



Appendix A - Public Submission Summaries and Cross Reference

Submission Number	1
Submitter	Civil Aviation Safety Authority
Supplementary Cross-Reference	Issue
6.5	If the runway is to be upgraded to an all weather runway for night time emergency operations, we recommend consideration be given to meeting the physical characteristics of a code 2 registered aerodrome as nominated within the Part 139 - Aerodromes Manual of Standards (MOS). This would meet the standards for the community expectations of safe night emergency flights.
6.5	Development within the approach/take-off area of the aerodrome should be limited in height to ensure that the required safe gradients at met and operations into the aerodrome are not compromised. As a minimum, the characteristics of this facility should meet the requirements as set out within CASA's advisory publication - Guidelines for aeroplane landing areas.

Submission Number	2
Submitter	Civil Aviation Safety Authority
Supplementary Cross-Reference	Issue
6.5	From the Office of Airspace Regulation perspective, the project Proponent would not be required to lodge an Airspace Change Proposal with the Civil Aviation Safety Authority if it was to be run in accordance with the statement in 6.1.7 and 3.6.4 of the EIS. However, in terms of environment impacts as a result of the use of the airspace, the proponent should aim to minimise aircraft noise on the proposed residential areas as well as tourist accommodation facilities.

Submission Number	3
Submitter	Ray Woodburgess
Supplementary Cross-Reference	Issue
13.2.2	There is already major development and coastal destruction coming down from Boyne Island. The increase in boat use will lead to increased boat strike.
12.1.2	I believe that this Island should be a national Park so that our children can at least see some of our natural waterways flora and fauna, and realize that we are not all environmental vandals.
13.7.1	The increase in population on the island will mean increased littering such as food wrappers, cans and plastic bags. Littering will occur both on land and from boats. This litter will impact fish habitat areas, seagrass beds, migratory birds, turtles and dugong.
Noted	I have been in the Turkey Beach area for nearly 20 years and have witnessed the vandalism caused by population growth, poisoning trees and undergrowth, the local council, EPA, Fire and Water NR&M have all failed to police this action by way of sign erection etc.

Submission Number	4
Submitter	Peter Higgins
Supplementary Cross-Reference	Issue
6.6.1	To ensure Fauna passages will be included in all watercourse crossing to maintain fauna movement along riparian corridors high bridges are a possible solution. This will be a significant cost. No method is proposed by the EI S.
7.3.1	Infrastructure and Transport will require upgrades in addition to Foreshores and



	Clarks Roads off Turkey Beach Road to the Bruce Highway to at least 1 in 50 year ARI but preferably 1 in 100/year flood immunity. A traffic report may indicate a need to upgrade the alignments and widths of the above roads
6.4.7	There is no consideration of public transport - a public wharf and ferry service to Boyne Island, Tannum Sands and Gladstone should be considered.
7.1	Detailed modelling of the potential changes in both flows and water quality have resulted in a range of treatments' - where is the detailed modelling? (Refer to notes on Appendix A7.2). The stated aim is not met by the proposed mitigation measures. There is a lack of understanding of the issues and impact of urbanisation.
2.4	Council has concerns regarding the Water and Waste Water strategy. The 'taking advantage of a number of innovative technologies may mean the use of unproven technologies. Council would like to see projects where these technologies have been established and their operation demonstrated.

Submission Number	5
Submitter	John H. Munn
Supplementary Cross-Reference	Issue
Appendix B5, 12.9, 13.7, 13.10, 13.11	Why are Eaton developing in a fish habitat area, dugong sanctuary, world heritage site? The proposal will destroy the ecological sustainability, biological diversity of the area.
1.3.5	No enough time to review document and make comment.

Submission Number	6 & 7
Submitters	Tony and Sam Andreatta & Kathy Petrie
Supplementary Cross-Reference	Issue
12.4, 13.7, 13.8, 13.9, 13.10	The Proponent is unable to guarantee the integrity and protection of the environment surrounding their development and their proposed protection measures are incomplete, poorly specified and lack scientific evidence as to their effectiveness.
13.11	Is it not enough that the coral in the Great Barrier Reef is slowly being destroyed? We need to protect our coastal heritage not only for the existing flora and fauna but for future generations.
12.2.1, 12.2.2, 13.4, 13.6	The scale of the development with 2300 tourists, 1600 residents, a bridge which will compromise the Island's integrity, can only have a negative impact on the natural ecosystems on and around the island. The development will mean an increase in boats, recreational fisherman and their crab pots making use of the surrounding waters. Along with the new residents of the island will be cats, dogs, rats, mice and introduced plants and weeds some of which will certainly end up in the natural environment. A link between coastal development and the demise of sea grass beds has resulted in the United Nations Environment Programme's Dugong action plan acknowledging the threat from coastal development on the survival of the dugong.
12.6.1	The proposed development which effectively straddles the island east to west will unavoidably lead to habitat fragmentation which is one of the principal drivers of species extinction and therefore a major threat to the endangered flora and fauna located on the island.
12.1.2	We recommend that the existing Wild Cattle Island National Park be extended to include Hummock Hill Island with the ultimate aim of establishing a Greater Colosseum Inlet National Park which will include Hummock Hill Island as one of the keys to its integrity and ongoing viability as an ecosystem.
12.10.2, 12.11.1	The island is home to the black breasted button quail (listed as vulnerable under the EPBC Act). Other important natural features on the Island include a stand of "endangered" Eucalyptus populnea woodland on alluvial plains; the "endangered" Eucalyptus tereticornis and the "of concern" Microphyll/notophyll vine forest.
Submission Number	8

Submitter	Ian Simmons
Supplementary Cross-Reference	Issue
1.3.4	I would like to add that when the Company who were doing the environmental impact assessment had their public meetings the map of the island did not show the surrounding waters so one could perceive that the public were denied to observe the sea-grass areas and the fish habitats. I think that the majority of those few who may have signed to say it would be beneficial were coerced simply because the water ways and the full environmental degradation would not have been disgust or shown.
13.1, 13.10, 13.11	The Island lies entirely within the Great Barrier Reef World Heritage Area (GBR WHA) and adjoins the Great Barrier Reef Coast Marine Park, the Great Barrier Reef Marine Park and the Colosseum Fish Habitat Area, and for this reason it should be preserved at all costs
Noted	I find the document put out by Sinclair Knight Mertz very misleading due to the lack of scientific facts that are presented in it.
12.1.2	The Island should be made into a National Park to benefit our children, and also benefit the economy of Australia by way of tourism.
2.4	<i>"Extreme weather overflows will only occur during wet weather events, the impact of the discharges would be minimised as the sewage flow during these events is dilute and would receive further rapid dilution as it discharges into the receiving waters and will have short-term minimal impacts."</i> Once again the word minimal is used with no scientific fact attached to it, I would like to bring to your attention that the Sydney waste sewage goes straight into the sea should the DPW go on strike, or there is a major breakdown in the plant at Bondi, it lays as a stinking mass on one of the worlds best beaches, the government at the time solved the problem by piping it out to sea another few miles for our fish to eat. Then we inturn buy and eat them from the fish Market. The proponent has not stated what damage will be done to the rare and threatened turtles, corals and dugong when the overflow occurs from on the Island. The proponent has not stated what damage will be done to the rare and threatened turtles, corals and dugong when the overflow occurs from on the Island.
1.3.5	The public review period should be greatly extended
3.1, 3.2, 3.3.3	By maintaining our ecological sustainable biodiversity we can create as many jobs as the coal industry in the Hospitality Trade, Airlines, Car Hire, DP, National Parks Rangers, and Charter Boats with tourists sightseeing at our magnificent corals and other barrier reef wonders, while at the same time we have protected the reefs and coastal land from the money hungry developers who only see the dollar sign and they see the environment through bank books.
3.4.2	The no project option assumption is incorrect. To think that if the Island is not fully developed that it may be going to waste is surely negative thinking, as the benefits for overseas tourists would be immense and bring in large overseas dollars to see our unique sustainable ecological Fauna and Flora that have been using the Island since it formed millions of years ago.
12.3.5	<i>Xylosma ovatum</i> - This is a Threatened species that is quite rare in the state of Queensland the only known areas are Shoalwater bay and Rodds bay, I know of one only tree in Turkey Beach, so it is quite reasonable to think that there are others not sighted on Hummock Hill Island. <i>Cupaniopsis shirleyana</i> - I find it hard to believe that this shrub Cupaniopsis-shirleyana is not on the Island as there are several on Rodds bay Peninsular and in Turkey Beach. <i>Cycas megacarpa</i> - There are several plants in the Turkey Beach area so once again we think it could have been over looked on the Island. Knowing that these trees and shrubs are in Turkey Beach and Rodds peninsular we think that morally the precautionary principal should be adhered to.

Submission Number	9
Submitter	V. Simmons - Curtis Coast Environmental Protection Association
Supplementary Cross-Reference	Issue
9.1.2	Any planes no matter how small will create a noise over the surrounding locality particularly to inhabitants of Turkey Beach, Foreshores, Mondoolin and Bangalee as there is no noise from any planes at present. Tourist type planes tend to fly low over an area they are going to visit to give passengers a look at the general area from the air so this will create a definite nuisance to residents in the area.
16.1.1	The EIS states that coastal locations provide the better sites because of cooler breezes etc. but we all know that building lots all bring better prices on the coast and this is the reason for the development. This coastal location still needs artificial cooling as we often have high humidity at certain times of the year. (Personal experience) The area is alive with sandflies and midges and the houses have to be closed up at certain times of the day to prevent being bitten, therefore air-conditioning will be needed. (Personal experience)
12.10, 12.12.2	Nature Conservation Act 1992, they state although flora and fauna surveys undertaken to date have identified several bird species listed under this Act as being present on the site. It is not likely that the proposed development would harm or disturb these species, approval under the Act is not likely to be required. "Why is it not required?". Any development which shows listed flora and fauna under the Nature Conservation Act should be required to seek approval. Also the actual development "footprint" as such may not be on their sites but the population and its recreational activities cannot be guaranteed not to have a major impact, particularly on bird species, e.g. .black breasted button quail, beach thick knee, eastern curlew and also nesting turtles
5.1.2.1	Boardwalks through vulnerable areas will not necessarily preserve these areas as dogs and kids tend to go anywhere. Teens on quads and motorcycles are a particular hazard to the environment.
2.5, 13.3	We believe the boat ramp into Colosseum Inlet page 8 should not be allowed, as the Colosseum Inlet is considered by the State to be of significance, also the access road will allow the public unrestricted access to the unallocated land between the development and the Colosseum Inlet. It does not matter that fences may be constructed and buffer zones placed around the area, people find their way though particularly teenagers. This will gradually erode the environmental value of the northern end of the island which is unallocated State land
6.4.2	With reference to the Boyne Channel Boat ramp page 8, how many queuing pontoons are planned and what size will they be? This may affect dugong and turtle feeding in the area as many boats could be tied up at the pontoons.
3.1	Extra boat ramps are only needed if this development goes ahead, do not justify the development by saying that more boat ramps are needed, the current population has adequate access to the water.
6.4.6, 12.7.4	What size area will need to be cleared for the road to Colosseum Inlet and the car parking area? Boat ramp designs should be decided before permission is given so the amount of disturbance to land and waterways can be assessed.
13.2.1, 13.2.2	The figures on boat traffic seem underestimated; holidaymakers are only here for a short time and are prepared to weather all conditions to catch a fish or crab. There can be as many as 70 boats on the water at one time at Turkey Beach with a population of 200 residents, and no more than 300 during holiday time. There is an increased risk of boat strike to dugong and turtle.
12.5	The Beachfront Homes as shown on the plan appear to be located too close to the littoral vine thicket which will be endangered by people either removing or poisoning for a better view.
10.1.1	Can Benaraby Landfill take the extra waste, this amount of people will generate
13.14	Section 9-7 This paragraph is incomplete, we suspect it is suggesting that the island could support a commercial crabbing and prawning operation. If this is so it will negatively impact on the commercial crabbers who operate from Foreshore, Turkey Beach and Tannum Sands. Any prawning operation would impact highly on the only 2 beam trawlers that operate in the area, 1 from Foreshores and 1 from Turkey Beach.
12.11, 13	EIS states adverse impacts have been minimised (whatever that means), it does not



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	mean that there is no negative impact, which over time can be disastrous for sustainability of a species or of the overall ecology of the locality.
9.1.4, 9.3.1, 13.8	The noise and vibration from construction will have a major impact on shorebirds on the island and the nearby claypans and shores of Mondooloo Rocks and Bangalee. This will also impact on residents and holiday homes currently in the area. At present there is only the noise of the ocean, wind, birdlife and the occasional boat, there may be the odd plane depending on weather conditions on the way to Gladstone but the flight path would be higher than a small plane which is coming in to land on the Island. (See Shorebirds of the Burnett Coast: surveys of the critical high tide roosts. Queensland Wader Study Group.) Turtles at nesting time may also be disturbed by noise and vibration, particularly if construction is carried over during the hours of darkness. Lighting during this time may also disturb them.
1.3, Appendix B1	The public consultation with regard to the development plan was minimal and only displayed to a small community at Turkey Beach, their maps did not show waterways surrounding the island, the proposed boat ramp for Colosseum Inlet or FHA and seagrass beds.
2.4.3.3	If the soil is rocky the cost to install water tanks underground may also add considerably to the cost of the development of the lots on the island.
13.4	We have doubts that the mud crab data as delineated within the EIS shows any figures representing the Hummock Hill area. Rodds Bay covers a very large area including Turkey Beach (Rodds Harbour), professional crabbers travel from Turkey Beach to Seven Mile and in between and Foreshores crabbers travel from the seven Mile/Boyne Creek/Colosseum area to Mort Creek, Mangrove Bay etc. It would be hard to delineate as they do not have to crab in any special area. Production for commercial crabbers will decrease with the rise in population on Hummock Hill Island as holidaymakers expect a feed of crab
2.4.1.4	We have concerns re disposal of salt concentrate to landfill, whether on Hummock Hill Island or Beneraby Landfill site, it will leach into any surrounding soil, groundwater and waterways and change the ecology of that area.
17.3	Detailed EMP's should be provided to the Director General within the EIS, before permission is given to go ahead as once destroyed habitat and species cannot be replaced.
13.2.1, 13.6	Just because there does not seem to be many, should be all the more reason for their protection. There are seagrass beds around the Island. As there are no permanent residents on Hummock Hill Island and surrounding waterways, observations concerning dugong will only have been intermittent and being very shy creatures which do not have to surface often, sightings of course are rare. If there are not many left all the more reason they should be heavily protected. Many sightings have been made by people who have to travel 10k by boat and so are only there intermittently.
13.2.1, 13.6	The EIS includes a plan of sea-grass around the Island and in Boyne Creek & Colosseum Inlet, so must therefore admit that dugong inhabit the area to feed.
16.2.1	The consultation with LGA and Emergency Services should be conducted before and included in the EIS, before approval is given. Who says emergency services will be provided at the end of 3 years? Otherwise there's no commitment. Turkey Beach community rely on volunteer Rural Fire Brigade, volunteer First Response, police from Miriam Vale, ambulance from Miriam Vale. At what stage in the development will these services be upgraded? Will buyers of the property be advised of how long before emergency services will be available or do they believe the proponent?
16.2.1 comment noted	It is too far for emergency services on the island, to be of benefit to Turkey Beach residents, they would not be closer than Miriam Vale.
16.2.1	The population would need to be well established before Police, Fire and Ambulance services are provided, in the interim the residents would either have to form their own volunteer fire brigade and first response which would be difficult with everyone being new, or rely on Foreshores Rural Fire Brigade to attend, which may take many minutes. They also are only trained for bush fires and not residential fires.
17.3, 17.4.5	Although many management plans are stated for construction workers to follow e.g. during trenching etc. we do not believe that in the real world it is practical to get down off your machine to use a hand saw on roots. Not only would some things be hard to see but it would be very time-consuming and therefore ignored by

	workers. Miriam Vale Shire Council does not have officers with the experience and qualifications to recognize which trees should and should not be removed.
12.4, 12.5, 12.6, 12.7, 17.4.5	They state, they will be leaving stag (dead) trees and hollow trees for habitat, but if they are close to the development area, and if someone believes they are a risk to humans they will be felled. (Personal experience in Turkey Beach)
12.4, 17.5	People who buy to reside on the island may be environmentally minded but they will have no control over holidaymakers who feel as they are paying they can do as they please.
12.4.2	EIS states covenants will be imposed to say no vegetation to be removed after development, this does not mean that people will obey, and it is too late once the vegetation has been removed.
12.9.	Why is the development buffer zone within the development at 80m when the buffer zone for the ocean beach on the unallocated northern end is 400m? Public access with all its implications, will aid in speeding up erosion of the beaches.
5.1.2, 17.4.4, 17.5.3	The control of erosion and sediment is very difficult especially in strong winds and/or heavy rain. Wind in this area is fairly constant and rain is not always seasonal and squally conditions can destroy bunding and allow sediment and contaminated stormwater to still overflow into the GBRMP waters.
8.2, 17.4.7	Trucks with loads should not just have the tailgate closed but the load should be covered
5.1.2, 12.4.1, 17.5.3	State Coastal Plan states that erosion zone must be protected, although the development as such does not encroach on the said zone, beach access and the public accessibility through this area 24/7 will see gradual eroding of the foreshores and the loss of vegetation. (Personal experience Turkey Beach).
13.1, 13.7	The Oz Estuaries NLWA Assessment of Colosseum Inlet is near pristine. The increased population will degrade this rating.
13.1, 13.3	Colosseum Inlet is listed DEV/R Nationally Important Wetland, it states Rodds Bay includes 8 identified wetlands; these should be protected from further human disturbance. There should not be a boat ramp in the Colosseum; the EIS states that because this is outside the development footprint it will not have an impact. This is not true, the access road to the ramp will allow public access to the northern end of the island even if none are designated and boat traffic entry at that point in the inlet will have a major impact on the significance of the wetlands.
13.4	Local knowledge does confirm that Seven Mile Creek, Colosseum Creek, Boyne Creek & the rocky outcrops on the ocean side of the island to have been good fishing areas in the past, but as the population has increased, the fish have decreased.
12.6, 12.6.1	The EIS admits that habitat fragmentation does affect many species and admit that understanding is poor and that consequences are not thoroughly known and therefore do not know the long term effects of habitat fragmentation. Habitat fragmentation will occur through this development and for this reason the development should not be allowed to proceed. The Precautionary principle advises: "Where there are threats of serious or irreversible environmental damage, lack official scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation"
7.2.3	Groundwater dependant ecosystems during the construction should be avoided at all cost not just where possible, the design of a golf course can be changed, once groundwater is contaminated the ecosystem will be destroyed and cannot be regenerated. If this is not possible then this is another reason for this project to be stopped.
8.4.1, 15.6.10	Why does the increasing population need to be housed on an island approx 75k from Gladstone, where all the facilities and services are, instead of closer and not on the fragile coastal zone? For residents who need to work, the cost of daily travel to and fro as well as the increase in greenhouse gases makes Hummock Hill Island an impractical and costly place to live and work in Gladstone.
8.4.1	"Operational traffic is expected to be 750 trips per day by 2013 and by 2023 is estimated to be 2040 trips per day", this is approx one vehicle every 21 seconds in a 12 hour period, the Proponent is claiming this development to be environmentally friendly, the greenhouse gasses emitted by this amount of vehicular traffic daily is horrendous.
7.2	How much greywater will be used by households to water their own property or will it all be recycled? We have concerns that it can get into aquifers and once

	polluted they cannot be cleaned.
14.6.2	No private health care professional will provide services until the population is large enough to make it worth their while. Gladstone hospital is already stretched to the limit and cannot provide certain services. Patients have to travel to Brisbane for cancer treatments, specialist services and a burns unit, although the State Government have promoted this as a major industrial city, the health services do not indicate this. The closest GP is Tannum Sands. They state that the population is expected to have higher than average percentage of people over 65, this will place a strain on the home care services in the Miriam Vale Shire as Turkey Beach residents often have to rely on neighbours whom they have known for many years to help out. The population in the development would be newcomers and passing through.
14.6.2	At present community health services in the locality provided by Miriam Vale Shire Council are limited to HACCS and a community nurse visit once a month and she is based at Agnes Water. Most health care is done by travel to Gladstone.
14.5.2	The Proponent states this development will provide 33% of Miriam Vale Shire's future housing requirements. We believe many people who live in the Miriam Vale Shire are of the lower socio economic scale and live there because the land, houses and rental are cheaper than in Gladstone and Boyne /Tannum. The prices on Hummock Hill Island development will realize higher prices due to their coastal position and views. There is other land already cleared in the Miriam Vale Shire that could be used for housing, which is closer to current amenities, the proponent is not doing this for the good of the public, but for a profit!
17.2, 17.3, 17.4, 17.5	The Proponent states the EMP will only be successful where all those responsible for its implementation and review are thoroughly conversant with its contents- interpretation and performance measurement. We believe the EMP will only be successful if everybody implements it, which we find hard to believe.
6.2	Where are the maps of the power, water and gas supply lines, so that people know where they are going through?
13.5	Why are they discounting local knowledge from commercial and recreational fishers and divers and community groups who say live coral colonise the area in Boyne Creek and Colosseum Inlet, into which they want to put boat ramps. This amount of traffic can impact on hard and soft corals through anchoring.
3.4, 12.1.2	We do not consider that the EIS proves that this Hummock Hill Island is the only suitable place for this development. In fact we feel that it proves that the Island should be made into a National Park.
6.1	The Proponent says they will enter into an agreement with LGA with regard to infrastructure maintenance; Miriam Vale Shire Council is already stretched to a maximum being a large shire with only approx 5000 population and mainly operates with government grants. Finances will also be stretched when the councils amalgamate as outlying areas will not receive the same allocation due to less representation and more costs per head of population.
6.1.1	Who will take responsibility for the swimming enclosure, Miriam Vale Shire Council do not want this. Marine stingers can be a problem if there is a consistent northerly wind
12.8.1, Table 12-2, 13.12	Mangroves should be replanted not monitored for regeneration.
12.13	The Island is a part of the east Australian Flyway for migratory shore birds and extensive marine habitats on the landward side of the island are significant in this regard. The boating, fishing and general movement of the population on and around the island will over time reduce its significance.
11.1.2	We find it hard to believe that workers particularly those working on machinery will take the trouble to stop what they are doing to inspect sites of cultural significance particularly if they are on a time schedule. To have to then contact someone, wait for them to come when suitable and then investigate the site, sounds good, is not practical but is costly, in the real world.
16.1.1	We have concerns that the providing of lagoons will encourage the breeding of mosquito larvae. We have lived in Turkey Beach for nearly 20 years and at certain times of the year no matter what the wind conditions sandflies of various species abound, these cause health problems for many people, particularly newcomers, children and holidaymakers. Northerly winds bring white-winged insects from Hummock Hill Island to the Turkey Beach area, they have a distinct different biting

	effect to our normal species.
16.1.1	Golf Course Management talks of bio-retention basins to process stormwater, if these are still and freshwater this will also encourage breeding of mosquito larvae.
12.1.2	EIS states "Hummock Hill Island lies within the Great Barrier Reef World Heritage Area (WHA) and is located adjacent to the Great Barrier Reef Marine Park and Great Barrier Reef Coastal Marine Park." It is therefore of conservation value and as so much Natural Vegetation has been cleared in Queensland and the island contains both Remnant Vegetation endangered and Remnant Vegetation of Concern the Island should be maintained as a National Park aligning it with Wild Cattle Island and Rodds Peninsular. EIS states: "Historically the Island was overlooked when National Parks and Conservation Areas were created in the region due to the lesser conservation value of the Island compared with nearby areas". Whether this was the true reason at the time who knows it may have been due to lack of funding, but again due to the amount of vegetation loss in Queensland, now is the time to change this oversight.
12.1.2	EPA does recognise Hummock Hill Island as part of a major Regional corridor stretching from Wild Cattle Island, through this Island on to Rodds Peninsular and through to Middle Island and Eurimbula National Park. This is a good enough reason to complete the corridor by making Hummock Hill Island a National Park.
5.4	Native Title Act 1993 (Cth) Native Title (Queensland) Act 1993. The Native Title for Lot 3 may have been extinguished but what about the Lot on the northern end of the island, through which the road to the Colosseum Boat ramp will traverse?
9.1.4, 9.3, 13.8	Turtles at nesting time may also be disturbed by noise and vibration, particularly if construction is carried over during the hours of darkness. Lighting during this time may also disturb them.
8.3.1	Odour from sewerage settling ponds may present a problem depending on the direction and strength of the wind even though over 300-500m away.
12.8	We believe that providing compensatory habitats locally and shire wide does nothing for retaining vegetation in its current location on Hummock Hill Island. We find this unacceptable.
10.1.2	Just because waste bins are different colours at the transfer station does not mean that the public will place the waste in the correct bins. Will transfer station be manned by Council, therefore more cost to ratepayers and older inhabitants in the Miriam Vale Shire.
7.3.7, 13.7	Marine Parks Act 2004, Marine Parks Regulation 1990, Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004 For works in a State marine park, the permit approval process is administered by Queensland Parks and Wildlife Service (part of the Queensland Environmental Protection Agency). The emergency sewage outlet should not be allowed to discharge into GBR waters as this will change and damage the marine ecology of the area. Also due to human negligence, strike etc happening untreated effluent could also be discharged. How often has "Sydney had untreated effluent discharged into the ocean and raw sewage ended up on beaches.
12.2.2	We are pleased to note that no cats will be allowed on the island as they are a menace to native birds and animals, but we are not sure how this can be policed.
12.2.2, 12.10, 12.11.3	An increase in the dog population will pose a high threat to the shorebirds e.g. the Beach Thick-knee and the Eastern Curlew, turtle nesting sites and particularly terrestrial species like the black breasted button quail. Holiday makers to the Turkey Beach area often bring 3 dogs per family.
12.4, 12.9, 13.10, 13.11	The Proponent cannot ensure avoidance of disturbance to the marine environment by a population of some 4500 people using the waterways around the island, added to the ones who use it already, plus the natural increase in the population of Tannum Sands.
14.4	With the cost of fuel rising daily travelling to and fro to work will be costly, this will mean that the population is likely to consist of older persons which will impact greatly on the home care services which are currently provided through the Miriam Vale Shire HACC.
5.3, 6.7, 9.1.2, 13.4	We can see no benefit to the residents of Turkey Beach, it will be as far as Tannum Sands or Gladstone. There will be negative impacts on the fishing, crabbing and prawning, as well as aircraft noise and visual impacts from the water.
3.1.4, 14.6.3	There is a new development planned on the old BITS Club area, next to the Boyne River at Boyne island with recreational facilities, this will be nearer to the

	population and services already in operation.
3.1	We feel the need is not established. Gladstone and Boyne Island/Tannum Sands has tourist accommodation and houses are being built continually
6.7.8	Extension of public transport whether to Gladstone or Bundaberg is pie in the sky. Gladstone itself only has a very basic bus service.
1.3.5	The public review period should be extended
6.7.8	They say they are committed to providing public transport, this can only be provided if it is profitable either to private or public concerns, even if it is considered the population is high enough in the area; if it is not used by enough people it will not be profitable. How can this be considered a commitment?
6.7.8	People who fly in will have no means of transport to Gladstone and surrounds.
Noted	The air quality is currently very good so they cannot state the Golf course is needed to improve air quality
3.1.4, 14.6.3	If they want recreational facilities, and golf courses they go to Gladstone, Boyne Island or Miriam Vale, the distance would not be much different.
14.6.3	The EIS has not proven there is a need for recreational facilities in the area, there are recreational facilities in Gladstone that that are unused e.g. volleyball courts and indoor cricket stadium. There is a larger population in Gladstone than will be on the island and if recreational facilities are not used there what makes the proponent think more are needed. There is already more major development for the Broadacres Development at Tannum Sands with 1500ha already cleared. Boyne Island/Tannum Sands has magnificent beaches and the Millennium Esplanade and Wild Cattle Creek northern entrance area for recreation. There is already a golf club at Boyne Island and a new development is planned for the BITS Club area that was not profitable, in spite of acquisition by the Calliope Shire Council.
14.6.3	There are already golf courses in the region e.g. Gladstone, Boyne Island and Miriam Vale
13.5, 13.11	The EIS states that fringing reefs are absent from around the island, local divers say this is not true and soft and hard corals are on the ocean side of the island and in Colosseum Inlet. We believe the development will impact on WHV under this criterion.
4.3.2 Appendix B5	They admit that the development does not conform to the settlement pattern preferred by Wide Bay Regional Plan 2007. Wide Bay Regional Management Plan should be taken into account when making a decision on this development even if it has not been finalized.
3.1, 3.4	The proponent would have us believe that they are developing the island for the good of the Queensland people instead of for their pocket. Houses do not have to be built on fragile coastal land particularly on an island that is in Great Barrier Reef World Heritage Waters. There are areas of cleared land quite close to the coast that can only sustain 1 beast to approx 20 acres, this would be better utilized for housing and no great loss to the economy. Calliope Shire Council has already cleared 1500 hectares of coastal land next to Wild Cattle Island for the Broadacres development and land has been cleared at Innes Head across Innes Inlet next to Hummock Hill Island for 1200 lots under the Miriam Vale Shire.
14.6.4	Turkey Beach community would have to travel out of their way to access retail and hospitality outlets, the distance would not be much different to Gladstone with less to offer in the way of retail outlets. There is no benefit to the Turkey Beach Community with regard to retail outlets
9.1.4, 12.11	They admit short term impacts include injury and death of flora and fauna during early clearing works, plus injury to fauna on roadways to Hummock Hill Island because of extra traffic. The death and injury to fauna that has increased on the Turkey Beach road, with only a fraction of the traffic forecast for the Foreshores/Clarkes Road, since the Road was fully bituminized amounts to at least one a day. There is also potential disturbance to fauna from construction activities relating to noise and vibration. They also admit long term impacts (but don't say what they are) and their mitigation proposals will not work in the long term as more people will have greater impact and want better views, shortcuts through the vegetation, more recreational area (non-supervised) in which to do their own thing. Inhabitants cannot be supervised 24 hours per day. In addition Traffic effects on fauna have already been stated but the fact that construction workers will be arriving and leaving at the time of marsupials coming out to forage is one of



Hummock Hill

	the reasons for the extra injuries and deaths that will occur.
6.7.1	We would not support a link road to Agnes Water as this would mean traversal through Eurimbula National Park which would also be a gradual erosion of its environmental values.
7.1.4.3	We have major concerns with reference to the Golf Course on the Island, best management practices still only rely on human diligence and once there is a chemical spill, over-use of fertilizer or other pollutant that enters the waterways and then into the surrounding GBRWH waters it is too late to save the seagrass and the impact on dependant life forms including benthic species.
2.4, 13.7	How do they know that waste water from car and boat servicing will be low? Everyone washes their boat upon returning from the water and servicing will include benzines and oil etc additional.
12.5, 12.9	Development footprint again may not impact on salt flats but human disturbance is unavoidable whether by foot or motorcycle or quad bike. (Personal experience at Turkey Beach)
14.6.1	Already a primary school at Miriam Vale and High School to year 10 at Miriam Vale, another in the locality could impact them when it comes to funding.
14.6.1	If as they state that the majority of resident population will be over 65 there won't be enough children to warrant a school.
1.3, 13.6, 13.12, Appendix B1	At the community consultation we were told that there were no seagrass beds in the area around the island and yet there is a plan in the EIS. This shows they gave out incorrect information even though we said that local divers had seen it and it was mapped in the Curtis Coast Study. Although seagrass beds are not within the development footprint the impact will be from, sediment disturbance, run-off, chemicals, stormwater and sewage overflow.
4.4.2	The Terms of Special Development Lease requires that development approvals be substantially progress by Nov 2006, this was extended by 1 year to Nov 2007, it is now Jan 2008, we believe that the proponent has not met the terms of the Special Development Lease
Section 6	Where will the microwave tower be located, there is no mention. Turkey Beach has only just got broadband, mobile phones only work sporadically, in some places. No signal on the Turkey Beach road without car aerial.
12.10	The EIS states 2 fauna species listed (a) Black Breasted Burton Quail, they state that none were sighted during their survey, was there sufficient time taken and was this done at the right time of the year, this is a very small species and some areas of the island have dense rainforest type of vegetation. Even if the BBBQ habitat is not within the development footprint the impact on the public on the island with its movement through or close to the vegetation corridors, will impact on such a small shy bird
12.10	Beach Stone Curlew habitat would be severely under threat if this development should proceed.
12.11.3	Eastern Curlew: Although the proponent has stated that no recreational activities will be "envisaged" on the mud flats, children are particularly attracted to the mud flats (personal experience) which will disturb this species feeding.
12.10	Beach Thick-knee: Just because only one has been sighted, it does not mean that there are not more in the vicinity, as they are a very shy species and will remain hidden in scrub and grass, particularly if they have young. If the population size is low, all the more reason for protection.
12.4, 12.9, 15.1, 15.2, 15.3, 15.4, Appendix C	The proponent states that this development will fill a need in the area for tourism and they come up with figures of millions of dollars to bolster the Queensland economy, but will destroy the environmental values of the island which tourists come to see. What are these people expected to do, play golf, there are already other golf courses in the Gladstone, Boyne/Tannum, Miriam Vale shires. They will walk on the beaches with their dogs disturbing migratory birds and turtle nesting sites. Boating and fishing holidaymakers expect to catch fish and will use bait and cast nets to catch small fish and prawns within the Fish Habitat zones, molluscs and beach worms etc will all soon be depleted.
6.7.2.2	The EIS states that there will be 17 heavy vehicle loads per day on Foreshores Road accessing the site, early on, this means very heavy traffic on the Turkey Beach Road at the Highway end, there has already been a recent death on the bend approaching the rail crossing going towards the highway. There have also been other near misses at the bend. When in the course of the development will this end

	of the Turkey Beach Road be reconstructed to accommodate extra and heavier traffic and also the same for Foreshores Road.?
6.7.2.3	What amount of traffic is required on the road before the intersection at Turkey Beach/Foreshores Road is upgraded?
9.1.1	The amount of traffic this development will generate on the Foreshores Road will cause disturbance to some of the rural landholders in that vicinity who moved to the quiet rural area to retire in peace and quiet, also children who travel on the school bus will be under greater pressure from this amount of traffic.
6.7.5	Why is the island trunk road necessary to carry 10 to 12,000 vehicles per day, is the proponent hoping to develop other areas of the island, or is this the anticipated traffic flow with only the 4500 population quoted?
13.2.2	The beachfront areas are where the turtle nesting sites are, people will want to walk, with or without dogs, play and swim along this area which will disturb turtles nesting and later hatchlings entering the water.
12.7.3	What is the total clearance of Native vegetation including Power Lines, Gas lines, and Water supply as well as external roads and Island development? Where are the maps of the power, water and gas supply lines, so that people know where they are going through?
12.7, 12.8	The EIS states that this proposal involves loss of approx 341ha of remnant vegetation. Is this only the development on Hummock Hill Island or does this include all external road, gas, power and water lines? This area includes endangered and of concern remnant vegetation, this cannot be mitigated by planting elsewhere as it can be endangered within this eco-system and needs the surrounding vegetation in which to survive. Planting new specimens, if available elsewhere, if there is suitable land available would not solve this problem. Removing endangered remnant vegetation of any species is unacceptable.
12.6, 12.7, 12.8	They also state that there will be loss of habitat, but extensive habitat left, if this secondary habitat had been the best for a specific flora, fauna or bird species wouldn't they have migrated there instead of the area within or close to the development?
12.7, 12.8	They have stated there will be major loss of Remnant Vegetation as listed under the Act 313.12ha. We believe this is another reason this development should not proceed.
2.4	Can the proponent guarantee a reliable water supply to Hotels and Resorts, as the Awoonga Dam is already somewhat overloaded by industry, if no rain for the water tanks on the island, there may be no rain over the catchment area.
2.4	If there is a prolonged drought potable water from town supply may also be in short supply, the cost of desalinated water may stop people from purchasing properties on Hummock Hill Island.
5.3.2	Is the 3 & 4 storey height of the resort within Miriam Vale Shire Draft Town Planning Scheme? This will impact on the visual amenity of the island from the waterways.
12.4, 12.11	They have stated that Palustrine wetland is not within the development footprint it will not have an impact. As stated by us previously this amount of people and animals will have an impact whether within the footprint or not.
14.2, 14.3	Workers in the initial project will have to travel from Miriam Vale, Bororen, Tannum Sands & Gladstone as there is no accommodation closer than this. Due to the current boom in the coal industry they may also have trouble sourcing local tradesmen; these will then have to find rental accommodation which is also in short supply. People have moved to Turkey Beach to take up what was previously holiday rentals as rent has become too expensive in Gladstone & Boyne/Tannum, this has since caused some problems with the older residents due to the type of person now renting full time e. g. crime.
14.2, 14.3	The EIS states tourist accommodation will have to be used to house workers, but have previously stated there is not enough tourist accommodation, they can't have it both way
13.11	Another criterion for WHA is "An outstanding example representing significant ongoing geological processes, biological evolution and mans interaction with his natural environment;" they state:" In general, features listed under this criterion have limited representation on the Island in the context of the subregion and/or entire WHA. What do they mean by limited?
13.2, 13.11	They state "Surrounding waters do contain features listed under this criterion, such

	as mangroves and seagrass meadows, the latter being habitat for dugong and turtles. Impact to these features from the proposed development and human interaction are minimal and do not impact the overall WHA values. We disagree and believe that the human interaction within the waterways concerning extra traffic can result in death of dugong and turtles by boat strike. Pollution ie: run off and litter can also have an effect on seagrass and turtles consuming plastic bags and becoming entangled in nets and fishing line etc.
12.1.2, 13.2, 13.11	States "Contain unique, rare and superlative natural phenomena, formations and features and areas of exceptional beauty" In general, unique, rare and superlative natural phenomena listed under this criterion are not represented on the Island in the context of the sub-region and/or entire WHA. In comparison to other areas in the WHA such as the Whitsunday region or Great Keppel Island, Hummock Hill would not be considered "superlative". Adjacent waters contain mangroves systems and habitat for dugong and turtles that will have minimal impact from the proposed development following management and mitigation measures. We again disagree with this statement, dugong are unique and rare and believe that the development will have a negative impact in spite of the proponent saying they will mitigate and manage and therefore Hummock Hill Island fills the criterion for World Heritage Values and the Island should be made into a National Park.
12.10, 13.2, 13.11	It also states "4) Provide habitats where populations of rare and endangered species of plants and animals still survive". In general features listed under this criterion have limited representation on the Island in the context of the sub-region and/or entire WHA. Mangroves and seagrass meadows are present in adjacent estuarine and marine waters. Species of conservation significance that have representative habitat on the Island and/or adjacent waters include the black breasted button quail, dugong and marine turtles. Habitat for these species is outside the special lease and development area. Mitigation and management measures proposed for these species will minimise impacts to the WHA. We believe that just because dugong, turtles and seagrass are not within the development footprint that they will not have an impact on these species. Seagrass habitat for turtles and dugong is very susceptible to runoff both with fresh-water and also polluted with chemicals and sewerage etc. As dugong are already threatened by netting and boating traffic from areas surrounding Hummock Hill Island, eg recreational fishers from tannum sands, foreshores and Turkey Beach this amount of extra population in the area will deplete the dugong in the Rodds Bay area considerably. Have they made a definite search at the right time of the year to define whether the black breasted button quail are definitely not within the development and how can you minimize habitat loss if you don't know where their habitat is? We also wonder how you can quantify minimize? We do not believe that 'WHV' should be undercut in any way.
1.2.1, 12.5, 12.7, 12.8, 13.2, 13.6	The EIS states" Importantly, the assessment and studies undertaken for the Project indicate that any negative impacts can be mitigated to a satisfactory level; that matters of environmental significance are not negatively impacted by the Project and there is significant beneficial impact In many instances. We do not believe that all negative impacts can be mitigated to a satisfactory level e.g. impacts to seagrass, dugong and impacts to GBRWH area waters, endangered remnant vegetation and migratory birdlife under Bonn, CAMBA & JAMBA. 'What is a satisfactory level and who decides this?
12.1.2, 12.9, 13.11	The population of 4500 on this development and the proposed 2400 proposed for Seaview Beach development as well as the population planned for Broadacres at Tannum Sands will definitely have a major impact on GBRMP waters. As this development has been assigned a Significant Project it should be realized that this development can be stopped at this stage and the Island made into a National Park before it is too late.

Submission Number	10 & 12
Submitters	Natalie MacDonald - Department of Housing
Supplementary Cross-Reference	Issue
14.3	The capacity to 'up-skill' the local workforce may also be limited due to demands

	from other major projects and the need to factor lead time for involvement of education and training facilities and institutions (in conjunction with the Department of Education, Training and the Arts).
14.2	Section 16.2.6.3 (p. 16-41) identifies mitigation measures to minimise impacts of the Hummock Hill Island development during both the construction and operational phases. It should be noted, however, that while the mitigation measures are generally supported in order to alleviate pressure on local residents, concerns remain given the potentially significant combined effects of worker influx from other major projects in the region, and that the accommodation requirements of workers' families will continue to put pressure on the local housing market.
14.2, 14.3	To address housing issues it is recommended that the proposed Accommodation Management Strategy include some key components such as: <ul style="list-style-type: none"> • Monitoring housing availability and affordability in response to demand associated with the timing of major projects in the Gladstone area; • Providing assistance to workers in securing short-term and permanent accommodation, particularly within any workforce Village established for construction workers; • Regular review of the current housing situation to determine change; and • Development of a monitoring program to measure the performance of the Accommodation Management Strategy against defined objectives.
14.2	The department looks forward to working in collaboration with the proponent in establishing an appropriate Accommodation Management Strategy to mitigate potential impacts of the project on local housing markets.
3.4.2	The no project option assumption is incorrect. To think that if the Island is not fully developed that it may be going to waste is surely negative thinking, as the benefits for overseas tourists would be immense and bring in large overseas dollars to see our unique sustainable ecological Fauna and Flora that have been using the Island since it formed millions of years ago.
12.3.5	<i>Xylosma ovatum</i> - This is a Threatened species that is quite rare in the state of Queensland the only known areas are Shoalwater bay and Rodds bay, I know of one only tree in Turkey Beach, so it is quite reasonable to think that there are others not sighted on Hummock Hill Island. <i>Cupaniopsis shirleyana</i> - I find it hard to believe that this shrub Cupaniopsis-shirleyana is not on the Island as there are several on Rodds bay Peninsular and in Turkey Beach. <i>Cycas megacarpa</i> - There are several plants in the Turkey Beach area so once again we think it could have been over looked on the Island. Knowing that these trees and shrubs are in Turkey Beach and Rodds peninsular we think that morally the precautionary principal should be adhered to.

Submission Number	11
Submitter	Jan Arens
Supplementary Cross-Reference	Issue
4.2, Appendix B5	Ultimately, the most potent driver for the project is 436 ha of land, worth more than \$2 billion. The proponents are claiming freehold rights to this tract of public land. If indeed rights have been conferred, the way this may have been achieved certainly is not obvious to the public. The people have a right to know this. Lack of transparency will lead to concerns about propriety of the process.
15.2, 15.4, 15.6.5, Appendix B2	The proponents quote economic benefits with confused irregularity throughout the EIS document. The melange of timeframes, state/regional benefits, direct/indirect benefits, job numbers/person years employment, construction/tourism expenditure, infrastructure/residential development costs etc. have confused me no end. Are the proponent's double dipping benefits? E.g. when quoting 5,400 person years are those wages and salaries also reflected in 460 million (\$280 million NPV) contribution to Queensland. Is \$54 million net regional benefits included in \$87 million State benefits, the region being part of the State, or are they additive benefits? Is it per annum or life of project?
15.6.4, Appendix B2	Population growth of the region has been excessive without the advent of this development proposal, housing construction is already constrained by available

	building services in the region. The proponents even acknowledge that if residential development did not occur on the island it would occur in the region any way. The inclusion of a residential construction component in the benefit forecast is therefore a false economy. The proponents' own statement of the relative contribution of the residential component is 40%. The overstatement of the benefits is therefore at least of that magnitude
15.5, 15.6.7, Appendix B2	The economic model is based on a proposed level of tourist accommodation, assumed occupancy levels, generic tables with data on regional tourist per capita expenditure and privileged assessment of room rates. It appears a 70% occupancy rate was adopted while the proponents present "36% in Cardwell Shire (the home of the Port Hinchinbrook development)". Hinchinbrook does not suffer the stigma associated with Gladstone - The industrial Heartland of Queensland yet occupancy rates are a mere 36%. 70% occupancy here is unlikely. Occupancy rates could be over estimated by more than 100% on this basis, halving the tourism related benefits claimed by the proponents. Tourist expenditure could be overstated by 100%.
15.6.7	Escalating oil prices after peak-oil will affect travel affordability and subsequent projected tourist numbers. Another one of those contentious realities marginalised by our governments.
3.4.2, 15.6.8, 15.6.9, Appendix B2	We risk losing the visitors currently attracted to the Hummock Hill Island area for its relatively unspoilt nature. Maintaining a relatively unspoilt character of the Hummock Hill Island area may ultimately prove far more important to the regions wellbeing in many ways.
12.1.2	Alternative use of Hummock Hill Island such as making it into a National Park is likely to enhance the attractiveness of the area significantly due to synergies with World Heritage listing, Marine and estuarine protection areas, concatenation with existing National Parks etc.
3.4.1, 3.4.2, Appendix B2	Clearly the economic benefits claimed by the proponents are not uniquely a function of the proposed development of Hummock Hill Island nor will they be lost should the project not go ahead.
15.4, Appendix B2	In reality the benefits are likely to be far less than suggested in this EIS, consistent with the historic difficulty of getting development projects on Hummock Hill Island off the ground.
15.6.10, Appendix B2	Aspects not adequately dealt with in the EIS are the social costs of creating an isolated community. The environmental cost of commuting from Hummock Hill Island to Gladstone's industrial sites for work, the cost of providing additional infrastructure and the long term impost on society to maintain that infrastructure will be significantly higher than were the residential development concatenated to existing communities.
8.1	A description of the microclimate referred to is not found in the EIS. It could be inferred that the proponents suggest Hummock Hill Island would have lower temperatures or more effective sea-breezes than surrounding areas. No data to this effect has been presented.
17.4, 17.5 - EMP updated	The qualifier "where possible" to describe mitigating management practices has also been used with unacceptable frequency. It implies discretionary application of the proposed mechanism. As such it gives no guarantee of negating environmental harm. It highlights uncertainty of the environmental impacts and requisite mitigation steps. The level of uncertainty is unacceptable and a precautionary approach should be adopted.
2.3	The EIS overwhelmingly reflects "compliance" to codes rather than exceeding regulatory requirements. It lacks a demonstrated commitment to progressive leadership in the purported sustainable environmental principles.
1.3.2	Elsewhere in the EIS document the proponents acknowledge Bangalee and Squatters Community both within 5 km of the development proposal yet do not include them on their list of stakeholders. This is a gross neglect.
1.3.1	The principal recreational users reside in Boyne/Tannum, no community forum was held there.
1.3	I am an 'affected' and 'interested' person and have not been consulted.
1.3.3	I am the president of Tannum Boyne Coastcare (TBCC) which is listed on their stakeholders list.
1.3.3	No formal communication from the proponents or their delegates has been received by TBCC.

1.3.3	A message out of the blue was left on a TBCC member's answering service on the day of departure of the proponents' "consultation" team from the area. The TBCC member returned the call after work and sought to have the meeting the next day but that could not be accommodated, unprepared and unable to get any other TBCC members to join the session, two TBCC members attended a brief information session, hardly conducive to our active involvement on issues which affect us.
1.3	Consultation implies a procedure of consulting; that is to seek advice from someone, to have regard for person's feelings, interests, etc, in making decisions or plans. (Collins English Dictionary).
1.3.3	Per definition TBCC was not consulted and inclusion on their list of identified and contacted stakeholders is misleading and any suggestion that consultation with TBCC has occurred is a misrepresentation and downright offensive.
1.3	The Proponent fails at least the first two of their principle consultation objectives.
1.3	The EIS fails the terms of reference where "The public consultation process must identify broad issues of concern to local community and interest groups" and "Details of the public consultation process and the major issues emerging from that process must be clearly addressed in the EIS."
15.3, 15.6.9, Appendix B2	Their EIS fails to acknowledge the social and economic consequences of the additive impact on already failing infrastructure viz. water supply, skilled employees, housing construction capacity etc. But more disturbingly the EIS fails to acknowledge the multiplier effects on the degradation of the environment.
2.4	850 kl/day brine equates to 850 m ³ /day. The proposed evaporative surface is 18500 m ² . To evaporate this volume we need 850/18500=0.043m/day net evaporation, which is 43 mm/day. Quote: "The Gladstone Radar evaporation data shows that 95% of the time the summer monthly evaporation rates will be between approximately 150 mm and 250 mm - approximately double the winter evaporation rates" So local evaporation rate is 3-8 mm/day. Based on the quoted monthly figures in the E15, worst case scenario will need a 600 m x 600 m evaporative surface and best case 300 m x 300 m area, but that's if it never rains. Precipitation is roughly 50 mm/month in winter and 100 mm/month in summer, evaporation exceeds precipitation, so we can still make salt but we need at least double the surface area again. If we take into account rainfall variation, periods where precipitation exceeds evaporation are likely. The consequent management of evaporative lakes is going to be complex and the number and sizes proposed appear grossly underestimated.
2.4	1350 kl/day seawater at 3.4 %contains 46 tons of salt. 46 t per day, and they want to landfill this? Where?
2.4	Pond designed to "Q100 rainfall event of approximately 13 mm" is of concern when the Rosedale Post Office rain-station within 60 km of Hummock Hill Island has recorded 2450 days with rainfall greater than 13mm over the last 100 years. More than 24 events per year >13 mm. While the erroneous application of data is not good, of greater significance is the proponents' demonstrated lack of an appreciation of the orders of magnitude of environmental impact associated with their proposed action.
6.3	<i>"Solar power generation through photovoltaic cells is currently not an effective, efficient or economic solution for supply of electricity on the Island. However from 1 March 2006 all new homes built in Queensland are required to install energy efficient hot water systems (solar, gas or electric heat pump) and use energy efficient lighting for at least 40 percent of internal floor space. All residences in the proposed development will be required to install solar hot water systems reducing electrical power demands"</i> The proponents claim to have investigated Solar/photovoltaic cell arrays as a potential source of power; the above quote is the net result of these investigations offered in the EIS.
8.4.3	Local insolation provides 18 Mega joules/mz or 5 kWh/day/mz, Commercially available PV panels will here comfortably produce 1.1 kWh/day/mz electrical power, more than 20% of the available solar energy. People "empowered to take responsibility for managing and limiting their own ecological footprint" will reduce power requirements in an average household to <10kWh/day. Less than 3m x 3m surface area under PV panels required per "eco" household. Roofing with energy absorbing PV panels provide cooler interiors providing greenhouse gas saving synergies. There is no question about effectiveness or efficiency. It is an

	"economic" judgement, and while we continue to neglect the imprint of CO ₂ pollution on the liability column of our asset registers we will continue to make bad economic decisions. The proponents proposed use of solar energy to reduce greenhouse emissions is merely compliant and would by law apply to any development, whether on Hummock Hill Island or not.
2.5	The reality of our communities' interaction with the environment is starkly different and highlights the profound irrationality of these statements. These statements are a testament to the inadequate assessment by the proponents of the deleterious impacts of their proposed action on the Hummock Hill Island environment. Empowering the residents to take responsibility for their ecological footprint is dissimilar with protection of the environment.
13.1	<i>"It is noted that estuarine and coastal waters of Hummock Hill Island are contained in the Baffle Creek catchment. The Baffle Creek catchment has an area of 3,996 km² of which 80% is cleared for agricultural purposes, mainly pastoral activities. Ephemeral watercourses discharging to estuaries around the Island would be classed as slightly to moderately disturbed systems."</i> The proponents ascribe no environmental value to estuarine or coastal waters of Hummock Hill Island. Hummock Hill Island is not in the Baffle Creek Catchment. While the Baffle Creek catchment is the more dominant catchment in the region, the mouth of the Baffle is at least 70 km south-east with at least 5 substantial systems draining to sea between Hummock Hill Island and Baffle Creek. Hummock Hill Island is influenced by the catchments of Twelve Mile Creek, Scrubby and Sandy Creek, and is not contained in a catchment. Any projections made from the erroneous supposition above will be misleading. The proponents demonstrate a lack of appreciation of the area.
15.6.9, Appendix B2	Land offset and management plans are legislative requirements, so if we extend the proponents' argument, Hummock Hill Island would ultimately have no environmental value if the law did not require compensatory structures to offset or mitigate environmental harm. Preventative expenditure is not an appropriate proxy.
15.6.9, Appendix B2	The list of environmental attributes associated with the environmental value that have provided input to the proponents' economic model downplays the inherent risk of environmental damage of the proposed action.
12.10.2	Rare and threatened species occur on the island, Whether identified within the "development footprint" does not negate this possibility. In fact it can be reasonably foreseen that these species will occur within that footprint. The Black Breasted Button Quail is not likely to be migratory and should be considered explicitly in modelling. How much money will be spent to save this species from the brink of extinction? How much have we already invested? Claiming that indirect impact on endangered species, ergo the Black Breasted Button Quail, isn't likely, just does not seem honest. Without adequate scientific understanding of these animals' existence on the Island, this is a very bold claim indeed.
5.3.1	Claiming "few if any" impacts resulting from action at this scale is misleading. E.g. we need look no further than the project web page to see that "ocean vistas" are being promoted. People who are encouraged to invest money in property here will have an expectation to in fact enjoy this view. If these views are not forthcoming, the promotional material is dishonest in which case illicit vista management (refer comment elsewhere in my submission) down the track will be likely. Either way structures will be quite evident from the surrounding waters. The traditional recreational use is boating on the water around the island, currently available to everybody but particularly in favour by those who appreciate the area's relatively unspoilt character. Visual amenity is in the eye of the beholder, consider the analogy; would you continue to enjoy your soup the same way had you seen a maggot in it?
15.6.3	I presume the raising of a "no longer important" issue of "historical use of Hummock Hill Island to produce beef cattle" serves to imply a potential loss of economic productivity rather than merely raising an image in our mind of an already degraded environment. We can test this motive by reviewing how cattle production has been accounted for in the proponents' opportunity cost modelling.
15.6.9, Appendix B2	The proponents mention "replacement costs" but seem to ignore them in their economic models. The EPA budget for Queensland last financial year was roughly \$143 million. This reflects the level of investment we are prepared to make in looking after our environmental assets. No doubt it includes money spent on

	<p>remediation. Many of us invest personal time and money to rectify the degradation of the environment and if we had the capacity would gladly fund the replacement of lost habitat. So "replacement cost" as a proxy for environmental value is limited by capacity to pay and therefore in any meaningful terms an underestimation. Wealth is not determined by cash flow, it's the balance sheet that counts. The unstated environmental value in this EIS is the undeniable attraction of living by the sea. Through an analysis of land prices in the Boyne/Tannum area it is possible to get a handle on real-estate appreciation due to environmental values. By separating out the premium individuals are prepared to pay for environmental values over and above the price of a non-descript block of land. As such it is a valid "replacement cost" for modelling purposes.</p>
15.2, 15.4, 5.6.9	<p>The proponents rightly question PAGE 17-18 "What price can be put on environmental resources or effects when there is no market in their use?" If we consider the above graph, the premium people have been prepared to pay was up to \$350 per square meter. Extrapolating this to Hummock Hill Island, the unspoilt natural setting would have a value projecting exponentially off the graph, in excess of \$1000/m²</p>
16.2.3	<p>The delineation of the buffer zones is based on 1984 data at a time before the realities of climate change would have been taken serious. We probably should be looking at bigger buffers. Two tests not presented in the EIS should be exercised to better characterise inundation risk. Review of insurance premiums being charged on properties in low lying coastal areas of Queensland compared to non low lying residential areas. Note: The externality of increased insurance cost has wider social impacts. Extend the inundation modelling of the development proposal to include scientific predictions of climate change effects, such as sea-level rise and more importantly storm surge intensity increased by more powerful and frequent cyclones. A statistical sensitivity analysis is required.</p>
6.4.1	<p>The Curtis Endeavour had no trouble reaching the beach at Bangalee. How big are the recreational craft the proponents envisage for the area?</p>
13.3, 13.4, 13.10, 13.11	<p>The waters around Hummock Hill Island are part of the Great Barrier Reef World Heritage area, they are recognised fish nurseries. Funding levels have not enabled the appropriate authorities to adequately study the complex interaction between this island within fish/dugong habitat and the Great Barrier Reef as a whole. Recreational fishing groups have been conducting monitoring programs e.g. CapReef, and have recorded significant declines in fish catches by recreational fishermen in the wider Capricorn region. There has been a dramatic increase of boat licences issued in the last few years in Gladstone. There is a lack of scientific knowledge about the specifics of the greater Colosseum inlet ecosystem. Increased recreational boating and the associated unintended impacts pose an increased risk to the ecosystem. It can be reasonably foreseen that the proposed action will impact on the WHA listing. There is a strong case to adopt a precautionary approach.</p>
12.6, 12.10.2, 12.12.2, 12.13	<p>The reductionist approach of buffering identified "essential" habitat fails to take into account the effects of habitat fragmentation. As we carve up the regional ecosystems we risk their ability to sustain the species that depend on them. Don't forget, we can reduce habitat to a cage. Many endangered species now only exist by the dedication of volunteers and committed servants within the Environmental Protection Agency and Queensland Parks and Wildlife Service, propping up ecosystems that have lost their ability to sustain those species any longer, a cost not recognised by the proponents in the EIS. The provision of migration corridors has no demonstrated scientific basis, particularly when it comes to Black Breasted Button Quail.</p>
12.4, 12.6, 12.7, 12.8	<p>The proponent suggests a loss of 340 ha, the "footprint". They ignore the wider impact of fragmentation of the 12 km² site and the threat posed to the island ecology as a whole.</p>
13.6	<p>To suggest major evolutionary geological processes are absent is incorrect. We can of course debate the semantics of "major" here; instead I would like to focus on the geology and geomorphology. The island displays acid igneous outcrops. These are part of a larger plutonic intrusion complex (mapped Miriam Vale Granodiorite of Permian age). The whole of Colosseum inlet is uniquely shaped by the Miriam Vale Granodiorite. Nowhere else on the Central Queensland coast do we find estuarine ecosystems associated with encompassing granitic substrates. Siliceous sand resulting from the weathering of these granites has shaped the land. There has</p>



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	<p>been a history of gold mining associated with this intrusion pointing at cultural and historic significance. Sands have been mined within the region for their suitability in a number of applications and we know that sought-after minerals derived from this rock are trapped within the dunes and beaches of the islands. The EIS consultant's report on the geology states that the Island's outcrops are different to the main granodiorite intrusion with evidence of differential cooling. The lithology of pegmatites on the island is unique. It can teach us a lot about the genesis of the whole intrusive complex. The ridge that so prominently features on the island has provided a structure that has allowed a sand mass to build up to the north-west resulting in the second largest sand island after Fraser Island, Wild Cattle Island National Park. The sand mass west, on the leeward side of the ridge on Hummock Hill Island, forms part of the same formation as Wild Cattle Island. These sandy islands and the regulated release of fresh water from their phreatic aquifers is increasingly recognised as playing a significant role in the ecology of the near shore environment including the health of sea grass beds which sustain sea turtles and dugong. These features have been overlooked in the EIS. The image below was photographed centrally off the main foreshore development proposal of the western precincts, a few hundred meters off shore. This seagrass is not acknowledged in the EIS, but is within the Dugong protection area.</p>
8.4.1	<p>500 kl/day via MVC will generate 2.7 t/day or 1000 t.p.a. CO2 pollution. 850 kl/day brine + 500 kl/day water equates to 1350 kl/day seawater feed per day, that is 1350 tonnes of water will need to be pumped uphill every day, more energy, more CO2 pollution.</p>
8.4.3, 16.1.1	<p>Greenhouse gas mitigation is purported but the EIS document does not articulate the mechanism that will be adopted to secure this perceived benefit. E.g a ban or restriction by covenant of air-conditioners. Sandflies are a part of mangrove areas; Hummock Hill Island is no exception. Residential dwellings will need sufficiently fine mesh to screen them out, this negates sea-breezes. People will run air conditioners.</p>
8.4.2	<p>The EIS does not provide estimated emissions of upstream activities arising from the proposed development and as such breaches the terms of reference of the EIS. The proponents manage to compile very detailed perceived economic benefits for the project using externalities etc. with superb efficiency. Even though the EIS should principally address environmental considerations the proponents do not afford analysis of CO2 emissions the same rigour as their economic analysis. What's good for the goose is good for the gander. If the economic benefits however insignificant compared to Queensland's overall economy, associated with residential development are used to justify the project, the pollution associated with the residential development and the ongoing occupation of the site should then also be accounted for in the balance.</p>
8.4	<p>Water supply via desalination as proposed will generate at least 1000 t.p.a. CO2 pollution. Grid supplied power for 2300 tourists and 1600 residents at ecologically responsible consumption levels (no air-conditioning) will generate over 3400 t.p.a. CO2 pollution. Concrete for residential and tourist accommodation will exceed 15000 t. The cement alone has a CO2 emissions equivalence of 1500 t. Aluminium window and door frames attract at least 2.6 t CO₂ pollution for every t of primary aluminium. Non plantation timber has it's CO₂ footprint. Commuting of 1600 residents to Gladstone's industrial sites 65 km away adds to the CO₂ footprint. Flying in tourists from overseas, flying and driving in intrastate tourists all adds to the CO₂ footprint.</p>
12.6, 12.7, 12.12.2	<p>As the reality of climate change struggles to permeate the decision making instruments of government, so too does the reality of habitat fragmentation and the devastating effects this has on our environment. We as a nation formally committed to maintaining biodiversity in 1992, we promised the world that we would preserve a minimum of 10% of the ecosystems in our care and have those ecosystems under protection by 2010. We, so rich, can't even do that. Since signing, more than 15 years ago, there has been NO CHANGE in the rate of woodland clearing in Queensland.</p>
15.2, 15.6.5, Appendix B2	<p>The multipliers are referred to in the EIS and the contained consultant's report, but I have not been able to actually find them in the document. The equations used are also missing from the EIS.</p>
15.6.5, Appendix B2	<p>The model manipulates these projected sums to reflect the changing value of money over time. The time frames vary with projected construction timelines of</p>

	various components of the project and life of asset consideration. Sometimes 8 years, sometimes 17 years sometimes who knows?
15.6.5, Appendix B2	<p>1. Table 3.20 shows 203,877,600 under Cost (\$) heading as a TOTAL (Excluding interest), not \$635 or \$390 million, more confusion.</p> <p>2. The financial details are privileged, so we have to take it on good faith that the numbers add up. They don't appear to do so.</p> <p>3. Formulae and base inputs are not provided</p>
12.13	International migratory species including those listed as endangered depend on feeding sufficiently to build up reserves that will enable them to cover very significant distances. Any disruption in their feeding patterns could have serious adverse consequences. "The Island is a part of the east Australia flyway for migratory shorebirds, and extensive marine habitats on the landward side of the Island are significant in this regard." How on earth the proponents can suggest: "Aircraft movements are anticipated to be less than 6 flights per day and will pose minimal risk to birds on the Island" is beyond me. The introduction of 2300 tourists and 1600 residents enjoying "arguably the best beaches between 1770 and the Capricorn Coast" with their dogs chasing tennis balls and seagulls, does not conjure up images of a "Natural environment protected and enhanced so that areas and features of conservation significance are retained and the human population can enjoy living in close proximity to, and in harmony with, the natural ecosystems of the Island and surrounding waters"
12.2, 12.4, 12.9, 12.10, 12.13	<p>The proponents then also pose contradictory arguments in:</p> <ul style="list-style-type: none"> • "The proposed development is not proximate to any significant areas of migratory shorebird habitat. As such a significant increase in the level of threat posed from construction, habitat loss, domestic animals, human interference, ongoing noise and lighting is not expected" • "Hummock Hill Island does not provide extensive wader bird habitat, but does offer habitat to a limited range of listed migratory species" • "Minimal disturbance to marine/tidal habitats, known to be of importance to both local and migratory shorebirds and potentially the Water Mouse;"
16.1.1	The presence of sandflies, mosquitoes and other naturally occurring insects associated with the mangroves impact on the comfort of tourist and residents. This is a contingent environmental risk. The community may seek permits to chemically fog or alter mangrove and coastal habitat to manage. The EIS suggests a community "empowered" to manage their own ecological footprint. Coastal communities have been known to suffer illicit behaviour of residents managing environmental conditions to suit their purpose and authorities have been ineffective at stemming this behaviour. This EIS offers no alternative.
12.1.2	The Island location affords the best chance of preserving endangered species from predation and this would be a sensible reason to afford the island National Park status
12.2.2, 12.10	Feral cats and dogs are an ongoing risk, but ultimately it is an island and when it comes to defending species from extinction, island refuges have been found to be our best hope at being able to isolate endangered species from predation. It may well prove to be a corner stone for the preservation of this species in the near future. National Park protection status caters for this, where on the other hand urbanisation will no doubt bring cats and dogs and pose a clear and obvious increased risk to the Black Breasted Button Quail.
3.3.1, 15.3, 15.4, Appendix B2	I also need to tease apart the proponents claim as to the benefits of the proposed action and how those benefits are uniquely linked to Hummock Hill Island. Clearly some of these benefits can be derived elsewhere and are not contingent on development of Hummock Hill Island. In fact there is considerable rationale not to attempt the creation of a new and isolated community but instead to concatenate urban growth to existing infrastructure so as to minimise the overall cost to the wider community
6.8	<p>Quote PAGE 9.16: <i>"Public access to the Island by vehicle can only be achieved on extremely low tides via the causeway and is not commonly carried out. "</i> and <i>"Shallow entries to Colosseum Inlet and parts of Seven Mile Creek also currently limit access to these water from the ocean for recreational craft"</i></p> <p>Comment: 1. One of the stated benefits of the proposed development is improved public access not otherwise available in the area</p> <p>2. Assuming the proponents have an appreciation of "common" use in the area and the frequency of use is as stated, the infrequent nature of causeway use and</p>

	<p>restricted access to the island has more to do with the signs telling the public to KEEP OUT rather than any physical constraints.</p> <p>3. The proponents reflect an invalid appreciation of the area.</p> <p>4. Improved access can be achieved without the proponents' action, that is, if better access really happens to be a community priority or objective.</p>
7.3.5	<p>The utility of rain water tanks as a reliable water supply for residential purposes can only be assessed by looking at daily rainfall patterns, tank storage capacity, roof area catchment and typical domestic usage rates. Domestic use by average households in the Tannum/Boyne area is close to 800 l/day, about 30% higher than Cardno's estimate. Using the Rosedale Post Office daily rainfall figures between 1897 and 2006 as an approximation for Hummock Hill Island, a number of scenarios can be calculated. The graph below reflects the amount of time the storage tanks would have been empty during the 1897-2006 period had a rainwater system been relied on to supply 800 l/day. A typical family home with a very large 8m diameter storage tank ~ 100 kl capacity would have been without water for 20% of the time. Note that the largest tank that is commonly transportable without special oversize provisions is 25 kl (4m diameter). The 22 kl (~2.7m diam.) and 45 kl (~5.2 m diam.) suggested would have been empty more than 45% and 35% of the time respectively, those households being 100% reliant on supplemental water during those times.</p>
3.1, 4.2, Appendix B5	<p>The proponents imply intent on the Queensland Government's behalf to develop Hummock Hill Island, a desire with some urgency indeed, so that prompt payment shall be made for the revenue generated from sales. Local paper article writes of a Supreme Court case between Walsteam and the state government ending the proposal to build a resort containing hotels, golf courses, shopping centres, subdivided allotments and associated services. This is not the behaviour of a government in support of development of this kind. Advice from Environmental Defenders Office (Qld) Inc is that the court action appears to be due to the licence having been issued by the wrong person. The desire to develop Hummock Hill Island may well have resided in a hand full of individuals with privileged information and would not reflect government intent.</p>
2.9, Appendix B5	<p><i>Quote PAGE 1-31, PAGE 13-6: Hummock Hill Island P/L was the new leaseholder for the Island, purchasing the lease from Walsteam in 1991. The Queensland Government, in granting the Special Lease (SL 19/52155) in 1991, decided the site was suitable and desirable for a range of Business, Industrial, Commercial, Residential, Tourist and Recreation purposes. This decision has been reflected in approval of a previous application for a residential and tourist development by Miriam Vale Shire Council in 1996.</i></p> <p>Comment: Note the confused chronology. It appears from council meeting records (http://www.miriamvale.qld.gov.au/admin/lupaads/AGENDA210305.pdf) that Hummock Hill Island Pty Ltd, Lot 3 on Plan FD841442:SL/19/52155 had been allowed to accrue rates in arrears of over \$79,000 for the periods 1998/99 to 2004/05. Others within Miriam Vale shire attracted risk of foreclosure far sooner and for far lesser amounts. It appears at least the Miriam Vale Council extended Hummock Hill Island Pty Ltd some grace. The intent of governance in this case is not clear.</p>
4.3	<p>An original proposal for the "provision of a major residential and recreational facility" was proposed in 1993 by Hummock Hill Island Pty Ltd (a wholly owned subsidiary of Raymag Securities Ltd) and given approval by Miriam Vale Shire council though development did not commence and the approval lapsed. The 1993 proposal's failure suggests potential structural problems with proposals of this kind on Hummock Hill Island. The EIS does not provide an analysis of the reasons for failure then and what has changed to suggest it offers a better prospect now. Raymag Securities scheduled to deregister 2001</p>
3.4.3, 4.2	<p>Failures to implement the East Wing proposals indicate that previous cost/benefit analyses would not have shown appropriate merit or at least not have been deemed to confer a net benefit to the state. An assessment of this nature would have been made as recently as 2005, within the framework of "state significant project". No analysis is provided as to why the current proposal could do any better now.</p>
4.4.2, Appendix B5	<p>The lease implies a feasibility study, not a "long-established land use intention" of development. No evidence has been provided in this EIS of government support for development of the area other than through inference of the granting of Special Lease (SL)(SL 19/52155). Advice from the Assistant Director, Major Projects,</p>

	Department of Infrastructure is that the declaration of significant project status under either of the SDPWO Act or EPBC Act does not infer Government backing of the project (either State or Commonwealth)
4.4.2, Appendix B5	Advice from the Assistant Director, Major Projects, Department of Infrastructure is that the lease of the site was extended by the Department of Natural Resources and Water (NRW) on 15 November 2006 for 12 months as the proponent could demonstrate that the project was progressing through the assessment process. No substantial advance had been made progressing developmental approvals by 15 November 2006, nor has that condition been met one year later, as at the end of the lease extension to 15 November 2007. It's time to put a stop to the more than 16 year chequered history of all and sundry attempting to "develop" this truly unique natural environment. How many more "go's" are they entitled to?
13.6	The proximity to and synchrony with development activities at the Poona community and lack of such degradation at other monitoring sites in the Great Sandy Strait, is suggestive of a causal relationship. As a matter of fact the monitoring team makes the inference unequivocally. The detailed mechanisms that led to the degradation are uncertain. The scientific uncertainty makes any inferred mitigation measures here at Hummock Hill speculative. We need to be cautious.
14.6.3	<i>Quote PAGE 4-9: 'The proposed development will increase access to recreational facilities such as sporting ovals, water access, golf course facilities, tennis, squash and fitness activities. These facilities will provide the local community with increasing opportunities for participation in activities not currently available within the area without travelling considerable distance. Self fulfilling condition, there is no local community so of course sporting ovals, golf course facilities, tennis, squash and fitness centres don't exist. They do exist in Miriam Vale, Tannum/Boyne etc. and while in this context travelling is considered "considerable", it is otherwise promoted as an asset. Quote: 'The Island is ideally situated, with Gladstone (65 km), Tannum Sands (40 km) and Miriam Vale (30 km) being the nearest regional centres providing shopping, postal and banking facilities. Quote PAGE 10-9: "the majority of residents would be expected to commute to Gladstone", This is a considerable distance to commute on a daily basis and that does not fit the label "ideally situated". Access to the waters around Hummock Hill Island already exists. Improvement of boat ramps to the area are not contingent on developing Hummock Hill Island as proposed.</i>
6.7.8	Peak-oil has arrived and access to cheap fossil fuel is a thing of thing past. To structure a community on the basis of commuting 65km by car contravenes the principles of sustainable development. Suggesting exploration of public transport as an optional consideration is inadequate
12.10.2	The Black Breasted Button Quail's significance derives from the fact that we have driven it towards extinction; it otherwise has no iconic attributes the average Australian sympathises with. Sightings are rare; there are after all not many of them left. Its sighting on the island is therefore quite significant. Evidence of its characteristic "platelets" left behind when foraging, may well have been outside the proponent's intended zone of disturbance, but where it feeds is sure to be different, to where it roosts, lives, mates, migrates. These birds are known to occur on neighbouring Wild Cattle Island and further north-west at the Lilies (Birds Australia ongoing Atlas of Australian Birds). Whether this forms part of their foraging range, mating range or whether specimens observed are discrete individuals or part of isolated communities is not known. The extent and significance of the Hummock Hill Island habitat has not been defined. Habitat for Black Breasted Button Quail is limited and as such mitigation through offset would not be feasible and an attempt to do so is morally questionable. While far from pristine, as the proponents are keen to point out, the island does provide habitat.
12.3.1	Was a search instigated specifically to find Wallum froglets? Were the investigators there at the right time of the year? Was this potential habitat considered in context with the known distribution of this frog? Do we indeed know the extent of its occurrence or its habits? The proponents seemed to have relied on a description of known association with "critical microhabitat" and those they say are not on the island. But did they look for them? The scientific uncertainty requires us to adopt a precautionary approach
12.3.2	While noted that <i>A. grandifolia</i> has not been observed, it is not clear if a search was specifically conducted for this species. <i>A. grandifolia</i> is just one of the rare and threatened species we could find in this type of woodland. Acacias are

	common to this kind of woodland. Of particular interest would have been a search for <i>Acacia falciformis</i> .
12.3.3	Almost all sightings of <i>Paradelma orientalis</i> on Boyne Island have been associated with the coarse bark of this tree and then only at very specific times of the year. Given the relative proximity of prospective vegetation types and loss of its habitat on Boyne Island, a search specifically for this endangered species is warranted. I recommend Stephen Peck of the EPA for the job. There is a good chance <i>P. orientalis</i> actually exists on the Island and in the absence of the full scientific certainty it compels us to be cautious.
12.12	Less than 4% of the state is afforded formal protection, where our international obligation is to protect at least 10% of all ecosystem types. All areas mapped as "remnant endangered" per definition, are in breach of our international obligation. Scars on our national dignity In fact the extent of our breach is underrepresented as it is masked by the fact that some ecosystem types may have disappeared entirely and are now shown here as part of the white areas.
12.7	If we include fire breaks, road easements, sewer easements, power and gas line easements, boat ramp parking lots, beach access, illicit and unintended community impacts, invasion by non indigenous flora and fauna, fire-management and uncontrolled fires, habitat fragmentation, externalities etc. The actual ecological footprint is grossly understated.
12.1.1, 12.7, 12.8	The proponent's responsive master planned design meticulously traces the boundaries delineated by what is claimed to be "questionable mapping". It seems to swallow up the green" areas and avoids the dreaded "pink" Of course what this approach gets wrong is that they need to respond to the ecosystem, not the legislative artefacts of our environmental protection laws. "Pink" means less than 10% of a vegetation type remains. Under the VMA we label it "endangered", whether it is or not, based on a scientific understanding of the ecosystem in its regional context. 10% is an arbitrary threshold, proposed by ecologists and other scientist to achieve a global agreement for the preservation of biodiversity. We only need to look at our own government's behaviour towards Kyoto to recognise that it would have had to have been a very conservative number indeed to be sufficiently palatable to have a chance of wide acceptance.
12.7, 12.8	Where ecosystem type is "of concern" it has been reduced to less than 30%. Note the proponents' mitigation approach is to "acquire" equivalent habitat elsewhere and provide protection via covenant of some sort. But if it is of concern here, it will be of concern there as well. The proponents do not give an analysis of the status of the vegetation types and how their action, even in their limited view, will affect the classifications. All we know is that the areas are classified cleared, <10%, 10%-30% or >30%. Are the areas the proponents wish to clear 11% or 29% of the original ecosystem? Their action could well push the classification over the 10% legislative threshold. Are these boundaries in fact scientifically significant when it comes to evaluating the Hummock Hill Island and wider Colosseum Inlet ecosystem?
12.8	Offset mitigation is by no means a proven concept. While it does have a place in the scheme of Biodiversity preservation it must only be considered in the most extreme circumstances.
12.8.6	We should not accept incremental loss of ecosystems because they are already damaged goods nor deny those damaged ecosystems an opportunity to recover.
12.9.3, 17.5.4.2	Foredune complexes are sensitive to wind erosion particularly where disturbance has occurred. Tannum Boyne Coastcare is involved with revegetation of such affected systems in Tannum Sands. Very dramatic erosion has occurred of the foredunes along the beaches of Agnes Waters due to illicit clearing. The proponents seek to reduce erosion sensitive buffering PAGE 9-15, ignoring their own consultant's recommendation. There are good reasons to be cautious when developers claim concerns for environmental issues as environmental degradation by the hands of developers seems to be endemic in our region. (Attachment 1, "How we develop")
12.7.1	Note that the vegetation type 12.3.10 associated with the geology of the island is unique and does not exist anywhere else in this form. Mitigation by offset would not be possible. Even low level or proximal disturbance could have unforeseen consequences for this unique stand of poplar box. To suggest that avoidance of sensitive areas through responsive design constitutes appropriate mitigation is only valid if the functioning of the overall eco-system is taken into account.



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2.4	500 kl/day for 2300 tourists and 1600 residents equates to a 128 l/person/day supplemental water provision, this is less than Brisbane at their most stringent Level 6 restrictions. It appears discordant with a lush tropical, high quality resort.
15.2, 15.3, 15.4, Appendix - B2	The proponents factor in economic multipliers for externalities. The EIS does not factor in externalities for either environmental or social costs.
12.1.2, 12.13, 13.1, 13.11	Quote PAGE 13, PAGE 21-2: <i>"The Great Barrier Reef WHA has been included on the World Heritage List on the basis of meeting four criteria. The Island contains some features that may be considered aligned with the listing criteria as summarised below:"</i> The proponents question the basis of Hummock Hill Island's inclusion in the World Heritage listing. I profoundly disagree with their interpretation of the area's alignment with WHA criteria. Not only because of the subjective basis of the assessment but more importantly the profoundly inadequate appreciation of the environmental values reflected in the EIS. Some important features have been overlooked and in many cases marginalised. The fact is Hummock Hill Island and the waters around the Island are part of the Great Barrier Reef World Heritage area. The surrounding waters are listed Dugong and Fish Habitat. The beaches of Hummock Hill Island are frequented by nesting sea turtles and endangered fauna occurs on the Island all protected under the EPBC Act. The Island's beaches and sand flats are part of the East Australia flyway for migratory shorebirds covered under Bonn, CAMBA, JAMBA. This should not be marginalised when considering our heritage areas. Hummock Hill Island is part of the wider Colosseum inlet ecosystem and is recognised as being of state significance. It is recognised as having high environmental values on coastal planning schemes.
13.5, 13.11	Quote PAGE 13, PAGE 21-2: <i>An outstanding example of major stage of the earth evolutionary history;</i> <ul style="list-style-type: none"> • <i>Fringing reefs are absent from the Island together with major evolutionary geological processes or evolutionary history that have isolated unique flora and fauna from mainland populations. The proposed development will not impact the WHA listing under this criterion.</i> The significance of "fringing" in the above context is not clear. Important coral reef systems exist within meters of the north beach. (Alquezar, Boyd, Bunce: "Coral mapping pilot study" CQU May, 2007) Are the proponents trying to create an impression of an overall absence of coral reefs? Subjectively we can ascribe a level of significance to these coral reefs, even fail to mention them because they are perhaps incompatible with the proponents' development objectives, preferring to consider them not outstanding enough to mention in the context of WHA listing. None the less, within the context of this bioregion they are unique. For the record I include some personal photographs below, examples of the coral reef present just tens of meters from the proponents' intended development.
13.2, 13.11	The waters around Hummock Hill Island are part of the Great Barrier Reef World Heritage area; these waters are also a refuge for Dugong. "Contrary to the proponents' statement, rare fauna does exist in association with Hummock Hill Island. Not only does the EIS fail to recognise this, it consequently fails to recognise the inherent risk of the proponent's proposed action to the Dugong habitat. The United Nations Environment Programme's Dugong action plan lists threats in Queensland being due to coastal development, fishing and dredging e.g. such as for the Port for Gladstone
13.2.1, 13.3, 13.11	Quote PAGE 13, PAGE 21-3: <i>An outstanding example representing significant ongoing geological processes, biological evolution and mans interaction with his natural environment;</i> <ul style="list-style-type: none"> • <i>In general, features listed under this criterion have limited representation on the Island in the context of the sub-region and/or entire WHA. Surrounding waters do contain features listed under this criterion, such as mangroves and seagrass meadows, the latter being habitat for dugong and turtles. Impact to these features from the proposed development and human interaction are minimal and do not impact the overall WHA values.</i> The proponents' proposal for two boat ramps, one of them associated with a marine centre clearly signifies intent to promote human interaction with the marine ecosystems of Hummock Hill Island. Boating already presents a danger to Dugong and sea- turtles within the Dugong protection area. The integrity of the Dugong protection areas in Gladstone harbour has been compromised with recent shipping incidents including a substantial oil spill, port traffic and wharf expansion plans etc. The Hummock Hill Island segment of the Dugong habitat represents a relatively undisturbed area, and this could be



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	<p>significant for breeding and calving. Fragmentation of coastal marine species habitat is already implicated in compromising of the genetic stock of some of these species. Increasing disturbance of this area could well have unforeseen consequences for the Dugong by complicating communication between the southern extent of the species in the Great Sand Strait and the main extent of the species' occurrence north. It is very likely that the proponents' action will impact on WHA values.</p>
12.1	<p><i>Quote PAGE 14, PAGE 21-3: Contain unique, rare and superlative natural phenomena, formations and features and areas of exceptional natural beauty;</i></p> <ul style="list-style-type: none"> <i>• In general, unique, rare and superlative natural phenomena listed under this criterion are not represented on the Island in the context of the sub-region and/or entire WHA. In comparison to other areas in the WHA such as the Whitsunday region or Great Keppel Island, Hummock Hill would not be considered "superlative". Adjacent waters contain mangroves systems and habitat for dugong and turtles that will have minimal impact from the proposed development following management and mitigation measures; and</i> <p><i>Comment:</i> The proponents make the point that "the region (and Island) does not have a high level of biodiversity in comparison to areas such as the Whitsunday Coast and Wet Tropics area". Once again, I can only guess at the intent of raising this observation. Does the existence of St Peters Basilica or St Pauls Cathedral in Melbourne diminish the significance of St Peters in Rockhampton? The proponents fail to observe the environmental significance of the local context of Hummock Hill Island shown on the Curtis Coast Regional Coastal Management Plan and as adopted by Calliope Shire council (http://www.epa.qld.gov.au/register/p00528ax.pdf) viz. proximity to significant coastal wetlands, sand dunes and endangered regional ecosystems of state significance. Concurrently Hummock Hill Island has been assessed as being of "High Environmental Value" by the Burnett Mary Regional Group who is in the process of documenting regional management plans, also missing from the EIS</p>
12.10.2, 12.11, 13.2, 13.11	<p><i>Quote PAGE 13, PAGE 21-3: Provide habitats where populations of rare and endangered species of plants and animals still survive.</i></p> <ul style="list-style-type: none"> <i>• In general features listed under this criterion have limited representation on the Island in the context of the sub-region and/or entire WHA. Mangroves and seagrass meadows are present in adjacent estuarine and marine waters. Species of conservation significance that have representative habitat on the Island and/or adjacent waters include the black breasted button quail, dugong and marine turtles. Habitat for these species is outside the special lease and development area. Mitigation and management measures proposed for these species will minimise impacts to the WHV.</i> <p><i>Comment:</i> The proponents acknowledge the presence of black breasted button quail, dugong and marine turtles and claim Mitigation and management measures proposed for these species will minimise impacts without demonstrating the scientific detail of the occurrence of these species within the area or demonstrating adequate scientific expression of the ecosystems of Hummock Hill Island and the surrounding area. Mitigation and management measures proposed are generic and lack detail. The detail of the proponents' proposed action is missing, to be developed in the future and in some cases where presented clearly unworkable. To suggest that they will minimise impacts to the WHV is extraordinary.</p>
12.1.2	<p><i>Quote: "Historically the Island was overlooked when National Parks and Conservation Areas were created in the region due to the lesser conservation value of the Island compared with nearby areas"</i> <i>Comment:</i> 1) Reference is made at least 8 times in the EIS to "lower conservation value" of Hummock Hill Island; the proponents obviously don't want us to miss this. All eight derive from a single source: Briefing notes referring to the early 1980's where compromises were negotiated to progress mineral exploration and mining. Since then society's norms have changed e.g. sand mining of our coastal areas is regarded unacceptable now. Since the early 80's more than 100,000 km² of remnant woodland has been cleared in Queensland, which is more than 10% of the original pre-clearing extent. Perspectives change as unspoilt remnants become rarer. Less than 4% of Queensland is covered by formal protection such as National Parks or designated Conservation Areas, well below our commitment under the Biodiversity Convention. High environmental value of the area is recognised by the Burnet Mary</p>

	<p>Regional Group in the development of the Wide Bay Burnett Regional Coastal Management Plan and by Calliope Shire's planning scheme, but ignored in the EIS. We have an international obligation to increase the level of protection of our ecosystem types; there is no need for compromise any longer. Instead of weakening the perimeter of our World Heritage Areas we should strengthen it; Hummock Hill Island should be given National Park protection.</p>
12.7, 12.8	<p>Not including migratory or marine species, these species are dependent on remnant regional habitat. The very ecosystems the proponents wish to affect. Just in this small area, this tiny bit of the world in our care, over 6100 hectares of regionally significant remnant vegetation is under direct threat of clearing. THAT IS 61 km²</p> <ul style="list-style-type: none"> • North Curtis island development 2500 hectares -proposal • Curtis Island resort style development 500 hectares - already being cleared, including mangroves in dugong habitat and declared fish habitat • Wiggins Island Coal Terminal 150 hectares terrestrial vegetation <ul style="list-style-type: none"> o 100 hectares marine vegetation o 22 hectares sea-grass in dugong protection area (1% of Curtis beds) • Hummock Hill Island development 1200 hectares - this development lease • Broad Acres/Tannum Waters (Tannum Sands) 1500 hectares -already cleared • Boyne Island (<i>Paradelma orientalis</i> habitat) 150 hectares -already cleared • Fitzroy pipeline - ?? hectares, includes habitat of the critically endangered Yellow Chat <p>The 61 square kilometres constitutes more than 2.6% of the remaining remnant vegetation in the 70km radius search area, home to 56 species of concern. These developments and proposals are just the ones I know of and have been able to verify; it does not include the latest LNG proposal for Curtis Island or the 210 km² State Development allocation within the search area.</p>
12.10.2, 12.11.3, 12.12.2	<p>Irrespective of the rank we give it, biodiversity on and around the island exists and Black Breasted Button Quail is part of it. No matter how you do it, when you remove remnant vegetation to build hotels, golf courses, and residential dwellings at the scale proposed, and introduce 2300 tourists and 1600 residents, it will have a profound effect on the whole ecology of the island and surrounding waters. To suggest otherwise is misleading. We should not be confused by labels such as eco-efficiency, eco-home or "environmentally sustainable infrastructure" as a substitute for our obligation to protect our environment.</p>
12.7, 12.8	<p>Where vegetation types have been mapped as "not of concern" the proponents seem to have given themselves a moral licence to go for it. These "green" areas represent the least fragmented systems, the healthiest of what is left. It should not be interpreted as a green light for clearing. We need to shift our paradigm and relabel these areas "best remnant ecosystems" rather than being of no concern.</p>
2.6, Section 12	<p>White areas within the pink areas on Hummock Hill Island, if given time could recover, fading the scars on our national dignity. Who knows, it may even result in all of the pink area on Hummock Hill Island being reclassified as "of concern" rather than in breach of international obligation.</p>
Section 12	<p>12.12. 12 Of concern, <i>Eucalyptus tereticornis</i>, <i>E. crebra</i> or <i>E. siderophloia</i>, <i>Lophostemon suaveolens</i> open forest on granite,</p> <p>12.12.28 Of concern, <i>Eucalyptus moluccana</i> open forest on Mesozoic to Proterozoic igneous rocks, Data on clearing rate between 1995 and 1997 indicates that the RE continues to experience an annual loss in excess of 1% of current extent per year. The area remaining is likely to fall below 30% within 5-10 years.</p> <p>These ecosystems interact and depend on each other in ways we do not fully understand, particularly in this island setting on decomposed granitic soils. Again, in the absence of a sound scientific basis to our understanding of the interdependencies of the specific ecosystems affected by the proponents' proposed</p>

	<p>action, there are no guarantees that these endangered ecosystems will not suffer irreparable harm. Incomplete, generic or future management plans are speculative and do not adequately qualify as mitigating measures for the proposed modification to these very specific ecosystems under threat.</p> <p>The fact that the EPA's protected matters search tool does not capture or reflect all environmental values we know from and around Hummock Hill Island, serves to demonstrate the lack of full scientific certainty. e.g. <i>Turnix melanogaster</i> - Black-breasted Button-quail, listed as vulnerable under the EPBC Act and</p> <p><i>Numenius madagascariensis</i> - Eastern Curlew a listed migratory species under Bonn, CAMBA, JAMBA.</p>
Section 12	<p>The word negligible is used with disturbing frequency to describe environmental impact throughout the EIS. It would have been prudent to quantify the impacts rather than neglect it. This is particularly important where proposed management practices have no action recorded against "negligible" or "minor" impacts.</p>
Section 12	<p>The semantic use of qualifiers is too often used in the EIS document to infer reduced importance to the environmental values of the area. What is meant by superlative, outstanding, unique, major or significant?</p> <p>Outstanding =more than 3 standard deviations removed from the mean?</p> <p>Unique = the last Quail?</p> <p>Major = affects more than 51%</p> <p>Significant = the last 10% of our ecosystems?</p> <p>Superlative =the one on top?</p> <p>In the context of World Heritage values they are strictly emotional, it links to our humanity. To try and reduce it in legal terms misses the point. The proponents recognise the fact that people pay more money for ocean views and hence they target development by the sea. What they don't distil from this observation is the value of the natural beauty itself, the emotional "human" bit. To claim "minimal or no impact" is a logical consequence of their profitability induced blindness.</p>
2.4, Appendix B4	<p>Cardno 2007, do a feasibility investigation for water supply to the proposed development, estimating water usage of 589 l/household/day. The feasibility investigation makes no mention of pools while the proponents cater explicitly for them in residential precincts. They confirm appropriateness of water allocation by comparison with Agnes Water and Town of 1770 allocation of 440 l/household/day. Agnes Water and Town of 1770 can hardly be considered an appropriate model for responsible water infrastructure planning. The proponents offer "22 kL tank for the Village / Townhouses and Seaside Cottages, whilst a 45 kL tank has been considered for low density residential properties. These tanks provide a reliable yield of approximately 120 L/day and 215 L/day respectively", but do not appear to link this statement to expected rainfall patterns or roof catchment size, no data is presented. The proponents' state "Tanks of this size are typically installed underground" Tanks of these sizes need to be of robust construction designed specifically for underground use and are considerably more expensive than conventional above ground tanks. In this region underground rainwater tanks are definitely the exception rather than the norm.</p>
7.1.3.7	<p>No doubt there are still a few tenacious climate change sceptics out there, and the extent of negligent procrastination of our decision making instruments of</p>

	<p>government to incorporate even the possibility of the effects predicted by scientists, is yet to soak in. I have invested in some data, yet another bit of data hinting at the climate change reality. (039084:ROSEDALE POST OFFICE), It is an analysis of the annual rainfall data from the Rosedale Post Office weather station; it is within 40 km of the Awoonga dam catchment and within 60 km of Hummock Hill Island. The declining trend is undeniable. While statistically significant in this data set, it is data from just one weather station and offers no degrees of freedom as a statistical predictor. It would have been prudent for the proponents to at least have considered rainfall patterns of the nearest 8 weather stations.</p>
7.3.1	<p>Continuation of the dam level trend will see reservoir failure within 3 or so years. Water restrictions will not help much given that most of the water here is used by industry. We will need to shut down industry before then.</p> <p>Predictions of long term reservoir capacity rely on statistical models that use historic rainfall data. It assumes normalcy in rainfall patterns i.e. stochastic behaviour. Factoring in estimates such as the Hurst phenomenon can improve the robustness of the prediction models but relies on the precision of the Hurst factor which requires long term data, typically 100's of years, which we haven't got, so reliance on predictive models needs to be taken with due care. On the bright side; the probability of a cyclone event, like the one that raised dam levels last time, is much higher under changed climate conditions.</p> <p>Awoonga dam as it stands will not secure water for Queensland's industrial heartland and government kneejerk reaction is predictable. Environmental values will again be set aside for the net benefit of the state.</p> <p>Construction of the Fitzroy pipeline is the most likely outcome. But how will we deal with the social impact of having to "sell" the pipeline to the irrigators along the Fitzroy River who have been denied pumping quotas on environmental grounds? Is Anna going to politically mitigate and dredge Port Alma to throw them a prosperity bone? Do we now loose the Yellow Chat for the perceived net benefit of the state?</p>
12.9, 13.5, 13.6, 13.10	<p>The proponents sought to reduce buffering, not improve buffering for potential environmental effects.</p> <p>Buffering of Erosion Prone Areas is required to be 80 meters along the sandy foreshore measured inland from the toe of the primary dune.</p> <p>Note 80m buffer along proposed foreshore development while the next segment west requires 400m erosion buffer.</p> <p>The consultant's report clearly states that a defensible argument to reduce the 80m buffer does not exist yet the proponents mount one in the EIS. Highlighting protection by the headland to the east, ignoring increased risk from the west.</p> <p>The proposed beachfront development is in breach of the 80m requirement</p> <p>The western area precincts of the proposed development about 40% of the project's residential development is within coeey of predicted storm tide events, not taking climate change conditions into account.</p> <p>Our government instrumentalities have suffered political leadership in denial of climate change, the odds of policies and guidelines reflecting the real risks, as identified by scientists, in a meaningful way are unlikely.</p> <p>Suggesting that the raising of low lying areas mitigates the risk of inundation is foolhardy.</p>
15.2, 15.4, 15.6.9, Appendix B2	<p>PAGE 1-4 "The Island is approximately 13 km long, 3 km wide, with a total area of 2,150 ha, of which 341 ha (12%) fall within the development footprint"</p> <p>If on the basis of the above analysis we factor in a loss of environmental amenity due to clearing for development, the 341 ha footprint of the proposed development represents \$3.41 million for every single dollar of EV degradation.</p> <p>We know EV degradation potential has been shown to be at least \$350/m2 for some areas in Boyne/Tannum</p> <p>But realistically, no one really believes that environmental degradation will be constrained to the "foot print" so a more appropriate measure of the environmental value of Hummock Hill Island on the basis of the proponents' preventative expenditure/ replacement cost approach would be to consider the EV degradation for the full 2150 ha, that is \$21.5 million per EV degradation dollar.</p> <p>A valid proxy for ascribing environmental value would be to use the inverse relative projected sale values of the different island site locations, from the financial models not made publically available. From this we can generate an "EV degradation density" contour map of the island. The integration of this data then</p>

	represents a more rigorous and appropriate EV value for the economic modelling. Even very modest acknowledgement of EV degradation values suggests that significantly higher environmental values should be used in the cost-benefit analysis presented in the E15.
Noted	<i>"All powers of other government agencies (including the EPA) to impose conditions on the project or require its refusal evaporate, and the government is obliged to implement the recommendations in the Coordinator General's report, so effectively that report becomes the final decision."</i> The very authority charged with the protection of the environment, the EPA is excluded.
15.2, Appendix B2	It appears the proponents' economic model takes projected expenditure and applies multipliers to these sums, recognising the cascading effects of money moving through the economy. These effects cascade through the local economy and the state economy and of course the national economy given the proponents' base in Sydney and their NSW business network.
Noted	It is recommended that the Coordinator-General <ul style="list-style-type: none"> • reject the recommendation made by the proponents in the EIS • and that Special Lease 19/521550ver Lot 3 on FD841442 be allowed to lapse.
Appendix C - EPBC Report	The intended action threatens species protected under the EPBC Act
12.1, 13.1, 13.2, 13.11	Insufficient scientific detail has been provided to quantify the nature of the occurrence of these species under threat, ecological interactions within the licence area, on the island, within the World Heritage listed area, and within listed Dugong and fish habitat and wider Colosseum Inlet eco-system.
12.1, 13.11	Invalid representation in the EIS of the environmental values of the Hummock Hill Island area. The EIS understates the environmental values contravening the National Strategy for Ecologically Sustainable Development
2.2.1	Erroneous detail in basic design of infrastructure resulting in unrealistically small footprint for the proposed action and hence an unspecified environmental risk.
17.4, 17.5 - EMP updated	Poorly specified Environmental management plans.
12.8	Lack of scientific evidence to support the effectiveness of the generic protection and offset mechanisms proposed
1.3	The EIS breaches the terms of reference due to invalid community consultation
15.4, Appendix B2	The EIS overstates the project benefits
4.4.2	The proponents failed to complete the EIS process by the deadline of the one year extension of Special Lease 19/52155.
12.1.2	A consequential recommendation is that the Coordinator-General then also recommends that Hummock Hill Island be given National Park protection status.

Submission Number	14
Submitter	Ray Woodburgess
Supplementary Cross-Reference	Issue
11.1.1	It has indigenous artefact sites.
13.1, 13.2, ,13.6, 13.11	HHI is located in a world Heritage area, It is a nesting place for two species of turtles. It is surrounded by three fish habitats. It is surrounded by a dugong sanctuary and sea grass beds. It is in GBRMPA waters.
12.12.1, 12.13	It has an agreement with China and Japan (JAMBA and CAMBA) a safe resting place for migratory birds.
12.1.2	May I suggest that the Island is listed for a National Park, and any building for future homes is away from our coastal areas.
3.1.3	HHI is extremely close to Turkey Beach, and the heavily populated township Boyne-Island and Tannum Sands.
12.5	It has venerable littoral vine scrub

Submission Number	20 (also refer to multiple submission table)
Submitter	Lauren Wordsworth

Supplementary Cross-Reference	Issue
13.2, 13.3, 13.6	Putting up signs at boat ramps does not mean that people are going to follow them and behave in a responsible manner. Increased pollution in the area also has the potential to harm the seagrass meadows, reducing dugong food supply.
13.2.1, 13.2.2, 13.6	As dugongs are seen only infrequently in the area, the report states that impact on the population will be negligible. Just because they are only seen occasionally does not mean they are not there and that the population isn't important. Increased boat traffic has the potential to harm not only the dugongs, but also the many dolphins and marine turtles that also frequent the area.
12.14	Another concerning point is that the proposal will clear vegetation that has previously been mapped as "Essential" koala and wallum frog habitat. This is justified by the fact that at the time of the investigation, no koalas or wallum frogs were seen and thus the map must be unreliable.
2.5, 12.4, 12.5	<i>"The Island does provide limited habitat for species of conservation significance (such as the Black Breasted Button Quail), however essential habitat for these species (such as littoral vine forest) is outside the development footprint and a vegetation buffer is located between the development and habitat for these species"</i> I am interested to know as to how the "development footprint" has been designated in this case. Does it refer to the areas cleared and built upon, or the interaction of humans within the habitats also? If the latter is the case, how can we expect human interaction to be controlled?
7.1.2, 7.3.7	The EIS also states under the Coastal Environment heading, that all stormwater will be discharged into the Inlet, with minimal treatment. The reasoning behind this is that because nutrient and sediment load coming out of the Inlet is already so high, any extra pollutants (such as fertilizers and chemicals from the golf course which is to be treated for "pests") will have a negligible effect. I fail to see how increasing pollution in an area is justified by the fact that it is already polluted.
12.10.2, 12.11.1	The island is home to the black breasted button quail (listed as vulnerable under the EPBC Act). Other important natural features on the Island include a stand of "endangered" Eucalyptus populnea woodland on alluvial plains; the "endangered" Eucalyptus tereticornis and the "of concern" Microphyll/notophyll vine forest.

Submission Number	21, 22 & 23
Submitters	Multiple Submitters
Supplementary Cross-Reference	Issue
13.2, 13.4	The development will mean an increase in boats, recreational fisherman and their crab pots making use of the surrounding waters.
12.6.1	The proposed development which effectively straddles the island east to west will unavoidably lead to habitat fragmentation, which is one of the principal drivers of species extinction and therefore a major threat to the endangered flora and fauna located on the island.
12.1.2	We recommend that the existing Wild Cattle Island National Park be extended to include Hummock Hill Island with the ultimate aim of establishing a Greater Colosseum Inlet National Park which will include Hummock Hill Island as one of the keys to its integrity and ongoing viability as an ecosystem
12.2	Along with the new residents of the island will be cats, dogs, rats, mice and introduced plants and weeds some of which will certainly end up in the natural environment.
13.6	A link between coastal development and the demise of sea grass beds has resulted in the United Nations Environment Programme's Dugong action plan acknowledging the threat from coastal development on the survival of the dugong.
2.5, 12.4, 12.9, 12.11, 13.10, 18	The Proponent is patently unable to guarantee the integrity and protection of the environment surrounding their development and their proposed protection measures are incomplete, poorly specified and lack scientific evidence as to their effectiveness.
12.12.1, 13.1, 13.2	Hummock Hill Island and its surrounding waters are part of the Great Barrier Reef World Heritage area, its waters are listed as dugong sanctuary and fish habitat,



	important and unique coral reef systems are within meters of the beach, the beaches are frequented by nesting sea turtles and the island is part of the East Australia flyway for migratory shorebirds (listed under Bonn, CAMBA, JAMBA.).The island forms part of the wider Colosseum inlet ecosystem which is recognised as being of "High Environmental Value" by the Burnett Mary Regional Group, who are in the process of documenting regional coastal management plans.
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Submission Number	24
Submitter	David Brown - Burnett Mary Regional Group
Supplementary Cross-Reference	Issue
13.2.1, 13.2.2	The EIS estimates the development will cater for up to 2300 tourists and 1600 residents. It also states that "Increased boat traffic within estuarine waters around the Island is anticipated to be relatively minor with a subsequent minor increase in boat strike risk to turtles and dugong." Given that the Island is undeveloped at present, it is difficult to see how the increased population will have a minor impact.
7.1.1.6, 7.1.2	It should also be noted that the Environmental Protection Agency has proposed the estuarine and marine areas around Hummock Hill Island as draft High Ecological Value areas. This has ramifications for assessing pollution discharge, and may require further consideration when designing the stormwater system for the development.
12.3, 12.13	The EIS states that migratory shorebirds were surveyed during March 2007 and concluded that the proposed development would not threaten them. In 2007, our group commissioned the Queensland Wader Study Group to survey critical high tide roosts, and they found three roost sites specifically on Hummock Hill Island (beach side) with an additional two roosts to the south and south-west of the Island. Details of these sites are attached. Of all shires in the Burnett Mary Region, the Miriam Vale Shire had the largest number of roost sites, partly because there is less coastal development. Our group suggests that the proposed development will result in more human disturbance to the roost sites for these migratory species which are listed under the Environment Protection and Biodiversity Conservation Act.
12.2	There are also potential impacts from the domestic animals and additional introduced weeds which will accompany residents and tourists.
13.5, 13.11	The EIS refers to anecdotal evidence of the existence of sub-tidal reefs near Hummock Hill Island (p15-23), but states in the executive summary that "Fringing reefs are absent from the Island." Our group has funded the Central Queensland University and the Environmental Protection Agency to map reef between Hummock Hill Island and Burrum Heads because of the lack of detailed mapping of fringing coral reef sites and co-existing habitat. In the past, these reefs have failed to attract much attention, however they are extremely diverse and productive ecosystems, and it is now well documented that they are under threat from human activities, including altered nutrient levels, coastal development and overfishing. Our group believes that the EIS should review the data collected under the mapping project in order to properly consider the impact of the development on fringing reefs and whether World Heritage Area values will be affected.
12.2, 12.10.1	The EIS states that the vulnerable Beach Stone Curlew was recorded from the ocean beach north of the proposed development. Whether or not the species is abundant on the Island, it should be noted that the major threats to this bird include loss of habitat due to residential development, disturbance from beach-combing, boating and off road vehicles, and predation by cats and dogs. The proposed development has potential impacts in all of these areas.
12.7, 12.8	The EIS also notes that the development will result in the loss of 341 ha of remnant vegetation, comprising eleven regional ecosystems, and that there will be a loss of habitat for some fauna species of conservation significance.

Submission Number	25
Submitter	Environmental Protection Agency

Supplementary Cross-Reference	Issue
4.3, Appendix B5	Clearing within tidal areas will be in accordance with conditions of approval under the Integrated Planning Act 1997 (Coastal Protection and Management Act 1995, Fisheries Act 1994 and Marine Park Act 2004), not recommendations of the 'Wetland Management Profile' as stated.
12.2, 12.6, 12.7, 13.2, 13.8	The full impact of the development on coastal biodiversity values has not been clearly stated, particularly in relation to clearing and fragmentation of terrestrial ecosystems by development on the island and in providing electricity and gas supply to the island. Measures proposed to mitigate impacts on biodiversity are not sufficiently defined to demonstrate effectiveness and practicality, particularly in relation to lighting impact on the turtle rookery, boating impacts on turtles and dugong, control of domestic animals, future clearing within precincts, and future intensification and expansion of urban development beyond what is currently proposed.
Section 2	The statement that the development avoids all coastal freshwater wetlands is incorrect. It is proposed to significantly modify the freshwater wetland within the coastal dunes and to prevent any future ingress of sea water which periodically occurs naturally. This modification and the subsequent change in dynamics of the natural coastal processes within the inter-tidal area will impact on inter-tidal habitat and may be inconsistent with the objective of the Marine Park Zoning Plan General Use A, which is to provide opportunities for reasonable use consistent with the conservation of the areas of marine park. (Refer to section 8.3 and associated comments)
Noted - EMP updated	The table of commitments contains few objective, auditable commitments to environmental outcomes and to design and management of development that would achieve the desired environmental outcomes. Reference is made to draft environmental management plans which again lack objective and auditable commitments. A number of 'commitments' relate to development of management plans to be developed after a decision under the State Development and Public Works Organisation Act 1971.
Noted - EMP updated	Specific advice in relation to potential impacts and the adequacy of measures proposed in the EIS is provided in relation to specific sections of the EIS. It is recommended that: 1. Commitments that cannot be subsequently audited to assess compliance should be amended to provide an objective basis for conditions of approval and auditing of compliance. 2. Commitments to development of management plans should not be considered to be part of the mitigation of impacts unless supported by information in the EIS to demonstrate that the impacts can be effectively managed to an acceptable and defined level, and commitments are made that can form the basis for conditions of approval.
6.6.1	The commitment to incorporation of 'fauna passages' in culverts and crossings is not supported by any information on fauna movement, design of 'passages', or potential effectiveness of such provisions.
13.7.2, 13.10, 13.11, 13.12	Further clarification of measures to protect water quality in the surrounding marine park, Dugong Protection Area and Fish Habitat Area is required to ensure that commitments are practicable and able to be specified in conditions of approval, if the development is approved.
8.4.3	The statement that greenhouse emissions from the development will be minimised by maximising renewable energy sources is not supported by information provided in the EIS. Primary electricity supply will be mains electricity. (Refer to section 3.4.3 and associated comments)
3.1.3, 8.4.1	The EIS states, in relation to regional housing demand, that: "The residential housing component of Hummock Hill Island would accommodate around 5% of the future population growth and allotment demand, providing a range of housing types and affordability in a desirable coastal location within a sustainable context that helps to reduce ecological footprint. The Island is ideally situated with Gladstone (65 km), Tannum Sands (40 km) and Miriam Vale (30 km) being the nearest regional centres providing shopping, postal and banking facilities." Demand for housing development to service the growing demands of industrial development in the Gladstone region is provided for by the new planning schemes for Gladstone

	and Calliope in locations consistent with planned infrastructure development. Even without consideration of the direct and indirect impacts on coastal resources on and adjacent to Hummock Hill Island, the suggestion that the development could be ecologically sustainable is not supported by the EIS. The need for residents to travel long distances to the nearest centres of employment, major shopping centres, and community services; and the greenhouse gas emissions from clearing and transport, grid connected (non-renewable) electricity, and reliance on desalination for water supply, strongly counter any argument that the proposed development is ecologically sustainable. It is noted that Section 10.1.1.2 Greenhouse Gas Emissions and Appendix A7.9 Air and Noise do not consider greenhouse gas emissions from clearing or commuter traffic.
3.1.3, 14.6	The EIS states that the development would provide for 33% of the future housing requirements for the Miriam Vale Shire and 5% of the future Gladstone region population growth. The EIS identifies a number of additional studies “in conjunction with relevant Local and State Government” to determine community service infrastructure requirements for the proposed new urban centre of Hummock Hill Island, the timing of delivery, and the funding of such services. Population growth projected for the Gladstone region, including Gladstone, Calliope and Miriam Vale local government areas, is provided for by the respective planning schemes in locations consistent with infrastructure and community service planning. It is recommended that the likely demands for community services (human services and emergency services) and infrastructure should be clearly stated in the EIS such that the potential full cost to local and State government resulting from the development is made clear.
15.1, Appendix B2	The EIS states that the benefits of the development have been analysed and considered against the possible adverse impacts and it was found that the development has significant benefits to the State while minimising any adverse impacts. The argument of ‘net benefit to the State’ is highlighted as a basis for locating a large part of the development over an area identified by the Environmental Protection Agency as an ‘area of State significance (natural resources) and therefore subject to Policy 2.8.1 of the State Coastal Management Plan.
13.14	Table 15.15 Mitigated Impact Levels to Areas of State Significance (Natural Resources) - Fish Habitat Area A. Areas of state significance (natural resources) under the State Coastal Management Plan do not include Fish Habitat Areas.
4.2, 4.3, 12.1, 13.1	The EIS states that: “Areas of State Significance (Natural Resources) are identified in regional coastal management plans (RCMP). The Curtis Coast Regional Coastal Management Plan does not include small low, linear sand islands and fish habitat areas as areas of state significance (natural resources) nor would the Wide Bay Regional Coastal Management Plan. The State Coastal Management Plan provides the definition of areas of state significance (natural resources) and regional coastal management plans map these areas. In the absence of regional coastal management plans the definition on page 42 and the associated definitions provided in the terms and abbreviations section prevail to identify areas of state significance (natural resources). Hummock Hill Island does not contain any protected area (state land) but does support endangered regional ecosystems, significant coastal dunes systems and significant coastal wetlands.
4.3.2, Appendix B5	The proposal for a new urban area on the coast in a location remote from existing urban centres is inconsistent with Policy 2.1.2 Settlement Pattern and Design of the State Coastal Management Plan. However, the effect of the issue of a lease by the State over most of the land subject to the proposed development, on the application of Policy 2.1.2, may need to be considered.
13.1	The EIS states that: “Critical habitat for marine species has not been listed in the SCMP or Curtis Coast RCMP or identified within estuarine or marine waters around the island.” The EIS stated in the paragraph before the above statement, “The Wide Bay Burnett RCMP has not been released for public comment (as of November 2007), however significant coastal resources are likely to be similar to the Curtis Coast RCMP.” The Curtis Coast Regional Coastal Management Plan identifies seagrass meadows as ‘significant coastal wetlands’ and therefore ‘areas of State significance (natural resources)’. The seagrass meadows to the east, south and west of Hummock Hill Island are considered critical habitat for marine species (dugong and turtle), as would the mangroves/inter-tidal wetlands which have been similarly listed in the Curtis Coast Regional Coastal Management Plan.

13.1	The EIS should recognise the seagrass and inter-tidal wetlands as 'areas of State significance (natural resources)' based on the definitions in the State Coastal Management plan.
15.1, Appendix B2	A large part of the development is proposed to be located in an area assessed by the Environmental Protection Agency as being a 'significant coastal dune' system based on the definition contained in the State Coastal Management Plan-Queensland's Coastal Policy. Policy 2.8.1 of the State Coastal Management Plan provides that development within an 'area of State significance (natural resources)', which includes 'significant coastal dunes', must demonstrate a net benefit to the State. The Environmental Protection Agency considers that the estimate of 'net benefit' included in the Environmental Impact Statement does not meet Queensland Treasury guidelines and that the proponent has not demonstrated a 'net benefit' to the State.
4.3, Appendix B5	WRT the Policy 2.1.2 of the State Coastal Management Plan the EIS (p2-14, 2.1.3.1 Wide Bay Burnett Regional Plan, Settlement Pattern, Preferred Settlement Pattern) outlines objectives and principles of the Wide Bay Burnett Regional Plan (plan prepared under the Integrated Planning Act 1997). The Wide Bay Burnett Regional Plan seeks to ensure that urban development within the region is directed towards areas that can be serviced efficiently and equitably, without degradation of environmental values, or restriction of the operation of future development of important economic activities based on a strong Regional Centres Network that facilitates efficient transport systems, provides a focus for government investment and promotes commercial confidence in private sector investment. The proposed development is located on the coast in an area remote from any existing urban development. Population growth projections for the Gladstone region, including Gladstone, Calliope and Miriam Vale local government areas, are provided for by the respective planning schemes in locations consistent with planning for and orderly provision of infrastructure and community services. It is recommended that - Plans clearly showing the location of the development in relation to the cadastre and to the erosion prone area should be provided. Practical and affordable measures that Council could use to prevent residents introducing/owning cats should be clearly stated and suitable measures should be included in the Plan of Development. The means by which future intensification or expansion of development will be prevented should be clearly stated and included in the Plan of Development.
12.8, 15.1, 15.6.1	The EIS correctly identifies endangered regional ecosystems and significant coastal dunes on Hummock Hill Island as being 'areas of state significance (natural resources)' although an argument is presented to suggest that the Tiber Point Strand Plain, over which a large part of the development is located, is not 'state significant' (See comments in relation to Section 5.2.1.1). The development will be located within and adjacent to 'areas of state significance (natural resources)'. The EIS states that the development is considered to be of net benefit to the state and therefore consistent with Policy 2.8.1 of the State Coastal Management Plan. The EIS states (Volume 2, Page 14-37, 14.3.1.2 Compensatory Habitat Strategy) that clearing these ecosystems is consistent with Policy 2.8.1 of the State Coastal Management Plan if the development is of net benefit to the state and argues (Section 5.2.1) that the project is of net benefit to the State. It is recommended that the EIS should clarify the extent of remnant vegetation that will be subject to a permit to clear under the Vegetation Management Act 1999, even if some of this vegetation may not actually be cleared. The location of all elements of the development in relation to the 100 metre buffer to HAT and the erosion prone area, should be shown on a map capable of being transferred to a GIS layer. Any approval under provisions of the SDPWO Act should exclude development over the 'significant coastal dunes' unless the proponent can demonstrate that this part of the development is of net benefit to the State.
12.3.4	Appendix A3 EPBC Report Table 3-1 Threatened Flora and Fauna Species Occurring on Hummock Hill Island. The statement that habitat of the Red Goshawk (<i>Erythrotriorchis radiatus</i>) is unlikely to occur because it is an 'Oceanic' species is incorrect. Other sections of the EIS correctly state potential habitat.
13.8	The ability to satisfactorily control artificial lighting impacts on turtle nesting has not been adequately addressed in the EIS. (Refer to section 5.2.6 and associated comments).
13.8	The commitments in relation to protection of sea turtle nesting from lighting

	impacts are not objective.
12.8	It is not clear whether the contents of Table 3.1 are intended to be further commitments which will be complied with if the development is approved, or are only intended as guide. The location of, or options for, the proposed offset for 'of concern' vegetation proposed to be cleared should be identified prior to a decision under the State Development and Public Works Organisation Act 1971 (SDPWO Act) in order to give certainty that an offset can be provided. This information may need to remain confidential to the Coordinator General and the Department of Natural Resources and Water.
12.7	The assertion that no endangered vegetation would need to be cleared should the development be approved is not adequately supported by information in the EIS. Clearing for fire breaks, service infrastructure, midge and mosquito control, and airstrip obstacle clearances need to be considered. (Refer to Table 14-15 and associated comments)
4.3.4, 12.15.1	The EIS states that "The underlying policy of areas of significant coastal dune systems is to protect the biophysical values of coastal dunes that are seen to have recreational amenity values." The applicable State Coastal Management Plan policy is 2.8.1 Areas of state significance (natural resources) not 'areas of significant coastal dune systems' as stated in the EIS. Policy 2.8.1 is applicable to coastal dunes that meet the State Coastal Management Plan criteria as a significant coastal dune system, not to coastal dunes that 'are seen to have recreational amenity values' as stated in the EIS. Policy 2.8.1 aims to achieve the coastal management outcome: "Coastal ecosystems, including their ecological processes, opportunities for survival, biological diversity and potential for continuing evolutionary adaptation, are maintained, enhanced and restored'. This is quite different from protection of 'biophysical values' as stated in the EIS.
4.3, Appendix B5	The EIS states that the coastal management district listed in the Coastal Protection and Management (Coastal Management Districts) Regulation 2003 includes four current districts: Curtis Coast, Cardwell Hinchinbrook, Wet Tropical and South East Queensland and that Hummock Hill does not fall into these districts, being situated adjacent the southern boundary of the Curtis Coast CMD. Section 168 of the Coastal Protection and Management Act 1995 provides that each coastal management control district and erosion prone area under the Beach Protection Act 1968 is taken to be a control district under this Act. In the absence of a regional coastal plan the coastal management district on Hummock Hill Island is taken as the coastal management control district and erosion prone area.
4.3, Appendix B5	Volume 1, Pg 5-6, section 5.1.1.2 Qb - Coastal Beach Ridges. Error in quote. There is no such policy as 'areas of state significant coastal dune systems'. The components of Policy 2.8.1 Areas of state significance (natural resources) relating to significant coastal dune systems is not restricted to protecting biophysical values of coastal dunes. The definition of a significant coastal dune and the intent of policy 2.8.1 is not restricted in any way to coastal dunes that 'are seen to have recreational amenity values'.
Noted	Project Description 3.4.1.4 Water supply Strategy - Desalination. A desalination plant of the size proposed is not an environmentally relevant activity (ERA) 16 under Schedule 1 of the Environmental Protection Regulation 1998. The Environmental Protection Agency will not be the administering authority for any conditions relating to this plant although any associated tidal works will require a permit under provisions of the Coastal Protection and Management Act 1995.
Noted	Volume 1, Page 2-3, Planning and Legislative framework. The EIS correctly states that the State Coastal Management Plan (State Coastal Plan) and regional coastal management plans have the status of a State Planning Policy for the purpose of making and amending planning schemes and assessing and deciding development applications. The State Coastal Management Plan and regional coastal management plans are also statutory instruments and have statutory effect under the Coastal Protection and Management Act 1995 (Coastal Act) to guide relevant decisions by the State and local governments and the Planning and Environment Court.
2.4, 8.3.1	The location of the sewage treatment plant (STP) is unclear. The reference to figure A-1, item 11 is actually the location of the golf course driving range on the figure legend. On figure A-1, the location of the STP is item 13. There does not appear to be a 300 metre buffer from surrounding properties at either location as proposed in the EIS. An adequate buffer between the STP and any odour sensitive location will be required to meet the requirements of the Environmental

	Protection (Air) Policy 1997. It is recommended that the exact location of the sewage treatment plant and buffers should be clarified.
13.7.2, 17.5.2	The draft EMP provides for an ongoing water quality monitoring program with reporting by the 'resort operator' and 'appropriate on-site operations personnel'. While an ongoing water quality monitoring program is commendable, the actual monitoring program is not defined and it is not clear who would be responsible for the program and how implementation of such a program could be enforced by Council, other than monitoring associated with sewage treatment and desalination as specified in conditions of approval under the Integrated Planning Act 1997. Any ongoing water quality monitoring program required by conditions of approval under the SDPWO Act would likely default to local government. The commitment appears to be meaningless unless Council can reach some contractual arrangement with the proponent.
17.4, 17.5 - EMP updated	There are few objective and auditable commitments to environmental outcomes and management in the draft EMP. There is extensive use of the word 'minimise' without any clear statement of the minimum outcome to be achieved. Many management actions are deferred to separate plans to be developed after approval under the SDPWO Act. As such, detailed comment on the draft environmental management plans will not be provided.
13.7.3	Volume 2, Page 20-51. The EIS indicates the following requirement in relation to management of nutrient loading: "Management of upstream nutrient sources, such as those that come from human sewerage." There should be no human sewage derived nutrient inputs into the natural waters. It is recommended that measures be implemented to ensure no nutrient loading of waters from human sewage and the EIS be amended to reflect this.
13.7.2	Volume 2, Page 20-20. The performance criteria for water quality are not sufficiently objective to allow assessment of compliance. Water quality objectives and indicators need to be specified. Early detection criteria should also be assigned, such as for suspended solids or turbidity levels during construction. It is recommended that site-specific performance criteria for water quality be defined based on sub-regional Water Quality Objectives derived from adequate baseline monitoring.
15.1, Appendix - B2	It is recommended that the assessment of 'net benefit to the State' should be repeated using methodology consistent with Queensland Treasury's Cost Benefit Guidelines 2006 and in consultation with the Economic Services Branch of the Environmental Protection Agency.
12.10.1	It is recommended that the suitability of the shoreline adjacent to the northern part of the proposed development for beach thick-knees should be discussed and supported by a comprehensive survey for the occurrence of this species along this part of the coast.
12.10.1	It is recommended that the potential long term impact on habitat of the beach thick-knee resulting from the recreational use of the northern shoreline should be discussed.
12.5, 12.10.2	It is recommended that the distance between the development and the vine thicket and the nature of the buffer should be clearly stated with discussion on the effectiveness of buffer to prevent adverse impacts on the black-breasted button quail and its habitat from predation, fire, weeds, and other people related disturbance.
12.11.4	On Page 9-37, the EIS states that "Monitoring of intertidal wetlands within the vicinity of proposed construction works and ephemeral watercourse discharge points will also be required to assess any potential impact to identified EVs in these areas. This monitoring will be conducted in accordance with Qld Herbarium requirements." This statement is meaningless as there are no Qld Herbarium requirements. It is recommended that this statement is amended in Section 9.3.3 to remove misleading information.
13.7.2	The recommended WQ monitoring program for pre-construction (baseline) and construction should be stated in sufficient detail to allow assessment of the adequacy of the program to monitor potential environmental impacts resulting from the development, reflection in conditions of approval, and auditing of compliance should the development proceed.
13.7.2, 13.13	Construction of the bridge has a very high risk of impact to the surrounding estuarine and coastal environment. Continuous turbidity meters should be

	<p>deployed for a number of months prior to bridge construction to determine background turbidity under a range of tidal, sea-state, and rainfall conditions. Use of turbidity meters allows data to be obtained during high wind conditions when turbidity levels are expected to be much higher and samples cannot be obtained. The data is needed to allow determination of trigger levels for turbidity (eg 99th percentile of the baseline conditions) that will result in management actions to prevent environmental harm. Specific limits to increased turbidity will be imposed by the operational works approval for the bridge. It is recommended that continuous turbidity meters should be deployed for a number of months prior to construction and for the time of the bridge construction. Clear commitments to turbidity monitoring should be set out in the water quality monitoring plan to be provided prior to a decision under the SDPWO Act.</p>
13.7.2	<p>The water monitoring locations for determination of background conditions need to be well distributed across the waters that would be potentially affected by runoff from the development site. Figure 9.8 indicates the water quality monitoring locations for the data presented in the EIS. Runoff to the east from the part of the development located on the central hills, golf course and airstrip appears to flow to Sandfly Creek but no monitoring point has been located in Sandfly Creek or in waters offshore from the creek. A large area of seagrass is mapped offshore from the mouth of Sandfly Creek. It is recommended that the Water quality monitoring plan sampling locations should include at least W1, W2, W5, W8, (as shown on Figure 9.8) and must include an additional monitoring site at the mouth of Sandfly Creek.</p>
13.7.2	<p>The accurate determination of nutrients in marine waters is a highly specialised analysis and prone to artefacts as a result of poor sampling techniques. No information has been provided about the laboratory which performed the analysis, the methods used and whether the laboratory has NATA accreditation for those analyses. If the development is approved, conditions of approval should require that:</p> <ul style="list-style-type: none"> • The proponent utilise only laboratories that are NATA accredited for nutrient determination in marine water samples; • Personnel performing water sampling must receive adequate training in that sampling technique; and • If a NATA accredited laboratory other than Queensland Health Forensic and Scientific Services (QHSS) laboratory is used, duplicate analysis on a subset of the samples should be carried out by QHSS and results reported.
13.5, 13.6, 13.12	<p>It is recommended that survey data on the location, extent and condition of coral and seagrass communities should be provided as a baseline for comparison with future monitoring data if the development is approved.</p>
13.12	<p>It is recommended that the proponent should provide an objective commitment to monitoring the extent and condition of adjacent seagrass and coral communities during construction (as part of the water quality monitoring plan) to test compliance with the “no change to natural variability” condition.</p>
13.7.2	<p>The EIS states: “Until such a data set is achieved, through the proposed water quality monitoring plan, default regional guidelines for the Central Queensland Coast region and ANZECC (2000) will be used as interim WQO for estuarine and marine waters” No details of the water quality monitoring plan have been provided to allow assessment of the adequacy of the plan. While the Queensland Water Quality Guidelines and ANZECC guideline provide default Water Quality Objectives, locally derived sub-regional guidelines would be much more relevant to this development.</p>
13.7.2	<p>It is recommended that the proponent provide background monitoring results for the estuarine and coastal waters to provide a firm basis for determining Water Quality Objectives. A minimum of 24 data points over 12 months would be considered adequate. Suspended solids, nutrients, herbicides, pesticides and some metals eg copper and lead, should be analysed.</p>
13.7.2, 13.12	<p>It is recommended that since sediment and particulate nutrient loads are a threat to sea grass communities, continuous turbidity monitoring should be instigated prior to construction (several months) and during the construction phase.</p>
13.7.2	<p>It is recommended that a detailed water quality management and monitoring plan or set of commitments should be provided as outlined above.</p>
13.7.2	<p>It is recommended a clear objective and auditable commitment to maintaining the existing water quality in estuarine and marine waters supported by similar</p>

	commitments to stormwater system design, erosion and sediment management, and to water quality monitoring and reporting is essential. Commitments must be sufficiently objective to allow reflection in any conditions of approval under the SDPWO Act and subsequently by Council.
2.4, 13.7.2	It is recommended that a Water Quality Monitoring Plan for pre-construction and construction phases should be provided detailing sampling frequency, locations, and analytes. As a minimum, nutrients, suspended solids, herbicides and metals should be monitored following rainfall events, in ephemeral streams.
13.7.2	It is recommended that the proponent provide results of all the freshwater water quality monitoring performed to date at the site, if not already included in the EIS.
2.4, 13.7	Any development approval should include a condition requiring that untreated sewage be contained such that discharge to marine waters does not occur. Further detailed information should also be provided in relation to the potential for release of treated wastewater to marine waters.
7.1	It is recommended that the proponent provide a clear commitment to the minimum design criteria for WSUD devices and provide evidence of the effectiveness of this minimum design standard for the rainfall pattern in the Gladstone region compared with south-east Queensland. The minimum design standards for the sediment control systems should be stated in sufficient detail to allow inclusion in conditions of approval under the SDPWO Act and subsequently by Council.
Section 7	The words “contain and/or ameliorate up to Q100 design flows” give no certainty to the design parameters for the stormwater management systems. Water discharged from the golf course may have elevated levels of nutrients, pesticides and herbicides, which can have significant adverse effects on marine communities, particularly seagrass. It would be preferable for all the stormwater basins be designed to contain the Q100 rainfall event. The water could then be available for re-use. If that is not possible, a table should be included, detailing the design specifications for all of the proposed stormwater basins. It is recommended that the area, capacity and locations of the stormwater retention basins should be stated.
12.15.2	Anecdotal evidence indicates that historic grazing has not compromised the dune system or its values and no evidence has been presented in the Hummock Hill Development EIS to suggest otherwise. There is some evidence that the vegetation has been affected by excessive frequency of fire which reduces the occurrence of vine thicket species/communities.
12.15.2	A comparison of the dune system remnant and preclear regional ecosystem vegetation mapping in conjunction with 2.5m (SPOT) satellite imagery indicates that almost 100% of the original vegetation remains for this system or has regrown to remnant status since historic clearing.
12.10.1	The significance of populations of beach thick-knee and black-breasted button quail could only be determined by much more extensive and intensive survey effort.
12.13	Insufficient information is available from the EIS and other studies to determine the significance of shorebird roosting and feeding habitat.
7.1	The EIS states that “The design requirements for proposed treatments outlined in Table 8.10 and Table 8.11 are conservative and include a safety factor that would incorporate any potential storm flow changes associated with climate change.” Since the design parameters of the proposed Water Sensitive Urban Design features are not included in Table 8.11, it is not possible to assess the accuracy of this statement. No details are provided on the scale of the safety factor, or the maximum increase in storm flow changes that would be safely addressed by the design. It is recommended that the proponent provide sufficient information to support the statement that the proposed treatments in Table 8.10 and 8.11 could accommodate any potential storm flow changes associated with climate change, or withdraw the statement.
7.1.1.6	Table 8.8 presents potential pollutant loads based on Music and Sednet modelling of Hummock Hill Island and Colosseum Inlet respectively. It is not clear whether the output from each model is based on the same level of site development. No explanation is offered as to why the Total Suspended Solids (TSS) for the whole of Hummock Hill Island estimated by Music is approximately 14 times smaller than the TSS estimated by Sednet for the stormwater discharge from the portion of the island that flows to Colosseum Inlet. It is recommended that the assumptions used

	for Music and Sednet modelling be clarified. It needs to be specifically stated whether the results presented by both methods in Table 8.8 were generated using identical development scenario's. If not, then a brief summary of the differences between the model inputs should be included. Differences between results provided by both methods should be discussed.
7.1	The EIS uses load based objectives from WSUD: Developing design objectives for Water Sensitive Urban design in South East Queensland (2006). These objectives have been updated (Version 2 published November 2007) and the load based criterion Stormwater Quality Management is only one of three assessment criteria in the document. The design of stormwater management systems should also be based on the criteria for Frequent Flow Management and Waterway Stability. It is recommended that an assessment of the extent to which the design of the stormwater management systems addresses Waterway Stability Management and Frequent Flow Management design criteria of the WSUD: Developing design objectives for Water Sensitive Urban design in South East Queensland (2007) should be provided. If these design criteria are not adopted, information on the actual design objectives and mitigation measures used for 'frequent flow management' and 'waterway stability', including specifications, should be provided.
17.4.4, 17.5.3, 18	The EIS states that: "Exposure of soils to erosive forces will be minimised through staged clearing of vegetation and progressive stabilisation and/or rehabilitation of disturbed surfaces." The statement in relation to 'staged clearing' is not supported by any objective commitment. It is recommended that a detailed auditable commitments to limiting the extent of cleared land prior to stabilisation of the soil by building, landscaping, and/or rehabilitation should be provided in conjunction with erosion and sediment control commitments.
5.1.2, 7.1.3, 17.4.2, 17.4.3, 17.4.4, 17.4.5, 17.5.1, 17.5.2, 17.5.3	The EIS states that: "A detailed erosion and sediment control plan will need to be developed for each phase of the proposed development." However, the EIS lacks sufficient detail on sediment control design standards. The proposed development adjacent to waters of High Ecological Value, Rodd's Bay Dugong Protection Area, Colosseum Fish Habitat Area, and the Great Barrier Reef Marine Park and World Heritage Area. Sea grass communities occur in Boyne Creek and coral reef communities are located just off-shore from the headland in the north of the site. Seagrass and corals are highly vulnerable to suspended sediment loads and increased nutrients. Detailed auditable commitments to water sensitive urban design need to be made prior to approval under the SDPWO Act such that the adequacy of the stormwater control measures can be assessed and conditions of preliminary approval and subsequent development permits can include these commitments. Design standards may otherwise default to the general standards provided for by the Miriam Vale Shire planning scheme, potentially making the information in the EIS redundant. It is recommended that the proponent provide details of the sediment control measures, consistent with the principles of Water Sensitive Urban Design, in the form of objective and auditable commitments to design and management, prior to a decision under the SDPWO Act. Site specific information on the effectiveness of the control measures should also be provided.
2.4	Further detailed information is needed to give assurance that the HVSD technology is able to be scaled up to the capacity of the proposed sewage treatment plant with a very low risk of emergency discharge of untreated effluent.
2.4	<i>The EIS states that: "The ponds will be designed to contain rainfall events up to the Q100 event (approx. 13mm)." Appendix A7.1 4.2.7 Desalination indicates that the brine would be discharged to undefined marine waters.</i> The indicated Q100 rainfall event appears to be a typographical error. The adequacy of pond capacity needs to be demonstrated by modelling of recorded rainfall and evaporation data taking into account any reduction in evaporation rate resulting from concentration. Any discharge from the evaporation ponds needs to be characterised and the location of discharge defined to demonstrate that environmental harm would not be caused. It is recommended that information should be provided to demonstrate that the hypersaline discharge from the desalination plant can be effectively contained within the proposed storages and/or that any discharge from the ponds will not adversely impact on receiving water quality, aquatic ecosystems and species, including location of the discharge point. The modelling used and the rainfall and evaporation rate data used in modelling must be stated.
2.4.1.3	Release of brine through leakage of the evaporation pond could have a significant impact on the surrounding environment. Details on the nature of the evaporation

	pond lining need to be provided. The proponent needs to provide evidence of the suitability of the material chosen, to ensure that the lining is completely impervious to brine. Also any maintenance measures required should be outlined in the EIS. It is recommended that the proponent provide further details on the construction of the evaporation ponds and lining materials to demonstrate that leakage will not occur.
13.9	More details need to be provided regarding the specification of the pipeline inlet, for example screen mesh size, estimated pumping rates etc. Enough details need to be provided so that the Environmental Protection Agency can assess whether the inlet prevents entrainment of marine organisms, and that the screens will be maintained. It is recommended that the proponent provide further details on the desalination inlet including estimated pumping rates, inlet screen dimensions and proposed maintenance. There is a need to demonstrate that there is very small potential for marine organisms to be entrained. Note: This information could be provided following a decision under the provisions of the SDPWO Act.
13.7.2	As stated in the EIS, for the development of new water quality objectives, acquisition of 24 water quality data points over a period of two years is desirable. Water quality monitoring should include physicochemical, biological, suspended sediments (SS) and nutrients, and should include a minimum of 24 data sets over a minimum of 12 months. The water quality data included in the EIS (two data sets) is inadequate as a basis for defining water quality objectives in waters that would receive discharges (wastewater, stormwater) from the development site. The Great Barrier Reef Marine Park Authority has released draft water quality objectives for pesticides which may be relevant.
12.7, 12.8	Remnant vegetation that is not specifically protected by provisions of the planning scheme (or approved Plan of Development) could be cleared without need for a development permit if the clearing is for an urban use in an urban area. Further information would be needed from the Department of Natural Resources and Water to determine the extent to which clearing could occur without need for a permit. The Plan of Development does not prevent subsequent clearing of remnant vegetation in any precinct other than the 'conservation' precinct. The extent of clearing possible in each precinct based on the Plan of Development and provisions of the Vegetation Management Act 1999 should be clearly stated as this will clarify the maximum potential extent of clearing following approval and subsequent rezoning of the land to 'urban'.
2.7	The potential maximum number of residents and visitors in each precinct, and day visitors, that would result from the development should be clearly stated and any inconsistencies throughout the EIS should be corrected.
2.5, 2.6, 12.4, 12.7	It is recommended that a clear commitment be made in relation to: <ul style="list-style-type: none"> • the area of land proposed to be retained as leasehold land; • the area of land proposed to be subject to a covenant to protect natural values; • the type of covenant proposed including the legislative basis; • the protection to be afforded by the covenant; and • administration of the covenant (State agency).
13.8	The proponent needs to demonstrate that measures to prevent lighting impacts on turtle nesting can be practically implemented and can be legally enforceable in the long term. Practical and effective measures to prevent lighting impacts on turtle nesting must be included in the Plan of Development.
13.2.1	The proponent needs to provide current scientific knowledge of the local population of dugong and potential impact of increased boating activity on dugongs. The potential increase in boat strike injury and mortality for dugong should be revised accordingly and the effects on the viability of the local population should be discussed.
13.2.1, 13.2.2	The number of boats estimated to be introduced to the significant turtle and dugong habitat of Colosseum Inlet/Boyne Creek should be reviewed based on all expected sources, including residents (using a realistic calculation formula which allows for location attracting more residents with vessels), short term accommodation, caravan and camping, and day visitors. The potential increase in boat strike injury and mortality for dugong and turtle should be revised accordingly.
13.1, 13.11	While the EIS correctly states on page 15-2 that Hummock Hill Island is within the Great Barrier Reef World Heritage Area and Hummock Hill Island forms part of the landward boundary of the Great Barrier Reef Marine Park, it omits any reference to

	the fact that the Queensland Great Barrier Reef Coast Marine Park surrounds Hummock Hill Island from high water mark. There is no management plan for the GBRCMP but there is a Zoning Plan which complements most aspects of the Great Barrier Reef Marine Park Zoning Plan. The EIS should clearly recognise the location and values of the Queensland Great Barrier Reef Coast Marine Park and discuss how the values of the marine park will be maintained should the development proceed. Specific consideration should be given to any works within the marine park.
7.1	Stormwater infrastructure should not be located in the erosion prone area. All stormwater discharge to tidal waters should be dispersed low-velocity flow to natural drainage systems outside the erosion prone area following appropriate treatment to remove contaminants. Stormwater infrastructure should not be located in the erosion prone area. All stormwater discharge to tidal waters should be dispersed low-velocity flow to natural drainage systems outside the erosion prone area following appropriate treatment to remove contaminants.
12.7.3	The EIS should clearly state the extent of clearing necessary within and outside of the road reserve for the power line and gas pipeline with particular focus on endangered and of concern regional ecosystems. A commitment should be given to location of all services to the island at the Boyne Creek crossing within a common trench along the alignment of the road network and/or attached to the proposed bridge.
13.13	The proposed bridge is to be designed to minimise hardening of the shoreline and interruption of tidal and flood flows. Flood and tidal modelling of the proposed bridge and roadway design is required to demonstrate that the proposed design will not have a significant impact on tide or flood flows (depth and velocity) and the geomorphology of Boyne Creek.
6.4.4, 14.6.3	The public need for a boat ramp in Colosseum Inlet must be demonstrated. A condition of any approval of the proposed development should provide that dredging will not be permitted to facilitate access to and/or use of the boat ramps.
12.7.4	The extent of clearing and works necessary to establish each public boat ramp should be clearly stated, including the location and extent of works for road access, parking, stormwater management, amenities, and ramp access. The detailed plans must demonstrate that the impacts on coastal wetlands and significant coastal dunes are avoided or minimised and that, to the extent practicable, development is located outside of the erosion prone area.
13.5	The information on coral reefs does not recognise the closest reef located just offshore from the headland in the north eastern part of the lease at coordinates 23.99S; 151.48E. (Coral mapping pilot study, A report to the Burnett Mary Regional Group, R Alquezar, W Boyd, A Bunce, Centre for Environmental Management, Central Queensland University, May 2007). Information on the coral reef and potential impacts of the development on the reef community, especially from proposed stormwater discharge at 'North Beach' should be provided.
12.6.1, 12.7	The actual extent of vegetation proposed to be cleared and the resulting extent of remnant vegetation should be determined in conjunction with the Department of Natural Resources and Water and shown on a (Vegetation Management Act 1999) map of regional ecosystems on the island. The long term impact on terrestrial ecosystems as a result of fragmentation by the development should be discussed.
15.4 Appendix B2	It is recommended that the EIS be amended to clearly reflect the State Coastal Management Plan definition of 'net benefit for the state' as "there is a net benefit (taking into account all financial, social and environmental impacts) to the State as a whole, as distinct from sectoral, commercial, private or regional gain, and the proposal delivers the greatest net benefit of all viable alternatives" not as "net economic benefit to the State" as stated on page 5-55 of the EIS.
4.3.4, 15.4	It is recommended that the EIS be amended to clearly state that the part of the development located within the area mapped as significant coastal dunes would only be consistent with Policy 2.8.1 of the State Coastal Management Plan if the development is demonstrated to be of 'net benefit for the state as a whole'.
12.15.1	The Environmental Protection Agency considers that the Tiber Point Strandplain, over which a large part of the development is proposed, 'is a system or landform that has a high degree of ecological integrity and biodiversity conservation values' and meets Criterion (a) of the State Coastal Management Plan definition of a Significant Coastal Dune, based on assessments on page 9 of the submission. It is recommended that the EIS be amended to recognise the Tiber Point Strandplain as

	a significant coastal dune system and therefore an 'area of State significance (natural resources)' as defined by the State Coastal Management Plan.
12.15.2	Environmental Protection Agency assessment of the dune system indicates that it does 'exhibit a high degree of ecological integrity and biodiversity conservation values'. No information has been provided in the EIS in relation to the current condition of the remnant vegetation on the dunes, other than commenting that there is some lantana infestation. In fact, no primary survey data or consultant reports have been provided in relation to any terrestrial vegetation communities on Hummock Hill Island. While historic land use may have had some impact on the dunes, there is no evidence to suggest that the vegetation has not returned to a natural condition.
VMA - Noted 12.15.1	In relation to Criterion (c), the proponent states "the site is relatively undeveloped and contains scattered agricultural use structures. However, it has been demonstrated above that the regional ecosystems within the area mapped by the Environmental Protection Agency as 'significant coastal dunes' is a 'not of concern' regional ecosystem under the Vegetation Management Act 2005. It is therefore assumed that this criterion does not apply to the subject section of the development site". Note that the reference should be to the Vegetation Management Act 1999. No information has been provided in the EIS in relation to agricultural use structures within the dune systems.
12.15.1	The proponent has assumed that the term 'dynamic equilibrium' refers only to the processes that lead to erosion and accretion at the beach face. Designated erosion prone areas provide an indication of possible erosion based on a 50 year planning cycle and is a measure of erosion risk not an indicator of dunal activity, integrity or ecological value. The definition provided in the State Coastal Management Plan states that the significant coastal dune system '(includes swales and beach ridges)...is a system that is in dynamic equilibrium'. Inclusive in this system is the erosion prone area (80 m from the seaward toe of the frontal dune) and any area of unconsolidated sand (land zone 2) landward of the frontal dune. The dune systems on Hummock Hill Island may be vegetated and relatively stable, given their relatively low energy coastal dynamics, but they remain as unconsolidated features of the landscape which are in dynamic equilibrium. Criterion (d) of the State Coastal Management Plan definition for significant coastal dunes is satisfied on this basis.

Submission Number	26
Submitter	Department of Mines and Energy
Supplementary Cross-Reference	Issue
5.2	The potential for mineral sand mining traffic has also not been considered in Section 6, Infrastructure and Transport. The economic impact of loss of access to mineral resources has also not been factored into the economic analysis.
5.2	The Department of Mines and Energy questions whether the EIS has adequately addressed the impacts of the proposed development on the State's mineral resources and the sovereign risk impact on the mining tenement holder. The conclusion (p.5-56) that the heavy mineral resource is not viable in isolation is considered unfounded, as it is based on commodity prices that are long out-of-date. This matter should be considered in the light of current, and reasonably foreseeable, commodity prices.
5.2	The EIS recognises that the proposed development will directly sterilise approximately 12 percent of the area of the heavy mineral sand resources on Hummock Hill Island. However, although the EIS refers to a "suitable buffer zone" of 100m between residences and mining operations, it is unclear whether (a) this separation distance is realistic (for example, 200m separation is used for sand extraction sites in State Planning Policy 2/07: Protection of Extractive Resources), and (b) the buffer distance is included in the estimate of resources sterilised by the proposed development.
5.2	The EIS (on page 5-56) argues that the upgrade of Clarks Road and the provision of bridged access to the island will increase the viability of remaining mineral resources. It is questioned whether truck transport of mineral sand through the



	residential and commercial areas of the proposed development to reach the bridge will be socially acceptable. If this proves true, the effective sterilisation of mineral resources will be 100 percent of the resource rather than 12 percent.
References	EXECUTIVE SUMMARY p14, and LAND (p.5-3 etc) Stephens (2007) does not appear in the Reference List.

Submission Number	27
Submitter	Queensland Department of Infrastructure and Planning - Department of Education Training and Arts
Supplementary Cross-Reference	Issue
14.6.1	Firstly, Education in its planning and location of schools must increasingly be affected by considerations of environmental sustainability. On this basis, the approval of residential development, albeit that combined with tourism facilities, in locations markedly remote from areas of significant existing infrastructure (some with spare capacity) becomes an issue. Tourism clearly seeks remote areas, on the basis of their natural beauty, and in this way makes a poor companion to housing provision for a permanent population. A permanent population is ideally accommodated as close to the place of work and existing enabling infrastructure as possible. Consolidation, rather than dispersal of development, should be the driver for the location of residential development. This Hummock Hill Island locality is furthermore not capable of further expansion (in order to form a new node for further future consolidation), given its location in an ecologically sensitive area.
14.6.1	Education must classify this area under its normal operating standards as an urban residential area. An urban residential area per se demands a larger number of students in its catchment (forecast over the rolling forward twenty-year period) than that able to be generated by this proposed development, in order to justify a primary school. Observance of these standards is necessary in order to maintain equity and impartiality of consideration across all areas of the state. Given this point of view, it would not be possible for the state to negotiate over cost-sharing or any such vehicle for the opening of a school to service this area. Student numbers would not be sufficient to warrant a secondary school.

Submission Number	28
Submitter	Queensland Department of Primary Industries and Fisheries
Supplementary Cross-Reference	Issue
4.3, Appendix B5	Volume 1, Executive Summary, List of Approvals - Fisheries Act 1994 (IDAS Approval) Approval Requirements (Page 41) - A waterway barrier works approval would be required under the Fisheries Act 1994, for any work within a waterway that constitutes a 'waterway barrier' (e.g. dam, weir, stream re-direction, crossings of ephemeral watercourses).
4.3, Appendix B5	Volume 1, Executive Summary, List of Approvals - Fisheries Act 1994 (IDAS Approval) Approval Requirements (Page 41) - "DNRW is the administering authority for the 'resource authority'" should read 'DNRW is the administering authority for 'resource allocation authority' unless within a Fish Habitat Area where DPI&F is the administering entitlement' unless within a Fish Habitat Area where DPI&F is the administering authority for a 'resource allocation authority'".
4.3, Appendix B5	Volume 1, Section 1.7.3.2 - Fisheries Act 1994 (Page 28) - A development approval under the Fisheries Act 1994 will be required for the construction or raising of any temporary or permanent waterway barriers in both tidal and non-tidal areas.
Noted	Volume 1, Section 3.2.1 Natural Environment - Table 3.1 Natural Environmental Development Principles (Page 8) - Performance targets, Development Principles and Development Strategies associated with 'marine plants and aquatic habitat' should also include consideration of fish passage, for example: <ul style="list-style-type: none"> • Performance target: Fish passage in tidal and non-tidal areas is not significantly impacted by the proposed development; and • Development principles/strategies: Design waterway crossings, where possible, so that they do not disrupt fish movement and as such

	are not considered to be waterway barriers; Waterway barriers are to be temporary where possible; Permanent waterway barriers will adequately provide for fish passage.
12.9, 13.10	Volume 2, Section 15 Nature Conservation - Marine, Section 15.3 Impact Mitigation aquatic Flora and Fauna (Page 42) - A plan should be included that clearly shows all buffer zones between developments and tidal lands/HAT level and freshwater waterways. Section 19 'Terms of Reference' (Page 5) indicates under TOR Section 2 (15) that a plan which shows "buffers between development activities and aquatic features, marine plants and declared Fish Habitat Areas within and adjacent to the development site in relation to current and proposed property boundaries" is included within Section 15 of the EIS. However no plan is provided that clearly shows buffers between the proposed development and all tidal lands. Please note the DPI&F policy recommends a minimum natural, vegetated buffer of 100 metres between HAT and all development activities, apart from those activities with an overriding requirement to be on tidal land, e.g. Boyne Creek Bridge and boat ramp.
12.9, 13.10	Volume 2, Section 15 Nature Conservation - Marine, Section 15.3.4 Increased Population (Page 15) - this section should additionally refer to proposed buffers between HAT and development activities adjacent to the Northern Headland and North Beach. DPI&F policy recommends a buffer of 100 metres of established vegetation between development activities and tidal lands in order to reduce the impacts of increased public use on water quality and the aquatic environment. DPI&F suggest that buildings and infrastructure etc. should be set back from the foreshore to reduce future pressures for armoring and alteration of the foreshore.
12.9, 13.10	DPI&F would support any conditions requiring a buffer between the freshwater and marine fish habitats (wetlands and waterways) and all development activities. DPI&F's policy recommends a minimum buffer of 100 metres of established vegetation between developments and marine plants, tidal and freshwater wetlands and waterways. These policy recommendations form the basis of buffer considerations from a fisheries perspective. It is appreciated that final buffer determination, by the responsible agencies (e.g. Environmental Protection Agency, Department of Natural Resources and Water), will also consider a range of other buffer issues including the type of land use and environmental characteristics of the site.
2.4	Appendices Part 1, Appendix A7.1, Part 6.3.2 Sewerage (Page 30) -It is identified that an emergency discharge point for the Hummock Hill Island Sewage Treatment Plant (STP) will be located in Boyne Channel. This section should be amended to reflect that the emergency discharge pipeline and outlet will be installed above HAT on non-tidal land and therefore the outlet structure will not impact on the declared Colosseum Inlet Fish Habitat Area. Construction of permanent structures within a declared Fish Habitat Area (Management level A) is not supported by the Fisheries Act 1994 and is against Fish Habitat Management Operational Policy FHMOP002 Management of Declared Fish Habitat Areas: departmental policy position.
13.14	Volume 2, Section 15.1.1.6 Fish Habitat Areas (Page 9) - The first paragraph following Table 15.3 should read "Colosseum Inlet and the western part of Boyne Creek and Seven Mile Creek are zoned Management A".
Noted	DPI&F is satisfied that the proposed development will not result in the loss of good quality agricultural land or have detrimental impacts on surrounding bona-fide agricultural pursuits.
13.14	Volume 2, Section 15.1.1.2 Great Barrier Reef Coastal Marine Park (Page 5) - missing text should be included at the end of the final sentence within this section. The sentence currently reads "The boundaries of the GMRMP and ".
12.2.1	A weed management plan shall be developed and implemented for the development. The proposal will establish a parks and gardens maintenance officer on the island who's duties include the control of noxious weeds and feral animals.
12.2, 17.4.5, 17.4.6, 17.5.4, 17.5.5	The Environmental Management Plan addresses pest and weed management issues.
12.9, 13.10	Volume 1, Section 8 Water Resources (Page 11) - A 10-15 metre riparian buffer is proposed between development activities and ephemeral watercourses. It is considered that this buffer may be appropriate for small first order ephemeral streams with minimal flow, such as those watercourses draining the central

	granodiorite ridge line ridge of the island. However, in consideration of larger watercourses that have a higher long-term capacity to hold water and are therefore likely to be of higher fisheries value, DPI&F policy recommends a 50 metre natural, vegetated buffer be maintained between all development activities and freshwater waterways or wetlands.
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Submission Number	29
Submitter	Queensland Department of Main Roads
Supplementary Cross-Reference	Issue
6.7.3.1	Main Roads is concerned that there may be insufficient vehicle queue length on the Turkey Beach Road leg of Bruce Highway intersection. An inadequate queue length could interfere with the operations of the open level rail crossing 100m from the intersection, particularly towards the end of the planning horizon in 2033. For the safety of both rail and road users the proponent is to discuss this issue with Main Roads Central District Office. The proponent is to clarify their intersection analysis with department officers. Any revised traffic assessment findings and mitigation strategies are to be provided in the Supplementary EIS.
6.7.3.1, 6.7.3.2	Growth rate figures and base data used to forecast traffic estimates for the Bruce Highway (Appendix A 7.4) and the intersection at Turkey Beach Road (Section 2.2), are less than those collected by Main Roads Central District. The report also does not adequately explain: <ul style="list-style-type: none"> • The relatively low percentage of heavy vehicles accessing the project; • Why a roundabout suitably mitigates traffic impacts at the intersection of Bruce Highway/Turkey Beach Road as opposed to other intersection designs; • The low percentage of vehicle trips to and from the project during construction and operation; and • The destination of trips. To help address these issues and come to an agreed understanding the proponent should discuss with Main Roads Central District Office the methodology and conclusions of the submitted Traffic Impact Assessment Report. The department requires a greater degree of accuracy in the data and analysis of the report, so that it may better negotiate safe mitigation requirements. The proponent is to clarify traffic calculation inputs with department officers, and address the issues mentioned above. Revised traffic assessment findings and mitigation strategies are to be provided in the Supplementary EIS.
4.3, Appendix B5	Section 2 of the EIS (Planning and Legislative Framework) lists various project legislative requirements. The Transport Infrastructure Act 1994 (TIA) is not listed, however there are a number of approvals under the TIA that may be required. Despite the exemptions of Schedule 9 of the Integrated Planning Act 1997, the following approvals under the TIA are required to conduct works in a State-controlled road reserve (such as intersection works on the Bruce Highway): * Section 33 (Prohibition on road works etc. on State-controlled roads); and * Section 50 (Ancillary works and encroachments) approvals to enter and conduct works on the State-controlled road network. If the vehicles exceed the mass dimension or loading requirements when hauling construction materials, under the Transport Operations (Road Use Management-Mass Dimensions and Loading) Regulation 2005, they may be subject to guideline or permit arrangements. The above Transport Infrastructure Act 1994 approvals are to be listed.
17.4.12, 17.5.8	The column opposite Performance Criteria should read: "Manage traffic flows in order to achieve safe and efficient movement through-out the project area and the affected transport network." (Note the bolded inclusions)
17.4.12, 17.5.8	The second dot point under the "Traffic" heading (opposite the Mitigation Measures column) should read: "In consultation with relevant road authorities prepare and implement local area Road use management plan in order to maintain the role and function of the road network during construction and operation of the project." (Note the bolded inclusions and amendments)
17.4.12, 17.5.8	The first dot point opposite the Monitoring column should read: "Monitor the local area traffic impacts during construction peaks, to ensure the safe and efficient operation of the affected road network." (Note the bolded inclusions and

	amendments)
17.4.12, 17.5.8	The dot point opposite the Corrective Action column should be edited to read only: "Plan and implement traffic control measures in advance of forecasted increased traffic." (Note the removal of words)
17.4.12, 17.5.8	Finally, a second dot point should be included under the above that reads: "For mitigation works in the State-controlled road reserve, apply for relevant approvals under the Transport Infrastructure Act 1994 (Sections 33 and 50)."
6.7.3.1, 6.7.3.2	The EIS contains a number of reporting inconsistencies, for example figures quoted from Appendix E do not match Cardno Eppell Olsen traffic forecasts. Also, the proposed mitigation treatment of the Bruce Highway/Turkey Beach Road intersection differ between Section 3.1.1 and Section 21, from a CH to roundabout with short approaches. To improve reader clarity, the report requires greater consistency and detailed evidence of how conclusions are derived. The proponent is to ensure the SIEIS findings are reported consistently between sections. The proponent is to also provide all traffic count data and working calculations so that the traffic assessment methodology may be checked for accuracy and continuity.

Submission Number	30
Submitter	Queensland Transport
Supplementary Cross-Reference	Issue
6.4	Existing boat ramps in the area are likely to experience increased usage as a result of the development. In QTs experience, island residents have higher usage rates for boat launch facilities. The submission lists boat ramps in proximity to the development.
6.4	The capacity of new boat launch facilities needs to cater for usage by drive in users as well as local users.
4.3, Appendix B5	Tidal foreshore approvals will be required to construct the ramps
6.4.1	The EIS does not state which entity will fund the boat ramps
6.4.3	The EIS needs to clearly state the standard to which the proposed public boat launching facilities will be constructed. The EIS mentions design in accordance with AS3962-2001 and refers to QT standards but does not make a clear commitment to the QT Design Standard. A commitment needs to be made to design standard for boat ramps, queuing facilities and car trailer parking.
6.4.1	The EIS needs to clearly state the proposed ownership, management, control and maintenance of public boat launching facilities. The submission suggests arrangements.
6.4.1, 13.2	The EIS needs to expand on its source data for the proposed capacity of two lanes for Colosseum Inlet ramp and the unstated number of lanes for the Boyne Creek ramp. Reference needs to be made to the proposed usage by local HHI residents as well as by users driving in from other locations.
6.4.2	The EIS needs to state the number of car-trailer parking bays and car parking bays for each boat ramp.
6.4.2	The EIS needs to clearly state the type of boat queuing facility to be provided at each boat ramp.
6.4.4	The EIS needs to clearly state that there will be no future expectation for the state to dredge the shallow bar which separates Colosseum Inlet from open waters. Such bar dredging is normally outside QT policy for coastal creeks and rivers based on cost-benefit considerations.
6.4.5	Correct the misleading use of the term "all tide" in relation to the proposed Colosseum inlet boat ramp. The EIS refers to the two shallow bars that need to be transited when coming from open water into either Colosseum Inlet or Boyne Creek but doesn't address the issue of depth of access other than to imply there will be a demand for all tide access to the deep waters of Colosseum Inlet. This is a misuse of the term "all tide" A ramp may well be useable at all tides in its immediate vicinity but not accessible from open waters owing to tide and bar restrictions. "All tide" in common use means accessible at all tides by boats from nearby open waters.
6.7.6	A movement network plan should be developed that encapsulates the following issues. QTs interests include promoting land uses and development patterns that

	reduce reliance on private vehicles and promote public transport and non-motorised transport options. QT supports the proposed provision of the public bus services along the main cross island boulevard and advises that the proposed bus route should be in compliance with the provisions of the transport planning and coordination regulation 2005 schedule 1. QT further advises that the proposed bus route should provide linkages to the mainland and appropriate regional centres.
6.7.6	There is a potential requirement for "village to town" commuter services. In terms of planning this would require suitable street widths for transiting and turning, pull in zones and in compliance with the Disability standard for Accessible public transport 2002. Also suitable for larger tourist coaches and suitable jetties, parking and turning areas for larger boats.
6.7.6, 6.7.7	QT supports the pedestrian and cycle networks, QT would further support pedestrian and cycle access along the main cross island boulevard linking the two major activity centres.
6.7.6, 6.7.7	QT seeks to ensure new residential areas are well connected to existing and potential future adjoining neighbourhoods, facilities and public transport opportunities and provide high levels of connectivity in the design of local street networks. QT supports networks that minimise the use of cul-de-sacs and improve street network connectivity for pedestrian and cyclists.

Submission Number	31
Submitter	Department of Natural Resources and Water
Supplementary Cross-Reference	Issue
Figure 2-1	The Department of Natural Resources and Water (NRW) requests that the proponent should be required to provide supplementary information in the form of a map that shows the layout of all elements of the proposed Hummock Hill Island development with specific reference to the cadastre and the special lease area (Lot 3 on FD 841442).
6.2	NRW requests that the proponent should be required to provide supplementary information showing details of all infrastructure to be located within the dedicated road reserve including the extent of clearing that will be required to accommodate the infrastructure. Where infrastructure is to be located adjacent to the road reserve on freehold land and/or on additional easements, this needs to be identified in the EIS to assess possible vegetation clearing impacts.
Figures 6-1 and 6-2	NRW requests that the proponent should be required to provide supplementary information showing details about the nature and location of all facilities associated with the proposed Boyne Creek Boat ramp with specific reference to the cadastre and buffer area described as Lot 10 on FD841442.
6.4, Figures 6-1 and 6-2, 14.6.3	To assist NRW in considering whether tenure would be provided for the proposed facility, the proponent should provide details, in the form of supplementary information, about the need for the proposed boating facility including details about the nature and location of all facilities associated with this aspect of the development, including the proposed access road. The location of all facilities should be shown in relation to the cadastre.
2.5, 12.4	NRW requests that the proponent should be required to provide supplementary information providing details about how the impacts from human interference on State lands that surround the lease area will be managed in the event that the development proceeds.
12.7.2, 16.2.2	NRW requests that the proponent should be required to provide supplementary information showing details of commitments in relation to firebreaks and fire access points and trails for the development, including between the lease area and adjoining State land. This information will be required to fully assess the vegetation clearing impacts of the proposed development.
16.2.1, 16.2.2	NRW requests that the proponent should be required to provide supplementary information in relation to the risks associated with not establishing emergency services for bushfire response on the island within the initial two years of the development and mitigation strategies commensurate with the identified risk.
2.2.1, 12.7.1	NRW requests that the proponent should be required to provide supplementary information showing mapping of the spatial extent of the open space buffer

	proposed in the development, including any clearing of vegetation that would be necessary to construct the proposed fencing.
2.5, 12.4.2	NRW requests that the proponent should be required to provide supplementary information which confirms the proposed tenure of the open space buffer area.
2.5, 12.4	NRW requests that the proponent should be required to provide supplementary information which demonstrates the willingness of Council to accept long-term management of the buffer area following the completion of the precincts.
12.4	NRW requests that the proponent should be required to provide supplementary information showing further details about proposed tenure, trusteeship and management of the residual special lease lands to be surrendered to the State and managed as a 'Conservation Area' under the proposed Plan of Development
12.8.5	To enable NRW to assess the proposal and provide a response to the Coordinator-General on the impacts of the project on native vegetation, it is strongly recommended that the proponent submit a Property Vegetation Management Plan (PVMP) to allow the proposal to be fully assessed against the Concurrence Agency Policy for Material Change of Use 23 August 2007.
5.1.3	NRW requests that the proponent should be required to provide supplementary information showing details of the location and extent of filling and excavation associated with the proposed project on lands at or below 5 metres AHD.
5.1.1	NRW requests that the proponent should be required to provide supplementary information showing where fill material external to the site is to be used, the source of the fill material.
5.1.3	NRW requests that the proponent should be required to provide supplementary information detailing whether or not excavation or filling of land at or below 5 metres AHD is proposed. In the event that any such work is proposed an ASS Investigation Report and, if relevant, an ASS Management Plan should be prepared in accordance with the Guidelines to SPP2/02.
2.4	NRW requests that the proponent should be required to provide supplementary information showing the details of the lining of evaporation ponds and other wastewater storage facilities to ensure that groundwater resources are protected. NRW recommends that such facilities be lined to ensure a permeability that does not exceed 0.01mm/day.
7.2, 17.4.2, 17.5.2	NRW requests that the proponent should be required to provide supplementary information in relation to the EMP which will ensure the establishment of valid and robust baseline data for groundwater monitoring purposes.
12.7.1	NRW requests that the proponent should be required to provide supplementary information showing details of the proposed location of the 100ML storage. This information may be required for the assessment of vegetation-related aspects of the proposal.
7.3.2	NRW requests that the proponent should be required to provide supplementary information showing details of how they will maintain water quality to Class A+ standards where open storage of the recycled water is proposed.
2.7, 14.4	NRW requests that the proponent should be required to provide supplementary information which clarifies the maximum number of persons to be resident on the island and the total number of tourists expected to be accommodated on the island.
12.8.5	NRW requests that the proponent should be required to provide supplementary information within the Property Vegetation Management Plan (PVMP) for the development (refer recommendation 13) to outline all clearing that will be required for the development including building envelopes and associated fire management purposes.
Appendix B5	Subject to the satisfactory resolution of matters associated with long-term management of the proposed Conservation Area (recommendation 12 refers), NRW requests that the proponent should be required to provide supplementary information showing amendments to the Plan of Development to make the Conservation-sub-precinct a discrete Precinct. The Hummock Hill Island Code should then include clearly identifiable specific outcomes to protect the natural values of this Conservation area.
Appendix B5	NRW requests that the proponent should be required to provide supplementary information showing amendments to the Plan of Development defining the uses considered to be 'nature-based recreation'.



Appendix B5	Amendments are required to clarify the proposed HHI Code intentions regarding the protection of vegetation within the proposed parkland sub-precinct.
Appendix B5	Clarification is requested with regards to the HHI Island Lot Reconfiguration Code and the protection of locally significant vegetation.
7.2.3	NRW requests that the proponent should be required to provide supplementary information clarifying what measures will be put in place to prevent current and successive owners from taking or interfering with groundwater resources.
12.8.4	NRW has determined that the EIS did not meet six Performance Requirements (viz.: S.3, SA, S.5, S.7, S.8 and S.9) within Part S of the Regional Vegetation Management Code for Southeast Queensland Bioregion 20 November 2006. NRW emphasises that the EIS has not provided sufficient information regarding the full extent of the area to be cleared as a result of the proposed MCU and, as such, this assessment should not be considered complete.

Submission Number	32
Submitter	Queensland Health
Supplementary Cross-Reference	Issue
16.1.1	Queensland Health has assessed the EIS and considers it has not provided sufficient information to assess the project's potential impacts on human health, particularly in relation to the proposed water supply strategy. Also, the potential adverse effects that mosquitoes and biting midge could have on the future residents and tourists of the development should be given stronger consideration in the EIS.
16.1.2	The proponent undertakes further assessment of the proposed water supply strategy for its potential impacts on the human health.
16.1.1	The proponent considers appropriate strategies for shade creation alongside mosquito and midge management when planning landscapes in the development
16.1.1	The proponent also refers to the Queensland Health publication "Guidelines to Minimise Mosquito and Biting Midge Problems in New Development Areas" when developing strategies to manage increased mosquito breeding habitat.
16.1.1	The proponent consults with Queensland Health and the relevant local government during the development of the Vector Management Plan.
16.1.1	The proponent considers increased mosquito breeding habitats in the planning and development of all sustainable water supplies.

Submission Number	33
Submitter	Department of Communities
Supplementary Cross-Reference	Issue
14.6	The Department has an interest in seeing that the development of community infrastructure such as the Hummock Hill Island project enhances social wellbeing and mitigates against further exacerbation of existing stresses.
14.1	An economic impact assessment is not an appropriate substitute for a comprehensive Social Impact Assessment (SIA).
14.1	The Department recommends therefore that the proponents engage a fully qualified professional, experienced in undertaking Social Impact Assessments, to undertake a more comprehensive investigation of the current social environment probable social impacts of the development both positive and negative and possible mitigation and enhancement strategies.

Submission Number	34 & 37
Submitters	Gladstone City Council & Miriam Vale Shire Council
Supplementary Cross-Reference	Issue
1.2	The EIS process calls for the consideration and assessment (by the public and both

	State and Local Government agencies) of a development proposal that in many ways, remains in its early stages of formulation and which, by the proponents own admission, will require a considerable amount of additional detailed planning, investigation and design. In the Council's opinion, this limits any agency's opportunity to provide definitive comments or recommended conditions.
Appendix B5	Despite the proponents need to subsequently lodge an application with the Local Government in order to facilitate approval (or otherwise) for the proposal, many land-use activities associated with on-site development may not in themselves be subject to further detailed scrutiny.
4.3, Appendix B5	The EIS demonstrates inconsistency with the Preferred Settlement Plan detailed in the Wide Bay Regional Plan and the current strategic planning objectives embodied in the Miriam Vale Shire Council's Planning Scheme.
4.3, Appendix B5	The EIS ignores the region's current strategic planning intent that considers such a proposal as an isolated, intensive urban activity that is not supportive of current urban form or located within an area currently earmarked for future anticipated growth.
4.3, Appendix B5	Following its assessment, the Council considers that the proposed development is noncompliant with:- <ul style="list-style-type: none"> • SPP 1/92, and in particular Policy 1 & 7; • SPP 2/02, and in particular Section 2.2 & 2.3; • SPP 1/03, and in particular Section ALI (a) of ANNEX 1; and The State Coastal Management Plan; and in particular, the following sections: Policy 2.1.2 - Settlement Pattern and Design; Policy 2.1.3 - Coastal Dependent Land Uses; Policy 2.1.4 - Canals and dry land marinas; Policy 2.1.5 - Maritime infrastructure; Policy 2.1.10 - Tourism and recreational activities; Policy 2.1.11 - Rural land uses; Policy 2.1.12 - Managing water resources; Policy 2.1.13 - Fishing; Policy 2.2.2 - Erosion prone areas; Policy 2.2.4 - Coastal hazards; Policy 2.3.3 - Coastal Road Network; Policy 2.4.6 - Acid Sulfate Soils; Policy 2.8.1 - Areas of State significance (natural resources); Policy 2.8.2 -Coastal wetlands; Policy 2.8.3 -Biodiversity; Policy 2.8.4 -Rehabilitation of Coastal Resources;
4.3, Appendix B5	The proposed development was assessed against the relevant requirements embodied in the Wide Bay Burnett Regional Plan. Following this assessment, the Council is of the opinion that the proposal is non-compliant with the following sections of the Plan:- <ul style="list-style-type: none"> • The Wide Bay Burnett Chapter 2 - 'Regional Vision'; • The Wide Bay Burnett Chapter 3 - 'Regional Overview'; • Policy Framework 1.1 - Biological Economic Resources • Policy Framework 1.2 - Land Use and Management; • Policy Framework 2.2 - Biodiversity; • Policy Framework 2.3 - Coastal Environment; • Policy Framework 3.1 - Preferred Settlement Pattern; • Policy Framework 3.2 - Development Constraints; • Policy Framework 3.3 - Co-ordination and Sequencing; • Policy Framework 3.4 - Rural Residential Development; • Policy Framework 4.2 - Housing Mix, Affordability and Design; • Policy Framework 5.1 - Rural Sustainability, Growth and Development; • Policy Framework 5.2 - Rural Communities; • Policy Framework 5.3 - Rural Industries; • Policy Framework 5.4 - Rural Living; . • Policy Framework 6.2 - Equitable, Access to Transport; • Policy Framework 10.4 - Tourism; and • Policy Framework 10.5 - Inward Migration.
Appendix B5	With the cooperation of senior planning staff and consultants at Miriam Vale Shire Council, the Council undertook to carry out a detailed assessment of the proposal

	against relevant provisions/requirements contained within the Miriam Vale Shire Council's Transitional Planning Scheme. This assessment identified non-compliance.
Appendix B5	In its current form, the proposed development is considered generally inconsistent with the intent of the rural zone as detailed within the Transitional Planning Scheme.
Appendix B5	The proposed development appears generally inconsistent with the general requirements pertaining to reconfiguration within the rural zone as detailed within the Miriam Vale Shire Council's Transitional Planning Scheme.
3.4	Council is not satisfied that the proponent has been able to show that there are no alternative locations within the Region that could accommodate the proposal and that might prove to be easier to service and sustain over the longer term.
Appendix B5	The Council's assessment confirmed that the proposed development is inconsistent with the following DEOs:- <ul style="list-style-type: none"> • DEO 1 • DEO 3 • DEO 4 • DEO 6
Appendix B5	Material Change of Use Assessment (Part 3). The proposed development is considered inconsistent with the Rural Locality Code Division 7. The Council identified that the Proponent had in fact failed to consider this section with the EIS.
Appendix B5	Zoning The Council's assessment identified that the proposed development is inconsistent with the Rural Zone Code embodied in Miriam Vale Shire Council's draft IPA Planning Scheme.
Appendix B5	Reconfiguration of a Lot The Council's assessment confirmed that the proposed development is inconsistent with the Reconfiguration of a Lot Code, Division 38. The Proponent has proposed a new Reconfiguration of a Lot Code as a means of avoiding the necessity to comply with currently applicable reconfiguration requirements.
Appendix B5	Development Codes The EIS identified that no assessment of the proposal has currently been undertaken against the Miriam Vale Shire Council, Draft IPA Planning Scheme Development Codes. The EIS stated that this assessment would occur once Council approves and releases the new Planning Scheme.
Appendix B5	Acid Sulfate Soils Overlay Code - Division 40 <ul style="list-style-type: none"> - Inconsistent with Specific Outcome SOI • Coastal Management Overlay Code - Division 41 - Inconsistent with Specific Outcome SOI • Environmental Management Overlay Code - Division 42 - Inconsistent with Specific Outcome 501, 502 and 503 • Extractive Resource Overlay Code - Division 43 - Inconsistent with Specific Outcome 501 and 502 • Bushfire Hazard Overlay Code - Division 45 - Inconsistent with Specific Outcome and Acceptable Solution 503, 507 and 508
Appendix B5	The proposed Plan of Development is considered inconsistent with Miriam Vale Shire Council's zoning expectation for the site (as outlined in their various planning documents) and the strategic intent embodied in the Wide Bay Burnett Regional Plan.
Appendix B5	Desired Environmental Outcomes The proposed development remains inconsistent with the following DEOs:- <ul style="list-style-type: none"> • DEO 1; • DEO 2; • DEO 3; • DEO 4; • DEO 5; and • DEO 7
Appendix B5	Given the degree to which the proposal has been unable to satisfy either the overall strategic planning intent embodied at both a State and Local Government level, and the extent to which the proposal is non-compliant with specific State planning policies and individual planning requirements of the currently applicable Local Government (Miriam Vale Shire Council) Gladstone City Council is of the view that the proposal and its supporting EIS cannot be supported in its current form.
3.1, 3.4	It is considered that there is no supporting evidence to ascertain if both the Wide

	Bay Burnett and Fitzroy regions' coastal populations will continue to grow predicted or if change may occur. No recent regional wide studies or investigations have been carried out to determine if the proposed subject site is appropriate to be included as an area suitable to accommodate future residential or tourism type development.
3.2	It is considered, that as Hummock Hill Island has not been identified as a location for a Tourism Facility, the proposal may serve to dilute existing tourism activity occurring presently at Agnes Water, Seventeen Seventy and Gladstone.
3.4	The proposed development represents no real difference to any other location near reasonable population centres. Therefore, it is considered that this is not a specifically unique feature.
3.2	The proposed development has not indicated the basis of the stated figures, nor its relevance to the region. Whilst it is considered that the proposal's tourism increase 'boast' is a significant achievement for the Gladstone Region, the proposal may have a significant diluting effect on the region as it disregards the existing tourism industry.
3.3	The proposed development has predicted a significant boost to the local economy, with the suggested financial benefits providing additional job opportunities and funding for community services & facilities. However, the proponent's claims are in regard to services and facilities that are not currently provided.
Appendix B5	The EIS has not provided a sufficient detailed check on the suitability of areas in the Plan of Development and surroundings on Hummock Hill Island that may be affected by acid sulphate soils and soil erosion.
17.4.5	Furthermore the EMP has not provided sufficient information in regards to rehabilitation of areas that have endured vegetation removal and soil disruption.
5.3	The proposed development has suggested that landscaped design and visual screening will reduce the adverse impact of the proposed dwellings and infrastructure. However, the proposed development has not provided sufficient information on the proposed implementation of these measures. Furthermore, the proposed development has not incorporated how the island will be viewed from the coastline (and afar). In addition, the EIS has failed to demonstrate how intrusive the proposed large Boyne Creek Bridge will be as a visual impact. It is considered that the proposed development lacks attention to detail in the supplied EIS, in regards to the visual amenity disturbance this proposal will have on the isolated, undisturbed island.
8.4, 8.5	The EIS has not sufficiently addressed issues in regard to climate change or greenhouse issues. Additionally, Council considers this issue of particular relevance to the Environmental Protection Agency and would expect them to comment accordingly.
16.2.1, 16.2.2	The proposed Hummock Hill development is situated within a 'High' bush fire risk area. The proposed layout is unsafe, in regards to vehicle movement, proposed single entry access and the 'high risk' bushfire identification. The proposal materially intensifies the use of bushfire prone land and consequently, places the proposed resident and tourism population at risk of a bushfire hazard.
13.7	The proposed development EIS has not provided sufficient support information in regard to coastal environmental impacts and quality from the stormwater discharge.
8.4, 8.5	The EIS has not sufficiently addressed issues in regard to climate change or greenhouse post construction.
9.2	The Proponents have not adequately addressed the ongoing management and compliance of post construction noise. There are no Planning Scheme provisions for regulating post-construction noise if the proposed land used under the Hummock Hill Island assessment table is specified as being Self-assessable. Furthermore, there is limited information in regards to managing noise for specific land uses, for example Airport noise.
11.1.3	The proposed development EIS has not provided sufficient support information in regard to the responsibility for monitoring the effectiveness of any implemented measures, impacts and quality of identified culture heritage areas.
2.3	The EIS provides limited design guidelines, with little detail in regard to dwellings and facilities.
17.4, 17.5	The EIS includes the implementation of an uncertain construction EMP that includes elements of post construction management. Furthermore no draft

	operational EMP is proposed to be implementation.
17.4.13, 17.5.8	The EIS has not provided a detailed assessment on how the 'social environment' during construction and operation of the proposed development would be managed and implemented in a practical sense.
17	The current draft EMP is very general and will subsequently need to be amended to include information on how vibration mitigation measures will be addressed for the proposed Hummock Hill Island development. Furthermore, there is not set guidelines to determine what level of involvement Council and relevant State Agencies will have in the review process
17	Draft EMP's are inadequate
Appendix B3	The EMP has only identified the transport and road impacts associated with the initial stages of the development and has not provided sufficient information in regard to the impact the provided roads and predicted traffic levels that will be generated on Hummock Hill Island.
Appendix B3	Access bridge: This is proposed to be 150m long, and utilise the existing causeway. This length appears to be similar to the length between the ends of the existing causeways (measured from Google Earth). Is this the length that is above spring high tide levels? Will construction of the raised new causeway and bridge have an adverse impact on the existing channel morphology, such as increased scour potential, greater channel velocities? No hydraulic study appears to have been undertaken to confirm the appropriateness of the bridge length and pier configuration.
Appendix B3	Traffic report (A7.4) appears to be fairly conservative with respect to traffic assumptions. It has assumed that another 1300 lot development at Turkey Beach will also be developed. Traffic generation rates appear OK, however the area of greatest uncertainty is the percentage assumed for external trips of 10% for residential trips, and 5% for tourist and retail trips. For Turkey Beach, a 30% factor has been assumed. It is suggested that a sensitivity check to be undertaken to see what the impacts would be if the external trip generation for the development was perhaps twice that assumed. This may show that upgrading of the Bruce Highway intersection may be required sooner than assumed. Unlikely to result in any other significant changes however.
Appendix B3	Section 3.4.1.4 advises that a MVC desalination plant will be constructed at the site. The operation of the plant is outlined, however no supporting documentation is provided.
Noted	On page 3-59 (last paragraph) it is noted that product information is contained in Appendix A7.1, however it is not. No reference to a MVC plant is made anywhere in A7.1.
2.4	A more vigorous assessment of the source of the potable water needs to be undertaken before a decision on the source is finalised. As it is proposed that the water treatment plant and reticulation are to become a Council asset, the estimated on-going operation and maintenance costs should be separated from the construction costs, which will be borne by the developer.
2.4 8.3.2	For the desalination plant proposed, the following require clarification: <ul style="list-style-type: none"> • Is the intake location on the bridge pier the most suitable? Currents are likely to be high. What is the frequency of the water being turbid, bearing in mind the site is a tidal estuary with several rivers discharging to the site? • The proposed desalination plant appears to be located approximately 60m from the nearest of the proposed Boyne Channel apartments, and 90m from the nearest residential allotment. Desalination plants are potentially noisy. The effect of noise generation from the plant has not been addressed. Is there the potential for odours or steam to be emitted from the plant? • On what basis has the area of the evaporation ponds been calculated? • The ponds are located very close to residential areas. They are potentially breeding areas for mosquitoes, and are likely to be unsightly, therefore should be

	<p>located at a remote location. For evaporation ponds to be effective they need maximum exposure to sunlight and wind, therefore planting high screening trees close to the ponds may not be appropriate.</p> <ul style="list-style-type: none"> • The Q100 rainfall event will be significantly more than 13mm (page 3-59)
2.4	<p>A7.1 describes in general terms the STP requirements, however 3.4.1.5 states that a high velocity sonic disintegrator has been selected for the site. A similar system has been installed at Sunrise at 1770, a development near the town of 1770. However, the technology and system is still relatively experimental, and there are few, if any, other examples of the system running.</p>
2.4	<p>Details of the volume of storage proposed for each pump station, and also the STP, in term of ADWF need to be provided, and an assessment of the probability of such an overflow occurring made. The emergency storage volumes in case of power failure should be sufficient to enable emergency procedures to be implemented before overflows occur.</p>
7.1	<p>Storm water Quantity. Quantity calculations have same time of concentration for both developed and undeveloped scenarios. This is unlikely to be the case, therefore impact of development is likely to be greater than stated (Table 1, A7.2 and Table 3.16). Required detention requirements will therefore be greater.</p>
7.2	<p>Presently most of the present run-off infiltrates to groundwater, therefore by not allowing for infiltration the ground water reserve may be depleted slightly, which could have an adverse effect on existing vegetation.</p>
5.1	<p>There appears to be no investigation or discussion on earthworks requirements in order to facilitate the development of the site. Although much of the site appears to be relatively flat, the central ridge area has slopes >20°, and it is proposed that a road will be constructed up and along the ridge. The absence of detailed analysis with respect to the earthworks component of the development raises the following questions:</p> <ul style="list-style-type: none"> • What is the extent of earthworks proposed (cut-fill depths)? • Are any high cut faces likely to be exposed' (possibly affecting visual amenity)? • Are there any slope stability issues with the steeper sites, or limits of fill placement? • What will be the effect of earthworks on drainage paths.
3.1	<p>A suitable 'need' assessment for the development on the subject site has not been provided.</p>
Appendix B5	<p>Fragmenting rural land by subdividing and selling off portions of rural properties is not a sustainable solution. At best, it provides only short-term benefits to individual landowners but ultimately leads to problems that are more serious for the wider rural community. Existing and future farming 'opportunities, will be constrained by the proposal, which will fragment the rural land resource.</p>
5.1.3	<p>New dwellings are proposed on the land that potentially contains high Acid Sulphate Soil content and it is viewed that the proposed subdivision provides opportunities for potentially Acid Sulphate Soil disturbance below RL5.0m AHD.</p>
4.3, 6.7	<p>The proposed development application does not support the preferred Settlement Pattern outlined in the Regional Vision, as the extent of the development proposed will encroach on existing natural ecosystems, vegetation and protected marine environments in the Miriam Vale Shire region. Furthermore, the proposed development reflects a high degree of dependence on private vehicle movements and does not provide information outlining how it proposes to support public transport services in the area.</p>
12.1	<p>It is generally considered that the proposed development will generate adverse impacts upon the existing endangered ecosystem and remnant vegetation.</p>
12.9	<p>HHL is insufficiently setback from Coastal dune systems and the shoreline.</p>
12.1	<p>It is considered that the proposed development will generate adverse impacts upon the natural environment and biodiversity of the area.</p>
3.4.3, 6	<p>In his submission, the Minister made it clear that he did not consider the location of the proposed 'Seaview' development as the most cost effective and efficient with regard to infrastructure investment. It was his opinion that the proposal would result in high costs for the provision of basic infrastructure and compromise the ability of both local government and State government to deliver community services and efficient transport systems.</p>

Submission Number	35
Submitter	Department of the Environment, Water, Heritage and the Arts
Supplementary Cross-Reference	Issue
3.10	The draft EIS does not discuss whether there will be any long term remediation actions in place in the event work, once commenced, cannot be completed for any unforeseen reason. While this is unlikely to happen, discussion is required on whether a bond (or an alternative) will be in place in the event such a situation arises.
2.4, 13.7.2	The Department is of the view that the site's water quality objectives and environmental values should be determined against the ANZECC guidelines/Queensland Water Quality Guidelines 2006 and the GBRMPA draft Water Quality Guidelines
2.4, 13.7.2	It would be appropriate for the water quality objectives to be set relative to maximum loading for the system, particularly in regard to waste water treatment.
2.4.2.3	The Department is of the view that waste water irrigation should also be modelled using the MEDLI modelling tool (or better). Further, the draft EIS would benefit if greater detail was provided for the treatment and disposal of waste water on the site.
13.2, 13.4	The draft EIS would benefit if it expanded the considerations for increased boat traffic / 'fishing pressure and boat strikes, and provide appropriate and relevant management strategies to address these issues.
12.4	It is unclear in the draft EIS how the areas outside the development master plan footprint are to be protected in perpetuity.
Appendix B5	In addition to the above, it is suggested that the following amendments be undertaken on page 1-11 in the section dealing with the EPBC Act assessment under the bilateral agreement to better reflect Figure 1.5: <ul style="list-style-type: none"> • Third dot point does not seem necessary and it is suggested that it be removed. • Fifth dot point should read: 'Coordinator General submits assessment report to the Department of the Environment and Water Resources '. • The last dot point should read: 'Minister issues either an approval or refusal decision under the EPBC Act'
2.4	Section 3.4.1.4 Desalination Plant - Page 3-47 to 50. Further detail is required on the siting and requirements for the desalination intake and outtake. It is also requested that maximum volumes should be estimated to assist in understanding the potential impact such a facility will have on the adjacent Great Barrier Reef World Heritage Area.
13.7.1, 13.7.2	The draft EIS should demonstrate how the staged development will ensure water quality improvement plan targets are met by incorporating the 'Draft Interim Marine Water Quality Guidelines'. In addition, further detail is required on pesticide use and its minimisation throughout the development.
13.11	Section 3.7 Ecological Sustainable Development - Page 3-91 & 92. The Department is of the view that this section does not adequately discuss the objectives of Ecological Sustainable Development. It fails to articulate the ecologically sustainable benefits, if any, on the matters of national environmental significance such as the Great Barrier Reef World Heritage Values, listed threatened species and communities and listed migratory species listed under the EPBC Act. This issue needs to be addressed.
5.1.3	Section 5.2.2 Land Disturbance - Page 5-62. - The section dealing with Acid Sulphate Soils should clarify that an 'Acid Sulphate Soil Management Plan would be developed in accordance with the Queensland Acid Sulphate Soil Investigation Team (QASSIT) guidelines.
8.5	Potential changes in the coastal zone arising from climate change include changes in coastal inundation, sea level rise, increased storm intensity and migration of important coastal habitats, such as mangroves and other wetlands. The Department is of the view that coastal developments in marginal coastal areas are at risk of potential long term impacts.
13.11	Water quality impacts upon the GBRWHA need to be discussed in greater detail.
6.4.4	Section 9.4.2 Water Quality -Page 9.20. Further information is required on the dredging activities which have the potential to create adverse impacts to the Great Barrier Reef World Heritage Area.



2.5.2	The draft EIS does not mention The Reef Water Quality Protection Plan (Reef Plan). The Reef Plan was released by the Australian and Queensland Governments in 2003. The Reef Plan encourages the protection of native and riparian vegetation to ensure water quality to the Great Barrier Reef is improved. It is the Department's view that removal of large amounts of vegetation within close proximity to the Great Barrier Reef may need further consideration to align with the objectives of the Reef Plan.
7.1.4.3	Chemical use on the Golf Course should be adequately managed to minimise the total impacts associated with herbicides and pesticides
13.2	The controlled measures proposed to minimise boat strike with marine mammals and turtles are inadequate.

Submission Number	36
Submitter	Calliope Shire Council
Supplementary Cross-Reference	Issue
3.3.2	In the document prepared for Calliope Shire Council, the consultant has identified several instances with the EIS where engineering solutions are proposed for infrastructure issues, some of which are not exhaustively researched and may not be cost efficient in the future. Gladstone Regional Council may inherit some cost in the future when the development is handed over.
Noted	The Gladstone Regional Council may have issues with the infrastructures for this Project.

Submission Number	37
Submitter	Miriam Vale Shire Council
Supplementary Cross-Reference	Issue
	Refer to Submission Number 34 & 37

Various submitters:

Submission Number	8, 13, 15, 16, 17, 18, 19, 20
Submitters	Multiple Submitters
Supplementary Cross-Reference	Issue
13.2	The boat traffic on the local waters will be approx 600 to 700 additional boats, all the signs and messages will not stop the rat-bag element of speeding boats that create turtle and dugong deaths, also the plastic bags and beer bottles together with used fishing line will have a devastating effect on the marine life some of which are a threatened species. My figures are very lenient and based on the fact that out of approx 200 people in Turkey Beach it is possible to have 70 boats in the water that is 35% why would this amount of people on HHI be different?
13.2, 13.7.1	The only way that mitigation will work is if there are patrolled areas by Old DPI and QPWS on duty at all hours of the day and night. Otherwise the rat-bag element of our society will prevail. Boats will speed and rubbish will be dumped, population will spread down the pristine beaches and turtles and roosting birds will be disturbed or killed.
2.4, 13.7.2	<i>"Extreme weather overflows will only occur during wet weather events, the impact of the discharges would be minimised as the sewage flow during these events is dilute and would receive further rapid dilution as it discharges into the receiving waters and will have short-term minimal impacts."</i> Once again the word minimal is used with no scientific fact attached to it, I would like to bring to your attention that the Sydney waste sewage goes straight into the sea should the DPW go on strike, or there is a major breakdown in the plant at Bondi, it lays as a

	stinking mass on one of the world's best beaches, the government at the time solved the problem by piping it out to sea another few miles for our fish to eat. Then we in turn buy and eat them from the fish Market. The proponent has not stated what damage will be done to the rare and threatened turtles, corals and dugong when the overflow occurs from on the Island.
Noted	Some illegal fishing still goes on by professional fishers, yet we can only think that blind eye is turned on them as they do not seem to be apprehended.
8.4.1	Operational impacts from boat traffic and in particular 2-stroke engine emissions are considered to be very high within the estuaries and relatively high levels of boating traffic anticipated - the proposed boats that will be on the water.
6.7.3.2	If my math's is correct based on an 8 hour day, 2040 trips per day (in 2023) is one trip every 14.1 seconds I think we would need masks as they do in Tokyo to stop us dying of carbon dioxide poisoning. Has consideration been given to the residents on this route? It means someone leaving the property will have to do it in the 14 sec or they will cause a traffic bank-up and what about school buses?
12.1.2	I suggest that the Island in the past has been overlooked at being listed as a National Park and now is the time for that error to be rectified. I think the negative for the Australian people and the economy of central Queensland of this proposal greatly outweigh any positives
12.2, 12.12.1, 12.13	People disregard signs and rules so of course some residents will bring cats and dogs to the area. Cats will run riot in the night and dogs have good fun chasing anything that moves, people cut and poison trees for a better view of the water, children run amok on the beaches with their dogs digging up turtle eggs and frightening roosting and nesting birds, some of which are rare and threatened also covered by the JAMBA and CAMBA agreement.
12.1.5	If the fauna species of conservation significance can go to the other areas, why would they not be there now? The simple answer is that it is not suitable for them.
2.1.5, 13.4	" <i>Hummock Hill Island is on the boundary of the Wide Bay Burnett and Fitzroy (or Central Queensland) Regions.</i> " This is a very large area: they talk of the millions it should bring to the area but fail to say how much we will lose of the proposed 20 billion from Tourism by the destruction of the sustainable environment. The Gladstone region is a major source of prawns crabs and fish, this cannot be sustained by degradation of coastal area that is the nursery for many species
12.1.3, 12.7, 12.8, 12.9, 12.10, 12.11	Once again the word minor is used: how can a minor loss of habitat for several fauna species of conservation significance be considered minor? Particular attention should be given to the 341 ha clearing of remnant vegetation. In the old language that is 842 acres: 640 acres being 1 square mile so the clearing is in fact 1.32 square miles, of remnant and none remnant vegetation.
5.3	" <i>The aspect of the proposed development that will have the most significant visual impact on sensitive receptors in the WHA is the construction of the bridge across Boyne Creek. Other construction works including vegetation clearing, earthworks and installation of services such as reticulated water, sewerage and electricity infrastructure and the operation of the proposed development including the building form and layout, illumination of roads and buildings will also require visual impact mitigation.</i> " I believe that the view of the Island in its natural state is what our tourists wish to see. The proposed connections to the above infrastructure will impact greatly on the sustainable environment.
12.3	" <i>Dames and Moore completed supplementary flora and fauna surveys of the Island in December 1994. The study comprised a bird surveys at 54 survey sites, with 10 minutes survey effort expended at each site. Bird surveys at 54 sites, over a total of 540 minutes (9 hours) are considered adequate to have recorded a representative suite of avifauna from the island. When combined with the opportunistic and targeted observations of CQU and SKM, overall search effort for birds must be considered adequate.</i> " To suggest that a survey over a 9 hour period is adequate is simply rubbish. If they were surveying trees it may be OK but birds may only be seen at certain times of the tide etc.
12.5	There is no way that the littoral scrub, beaches, can be protected from the onslaught of major population growth into this pristine area
13.4	By Putting approx 4000 people on this Island and each one entitled to 4 crab pots, with only five percent who take advantage of this recreational past-time it will be approx 800 crab pots, together with 520 from the Seaview Beach proposed development, add this to the professional crabbers." and recreational crabbers



Hummock Hill

	already in the area and we have a very realistic figure of approx 2000 crab pots, with a potential figure of about 20.000 plus pots.
12.4, 12.9, 12.11, 13.7, 13.10, 13.11, 13.12	The proposed increase in population will have a major detrimental impact on the waters and foreshores surrounding the island and on the mainland people will travel to e.g. Wild Cattle Island NP, Rodds Peninsular NP, Innes Fish Habitat, Colosseum Fish Habitat, Wild Cattle Wetland Reserve, Rodds Bay Dugong Sanctuary, Rodds Harbour Fish Habitat, and Pancake Creek. We can see no reason that another 4500 people would not have a disastrous effect on the whole area.
3.1.4, 14.6.3	There is limited need for sporting facilities. Already Boyne Island has had to abandon the country club through lack of support, most sports and clubs already exist in Gladstone and Boyne/Tannum areas.
12.1, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9, 12.10, 12.11, 12.12, 12.13, 13.2, 13.3, 13.7, 13.11	Having regard for the positives and negative and the impacts of the project presented in this EIS, there are no ways the proponent can guarantee that the flora and fauna, the rare and threatened species will be preserved.
3.4.2	The proponent has not given any figures that will be lost in tourism due to the destruction of the Natural biodiversity of the island
7.1.4.3, 13.7, 13.11	With reference to the management of the Golf Course, Once again we do not know what minimal represents, and to think it is going into the GBRWHA Waters. There is no absolute way of protecting the excess waters from the project entering the aquifers and the waters of the Great Barrier Reef and once aquifers are polluted it would be approx 1000 years for them to become clean again.