	Yumbah 1372	The use of incorrect current field data invalidates the conclusions relating to impacts on water quality. The percentile current speeds in the Draft EIS (Appendix F2 Section 4.3) should have been presented in 1-2 cm/s rather than 10 cm/s intervals	The issue of incorrect current field data invalidating the modelling of water quality impacts is resolved as dredging and construction of the causeway will not occur.
Appendix K-3 Table 3-7		The third row of the table, in the 'Scale and intensity of impact column', the potential impact is relating to a permanent threshold shift from piling activity. This impact relates to whale hearing and not whale behaviour	Page 17 should read 'Construction activity would have a negligible impact on whale hearing' and not '... impact on whale behaviour'
Appendix K-3 Table 3-7		The fifth row of the table (the first row of the table on page 18), in the 'Scale and intensity of impact column', the potential impact is relating to a permanent threshold shift from piling activity. This impact relates to whale hearing and not whale behaviour	Page 18 should read 'Construction activity would have a negligible impact on whale hearing' and not '... impact on whale behaviour'
Appendix K-3 Table 3-7		In the fourth row in the 'Impact' column, any mention of causeway or causeway and pontoon should be 'piered structure'	Page 18 should read 'piered structure' instead of 'causeway' or 'causeway and pontoon'.
Chapter 25 Management of Hazard and Risk Table 25-3		Inconsistency between the ratings in the two tables. e.g. a rating of Possible and Disastrous (total 15) is classed as Extreme. However the explanatory table indicates that a rating over 17 is classified as Extreme, 15 would be High.	Page 531 the table should read as per Table 4.
Appendix T – Risk Assessment		In the 12th row of the table, the residual consequence is rated as Moderate and the residual likelihood is rated as Unlikely with a residual risk ranking of Low. However, a combination of Moderate consequence and Unlikely likelihood does not correlate to a residual risk ranking of low.	See Appendix F of the Response Document for a revised risk assessment table.

Table 2: EIS Addendum and appendices errata

EIS Addendum	Submission ID	Issue	Alteration
Chapter 4 Revised Impact Assessment and Management Section 4.4.2	A1378 (PIRSA 3)	<p>“The decision to redesign the in-sea infrastructure, to remove the necessity for any dredging activities and to remove the causeway, would address all of the concerns raised by Yumbah”.</p> <p>This sentence is not accurate; there are remaining concerns particularly with regard to the risks from biofouling / ballast water due to increased shipping in close proximity to Yumbah.</p>	Page 17 should read ‘The decision to redesign the in-sea infrastructure, to remove the necessity for any dredging activities and to remove the causeway, would address all concerns related to impacts on water quality or coastal process associated with the capital dredging program and the construction and existence of the causeway. Other issues, associated with operation of the Port facility including potential impacts from shipping operations (including matters relating to biosecurity and ballast water management) are to be addressed through the EIS Response document.’
Chapter 4 Revised Impact Assessment and Management Section 4.7.3 Conclusions Chapter 8 Conclusions	A1378 (PIRSA 2)	<p>it is not strictly correct to say: ‘The revised design removes the risks associated with importing rock material and dredging, and would not introduce any additional risks to the biosecurity status of Kangaroo Island’</p>	Page 30 should read ‘Anti-fouling coating would not be applied to the steel piles and therefore marine growth is expected on the jetty pylon. The additional substrate that forms part of the revised design would not pose a material biosecurity risk to Smith Bay.’

Table 3: Figure errata

Draft EIS section	Submission ID	Issue	Alteration
Figure 3-2 Revised concept design for the KI Seaport		<ul style="list-style-type: none"> Label annotation reads ‘Dolphin restraint’ instead of ‘Tug berthing restraint’ Label annotation for ‘Woodchip unloading infrastructure’ is omitted in the Draft EIS Label annotation ‘Office and ablution facilities’ was omitted on car park label 	<p>‘Dolphin restraint’ annotation has been changed to ‘Tug berthing restraint’</p> <p>Label annotation for ‘Woodchip unloading infrastructure’ has been added</p> <p>Label annotation for ‘Office and ablution facilities’ on car park label has been added</p>
Figure 4-3 Conceptual layout of the KI Seaport infrastructure		Label annotation reads ‘Tug berthing/dolphin restraint’ instead of ‘Tug berthing restraint’	Dolphin restraint’ annotation has been changed to ‘Tug berthing restraint’
Figure 11-2 Yumbah abalone farm facilities in relation to the proposed KI Seaport		Freeoak Road is labelled incorrectly as Unnamed Road	Label annotation for the access road to Freeoak Road has been added.

Draft EIS section	Submission ID	Issue	Alteration
Figure 12-2 Existing habitat mapping for the central north coast of Kangaroo Island		Freeoak Road is labelled incorrectly as Unnamed Road	Label annotation for the access road to Freeoak Road has been added.
Figure 16-2 Regional contours map		Missing text	Label annotation for 'Fox Road' has been added.
Figure 16-8 Groundwater grab sample locations		Symbolisation of GW2 should be "Inspection point liquid grab sample".	GW2 symbology has been changed from "Groundwater grab sample location" to "Inspection point liquid grab sample".
Figure 16-9 Site contours (m RL) map		Missing text	Label annotation for the access road to Freeoak Road has been added.
Figure 17-1 Conceptual layout of the proposed KI Seaport		<ul style="list-style-type: none"> Label annotation reads 'Dolphin restraint' instead of 'Tug berthing restraint' Label annotation for 'Woodchip unloading infrastructure' is omitted in the Draft EIS Label annotation 'Office and ablution facilities' was omitted on car park label 	<p>'Dolphin restraint' annotation has been changed to 'Tug berthing restraint'.</p> <p>Label annotation for 'Woodchip unloading infrastructure' has been added.</p> <p>Label annotation for 'Office and ablution facilities' on car park label has been added</p>
Figure 21-8 KIPT's selected route		The boundary of the shoreline for Kangaroo Island does not align with the land mass. Transport route is separated in places and does not reach site. Site location (star) is not correct	Shoreline boundary aligns correctly to the Kangaroo Island shoreline. Transport route is now fully connected and site location is in correct position.
Figure 21-11 Proposed Marine Activity Zone		Label annotation reads 'Dolphin restraint' instead of 'Tug berthing restraint'	'Dolphin restraint' annotation has been changed to 'Tug berthing restraint'.
Figure 11. Figure 21-12 Conceptual temporary exclusion zone layout when vessels berthed		Missing 25 m arrows as shown in Figure 4.16 Label annotation reads 'Dolphin restraint' instead of 'Tug berthing restraint'	<p>Arrows have been added.</p> <p>'Dolphin restraint' annotation has been changed to 'Tug berthing restraint'.</p>
Figure 24-1 Timeline of settlement on Kangaroo Island	AAR 9 (2)	Flowchart incorrectly states when Aboriginal occupation of Kangaroo Island ceased.	<p>Annotation has been deleted.</p> <p>Additional reference material (Draper 2015) indicates that there was Aboriginal occupation of the Island as recently as 350-400 BP. This is reflected in the updated EBS desktop heritage assessment (Appendix G).</p>

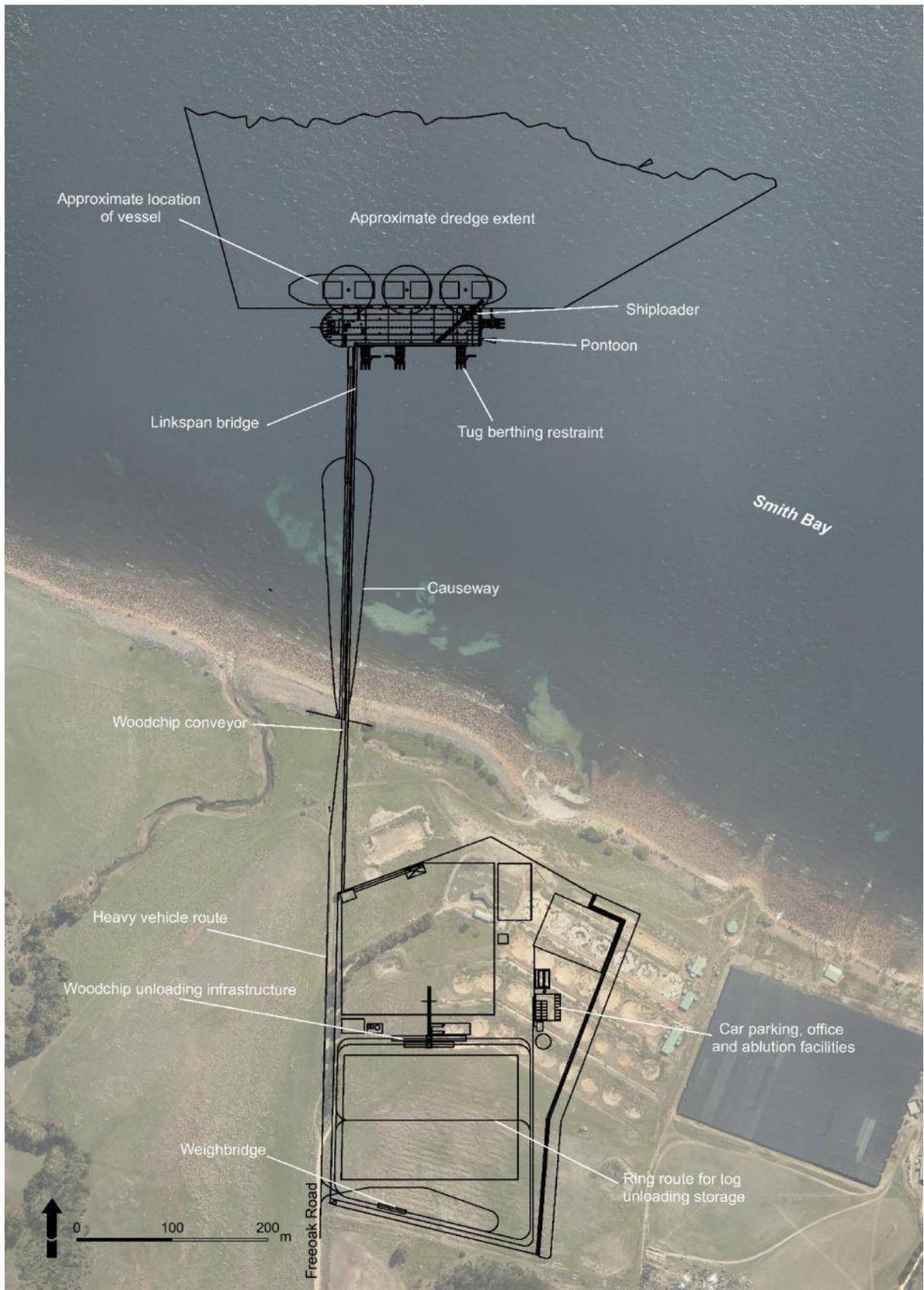


Figure 1: Figure 3-2 Revised concept design for the KI Seaport

(Note: the offshore design shown here is superseded by the design presented in the Addendum to the Draft EIS.)

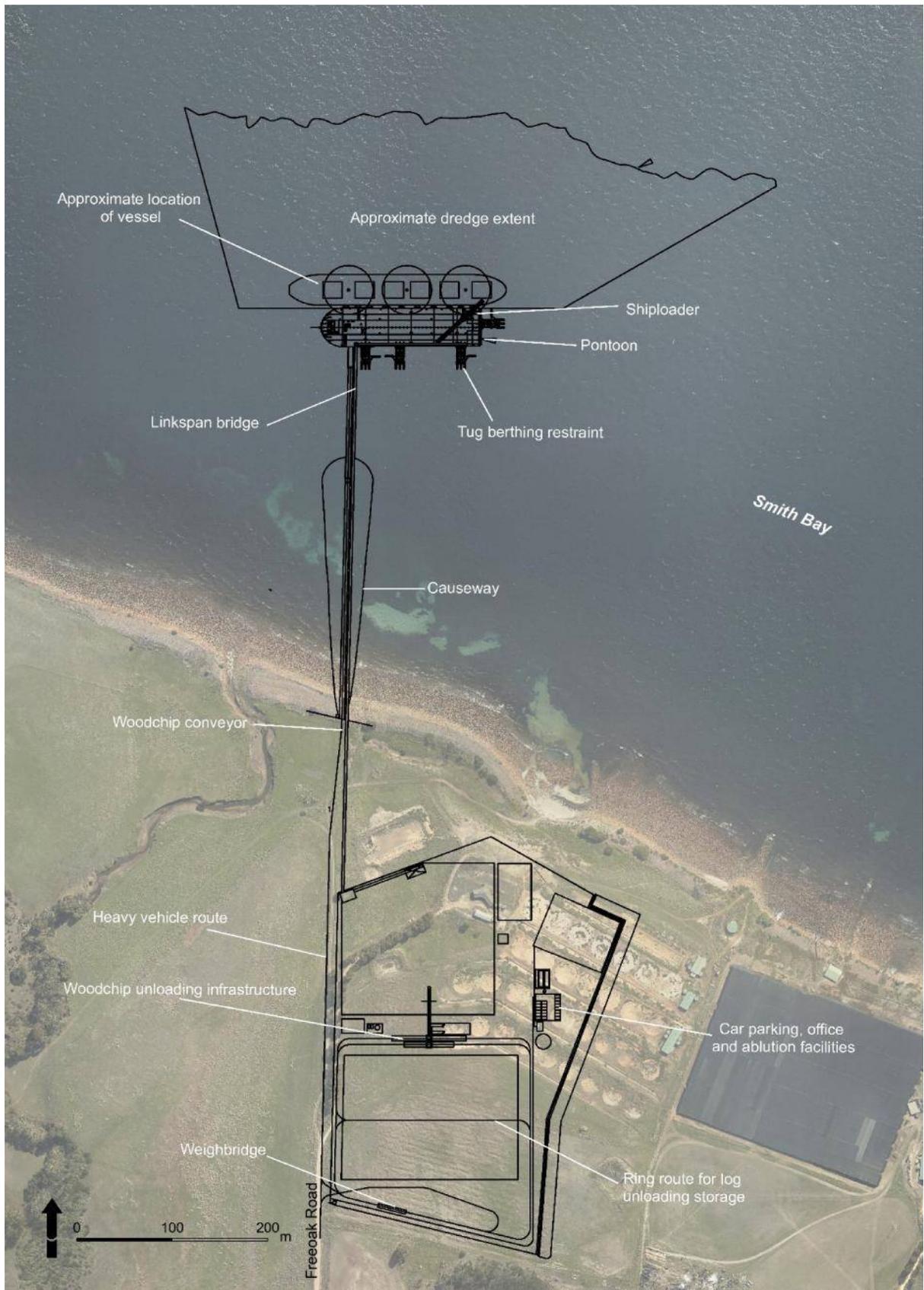


Figure 2: Figure 4-3 Conceptual layout of the KI Seaport infrastructure

(Note: the offshore design shown here is superseded by the design presented in the Addendum to the Draft EIS.)

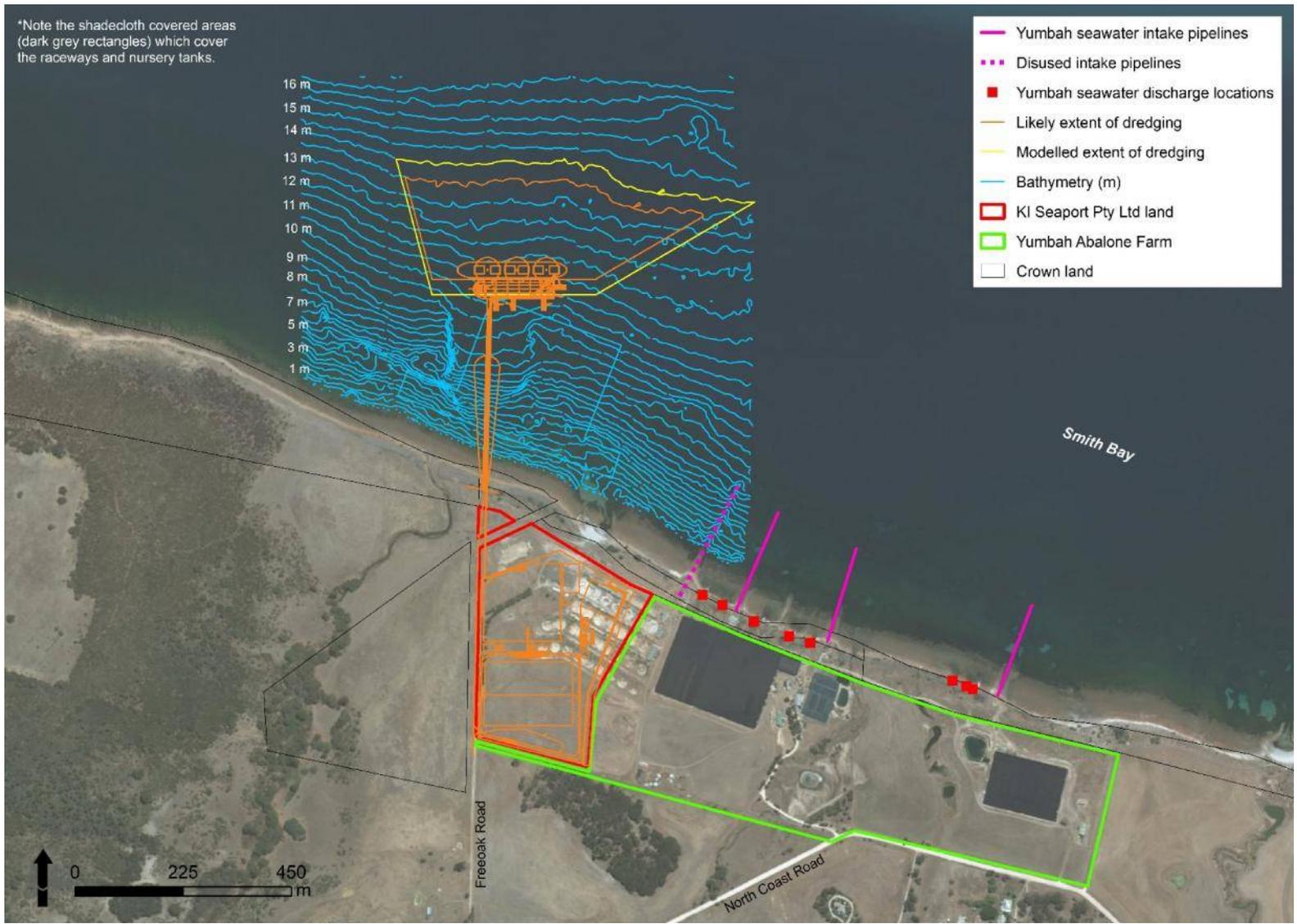


Figure 3: Figure 11-2 Yumbah abalone farm facilities in relation to the proposed KI Seaport
 (Note: the offshore design shown here is superseded by the design presented in the Addendum to the Draft EIS.)

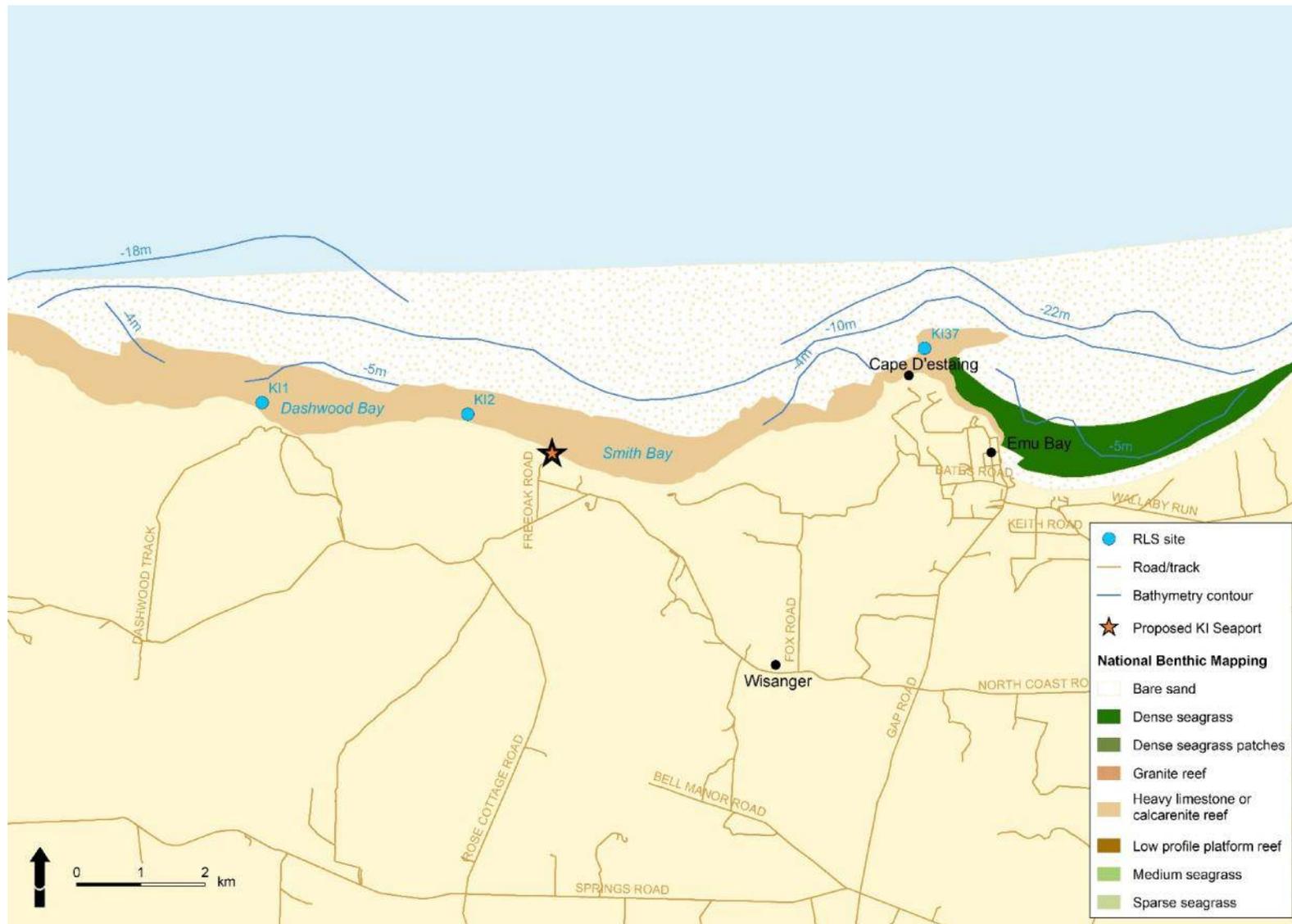


Figure 4: Figure 12-2 Existing habitat mapping for the central north coast of Kangaroo Island



Figure 5: Figure 16-2 Regional contours map



Figure 6: Figure 16-8 Groundwater grab sample locations



Figure 7: Figure 16-9 Site contours (m RL) map

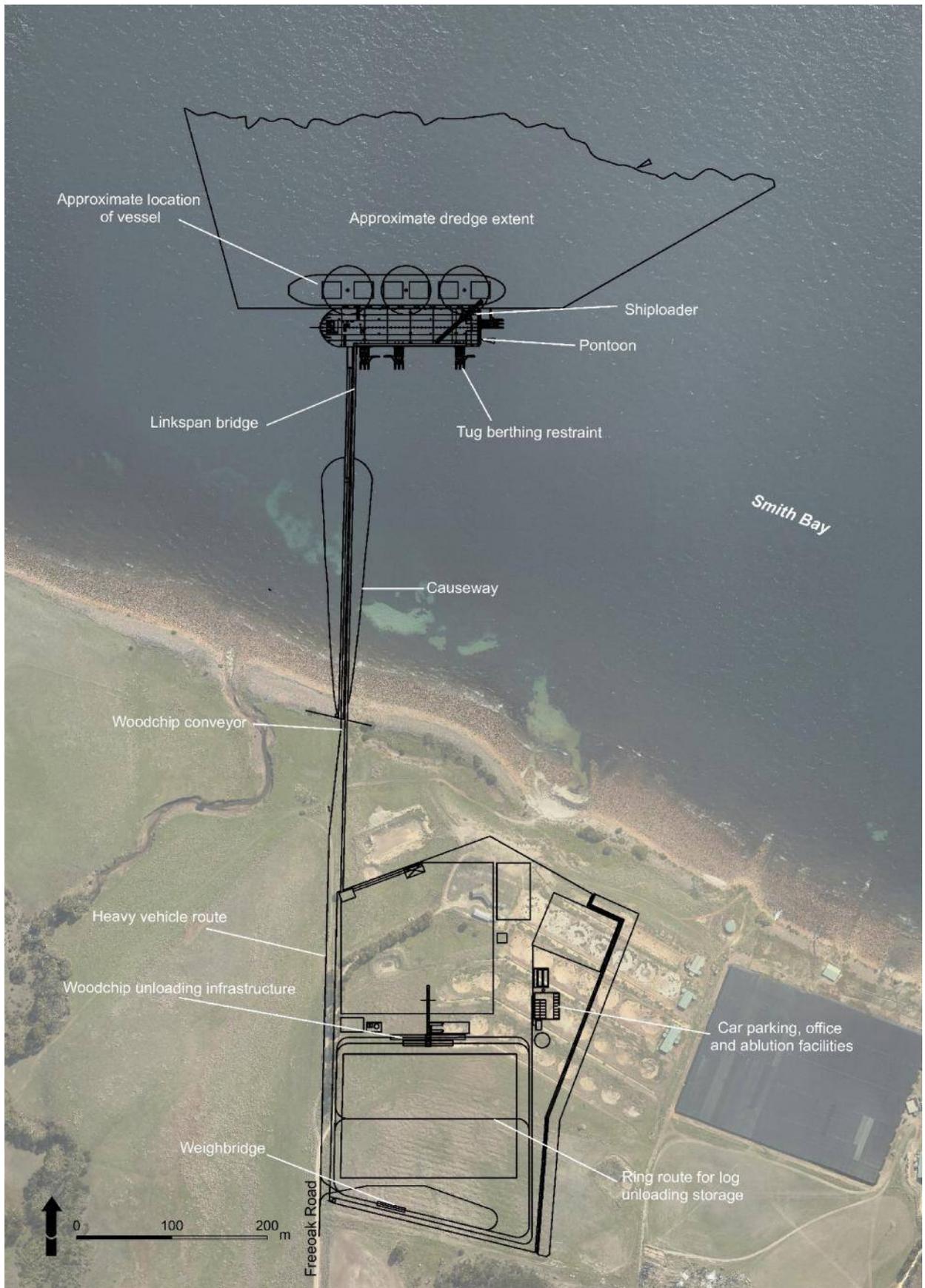


Figure 8: Figure 17-1 Conceptual layout of the proposed KI Seaport
 (Note: the offshore design shown here is superseded by the design presented in the Addendum to the Draft EIS.)

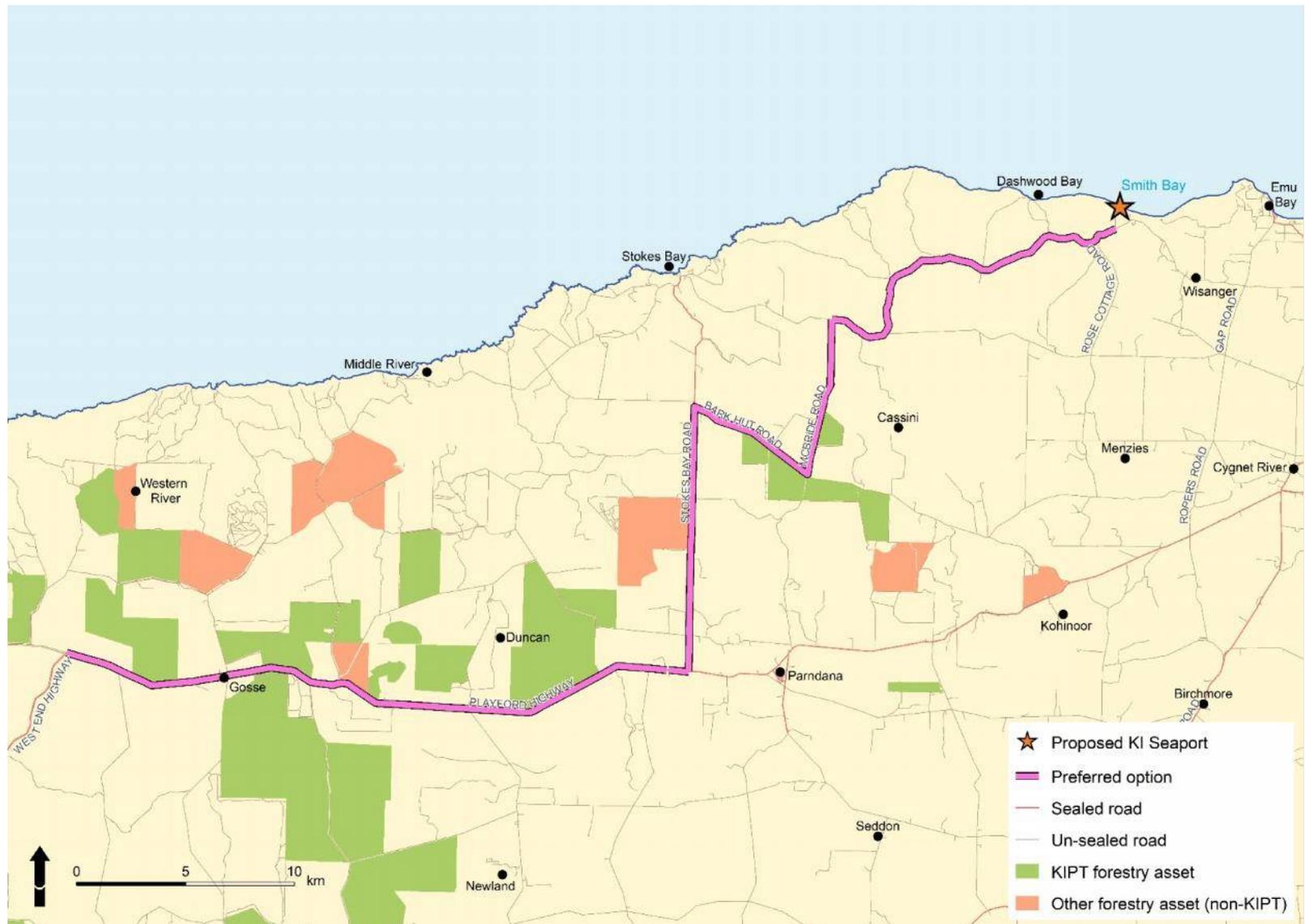


Figure 9: Figure 21-8 KIPT's selected route

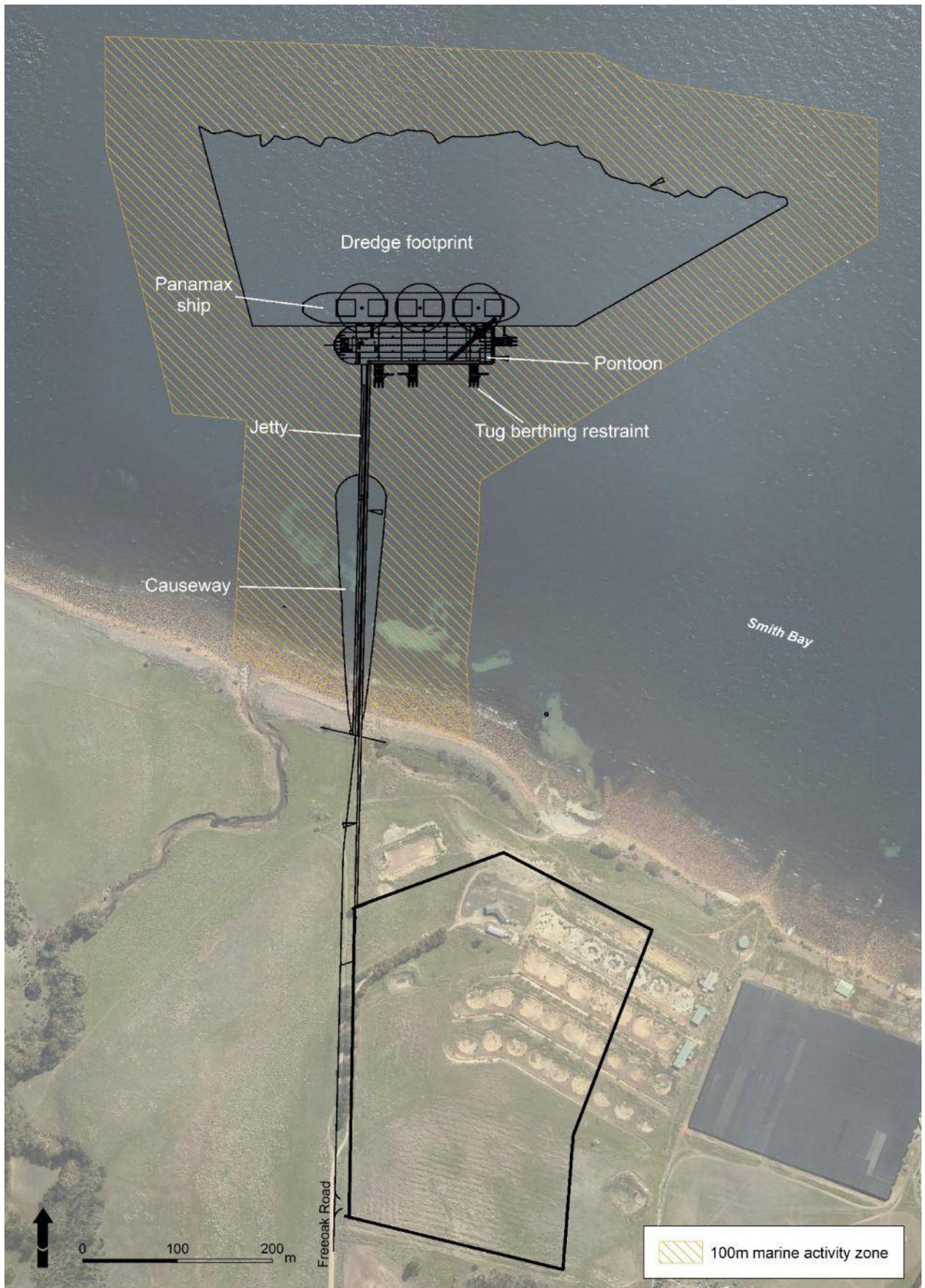


Figure 10: Figure 21-11 Proposed Marine Activity Zone

(Note: the offshore design shown here is superseded by the design presented in the Addendum to the Draft EIS.)

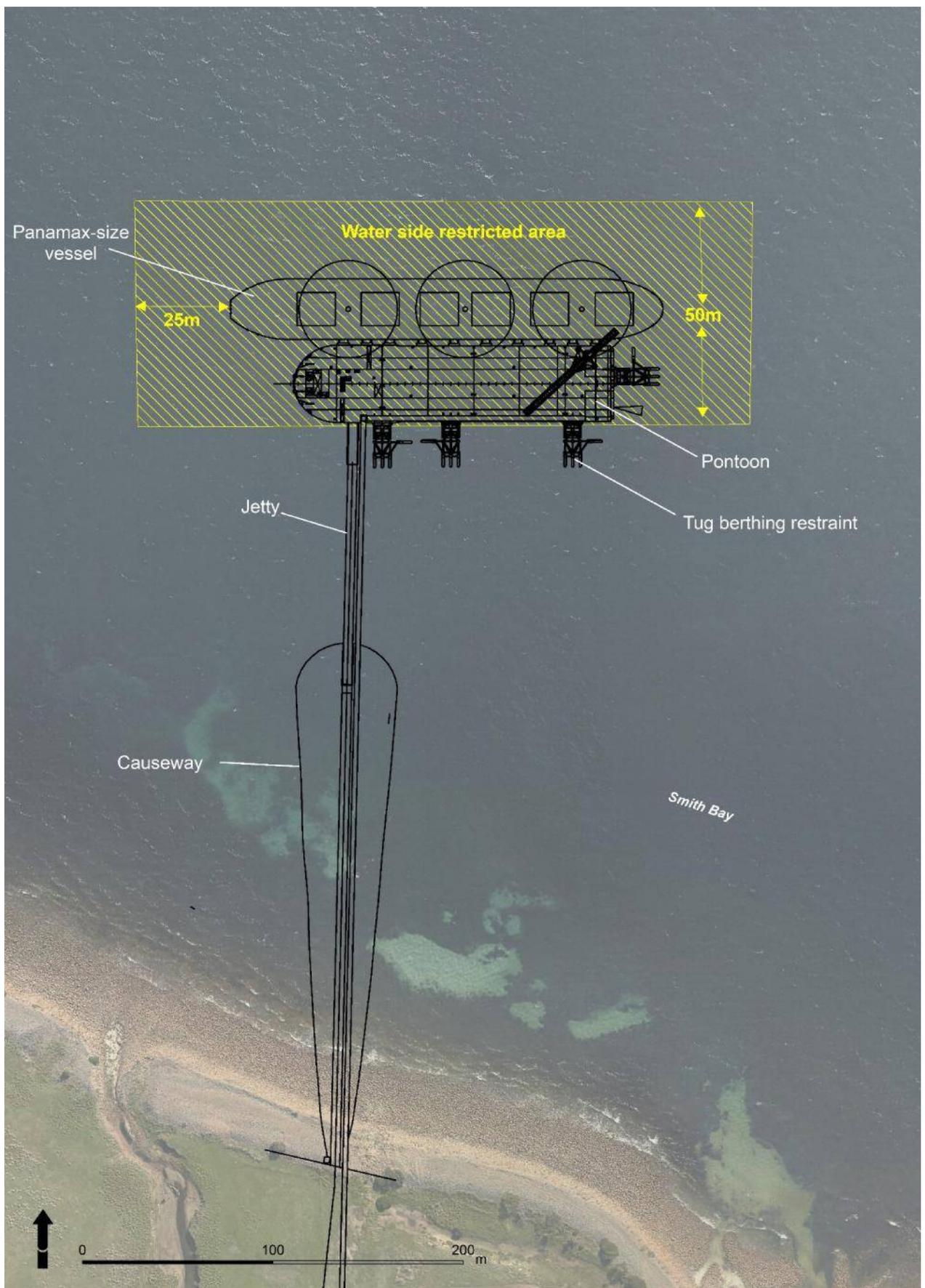


Figure 11. Figure 21-12 Conceptual temporary exclusion zone layout when vessels berthed
 (Note: the offshore design shown here is superseded by the design presented in the Addendum to the Draft EIS.)

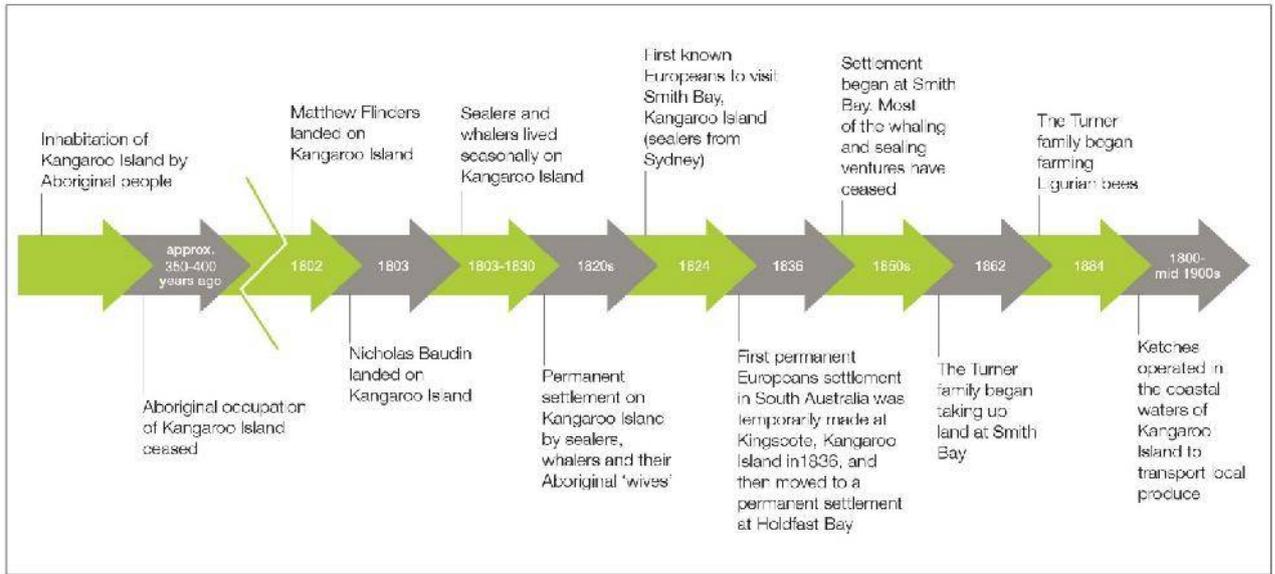


Figure 12: Figure 24-1 Timeline of settlement on Kangaroo Island

Risk matrix from page 531 of the Draft EIS

Table 4: Matrix for assessing risk

			Likelihood				
			1 Virtually impossible	2 Unlikely	3 Possible	4 Likely	5 Virtually certain
Consequence	1	Negligible effect	1 (Low)	2 (Low)	3 (Low)	4 (Low)	5 (Medium)
	3	Minor effect	2 (Low)	4 (Low)	6 (Medium)	8 (Medium)	10 (High)
	3	Moderate effect	3 (Low)	6 (Medium)	9 (Medium)	12 (High)	15 (High)
	4	Major effect	4 (Low)	8 (Medium)	12 (High)	16 (High)	20 (Extreme)
	5	Disastrous effect	5 (Medium)	10 (High)	15 (High)	20 (Extreme)	25 (Extreme)

>=0	0 – Low	> Low risks will be maintained under review but it is expected that existing controls will be sufficient and no further action will be required to treat them unless they become more severe.
>=5	5 – Medium	> Medium risks can be expected to form part of routine operations but they will be explicitly assigned to relevant managers for action, maintained under review and reported upon at senior management level.
>=10	10 – High	> High risks demand attention at the most senior management level to ensure that they are mitigated and controlled as rapidly as possible. They are reported on at the executive level.
>=17	17 – Extreme	> Extreme risks demand urgent attention at the most senior (including executive) level and must be immediately controlled. Operations must cease if the risk cannot be controlled.

Appendix F- Risk Assessment

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1. METHODOLOGY

Risk assessments for the KI Seaport development are active and continuously reviewed. Risks associated with **hazards** and **aspects** of the development, in the context of the EIS, are assessed using the AS ISO 31000 Risk management – Guidelines, which have been used throughout the EIS process.

The consequence and likelihood of impacts are rated or ‘scored’. The keys to the scores used in the risk assessment are provided in Table 1 and Table 2, respectively. Consequences are considered and a score is applied depending on the severity of the consequence and considering the potential impact on environmental/socio-economic, community/reputational and/or legal elements in alignment with KIPT’s corporate governance. The consequence level is based on the highest level attained in any of the columns in Table 1. Likelihood refers to the probable frequency of an event occurring.

Table 3 is the matrix for assessing risk based on the combination of **consequence** and **likelihood**. It is used to establish the overall risk level associated with a particular activity before any control measure is applied. This identifies the level of **‘inherent risk’** (or potential risk). After appropriate management measures are identified, the level of risk associated with each potential impact was re-assessed, determining the level of **‘residual risk’** (or remaining risk).

Table 1: Categories of severity of consequences based on environmental/socio-economic, community/reputational and/or legal elements

Category	Level	Environmental/Socio-economic	Community/Reputational	Legal
A	Negligible effect	Very short-term effects within the project area. Recovery will occur within days. No ecological or socio-economic consequences.	No media, regulator or community interest.	Minor non-compliance and/or breach of regulation. No legal consequences.
B	Minor effect	Short-term effects within the project area. Recovery will occur within weeks. Minor ecological or socio-economic consequences. No changes to biodiversity or ecological function.	Local media coverage. Some interest by regulator(s) and local NGOs. One or two community complaints.	Breach of regulation with investigation or report to authority with possible prosecution and fine.
C	Moderate effect	Medium-term effects within the project area. Recovery likely to occur within months. Moderate ecological or socio-economic consequences. Local changes to biodiversity, but no changes to ecological function.	State media coverage. Investigation by regulator(s) and NGOs. Persistent community complaints.	Breach of regulation with litigation and moderate fine. Involvement of senior management.
D	Major effect	Long-term effects, potentially extending beyond the project area. Recovery is likely to take years and complete recovery may not occur. Major ecological or socio-economic consequences. Significant local changes to biodiversity and measurable changes to ecological function.	National media coverage. Detailed investigation by regulator(s). Long-term community unrest and outrage significantly impacting business.	Major breach of regulation with litigation and substantial fine. Possible suspension of operating licence.
E	Disastrous effect	Very long-term effects extending beyond the project area. Recovery is likely to take decades and complete recovery may not occur. Severe ecological or socio-economic consequences. Loss of biodiversity on a regional scale, and significant loss of ecological function.	International media coverage. Extensive investigation by regulator(s) involving government minister(s). Complete loss of trust by affected community threatening the continued viability of the business.	Major litigation or prosecution with very substantial fines. Possible cancellation of operating licence.

Table 2: Likelihood of an event occurring

Level	Criteria
1	Virtually impossible Has almost never occurred elsewhere in similar situations but is conceivable over the next 100 years.
2	Unlikely Has occurred a few times elsewhere in similar situations. May occur within decades.
3	Possible An occasional occurrence elsewhere in similar situations. May occur within the next few years.
4	Likely A regular occurrence elsewhere in similar situations. Likely to occur within months.
5	Virtually certain A very frequent occurrence elsewhere in similar situations. Expected to occur within days to weeks, or ongoing.

Table 3: Matrix for assessing risk

			Likelihood				
			1 Virtually impossible	2 Unlikely	3 Possible	4 Likely	5 Virtually certain
Consequence	1	Negligible effect	1 (Low)	2 (Low)	3 (Low)	4 (Low)	5 (Medium)
	3	Minor effect	2 (Low)	4 (Low)	6 (Medium)	8 (Medium)	10 (High)
	3	Moderate effect	3 (Low)	6 (Medium)	9 (Medium)	12 (High)	15 (High)
	4	Major effect	4 (Low)	8 (Medium)	12 (High)	16 (High)	20 (Extreme)
	5	Disastrous effect	5 (Medium)	10 (High)	15 (High)	20 (Extreme)	25 (Extreme)
>=0	0 – Low	> Low risks will be maintained under review, but it is expected that existing controls will be sufficient, and no further action will be required to treat them unless they become more severe.					
>=5	5 – Medium	> Medium risks can be expected to form part of routine operations, but they will be explicitly assigned to relevant managers for action, maintained under review and reported upon at senior management level.					
>=10	10 – High	> High risks demand attention at the most senior management level to ensure that they are mitigated and controlled as rapidly as possible. They are reported on at the executive level.					
>=17	17 – Extreme	> Extreme risks demand urgent attention at the most senior (including executive) level and must be immediately controlled. Operations must cease if the risk cannot be controlled.					

2. FINAL RISK ASSESSMENT

See Table 4 for the final risk assessment for the KI Seaport, at the conclusion of the EIS process for the development.

Note that:

- For the purposes of construction activity associated with the proposed KI Seaport, the term ‘materials’ is used to include consumables, plant, equipment and vehicles.
- Additional row items have been added to differentiate biosecurity risks that are posed by ballast water and biofouling.
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This risk assessment has evolved through the completion of the EIS for the development and will be revised as the development goes into construction and operation phases. It must be noted that considered risk assessment for activities associated with (and ancillary to) the KI Seaport, and not assessed or approved by the EIS, are in grey text.

It is important to note that the residual risk of hazard or environmental aspect dictates the level of attention, within the hierarchy of an organisation, required for management.

Table 4: Risk assessment for the KI Seaport (at completion of the EIS)

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
Construction											
8	Construction jetty	Spill of fuel or hydraulic fluids	Impacts on marine communities	Moderate	Possible	Medium	<p>The risk of fuel, oil or chemical spills will be minimised through mandated compliance with established fuel/oil storage and handling standards and protocols.</p> <p>With the adoption of appropriate management measures, fuel, oil and chemical spills during construction are likely to result in a temporary, negligible risk to marine water quality.</p>	CEMP to include established management procedures covering vessel maintenance, reporting of leaks and use of spill kits in the event of a spill.	Minor	Unlikely	Low
11	Pile driving	Underwater noise and vibration	Whales and dolphins in particular may be harmed by excessive underwater noise	Minor	Possible	Medium	<p>Without mitigation, the overall risk of adverse noise effects on the relevant marine species is low, except for a medium level of risk associated with impact piling potentially resulting in hearing damage in southern right whales.</p> <p>Damage to the hearing of marine fauna is considered to be unlikely as the normal behavioural response to loud noise would be to move away.</p> <p>Behavioural changes in response to noise, including vessel noise, are expected to be temporary and ecologically inconsequential as Smith Bay is not known to provide important feeding or breeding habitat for any species likely to be affected by construction noise.</p> <p>The study area is not near an aggregation area, so southern right whales are unlikely to be present during construction of the KI Seaport.</p>	<p>Using alternative lower impact piling methods.</p> <p>Implementing a soft-start procedure when piling begins.</p> <p>Controlling the construction programme to avoid noise exposure, including scheduling piling to occur outside the months when whales may be present in the area.</p> <p>Establishing safety and shut-down zones and using marine mammal observers to monitor the presence of relevant species.</p>	Minor	Unlikely	Low
12	Movement of construction materials	Barging materials from the mainland, or trucking materials from other areas of the Island or the mainland	Introduction of pests (including vermin) and/or diseases	Major	Possible	High	With the adoption of appropriate management measures, the movement of construction materials into Smith Bay is likely to result in a long-term medium risk to the Island's biosecurity.	<p>A detailed marine pest management plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board)</p> <p>Standard vehicle hygiene measures will be implemented to manage translocation of pest plants and pathogens.</p>	Major	Unlikely	Medium

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
								Induction material for all construction operators would include content on the importance of maintaining the current biosecurity status of Kangaroo Island			
13	Movement of construction materials	Barging materials from the mainland	Increase in marine traffic	Minor	Unlikely	Low	The marine traffic volumes during construction are expected to be low, with no significant impact to existing vessel traffic. The exception is some minor inconvenience caused through the establishment of restricted access areas in the immediate vicinity of the construction shipping movements. These restrictions would be temporary and relatively infrequent in nature and the overall potential for marine vessel impacts is assessed as low.	A Marine Activity Zone (MAZ) would be prescribed for the construction period. The details of the zone would be provided to the DPTI, and KIPT would issue a Notice to Mariners advising other users of works that may affect the safe navigation of vessels in the vicinity.	Negligible	Unlikely	Low
14	Movement of construction materials	Road transport of construction materials from the mainland	Increase in road traffic	Negligible	Possible	Low	The proposed construction methodology and transport strategy aims to minimise the need to move materials by road on Kangaroo Island. Any materials that are moved to site by road would be transported using general access vehicles. Mobilisation of equipment, materials and workforce to the site during the construction period would be done by 'campaigns' of periods which extend over a number of days, not weeks or months.	A construction traffic management plan would be developed and implemented. Where practicable existing ferry services would be used to transport construction equipment and materials to the Smith Bay site.	Negligible	Possible	Low
21	Onshore construction activities	Site clearance	Loss of remnant native vegetation Loss of habitat Loss of foreshore values Disturbance of native fauna	Minor	Certain	High	No nationally or state-listed flora species are known to inhabit the study area, so no listed threatened species would be affected by vegetation clearance. No nationally or state-listed threatened ecological communities have been recorded within the area, so no listed threatened ecological communities would be affected by vegetation clearance. No more than 2.93 ha of native vegetation in moderate to very poor condition would be cleared.	Implementation of appropriate vegetation clearance offsets that result in a significant environmental benefit. Approved clearing footprint will be clearly demarcated to prevent off-site disturbance. Ensure that ground disturbance and vegetation clearing are limited to the approved clearing footprint, If native fauna noted in pre-construction site inspection, an authorised professional with appropriate permits, would be engaged to determine best management option, which may be relocation.	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
22	Onshore construction activities	Site clearance	Impacts on Aboriginal and non-Aboriginal heritage items	Disastrous	Possible	High	There are no listed heritage places (non-Aboriginal) in the study area. No Aboriginal heritage sites have been recorded within the study area; however, a search of the Register of Aboriginal Sites and Objects contains a record of an Aboriginal site approximately 800 m to the east.	The Cultural Heritage Management Plan, which would include an induction procedure and a site discovery protocol (outlined in Appendix G of the Response Document) would detail the action required if a non-Aboriginal or Aboriginal artefact of potential heritage significance were discovered. This document will be developed in consultation with relevant government agencies, traditional owners and archaeologists with involvement from the Contractor.	Moderate	Unlikely	Medium
23	Onshore construction activities	Excavation	Impacts on Aboriginal heritage items	Disastrous	Likely	Extreme	No Aboriginal heritage sites have been recorded within the study area; however, a search of the Register of Aboriginal Sites and Objects contains a record of an Aboriginal site approximately 800 m to the east. There is a low risk of encountering surface Aboriginal sites and objects within the project area based on previous land use. However, the presence of an Aboriginal site approximately 800 m to the east, as well as the proximity of Smith Creek and the coast, suggest that the proposed earthworks pose a moderate to high risk of encountering sub-surface Aboriginal sites or objects (see Appendix G of the Response Document)	A Cultural Heritage Management Plan, which would include an induction procedure and a site discovery protocol (outlined in Appendix G of the Response Document) would detail the action required if an Aboriginal artefact of potential heritage significance were discovered. This document will be developed in consultation with relevant government agencies, traditional owners and archaeologists with involvement from the Contractor. KIPT will undertake archaeological monitoring by the relevant Aboriginal groups of the project site during earthworks. An on-ground survey of the study area will be undertaken and will include the relevant traditional owners. The survey will be undertaken before any construction activity commences.	Moderate	Possible	Medium
24	Onshore construction activities	Excavation	Exposure and inappropriate disposal of contaminated soil (such that contaminated soil guidelines are breached)	Moderate	Possible	Medium	No site contamination or CASS has been identified in the study area, so the movement and reworking of soils as part of site development would not require special management, treatment or monitoring.	Contingency plans to prevent environmental impacts would be developed in the event that contamination or CASS is discovered during construction activities, such as deep excavation works or pile driving.	Minor	Unlikely	Low
25	Onshore construction activities	Silt laden runoff entering Smith Bay	Loss of seagrass and other benthic communities due to light reduction and smothering	Moderate	Possible	Medium	The development would be likely to increase localised stormwater flow in some areas where the surface was less permeable. However, the site design	The development site would be designed to contain and manage all stormwater runoff during construction and operation – no stormwater would discharge to the sea or Smith Creek directly.	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
							would prevent stormwater spilling outside site boundaries.	<p>A retention basin would be designed and constructed in the early stages of development to contain stormwater during subsequent works and operation.</p> <p>All runoff would be directed to this basin during construction and operation through engineered bunds and other structures.</p> <p>As the basin would be designed for long-term sustainability, it would have the capacity to be cleaned.</p> <p>The basin could allow infiltration of stormwater into groundwater if the runoff was from general site areas only (not timber, forest product or chemical storage areas).</p>			
26	Onshore construction activities	Silt laden runoff entering Smith Bay	Poor water quality (for abalone health) at Yumbah's seawater intake	Major	Possible	High	The development would be likely to increase localised stormwater flow in some areas where the surface was less permeable. However, the site design would prevent stormwater spilling outside site boundaries.	<p>The development site would be designed to contain and manage all stormwater runoff during construction and operation – no stormwater would discharge to the sea or Smith Creek directly.</p> <p>A retention basin would be designed and constructed in the early stages of development to contain stormwater during subsequent works and operation.</p> <p>All runoff would be directed to this basin during construction and operation through engineered bunds and other structures.</p>	Minor	Unlikely	Low
27	Onshore construction activities	Noise	Temporary disturbance to neighbours and Yumbah's abalone	Minor	Unlikely	Low	<p>Provided the majority of construction work is carried out during normal hours, and reasonable and practicable steps are taken to minimise noise, compliance with Division 1 of the Noise EPP can be readily achieved.</p> <p>The noise associated with construction and operation of the KI Seaport, would be minor compared to the noise caused by Yumbah's existing operations.</p>	<p>KIPT would seek to minimise noise during the construction phase so amenity at the nearby receivers was not unduly impacted.</p> <p>To mitigate the potential for the criterion to be exceeded and to minimise construction noise and vibration impacts, a number of controls may be implemented (as detailed in the CEMP).</p> <p>As the development proceeds, ongoing engagement with stakeholders, including Yumbah, would notify them of any potential risks which may affect them to ensure that appropriate controls and</p>	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
								management can be implemented in a collaborative and cooperative manner.			
28	Onshore construction activities	Noise	Disturbance to fauna, in particular any protected species on or within the vicinity of the site	Minor	Possible	Medium	<p>Numerous bird species may occasionally fly over the site or use the adjacent beach or remnant habitat in the area. However, the study area is not important or critical habitat for these species.</p> <p>Coastal raptors such as the white-bellied sea-eagle and osprey would fly over the site while foraging along the coast. Although both species are also known to nest mainly on cliffs along the north coast, the site itself does not have suitable nesting habitat.</p> <p>Although a small amount of beach habitat may be affected by the proposal, the site is not a known breeding site or flocking site (i.e. critical habitat for this species). There are many other beaches in the surrounding region that provide similar or better foraging habitat for the hooded plover (eastern).</p> <p>Echidnas are unlikely to have a large portion of their home range in the study area and construction is unlikely to affect their habitat availability in any meaningful way.</p>	<p>The general area would be inspected before construction begins. If required, authorised professional, with appropriate permits, would be engaged to determine the best possible management option, which may include relocation.</p> <p>If a hooded plover (eastern) nest was found during construction or operations a buffer zone – the extent of which would be determined in consultation with DEW – would be implemented during the breeding season.</p>	Minor	Unlikely	Low
29	Onshore construction activities	Fugitive dust	Temporary nuisance to neighbours and health affects to Yumbah's abalone	Moderate	Possible	Medium	<p>The predicted dust deposition rates at the abalone farm are predicted to be low (i.e. no greater than 0.2 to 0.5 g/m²/month over existing rates). Existing deposition is 2.0 g/m²/month from background and non-development-related sources.</p>	<p>A series of dust gauges would be established on the site boundaries to monitor dust deposition rates before and during construction. A number of these gauges would be established at locations considered to represent the background site air quality (i.e. not influenced by site operations). Over time, this would allow the operational contribution to local air quality changes and/or amenity impacts to be quantified.</p> <p>Additional mitigation measures to reduce fugitive dust would be implemented and are detailed in the CEMP.</p> <p>As the development proceeds, ongoing engagement with stakeholders, including Yumbah, would notify them of any potential risks which may affect them to</p>	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
								ensure that appropriate controls and management can be implemented in a collaborative and cooperative manner.			
30	Onshore construction activities	Construction traffic	Impacts on echidnas that occasionally forage on site, causing a reduction to the Island's population	Moderate	Possible	Medium	Echidnas are known to forage for invertebrates in agricultural paddocks as well as native vegetation. It is unlikely the study site encompasses a large portion of the home range for the local Kangaroo Island echidnas, (which can be as large as 400 ha). However, the site could be used for foraging.	<p>The general area would be inspected before construction begins. If echidnas were observed, an authorised professional, with appropriate permits, would be engaged to determine the best possible management option, which may include relocation.</p> <p>Speed limits would be established in the study area and on Freeoak Road to reduce the risk of vehicle strikes.</p> <p>Echidna signage would be installed at the access road into the site.</p> <p>Waste and rubbish would be minimised and managed to avoid attracting echidnas and predators of echidnas.</p> <p>Standard vehicle hygiene protocols would be followed to reduce the risk of introducing or spreading weeds and pathogens.</p>	Negligible	Unlikely	Low
31	Onshore construction activities	Light emissions	Temporary disturbance to abalone farm	Minor	Possible	Medium	Existing lighting from the onshore aquaculture facility provides a visual reference for the proposed lighting system at the KI Seaport, and for the residence south-east of the site. The KI Seaport's lights would likely blend into the existing lighting.	<p>Minimise night work to only include those activities that cannot be avoided</p> <p>Placement of shades over lights to ensure that light spill out of site is minimised.</p>	Minor	Unlikely	Low
32	Onshore construction activities	Introduction of noxious weeds and/or pathogens	Further degradation of remnant vegetation communities and habitat at Smith Bay	Minor	Unlikely	Low	Given the cleared and degraded nature of the study area, the introduction or spread of weeds would be unlikely to cause impacts to native flora and fauna on the site. However, construction activity could have the potential to spread weeds and pathogens offsite in the absence of appropriate controls on the movement of plants and plant material attached to machinery.	<p>Vehicle hygiene measures would be implemented to minimise the risk of introducing and spreading weeds and pathogens.</p> <p>Ongoing management of declared weeds within the onshore area would occur as required.</p> <p>If an emergency pest plant was detected, the terrestrial biosecurity response procedure would be implemented, and the relevant authorities notified.</p>	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
33	Onshore construction activities	Potential upgrading of some timber/forest product transport roads (whilst construction underway)	Loss of remnant native vegetation (particularly remnant Kangaroo Island narrow-leaf mallee) and fauna habitat	Major	Likely	High	Any proposal to clear vegetation along a proposed timber/forest product haul route would require a separate assessment of impacts and be subject to a separate approvals process.	Ecological surveys to map remnant vegetation and habitat along potential routes to inform route selection.	Minor	Unlikely	Low
34	On-site fuel/chemical storage and use (on and offshore)	Fuel/chemical spillage	Soil contamination	Moderate	Possible	Medium	It is considered that the risk of contamination of the site soils by fuel or chemical spillages could be effectively managed using standard management measures and monitoring.	Preparation and implementation of a Fuel and Chemical Storage and Handling Plan. Placement of storage tanks and drums within spill trays or bunds. Lining of bunds with impervious material. Clean-up of any spills in a timely manner.	Minor	Unlikely	Low
35	On-site fuel/chemical storage and use	Fuel/chemical spillage	Marine water pollution	Disastrous	Possible	High	If not managed, contaminated stormwater and groundwater could affect the marine environment. Although dilution would reduce the impact to some degree, the immediate receiving environment could be affected.	Preparation and implementation of a Fuel and Chemical Storage and Handling Plan. Placement of storage tanks and drums within spill trays or bunds. Lining of bunds with impervious material. Clean-up of any spills in a timely manner.	Minor	Unlikely	Low
Operations											
36	Wharf operations	Noise	Disturbance to neighbouring abalone farm	Moderate	Possible	Medium	Operational noise levels at the KI Seaport are predicted to comply with the daytime noise criterion and slightly exceed the night-time criterion. With the application of some controls, operational noise emissions are predicted to comply with daytime and night-time criteria at all noise-sensitive receptor locations.	To mitigate the potential for the criterion to be exceeded and to minimise operational noise and vibration impacts, a number of controls may be implemented as detailed in the OEMP.	Minor	Unlikely	Low
37	Wharf operations	Noise	Disturbance to fauna, particularly any listed species nesting on or within close proximity to the site	Minor	Unlikely	Low	Taking into account the limited number of fauna species currently using the site and the likelihood of these individuals relocating to nearby habitat during construction, the impact of additional noise on fauna is considered to be low. The closest known raptor nesting site (white-bellied sea-eagle, as shown on	If a hooded plover (eastern) nesting site was found during operation of the proposal, a buffer zone – the extent of which would be determined in consultation with DEW – would be implemented around the nest during the breeding season.	Negligible	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
							Figure 13-7 of the Draft EIS is approximately 4.1 km from the study area and would not need a buffer zone.				
38	Wharf operations	Fugitive dust	Temporary nuisance to neighbours and health affects to Yumbah's abalone	Moderate	Possible	Medium	The predicted dust deposition rates at the abalone farm are predicted to be low (no greater than 0.2 to 0.5 g/m ² /month over existing rates). Existing deposition is 2.0 g/m ² /month from background and non-development-related sources.	Potentially seal roads or use of sprinklers during dry conditions to control dust emissions. Planting of vegetation around perimeter of site to act as a wind break. Additional mitigation and management measures to further reduce dust generation during operations are detailed in the OEMP.	Minor	Unlikely	Low
39	Wharf operations	Light emissions	Disturbance to land-based abalone farm/neighbouring farms/nearby residents	Minor	Possible	Medium	Existing lighting from the nearby onshore aquaculture facility provides a visual reference for the proposed lighting system at KI Seaport and, for the residence south-east of the site. The KI Seaport's lights would likely blend into the existing lighting.	KIPT would design the lighting system to avoid or minimise the potential for the illumination from spill light being obtrusive (particularly where the light enters rooms that are normally dark, such as bedrooms), and the direct view of bright lights causing annoyance, distraction or even discomfort.	Minor	Unlikely	Low
40	Wharf operations	Presence of wharf, timber/forest product stockpiles and ships in Smith Bay	Lowering the visual amenity of Smith Bay	Minor	Possible	Medium	The proposed KI Seaport would extend the existing relatively disturbed, industrial-like character of that part of Smith Bay. The reduction in landscape quality for the study area and Smith Bay is not considered significant. However, the changes to visual amenity would be noticeable and are considered significant for the local neighbours and distant residents who are on elevated land with views to Smith Bay. The design change could be considered an improvement to the overall visual amenity impact that the KI Seaport is expected to bring to Smith Bay as a result of the jetty and pontoon infrastructure becoming less conspicuous in the coastal environment than that of a rock armoured causeway closer to the shore.	Mitigation measures which target design features and finishes, incorporate sympathetic design of elevated areas and use vegetation plantings to integrate the facility into the existing environment as much as is possible and practicable, would help soften and minimise visual impacts.	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
41	Storage of logs, woodchips and forest products	Leachate generation	Soil contamination Groundwater/stormwater contamination Marine pollution and effects on marine communities Poor water quality at intake for abalone farm	Major	Likely	High	Leachate may be produced when an uncovered store of forest product, including woodchips, is exposed to precipitation and the water emerges as a contaminated liquid. If not managed properly, leachate could harm surface water via direct runoff or through stormwater transport and groundwater via infiltration through a permeable base. Site groundwater is considered to be directly connected to the marine environment.	Stormwater runoff from the woodchip, or other forest product, storage areas would be contained in those areas and not allowed to mix with general site runoff because it probably would be contaminated by leachate. Leachate could accumulate in sumps in these areas and would be allowed to evaporate (not infiltrate). A design based on likely stormwater volumes would determine acceptable strategies. A separate retention basin would be constructed to contain potentially leachate-affected stormwater but would not allow infiltration. No leachate-affected water would be discharged to surface water. Depending on the likely volumes of contaminated water, various treatment options would be considered and take into account space limitations.	Minor	Unlikely	Low
42	On-site diesel storage and use	Diesel spillage	Soil contamination Groundwater /stormwater contamination Marine pollution and effects on marine communities	Moderate	Possible	Medium	If not managed, contaminated stormwater and groundwater could affect the marine environment. Although dilution would reduce the impact to some degree, the immediate receiving environment could be affected.	Preparation and implementation of a Fuel and Chemical Storage and Handling Plan. Placement of containment bunds around storage tanks and drums. Lining of bunds with impervious material. Clean up any spills in a timely manner. Provision of spill kits on site.	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
43	Shipping	Disposal of ballast water – international shipping	Introduction of marine pest species and diseases (particularly the abalone disease Abalone Viral Ganglioneuritis (AVG) and the abalone parasite <i>Perkinsus</i>)	Disastrous	Likely	Extreme	<p>With the adoption of appropriate management measures, the discharge of international shipping-based contaminants to Smith Bay may result in a long-term medium risk to marine biosecurity.</p> <p>The Port Operator would apply to be determined as a first point of entry (under section 229 of the <i>Biosecurity Act 2015</i>).</p> <p>Subject to this determination, activities that occur at Smith Bay must meet the requirements of relevant biosecurity standards (under section 58 of the <i>Biosecurity Regulation 2016</i>)</p> <p>By 2024, international vessels will be required to operate on-board ballast water management system (referred to as the D-2 standard). The standard specifies criteria for exotic organisms that must be met before ballast water can be discharged and is considered an improvement on the current predominant method of ballast water exchange on the high seas (i.e. the D-1 standard).</p> <p>AVG is endemic to Australia, Abalone Withering Disease (<i>Xenohaliotis californiensis</i>) which is caused by an exotic bacterial pathogen (to date this has not been reported in Australia) and <i>Perkinsus olseni</i> (a zoo-parasite) that is endemic to Australia and is frequently found in farmed stock.</p>	<p>National, state and regional biosecurity management policies and strategies would be followed to minimise the potential for the introduction of marine pests and/or aquatic diseases.</p> <p>Incoming ships would be required to comply with the Commonwealth policies and guidelines relevant to the management of ballast water disposal.</p> <p>International vessels must meet the requirements of the <i>Biosecurity Act 2015</i>.</p> <p>International vessels would arrive at a designated first point of entry. The first point of entry would have appropriate facilities and systems in place to reduce the biosecurity risk to an acceptable level in accordance with section 58 of the <i>Biosecurity Regulation 2016</i>.</p> <p>A detailed Marine Pest Management Plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board).</p> <p>Operational procedures would include a program of regular and strategic inspections and a process for notification of actual or suspected pests and/or diseases for immediate action.</p> <p>As the development proceeds, ongoing engagement with stakeholders, including Yumbah, would notify them of any potential risks which may affect them to ensure that appropriate controls and management can be implemented in a collaborative and cooperative manner.</p>	Major	Unlikely	Medium

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
44	Shipping	Disposal of ballast water – domestic shipping and South Australian local vessels	Introduction of marine pest species and diseases (particularly the abalone disease Abalone Viral Ganglioneuritis (AVG) and the abalone parasite <i>Perkinsus</i>)	Disastrous	Likely	Extreme	<p>With the adoption of appropriate management measures, the discharge of ballast water from domestic and SA local vessels to Smith Bay may result in a long-term medium risk to marine biosecurity.</p> <p>Local vessels have the benefit of a Same Risk Area under the Biosecurity Act which provides flexibility for ballast water management.</p> <p>AVG is endemic to Australia, Abalone Withering Disease (<i>Xenohaliotis californiensis</i>) which is caused by an exotic bacterial pathogen (to date this has not been reported in Australia) and <i>Perkinsus olseni</i> (a zoo-parasite) that is endemic to Australia and is frequently found in farmed stock.</p>	<p>It is anticipated that for all timber/forest product vessels arriving at Smith Bay for loading are International ships.</p> <p>National, state and regional biosecurity management policies and strategies would be followed to minimise the potential for the introduction of marine pests and/or aquatic diseases.</p> <p>Domestic shipping (i.e. vessels travelling between Australian ports) is subject to controls under the Biosecurity Act including those addressing ballast water management.</p> <p>To reduce the risk of SA local vessels discharging unacceptable ballast water into Smith Bay, specific operating procedures would be developed, in consultation with Biosecurity.</p> <p>A detailed Marine Pest Management Plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board).</p> <p>As the development proceeds, ongoing engagement with stakeholders, including Yumbah, would notify them of any potential risks which may affect them to ensure that appropriate controls and management can be implemented in a collaborative and cooperative manner.</p>	Major	Unlikely	Medium

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
45	Shipping	Biofouling – international and domestic shipping	Introduction of marine pests and aquatic diseases	Disastrous	Likely	Extreme	<p>With the adoption of appropriate management measures, the biosecurity risk to Smith Bay from biofouling may result in a long-term medium risk to marine biosecurity.</p> <p>The Port Operator would apply to be determined as a first point of entry (under section 229 of the <i>Biosecurity Act 2015</i>).</p> <p>Subject to this determination, activities that occur at Smith Bay must meet the requirements of relevant biosecurity standards (under section 58 of the Biosecurity Regulation 2016).</p>	<p>Incoming ships (both domestic and international shipping) would be required to comply with the State Environment Protection (Water Quality) Policy 2015 relevant to the management of biofouling and pollution management.</p> <p>No in-water or dry dock cleaning would be permitted at the KI Seaport.</p> <p>To avoid transmitting the POMS virus it is proposed that tugs from Port Adelaide will not be used at Smith Bay.</p> <p>A detailed Marine Pest Management Plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board).</p>	Major	Unlikely	Medium
46	Shipping	Stowaways and vermin	Introduction of pest animals (vertebrate and invertebrate)	Disastrous	Possible	High	<p>The Port Operator would apply to be determined as a first point of entry (under section 229 of the <i>Biosecurity Act 2015</i>).</p> <p>Subject to this determination, activities that occur at Smith Bay must meet the requirements of relevant biosecurity standards (under section 58 of the Biosecurity Regulation 2016).</p>	<p>International vessels would arrive at a designated first point of entry.</p> <p>The first point of entry would have appropriate facilities and systems in place to reduce the biosecurity risk to an acceptable level in accordance with section 58 of the Biosecurity Regulation 2016.</p> <p>A detailed marine pest management plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board).</p>	Major	Unlikely	Medium
47	Shipping	Winnowing of sediments and generation of silt plumes	Seagrass decline due to reduction in light availability and smothering	Minor	Possible	Medium	<p>Sediment plumes generated by propwash would have a negligible effect on seagrass and other benthic communities as they would be infrequent, of short duration, of relatively low intensity and of limited extent.</p>	<p>Unnecessary due to very low frequency of shipping movements and low level of impact.</p>	Minor	Unlikely	Low
48	Shipping	Winnowing of sediments and generation of silt plumes	Poor water quality (for abalone health) at Yumbah's seawater intake	Moderate	Unlikely	Medium	<p>Effects on water quality from operational propwash are likely to be minor as the sediments on the sea floor at Smith Bay are relatively coarse and would therefore tend to settle rapidly to the sea floor after disturbance.</p> <p>The 100th percentile (maximum) modelling outputs for operational propwash show that local plumes in</p>	<p>Unnecessary due to very low frequency of shipping movements and low level of impact.</p>	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
							excess of 10 mg/L TSS would occur for short periods but would be confined to the berth pocket and not extend to the Yumbah seawater intakes.				
49	Shipping	Vessel movements	Potential collisions with whales	Minor	Unlikely	Low	Modelling has shown there is a low probability of whale strikes (approximately one per 300 years) associated with vessels travelling to and from the KI Seaport along the southern Australian coastline.	Maintaining vigilance for whales during shipping operations and deviating course to avoid whales should it be required. No other management strategies are considered to be warranted or feasible	Minor	Unlikely	Low
50	Transport of timber/forest product to Smith Bay	Dust	Impacts on roadside vegetation	Minor	Possible	Medium	No dust impacts to roadside vegetation were noted during the ecological survey of segments of the transport routes. However, this vegetation may have adapted in response to the existing dust levels. Therefore, it is possible that an increase in immediate road-side dust effects to vegetation may occur as a result of the use of heavy vehicles on the transport route. It is expected that these effects would be limited to the immediate vicinity of the road.	The adoption of a road management regime to maintain a sound road surface will assist in minimising the potential for dust generation on unsealed roads. It should also be noted that the areas that are most suitable for plantation forestry are those with relatively high rainfall and persistent soil moisture, so that dust-related problems in the forestry areas themselves are likely to be confined to the summer months.	Negligible	Likely	Low
51	Transport of timber/forest product to Smith Bay	Additional trucks using KI roads	Inconvenience / interactions between trucks and tourist and local traffic Disturbance to residences near haul roads	Major	Likely	High	Potential increases in traffic volumes of two-to-three times on minor unsealed roads. The traffic impact assessment has demonstrated that some impacts to nearby residents and other road users are likely. However, these are generally minor in nature and, where relevant, the proposed operations comply with appropriate standards and guidelines.	Project site (Smith Bay) chosen to minimise distance between plantations and wharf facilities. Mitigation and management measures are proposed aimed at reducing the total number of vehicle movements with the use of high productivity (i.e. large) vehicles which would be authorised to use a defined transport route. The recommended route has been chosen following extensive studies which were completed with the agreement and support of the Kangaroo Island Council. The recommended route would minimise the number of affected residents, minimise the potential for impacts to local ecology, and optimise the costs of road upgrades and ongoing maintenance.	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
52	Transport of timber/forest product to Smith Bay	Additional trucks using KI roads	Disturbance to fauna, particularly the Glossy Black Cockatoo (potential feeding and nesting habitat)	Moderate	Possible	Medium	The glossy black-cockatoo (Kangaroo Island) may occasionally fly over the study area or use the remnant habitat in the area. The cockatoo may fly over the area to access remnant patches of drooping sheoak (<i>Allocasuarina verticillata</i>) feeding habitat along the North Coast Road within 2 km of the site. The study area itself, however, is not an important or critical habitat for this species. Being highly mobile, they would relocate to alternative habitat that is abundant throughout the region.	Ecological surveys to map remnant vegetation and habitat along potential routes and inform route selection. KIPT proposes to provide significant ongoing support to the glossy black-cockatoo recovery program on the Island.	Minor	Unlikely	Low
53	Transport of timber/forest product to Smith Bay	Additional trucks using KI roads	Road kills of native fauna (particularly echidnas)	Moderate	Possible	Medium	There is a risk that trucks transporting timber/forest products will increase the number of echidna road kills. Estimates (see Appendix K-6 of the Draft EIS) of potential annual echidna deaths as a result of KIPT haulage trucks range from six to 21 per annum (which equates to 0.1–0.4 per cent of the estimated total population of echidnas on the Island).	Driver education and awareness training would help manage this risk and continued monitoring of vehicle strikes would enable research to further clarify the nature of this risk. KIPT would undertake inspections of the transport route to relocate carcasses from the immediate vicinity of the roadside, which act as a food source for scavenging animals and could result in additional roadkill to the scavengers. The transport route would be inspected regularly for roadkill. Deceased echidnas and Rosenberg's goanna would be collected and provided to Dr Peggy Rismiller as part of her ongoing research on these two species. Ecological surveys to map remnant vegetation and habitat along potential routes and inform route selection. The loss of echidnas may be offset by supporting the Feral Cat Eradication Program on Kangaroo Island, which is expected to result in a net benefit to the echidna population.	Minor	Unlikely	Low
54	Overall development	Greenhouse gas emissions	Carbon footprint of the development and contribution to global warming	Negligible	Unlikely	Low	Emissions as a result of the KI Seaport are expected to be no greater than 1700 tonnes of CO2-e annually, which represents a negligible change to current projections for South Australia and Australia and is a small fraction of the CO2-e sequestered in KIPT plantation	KIPT is committed to reducing its carbon footprint to as low as is reasonably achievable. To help achieve this goal, the following mitigation and management measures are proposed to be investigated during detailed design:	Negligible	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
							assets. As a result, no negative impacts as a result of a change in greenhouse gas emissions are predicted.	<ul style="list-style-type: none"> minimising electricity consumption through the use of energy-efficient infrastructure such as low-friction conveyors, wood re-chippers, lighting and air-conditioning investigating the installation of solar photovoltaic panels to supply electricity to site buildings and for site lighting, minimising the potential for downtime associated with power outages under peak load situations maintaining regular maintenance schedules for site vehicles and timber/forest product transport trucks to ensure they remain compliant with relevant legislation and operate as efficiently as possible seeking to use grid electricity wherever possible and increase the use of renewably generated electricity, to reduce the reliance on diesel-powered on-site generation use of the most efficient permissible haulage vehicle configuration use of the most direct permissible haulage route. 			
55	Overall development	Climate change	Sea level rise potentially impacting coastal developments	Minor	Possible	Medium	Under a medium-emissions scenario, the predictions for Kangaroo Island are sea levels 33 cm higher by 2070, with a corresponding increase in sea surface temperatures of 1.2°C by 2090.	A number of design and management measures have been identified to minimise the potential impacts to KI Seaport infrastructure and operations as a result of climate change (see Chapter 19 of the Draft EIS).	Negligible	Unlikely	Low
56	Overall development	Fire at Smith Bay	Timber/forest product stockpiles could catch fire should a bushfire, or other cause, occur in the area Site activities (during construction and operation)	Major	Possible	High	The potential for fire at Smith Bay impacting the KI Seaport has been considered and an Emergency Response Management Plan and a Bushfire Hazard Management Plan have been developed for the site.	Fire management at the KI Seaport would focus on the prevention of fires and would include discussions with the South Australian fire authorities. A firefighting water system would be established, consisting of a saltwater	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
			could be an ignition source for fire					<p>tank and pumping station for distribution across the site.</p> <p>Appropriate firebreaks will be maintained where necessary for the protection of property and vegetation onsite.</p> <p>Implementation of a bushfire hazard management plan, developed in liaison with CFS, for bushfire response at KI Seaport.</p> <p>Management Plans will consider outcomes of ongoing consultation with the CFS and will include specific details on escape routes, refuges, passive and active fire suppression systems, onsite buffers and maintenance plans.</p>			
57	Overall development	Employment (direct and indirect)	Pressure to services and business due to increased population on Kangaroo Island	Moderate	Possible	Medium	Assuming an average household size of 2.4 people in South Australia, the Island's population would increase by a conservative estimate of approximately 330 people.	<p>Liaison with relevant government agencies to share information on employment prospects.</p> <p>Ongoing engagement with the community and stakeholders on employment opportunities.</p>	Negligible	Possible	Low
58	Overall development	Employment (direct and indirect)	Increased competition and for skilled workforce and training	Moderate	Possible	Medium	<p>The development is expected to create 234 full-time equivalent (FTE) jobs over the first five complete years of operation, and the new workforce would introduce a wide variety of new occupations on Kangaroo Island, with varying requirements for training, qualifications, skills and experience.</p> <p>Many of the jobs directly created would require a specific set of skills not currently available on the Island and this reinforces the likelihood that there would be a net migration of skilled workers to the Island.</p>	<p>Liaison with relevant government agencies to share information on employment prospects.</p> <p>Ongoing engagement with the community and stakeholders on employment opportunities.</p>	Negligible	Possible	Low
59	Overall development	Employment (direct and indirect)	Displacement of other employment	Moderate	Possible	Medium	Given the current low unemployment and high labour force participation rates, and the need for specific skills and experience not currently available, it is estimated that at least 60 per cent of the total (140 FTE jobs) would be taken by people currently living off the Island.	<p>Liaison with relevant government agencies to share information on employment prospects.</p> <p>Ongoing engagement with the community and stakeholders on employment opportunities.</p>	Negligible	Possible	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
60	Overall development	Demand for services (commercial, technical)	Availability of services vs needs	Moderate	Possible	Medium	The KI Seaport would lead to an increase in the Island's population and changes to the configuration of the workforce. The population increase would likely provide an increased opportunity for enhanced services.	Liaison with relevant government agencies to share information on service needs. Ongoing engagement with the community and stakeholders on service needs.	Negligible	Possible	Low
61	Overall development	Demand for housing	Effects on housing	Moderate	Possible	Medium	It is anticipated that in the medium to longer-term (i.e. beyond 24 months) new houses would be required as an outcome of the project's operations.	Liaison with relevant government agencies to share information on employment prospects. Ongoing engagement with the community and stakeholders on employment opportunities.	Negligible	Possible	Low
62	Overall development	Demand for services (community, including health and education)	Availability of health, education and other community services	Moderate	Possible	Medium	The forecast population growth is likely to generate new demand across the full range of community and social services.	Liaison with relevant government agencies to share information on workforce needs. Ongoing engagement with the community and stakeholders on workforce needs.	Negligible	Possible	Low
63	Overall development	Smith Bay's contribution to Kangaroo Island's economy	Effects on Yumbah Aquaculture, tourism and any other operations reliant on Smith Bay and the marine waters of Smith Bay	Major	Possible	High	The KI Seaport would involve a total capital investment of around \$41.2 million over a three-year period. It would add approximately \$42 million per annum to the Kangaroo Island GRP in the first five years of operations, generate 234 ongoing full-time jobs (163 directly and a further 71 from the flow-on effects) and generate approximately \$16 million in additional annual household income on Kangaroo Island.	Liaison with relevant government agencies to share information on KIPT's economic contributions. Ongoing engagement with the community and stakeholders on KIPT's economic contributions.	Negligible	Possible	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
Construction – additional risk items identified as EIS progressed											
64	Movement of construction materials – marine	Ballast water disposal – vessels from international waters	Introduction of marine pest species and/or aquatic diseases	Disastrous	Likely	Extreme	<p>With the adoption of appropriate management measures, the discharge of ballast water from international vessel movements arriving at Smith Bay may result in a long-term medium risk to marine biosecurity.</p> <p>By 2024, international vessels will be required to operate on-board ballast water management system (referred to as the D-2 standard). The standard specifies criteria for exotic organisms that must be met before ballast water can be discharged and is considered an improvement on the current predominant method of ballast water exchange on the high seas (i.e. the D-1 standard).</p>	<p>Incoming vessels would be required to comply with the Commonwealth policies and guidelines relevant to the management of ballast water disposal.</p> <p>International vessels would arrive at a designated first point of entry. The first point of entry would have appropriate facilities and systems in place to reduce the biosecurity risk to an acceptable level in accordance with section 58 of the Biosecurity Regulation 2016.</p> <p>A detailed Marine Pest Management Plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board) and implemented for construction activity</p>	Moderate	Unlikely	Medium
65	Movement of construction materials – marine	Ballast water disposal – vessels from domestic waters	Introduction of marine pest species and/or aquatic diseases	Disastrous	Likely	Extreme	<p>With the adoption of appropriate management measures, the discharge of ballast water from domestic vessel activity in Smith Bay may result in a long-term medium risk to marine biosecurity. See item 44.</p>	<p>A detailed Marine Pest Management Plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board) and implemented for construction activity</p> <p>Specific operating procedures would be developed in consultation with Biosecurity SA (and incorporated into the CEMP) to reduce the risk of discharging unacceptable ballast water into Smith Bay.</p> <p>A detailed Biosecurity Management Plan would be produced in consultation with DEW (Kangaroo Island Landscape Board) and Biosecurity SA.</p> <p>Ballast water disposal would be in accordance with the <i>Biosecurity Act 2015</i>.</p>	Moderate	Possible	Medium

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
66	Movement of construction materials – marine	Biofouling – vessels from international waters	Introduction of marine pest species and/or aquatic diseases	Disastrous	Likely	Extreme	<p>With the adoption of appropriate management measures, the biosecurity risk to Smith Bay from biofouling may result in a long-term low risk to marine biosecurity.</p> <p>National biofouling guidelines apply on entry of the pontoon into and within Australian waters. An International Anti-fouling Certificate is required.</p> <p>National biofouling guidelines would also apply on entry to tugboats used to transport the pontoon into Australian waters.</p>	<p>Incoming vessels (from international waters) would be required to comply with the State Environment Protection (Water Quality) Policy 2015 relevant to the management of biofouling and pollution management.</p> <p>The pontoon has been sandblasted and repainted with anti-fouling paint.</p> <p>No in-water or dry dock cleaning would be permitted at Smith Bay.</p> <p>To avoid transmitting the POMS virus it is proposed that tugs from Port Adelaide will not be used at Smith Bay.</p> <p>International vessels would arrive at a designated first point of entry. The first point of entry would have appropriate facilities and systems in place to reduce the biosecurity risk to an acceptable level in accordance with section 58 of the Biosecurity Regulation 2016.</p> <p>A detailed Marine Pest Management Plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board) and implemented for construction activity.</p>	Minor	Unlikely	Low
67	Movement of construction materials – marine	Biofouling – vessels from domestic waters	Introduction of marine pest species and/or aquatic diseases	Disastrous	Likely	Extreme	<p>With the adoption of appropriate management measures, the biosecurity risk to Smith Bay from biofouling may result in a long-term medium risk to marine biosecurity.</p> <p>National biofouling guidelines apply to tugboats from domestic waters that may be used during construction.</p>	<p>Incoming vessels (from domestic waters) would be required to comply with the State Environment Protection (Water Quality) Policy 2015 relevant to the management of biofouling and pollution management.</p> <p>No in-water or dry dock cleaning would be permitted at Smith Bay.</p> <p>A detailed Marine Pest Management Plan would be produced in consultation with DAWE, SARDI, Biosecurity SA and DEW (Kangaroo Island Landscape Board) and implemented for construction activity.</p> <p>To avoid transmitting the POMS virus it is proposed that tugs from Port Adelaide will not be used at Smith Bay.</p>	Moderate	Possible	Medium

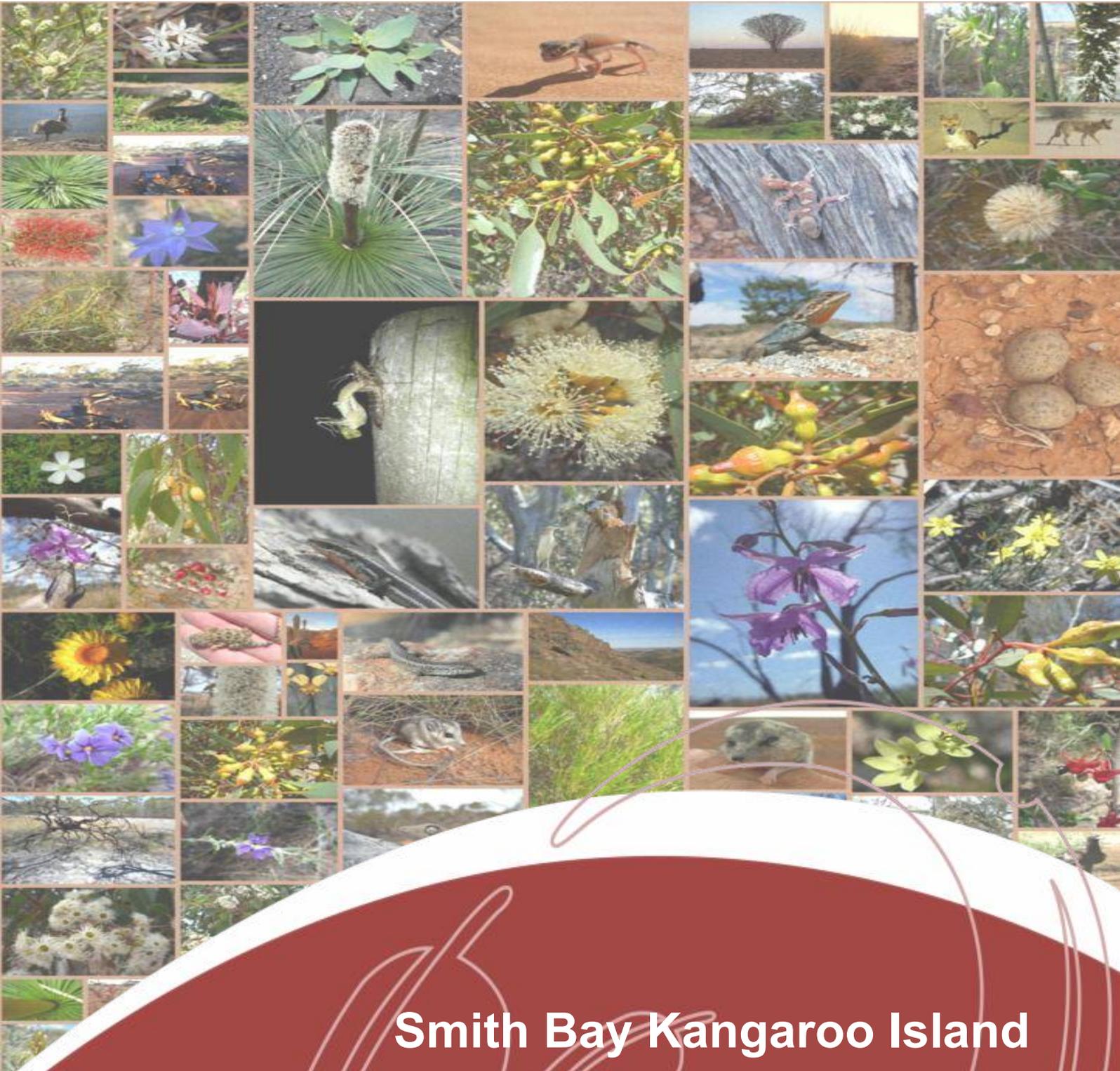
Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
68	Movement of construction materials – terrestrial	Trucking materials from other areas of the Island or the mainland	Introduction of pest species (including vermin), pathogens and/or diseases	Major	Likely	High	With the adoption of appropriate management measures, the biosecurity risk to Smith Bay from trucking materials may result in a long-term medium risk to terrestrial biosecurity	<p>Vehicle hygiene procedures would be implemented via the Construction Environmental Management Plan (CEMP) to minimise the likelihood of translocating pest species, plant diseases and/or pathogens.</p> <p>A detailed Biosecurity Management Plan would be produced in consultation with DEW (Kangaroo Island Landscape Board) and Biosecurity SA.</p> <p>Equipment would be sourced locally wherever possible to minimise the likelihood of spreading weeds in the local area.</p> <p>Induction training materials would include content on biosecurity measures that are specific to Kangaroo Island.</p>	Major	Unlikely	Medium
Operation – – additional risk items identified as EIS progressed											
69	Shipping	Stowaways (persons) on international vessels	Illegal entry into Australia as defined by the <i>Migration Act 1958</i>	Moderate	Possible	Medium	The Department of Home Affairs is responsible for border security, in relation to persons entering the country, as required under the <i>Migration Act 1958</i> .	Crew, plant material, food and putrescible wastes would not alight from the vessel during docking at the KI Seaport	Minor	Unlikely	Low

Ref.	Activity	Hazard (Environmental aspect)	Potential (pre-EIS) impact	Consequence	Likelihood	Inherent (or potential) risk level	EIS findings	Management measures	Consequence	Likelihood	Residual (or remaining) risk level
70	Storage of woodchips	Spontaneous combustion of woodchips	Fire at Smith Bay	Major	Possible	High	Storage and handling of woodchips will be undertaken in such a way that the potential risk of spontaneous combustion will be reduced significantly	<p>The use of a radial stacker reclaimers to handle woodchips, combined with the relatively short periods that woodchips are stored onsite between ship loading operations, and the use of dust suppression sprinklers would significantly reduce the potential risk of spontaneous combustion.</p> <p>The stockpile would be arranged with suitable separation between it and surrounding infrastructure, to reduce the risk of fire spreading across the site.</p> <p>The woodchip stockpile area would be kept at least 20 m from the property boundary and from occupied buildings (offices) within the facility.</p> <p>Access would be maintained around the stockpile to provide greater access to firefighters during emergencies.</p>	Minor	Unlikely	Low

Notes:

- Items considered risk assessment for activities associated with the KI Seaport and not assessed or approved by the EIS are in grey text.
- Additional risk items were items added throughout the EIS process, i.e. following completion of the Draft EIS (January 2019).
- Some risk items originally in the risk assessment for the Draft EIS (January 2019), have been removed as they are no longer relevant due changes in design (see Addendum to the Draft EIS).

Appendix G - Cultural Heritage Assessment



**Smith Bay Kangaroo Island
Heritage Assessment (Desktop) - Revised**

Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised

19 August 2019

Version 2

Prepared by EBS Heritage for Environmental Projects

Document Control					
Revision No.	Date issued	Authors	Reviewed by	Date Reviewed	Revision type
1	16/3/2017	G.Cincunegui	T. How	22/03/2017	Draft
1.1	05/06/2017	G.Cincunegui	T. How	05/06/2017	Final
2	19/08/2019	L. Salisbury			Draft
2.1	26/08/2019	L. Salisbury			Final

Distribution of Copies			
Revision No.	Date issued	Media	Issued to
1	17/3/2017	Electronic	Teghan Stehbens (Environmental Projects)
1.1	05/06/2017	Electronic	Teghan Stehbens (Environmental Projects)
2	19/08/2019	Electronic	Laura Zafry (Environmental Projects)
2.1	26/08/2019	Electronic	Laura Zafry (Environmental Projects)

EBS Heritage Project Number: H90702

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CITATION: EBS Heritage (2019) Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised. Report to Environmental Projects. EBS Heritage, Adelaide.

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GLOSSARY AND ABBREVIATION OF TERMS

Abbreviation	Meaning
AHA	South Australian Aboriginal Heritage Act 1988
BP	Before present years from BCE 1950 (radiocarbon dating convention)
BCE	Before common era
EBS	Environmental Biodiversity Services
EPBC Act	<i>Environment, Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
EP	Environmental Projects
DEWNR	Department of Environment, Water and Natural Resources
DPC-AAR	Department of Premier and Cabinet – Aboriginal Affairs and Reconciliation
KI	Kangaroo Island
KIPT	Kangaroo Island Plantation Timbers
NTA	<i>Native Title Act 1993</i> (Commonwealth)
SA	South Australia
SAM	South Australian Museum

EXECUTIVE SUMMARY

EBS Heritage was engaged by Environmental Projects (EP) in 2017 to conduct a desktop heritage assessment for a proposed multi-user deepwater port facility at Smith Bay on Kangaroo Island (KI). Kangaroo Island Plantation Timbers (KIPT) is proposing to export logs and woodchips from KI to markets in Asia and is seeking approval to construct a wharf, storage facilities and associated infrastructure. The report was completed and sent to EP in June 2017 (EBS 2017).

In August 2019 EBS Heritage was engaged by EP to revise and update the 2017 report to address comments received during the public and agency consultation on the draft Environmental Impact Statement, and to undertake a risk assessment for the Project based on additional background research. This report summarises the relevant heritage protection legislation, the search results of the Register of Aboriginal Sites and Objects and other registers, the background research relating to past occupation and land use, the identification of any known heritage sites or potential for unknown heritage, the assessment of the risk of project works harming any heritage, and the heritage management recommendations determined from the desktop analysis and risk assessment. The report has been prepared with the aim of providing practical recommendations to manage cultural heritage for the life of the Project.

The *Aboriginal Heritage Act 1988* is the principal heritage legislation that applies to this project. The Ramindjeri, Ngarrindjeri, Kurna and Narungga peoples all have cultural stories associated with the land and waters surrounding Kangaroo Island and it is a place of both cultural and spiritual significance for them. Kangaroo Island has a rich history of Aboriginal land use and a large number of Aboriginal objects have been recorded throughout the island. There are however no recorded Aboriginal archaeological sites, objects and remains, or sites of significance according to Aboriginal tradition, archaeology, anthropology or history within the Project area itself.

The *EPBC Act* is not applicable to this Project as there are no Commonwealth Places registered. The *Heritage Places Act 1993*, the *Development Act 1993* and the Kangaroo Island Council Development Plan 2015 are not applicable as there are no registered State or Local heritage places within the Project area.

The soil surface layer has been previously disturbed and no sites or objects have yet been found, it is therefore concluded that there is a **low** risk of encountering surface Aboriginal sites or objects within the Project area. However, the presence of an Aboriginal site approximately 800 m to the east, along with the proximity of the Project area to the beach, the presence of an ephemeral creek on the eastern side of the Project area and Smith Creek, which at its closest point is located 60 metres to the west of the Project area, all combine to suggest that the proposed works pose a **moderate to high** risk of encountering sub-surface Aboriginal sites or objects.

As there is a **moderate to high** risk of disturbing sub-surface cultural heritage during construction, EBS Heritage recommend KIPT implement the following recommendations:

Recommendation 1: Implement a Stop Work / Site Discovery Procedure

Ensure that all staff and contractors are provided with a Stop Work/Site Discovery Procedure. A site discovery procedure document has been included in the appendix of this report (Appendix 1).

Recommendation 2: Use appropriate risk management controls for ground disturbance works

For significant and major sub-surface disturbances such as the creation of new roads, mooring facilities, new underground services, causeway construction and other major construction; all staff and contractors should adhere to the Stop Work Discovery Procedure and exercise caution at all times.

Recommendation 3: Cultural heritage induction

As a minimum requirement to manage heritage risk for any work conducted in the Project area it is recommended that construction personnel and contractors receive a cultural heritage induction prior to commencement of works.

Recommendation 4: Consultation with interested parties

Consult with the Original Southern South Australian Tribes Indigenous Corporation and the Ramindjeri Heritage Association Incorporated about the results of the desktop heritage report, project design and proposed impacts. They may provide further guidance around heritage management and provide advice on whether there are any cultural matters to consider.

Recommendation 5: Monitoring of the moderate to high risk zone

Archaeological monitoring by the relevant Aboriginal groups is recommended during earthworks due to the possibility of an intact subsurface deposit.

Recommendation 6: Cultural Heritage Management survey

Based on the results of the desktop assessment and the cultural and spiritual significance of the island, EBS Heritage recommend an archaeological and ethnographical survey be undertaken with representatives from the relevant traditional owner groups prior to finalisation of the programme of works.

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1 INTRODUCTION

EBS Heritage was engaged by Environmental Projects (EP) to review and update an existing desktop heritage assessment for a proposed multi-user deepwater port facility at Smith Bay on Kangaroo Island (KI). Kangaroo Island Plantation Timbers (KIPT) is proposing to export logs and woodchips from KI to markets in Asia and is seeking approval to construct a wharf, storage facilities and associated infrastructure.

Objectives

The objectives of the report are to;

- Provide an updated heritage desktop assessment for the planned project impact area that includes heritage register searches and background research into primary and secondary sources and previous heritage reports.
- Identification of key stakeholders.
- Provide a risk assessment for the project area based on the results of the desktop research and risk assessment matrix to progress project development and for future works.
- Provide an outline of the legislative requirements that may apply if any heritage sites and/or objects are identified in the Project area.
- Provide recommendations regarding the management of heritage in light of the proposed works, relevant heritage protection legislation and best practice.

Limitation of the report

This report is based on desktop research only and it is possible that another professional may interpret the facts and physical evidence in a different way. It is also possible that future research, or new sources, may support different interpretations of the evidence.

This report was undertaken to the best archaeological practice and its conclusions are based on professional opinion, however limitations in historical documentation and archaeological methods make it difficult to accurately predict subsurface deposits. It does not therefore warrant that there is no possibility that archaeological material will be located on site.

2 PROJECT DESCRIPTION

Project location

KIPT is looking to construct a deepwater port facility at Smith Bay on Kangaroo Island. Kangaroo Island has an area of approximately 4000 km² and is separated to the south of the South Australian mainland by the Backstairs Passage. Smith Bay is located on the north Coast of Kangaroo Island, approximately 20 kilometres west of Kingscote, between Emu Bay and Cape Cassini (Map 1).

The proposed facility will be built on freehold land owned by KIPT, legally identified as Allotment 51 and 52, Certificate of Title Volume 6217, Folio 273, Hundred of Menzies in the area of Wisanger. A causeway or similar, will be built along the western side and through Crown Record Volume 5754, Folio 946, Allotment 361 and Crown Record Volume 5754, Folio 947, Allotment 467.

The facility will also require construction of a wharf, storage areas, a laydown area, ancillary facilities and infrastructure, suspended jetty, berthing and mooring facilities. Refer to Figure 1 for map of Allotments and Figure 2 for the proposed concept design.

Geology

Kangaroo Island is located at the southern tip of the Fleurieu Peninsula and is a south-western extension of the Mount Lofty Ranges, comprising of deep, ancient sedimentary rocks that over time have tilted slightly downwards towards the southeast. The main geological core of Kangaroo Island is from the early Cambrian period; the first geological period of the Paleozoic Era dating from 542 to 251 million years ago. The sedimentary rocks are comprised of the Kanmantoo Group of phyllite; rock that has been subjected to low levels of heat, pressure and chemical activity and quartzite; sandstone converted through heating and pressure (Howchin 1929:61). Many of the Island's coastal cliffs are exposed Kanmantoo series rocks, as are the islands' pebble beaches. Smith Bay has its own unique formation; Smith Bay Shale comprising an upper sandstone character (pink, massive and laminated) and lower sandstone character (grey-green and chocolate-brown, micaceous mudstone and siltstone) (Australian Stratigraphic Units Database 2019).

Hydrology

Studies of sea level depth-age curves for Australia suggest that the separation of Kangaroo Island from mainland Australia by the submergence of Investigator Strait, occurred between 9,500 and 9,300 years ago. Between 9,700 and 9,500, the Backstairs Passage was partially submerged, although a channel about 3 kilometres wide remained for a few centuries before the island was finally separated. By 8,500 years ago, the distances between the island and the mainland was 14 km at its narrowest and it remains this distance to date (Lampert 1981:17).



Map 1. Project Location



Figure 1. Designated Program of Works area. Supplied by EP.

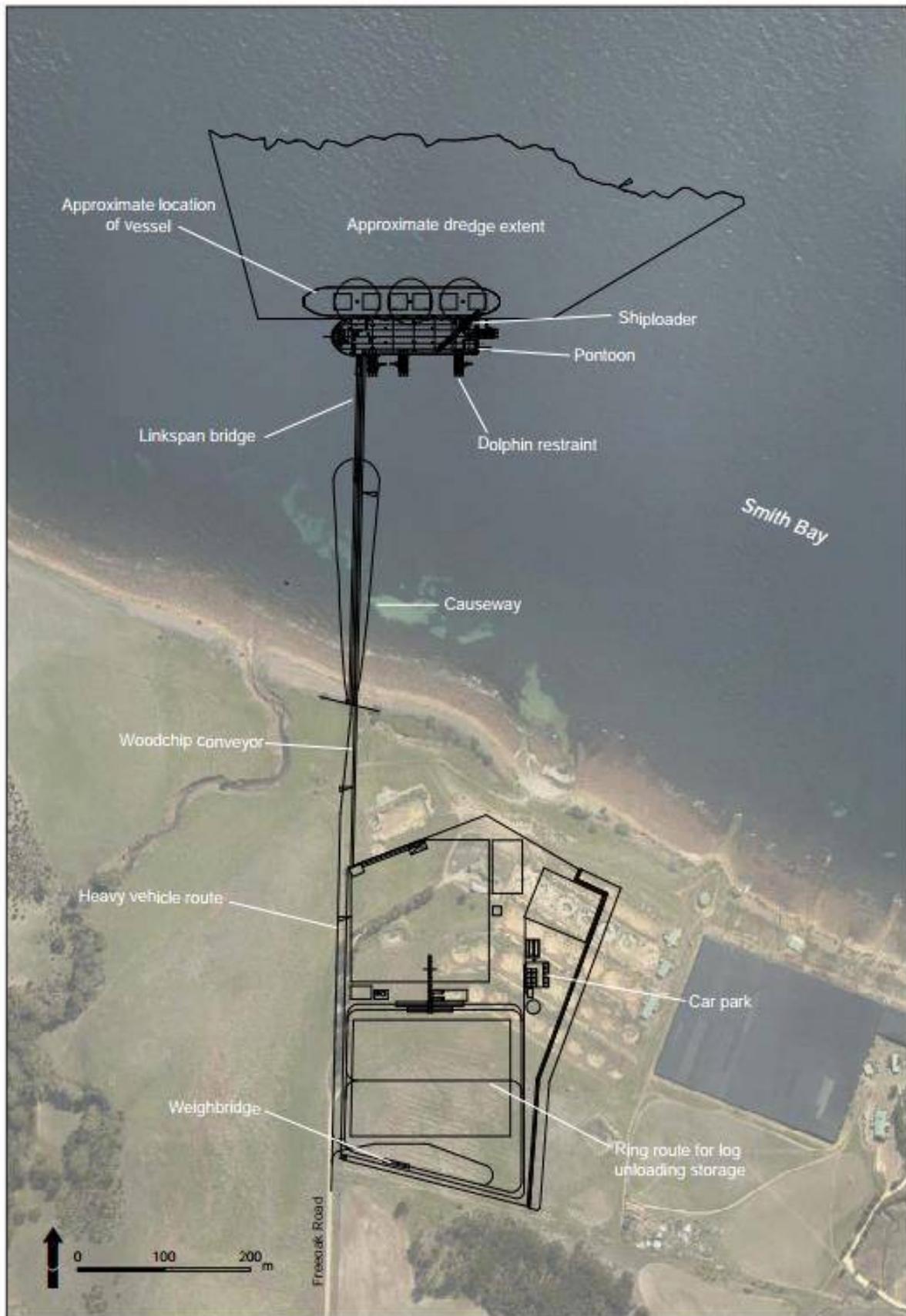


Figure 2. Proposed Project concept design. Image supplied by KIPT

3 COMPLIANCE AND LEGISLATIVE SUMMARY

Aboriginal Heritage Act 1988 (SA)

The South Australian *Aboriginal Heritage Act 1988* (AHA) is administered by the SA Department of Premier and Cabinet, Aboriginal Affairs and Reconciliation (DPC-AAR). The legislation ensures that any Aboriginal site, object or remains are protected, whether previously recorded or not. The *Aboriginal Heritage Act 1988* is the principal legislation for this project and the most applicable sections are detailed below:

Section 20 - An owner or occupier of private land, or an employee or agent of such an owner or occupier, who discovers on the land an Aboriginal site or Aboriginal object must as soon as practicable report the discovery to the Premier;

Section 23 - It is an offence to 'damage, disturb or interfere' with an Aboriginal site, object or remains unless written authorisation is obtained from the Premier;

Section 35 - Except as authorised or required by the Act, a person must not divulge information relating to an Aboriginal site, object, remains or Aboriginal tradition.

Kangaroo Island Council Development Plan 2015

The Kangaroo Island Council Development Plan 2015 contains a schedule of heritage items and conservation areas that are managed by the council. In addition, the plan contains details of the principles of development control to be following when undertaking work on, or in the vicinity of, a State Heritage Place.

The objectives for heritage conservation in the Kangaroo Island Council area are:

1. The conservation of State and local heritage places.
2. The continued use, or adaptive re-use of State and local heritage places that supports the conservation of their cultural significance.
3. Conservation of the setting of State and local heritage places.

As the proposed works will not impact any State or Local Heritage Places, the heritage objectives and principles of development control outlined in this development plan will not apply to this project.

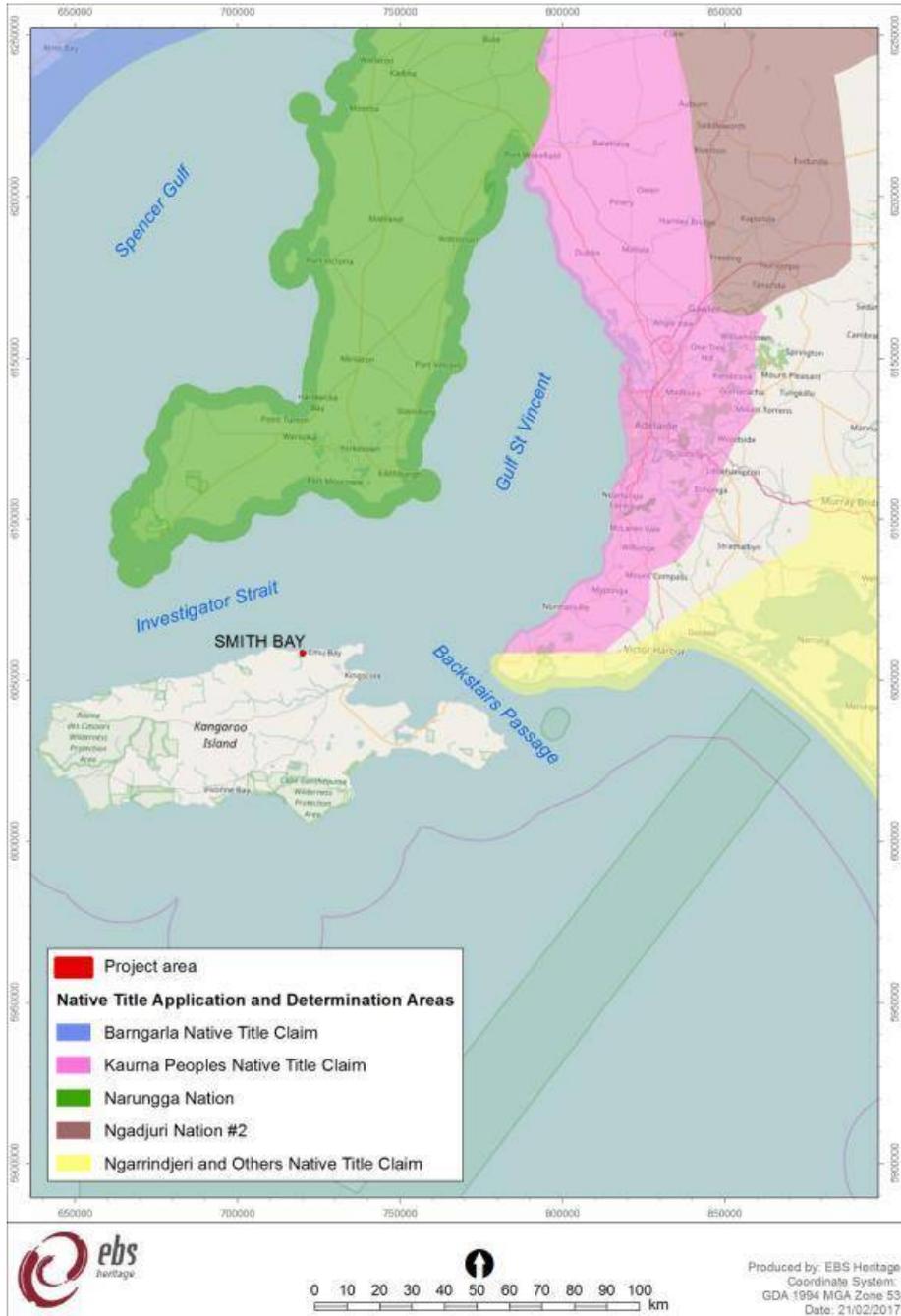
Native Title Act 1993 (Commonwealth)

The Commonwealth *Native Title Act 1993* (NTA) is part of the Commonwealth's response to the High Court's decision in *Mabo v Queensland* (No.2) and adopts the common law definition of Native Title which is defined as the rights and interests that are possessed under the traditional laws and customs of Aboriginal people in lands and waters. The Commonwealth *Native Title Act 1993* provides a national system for the recognition and protection of native title. The Act recognises the existence of Indigenous land ownership tradition where connections to country have been maintained and where acts of government have not extinguished this connection. Native Title may be partly or wholly extinguished as shown in Table 1.

Table 1. Native Title may be extinguished by:

Privately owned freehold land including family homes and freehold farms	Valid grants of private freehold land or water
Residential or commercial leases	Exclusive possession of leases
Public works built before 23 December 1996	Mining dissection lease
Community purpose leases	Pastoral or agricultural leases that grant exclusive possession

The project area is not within any Native Title claim, although the Ramindjeri, Ngarrindjeri and Others, and Kaurna peoples have interests in the area (Map 2).



Map 2. Native Title Determination

***Aboriginal and Torres Strait Islander Heritage Protection Act 1984
(Commonwealth)***

The Commonwealth *Aboriginal and Torres Strait Islander Protection Act 1984* provides a mechanism for the Commonwealth Minister for Environment to make declarations regarding the protection of an Aboriginal area when the Minister is not satisfied that under State or Territory Law there is effective protection of the area from a threat of injury or desecration. Declarations made under this Act involve restricting activities and/or access to an Aboriginal site.

Under section 21H of the *Aboriginal and Torres Strait Island Protection Act 1984*, it is an offence to conduct behaviour or partake in an action that contravenes a declaration made by the Minister. Penalties under this section are \$10,000 or imprisonment for 5 years, or both for an individual, or \$50,000 for a corporate body where an Aboriginal place is concerned and \$5,000 and imprisonment for 2 years or both for an individual, or \$25,000 for a corporate body where an Aboriginal object is concerned.

If the requirements of the *Aboriginal Heritage Act 1988* (SA) are adhered to and sufficiently protect any Aboriginal heritage in the eyes of the Federal minister, the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* will not be relevant within the project area.

Environment Protection & Biodiversity Act 1999 (amended 2003).

The Commonwealth *Environment, Protection and Biodiversity Conservation Act 1999* (EPBC Act) protects places of national cultural and environmental significance from damage and interference by establishing a National Heritage list (for places outside of Commonwealth land) and a Commonwealth Heritage list (for places within Commonwealth Land). Under the EPBC Act any action that has, will have or is likely to have a significant impact on a place of national cultural and/or environmental significance must be referred to the Minister for the Environment for approval. The EPBC Act sets out a procedure for obtaining approval, which may include the need to prepare an environmental impact statement for the proposed action (an action is defined in section 523 to include a project, development or undertaking or an activity or series of activities).

The EPBC Act is only relevant in relation to heritage sites if the site is entered onto the National Heritage List or the Register of the National Estate.

No sites of heritage significance were identified within the Project area.

4 HERITAGE REGISTER SEARCHES

DPC-AAR Central Archive

The Central Archive is maintained by Department of Premier and Cabinet – Aboriginal Affairs and Reconciliation (DPC-AAR) and includes the Register for Aboriginal Sites and Objects. The Central Archive is a record of previously recorded heritage sites in South Australia and facilitates the identification of known sites within a project development area. The Central Archive is not an exhaustive list of heritage sites, it contains only sites that have been reported and/or registered. DPC-AAR advises that sites or objects may exist in the proposed development area, even though the Register does not identify them. All Aboriginal sites and objects are protected under the *Aboriginal Heritage Act 1988* (SA), whether they are listed in the central archive or not.

A search of the DPC-AAR Register requested on the 2nd of August 2019 returned no recorded Aboriginal heritage sites in the Project footprint however a reported site is located 700 m – 900 m to the east. Details are provided in Table 2 and Appendix 3: DPC-AAR.

Table 2. Cultural Heritage Sites (Point) near Project Area.

Map Number	Site Number	Site Type	Site Status
6326	5053	Archaeological	Reported

Aboriginal groups/organisations/traditional owners

Contact information supplied by DPC-AAR for the interested Aboriginal groups:

Original Southern South Australian Tribes Indigenous Corporation

Chairperson/Contact: Mark Koolmatrie

Phone: 0459 371 515

Email: tribalownerssouthern.sa@gmail.com

Ramindjeri Heritage Association Incorporated

Chairperson: Vivienne Greenshields

Contact Officer: Christine Walker

Phone: 0418 276 439

Email: ramindjeri@westnet.com.au

SA Museums Database

The South Australian Museum (SAM) database details Aboriginal cultural material and skeletal remains held by the SA Museum. The database is used to establish previous cultural activity near the Project area and assist with the identification for potential sub-surface cultural material and remains to be unearthed in undisturbed soil profiles during works. As most of the collection represents cultural material donated or purchased/collected by the museum many of the records are without archaeological context and are often incomplete. The database therefore is used as a guide only to assist in identifying the types and incidence of materials found in the general region.

The search revealed extensive numbers of artefacts, predominately stone tools, in the surrounding area and throughout all of KI. Interestingly no burials have yet been found on the island. The SAM database does have one skull and part skeleton listed in the KI Region, however the location description of Marion Bay, in the Hundred of Warrenben on Yorke Peninsula suggests the Region was mislabelled. A visual representation of the number and geographic diversity of artefacts found on the island is presented in Figure 3 (Draper 2015). Although not an exhaustive list as there may be unknown sites in the vicinity, the map is a good indicator of type and distribution throughout KI.

There are 1,097 artefacts listed in the SAM database from KI with 8 items having specific reference to being from Smith Bay, however the precise location is not recorded. Five were collected and registered in 1941 by Harold More Cooper, archaeologist and historian with the SA Museum, 2 were collected by a Museum party date unknown, and one with no information on how or when it was acquired.

Previous work

A number of cultural heritage assessments and other research work have been undertaken on Kangaroo Island dating back to the early 1900s. Much of the literature is now out of date but by undertaking a review of the available more recent literature, a robust risk assessment can be developed. These studies provide a comprehensive background of the region as well as information as to the types and location of sites previously identified.

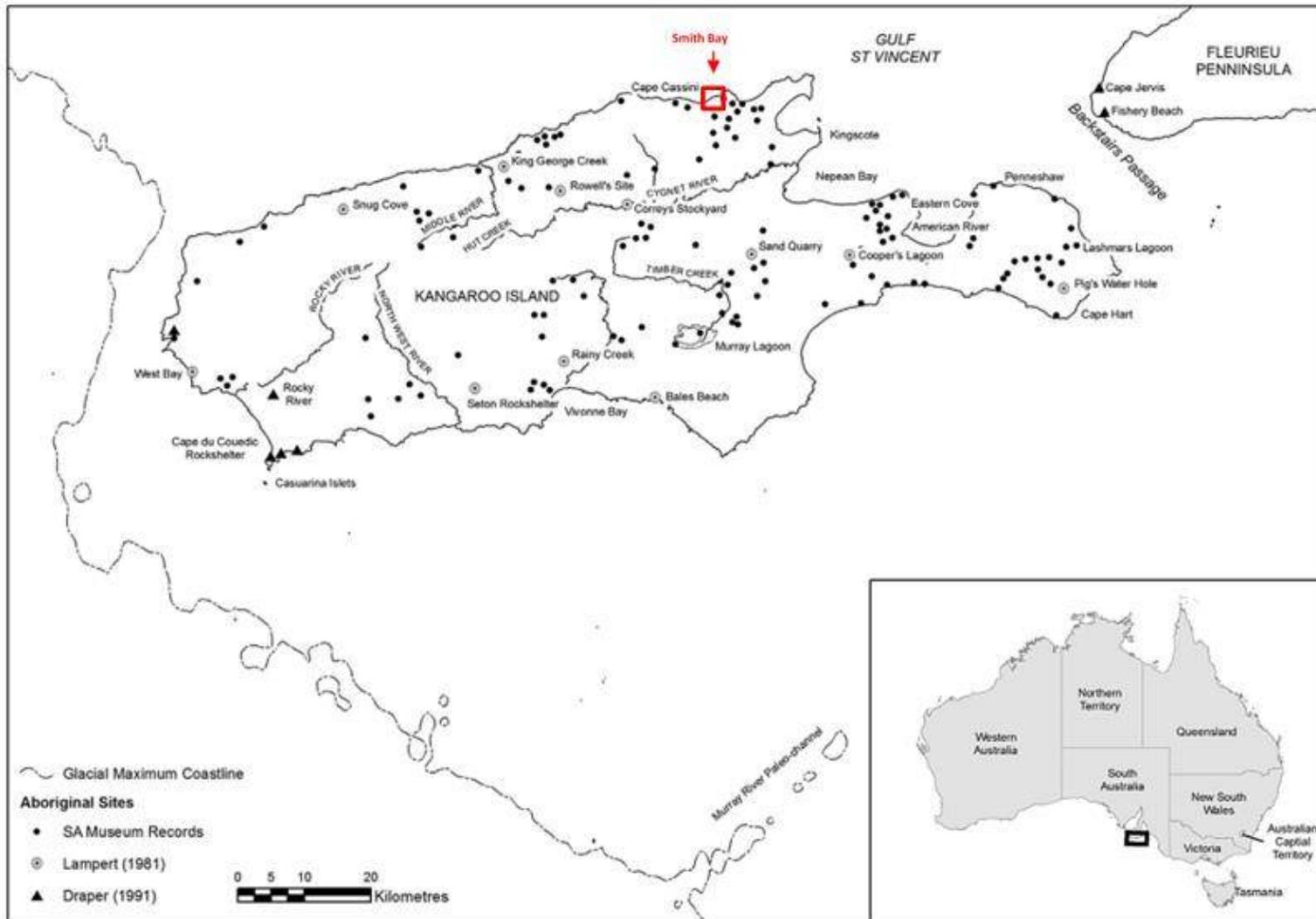
The following table details valuable resources for the Smith Bay and greater region (Table 3).

Table 3. Recent studies of relevance.

Year	Author	Description
1987	Draper, N.	Draper undertook excavations at Cape du Couedic rockshelter,
1991	Marsden, S.	Marsden conducted research as part of a regional heritage study by Heritage Investigations commissioned and published by the Department of Environment and Planning.
1999	Wells, R., Walshe, K., Sloan, J.	Integrated Palaeontological and archaeological research plan was developed for Black Swamp Rocky River. The Plan entailed a review of published and unpublished scientific literature, identified major gaps and deficiencies in existing scientific knowledge and developed future research goals for the site.

Smith Bay Kangaroo Island Heritage Assessment (Desktop) - Revised

Year	Author	Description
1999	Draper, N. in Robinson, A.C. and Armstrong, D.M (Eds)	In 1989 a biological survey was carried out on Kangaroo Island followed in 1990 of a vertebrate survey to sample representative areas of all the remaining natural vegetation on the island. Draper provided a history of Aboriginal land use for this report.
2006	Draper, N.	Report on the Mid-Holocene Cape du Couedic Rock Shelter site.
2013	Walshe, K.	Walshe undertook research into Aboriginal sites and the Black Swamp Fossil Bed in the Rocky River Precinct.
2015	Draper, N.	Draper explores the evidence that Aboriginal Australians of the southern Australian coastal regions used watercraft and visited offshore islands such as Kangaroo Island throughout the pre-colonial Holocene period.
2015	EBS Group	EBS Group undertook an ecological and archaeological heritage assessment for the proposed KI Golf Course Development.
2016	Walshe, K.	Walshe undertook a preliminary Archaeological and cultural heritage investigation in the American River district of KI that involved both a desktop study and an archaeological survey.



Map 3. Map of Kangaroo Island showing archaeological sites and approximate last-glacial coastline. Sourced from Draper (2015).

5 BACKGROUND RESEARCH

Aboriginal Occupation

Kangaroo Island has significant archaeological evidence for Aboriginal occupation, although there were no people living on the island at the time of the European arrival. The island has cultural significance to a number of Aboriginal groups including the Kaurna (Adelaide Plains), Ramindjeri (Encounter Bay) and the Ngarrindjeri (Lower Murray and Coorong). The island was known as '*karta*' to the mainland Aboriginal groups, which broadly translates to mean "island of the dead" and it is suggested that this relates to the dreaming story of Ngurunderi, who crossed to the island to prepare his spirit before entering into the sky to become the bright star in the Milky Way. The spirits of the dead were believed to follow his track to the afterlife in the sky (Tindale 1974).

Kangaroo Island was once part of the mainland, until approximately 10,000 years ago when rising sea levels isolated it and its population. It is unknown whether contact was maintained between those living on the island and those remaining on the mainland, and if contact continued how this was sustained and managed. There are two theories regarding the Aboriginal population of Kangaroo Island: that a relict population remained on the island when it was separated from the mainland (Lampert 1981); and that the island was frequently visited by outside Aboriginal groups from the mainland over a long period of time. This second theory was given less credence by early researchers as, Matthew Flinders had noted in his journals that he had not encountered any Aboriginal people using watercraft in the southern coastal waters, so implying they did not have the technology. Further, early researchers concluded that the water crossing between the mainland and Kangaroo Island could not be achieved because of the distance and the rough waters of the Backstairs Passage (Draper 2015).

When Kangaroo Island was first visited in 1802 by Matthew Flinders, the island was uninhabited, and was assumed to have been so for quite some time, suggested by the sheer number and tameness of the kangaroos and seals throughout:

"Neither smokes, nor other marks of inhabitants had as yet been perceived upon the southern land, although we had passed along seventy miles of its coast...There was little doubt, however, that this extensive piece of land was separated from the continent; for the extraordinary tameness of the kangaroo's and the presence of seals upon the shore, concurred with the absence of all traces of men to show that it was not inhabited." (From Crumpston 1970:9).

Little is known of pre-contact Aboriginal land use and culture. Walter Howchin, an amateur archaeologist, was the first to record archaeological artefacts on Kangaroo Island and to propose that Aboriginal people had lived on Kangaroo Island long before European settlement (Howchin 1903). There is little information to indicate when and why Aboriginal people ceased to inhabit the island and no sign in the archaeological record of over population, lack of food supply or cultural and/or technological isolation. Although early research assumed Aboriginal people left Kangaroo Island around 2,500 years ago, recent research suggests that the Rocky River region was occupied until 1200 BP and Cape Du Couedic as late as 350-400 BP (Draper 2015); only approximately 250 years before the arrival of Europeans.

6 RISK ASSESSMENT - PREDICTIVE STATEMENTS

EBS Heritage has created a risk assessment map showing the Wharf Concept Design in relation to the risk determination for the Project area (Figure 4). The risk assessment has taken into account the review of existing reports, database search results, background research and the environmental landforms within and near to the project area. A summary of the types of sites likely to be encountered in the greater region of the Project area and the probability and risk of these occurring are detailed in Table 4.

The risk statements have been formulated to predict where unknown Aboriginal sites/objects may be found. Cultural Heritage sites are often found to be associated with very specific environmental features and this knowledge can be used to predict the potential for unregistered sites being encountered during works. There are generally three levels of risk assigned to the potential of proposed works impacting unknown cultural heritage sites or objects; high, moderate and low risk.

High Risk: A 'high' risk area contains undisturbed landforms where traditionally cultural heritage sites have been found. Landforms considered to be of 'high' risk include; rock outcrops, caves, dunes, sand hills, natural wetlands, permanent and semi-permanent waterholes and natural springs, some hill and mound formations and some types of remnant native vegetation. The presence of known Aboriginal activity/sites within the greater region also increases the risk for the discovery of unknown sites or objects.

Moderate Risk: A 'moderate' risk area contains landforms that traditionally would have been classified as 'high' risk but have been disturbed by surface activities and/or geotechnical data has indicated that the disturbance has not significantly impacted sub-surface soils. Surface disturbances such as cultivation, cattle grazing, and construction of roads, tracks, powerlines and other infrastructure do not tend to create substantive sub-surface disturbances; therefore there is a risk the proposed works may encounter unidentified sub-surface sites or objects. The presence of known Aboriginal activity/sites within the greater region also increases the risk for the discovery of unknown sites or objects.

Low Risk: A 'low' risk area contains landforms that have been extensively impacted/modified on both the surface and sub-surface levels therefore increasing the probability that cultural heritage sites have already been disturbed or destroyed. High density urban developments, realignment/modification of waterways, utility installations, extraction or removal of sand, quarrying, dredging, land clearance, major contour landscaping, and tunnelling result in significant ground disturbances. If there has been no and/or little Aboriginal activity or sites recorded within the greater region, the risk of the discovery of unknown sites or objects is lowered.

Table 4. Predictive Risk Assessment.

Site Type	Site Description	Associated Landform / Environment	Probability	Risk	Project Area
Stone Artefact Scatters / Isolated	Stone tools such as cores, flakes, scrapers, hammerstones, grinding stones, mullers, axe heads, tulas and tulas slugs. Debris from tool production which may include unmodified flakes and flaked pieces.	Stone artefacts can be located either on the ground and/or in sub-surface contexts. Are commonly found in the open landscape and in rock shelters and on sandy rises on floodplains adjacent to drainage features.	Possible	Medium to High	There is a medium to high chance of finding this type of site in the sub-surface layers. The Project area is between a known site to the east, a drainage feature to the west and east, and beach frontage.
Mound Sites	Mounds are circular or elliptical areas of sandy rises in areas of seasonal flooding. Mounds were used as campsites where there is clay soil that may become damp and sticky during floods. Mounds are usually characterised by the presence of darker soil due to the accumulation of charcoal, burnt earth and organic matter over repeated occupation. Mounds range in size, between 4 to 50 metres in diameter and up to 1.5 metres in height.	Mound sites, or ' <i>mirnyongs</i> ', are commonly associated with poorly drained soils found in wetland habitats and are found on the margins of the river floodplains (Woods 1997).	Unlikely	Low	No mound sites have been recorded in the area.
Culturally Modified Trees	This site type consists of trees that have been modified through the removal of bark sections and/or timber. Trees were used to construct canoes, spears, shields and dishes and often were carved for ceremonial purposes. Toeholds were also cut into trees so bird's nests, possums and native honey could be accessed.	These site types can occur anywhere that trees of sufficient age and size are present.	Unlikely	Low	As there are no remnant old growth trees within the Project area there is a very low risk of encountering this site type.
Mythological Sites / Aboriginal Ceremony and Dreaming	Places of significance to Aboriginal people connected to ceremonial activities (e.g. dance gatherings, births, deaths, initiation, cleansing) or dreaming stories.	They can be present in wide variety of environmental landforms.	Possible	Low	There is a very low chance of finding this site type although there is a possibility the area is connected to an as yet unrecorded activity or story.
Burials	This site type can include an isolated bone fragment to a complete individual or group of burials. Burials include internments, bundle burials and cremations.	Burials tend to be associated with ridges and lunettes (a wind formed crescent dune) and other sand bodies as well as sandy river or creek banks.	Unlikely	Low	No burials have yet been identified on Kangaroo Island.

7 RISK ASSESSMENT - DISTURBANCE TO SITES

There are three levels of risk associated with the disturbance of cultural heritage sites, places and objects during construction.

High Risk: Acceptable risk and work activity may proceed. Heritage monitoring of the area should be undertaken during works. All site personnel and contractors to receive a cultural heritage induction. The services of an on-call archaeologist may be engaged to assist with the identification of unexpected finds. A site discovery and stop work procedure should be designed and implemented for the duration of the works.

Moderate Risk: Acceptable risk and work activity may proceed. The services of an on-call archaeologist may be engaged to assist with the identification of unexpected finds. A site discovery and stop work procedure should be designed and implemented for the duration of the works.

Low Risk: Acceptable risk and work activity may proceed. Appropriate risk management controls will be in place.

A risk assessment matrix has been completed for surface and sub-surface construction works to determine the potential risk to Aboriginal and non-Aboriginal cultural heritage (Table 5).

Potential Consequences		Probability				
RC Score	Requirements	E Rare	D Unlikely	C Possible	B Likely to happen	A Almost certain to happen
1 – Negligible	requiring no measures	1	2	4	7	11
2 - Minor	Requiring control measures	3	5	8	12	16
3 - Moderate	Site avoidance, require control measure, Heritage induction	6	9	13	17	20
4 - Major	Section 23 Permit, CHMP, Heritage induction, Stop Work/Site discovery, engage archaeologist	10	14	18	21	23
5 - Catastrophic	Stop Work/Site discovery, Section 23 Permit, CHMP, Monitoring required at all times	15	19	22	24	25

Risk Classification

High Risk	20 – 25 (Red)
Medium Risk	11 – 19 (Yellow)
Low Risk	1 – 10 (Green)

Table 5. Risk assessment matrix.

Activity	Aspect	Potential Impact	Status	RC	Probability	Risk Score	Risk Level
Surface							
Construction of general surface facilities (e.g. footpaths, storage and laydown area, car parks, fencing, associated infrastructure).	Aboriginal Cultural Heritage	Disturbance of known Aboriginal places or objects.	There are no known Aboriginal Cultural Heritage sites in the Project Area.	1	E - Rare	1	Low
	Aboriginal Cultural Heritage	Disturbance of unknown Aboriginal places or objects.	Ground works will likely result in the complete removal of topsoil; however, the current topsoil is unlikely to be remnant. There is a risk that works on the beach may disturb unknown sites.	3	C - Possible	13	Medium
	Significant heritage landscape	Disturbance/encroachment on significant heritage landscape.	No known significant heritage landscape in area.	4	E - Rare	10	Low
Sub-surface							
Construction of general sub-surface facilities (e.g. power lines, pipelines, foundations)	Aboriginal Cultural Heritage	Disturbance of known Aboriginal places or objects	There are no known Aboriginal Cultural Heritage sites in the Project Area.	4	E - Rare	1	Low
	Aboriginal Cultural Heritage	Disturbance of unknown Aboriginal places or objects	While the construction of subsurface facilities will result in some ground disturbance, the excavations will be of minimal depth. There is a risk that works on the beach may disturb unknown sites.	4	C - Possible	13	Medium
	Significant heritage landscape	Disturbance/encroachment on unknown significant heritage landscape.	No known significant heritage landscape in area.	4	E - Rare	10	Low

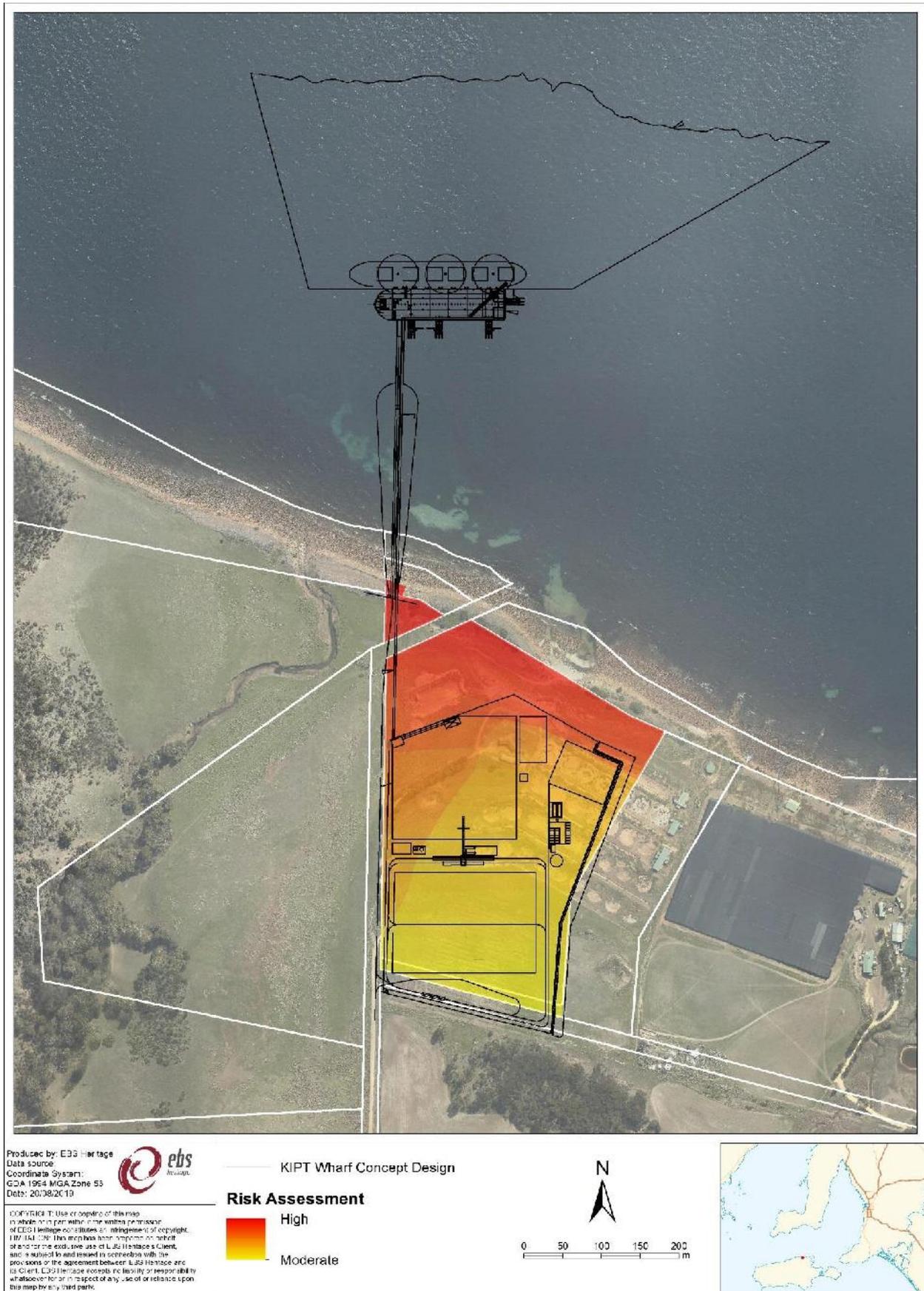


Figure 4. Risk Assessment Map.

8 FURTHER HERITAGE REQUIREMENTS

Cultural Heritage Survey

The Project area is close to a number of undisturbed landforms where traditionally cultural heritage sites have been found; namely the coastline along the north frontage, Smith Creek to the west and two ephemeral streams to the east. Further the presence of a reported site approximately 800 m to the east, 8 artefacts listed on the SAM database that were collected from Smith Bay, the results of the desktop assessment along with the cultural and spiritual significance of the island, suggest there is a medium to high risk of encountering unknown Aboriginal sites or objects during works.

An archaeological and ethnographical survey should therefore be undertaken with representatives from the relevant traditional owner groups prior to finalisation of the programme of works and the commencement of ground works. A survey would assist with the finalisation of the Project design and would be a valuable opportunity for the proponents to consult with the traditional owners.

Cultural Heritage Management Plan (CHMP)

A CHMP is normally drafted in consultation with the relevant Aboriginal representative parties as an outcome of a heritage assessment or survey where Aboriginal heritage has been identified in the Project area. The CHMP should detail the nature, extent and significance of any Aboriginal cultural heritage sites identified, and specify recommendations or measures to be taken before, during and after project activities to manage the protection of the heritage.

Should a Cultural Heritage Survey be undertaken and no Aboriginal heritage is identified then a CHMP will not be required.

9 CONCLUSIONS AND RECOMMENDATIONS

Kangaroo Island shows a rich and varied archaeological record of Aboriginal occupation. It is a place of both cultural and spiritual significance for many different Aboriginal groups, and sites including stone artefact scatters, isolated artefacts and middens have been recorded. No sites were identified in the Project area; the closest site is an artefact scatter located approximately 700 – 900 metres to the east in close proximity to an ephemeral stream.

The Project area surface soil has been extensively disturbed through land clearance, tilling, planting and grazing and from 1995 for aquaculture activities which entailed road and building works (Bell 2018). It is therefore concluded that there is a low risk of encountering surface Aboriginal sites and objects within the Project Area. It does not; however, guarantee that there is no possibility that archaeological material will be located on the surface and as such, caution is warranted for any surface works.

The presence of an Aboriginal site and ephemeral creek approximately 800 m to the east, and Smith Creek, which at its closest point is located 60 metres to the west of the Project area, as well as the proximity to the beach, all combine to suggest that the proposed works pose a **moderate to high** risk of encountering sub-surface Aboriginal sites or objects.

As there is a **moderate to high** risk of disturbing sub-surface cultural heritage during construction, EBS Heritage recommend KIPT implement the following recommendations:

Recommendation 1: Implement a Stop Work / Site Discovery Procedure

Ensure that all staff and contractors are provided with a Stop Work/Site Discovery Procedure. A site discovery procedure document has been included in the appendix of this report (Appendix 1).

Recommendation 2: Use appropriate risk management controls for ground disturbance works

For significant and major sub-surface disturbances such as the creation of new roads, mooring facilities, new underground services, causeway construction and other major construction; all staff and contractors should adhere to the Stop Work Discovery Procedure and exercise caution at all times.

Recommendation 3: Cultural heritage induction

As a minimum requirement to manage heritage risk for any work conducted in the Project area it is recommended that construction personnel and contractors receive a cultural heritage induction prior to commencement of works.

Recommendation 4: Consultation with interested parties

Consult with the Original Southern South Australian Tribes Indigenous Corporation and the Ramindjeri Heritage Association Incorporated about the results of the desktop heritage report, project design and proposed impacts. They may provide further guidance around heritage management and provide advice on whether there are any cultural matters to consider.

Recommendation 5: Monitoring of the moderate to high risk zone

Archaeological monitoring by the relevant Aboriginal groups of the moderate to high risk zone is recommended during earthworks due to the possibility of an intact subsurface deposit.

Recommendation 6: Cultural Heritage Management survey

Based on the results of the desktop assessment and the cultural and spiritual significance of the island, EBS Heritage recommend an archaeological and ethnographical survey be undertaken with representatives from the relevant traditional owner groups prior to finalisation of the programme of works.

10 BIBLIOGRAPHY

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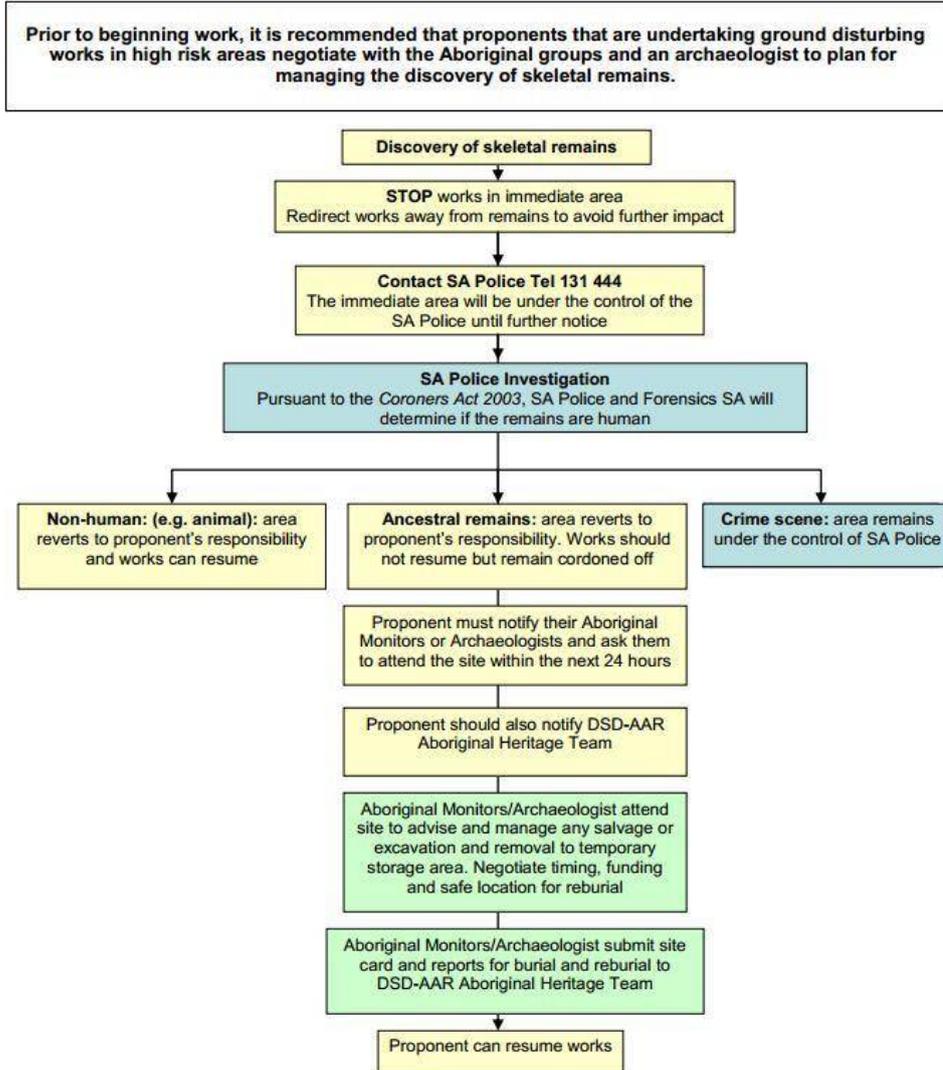
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11 APPENDICES

Appendix 1: DPC-AAR Site Discovery (Skeletal Remains)

ABORIGINAL HERITAGE DISCOVERY PROTOCOL For proponents holding a section 23 Authorisation

Dealing with the discovery of skeletal remains



Key

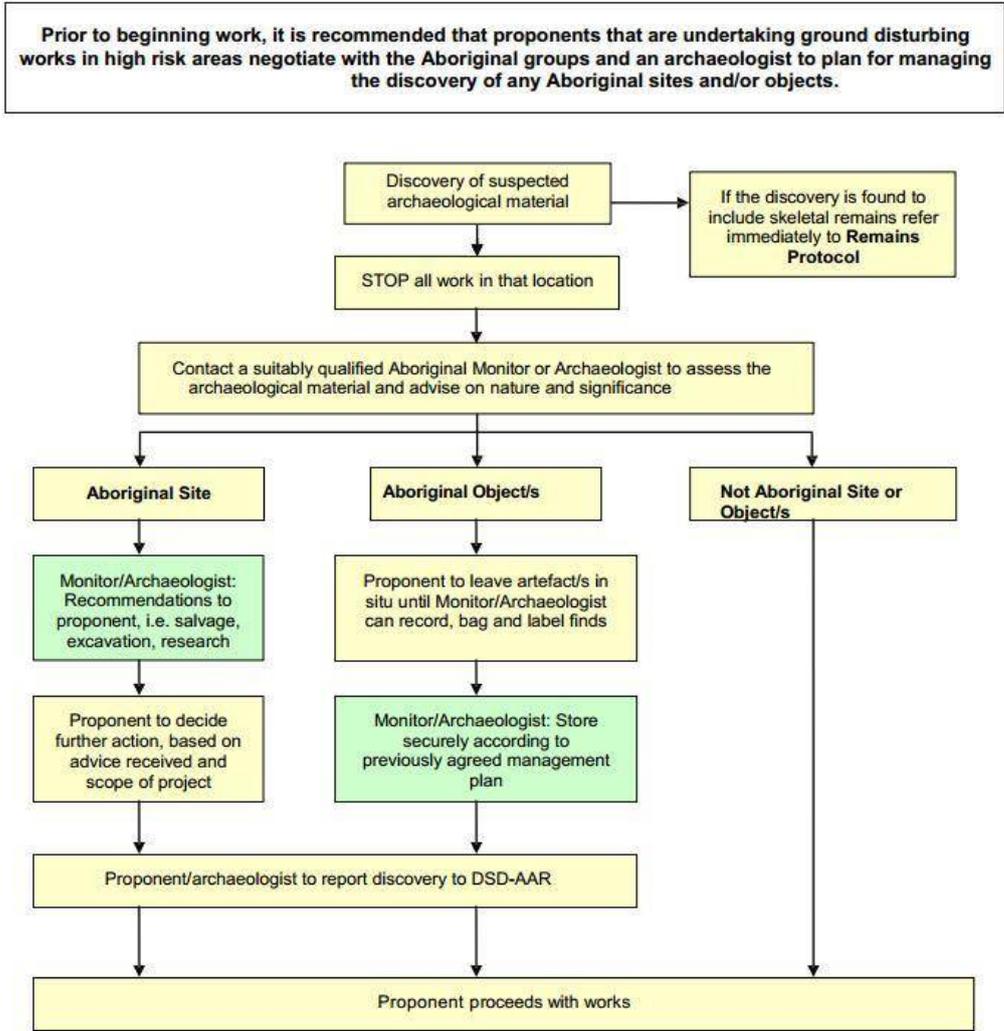
Proponent
SA Police
Aboriginal Monitors/Archaeologist

As part of project planning, proponents may allocate a secure on-site storage area for the temporary securing of remains, pending reburial.

Appendix 2: DPC-AAR Site Discovery (Objects)

**ABORIGINAL HERITAGE DISCOVERY PROTOCOL
For proponents holding a section 23 Authorisation**

Dealing with the discovery of Aboriginal sites and objects



Key

Proponent
Monitor/Archaeologist

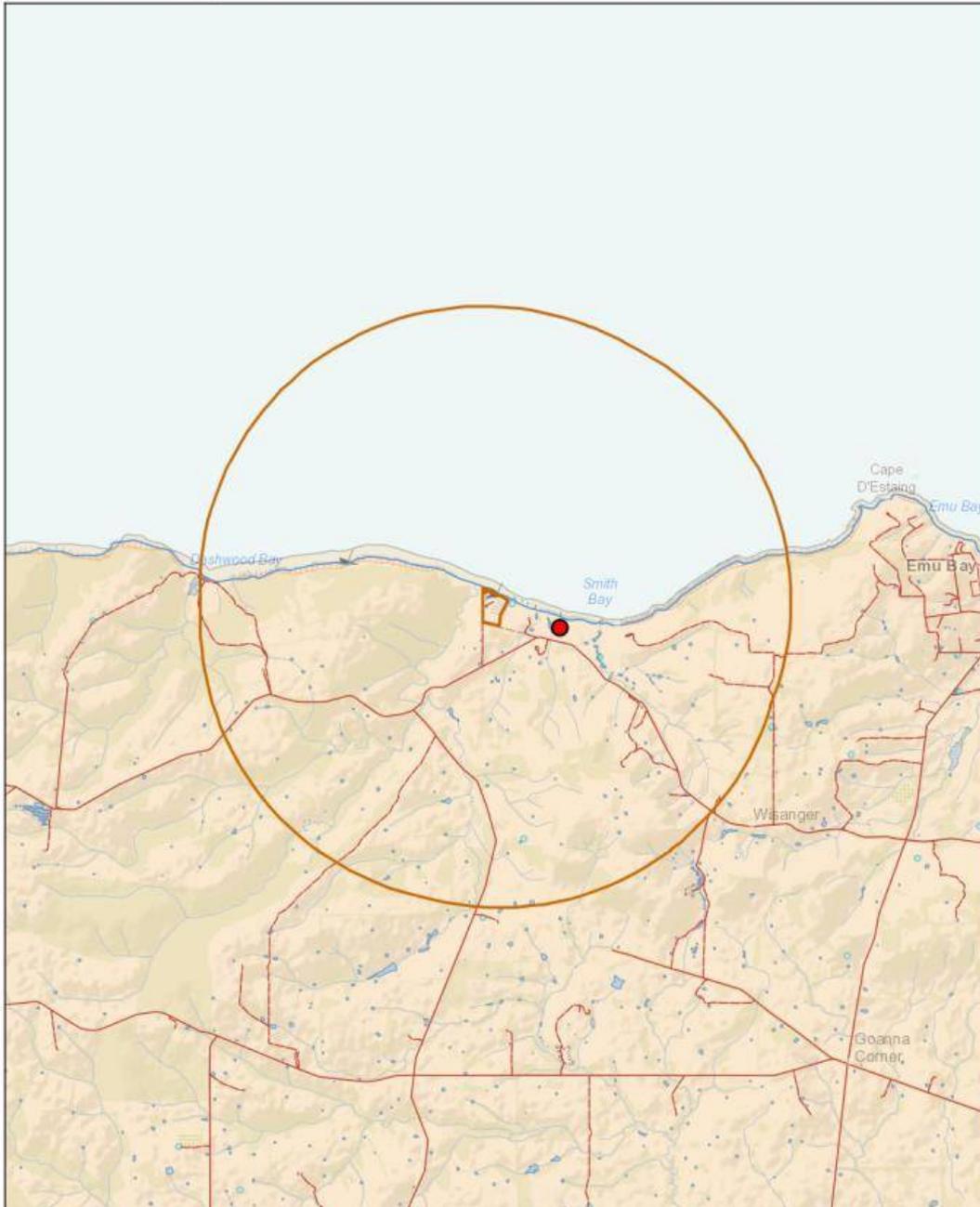
As part of project planning, proponents may allocate a secure on-site storage area for the temporary securing of objects, pending repatriation.

Appendix 3: DPC-AAR Search Results

ABORIGINAL HERITAGE SITES



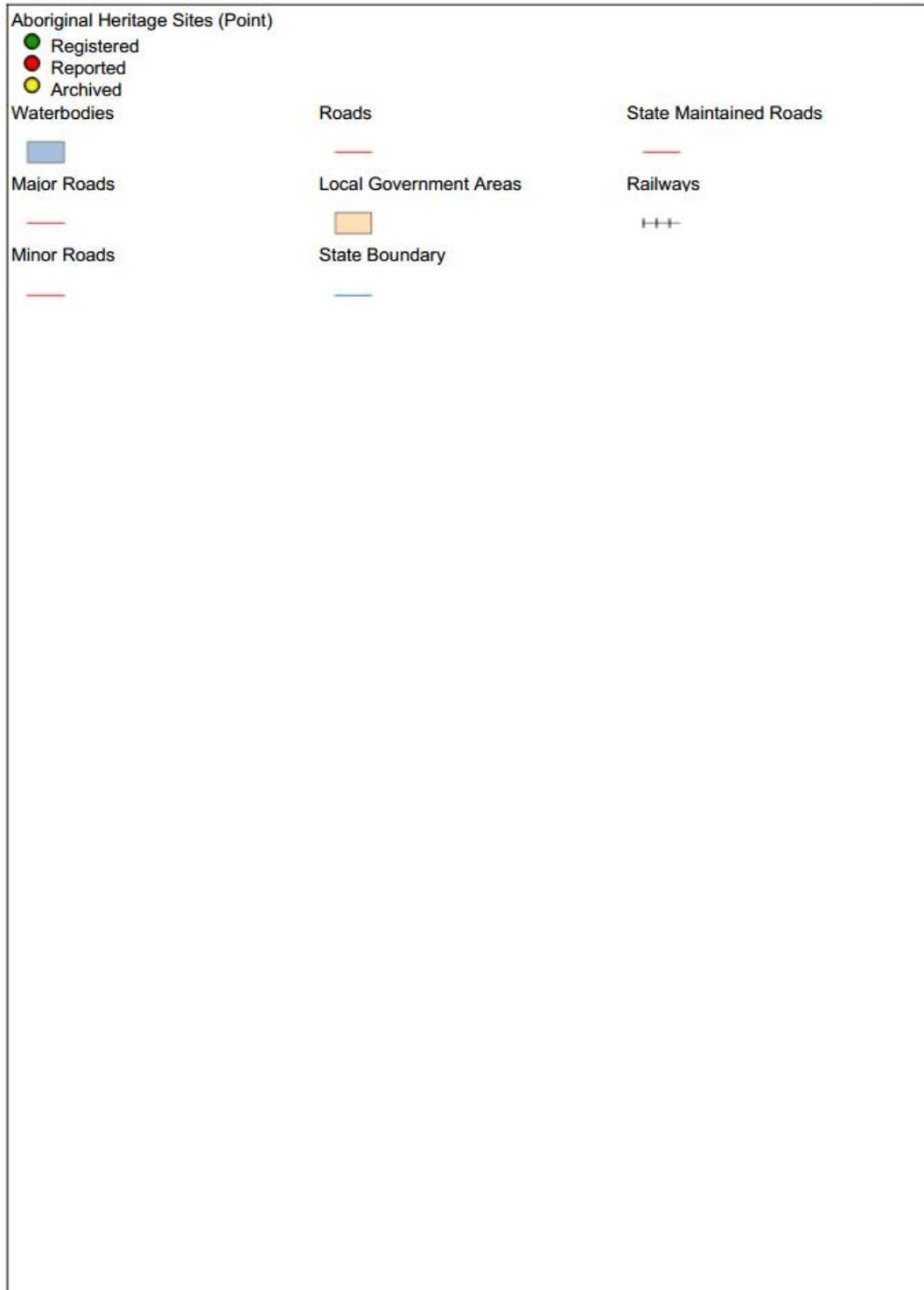
Reference Number:	718
Buffer Distance (m):	4000



Aboriginal Affairs and Reconciliation | Date: Wed Aug 14 2019 08:35:45 GMT+0930 (ACST)
Level 2, 11 Waymouth Street | GPO Box 320 Adelaide SA 5001
Tel (+61) 08 8226 8900 | Fax (+61) 08 8226 8999 | www.dpc.sa.gov.au | ABN 83 524 915 929



ABORIGINAL HERITAGE SITES



Aboriginal Affairs and Reconciliation | Date: Wed Aug 14 2019 08:35:45 GMT+0930 (ACST)
Level 2, 11 Waymouth Street | GPO Box 320 Adelaide SA 5001
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ABORIGINAL HERITAGE SITES



Lisa Salisbury
EBS Heritage
125 Hawyard Avenue
Torrensville 5031 South Australia

Dear Lisa

Thank you for the search request dated 02 Aug 2019. The search was based on the title details - Title Type: CT, Volume: 6127, Folio: 273. The address for these parcels is: 68 FREEOAK RD WISANGER SA 5223. Your reference is 718.

I advise that the central archive, which includes the Register of Aboriginal Sites and Objects (the Register), administered by Aboriginal Affairs and Reconciliation (AAR), has entries for Aboriginal sites within 4000m of this location.

Cultural Heritage Sites (Point) in the property:

Map Number	Site Number	Site Type	Site Status
6326	5053	Archaeological	Reported

The enclosed map identifies the approximate site location. It should be noted however that the site indicator does not reflect the actual area of the site; as this will vary from site to site, depending on the site information contained in the Central Archive.

The applicant is advised that sites or objects may exist in the proposed development area, even though the Register does not identify them. All Aboriginal sites and objects are protected under the *Aboriginal Heritage Act 1988* (the Act), whether they are listed in the central archive or not. Land within 200 metres of a watercourse (for example the River Murray and its overflow areas) in particular, may contain Aboriginal sites and objects.

Pursuant to the Act, it is an offence to damage, disturb or interfere with any Aboriginal site, object or remains (registered or not) without the authority of the Premier. If the planned activity is likely to damage, disturb or interfere with a site, object or remains, authorisation of the activity must be first obtained from the Premier under Section 23 of the Act. Section 20 of the Act requires that any Aboriginal sites, objects or remains, discovered on the land, need to be reported to the Premier. Penalties apply for failure to comply with the Act. It should be noted that this Aboriginal heritage advice has not addressed any relevant obligations pursuant to the *Native Title Act 1993*.

Please be aware in this area there are Aboriginal groups/organisations/traditional owners that may have an interest. These may include:

Original Southern South Australian Tribes Indigenous Corporation

Chairperson: Mark Koolmatrie
Address: 13 Gillian Close Noarlunga Downs SA 5168
Telephone: 0459371515
Email: tribalownerssouthern@gmail.com
Contact Officer:
Telephone:
Email:

Ramindjeri Heritage Association Incorporated

Chairperson: Vivienne Greenshields
Address: 56 Tilshead Road Elizabeth North SA 5113
Telephone:
Email: ramindjeri@westnet.com.au
Contact Officer: Christine Walker
Telephone: 0418276439

Aboriginal Affairs and Reconciliation | Date: Wed Aug 14 2019 08:35:45 GMT+0930 (ACST)
Level 2, 11 Waymouth Street | GPO Box 320 Adelaide SA 5001
Tel (+61) 08 8226 8900 | Fax (+61) 08 8226 8999 | www.dpc.sa.gov.au | ABN 83 524 915 929



ABORIGINAL HERITAGE SITES



Email: ramindjeri@westnet.com.au

Terms and conditions for use of information derived from the central archive:

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- The reproduction, copying, downloading, storage, recording, broadcasting, retransmission, distribution, decompilation, or disassembly of any part of the information derived from the central archive is not permitted without prior written consent from the traditional informant and must be in accordance with any associated copyright.
- It is the responsibility of any person provided with information derived from the central archive to:
 - Ensure that the information accessed is not made available, either in electronic or in hard copy format, to any third party.
 - Inform DPC-AAR immediately if they become aware of a third party using information derived for the central archive in contravention to these terms and conditions.

If you require further information, please contact the Aboriginal Heritage Team on telephone (08) 8226 8900 or send to our generic email address dpc-aar.heritagesites1@sa.gov.au

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Perry Langeberg'.

Perry Langeberg
SENIOR INFORMATION OFFICER (HERITAGE)
ABORIGINAL AFFAIRS & RECONCILIATION

14 August 2019





EBS Heritage
3/119 Hayward Avenue
Torrensville, SA 5031
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t. 08 7127 5607



Appendix H - Noise Impact Assessment

Monday, 23 March 2020

Project number: A17557
Reference: A17557LT1A

David Winterburn
Lathwida Pty Ltd
Adelaide, SA

Dear David,

**Kangaroo Island Plantation Timbers EIS
Addendum to Environmental Noise Impact Assessment**

The following outlines additional modelling and assessment in response to site layout changes and EPA submissions on the *Kangaroo Island Plantation Timbers EIS – Environmental Noise Impact Assessment* (A17557RP1, Revision B, dated 17 December 2018). EPA submissions were received 9 July 2019, with further comments received 1 March 2020.

1 Revised site layout

Noise emissions from the site have been re-modelled to reflect changes to the site layout including increased distance of the floating wharf and shiploader from the shore, and removal of the re-chipper. Predicted noise levels are shown below in Appendix A, and Table 1 below.

Table 1: Predicted noise levels

Receiver	Predicted noise level, dB(A) L_{eq}	Daytime criteria, dB(A) L_{eq}	Night time criteria, dB(A) L_{eq}
R1	41	47	40
R2	40	47	40
A	52	42	35
B	53	42	35
C	53	42	35
D ⁽¹⁾	45	42	35

(1) Location D represents the most exposed façade of buildings in the main Yumbah site compound to the east of aquaculture tanks

2 Response to EPA submissions

Resonate's revised response to EPA submissions received 9 July 2019 are provided in Table 2 below.

Table 2: Revised response to EPA submissions

#	Description of Issue Raised	Response
33	<p>p.21 of the Resonate report states that: "Noise levels at the Yumbah Aquaculture facility are expected to exceed the relevant daytime and night time criteria". "...the Rural Living criteria are intended for the protection of residential and recreational amenity, and prevention of sleep disturbance, and are not considered appropriate for assessing the impact of noise at this location based on existing land use."</p> <p>p.410 of the Main Report states: "KIPT is confident that the noise criteria at the residences will be complied with at all times for all phases of the development."</p> <p>Cl.12(1)(a) of the Environment Protection (Noise) Policy 2007 (Noise Policy) states: "For the purposes of this policy, measurements to determine the compliance with this policy of noise from a noise source are to be taken in relation to premises at which the noise is audible (noise-affected premises) that— (a) are in separate occupation from the noise source and used for residential or business purposes; (author bold and underline "business purposes")</p> <p>Therefore, the Cl.20(3)&(4) predicted noise criteria should be met at not only residential premises but also at the adjacent Yumbah Aquaculture facility. The following noise criteria need to be met at the Yumbah Aquaculture facility:</p> <p>(a) 42 dB(A) L_{eq} between the hours of 7am and 10pm when measured and adjusted; and (b) 35 dB(A) L_{eq} between the hours of 10pm and 7am when measured and adjusted; and (c) 60 dB(A) L_{Amax} between the hours of 10pm and 7am when measured;</p> <p>in accordance with the Environment Protection (Noise) Policy 2007. The above measured noise levels should be adjusted in accordance with the Environment Protection (Noise) Policy 2007 by the inclusion of a penalty for each characteristic where tonal / modulating / impulsive / low frequency characteristics are present.</p>	<p>In accordance with the Environment Protection (Noise) Policy 2007 (the Policy), KIPT assessed the outputs of the predictive noise modelling with regard to the Indicative Noise Levels (INLs) presented within the Policy (see Section 18.3 and Table 9 of Appendix N to the Draft EIS) at the location of the various sensitive receptors. This included the application of the INLs as specified in the Respondent's feedback. For the purpose of the assessment, it was considered that the majority of proposed noise sources are broadband and continuous and are not expected to have tonal characteristics under normal operating conditions. Amplitude modulation may be associated with some sources (for example truck movements), however this is not expected to dominate the noise impact to the extent that a penalty for characteristics would be appropriate. In addition, the project configuration has been designed to maximise the separation from noise-generating activities to the nearest receptors (i.e. noise-generating activities have been placed, wherever possible, on the western side of the site, with offices established to the east to assist in blocking line-of-sight to Yumbah), with other mitigation (e.g. enclosure of diesel-fired electricity gensets, removal of re-chipping facility, limiting the number of simultaneous heavy vehicle movements, extending the wharf further out to sea to increase separation distances) also applied during Project design to reduce noise levels to as low as reasonably practicable.</p> <p>The results of the assessment demonstrate that the INLs will be achieved for the nearby residences at all times and phases of the Project, however will be exceeded at the façade of the nearest buildings (sheds) at the adjacent Yumbah Aquaculture facility, with predicted noise levels ranging from 36 to 53 dB(A) L_{eq} depending on location within the site. Predicted noise levels exceed the daytime criteria at assumed office building locations by 3 dB, and night time criteria by 10 dB. Greater exceedances are predicted at sheds to the west of the Yumbah site (up to 11 dB during the day). These noise levels are based on a scenario with all sources operating simultaneously under worst-case meteorological conditions. Actual noise levels are therefore expected to be significantly lower for the majority of the time. Noise emissions are expected to comply with the 60 dB(A) L_{max} INL in all locations within the Yumbah Aquaculture facility.</p>

#	Description of Issue Raised	Response
		<p>Whilst the INLs are predicted to be exceeded at the Yumbah Aquaculture facility, it is important to make the distinction between an exceedance of the INLs and the potential of the Project to result in actual or potential environmental harm (which includes, in accordance with the Environment Protection Act 1993 (SA), environmental nuisance). The Yumbah Aquaculture facility is located within a Coastal Conservation Zone under the current Kangaroo Island Council Development Plan. This zoning peculiarity results in a particularly stringent set of INLs because the Policy is based on the zone of the receiver, and not the actual land use. In practice, the noise levels associated with continuous operations at Yumbah are expected to be 40-50 dB within the buildings (as described within the EIS for the similar Yumbah Nyamat Abalone Farm situated in Victoria (Yumbah 2018)) and thus, with attenuation through the building façade, it is considered that the Project would not likely be audible inside the Yumbah workplaces, resulting in a negligible potential for environmental harm.</p> <p>Cl.20(6) of the Policy states that if the predicted noise levels exceed the relevant INLs, then the EPA must have regard to the matters listed in Cl.20(6)(a)-(f) in determining its response. KIPT's response to the matters listed in these clauses is detailed in the response to EIS Issue #34 and forms a part of the overall response to this issue.</p> <p>On the basis that KIPT has applied all reasonable and practicable mitigation measures, and that it is considered that no actual or potential environmental harm will result to Yumbah from the Project, KIPT considers that the it complies with the General Environmental Duty (Section 25 of the Environment Protection Act 1993 (SA)) which states that "a person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm".</p>
34	Cl.20(6) of the Environment Protection (Noise) Policy 2007 states that if the predicted noise levels exceed the relevant levels prescribed in subclause (3) or (4) then the Authority must have regard to the matters listed in Cl.20(6)(a)-(f) in determining its response.	Cl.20(6) of the Environment Protection (Noise) Policy 2007 (the Policy) states that if the predicted noise levels exceed the relevant Indicative Noise Levels (INLs), then the EPA must have regard to the matters listed in Cl.20(6)(a)-(f) in determining whether the Project will meet Section 25 of the Environment Protection Act 1993 (SA), the General Environmental Duty.

#	Description of Issue Raised	Response
	<p>On page 21 of the report Resonate attempts to address the abovementioned subclauses in a table but the information is not adequate.</p> <p>More information is required to comprehensively address clause 20(6) (a)-(f) of the Noise Policy needs to be provided.</p>	<p>As detailed in the response to Issue #34, the Project is predicted to exceed the INLs at the Yumbah Aquaculture facility. KIPT believe that this will not result in actual or potential environmental harm. To support this, Cl.20(6) (a)-(f) of the Policy are outlined below along with additional information as requested by the Respondent.</p> <p>If a predicted source noise level (continuous) or predicted source noise level (maximum) for the development exceeds a relevant level prescribed in subclause (3) or (4) [of the Policy], the Authority must have regard to the following matters in determining its response.</p>
	<p>a) <i>the amount in dB(A) by which the predicted source noise level (continuous) or predicted source noise level (maximum) exceeds the relevant level and the likely frequency and duration of the noise levels that give rise to that result;</i></p>	<p>Predicted noise levels at the Yumbah Aquaculture facility buildings range from 36 to 53 dB(A) Leq depending on location within the site. The highest noise levels (53 dB(A)Leq, i.e. an 11 dB exceedance of the INL) are predicted at the sheds on the western side of the facility. On the basis of information provided by KIPT, that these sheds are enclosed structures with no windows nor ventilation, it is assumed that these are unlikely to be frequently occupied by personnel. Noise levels of approximately 45 dB(A) Leq (i.e. a 3 dB exceedance of the INL) are predicted at the office and administration buildings on the eastern side of the facility. Noise emissions are expected to comply with the 60 dB(A) Lmax criteria in all locations.</p> <p>The predicted noise levels are based on a modelled scenario with all sources operating simultaneously under worst-case meteorological conditions. Actual noise levels are therefore expected to be significantly lower for the majority of the time. Because of the complexity of the KI Seaport operation, there are multiple noise sources that contribute to the exceedance of the relevant INLs. These, together with their contribution, are described in the table below.</p>

#	Description of Issue Raised	Response													
		<table border="1"> <thead> <tr> <th>Noise-Generating Source</th> <th>Contribution at the nearest Yumbah building (dB(A)_{Leq})</th> </tr> </thead> <tbody> <tr> <td>Woodchip stacker</td> <td>49</td> </tr> <tr> <td>Ship loader</td> <td>42</td> </tr> <tr> <td>Wharf/jetty conveyor</td> <td>42</td> </tr> <tr> <td>Mobile fleet (trucks, log handlers, bulldozer)</td> <td>50</td> </tr> <tr> <td>All sources (cumulative)</td> <td>53</td> </tr> </tbody> </table>	Noise-Generating Source	Contribution at the nearest Yumbah building (dB(A) _{Leq})	Woodchip stacker	49	Ship loader	42	Wharf/jetty conveyor	42	Mobile fleet (trucks, log handlers, bulldozer)	50	All sources (cumulative)	53	
Noise-Generating Source	Contribution at the nearest Yumbah building (dB(A) _{Leq})														
Woodchip stacker	49														
Ship loader	42														
Wharf/jetty conveyor	42														
Mobile fleet (trucks, log handlers, bulldozer)	50														
All sources (cumulative)	53														
	<p>b) <i>any component of the ambient noise or extraneous noise that—</i></p> <ul style="list-style-type: none"> <li>i. <i>has a noise level similar to or greater than the predicted source noise level (continuous) or predicted source noise level (maximum); and</i> <li>ii. <i>has a similar noise character or similar regularity and duration to the noise from the noise source;</i> 	<p>Baseline monitoring of the environment around the Project (see Section 18.3 and Appendix N of the Draft EIS) demonstrated that, at the time of measurement, ambient noise levels associated with waves were of a similar magnitude to the noise levels predicted from the Project, noting that the character of background wave noises and Project-generated noise sources are not comparable.</p> <p>In terms of noise sources of similar character, noise source information described in the EIS for the similar Yumbah Nyamat Abalone Farm, located in Victoria (Yumbah 2018) predicts that local noise sources associated with water pumping infrastructure (pumps and pipes) will result in noise levels within the Yumbah facility of between 40-50 dB(A) _{Leq}. Noise levels outside of the Yumbah buildings generally vary between 30-40 dB(A)_{Leq} with short-term peaks associated with occasional heavy vehicle movements. This is consistent with baseline noise monitoring undertaken external to the buildings at Smith Bay.</p>													
	<p>c) <i>the times of occurrence of the noise from the noise source;</i></p>	<p>It is understood that delivery trucks would likely be operated during daylight hours only (approximately 12 hours per day), while the materials handling system would operate 24 hours a day, for up to 30-50 days per year. There is a possibility that truck deliveries may occur on a 24/7 basis. Although this is not KIPT's preferred option, this worst-case truck delivery scenario was adopted for the purposes of the assessment (i.e. predicted noise levels are based on all sources operating, which could occur during the daytime or night time).</p>													

#	Description of Issue Raised	Response
		<p>The EPA has previously advised that the EPA does not have evidence to suggest that the Yumbah site is a relevant receiver for the night-time period of the Policy, however noted that the INLs are relevant for day-time comparison at this location.</p>
	<p>d) <i>the number of persons likely to be adversely affected by the noise from the noise source and whether there is or is likely to be any special need for quiet at noise-affected premises;</i></p>	<p>There is considered to be no “special need for quiet” at the Yumbah Aquaculture facility as compared to other industrial or primary production activities. Internal noise levels of 43 dB(A)Leq or less are predicted in all buildings within the Yumbah Aquaculture site (assuming a reduction of 10 dB through an open window, noting that the sheds immediately to the east of the Project area do not have windows). This is less than the maximum noise level of 50 dB(A)Leq recommended in AS/NZS 2107:2016 Recommended design sound levels and reverberation times for building interiors for ‘industrial buildings’, including office, lunch room, laboratory and precision assembly areas.</p> <p>External noise levels at all buildings on the Yumbah site are also less than the noise limit of 55 dB(A) $L_{eq(day)}$ recommended by the World Health Organisation for the prevention of serious annoyance in a residential setting. The threshold for annoyance or nuisance is generally considered to be lower for residences, compared to businesses.</p> <p>Further, noise source information described in the EIS for the similar Yumbah Nyamat Abalone Farm, located in Victoria (Yumbah 2018) predicts that local noise sources associated with water pumping infrastructure (pumps and pipes) will result in noise levels within the Yumbah facility of between 40-50 dB(A)Leq. This would effectively render noise from the Project inaudible within the working areas of the Yumbah Aquaculture facility.</p> <p>On this basis there is no actual or potential adverse impact on Yumbah Aquaculture activities or personnel as a result of Project-related noise generation.</p>

#	Description of Issue Raised	Response
	<p>e) <i>the land uses existing in the vicinity of the noise source;</i></p>	<p>The existing land uses in the vicinity of the noise source are Rural Living (nearby residences) or Rural Industry (adjacent Abalone production). Although KIPT agree that the Rural Living land use category best aligns with the Kangaroo Island Council vision for the Coastal Conservation Zone (i.e., “[this] land use category may be assigned to a locality that principally promotes a park or reserve set aside for public recreation or enjoyment in a country or non-urban setting”), the current land use associated with the Yumbah Aquaculture facility better reflects Rural Industry land use, which is generally promoted within the greater Primary Production Zone in the Development Plan, where Rural Industry is described via example as “in general farming zones, where the land use principally promoted is agriculture and residences are contemplated, the Rural Industry land use category would be assigned”.</p> <p>For clarity, comments made in relation to the present use of the Yumbah site for primary production activities are made in the broader context of the General Environmental Duty, and should not be interpreted as an argument for a different land use category or indicative noise factors at this site.</p>
	<p>f) <i>any other matter required to be taken into account under section 25 of the Act or determined to be relevant by the Authority.</i></p>	<p>Section 25(1) of the Environment Protection Act 1993 (SA) requires that “A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm.” Further, Section 25(2) states: In determining what measures are required to be taken under subsection (1), regard is to be had, amongst other things, to—</p> <ul style="list-style-type: none"> (a) the nature of the pollution or potential pollution and the sensitivity of the receiving environment; and (b) the financial implications of the various measures that might be taken as those implications relate to the class of persons undertaking activities of the same or a similar kind; and (c) the current state of technical knowledge and likelihood of successful application of the various measures that might be taken. <p>As described earlier in this response and in the response to Issue #33, KIPT believes that there will be no actual or potential environmental harm as a result of Project-generated noise</p>

A17557LT1B

#	Description of Issue Raised	Response
		<p>due to the nature of the existing and proposed noise sources and the sensitivity and nature of the receiving environment as described in (a) through (e) above, and therefore considers that the Project will meet the General Environmental Duty. However, KIPT is committed to being a good neighbour to nearby receptors, and as such, has investigated the practicality of implementing further mitigation measures in order to reduce noise levels further. The specifics of this are described in the response to Issue #35.</p>
35	<p>On p. 410, Chapter 18 of the main report states: "The proposed KI Seaport is currently in detailed design. Pending this, the details of specific noise mitigation measures is not available. For the purposes of undertaking the noise impact assessment, the noise modelling did not consider any noise mitigation measures, ..."</p> <p>The noise mitigation measures needed on the subject land to meet the abovementioned noise criteria at the adjacent Yumbah Aquaculture facility need to be provided.</p>	<p>The proposed layout of the site incorporates a number of features which will provide incidental noise mitigation, including:</p> <ul style="list-style-type: none"> • Location of generator, conveyor and chip stacking plant to the north and west of the site away from sensitive receivers. • Location of the administration buildings to the east of the site to provide a line-of-sight noise barrier • 3 m bund along the southern site boundary. • Modification of the jetty structure to place the offshore shiploading components a further 250+ metres out to sea. • Removal of on-site wood chipping infrastructure <p>In addition, several design measures have been included in the preliminary design to reduce noise levels, including:</p> <ul style="list-style-type: none"> • The enclosure of the diesel-fired electricity gensets • Limitations of the number of simultaneous truck movements on site <p>A revised noise impact assessment is presented in Appendix A, reflecting the revised infrastructure layout and including the above mitigation.</p> <p>In order to satisfy Section 25(2) of the Environment Protection Act 1993 (SA), further predictive modelling was undertaken to assess the effectiveness and feasibility of additional mitigation. Due to the variety of noise-generating sources within the Project, this was assessed on a "per-source" basis, in consultation with KIPT. The outcomes of this are presented in the table below.</p>

#	Description of Issue Raised	Response
		<p>It should be noted that overall KIPT noise emissions received at the Yumbah site include contributions from a number of noise sources, therefore a suite of mitigation measures are required to achieve a significant overall noise reduction. For example, construction of a bund or noise wall along the eastern boundary of the site is expected to mitigate mobile plant noise to some extent, however will provide limited mitigation to noise from the chip stacker due to its elevation. Consequently the overall noise reduction in most areas of the Yumbah site would not be noticeable in this scenario.</p> <p>As an example, the following mitigation measures would be required to achieve an overall noise level of 48 dB(A) Leq at the most exposed building on the Yumbah site. This would represent an overall reduction of 5 dB(A) and exceeds the relevant daytime indicative noise factor by 6 dB(A).</p> <ul style="list-style-type: none"> • Fully automated low-noise chip stacker and reclaim system, achieving a noise reduction of 10 dB(A) for this source; • Alternative ship loading technologies, achieving a noise reduction of 5 dB(A) for this source; • Low noise or enclosed conveyor, achieving a noise reduction of 5 dB(A) for this source; • 6m bund or noise barrier along the eastern site boundary.

Noise source	Indicative mitigation option	Unmitigated noise level at Yumbah		Expected noise reduction		Mitigated noise level		Effective (Y/N)	Practicable (Y/N)	Justification
		A, B, C	D	A, B, C	D	A, B, C	D			
Chip stacker	Fully automated chip stacking and reclaim system (also eliminates need for the majority of dozer operations)			up to 10 dB	up to 10 dB	39	30			Expected noise reduction is indicative only, dependent on final infrastructure arrangement. This alternative has a higher capital cost but lower operating costs and, over the life of the operation, is currently considered cost neutral.
	Noise bund/wall	49	40	0	0	49	40			Noise bund/wall would provide limited benefit due to elevation of the woodchip stacking source. In addition, without access to dredge spoil, significant volumes of material would be required to be extracted and transported to site to establish the bund, which is likely to make such a structure prohibitively expensive.
	Fully enclose conveyor(s) and any other noise-emitting components			up to 5 dB	up to 5 dB	44	35			Additional expense associated with enclosure in terms of capital costs and ongoing operating costs due to additional maintenance requirements. Depending on the nature of the woodchip materials, enclosure of conveyors and transfer points may also pose a fire/explosion risk.

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Noise source	Indicative mitigation option	Unmitigated noise level at Yumbah		Expected noise reduction		Mitigated noise level		Effective (Y/N)	Practicable (Y/N)	Justification
		A, B, C	D	A, B, C	D	A, B, C	D			
	Underground or enclosed tipping pocket			0	0	49	40			Noise from tipping woodchips into hopper is not expected to significantly impact the 15 minute average (Leq) level. Maximum (Lmax) noise levels already comply with the relevant criteria at all locations
	Relocate further from noise sensitive receiver			2	0	47	40	Limited effectiveness		The current site layout has been optimised based on the experience of the on-shore infrastructure partner and represents the most efficient use of the available land with consideration to all factors (not just noise). Relocation of the chip stacker to the western side of the woodchip stockpile area is not predicted to significantly reduce noise levels based on modelling, however the actual reduction may be greater due to increased shielding from the woodchip pile for some of the time.

Noise source	Indicative mitigation option	Unmitigated noise level at Yumbah		Expected noise reduction		Mitigated noise level		Effective (Y/N)	Practicable (Y/N)	Justification
		A, B, C	D	A, B, C	D	A, B, C	D			
Ship Loader	Alternative loading technologies (e.g. stacking and mechanical spreading rather than slinging)	42	38	up to 5 dB	up to 5 dB	37	33	Yes	No	Expected noise reduction is indicative only. Alternative loading methodologies are inherently less efficient - they either take a greater time to load (prolonging the noise) or result in decreased storage efficiency and, in some instances, an increase in the amount of dust generation.
	Noise wall on floating pontoon			NA	NA	42	38	Yes	No	Not practicable due to the height of ship loader
	Enclose conveyor(s) and any noise-emitting components			up to 5 dB	up to 5 dB	37	33	Yes	No	Additional expense associated with enclosure in terms of capital costs and ongoing operating costs due to additional maintenance requirements. Depending on the nature of the woodchip materials, enclosure of conveyors and transfer points may also pose a fire/explosion risk.
	Extend the wharf further offshore to increase propagation distance			doubling of distance = ~6 dB reduction		36	32	Yes	No	Doubling the length of the jetty would be prohibitively expensive (additional capital costs for jetty construction and additional conveyor length) and result in increased duration of underwater (construction) noise impacts, plus impacts to visual amenity.

Noise source	Indicative mitigation option	Unmitigated noise level at Yumbah		Expected noise reduction		Mitigated noise level		Effective (Y/N)	Practicable (Y/N)	Justification
		A, B, C	D	A, B, C	D	A, B, C	D			
Conveyor (along wharf/jetty)	Low noise model/rollers	42	36	up to 5 dB	up to 5 dB				Unknown	Expected noise reduction is indicative only. It may not be practicable to use a low noise model if it does not meet other (non-acoustic) requirements such as reliability and capital cost.
	Noise wall /bund			NA	NA	42	36			Not practical to install a noise bund on the jetty structure of sufficient height to block line of sight to Yumbah due to the expense.
	Fully enclose conveyor			up to 5 dB	up to 5 dB					Additional expense associated with enclosure in terms of capital costs and ongoing operating costs due to additional maintenance requirements. Depending on the nature of the woodchip materials, enclosure of conveyors and transfer points may also pose a fire/explosion risk.

Noise source	Indicative mitigation option	Unmitigated noise level at Yumbah		Expected noise reduction		Mitigated noise level		Effective (Y/N)	Practicable (Y/N)	Justification
		A, B, C	D	A, B, C	D	A, B, C	D			
Mobile noise sources (trucks/dozers/log handlers)	Low noise models, exhaust silencers etc	50	39	up to 3 dB	up to 3 dB	47	36	Effective	Not Practicable	Expected noise reduction is indicative only. It may not be practicable to require third party vehicles to meet stringent noise limits or require these to have specific noise mitigation measures installed. On-site mobile fleet could be fitted with hush kits, but these result in less reliable equipment, greater maintenance costs, increases in fuel consumption and higher capital costs.
	2m bund/wall along eastern boundary			2	0	48	39	Limited effectiveness	Limited practicality	Does not provide a noticeable reduction in noise levels. Considerably less material required to construct than other bund options, but this material would still have to be sourced and delivered to site as there is no on-site source of construction materials (about 5,000 m ³ required)
	4m bund/wall along eastern boundary			4	1	46	38	Effective	Not Practicable	As above, with an ever-increasing volume of construction materials required. May also have adverse visual impacts
	6m bund/wall along eastern boundary			5	2	45	37	Effective	Not Practicable	
	8m bund/wall along eastern boundary			8	2	42	37	Effective	Not Practicable	

Noise source	Indicative mitigation option	Unmitigated noise level at Yumbah		Expected noise reduction		Mitigated noise level		Effective (Y/N)	Practicable (Y/N)	Justification
		A, B, C	D	A, B, C	D	A, B, C	D			
	Off-site receipt of woodchips and logs (for example within KIPT owned land to the west of the site)			NA	NA	50	39			While this may reduce noise levels at Yumbah to some extent, it would likely increase the noise at residence R1. Increased need for conveyors etc may negate noise reduction benefit to some extent. Significant departure from the original application
	4m height bunds/walls closer to noise source locations			5	2	45	37			Would likely limit plant movements/use of the site and may result in adverse safety outcomes due to a lack of visibility of the surrounding areas. Would result in higher capital costs, and may inadvertently limit the ability to modify operations (e.g. if more logs require storage than expected) and undertake maintenance (i.e. affect crane access).
	Relocate haul routes/operating areas further from receiver			NA	NA	50	39			Likely to significantly limit available space for log and woodchip storage, and is unlikely to significantly reduce noise levels from mobile plant. Relocation may result in higher noise levels at other receiver locations

Noise source	Indicative mitigation option	Unmitigated noise level at Yumbah		Expected noise reduction		Mitigated noise level		Effective (Y/N)	Practicable (Y/N)	Justification
		A, B, C	D	A, B, C	D	A, B, C	D			
All	Enclose whole site in a shed	53	45	Noise reduction in the order of 20 dB for fully enclosed sources	Noise reduction in the order of 20 dB for fully enclosed sources	45	40			Mitigated noise level assumes conveyor and ship loader are not enclosed. May have significant adverse visual impacts; considerable departure from original application; Not practicable to enclose off-shore noise sources. Capital cost of significant shed structure would be prohibitive, and may result in dust/noise-related OHS issues within the enclosed space.
	Receiver facade treatments			0	0	53	45		Unknown	No quantifiable benefit, as internal noise levels at Yumbah site are already expected to be within relevant recommended levels (e.g. based on AS/NZS 2107). Preference is generally to mitigate noise at source or within the source site, rather than at receivers. Treatment of shade cloth areas of Yumbah would interfere with their operations.

(1) Noise level shown is the maximum of predicted noise levels at locations A, B and C.

(2) Refer to Appendix B below for indicative noise barrier locations



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Appendix A – Predicted noise contours

Kangaroo Island Planation Timbers

Daytime

dB(A) Leq

35 - 40

40 - 45

45 - 50

50 - 55

55 - 60

> 60

★ Residences

★ Yumbah

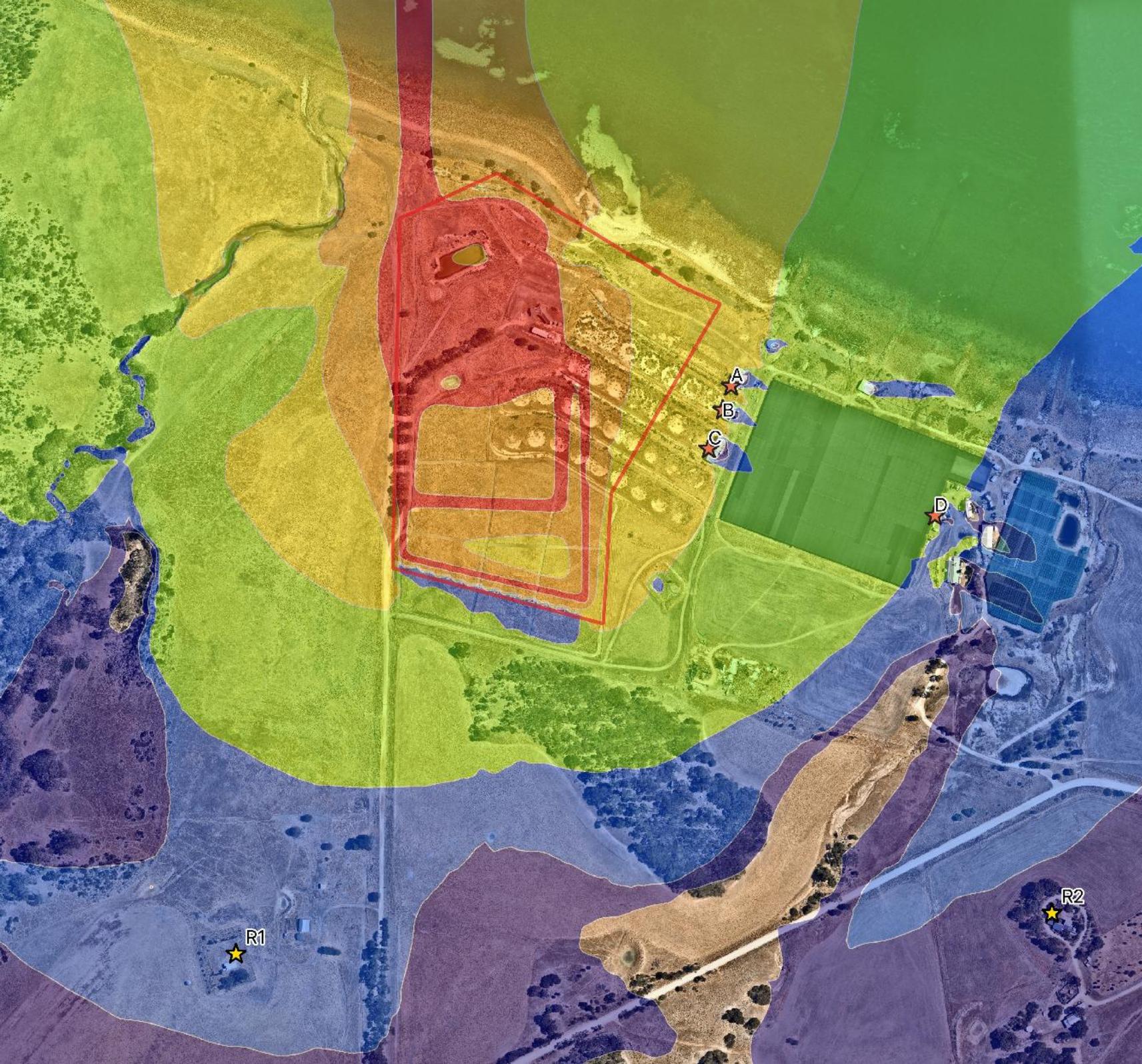
□ Site Area



0 100 200 m



Resonate

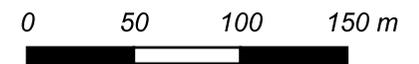
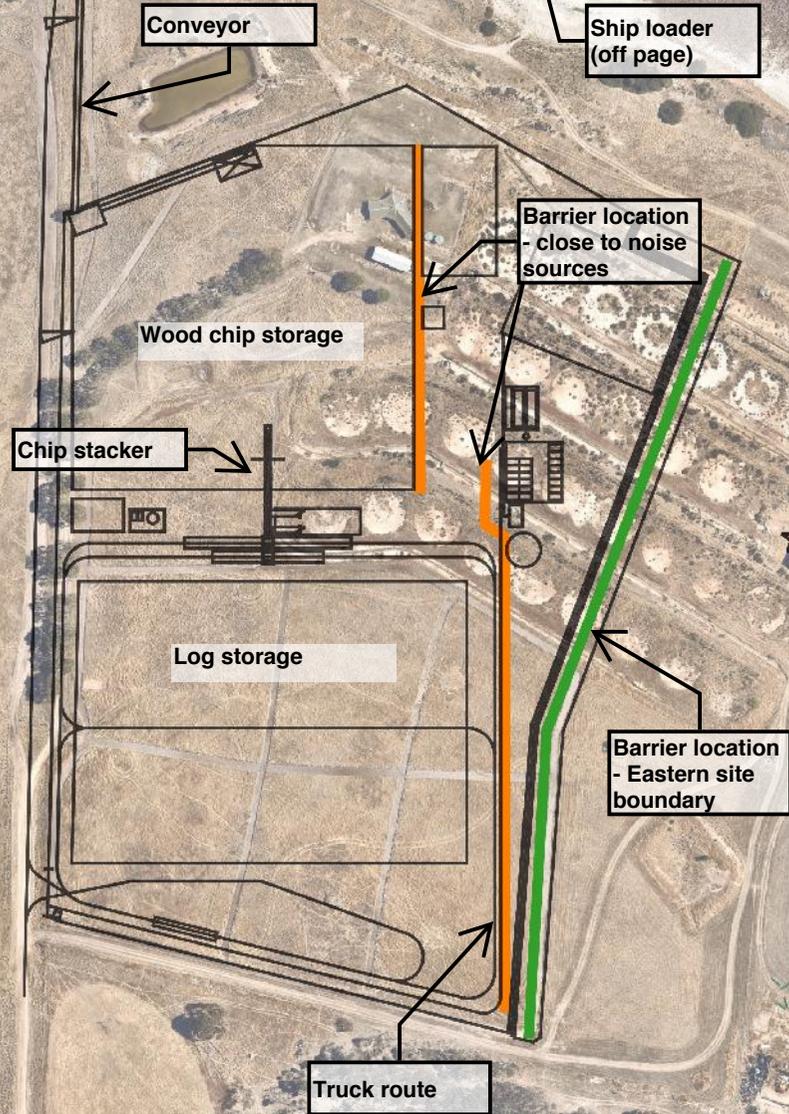


Appendix B – Potential noise barrier locations

Kangaroo Island Planation Timbers

Daytime

- ★ *Yumbah Buildings*
- *Potential noise barrier*
- *Potential noise barrier*



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