COMBINED SA GOVERNMENT COMMENTS – KIPT Smith Bay EIS – More information required / Issues raised

During the consultation period the EIS was circulated to a number of SA Government departments that were deemed relevant. Please find below a table providing issues raised that require points of clarification and/or additional information to enable a comprehensive assessment of the KIPT Smith Bay proposal, prior to final consideration by the South Australian government.

#	Topic / Issue	EIS Chapter/ Section / Reference	Description of issue raised	Requirement for applicant in Response Document	A/B/C
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 National Pollutant Inventory estimation techniques and US EPA *AP-42: Compilation of Air Pollutant Emissions Factors* methodology.	For Noting	C
2		Main report 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.	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
3		Main Report 17.5.5 Impact Assessment Page 396	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.	Typographical correction	C
4		Main Report 17.5.5 Impact Assessment Page 397	'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'.*	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	A

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			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.	mitigation of dust. This also should include a complaints register and the management measures to deal with and close-out issues. Specific details can be included in Environmental Management Plans, however reference and commitment to above should be included in the EIS.	
5	Aquaculture	Main Report (page 209) & Appendix H1	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 Kangaroo Island Plantation Timber's (KIPT's) application process.	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
6		Main Report (page 425-423) and Appendix H1 (page 61)	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 affects 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 review*. Fisheries Research Report 128. Fisheries WA. Currie et.al. (2016) *Ventral videographic assessment of the feeding behaviour of juvenile greenlip and hybrid abalone in response to dietary and temperature manipulation*. Journal of Shellfish Research 35(3). 641-651.	Further assessment of potential light impacts on the abalone farm relating to the position and intensity of lighting.	A
7		Appendix F2 (page 49)	Pg 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	Clarify exactly how far offshore the wharf will be located (i.e. 370m, 450m or something else).	C

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			200,000m_3). 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.	Identify what factors will determine whether the dredge campaign will fall under the expected case scenario or the worst case scenario. Ideally, the proponent would provide a single scenario that describes the proposal rather than presenting options.	A B
8		Main Report (page 157) & Appendix C & F1	It is noted based on Pg. 157 of the main document, that the assumptions concerning the sediment composition used in the sediment plume modelling 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 2m, 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.	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
9		Appendix F3 (page 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_oC to 20_oC. Increased water temperature coupled with increased turbidity may increase the risk of abalone mortalities particularly considering it is estimated that pumping	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

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			water elevates the temperature by ~2$_o$C. Note: farms have recorded mortalities at 22-23$_o$C and the eco-toxicity study was conducted at a temperature of 18$_o$C for a period of 24 hours which may not reflect the actual conditions experienced during the dredging campaign.		
10		Appendix H1, Section 4.25 (page 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.	For Noting	C
11		Appendix H2 (page 42)	Vandepeer (2006) concluded in the paper, *Preventing summer mortality of abalone in aquaculture systems by understanding interactions between nutrition and water temperature* FRDC Project No. 2002/200, that suspended sediment can impact abalone health based on observations on South Australian abalone farms, which may be associated with an increase in pathogens that may attach to sediment particles. This is also supported in other research. Vandepeer's report also stated that monitoring of seawater supplied to the South Australian Abalone Developments site at Louth Bay during windy months (October - November) showed an increase in the levels of the bacteria, *Vibrio* sp., associated with increased suspended solids at this time. It is interesting to note that pg. 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 experienced on the farm were more likely to be due to elevated levels of bacteria (e.g. *Vibrio*) rather than suspended sediment. However, according to the Vandepeer report, the presence of bacteria may have been due to the increased suspended sediment experienced at	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

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			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.		
12		Appendix H2	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.	Provide evidence that increased sediment loads will not impact filtration systems that are likely to be present in the hatchery and nursery	A
13		Appendix H2	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	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. 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.	A B
14		Appendix H2 – Part B	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	For Noting	C

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			observed effect concentration (NOEC) and the text should use this in this context particularly when discussing possible triggers. This is also consistent with other trigger values that do not allow the water quality to reach the NOEC. 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		
15		Main Report 11.5 Impact Assessment and Management (page 217)	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.	Ensure consistency in discussion	C
16		Main Report 11.5 Impact Assessment and Management (page 216)	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 operating then such water quality would have had no impact on operation of the abalone farm.	For Noting	C
17		Main Report, 1.5.8 (page 224-226)	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	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

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			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. 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.	Identify what maintenance regimes would be necessary in association with each design option.	B
18	Dredging	Executive Summary Potential Impacts of Dredging on Water Quality (page 53)	It is stated that up to 200,000m_3 of material would be dredged whereas in other parts of the Executive Summary it is stated that 100,000m_3 of material would be dredged.	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 100,000m_3 or 200,000m_3 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 off-shore) with a definite volume of material to be dredged.	C
19		Main Report 4.5.2 Dredging (page 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.	In light of the EPA Dewatering Guidelines, the following issues need to be addressed: • 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.	B

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				• Sediment quality of the dewatering location to determine potential leaching into water prior to discharge, and percentage of fines that may be entrained. • How will water quality be monitored and managed prior to (settlement time, flocculation) and during discharge events (water quality monitoring). What are the contingency arrangements for NTU triggers being met/exceeded? Provide details of proposed spoil disposal location and management for maintenance dredging campaigns.	A
20		Appendix F2	It is unclear why the 99th percentile has been used in triggers instead of the 95th percentile which is standard in other projects The values used to delineate the zones of impact need to the clearly outlined in a table including what the total TSS/NTU will be taking into account the ambient conditions	Justify the use of 99th percentile over the 95th for trigger values. 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.	B A
21		Main Report 12.5.4 Seagrass and other Benthic Communities	The modelling of benthic photosynthetically active radiation (PAR) revealed that PAR under ambient conditions ranged from: • 8–18 per cent surface irradiance over dense seagrass and macro-algae communities at 6 metres depth • 3–10 per cent over dense seagrass communities at 10 metres depth	A more rigorous assessment of benthic impacts associated with the predicted reduction in photosynthetically active radiation (PAR) caused by dredging is required.	A

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		(page 252) Appendix F2	• 3–8 per cent over sparse seagrass communities at 14 metres depth. 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. 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. 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.		
22	Groundwater	Main Report Table 8.3 Key issues associated with KI Seaport (page 149) '42 – on site diesel storage and use	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.	Add impacts on groundwater to Table 8.3 in this section.	C
23		Main Report (page 357)	Section "16.2.6 Groundwater" states "The South Australian 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, especially to show the lack of coverage of wells in this area.	The location of licensed wells within a 1km radius of the site should be shown on a map (perhaps Figure 16-7) in this section of the Main Report.	C

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24		Main Report 16.2.1 Geology (page 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.	Undertake necessary editorial change.	C
25		Main Report 16.2.1 Geology (page 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.).	Provide conceptual model of geology/hydrogeology.	C
26		Main Report 16.2.6 Groundwater (page 357)	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.	Correct BGL to AHD	C
27		Main Report 16.2.6 Groundwater (page 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?	Clarify whether work on groundwater flow direction has been undertaken	C
28		Main Report 16.4.4 Groundwater (page 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.	Measurement details should be displayed on maps such as these to show the spatial distribution of groundwater chemistry, standing water levels etc. Clarify why only two grab samples were collected	C C
29		Main Report 16.4.4 Groundwater (page 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.	Clarify which well was tested.	C
30		Main Report 16.5.2 Environmental	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.	Provide clarity on this matter	C

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		Aspects with Off Site Impacts (page 370)			
31		Main Report 16.5.2 Environmental Aspects with Off Site Impacts (page 370)	It is stated under the heading, 'Dredge Spoil Dewatering', that 'Sediment load will not impact groundwater'.	Provide justification for this statement	C
32		Main Report Table 26-1 (page 538)	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.	C
33	Noise (Terrestrial)	Appendix N Part 6 Noise assessment (Resonate report) (page 21) Main Report Chapter 18 Noise & Light (page 14)	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.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*." 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")	Undertake further investigation into the predicted noise criteria at the adjacent Yumbah Aquaculture facility.	A

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			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: (a) 42dB(A) Leq between the hours of 7am and 10pm when measured and adjusted#; and (b) 35dB(A) Leq between the hours of 10pm and 7am when measured and adjusted#; and (c) 60dB(A) LAmax between the hours of 10pm and 7am when measured; 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.*		
34		Appendix N Part 6 Noise assessment (Resonate report) (page 21)	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. On page 21 of the report Resonate attempts to address the abovementioned subclauses in a table but the information is not adequate.	More information is required to comprehensively address clause 20(6) (a)-(f) of the Noise Policy needs to be provided; and/or	A
35		Main Report Chapter 18 Noise & Light (page 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, …"*	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
36	Noise (underwater)	Executive Summary (page 41)	Clause 9 of the Environment Protection (Water Quality) Policy 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 *Environment Protection Act 1993* defines noise as a pollutant. As such the EPA regulates noise including underwater noise to	For Noting	C

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			prevent environmental harm. Accordingly, the EPA is concerned about potential impacts of underwater noise on marine mammals within the environment. 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. 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. Required details can be included in Environmental Management Plans		
37	Site Contamination	Appendix U – draft construction environmental management plan Part 1.4 Environmental legislation, regulation and guidelines	Section states …"*Guidelines for Assessment and Remediation of Groundwater Contamination (EPA South Australia 2009*) This guideline has been updated to *SA EPA Guidelines for the assessment and remediation of site contamination (2018).* The following other documents should also be considered: *SA EPA Guideline for the assessment of background concentrations (2018).* *SA EPA Regulatory and orphan site management framework (2017).*	Editorial changes required.	C
38		Appendix U – draft construction environment management plan Table 1-2 Environmental	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.	Editorial changes required.	C

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		aspects, objectives and potential impacts to be managed during construction			
39		Appendix U – draft construction environment management plan Part 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.	Provide details on measures to manage contamination that may result from placing potentially contaminated sediments on land.	B
40		Appendix U – draft construction environment management plan Section 1.9.1 Legal and other guidelines	This sections should also consider the *SA EPA Guidelines for the assessment and remediation of site contamination (2018)* & any other relevant EPA guidelines	Editorial changes required	C
41		Appendix U – draft construction environment management plan Section 1.12.1 Legal and other guidelines	This sections should also consider *the SA EPA Guidelines for the assessment and remediation of site contamination* (2018) & any other relevant EPA guidelines.	Editorial changes required	C

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42	Surface water quality / Stormwater	Main Report 4.4.6 Onshore Infrastructure Pages 72-73 Appendix C1 WGA Stormwater management strategy	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 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.	For Noting See comments below regarding maintenance of the system.	C
43		Appendix C1 WGA Stormwater management strategy	Seaport (offshore) stormwater infrastructure: The transfer of wood chip 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. 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. As indicated in the stormwater strategy '*the wharfs stormwater treatment systems will be reliant up a strict maintenance regime*'. See comment below it is critical that these maintenance items are referred to in the OEMP.	Review the type of oil water separator proposed to a class 1 separator. This should have a suitable high level alarm. The wharf treatment system will need to account for fine dust particles. Indicate how the proposed system treats fine dust.	B

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44		Appendix C1 Stormwater management strategy Appendix U2 Draft OEMP	The WGA Stormwater Management Strategy 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 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 Environmental Management Plans.	For Noting	C
45		Main report 16.5.2 Environmental Aspects with Off-site Impacts Pages 370-371 Appendix U1 Draft CEMP	The main report states: *'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'.* 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 to ensure they are operating as per the design for the operational phase. Table 8-1 of the draft CEMP states "*During the construction phase a Soil Erosion and Drainage management Plan (SEDMP) will be implemented in accordance with the Environment Protection Act 1993."* 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	For Noting	C

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			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 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. Required details can be included in Environmental Management Plans		
46	Wastewater	Main document 4.4.6 Onshore Infrastructure Page 70 and Page 73	On page 70 it is stated *'woodchip stockpile area would be a concrete pavement'* On page 73 it is stated: *'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* 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 pond will meet the design and construction requirements outlined in the EPA guideline *Wastewater lagoon construction* (April 2019).	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). 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 B
47		Main Report 16.5.2 Environmental Aspects with Off-site Impacts Page 371	*"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."*	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
48		Main Report	The retention basin for leachate/runoff from the timber storage areas is stated as 10 ML in size. However the figure *Onshore stormwater*	Confirm the size and meet the design and construction requirements outlined in the	B

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		4.4.6 Timber log and woodchip storage areas Page 73 Appendix C1 Stormwater management strategy	*management strategy* in appendix D of the Wallbridge Gilbert Aztec report shows this as 7ML.	EPA guideline *Wastewater lagoon construction* (April 2019).	
49		Main Report 4.8.7 Waste Management Page 91	It is stated: *'It is envisaged that a septic tank of working capacity 16,500 litres (with a tank capacity of 22,000 litres) 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 desludged every four years in line with Department of Health requirements'.* 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	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). 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. 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

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EPA / DEW					
1		Appendix T Risk Assessment Table Reference 1	The Risk Assessment Table identifies the direct loss of approximately 10ha 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.	Reassess the risk rating	C
2		Main Report 26..2.4 (page 542)	Post dredge monitoring (up to 2 years post dredging) should be used to assess the recovery of the seagrass through a Before and After Control and Impact (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.	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
3		Appendix T Risk Assessment Table Reference 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.	Reassess the risk rating. 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.	A B
4		Main Report 12.5.4 Seagrass and other Benthic Communities (page 251)	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 metres of the dredge	A BACI monitoring program is required	B

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			footprint) and the probable rapid dispersion of sediment during winter storms". 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. A 1 year impact on large areas (potentially 240 m from the dredge area) would be considered a major impact. Sedimentation impacts to the reef are subject to uncertain recovery trajectories, so 1 year impact is uncertain and will need a BACI monitoring program. Required details can be included in Environmental Management Plans		
5		Main report 12.5.4 Seagrass and other Benthic Communities (page 250-251)	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 (page 253) of seagrass has been generated, or how it could be supported. Appendix I1 states that approximately 10 ha of sparse seagrass will be directly impacted consisting mainly *Posidonia sinuosa*. Additionally, indirect effects due to turbidity and sedimentation are likely. This is not reflected in the EIS.	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
DEW					
1	Alternate structures	Section 3.7	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. Table 3-9 (pg 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.	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 B

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			The assessment data should be made available, with supporting analysis, to support the chosen design. There may also have been omissions in the base data, for example: "*Design life, maintenance cost and construction duration were excluded for the sake of simplicity*" pg. 44. "*A significant and unjustified increase in construction cost would be unjustifiable*" pg. 44. A cost/benefit analysis did not appear to be provided to support this statement. 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. 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.	Provide assessment data, including analysis, to support the chosen design Provide a cost/benefit analysis Undertake an assessment of wrack accumulation for alternative designs Provide details on how wrack would be managed for alternative designs	B B B
2	Coastal and marine environment Native Vegetation clearance	Chapter 14 Section 12.5 Appendix I2 Appendix I4 Appendix I5	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. 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.	The response document needs to consider the importance of the cobble foreshore in relation to the current level of ecosystem functioning. Extend the survey for completeness.	B B

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			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" pg. 251-252. There has been no in depth analysis/discussion regarding the ecosystem/habitat value that this area may provide therefore the determination of minor ecological significance is not able to be substantiated.	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
			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.	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
			Impacts have largely been discussed in isolation, and cumulative impacts have been listed as insignificant (pg. 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.	Further discussion and consideration of cumulative impacts is required.	A
			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 (pg. 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 temperature, could lead to a gradual break down in the meadows functions e.g. natural	Additional information required regarding impacts to shallower waters adjacent the breakwater.	B

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			recruitment, potentially leading to blowouts and ongoing physical erosion which can impact on a wider area. 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.	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. Seagrass monitoring projects are not suitable as an SEB's under the Native Vegetation Act.	B C
3	Coastal processes	Section 10.4.1 Section 10.4.2 Section 10.4.3 Section 10.4.6 Section 10.5.1 Section 10.5.2 Appendix F1 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 G Appendix H1	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 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. 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. 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.	Further information is required around the range of cumulative impacts considered and those which have not been addressed. Extend modelling to consider conditions beyond current conditions. Provide clarity on sand and wrack management options.	B B B

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4	Construction of causeway	Chapter 4 Chapter 16 Chapter 26 Appendix U1 Appendix U2	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 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.	Clarify matters regarding causeway construction.	A
5	Coastal hazards	Chapter 2 Chapter 4 Chapter 9 Chapter 16 Chapter 25	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, pg. 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 coastal/marine environmental values (e.g. removal of causeway on closure, rehabilitation of site or long term maintenance?), Table 26-4, pg. 543. What will these options mean for the project? Funding for rehabilitation as was required in Guideline 19.17 has not been addressed.	Clarify if sea level rise has been considered in the locational criteria for any at-risk infrastructure. Include details of sand and wrack management and identify that KIPT will be responsible for the management of sand and wrack. Update Rehab strategy and closure plan	C B C
6	Risk assessment	Section 12.4.1 Section 12.4.2 Section 12.4.3	The risk assessment should consider 'cumulative' impacts for each activity as this may increase the consequence.	The following improvements should be made to the table in Appendix T:	

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		Section 12.5.5 Appendix I1 Chapter 14 Section 12.5 Appendix I2 Appendix I4 Appendix I5		• 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. • 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. • Reference 4. Impacts are focused on Yumbah but should be expanded to include intertidal communities as above. An additional point should be added for the impacts of the causeway construction on the foreshore. • Reference 17: Causeway construction impacts on sand/wrack movement needs more work. Management measures proposed are vague and not acceptable in their current form.	C C C B

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				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 pg. 23) may not recover as readily due to the already harsh conditions they contend with.	A
7			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.	Consider potential impacts to the soak. Any potential or known annual flora species should be included in the assessment.	C
8	Native vegetation	Pg 253 EIS Book Appendix J2	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	Update pg 253 of the EIS book to reflect Appendix J.	C
9	Native vegetation	Appendix J2	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.	Clarify in the EIS or Appendix J which vegetation requires consideration for the EIS.	C
10	Threatened species	Table 1-10	Table 1-10 mentions that "the transport route(s) would be inspected regularly for roadkill. The roadkill will be removed and disposed of, …" 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. Further information is required in relation to who's responsibility it is to monitor and report this information. Required details can be included in Environmental Management Plans	For Noting	C

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KI NRMB					
1	General Comment - Biosecurity		Concerns regarding ballast water exchanges within the Same Risk Area, particularly Port Adelaide, which is known to have presence of Pacific Oyster Morbidity Syndrome (and potentially other aquatic pests and diseases) Development of Marine Pest Management Plan to be in consultation with the KI NRMB	For Noting	C
2	General Comment – research timeframe		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	For Noting	C
3	General Comment – pile driving		Concerns regarding the soft start approach – is it 3,5 or 10 mins gradual increase – all mentioned in the EIS	Clarification required Note - KI NRMB preference is for 10 mins	C
4	General Comment – Transport		Concern regarding impacts on the road network, including maintenance costs, and community/social impacts	For Noting	C
5	General comment – KI threatened species		The EIS does not list all Kangaroo Island threatened species and proposed management actions.	Document all threatened species, including issues, assessment and management actions associated with each. Assess the traffic impacts on the vulnerable Rosenberg Goanna, acknowledging that the goanna is attracted to roads to consume roadkill	B B
PIRSA					
1	General comment		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.	For Noting	C

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			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 triggers identified in the EIS for suspended sediment loads are reached. 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.		
2	General comment		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	Reference of licence permit for other species at the Yumbah site.	C
CFS					
1	Escape routes in event of a large fire event	Appendix U4	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. The SA CFS requires maps/details on potential escapes routes/refuges etc. from the site for people who may be occupying the site Required details can be included in Fire Safety and Hazard Management Plans	For Noting	C

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2	Communication with CFS on Total Fire Ban Days	Appendix U4	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 days fire rating is known (at 4pm the day prior). The SA CFS requires a document/letter/statement clarifying the policies and protocol in place for this 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	For Noting	C
3	Management of fire on site and risk of fire escaping site	Appendix U4	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.	Plans and details of both passive and active fire suppression systems, as well as how fire escape would be prevented/managed.	B
4	Buffers	Appendix U4	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.	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
5	On Site Fire Suppression	Appendix U4	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.	Plans and documentation details the proposed fire suppression systems to be used on the site.	B

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6	Details Management/ Response Plans	Appendix U4	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. 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. Required details can be included in Fire Safety and Hazard Management Plans	For Noting	C
DPTI (Transport)					
1	Preferred route	Traffic & Transport	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 utilize 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. DPTI (Transport) considers that a defined transport route is an appropriate approach and supports the preferred (Option 1) in principle.	For noting	C
2	Vehicle types	Traffic & Transport	The subject arterial roads (Playford Highway) are currently gazette for up to 23.0 metre B-Double movements, and improvements will be required if larger vehicles are to be used. 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	For noting For noting	C C

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3	Funding of road upgrades & maintenance	Traffic & Transport	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. 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. It is possible for the proponent to directly undertake any necessary road upgrades/maintenance works at their cost subject to an appropriate deed and authorization being executed with the relevant road authority (in this instance both DPTI and the Council). On the basis that the proposal proceeds using 19.0m semi-trailers only, a formal agreement is not required for improvements to the arterial road network.	If vehicles larger than 23.0m B-Doubles are to be used, proponent to identify required arterial road improvements to accommodate the desired vehicle in consultation with DPTI. Proponent to outline proposed arrangements for funding of identified upgrades and on-going maintenance of such. 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
4	Use of semi-trailers	Traffic & Transport	DPTI notes that the proponent has indicated that until the defined transport route for Higher Productive Vehicles (HPV) is resolved, 19.0 metre semi-trailers would be used to transport goods to the port as an interim solution. 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.	For Noting	C
AAR					
1	Aboriginal Heritage	EIS Chpt 24 Heritage Guideline 16.1	Previous AAR correspondence (10/4/17 & 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).	No commitment given in EIS to Aboriginal heritage survey. Indicate whether on-ground survey will be undertaken.	C

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2	Aboriginal Heritage	S1	EBS desktop heritage report does not acknowledge the Smith Bay Artefact Site (40 artefacts) located approx. 900m 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. P7 notation RE no sites on adjacent areas incorrect.	Acknowledge proximity to artefact site & Smiths Creek in the vicinity, and the possibility for sub-surface Aboriginal heritage discoveries (see monitoring below).	C
3	Aboriginal Heritage	EIS Chpt 24 p525	EIS states Aboriginal site monitors *may* be present for ground disturbing works.	Clarification needed as to whether the monitors will be engaged.	C
4	Aboriginal Heritage	EIS Chpt 24 p518	EIS mentions Cultural Heritage Management Plan but gives no details as to when and how it will be completed, nor any details of Aboriginal interested party's involvement in its design. A Cultural Heritage Management Plan is required to be completed, with input from relevant Aboriginal groups engagement, prior to commencement of works.	For Noting	C
5	Aboriginal Engagement	EIS Chpt 7	No demonstrated contact achieved with Ramindjeri Heritage Association who have advised an interest in KI (advised per previous AAR correspondence 10/4/17 & 30/10/18 above). Proponent is required to engage with Ramindjeri Heritage Association in discussions about heritage significance prior to works.	For Noting	C
6	Aboriginal Heritage Aboriginal Heritage	EIS Main Report and Chpt 24 EIS Main Report	Suggested corrections to copy: 1. Main Report abbreviations table – replace DSD-AAR with DPC-AAR 2. P8 (1.4.2) – Acknowledge Draper N 1991 Rocky River 1200bp date & 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. P102 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	Amend copy. Amend copy at 1.4.2 to "AAR has advised that Aboriginal occupation of Kangaroo Island has been dated to as recently as 400bp". Amend copy.	C C C

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			operation". KIPT has consulted with <u>one</u> Aboriginal group only and consultation does not ensure compliance with the Act 4. P122 guideline 16.2 statement "…disconnect of Traditional Owners with Kangaroo Island" is misleading and possibly offensive 5. P128 under heading "Consideration for the EIS" aboriginal should always be with a capitalised "A" and third line from bottom should be 'beliefs' not 'believes' 6. P133 statement relating to employment and training opportunities (including for Aboriginal people) is not quantified in any way 7. P136 statement RE identification of key (Aboriginal) stakeholders for ongoing engagement and consultation.	Amend copy. Amend copy. State how employment and training will be actioned and quantified. State how ongoing engagement and consultation with all Ramindjeri groups will occur.	C C B B
7	Aboriginal Heritage	Chapter 22 22.4.5	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 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.	Amend to reflect more recent dates for Aboriginal occupation.	C
8	Aboriginal Heritage	Chapter 24 Guideline 16.3	P513 – Notation of "See Chapter 26" appears to be incorrect. Should be "See Chapter 24".	Amend copy.	C
9	Aboriginal Heritage	Chapter 24 24.1 Figure 24-1	P515 – Second para should read "...- Aboriginal archaeological sites, objects and remains, and sites of significance according to Aboriginal tradition, archaeology, anthropology or history". P516 - Table at foot of page incorrectly states, "Aboriginal occupation of Kangaroo Island ceased" (Approx. 2,250 years ago).	Amend copy. Amend to delete this notation.	C C
10	Aboriginal Heritage	Chapter 24 24.2	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	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

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			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.		
11	Aboriginal Heritage	Chapter 24 24.3	P517 – Eighth dot point incorrect 'Kuarna' spelling.	Change spelling to 'Kaurna'.	C
12	Aboriginal Heritage	Chapter 24 24.4.1	P518 – Reference to "The strategy would be detailed in the Heritage Management Plan" is not quantified.	Advise whether a Cultural Heritage Management Plan will be developed prior to ground disturbance works.	C
13	Aboriginal Heritage	Chapter 24 24.5.4 24.6.1	P524 – Discovery Protocol – no mention of the requirement to notify SAPOL pursuant to the *Coroner's Act 2003* of the discovery of any human remains. P525 – Conclusions state a Heritage Management Plan *would* be developed, an archaeologist *would* monitor early site works and Aboriginal site monitors *may* be present.	Include requirement concerning the discovery of any human remains. Provide accurate information as to whether these activities will be undertaken.	B C
14	Aboriginal Heritage	S1	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.	Acknowledge EBS assessment of "high risk" of Aboriginal discoveries in EIS.	C
SA Housing Authority					
1	Accommodation for employees during construction phase	8.1	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.	Include details of opportunities for provision of accommodation for construction workers on longer term basis at reduced rental charges.	B
2	Housing needs (including affordable housing options) for the expected increased population during operational phase	8.4	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.	For Noting	C

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			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		
SATC					
1	Cruise Ships	Scope (P10)	The scope outlines the following - *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.* 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 significant benefit to Penneshaw and rives economic outcomes beyond tours.	For Noting	C
Education					
1	School Bus routes	Traffic & Transport Appendix P	The Department for Education's Transport Services Unit (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 environmental impact statement (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.	For Noting	C

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			Requirement can be included in a Traffic Management Plan.		

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