LOWER FITZROY RIVER
INFRASTRUCTURE PROJECT

Appendix A

EIS Submission Analysis Register

SunWater
MAKING WATER WORK

Gladstone Area Water Board

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Draft EIS Submission Register - Lower Fitzroy River Infrastructure Project (July - August 2015) FOR AEIS REPORT REV 0						Proponent to complete		
Sub and Issue No.	Submitter	Issue - Category	Issue - Details	Submitter Recommendations / Suggested Mitigation	Direction to Proponent	Proponent response	Relevant draft EIS chapter and section	Relevant AEIS report chapter and section
001	Department of State Development (Business Solutions & Partnerships)	N/A	The Business Solutions and Partnerships section of DSD is supportive of the draft EIS and does not have any comments.	N/A	Proponent to note	Noted	n/a	n/a
002	QLD Treasury (Hazardous Industries & Chemicals Branch)	N/A	The Hazardous Industries and Chemicals branch (Office of Industrial Relations) has reviewed the draft EIS and advises that the branch has no requirements with regard to the project.	N/A	Proponent to note	Noted	n/a	n/a
003	Department of State Development (Major Projects)	N/A	The Major Projects Office of DSD has no comment to make on the draft EIS.	N/A	Proponent to note	Noted	n/a	n/a
004.01	Department of Health (QLD Ambulance Service)	Hazard & Risk	Reference is made to; Volume 1, Chapter 20, p20-17 (Table 20-6), Item 14 - Tropical Cyclone or Severe Storm.	In 'Responsive measures' column please include Queensland Ambulance Service in the response procedure.	Proponent to amend	Addressed in the draft EIS.	Volume 1 Chapter 23 Environmental management plan Section 23.2.8	n/a
005	Department of Housing and Public Works (Government Employee Housing)	N/A	The Government Employee Housing has no comment on this project	N/A	Proponent to note	Noted	n/a	n/a
006.01	Private submitter 1	Flow regime methodology Flow regime methodology	Comments on altered flow regime assessment; Worldwide, one of the first aspects examined in dam projects are the impacts of flow regime change. Assessing changes to hydrologic flow regimes is a complicated business, with no fool proof method available. Some methods of assessment are accepted by the scientific community as more adept than others. One very simple method, but of limited value ecologically, is to compare hydrographs on a daily weekly and monthly flow basis. The EIS has compared hydrographs on a monthly flow basis using an analysis of similarity and multidimensional scaling to examine if the monthly flows are significantly different. Due to the significant natural variation in streams flows, such methods have little ability to find any statistical difference between a series of hydrographs even with a various data transformations. It is also unable to find differences of ecological significance.	To compare ecologically significant changes between hydrographs, a number of widely used methods have been developed. These use a wide range of hydrograph statistics that are likely to have an impact on the flora and fauna of waterways. Such as 1 to 90 day minimum flows, 1 to 90 days maximum flows, number of zero flow days, duration of extreme pulses, timing of minimum and maximum flows etc. Two prominent methods are the Indicators of Hydrologic Alteration (IHA) method developed by Richter et al. (1996) and the Dundee Hydrological Regime Assessment Method (DHRAM) developed by Black et al. (2005). Additionally changes in pattern of flows, such as predictability and constancy, cannot easily be quantified by the use of normal statistical metrics. it is common in hydrological studies to use Colwell's indices of variation to quantify the predictability and variability of flows (Olden and puff 2003, Resh et al. 1988).	Proponent to provide response	The draft EIS addresses stream flow pre- and post-project for all development stages and at various locations on the Fitzroy River within the project area. Further detail on methodology and results is presented in the draft EIS. Flow regime impacts on conservation significant fauna are addressed in the draft EIS. Flow regime impacts on the Fitzroy River turtle (*Rheodytes leukops*) and the white-throated snapping turtle (*Elseya albagula*) are addressed further in the additional information to the draft EIS.	Volume 1, Chapter 9 Surface water resources, Section 9.3.2.3 Appendix P Surface water resources supporting material Volume 1, Chapter 7 Aquatic ecology, Section 7.3.7, Section 7.3.12	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.3 Chapter 7 Surface water resources, Section 7.2.2, Section 7.4 Appendix E Fitzroy River and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan
006.02		Flow regime methodology & environmental flow objectives	The EIS has examined some basic environmental flow variables in the form of the Water Resource Plan (WRP) environmental flow objectives. These environmental flow variables have not been examined for base case versus the difference project cases to identify changes, but only as a pass or fail comparison against the minimum environmental flow objective ratings listed in the WRP. Given that the WRP WASOs allow a 1 in 17 year drinking water supply failure for a regional city (annual water sharing index of 94%), it is most likely that the WRP EFO objective limits are also set at an extremely low or even lower threshold. Also for any accurate assessment of hydrologic flow changes, the actual current case (modelled flow as physically present, i.e. not including the non-existent Connors river and Nathan Dams) needs to be compared with the proposed project cases.	The project will likely be of great benefit to the region, but the ecological impacts need to be appropriately examined to be able to make this decision correctly. The actual level of assessment of flow regime change undertaken in the EIS is similar to that for a small impact assessable farm dam or pondage, not a half a billion dollar tens of thousands of megalitres dam project. If the environmental impacts are not assessed properly, the project has greater risk of successful court challenges that could halt the project and cause significant cost escalations. As such it would be prudent for the proponents to examine all aspects in appropriate detail. Overall it would appear that the current initial assessment of flow regime changes arriving from the proposed project does not adequately address the ecological implications. It is likely further work would, and should, examine the hydrologic regime changes in more detail using appropriate methods.	Proponent to provide response	As per response to submission 006.01	n/a	n/a

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007.01	Department of Agriculture and Fisheries (DAF) (Fisheries QLD)	Fish passage	(s2.3.1.4, table 2-2, pg2-25 and s2.3.1.5, pgs2-29 to 2-30) General information on the provision of fish passage	The dEIS provides adequate details for the two proposed fish locks for this stage of the proposal. The applicant should however be made aware, that when works enter the Operational Works (OW) stage, they must provide 'fit for construction' design plans in their Development Application (under SPA) for both proposed Fish Lock designs and for the upgrade of the existing Eden Bann Fish Lock. The OW application must include the mechanical operation components, control aspects, full engineered designs along with the confirmation from a fishway professional* that these designs will function as proposed. A**fishway professional is someone who is suitably qualified and experienced in fish passage biology, with adequate experience in design, construction and monitoring of fishways simular to that being proposed. This person will need to verify that any fish way design will provide adequate fish passage.* For more information on the requirements at the OW stage, please see the State Development Assessment Provisions, Module 5, section 5.2 along with IDAS forms 1 and 27.	Proponent to note	Noted	n/a	n/a
007.02		River crossing upgrades	(s2.3.3.2. pgs2-31 to 2-32) General information on details regarding the four river crossing upgrades	Fisheries Queensland is satisfied that the proponent intends to use bridges for the upgrades of three of these four crossings. The applicant should be made aware of the DAF Fact Sheet: "What is not a waterway barrier work". This fact sheet provides works that do not require a trigger (under SPA) for waterway barrier works (in the OW stage). The fourth crossing (Hanrahan crossing) however, may be constructed as per the Self-Assessable Code WWBW01, part 3 – Culvert crossings. If any of the crossing works cannot meet the requirements of the Fact sheet exemptions or the Self-Assessable Code then a DA will be required for their construction at the OW stage of development*. **See SDAP Module 5, section 5.2 plus IDAS forms 1 and 27 for the mandatory supporting information required for waterway barrier works development applications.*	Proponent to note	Noted	n/a	n/a
007.03		Fish salvage and handling	(s2.4.4.1, pgs2-48 to 2-50) Insufficient detail on the salvage of fish at dewatering of sites in construction zones	The proponent should make mention of the safe handling of any fish species found whilst dewatering the areas of the Eden Bann and Rookwood weirs. The proponent should reference DAF's Fish Salvage Guidelines for the safe handling and movement of all native fish in the construction zone.	Proponent to provide response	Addressed in the additional information to the draft EIS within the revised draft environmental management plan (EMP). DAF's Fish Salvage Guidelines will be referenced and implemented as necessary and applicable.	n/a	Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
007.04		Fishway maintenance	s2.5.6, pg2-64) Insufficient detail regarding Fishway maintenance and repair programs	Please provide details of the program to monitor, maintain and repair defects to the fishways to ensure fish passage remains adequate and that there is sufficient funds available by the proponent, to maintain the effective operation of the fishways until such time that the weirs are decommissioned. While the EIS has specified the construction of fish locks for the provision of fish passage over Eden Bann and Rockwood Weirs, there is insufficient detail on the operation, monitoring and repair of these structures after they are built. The following specific and detailed plans/reports should be provided regarding the proposed fish locks: 1. Detailed and specific fishway operational plan for the Eden Bann and Rockwood Weirs including operating procedures, methodology and monitoring proposed; 2. Detailed and specific fishway contingency plan for the Eden Bann and Rockwood Weir including details of contingency plans to deal with breakdowns, changes to infrastructure operation or other issues that may affect the provision of fish passage. This must also include plans to withstand natural disasters and for the continued operation of fishways before, during and after natural disaster events 3. Financial assurances for mitigating operational, logistical and biological issues identified during monitoring and operation. 4. Planned reporting intervals and details.		Fish lock operation is described in the draft EIS. The development of a fishway operations plan has been included within additional information to the draft EIS in the revised draft EMP and Project commitments.	Volume 1, Chapter 2 Project description, Section 2.5.6 Volume 3, Chapter 8 Terrestrial fauna, Section 8.1	12 Environmental management plan 13 Project commitments Appendix D Revised Project commitments Appendix F Revised draft environmental management plan

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007.05		Offsets	s3.10, pg3-7 and s22.2.1, pg22-1) Update information to reflect the latest Environmental Offset Policy document	Amend: Queensland Environmental Offsets Policy Version 1.0 to; Version 1.1 (Dec 2014)	Proponent to amend	Correct reference included in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.1.1
007.06	(DAF) Agriculture Reef and BMP Programs	Water quality	(s11.2.6, pgs11-41 to 11-45) Reef water quality targets – sediment, nutrient loads, pesticide and herbicides.	The Proponent should note that although agriculture does contribute to water quality, and the subsequent impact on the reef, it is important to remember it is only one of several industries that impact on the water of the Fitzroy catchment. This should not take away from all industries having a responsibility to improve water quality outputs in the Fitzroy catchments.	Proponent to note	Noted	n/a	n/a
007.07	Fisheries QLD	Offsets	(s22.1.2.2, last para, pg22-2) Financial offsets are not paid to the authorising agency – they are paid to EHP	Amend first sentence to read: "*payment from the authority holder to the Department of Environment and Heritage Protection Offset Fund*".	Proponent to amend	Correct reference included in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.1.1
007.08		Offsets Offsets	s22.2.3.5, pg22-9) Failure to include an offset for the significant residual impacts upon fisheries habitat the Fitzroy river system by inundation of the river at both weir sites 007.08 continued	Although the dEIS seeks to offset the aquatic habitat loss, it does so via terrestrial calculation for the impacts to the Fitzroy River turtle, and not for the impacts by permanent alteration on fisheries habitat. The state currently has two Significant Residual Impacts (SRI) Guidelines, one that applies to works under the *Environmental Protection Act 1994* , *Nature Conservation Act 1992* and *Marine Parks Act 2004* which states that an SRI is likely to occur when works : - 1. substantially modify, destroy or fragment areas of fish habitat (including, but not limited to in-stream vegetation, snags and woody debris, substrate, bank or riffle formations) necessary for the breeding and/or survival of fish; or 2. result in a substantial and measurable change in the hydrological regime of the waterway, for example, a substantial change to the volume, depth, timing, duration and frequency of flows; or 3. lead to significant changes in water quality parameters such as temperature, dissolved oxygen, pH and conductivity that provide cues for movement in local fish species The other SRI guideline is for works under the Sustainable Planning Act 2009, which states an action is likely to have an SRI if : - 4. a permanent modification to the volume, depth, timing, duration or flow frequency of the waterway; 5. permanent modification or fragmentation of fish habitat including but not limited to in stream vegetation, snags and woody debris, substrate, bank or riffle formation necessary for breeding and/or survival of native fish species; 6. the mortality or injury of fish species; or 7. works that permanently reduce the level of fish passage provided in a tidal waterway or a waterway identified as a major high risk waterway for waterway barrier works, to a level that would increase stress on fish populations. In both instances an SRI occurs with the permanent modification to the site, as this occurs with both weirs the SRI to the Aquatic ecology in regards to fish habitat must be offset. To calculate the offset area for the permanent inundation of the Fitzroy River is to identify the area of natural stream that will be permanently inundated by the works (upstream area) i.e. length of inundation area by width of natural stream (bank to bank) that will be permanently altered. This area can then be entered into the Offset Calculator and a nominal financial amount can be obtained.	Proponent to provide response Proponent to provide response	The SRI guideline for works under the *Sustainable Planning Act 2009* is considered applicable. Assessment against the SRI guideline is included in the additional information to the EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.1.2

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007.09		Fish monitoring	Further information that is insufficient in the dEIS document.	A detailed Fish Monitoring Program (plan) that monitors the success of the fish locks needs to be developed and included. A yearly monitoring program (for both pre and post wet season) needs to be developed with a person or entity that is suitably qualified and experienced in fish passage biology and fish way design. This program needs to be reviewed by DAF Fisheries.	Proponent to provide response	The draft EIS commits to the development of a Fish Monitoring Program, to be developed in consultation with DAF during detailed design. An outline of monitoring measures is provided. Addressed in the additional information to the draft EIS and included within the revised EMP and the revised Project commitments.	Volume 1, Chapter 7 Aquatic ecology, Section 7.3.9.6 Volume 1, Chapter 23 Environmental management plan, Section 23.5.1 Volume 3 Appendix W Project commitments	Chapter 12 Environmental management plan Chapter 13 Project commitments Appendix D Revised Project commitments Appendix F Revised draft environmental management plan
007.10	(DAF) Biosecurity Queensland	Feral animals management	s8.4.2.8, pg8-25) The potential for the project to contribute to increased numbers of feral animals due to the provision of a more permanent water source is stated in this section, which may have negative impacts (e.g. potential for increased predation on native fauna, agricultural impacts) but no actions to manage increased risks are provided.	Include a statement to indicate the proponent will take actions to manage increased feral animals during this phase of the development (e.g. monitoring, pest animal control) and/or cross-reference Section 8.9 Weed and pest species.	Proponent to provide response	As addressed in the draft EIS. The Project will develop a Feral Animal Control Program and a Weed Management Plan.	Volume 1, Chapter 23 Environmental management plan, Section 23.4.3, Section 23.5.1	Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
007.11		Weed and pest management	s8.9, pgs8-41 to 8-42) Mitigation measures state "manage pest species in coordination with adjacent landholders and catchment management groups." Local governments are a key stakeholder but are not mentioned in relation to weed and pest management and pest management activities should be aligned and coordinated with local government priorities.	Local government should be included as a key stakeholder. Weed and pest animal management should be aligned with local government priorities.	Proponent to amend	As addressed in the draft EIS, the additional information to the draft EIS and included within the revised EMP. The Project will develop a Feral Animal Control Program and a Weed Management Plan with reference to relevant Queensland and local government legislation, guidelines and plans and in consultation with local council, community groups and landholders.	Volume 1, Chapter 23 Environmental management plan, Section 23.4.3, Section 23.5.1	Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
007.12	(DAF) Agriculture	Agriculture	(S12.4.2.3, pg12-21) 1. The potential for an unmitigated loss of availability and utility of agricultural land as the project may result in: • the loss of 565 ha of Class A&B land within the impoundment areas, and • fragmentation of Class A&B land due to the construction of the road.	DAF's preferred outcome is that non-agricultural land uses coexist with agriculture. Although the EIS suggests that there is potential for 20,000 ML of water to support the agricultural development of 3,050 ha within the region, the EIS does not guarantee or commit to providing this water to support agricultural development. In the absence of a detailed commitment, DAF recommends the following mitigation measures be applied: A. The proponent for the project is to legally secure land (by registration of a covenant on the land title) equivalent to the amount of land that will be irreversibly converted to non-agricultural uses as a result of the project. B. The base-case total equivalent land amount required is 565 ha of land. C. The equivalent land is to be of the same Agricultural Land Class (ALC) and productive capacity as the subject land (i.e. Lot 2 on SP158491). The equivalent land must be managed in such a way that its ALC is not diminished. D. The proponent must legally secure all equivalent land within one year of commencing works. E. The proponent must notify the Minister for Energy and Water Supply within 20 business days of legally securing all equivalent land. F. The road is realigned to prevent fragmentation of ALC Class A&B land.	Proponent to provide response	Clarification regarding the impacts on agricultural land (Class A and B) are provided in the additional information to the draft EIS. It is not considered that further mitigation, management and/or offsets are required.	n/a	Chapter 4 Land, Section 4.2.1
007.13		Agriculture	(S12.4.2.3, pg12-21) 2. The Fitzroy Agricultural Corridor should be encouraged to expand using water that becomes available from the raising of Eden Bann Weir and the construction of Rookwood Weir.	While it is recognised that new water infrastructure will be required for urban use and industry, and not only for agricultural activities, consideration should be given to making water available for agriculture as an ongoing priority user, not just restricted to pre and post mining industry requirements.	Proponent to provide response	Consultation and engagement with Rockhampton Regional Council and Regional Development Australia (Growing Central Queensland) is described in the additional information to the draft EIS.	Volume 3, Appendix F Consultation report	Chapter 2 Consultation, Section 2.6
008.01	Rockhampton Regional Council	General comment		Overall the RRC is supportive of the LFRIP on the basis that it secures essential long term water supplies for urban and industrial uses and growth in Rockhampton, Gladstone and the Capricorn Coast. In addition, it represents potential water to support development of high value agricultural industries in the proposed FAC (as identified in the QLD Government sponsored FIIS). These benefits will aid in mitigating the effects of the current down turn in the resources sector, diversify the regional economy and address high levels of regional unemployment and socioeconomic disadvantage. RRC has reviewed the Draft EIS with particular reference to its potential impacts on Council infrastructure and on Council and community interests.	Proponent to note	Noted	n/a	n/a
008.02		Surface Water Resources - Water Security	RRC is keenly interested in potential impacts of the LFRIP on the security and reliability of the Rockhampton water supply and Council's existing water entitlements. The draft EIS indicated that for a capped 76 000 ML pa yield, the WRP WASOs are achieved and water sharing prices indices for high and medium priority user groups are improved. Information that would substantiate this is not provided (draft EIS Vol.3 Appendix V) due to commercial-in-confidence.	RRC has sought further information and access to Vol.3 App V from the proponents and signed a confidentiality deed to facilitate this. If the LFRIP were to have the effect of reducing the water sharing indexes, Council will seek some form of mitigation of that impact or appropriate compensation for erosion of the security of its current water entitlements.	Proponent to note	Noted. Draft EIS Volume 3, Appendix V IQQM yield assessment was provided to RRC as commercial in confidence.	n/a	n/a

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008.03		Water Quality	RRC is also keenly interested in potential impacts of the LFRIP on the water quality of the Barrage and ultimately Council's potable water supply to Rockhampton, Gracemere and the Capricorn Coast. The draft EIS notes that in terms of operational impacts, it is evident from existing conditions that water quality in the project area is heavily influenced by environmental and anthropogenic factors (human activity and related land use and management) in the catchment area and these existing impacts on water quality will persist. It also notes that the combined contributions of liberated TN and TP from both EBW and RWW are relatively small, and decrease markedly beyond the first year of operation in which a large proportion of the vegetation decomposition will occur. The report also suggests that the potential for blue green algae blooms to occur within the impoundments is considered to be low. Council's own experience in operating the FB would suggest that blue green algae blooms will occur, particularly in circumstances where turbidity is low. Council has the capacity to treat its potable water with increased coagulant dosing and activated carbon dosing through the Glenmore water Treatment Plant.	An ongoing water quality monitoring program, including monitoring for blue green alga blooms is desirable and should be coordinated with existing monitoring. An appropriate management strategy should also be in place to minimise adverse water quality and respond to blue green algae blooms.	Proponent to provide response	As addressed in the draft EIS and included within the additional information to the draft EIS in the revised draft EMP. A water quality monitoring program will be developed and implemented, including monitoring and management of blue green algae.	Volume 1, Chapter 23 Environmental management plan, Section 23.5.2	12 Environmental management plan Appendix F Revised draft environmental management plan
008.04		Barrage Fishway	The draft EIS suggests in Appendix P3 that Barrage fishway will operate for longer periods and therefore provide greater habitat connectivity and fauna movement. Under the ROP, base flows are required from the barrage down to a barrage level of 2.3 mAHD. The fishway only operates down to 3.2 mAHD. A proposed small-fish additional fishway for the Barrage is currently being project managed and funded by the FBA. This new fishway will only operate down to 3.7 mAHD and as a result, bae flows can occur when the fishway is unable to operated.	While the suggested improvement in the Barrage fishway operation is not prominent in the draft EIS it would be beneficial to confirm that these fishway operating levels have been taken into account.	Proponent to provide response	Addressed in the additional information to the EIS. Parameters for existing and proposed infrastructure as agreed with the State and included within the IQQM as implemented for the Project are provided.	Volume 3, Appendix V IQQM yield assessment (as provided to RRC as commercial in confidence)	Chapter 7 Surface water resources, Section 7.3
008.05		Transport - Roads	The draft EIS identifies potential traffic and flooding impacts of the project on State and local roads during construction and operational phases of the project. State controlled intersection upgrades are identified to adequately accommodate project traffic during the construction phase at the Bruce Highway-Atkinson Road intersection and Capricorn Highway-Third Street intersection at Gogango. Local roads affected by the project include Third Street (Primary Rural Access), Riverslea Road (Major rural Collector-60 AADT), Thirsty Creek Road (PRA), Commanche Road (PRA) and Smith Road (Secondary Rural Access). The project will also impact on Fitzroy River crossings at Glenroy Crossing, Riverslea Crossing and Foleyvale Crossing and at Hanrahan Crossing. Some expansion of road reserves will be required to accommodate crossing and road upgrades. During detailed design, refinement of the project activities will be facilitated through updating traffic counts, undertaking pavement impact assessments and road safety audits and developing site specific traffic management plans. A road use management plan will be developed in consultation with DTMR, RRC and LSC governing upgrades, use, maintenance and restoration (as applicable) of these roads, along with identification of transport targets, updated traffic generation and road-use data and road-use management strategies.	Road and intersection upgrades identified appear appropriate at this stage and commitments of further assessment, refinement and management are noted. Improvement to the flood immunity and reduced times of closure of Fitzroy River crossings will be beneficial to existing property owners and will potentially support more intensive agricultural industry development. improvement to the flood immunity if Thirsty Creek Road, if feasible, may be prudent to provide access to RWW during minor flood events (5 to 10 year ARI). This would also improve access into the PDAs 7 & 8 of the proposed FAC identified in the FIIS (2007).	Proponent to provide response	Noted. Consultation and engagement with Rockhampton Regional Council and Regional Development Australia (Growing Central Queensland) is described in the additional information to the draft EIS.	n/a	Chapter 2 Consultation, Section 2.6

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008.06		Surface Water Resources - Flooding	Hydrologic input to Council's updated Fitzroy River Flood Model (2014) is based on flood frequency analysis and historical hydrograph scaling techniques. By way of comparison, the draft EIS assessment has used the URBS run-off routing model which has estimated the 1% AEP peak discharge as 18 800 m3/s at Yaamba while Council's flood model estimates the 1% AEP peak discharge as 16 680 m^3/s at Yaamba. Flood frequency analysis and historical hydrograph scaling was adopted for Council's 2014 flood model to prepare design discharge inflow hydrographs for the Fitzroy River Catchment. This method was adopted in consultation due to perceived limitations with a runoff-routing approach in a very large catchment. The justification of the approach included: 1. Flood peaks are the product of a complex joint probability process involving the interaction of many random variables associated with the rainfall event, antecedent conditions and rainfall-runoff transformation. 2. Peak flood records represent the integrated response of the storm event with the catchment and provide a direct measure of flood exceedance probabilities. As a result, flood frequency analysis is less susceptible to bias that can affect alternative methods based on design rainfall. 3. Analysis of historical Fitzroy River flood events showed that most major events were the result of the unpredictable movement of ex-tropical cyclones through the catchment. 4. This approach is aligned to industry advice from Australian Rainfall and Runoff which notes that FFA methods are generally the most reliable means of estimating design discharges where quality stream gauge data exists for an appropriate period of record. Independent of the differences in assessment of peak design discharges, the draft EIS has measured the relative impact of the proposed infrastructure on adjacent areas in terms of increased inundation extent and increases in water	Council notes that a water storage easement (or similar) will be negotiated for riparian land within the impoundment but outside of the watercourse and that the water storage easement will consider the need for a flood buffer zone on a lot-by-lot basis to account for potential flood impacts as a result of operation of the project. Design peak discharges are higher than those estimated by Council in its own modelling (downstream of the LFRIP modelling) and as such might be considered conservative.	Proponent to provide response	Noted. Flood assessment methodology is addressed in the draft EIS.	Volume 3, Appendix P Surface water resources supporting information	n/a
008.07		Flora - Weed Management	The potential introduction and spread of weeds is an issue for Council, however the proposed management measures and commitments appear appropriate.	Continue to consult with council and landholders on weed management plans.	Proponent to note	Noted.	n/a	n/a
008.08		Economics	Whilst the detail of the economic analyses has been treated as commercial-in-confidence, the CBA summary suggests the project has a strong business case. The potential benefits of agricultural production that may use part of the 42 000 ML unallocated strategic water infrastructure reserve have not been quantified and are likely to be significant in their own right. These impacts have not quantified was 'due to the uncertainty around the nature and extent of these benefits relative to the best case'. Likewise, there has been some mention of the benefits which the additional high priority water can bring business and industry, but this is also apparently not quantified in the CBA.	The wider economic benefits of the project could potentially be acknowledged and quantified. Council considers the LFRIP as a priority economic and regional development project that will aid in diversifying the regional and local economy and will also indirectly address high unemployment and socioeconomic disadvantage in the region.	Proponent to provide response	Direct Project benefits are addressed in the draft EIS. Extensive assessments are currently being undertaken and business cases being developed in relation to development opportunities potentially facilitated by the project. In particular work being done by Growing Central Queensland (a collaborative project aimed at boosting Central Queensland as a preferred target for global investment into the agricultural sector; being driven by representatives from the Departments of State Development, Agriculture and Fisheries, and Natural Resources and Mines, along with Regional Development Australia Fitzroy and Central West (RDAFCW)) and RRC in this regard are noted. Consultation and engagement with Rockhampton Regional Council and Regional Development Australia (Growing Central Queensland) is described in the additional information to the draft EIS.	Volume 1, Chapter 18 Social and Chapter 19 Economics	Chapter 2 Consultation, Section 2.6
009.01	Private submitter 2	General comment		The project will provide a better access to country on the Rookwood side of the river which at present is subject to isolation for extended periods during the wet season. It will also provide a boundary during the dry season which presently allows cattle to cross the river. The weir will allow further development of irrigation and access to extra water allocation.	Proponent to note	Noted	n/a	n/a
010.01	Private submitter 3	General comment	My property is impacted by the Rookwood Weir. As we have approximately 7 km of frontage to the Fitzroy River, we will lose good pasture. Also surprised that a run-of-river power project has not been looked at.	Proceed with the development and grant water rights to landowners for compensation. My company would be interested in investigating power opportunity. Excellent report and I am in complete support of the Rookwood Weir project.	Proponent to provide response	Noted	n/a	n/a

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011.01	Fitzroy Basin Association	Remnant vegetation	P6-42, s6.3.2.2 A significant amount of remnant vegetation (RV) (1 927 ha) including 26 ha of endangered regional ecosystems and 240 ha of 'of concern' regional ecosystems, will be lost due to direct clearing of vegetation as a result of the proposed project. Offsets are only proposed for 18.5 ha of Brigalow threatened ecological community. Due to the significant clearing/inundation of remnant vegetation, FBA submits that offsets should be provided for these impacts.	The proponent provides a commitment to offset all remnant vegetation affected by this project.	Proponent to provide response	Legal obligations are addressed in the draft EIS and offsets as necessary and applicable are included. Community infrastructure designation provides for exempt development and is addressed in the additional information to the draft EIS.	Volume 1 Chapter 3 Legislation and project approvals Volume 1 Chapter 22 Offsets Volume 2 Chapter 14 Offsets	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.2
011.02		High value regrowth	p6-45, s6.3.2.3 This project will result in a significant area of high value regrowth (HVR) being cleared or inundated as a result of this project. A total of 161.7 ha of endangered HVR, 333.7 ha of 'of concern' HVR, and 62.8 ha 'of least' concern HRV will be impacted. Due to the significant clearing/inundation of RV, FBA submits that offsets should be provided for these impacts to demonstrate the proponent's commitment to good environmental stewardship.	The proponent provides a commitment to offset all HVR vegetation affected by this project.	Proponent to provide response	Legal obligations are addressed in the draft EIS and offsets as necessary and applicable are included. Community infrastructure designation provides for exempt development and is addressed in the additional information to the draft EIS.	Volume 1 Chapter 3 Legislation and project approvals Volume 1 Chapter 22 Offsets Volume 2 Chapter 14 Offsets	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.2
011.03		Conservation significant flora species	p6-47, s6.3.2.5 The EIS states that "....there are no conservation significant flora species that have a high potential to occur in the project footprint". FBA submits that the proponent has failed to take into account the QLD Government's protected plants legislative framework when preparing the EIS. The framework addressed impacts on both listed threatened plants and listed special least concern plants. FBA submits that the proponent conducts as assessment of the project according to the framework and provides an appropriate management or offset strategy as required.	The proponent conducts an assessment of the project's impacts on plants listed under the protected plants legislative framework.	Proponent to provide response	It is considered that surveys undertaken for the project in relation to flora and fauna are adequate and in accordance with Commonwealth and State guidelines. Impacts on flora species are addressed in the draft EIS. The draft environmental management plan provides for further commitments regarding pre-clearance obligations.	Volume 1, Chapter 6 Flora Volume 3 Appendix N Eden Bann Weir baseline terrestrial ecology report Volume 3 Appendix O Rookwood Weir baseline terrestrial ecology report Volume 1 Chapter 23 Environmental management plan	n/a
011.04		Habitat fragmentation & loss of connectivity	p6-48, s6.3.3 Ch 6 of the EIS contains only a brief qualitative discussion of the potential impacts to habitat fragmentation and loss of connectivity on flora, and no quantitative data. FBA submits that significant fragmentation and loss of connectivity will occur if the project is granted approval and that this section of the EIS needs further details, including extent of habitat fragmentation and connectivity loss, and the impacts this will have on flora species.	The proponent fully assesses the impacts of the project on habitat fragmentation and loss of connectivity in relation to flora.	Proponent to provide response	Addressed in the additional information to the EIS. Legal obligations in relation to assessment and offsets regarding fragmentation and connectivity impacts are addressed.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.1.3 Appendix C Connectivity
011.05		Aquatic ecology	Ch 7 The WTST is listed as critically endangered under the EPBC Act and is recommended for listing as endangered under the NC Act (Qld) (*Limpus et al. 2011*). The impacts of the project on this species have not been properly considered by the proponent in the EIS, noting a lack of specific mitigation measures, management actions or offsets. FBA submits that the level of impact to this critically endangered species must be considered as a matter of urgency.	The proponent is required to properly address the impacts of the project on the WTST and provide these in all relevant sections of the EIS (e.g. Aquatic Habitat, Offsets, Species Management Plan).	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.06		Fish passage	p7-9, s7.1.2.5 The proponent states that the fish passage design is based on the process used for the Paradise & Wyaralong Dams, however there is no assessment as to the effectiveness of those fish passages i.e. are they functioning as expected.	The proponent provides a quantitative assessment of the effectiveness of these fish passages in relation to their ability to the effect the upstream migration of both small and large fishes, and their operability (i.e. How often are they are fully functional in relation to fish migration patterns).	Proponent to provide response	Addressed in the draft EIS. Fish passage design has been undertaken in accordance Queensland Fisheries guidelines and in collaboration with Queensland Fisheries incorporating best practice features and management from existing fish passage infrastructure. An assessment against the performance criteria and acceptable solutions in the SDAP Module 5 Fisheries resources code has been undertaken and is presented.	Appendix X Fish passage technical report	n/a
011.07		Aquatic habitat - downstream	p7-33, s7.2.1.3 The EIS identifies a number of sensitive environmental areas that occur downstream of the project site. The Fitzroy River Floodplain Directory of Important Wetlands has not been listed or assessed.	The proponent assessed the impact of the project on the Fitzroy River Floodplain wetland.	Proponent to provide response	Addressed in the draft EIS. Four Directory of Important Wetlands are referenced and mapped and include Fitzroy River Delta, GBRMP Wetland, Northeast Curtis Island Wetland, Narrows Wetland.	Volume 1, Chapter 7 Aquatic ecology, Section 7.2.1.3, Section 7.3.11	n/a

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011.08		Aquatic habitat	p7-63, s7.3.2.1 This section states that confirmed WTST nesting sites within the RW Weir construction footprint will be lost as a result of this project; the EIS further states in relation to the Fitzroy River turtle that '... There is no aggregated nesting at the construction sites and only isolated nesting has been recorded. This loss of habitat is not expected to impacts on the turtles." Given the current conservation status of these species and the significant cumulative loss of turtle habitat that will result if this project is approved, FBA submits that the habitat loss described in this section would constitute a significant impact and requires mitigation measures and offsets. This especially significant given that *Limpus et al . 2011* states that both species are "... not functioning well in the Redbank, Glenroy and Rookwood Crossings reaches of the Fitzroy River" and that both populations under current management practices "... appear not to be sustainable". The above information is equally relevant for the impacted areas of the Redbank and Glenroy crossings.	The proponent alters the EIS to properly assess the construction areas and river crossings in relation to impacts on threatened freshwater turtle habitat, including appropriate mitigation measures and offsets.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.09		Aquatic habitat - mitigation measures	p7-63, s7.3.2.2 This section provides mitigation measures for impacts on aquatic habitat loss. The section fails to include any mitigation measures that would successfully avoid impacts to the WTST. For example, designing a construction schedule that avoids construction works that may impact on turtle habitat during the peak turtle nesting and hatching season (September to March) will be largely ineffectual for the WTST, which starts nesting in May. The Fitzroy River Turtles are known to begin nesting in July and August.	The proponent alters the mitigation measures to cover the full turtle nesting season for both species.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix W Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan
011.10		Impact to freshwater turtles	p7-67, s7.3.3.2 The EIS does not include a quantitative assessment of the substantial reductions in turtle nesting capacity, turtle growth rates (due to decrease of food supply) and annual survivorship/population recruitment that would result due to the significant habitat alteration and inundation caused by inundation and altered flow regimes. Given that both threatened turtle species stand to be significantly negatively impacted by the proposed project, it is imperative that such impacts be given full assessment, including the likely effect on already small and fragmented populations of these species.	The proponent provides a full quantitative assessment of the expected impacts on turtle nesting capacity, turtle growth rates and annual survivorship/population recruitment that could be expected to affect each species' population as a result of this proposed project.	Proponent to provide response	Addressed in the draft EIS. Assessment regarding flow regimes etc included within the additional information to the draft EIS, including a species management plan and offsets.	Volume 1, Chapter 7 Aquatic ecology, Section 7.3.12.1 Appendix L Fitzroy River turtle (Rheodytes leukops) technical report	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix W Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.11		Turtle nesting habitat	P7-70, s7.3.4 This section describes the direct loss of nesting habitat within the impoundments. The EIS establishes that 5.7 ha of FRT nesting habitat will be directly lost (inundated) as a result of the project. No assessment has been provided of direct nesting habitat loss for the WTST.	The proponent assesses the area of direct impact on WTST nesting habitat as a result of the project.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.12		Flow regime - operational	p7-77, s7.3.7.1 The EIS states that "... there is expected to be an increase in downstream flows during the dry season with peak water releases occurring immediately prior to the pre-summer floods. An increase in water flows during the early September is unlikely to affect nests of the FRT as the releases are likely to have commenced prior to the peak laying period and therefore eggs will be laid above the water line and not drowned." FBA's experience in managing the FRT conservation program demonstrates that nesting can commence as early as July or August. Any nests laid during this time are highly to be inundated as a result of the pre-summer releases. The EIS further states that "nests of the WTST are at most risk of inundation as these species lay but not hatch, prior to the predicted increase in water release". No specific mitigation measures or offsets have been proposed in the EIS to address this significant impacts on the species.	The proponent alters the EIS to fully describe the likely impacts of rising water levels on nests of both FRT & WTST and also justifies how the proposed offsets for the FRT (predominantly nest protection) and expected offsets for the WTS, will be successfully implemented when nests laid during the period May-August are likely to be lost due to inundation. This encompasses the whole of the snapping turtle nesting season, and approximately one-third of the FRT nesting season.	Proponent to provide response	Addressed in the additional information to the EIS. Consideration flows relative to nesting periods are discussed.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.3
011.13		Flow regime - mitigation measures	p7-78, s7.3.7.2 This section of the EIS describes the mitigation measures that the proponent will implement to avoid or reduce the impacts of the project, specifically in relation to alteration of downstream flow regimes. The proponent states that the operation strategy of the weirs will be dictated by the Fitzroy WRP and ROP, however FBA submits that these documents have not been designed to include specific mitigation measures for threatened turtles in this scenario, and that species-specific mitigation measures are required.	The proponent provides specific mitigation measures that are demonstrably effective at protecting turtle nesting banks, and what the proponent's response will be if nesting banks are inundated, compromising the proposed offsets program of nest protection.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to Fitzroy River turtle and white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle

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011.14		River connectivity - mitigation measures	p7-85, s7.3.9.6 The proponent proposes a number of mitigation measures to potentially reduce the project's effects on river connectivity, by facilitating the movement of aquatic fauna up or down stream past the impoundment walls. The mitigation measures described are primarily qualitative in nature, and do not demonstrate the level of commitment that the proponent will commit to, to ensure the outcomes of the proposed measures are achieved.	FBA submits that the mitigation and any associated success criteria, are described quantitatively, and are included in the environmental conditions attached to this project if approved. We suggest appropriate monitoring would include the recording the numbers and species, including the size of each species, utilising the fishways and turtle ramps during a range of flow events to demonstrate that the mitigation measures are being effective. In addition, we submit that the proponent coordinates a 'freshwater turtle management group', similar to the fish passage design team, to provide advice on freshwater turtle management and turtle ramp design, operation and monitoring.	Proponent to provide response	Addressed in the draft EIS. Mitigation measures are included within environmental management plans and Project commitments, inclusive of continued engagement and collaboration with relevant State government agencies in the development and preparation of final management plans. Environmental management and Project commitments are confirmed in the additional information to the draft EIS.	Volume 1, Chapter 23 Environmental management plan Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program Volume 3, Appendix W Project commitments	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Chapter 12 Environmental management plan Chapter 13 Project commitments Appendix D Revised Project commitments Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan
011.15		Fitzroy River Turtle	p7-88, s7.3.12.1 - Impacts on conservation significant aquatic fauna: FRT. The EIS states "...although considered preferred habitat, pool ruffle-run sequences are not critical to the survival of the species. The shallow margins and upstream reaches of the impoundment are expected to contain suitable habitat for the FRT and the presence of this species within existing impoundments substantiates this expectation." FBA agrees that limited suitable habitat may become available at the edges of the impoundments, however it is important to note that *Limpus et al. 2011* states that such habitat is not preferred by the FRT (or WTST) and therefore supports a lower carrying capacity due to limited nesting and foraging options. The authors further state that "...the larger impoundments and the longer it is in place, the lower the biodiversity of turtles within the impoundment."	FBA submits that the proponent includes further information in this section of the EIS regarding impoundments resulting in lower carrying capacity for specialist turtles such as the FRT & WTST.	Proponent to provide response	Addressed in the draft EIS. Assessment regarding flow regimes etc included within the additional information to the draft EIS, including a species management plan and offsets.	Volume 1, Chapter 7 Aquatic ecology, Section 7.3.12.1 Appendix L Fitzroy River turtle (Rheodytes leukops) technical report	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.16		Fitzroy River Turtle	p7-89, s7.3.12.1 - impacts on conservation significant aquatic fauna: FRT. The EIS states "impacts to the availability and quality of habitats downstream of the project footprints are not expected to be adversely impacted and will be maintained through operational releases in accordance with the Fitzroy ROP." FBA submits that the ROP does not contain specific measures relating to threatened freshwater turtle nesting habitat and an appropriate release regime, and is therefore does not include permanent measures to address downstream impacts of altered flow regime on turtle nesting.	FBA proposes that the proponent could address this issue through conducting (or providing funding for) a study that determines the optimal water release regime to minimise the drowning of turtle nests and the alteration of natural flows and implementing an appropriate water release program.	Proponent to provide response	Addressed in the draft EIS in relation to weir operations and ROP development. Addressed in the additional information to the EIS and included in environmental management plans and Project commitments.	Appendix M Fitzroy River turtle (Rheodytes leukops) species management program	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.1, Section 5.3 Chapter 12 Environmental management plan Chapter 13 Project commitments Appendix D Revised Project commitments Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan
011.17		Impact on birds	p8-61, s8.3.5.2 The project will result in a significant area of vegetation being inundated (3 221.5 ha). FBA submits that the proponent has not adequately assessed the impact that this inundation will have, particularly on threatened or significant species that prefer riparian areas for habitat or foraging. FBA suggests that the level of inundation is sufficient for it to be determined that the impact to riparian-association species is significant.	FBA submits that the proponent properly considers the significant impact that this project will have on threatened/significant bird species with known riparian affinities, such as red goshawk and powerful owl.	Proponent to provide response	Further assessment regarding impacts on red goshawk and powerful owl are provided in the additional information to the draft EIS. It is concluded that potential impacts on these species is not significant and offsets are not proposed.	n/a	Chapter 6 Terrestrial fauna, Section 6.1, Section 6.2
011.18		Impact on mammals	p8-64, s8.3.5.3 The project will result in a significant area of vegetation being inundated (3 221.5 ha). FBA submits that the proponent has not adequately assessed the impact that this inundation will have, particularly on threatened or significant species that prefer riparian/aquatic areas for habitat or foraging; species include koala and ghost bat. FBA suggests that the level of inundation is sufficient for it to be determined that the impact to riparian-association species is significant. Furthermore, FBA submits that the platypus, a special least concern species, has not been considered by the proponent as a 'conservation significant' mammal, although habitat records for this species are known for the project area.	FBA submits that the proponent properly considers the significant impact that this project will have on threatened/significant mammal species with known riparian/aquatic affinities, such as koala, ghost bat and platypus.	Proponent to provide response	It is considered that assessment as relevant and appropriate is included within the draft EIS regarding impacts on terrestrial fauna species.	Volume 1, Chapter 8 Terrestrial fauna Volume 2 Chapter 10 Listed threatened species and ecological communities Volume 3, Appendix N Eden Bann Weir baseline terrestrial ecology report Volume 3, Appendix O Rookwood Weir baseline terrestrial ecology report	n/a
011.19		Riparian habitat - mitigation measures	p8-67, s8.3.6.2 The project will result in a significant area of vegetation being inundated (3 221.5 ha) therefore significant fragmentation of fauna habitat is expected to occur. The EIS proposes no mitigation measures against this impact, stating "...fragmentation of some riparian habitat is unavoidable impact associated with impoundment and mitigation opportunities are limited."	FBA submits that sufficient mitigation options are available, and that a suitable action would be to permanently secure and manage an equivalent amount of land on the boundary of the inundated area to compensate for the loss of the original riparian habitat.	Proponent to provide response	Legal obligations are addressed in the draft EIS and offsets as necessary and applicable are included. Community infrastructure designation provides for exempt development and is addressed in the additional information to the draft EIS.	Volume 1 Chapter 3 Legislation and project approvals Volume 1 Chapter 22 Offsets Volume 2 Chapter 14 Offsets	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.2

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011.20		Koala habitat	p8-71, Table 8-15 - Koala habitat within project footprint. The EIS states "as koalas are predicted to occur at low densities based on field surveys and species ecology, it is unlikely that habitat loss as a result of the project would increase intraspecific competition for resources." Furthermore, no quantitative data has been included in the EIS to support the assessment that "The project is not expected to result in a decrease in the size of the local koala population." FBA submits that this statement is incorrect: it is known that koalas inhabit large home ranges to allow for successful foraging, and that koalas are highly territorial, and if dispersed or forced to move to another area, are not likely to survive.	FBA submits that the proponent revises this section of the EIS to include quantitative data to support their assessment.	Proponent to provide response	The assessment presented in the draft EIS is considered relevant and appropriate to the nature and scale of potential project impacts.	Volume 1, Chapter 8 Terrestrial fauna, Section 8.3.9.2	n/a
011.21		Powerful Owl	p8-72, s8.3.9.3 The EIS states that "...loss of individual nesting trees is not expected to have a significant impact on the species…" FBA submits that a significant area of foraging habitat will be lost as a result of this project, and no assessment has been provided to determine this impact. Importantly, prey species that inhabit riparian areas will become scarce adjacent to the project site as habitat is removed.	FBA submits that the proponent revises this section of the EIS to include quantitative data to support their assessment, and address the comments regarding foraging habitat and prey scarcity.	Proponent to provide response	Further assessment regarding impacts on powerful owl are provided in the additional information to the draft EIS. It is concluded that potential impacts on the powerful owl are not significant and offsets are not proposed.	n/a	Chapter 6 Terrestrial fauna, Section 6.2
011.22		Terrestrial fauna - mitigation measures	p8-76, s8.4 (Summary) The EIS states that "six threatened terrestrial fauna species were recorded within the project footprint during field surveys. Two special least concern species (echidna & koala) were also recorded or evidenced during the field surveys. An additional three conservation significant species were identified in desktop assessments as having a high potential to occur within the project footprint but not recorded during surveys. With the above mitigation and management measures in place adverse impacts on these conservation significant species are not anticipated as a result of the project." The proponent has not provided any quantitative data to support their assessment that their proposed mitigation measures (which were absent in some sections of this chapter) will be appropriate to avoid significant impacts to the listed threatened and special least concern species.	FBA submits that the proponent revises this section of the EIS to include quantitative data to support their conclusion regarding the significance of impacts.	Proponent to provide response	The assessment presented in the draft EIS is considered relevant and appropriate to the nature and scale of potential project impacts.	Volume 1, Chapter 8 Terrestrial fauna Volume 1, Chapter 23 Environmental management plan	n/a
011.23		Proposed developments	The EIS states that "the FAC was developed as part of the FIIS which was concluded in 2007. The study recommended the development of the FAC in an area within 10 km of the Fitzroy River between the junction of the Dawson and Mackenzie Rivers and lands around the existing EBW. The proposed agriculture corridor would develop intensive livestock industries, particularly beef cattle feedlots, with some opportunistic irrigated horticulture. The study was completed in 2007 but no further implementation plans were confirmed. More recently, through RDA's GCQ initiative and RRC's promotion of agriculture development within the region (the FAC) it is possible that some agriculture development will arise." No further assessment of this significant corridor has been provided within the EIS, or in the cumulative impacts section of which it would be a significant contributor. It was previously established within the EIS , or in the cumulative impacts section of which it would be a significant contributor. It was previously established within the EIS that this project (LFRIP) would provide a surplus of water supply, approximately 42 000 ML/year which is currently unallocated. There is a very high potential that this water could be used to develop the FAC, however no proper assessment of that development has been conducted against likely impacted assets, including flora, fauna, water quality and the GBRMP and WHA.	FBA submits that the proponent properly consider the potential impact that the FAC is likely to have on flora, fauna, water quality and the GBRMP & WHA.	Proponent to provide response	The development of the FAC is not the action proposed as part of the project. Facilitated development is addressed in the draft EIS. Further assessment regarding the potential use of 42,000 ML/a high priority water for agricultural purposes is included within the additional information to the draft EIS.	Volume 2, Chapter 12 Cumulative and consequential, Section 12.4	Chapter 8 Water quality, Section 8.2.3 Chapter 11 Consequential impacts
011.24		Cumulative impacts	p21-24, Table 21-5 - project's contribution to cumulative impacts. The EIS states that "Currently approximately 36% of the Fitzroy, Dawson and Mackenzie sub-catchments have been impounded as a result of in-stream water infrastructure (Table 21-1). The project will result in the inundation of an additional 113 km, increasing the area of impacted habitat within the sub-catchment by approximately 10%. In combination with Nathan Dam (7% increase) and approved Connors River Dam (5% increase) the total increase in impoundment area would be approximately 22%." The EIS goes on further to state that "localised short-term habitat degradation as a result of construction activities would not contribute significantly to cumulative impacts".	FBA submits that cumulative impacts relating to the increase in area of impoundments by 22% would be deemed significant, and therefore suggests that this section of the EIS should be amended.	Proponent to provide response	With mitigation, management and offset measures as proposed for the Project implemented the assessment presented in the draft EIS is considered relevant and appropriate to the nature and scale of potential project impacts.	Volume 1, Chapter 21 Cumulative impacts Volume 1, Chapter 23 Environmental management plan	n/a

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011.25		Regulated vegetation	p22-5, s22.2.3.1 This section of the EIS describes the regulated vegetation required to be offset as part of the project. There is no provision for protected plants that fall under the Queensland Government's Protected Plant Legislative Framework.	The proponent conducts an assessment of the project's impacts on plants listed under the protected plants legislative framework, and amends this section of the EIS to include any required offsets.	Proponent to provide response	It is considered that surveys undertaken for the project in relation to flora and fauna are adequate and in accordance with Commonwealth and State guidelines. Impacts on flora species are addressed in the draft EIS. The draft environmental management plan provides for further commitments regarding pre-clearance obligations.	Volume 1, Chapter 6 Flora Volume 3 Appendix N Eden Bann Weir baseline terrestrial ecology report Volume 3 Appendix O Rookwood Weir baseline terrestrial ecology report Volume 1 Chapter 23 Environmental management plan	n/a
011.26		Connectivity areas	p22-6, s22.2.3.2 The EIS states that no offsets for connectivity are proposed as the proponent does not deem the residual impacts significant. FBA submits that this project will result in the significant fragmentation of habitat corridors and loss of connectivity (3221. ha of vegetation removed or inundated) and that offsets are required.	FBA submits that sufficient offset options are available to mitigate the impacts of habitat and corridor fragmentation, and that a suitable action would be to permanently secure and manage an equivalent amount of land on the boundary of the inundated area to compensate for the loss of the original riparian habitat.	Proponent to provide response	Addressed in the additional information to the EIS. Legal obligations in relation to assessment and offsets regarding fragmentation and connectivity impacts are addressed.	n/a	Chapter 3 Legislation regulatory frameworks and project approvals, Section 3.1.3 Appendix C Connectivity
011.27		Protected wildlife habitat - offsets	p22-7, s22.2.3.4 This section of the EIS states that protected wildlife is present within the project area for the following vulnerable or special least concern species: squatter pigeon, powerful owl, FRT, koala, echidna, estuarine crocodile and Brigalow scaly-foot. FBA submits that the red goshawk, ghost bat, platypus and WTST are also subject to significant impacts as a result of this project and should be eligible for offsets under this section. Furthermore, FBA submits that species such as the powerful owl, koala and Brigalow scaly-foot, in addition to the red goshawk, ghost bat, platypus and WTST, would all experience significant residual impacts as a result of this project.	The proponent amends this section to provide impacts for the powerful owl, koala, Brigalow scaly-foot, red goshawk, ghost bat, platypus and WTST. It is likely that offsets for these species would be able to be combined based on some shared habitat preferences.	Proponent to provide response	The assessment presented in the draft EIS with regard to protected wildlife is considered relevant and appropriate to the nature and scale of potential project impacts. Further assessment regarding impacts on red goshawk and powerful owl are provided in the additional information to the draft EIS. It is concluded that potential impacts on these species is not significant and offsets are not proposed.	Volume 1, Chapter 8 Terrestrial fauna Volume 1, Chapter 23 Environmental management plan	Chapter 6 Terrestrial fauna, Section 6.1, Section 6.2
011.28		Offsets - Fitzroy River Turtle	p22-9, s22.3 This section of the EIS contains proposed offset strategies and management for the FRT. FBA submits that the details of the strategies and management are not quantitative, and are therefore unable to be accurately monitored or measured. In addition, the WTST has not been considered in this section.	The proponent expands its offset proposal for the FRT to include the WTST (taking into account the differences between the species), and to provide quantitative offsets and monitoring targets to allow the success of offset implementation to be effectively measured and changes made to the program if necessary.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to Fitzroy River turtle and white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.29A		Offsets management plan	p22-13, Table 22-1 This section includes performance criteria and implementation strategy and proposed monitoring, however there are no or little quantitative measures, or for how long the offset program will be implemented for.	The proponent amends this section to include specific, measurable targets for performance, implementation and monitoring.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to Fitzroy River turtle and white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.29B		Offsets - Fitzroy River Turtle	p22-13, Table 22-1 The proponent submits that "individual turtle nests laid within monitoring areas (to be determined) will be protected within 24 h of being laid.' FBA seeks to clarify whether this means the proponent will ensure that nest protection activities are carried out 7 days per week throughout the nesting season? Our experience with coordinating the FRT conservation program is that daily patrols are necessary to protect nests before predators can located them; success in finding newly laid nests before predators means timing is critical. Daily monitoring of hatching nests is also necessary to successfully determine the results of the protection program.	FBA submits that the proponent amends this section to include daily nest protection and monitoring patrols to ensure that the maximum number of nests are protected and monitored to document program success.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to Fitzroy River turtle and white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
011.30		White-throated snapping turtle	Vol 2, p10-1, s10.1 - Overview of MNES This assessment of MNES does not include specific management actions or consideration of project impacts on the WTST.	The proponent amends this section of the EIS to include a full assessment of the WTST.	Proponent to provide response	Assessment with regard to the white-throated snapping turtle as MNES is appropriately reported in the draft EIS. The white-throated snapping turtle is currently listed as critically endangered under the EPBC Act. At the time of assessment and referral decision (EPBC 2009/56) being made the species was however not listed as a threatened species. For this reason, under the EPBC Act further assessment as a MNES is not required. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included in the additional information to the draft EIS.	Volume 1, Chapter 7 Aquatic ecology, Section 7.2.2.3	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.2 Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle

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011.31		Agricultural development	Vol 2, p12-21, s12.4.2.3 The EIS states that 31 000 ha of unconstrained land and 16 000 ha of moderately constrained land was identified in the FIIS as available for intensive agricultural development (intensive animal husbandry, intensive agriculture/horticulture and broad acre cropping). The EIS presents a certain scenario with relation to the contribution the project could have to the overall agriculture development in the region: two 10 000 cattle unit feedlots and 2 000 ha irrigated broad acre crops, 735 ha of irrigated broad acre crops, 315 ha of irrigated horticultural crops. The EIS states that "the potential consequential development attributable to the project would therefore represent an increase of approximately 15% in the number of animals" and in relation to cropping "would therefore represent a minor increase in cropping of less than 5%. FBA questions the relevance and accuracy of this scenario given that the area available for intensive agriculture and intensive cropping is significantly larger than the scenario provided.	FBA submits that a realistic scenario, calculated at full development of the proposed FAC, be provided in order to properly and accurately assess potential impacts, including on downstream water quality and the GBRMP & WHA. This is particularly important given the known role of agricultural development in the decline in water quality due to increased sediments, nutrients and pesticides, and the Commonwealth and Queensland Government's commitments to improving the health of the GBR.	Proponent to provide response	Facilitated development is addressed in the draft EIS. Further assessment regarding the potential use of 42,000 ML/a high priority water for agricultural purposes is included within the additional information to the draft EIS.	Volume 2, Chapter 12 Cumulative and consequential, Section 12.4	Chapter 8 Water quality, Section 8.2.3 Chapter 11 Consequential impacts
012.01	Department of Education and Training	Traffic	DET notes that the state primary schools at Duaringa and Gogango will not be directly impacted by the proposed project.	The Department accepts the advice contained in the EIS that the impact of noise from increased traffic will be minor and that the increased traffic during construction will not adversely impact school transport services.	Proponent to note	Noted.	n/a	n/a
013.01	Private submitter 4	Land Use	Section 5.5.3.2 land use flood/storage margin….. How is the management of this happening? Our property will be impacted. Will there be compensation conducted in relation to the following: fencing off waterways or construct new or different water point due to the river banks change due to the higher river levels; lower or reduced stocking rates.	This needs to be clearer. We have not long purchased this property and the river is a major asset. The raising of the water level will change the dynamics of how we have to manage our 5 km frontage and this needs to be assessed better.	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
013.02		Land Use	Section 5.4.2.2 Buffer zones 500 metres from the bank. This document discusses a buffer zone, in future there will be restrictions to the land owner in this area?	The 500 metre buffer zone will restrict our operation. This is additional to the flood/storage margin. We will have over 300 acres (approx) or 5 km of river frontage flagged in this buffer zone. This shall be classed as margin as well and the landholder shall be entitled for compensation for this restriction? Some of the sweetest country is in this area.	Proponent to provide response			
014.01	Private submitter 5	Land Use	Eden Bann Weir Project. Please find below our concerns and effect on our cattle property in the Glenroy district. Water will back up runners/gullies through our property casing hazardous bogging issues for livestock. Erosion of land causing bank subsidence would make it hazardous for livestock to water and also potentially stock access to our stock water pumps in the river. The area of restriction proposed along the river bank may impact future plans for our property.	There would be a change to our property management practices as we currently don't need to have the river/gullies fenced off.	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
015.01	Department of Infrastructure Local Government & Planning	General	Planning Group in DILGP have no comments to make on this EIS		Proponent to note	Noted.	n/a	n/a
016.01	Private submitter 6	Land	Our property is subject to inundation. Parts 1 to 5 (incl) of a document that was previously supplied by GHD together with a map (attached as part of the submission) and we understand these subjects will be subject one on one basis negotiation.	There needs to be clarification that legal and valuation representatives of the owners should be allowed to be present at "one on one" negotiations at the project expense	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
016.02		Fencing	Part 6 - Clarification is needed that this will be acceptable if an owner requests it.		Proponent to provide response			
016.03		Inundation impacts	Part 7 - The survey of the inundated area boundary will render the 1996 survey redundant. Is this so?		Proponent to provide response			

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016.04		Access to pumps and power	Parts 8,9,10: Again on a "one to one basis" as above Part 1 to 5.		Proponent to provide response			
016.05		Inundation impacts	Part 11 - No where in the impacts have the impact on stock been accommodated while other species have received considerable study. Particularly in the smaller blocks the provision of wild life corridors and consequently shade areas for stock by the owners will be negated by water.	This must be addressed.	Proponent to provide response			
016.06		Dust and road upgrades	Part 12 - Vol 1 18.3.31 under the heading "Potential Impacts and Lifestyle Impacts" has not addressed any of the concerns and suggestions presented to GHD. Because there are only 6 residences immediately adjacent to Riverslea road and 3 some distance away the impact to these people (of which group we belong) is very real and of HIGH impact whereas in the total project we are categorised as "LOW impact" in the construction stage. This impact will not cease at the conclusion of the construction as the benefitted area further on will attract much increased traffic. History shows that "watering for dust" is an "at the moment thing" when vehicles are at a certain point and does not cover the whole 15-20 km efficiently especially in dry periods.	We know from experience when Councils are at our door doing maintenance they water and then move on leaving the dust problem for another 365+ days. The fact that all these properties are now each serviced by a small length of sealed surface identifies the problem but experience (since these areas were many sealed years ago) of prevailing winds upgrading the speed capabilities of the road surfaces and the speed efficiencies of both loaded and smaller vehicles necessitates the extension of those sealed surfaces to approximately 500 metres each side of the residences.	Proponent to provide response	Road and traffic impacts are addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Mitigation and management measures were included in the draft environmental management plan. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1, Chapter 12 Air quality, Section 12.3.2 Volume 1, Chapter 18 Social impacts Volume 1, Chapter 23 Environmental management plan	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
016.07		Land access	Part 13: OK		Proponent to note	Noted.	n/a	n/a
016.08		Water entitlements	Part 14 - Will this be addressed?		Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 7 Surface water resources, Section 7.1 Chapter 13 Project commitments Appendix D Revised Project commitments
017.01	Department of State Development (Regional Services)	Project Rationale	The second para refers to Regional Development Australia's Growing Central Queensland initiative	Growing Central Queensland is a collaborative project aimed at boosting Central Queensland as a preferred target for global investment into the agricultural sector. The group driving the project includes representatives from the Departments of State Development, Agriculture and Fisheries, and Natural Resources and Mines, along with Regional Development Australia Fitzroy and Central West (RDAFCW).	Proponent to note	Noted. Referenced in the additional information to the draft EIS.	n/a	n/a
017.02		Project Rationale	The project presents a range of opportunities and positive benefits to regional, State and national economies	Regional Services DSD is supportive of the project for the following: • Between 2002 and 2007, a number of assessments of erosion, transport and health impacts of proposed feedlots and intensive animal husbandry activities were undertaken within the Fitzroy Industry and Infrastructure Study (FIIS). FIIS was facilitated by a former iteration of the DSD and involved a number of state government departments and Rockhampton Regional Council. • The Fitzroy Agricultural Corridor is the focus of a current bid by the Growing Central Queensland collaborative to attract investment in both existing and new agribusinesses to grow the agricultural sector in the region. • Any significant increase in agricultural production in the Fitzroy Agricultural Corridor is dependent on the development of additional water storages on the Fitzroy River, upgrading roads and provision of additional power supplies and telecommunications infrastructure. • The Fitzroy Agricultural Corridor and Rookwood and Eden Bann weirs have been identified in the Australian Government's Water Infrastructure Options Paper, Pivot North – Inquiry into the Development of Northern Australia report (September 2014) and the Agricultural Competitiveness Green Paper (October 2014) as "warranting further investigation".	Proponent to note	Noted.	n/a	n/a
017.03		Other Infrastructure	Any significant increase in agricultural production in the Fitzroy Agricultural Corridor is dependent on upgrading roads and provision of additional power supplies and telecommunications infrastructure.	Consider opportunities for co-development and cost sharing of new or upgraded infrastructure requirements, particularly in relation to a higher level of treatment to the intersection at Capricorn Highway and Third Street, Gogango.	Proponent to provide response	The proponents have and continue to engage and explore opportunities with local and regional stakeholders as addressed in the draft EIS and additional information to the draft EIS.	Volume 3, Appendix F Consultation report	Chapter 2 Consultation, Section 2.6 Chapter 4 Land, Section 4.2.1
017.04		Social and Economic Impacts	The EIS discusses potential for competing demands for unskilled labour, citing historic losses by small businesses of personnel to more lucrative industries such as the resources sector.	At March 2015, Rockhampton's unemployment (SA3) was 7% and tracking upwards in comparison with Queensland's rate of 6.6% . The downturn in the resources sector over the last 18 months to two years has contributed to the increase in unemployment. Employment in lower skilled jobs in the region is falling. Regional Services, DSD, can work with the proponents to develop workforce participation strategies including for indigenous and minority groups and facilitate introductions to key regional labour force stakeholders.	Proponent to provide response	The proponents have and continue to engage and explore opportunities with local and regional stakeholders as addressed in the draft EIS and additional information to the draft EIS.	Volume 3, Appendix F Consultation report	Chapter 2 Consultation, Section 2.6 Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan

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017.05		Social and Economic Impacts	The EIS discussed opportunities for local business to benefit from the project	To ensure the greatest economic benefit to the region from the construction phase, Regional Services, DSD, can provide awareness raising of the project and the individual work packages to local businesses through industry briefings and opportunities to present at a Major Projects Forum. Regional Services can also provide business matching and up-to-date advice on regional supplier capabilities.	Proponent to provide response	The proponents have and continue to engage and explore opportunities with local and regional stakeholders as addressed in the draft EIS and additional information to the draft EIS.	Volume 3, Appendix F Consultation report	Chapter 2 Consultation, Section 2.6 Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
018.01	Department of Housing and Public Works (Housing Services)	General	Nil Comment		Proponent to note	Noted.	n/a	n/a
019.01	Department of Transport and Main Roads	Transport - traffic	The traffic count data used for the Capricorn Highway/Third Street and Bruce Highway/Atkinson Road intersections are out of date.	More recent traffic counts are needed at the Capricorn Highway/Third Street and Bruce Highway/Atkinson Road intersections. Turning lane warrants are also to be assessed against more recent counts as per the TMR Road Planning and Design Manual Turning Lane Criteria.	Proponent to provide response	Project commitments regarding traffic counts and assessment ahead of construction are included within the draft EIS. Further clarification is provided in the additional information to the draft EIS.	Volume 1, Chapter 16 Transport, Section 16.4 Volume 1, Chapter 23 Environmental management plan, Section 23.4.9	Chapter 13 Project commitments Appendix D Revised Project commitments
019.02		Transport - traffic	The Traffic Impact Assessment (TIA) identified that a channelized right turn treatment with a short turn slot (CHR(S)) treatment will be required to cater for the movement of construction traffic for the Capricorn Highway for the Third Street intersection. Due to the proximity of this intersection to the Gogango Creek Bridge, appropriate assessment and mitigation measures are required	Consideration must be given to the close proximity to the Gogango Creek Bridge to the potential CHR(S) upgrade on the Capricorn Highway. Due to the close proximity to the Gogango Creek Bridge, the proposed intersection upgrade configuration may not fit unless the bridge is widened, or the intersection is relocated further west. In the Additional Information to the EIS provide further details regarding the proposed intersection upgrade. This information is required to ensure safety, condition, capacity and efficiency of the road network is maintained at existing, adequate levels, in accordance with the provisions of the Transport Infrastructure Act 1994.	Proponent to provide response	Intersection treatments are addressed in the drat EIS. Further clarification regarding intersection treatments are provided in the additional information to the draft EIS.	Volume 1, Chapter 16 Transport, Section 16.3.4.3	Chapter 10 Transport, Section 10.1.1 Chapter 13 Project commitments Appendix D Revised Project commitments
019.03		Transport - traffic	16.3.4.3 Weir Construction road and traffic impact assessment. The EIS does not provide much information regarding the timing of upgrades to intersections and bridges	In the Additional Information to the EIS provide information regarding the timing of the intersection upgrades at the Capricorn Highway/Third Street and Bruce Highway/Atkinson Road. These intersection upgrades are required to be undertaken prior to the start of significant project construction.	Proponent to provide response	Clarification with regard to the construction schedule is provided in the additional information to the draft EIS with reference to intersection, road and bridge upgrades.	n/a	Chapter 10 Transport, Section 10.1.2
019.04		Transport - roads and flooding	Further information and assessment is required for the Foleyvale Bridge deck height and its flood immunity.	In the Additional Information to the EIS further information and actions regarding the Foleyvale Bridge is required, including: 1) What the flood immunity and AATOC and TOC (in large flood) was for the previous TMR work/concept done. 2) Consultation needs to be undertaken with the community north of the Foleyvale Crossing on the Apis Creek Road, as well as the TMR Fitzroy District prior to setting the immunity and bridge deck levels 3) Page 16-25 (table 16-2) states that the AATOC of the proposed new bridge will be reduced, TMR needs to know what the proposed immunity is. 4) Bridge design needs to take into consideration: a) the structural design standard for the bridge needs to cater for volumetrically loaded Type 1 Road Trains as this is a Type 1 Road Train route b) Bridge width needs to take into account Type 1 Road Train usage. Also, the New Foleyvale Bridge (on Apis Creek Road) needs to be undertaken before the completion of the Rockwood Dam Works	Proponent to provide response	Assessment with regard to Foleyvale Crossing is included within the draft EIS, inclusive of extensive consultation activities. Clarification with regard to Foleyvale Crossing is provided in the additional information to the draft EIS.	Volume 1, Chapter 16 Transport, Section 16.3.3 Volume 3, Appendix F Consultation report Volume 3, Appendix Q Traffic and transport supporting material	Chapter 2 Consultation, Section 2.2 and Section 2.3.4 Chapter 10 Transport, Section 10.2
020.01	Department of National Parks, Sport and Racing	Land - Inundation footprint	The EIS does not detail their methodology for how they determined the extent of land lost in Aricia State Forest due to inundation. The EIS estimates that approximately 4 ha of the State forest will be inundated, however mapping at the 20 m contour (based on a maximum FSL of the Eden Bann Weir of 20.2 m) estimates that approximately 7.5 ha of the State forest will be inundated. Mapping using a spatial layer provided by the proponent estimates that approximately 6.4 ha of the State forest will be inundated.	NPSR recommends that the EIS provide details of the methodology used to estimate the inundation footprint of the entire project.	Proponent to provide response	Clarification regarding the approach and methodology is provided in the additional information to the draft EIS.	n/a	Chapter 4 Land, Section 4.2.3

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020.02		Land - water storage easements	The EIS states that 'water storage easements' will be negotiated with landholders effected by the weir impoundments, including the inundation of a section of Aricia State Forest by the raising of Eden Bann Weir. A water storage easement is a public utility easement under ss362 and 369 of the Land Act 1994, which can be created for "land upstream of the weir and within or outside the storage area at full supply". However a water storage easement cannot be authorised over Aricia State Forest due to s26(1A) of the Forestry Act 1959 (FA), which states that land on State forests must be used in accordance with provisions of the FA, which do not include easements of any kind. Easements for other public infrastructure can be authorised in State forests through specific sections of other legislation. For example, sections in the Electricity Act 1994 and Petroleum and Gas (Production and Safety) Act 2004 override s26(1A) of the FA, thereby allowing easements for electrical or petroleum and gas pipelines to be authorised respectively. No such overriding legislation exists for water storage easements	NPSR requests that the proponent undertake further negotiations with NPSR and the Department of Natural Resources and Mines to determine the most appropriate method of addressing the impacts. Given that the area of Aricia State Forest will be permanently inundated by the Eden Bann Impoundment, revocation of the inundated area and a buffer area from the State forest may be required. This will require resurveying of the boundary between the State forest and the watercourse, and may require compensation to be paid to NPSR for the loss of the area.	Proponent to provide response	Mitigation and management of impacts on the Aricia State Forest and future consultation are addressed in the additional information to the draft EIS.	n/a	Chapter 4 Land, Section 4.2.3 Chapter 13 Project commitments
021.01	Department of the Environment	Environment - Modelling	The OWS would expect a more comprehensive modelling report than what was presented. Please provide details of the data used, rules, assumptions, scenarios run, calibration results and sensitivity and uncertainty analysis.	Appendix V outlines sensitivities and changes (and implications) to the QLD government calibrated IQQM model. While calibration report is not provided, OWS considers that the QLD government model used is likely the best currently available model for predicting impacts.	Proponent to provide response	Subsequent updates received from DoE indicate that information as provided in the draft EIS is adequate to address this query and no further additional information is required.	Volume 3, Appendix V IQQM yield assessment (confidential).	n/a
021.02		Environment - Modelling	For all modelling investigations a comparison to the pre-development scenario (i.e.. the current state of the environment) should be undertaken to consider cumulative impacts. Additionally, separating the existing scenario into two scenarios (one with the proposed dams, and one without) would help assess the impact of the proposed project alone.		Proponent to provide response	Pre-development flow assessments have been included in the additional information to the draft EIS, including presentation of flow duration curves.	n/a	Chapter 7 Surface water resources, Section 7.4.1
021.03		Environment - Modelling	As a whole, the approach did not consider antecedent conditions (either all years are grouped together, or individual years are analysed).	Please provide further assessment of impacts during extended periods of low flow.	Proponent to provide response	Antecedent and low flow periods are assessed and included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.4.2
021.04		Environment - Modelling	As these proposed structures are likely to have a relatively long life, scenarios that assess the impacts of changing climatic conditions may be relevant (not all investigations considered future climate scenarios).		Proponent to provide response	Climate change scenarios were assessed in the draft EIS. Further clarification is provided in the additional information to the draft EIS.	Volume 1, Chapter 4 Climate, natural hazards and climate change, Section 4.4	Chapter 7 Surface water resources, Section 7.3
021.05		Environment - Modelling	The draft EIS does not detail how the operation of the existing and proposed development scenarios were taken into consideration by the model (e.g. how have the EFOs been adopted by the model?). It is difficult to determine from the information provided if the modelled system reflects likely future operations and demands.	Please provide documentation to support the future operations and demands modelled.	Proponent to provide response	Weir operations are described in the draft EIS including consideration of EFOs. Further clarification is provided in the additional information to the draft EIS.	Volume 2, Chapter 2 Project description, Section 2.5.2 Volume 3, Appendix V IQQM yield assessment (confidential)	Chapter 7 Surface water resources, Section 7.2.2
021.06		Environment - Modelling	The sensitivity analysis conducted by the proponent on the flow duration curves (p. 4-1, Appendix P2, draft EIS) is not presented within the documentation. Given the level of inter-annual variation to discharge from the Fitzroy Basin, the OWS considers this information is required to consider the potential impacts of the project. Consideration of a very dry percentile is also warranted.	A sensitivity analysis for the flow duration curves is required. Please also provide flow duration curves for very dry scenario.	Proponent to provide response	Sensitivity analysis data has been included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.4.4 Appendix I Sensitivity analysis (wet and dry years) daily flow duration curves
021.07		Environment - Modelling	The OWS notes that the flow duration curves provided appear to be labelled incorrectly. Additionally the curve 'Rookwood Weir Stage 1 – flow duration cures at data location IQQM5 (Riverslea)' (p. 5, Appendix D, Appendix P, draft EIS) does not appear to reflect the change in hydrology expected for this development scenario. These inconsistencies make it difficult to verify the proponent's interpretation.	Please ensure the labelling of the flow duration curves is correct. Please clarify the change in hydrology expected.	Proponent to provide response	Flow duration curves are reproduced in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.4.1 Appendix H Daily flow duration curves
021.08		Environment - Modelling	Ch 9, section 9.2.3 states there is a risk if the modelled post construction flows are not as modelled that increased sediment, nutrients and other chemicals from construction of the weirs will make their way into the Fitzroy River estuary and Keppel Bay and potentially impact on the values of the GBRWHA.	Provide an assessment of the risk of flow not occurring as modelled. Provide an assessment of the impact of increased sediment, nutrients and other chemicals on GBRWHA.	Proponent to provide response	The draft EIS provides the approach and methodology utilised to determine modelled flows, specifically IQQM as developed in consultation with State agencies. Further clarification is provided in the additional information to the draft EIS.	Volume 3, Appendix V IQQM yield assessment (confidential)	Chapter 7 Surface water resources, Section 7.4.1

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021.09		Environment - Surface water - environmental flow calculations	The WRP describes EFOs for the Fitzroy Basin. For the Basin as a whole these include objectives for seasonal base flows, medium to high flows, and first post-winter flow events. EFOs for node 0 include measures for seasonal base flow, medium to high flow, and first post-winter flow. While node 1 (located downstream of Eden Bann Weir), is described in the WRP, no EFOs are prescribed. The model predicted that under the final development scenario (RW2+EB3) the project will meet the EFOs for first post-winter flow events and medium to high flows (with the exception of the 20 year daily flow rate; if the yield is capped at 76,000 ML/a this measure is met). EFOs for seasonal base flows in May to August and September to December seasons will not be met under any proposed development scenario. For some of the proposed development scenarios this is no worse than the existing scenario (noting the existing scenario includes the approved Connors River Dam and the proposed Nathan Dam). While the WRP includes EFOs, the Fitzroy Basin Resource Operation Plan (ROP) dictates how the system is operated, and hence if and how EFOs are implemented. Currently not all of the EFOs for node 0 are captured in the ROP. Further, the OWS considers the existing EFOs for node 0 (and associated operating rules) are unlikely to address all potential flow-related impacts associated with the proposed project.	Please provide EFOs for node 1.	Proponent to provide response	Water resource planning and compliance is addressed in the draft EIS. Further clarification is provided in the additional information to the draft EIS.	Volume 2, Chapter 8 General impacts, Section 8.2.2 Volume 3, Appendix P Surface water supporting information Volume 3, Appendix V IQQM yield assessment (confidential)	Chapter 7 Surface water resources, Section 7.2.2
021.10		Environment - Impacts on Great Barrier Reef	The draft EIS has provided a number of mitigation measures to reduce the likely significant impact on the World Heritage and National Heritage values of the Great Barrier Reef. The outstanding concern relates to if potential predicted flows post-construction of the Eden Bann and Rookwood Weirs are greater than actual flows and the associated impact on water quality including nutrients and sediments that may enter into the Fitzroy Estuary downstream of the project. The proponent needs to ensure current short term increases in total nitrogen does not adversely impact on the water quality targets identified in the Reef 2050 Long-Term Sustainability Plan to reduce nutrient loads into priority areas of the GBRWHA. The Reef Plan 2050 changes is frank in acknowledging the pressures and forthright in setting out the actions judged necessary to maintain and enhance the Outstanding Universal Value of the Great Barrier Reef World Heritage Area. The commitment is absolute. One of the critical pressures identified in the Great Barrier Reef Outlook Report 2014 and recognised in the Reef Plan 2050 is coastal land use change—clearing and modifying coastal habitats and artificial barriers to flow. Changes to coastal habitats and reductions in connectivity as a result of land use change affect the Region's ecosystem.	Discuss the impact of short term increases in total nitrogen (and other impacts) will have on meeting the water quality targets identified in the Reef 2050 Long-Term Sustainability Plan.	Proponent to provide response	Assessment of the Project against the water quality targets of the Reef Plan 2050 is included in the additional information to the draft EIS.	n/a	Chapter 8 Water quality, Section 8.2
021.11		Environment - Facilitated impacts to Great Barrier Reef	There is no assessment of facilitated impacts result from the proposed action. Please provide a discussion of the facilitated impacts associated with this proposed development (e.g. agriculture, mining).		Proponent to provide response	Facilitated development is addressed in the draft EIS. Further assessment regarding the potential use of 42,000 ML/a high priority water for agricultural purposes is included within the additional information to the draft EIS.	Volume 2, Chapter 12 Cumulative and consequential, Section 12.4	Chapter 8 Water quality, Section 8.2.3 Chapter 11 Consequential impacts
021.12		Environment - Impacts on Great Barrier Reef	Chapter 9, section 9.2.2.1 - If flows are greater than predicted modelling (e.g. high rainfall events) there is the potential for greater freshwater flows carrying increased sediment loads into the GBRWHA. This may have an impact on the Reef 2050 Long-Term Sustainability Plan's target of at least a 20 per cent reduction in anthropogenic end-of-catchment loads of sediment in priority areas on the way to achieving up to a 50 per cent reduction by 2025. The Fitzroy Basin is considered as a priority area for sediment run-off.	Please provide an assessment of the impact of increased sediment loads will have on meeting the water quality targets identified in the Reef 2050 Long-Term Sustainability Plan.	Proponent to provide response	Assessment of potential Project impacts against Reef 2050 water quality targets is provided in the additional information to the draft EIS.	n/a	Chapter 8 Water quality, Section 8.2.3
021.13		Environment - Impacts on Great Barrier Reef	The OWS considers the influence of the proposed project on the amount and timing of water entering the Fitzroy estuary (and further downstream) will be more apparent during low flow years, as flows that would otherwise fill and spill the existing storages are retained within the increased storage capacity. Accordingly (significant) changes are more likely to manifest during low flow periods. The analysis presented by the proponent does not adequately identify impacts that may occur under these conditions	An analysis of the impacts associated with low flow years is required.	Proponent to provide response	Analysis of Project impacts on flow regimes is addressed in the draft EIS. Further analysis of impacts associated with low flow years is provided in the additional information to the draft EIS.	Volume 1, Chapter 9 Surface water resources, Section 9.3.2 Volume 2, Chapter 8 General Impacts, Section 8.2 Volume 3, Appendix P, Surface water supporting information	Chapter 7 Flow regime and analysis, Section 7.4.2

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021.14		Environment - Impacts on Great Barrier Reef	The OWS considers that while change in total annual flow volumes is likely to be negligible in high flow years, there may be a significant percentage reduction in total and monthly flow in low flow years and drought periods without major flow events, due to capture of low to medium flows in dry years. The statistical analysis undertaken highlighted the likelihood for changes to flow to occur in low flow years. This analysis considered impacts on a monthly scale, which may overlook impacts that occur on a daily basis. Additionally, the investigations did not consider antecedent conditions (i.e. impacts of consecutive or multiple low flow years/droughts). Periods of no-flow are of relevance to estuarine ecology and hydrodynamics. EFOs do not address no-flow measures, nor has this been assessed separately (and comprehensively) by the proponent. Suitable no-flow indicators are suggested by WAP (2010) (page 138).	Please provide further assessments of measures associated with no flow, and antecedent conditions.	Proponent to provide response	Analysis of Project impacts on flow regimes is addressed in the draft EIS. Further analysis of impacts associated with low flows and antecedent conditions is provided in the additional information to the draft EIS.	Volume 1, Chapter 9 Surface water resources, Section 9.3.2 Volume 2, Chapter 8 General Impacts, Section 8.2 Volume 3, Appendix P, Surface water supporting information	Chapter 7 Flow regime and analysis, Section 7.4.2
021.15		Offsets - Nitrogen release	According to Chapter 8 (Table 8-2 and Figure 8-6), Total Nitrogen (TN) being released from the combined Eden Bann and Rookwood Weirs is modelled to be elevated in the first 6 years of operation due to inundation of vegetation: Elevated TN in the first year ~ 8.5% (or approximately 1100 tonnes/year), dropping to less than 1% in years 5-6 (<75 tonnes/year). The Total Nitrogen over the 6 year period is estimated to be in the order of 842 tonnes for the Eden Bann Weir and 1200 tonnes for the Rookwood Weir. The proponent has stated this is unlikely to have a significant impact on the GBRWHA in the context of the overall quantities that are transported annually from the Fitzroy Basin to the GBRWHA (as described by Johnston et al. 2008) and the staged approach of the construction of the weirs. Any increase of TN may impact on the ability to achieve the Reef 2050 Long-Term Sustainability Plan's water quality target that by 2018: at least a 50 per cent reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads in the priority areas on the way to achieving up to an 80 per cent reduction in 2025.	Will an offset be provided to counter this additional short term increase in total nitrogen entering the GBRWHA?	Proponent to provide response	The Fitzroy Basin catchment is not a priority area for nitrogen management as defined in the Reef Water Quality Protection Plan 2013. Assessment of the Project against the water quality targets of the Reef Plan 2050 is included in the additional information to the draft EIS.	n/a	Chapter 8 Water quality, Section 8.2
021.16		Terrestrial Fauna - Yellow Chat	The proponent has not specifically addressed how releases from the Barrage will affect inundation of wetland habitat of the yellow chat.	Provide a discussion of the impacts of wetland inundation on the yellow chat.	Proponent to provide response	Potential Project impacts on yellow Chat are addressed in the draft EIS. Further clarification is provided in the additional information to the draft EIS.	Volume 2, Chapter 10 Threatened species and ecological communities, Section 10.6.2.2	Chapter 6 Terrestrial fauna, Section 6.3
021.17		Terrestrial Fauna - Yellow Chat	We note Houston et al. (2009) described an additional yellow chat location (resighting at a historical record) (refer to Attachment A) that is not considered by the proponent. This site is located closer to the main channel of the Fitzroy River than the existing sites and therefore may be influenced by Barrage outflows. It is unclear if the proponent's assumption that Chat habitat in the Fitzroy delta is influenced by local rainfall patterns, rather than flow in the Fitzroy River, would apply to this site.	Provide a discussion of the impacts on the new yellow chat site.	Proponent to provide response	Potential Project impacts on yellow Chat are addressed in the draft EIS. Further clarification is provided in the additional information to the draft EIS including consideration of the additional siting.	Volume 2, Chapter 10 Threatened species and ecological communities, Section 10.6.2.2	Chapter 6 Terrestrial fauna, Section 6.3
021.18		Fitzroy River Turtle	Given the current (poor) status of the Fitzroy River turtle and the likelihood for ongoing impacts to the population as a result of the proposed project, the OWS views that further consideration should be given, and commitments made, to ensure the proposed project not only minimises but improves the outlook for this species.	Limpus et al. (2011) provide a series of recommendations in relation to likely impacts associated with the proposed project, the OWS suggests this is considered when reviewing avoidance, mitigation and offsetting measures proposed by the proponent.	Proponent to provide response	Recommendations have been considered in the development of the species management plan as included within the draft EIS and revised for the additional information to the draft EIS.	Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.1 Appendix E Fitzroy River turtle and white-throated snapping turtle species management program

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021.19		Fitzroy River Turtle	The information presented in the draft EIS indicated a general increase in low flows downstream of the structures during the dry season, which may be of benefit to the Fitzroy River turtle. However, the OWS considered the analysis undertaken may overlook impacts to the turtle during drier periods. During extended periods of low flow or drought the weir pools are likely to be low, and may capture any small-medium inflows that would otherwise replenish refuge or supply riffle habitat. In these periods cumulative stresses on the species may become detrimental to the population (Limpus et al., 2011). Due to the importance of refuge and riffle habitat, the OWS views that impacts to no-flow conditions (e.g. length and frequency of extended no-flow periods), antecedent conditions and flow variability should be considered in the proponent's assessment.	Please include a discussion of the impacts of no-flow conditions on the Fitzroy River Turtle.	Proponent to provide response	Addressed in the additional information to the draft EIS	n/a	Chapter 7 Surface water resources, Section 7.4.2 and Section 7.4.3
021.20		Fitzroy River Turtle	The Fitzroy River turtle nests in alluvial sand-loam banks deposited by floods (eggs are laid in the late dry season). While floods that result in creation of sand banks are unlikely to be impacted by the proposed project, small to medium flows are likely to be impacted and these flows are considered to play a role in maintaining suitable nesting habitat (i.e. clearing and sculpting sand banks) (p 23, Limpus et al., 2011). Additionally, the proposed development will likely result in higher regulated flows downstream of the weirs. Depending on the downstream demand, operation of the structure could increase the risk of nest inundation (Appendix M, draft EIS). The proponent notes activities in other catchments (McDougall et al., 2015) to manage storage levels to reduce the likelihood of nest inundation (p. 46, Appendix L, draft EIS). The proponent considers this is not viable for Rookwood (which is reasonable), however also states this is not viable for Eden Bann Weir. The OWS considers this option should be considered more comprehensively.	Please provide a detailed discussion of how operation of the structures will minimise nest inundation downstream and upstream of the structures.	Proponent to provide response	Addressed in the additional information to the EIS. Consideration flows relative to nesting periods are discussed.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.3
021.21		Fitzroy River Turtle	Eden Bann Weir already exists and will be increased (from 14.5 m to 20.2 m AHD) as part of the proposed development, while Rookwood Weir is a new structure within the system. The OWS considers the presence of an additional weir within the system could likely increase the likelihood of FR turtles overtopping dams and weirs. Additionally, increasing the height of the Eden Bann Weir may also increase the likelihood for injury. It is difficult to assess whether there will be an increase in overtopping based on the information provided (how the weirs are operated may influence the likelihood). The OWS expects outputs from the IQQM modelling could be analysed to estimate the change in number and duration of overtopping events (based on the modelled system). Eden Bann Weir already exists and will be increased (from 14.5 m to 20.2 m AHD) as part of the proposed development, while Rookwood Weir is a new structure within the system. The OWS considers the presence of an additional weir within the system could likely increase the likelihood of FR turtles overtopping dams and weirs. Additionally, increasing the height of the Eden Bann Weir may also increase the likelihood for injury. It is difficult to assess whether there will be an increase in overtopping based on the information provided (how the weirs are operated may influence the likelihood). The OWS expects outputs from the IQQM modelling could be analysed to estimate the change in number and duration of overtopping events (based on the modelled system).	Please provide an analysis of IQQM modelling to estimate the change in number and duration of overtopping events.	Proponent to provide response	Addressed in the additional information to the EIS including design features to and mitigate injury and mortality.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.3 Appendix E Fitzroy River turtle and white-throated snapping turtle species management program
021.22		Fitzroy River Turtle	The OWS notes the structures also present a barrier for movement, will further fragment populations and flowing habitat and may increase risk of injury or death as turtles attempt to climb the structures. Measures to minimise injury have been proposed by the proponent (the adequacy of these has not been assessed by the OWS).Turtle passages are proposed.	Please provide evidence supporting the effectiveness of these structures.	Proponent to provide response	Addressed in the draft EIS and further clarified in the additional information to the EIS including design features to and mitigate injury and mortality.	Volume 3, Appendix L Fitzroy River turtle (Rheodytes leukops) technical report Appendix M Fitzroy River turtle (Rheodytes leukops) species management program	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.1 Appendix E Fitzroy River turtle and white-throated snapping turtle species management program

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021.23		Fitzroy River Turtle	As the weirs will provide for the regulation of downstream flows, the OWS considers this offers an opportunity to manage releases to maximise benefit to turtle (replenish refuge pools, provide flows to improve turtle condition leading up to the nesting season), and in a system that is already highly modified, this type of management may be necessary. Please refer to Limpus et al. (2011) page 25 for guidance. Ensuring these outcomes would require changes to the ROP. Currently the operating rules for Eden Bann Weir are driven by inflows to the weir, however releases are only made if there sufficient supply in the pool. Maintaining (or even improving) turtle habitat may require that releases are made in the absence of these inflow or supply level triggers.		Proponent to provide response	Addressed in the additional information to the EIS.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.3 Chapter 7 Surface water resources, Section 7.4.2 and Section 7.4.3
021.24		Fitzroy River Turtle	The impacts on potential changes to flora and macroinvertebrate populations in the stretches of river to be flooded and impacts these could have on the food webs for the Fitzroy River turtle and other listed species should be addressed. The contribution the increase in water availability/security from the proposed action could have an increase in residential, industrial and agricultural development across the region and the impacts they could facilitate on the GBRWHA, GBRMP and the Shoalwater and Corio Bays Ramsar Site should also be included in the EIS.	These issues should be addressed in discussion of cumulative and consequential impacts.	Proponent to provide response	Addressed in the draft EIS. Further assessment provided in the additional information to the draft EIS with regard to facilitated agriculture.	Volume 2, Chapter 12 Cumulative and consequential, Section 12.3 and Section 12.4	Chapter 11 Consequential impacts
021.25		Offsets - Fitzroy River Turtle	Offsets appear to be only associated with inundation area, and are proposed for 5 years which seems inconsistent with the duration of impact.		Proponent to provide response	Clarification is provided in the additional information to the draft EIS.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.2 Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
021.26		Offsets - Fitzroy River Turtle	Cumulative impacts to the turtle population are a concern. 'Boardman (1996), when considering the impact of the construction of the Ned Churchward Weir in the Burnett River, identified that while an individual dam or weir may not be a threat to the survival of lung fish or the turtle, E. albagula , cumulative impacts of multiple dams and weirs within a river system may be detrimental' (quoted from Limpus et al. 2011). Given the status of the species consideration of a more holistic, catchment wide approach is warranted, as proposed by Limpus et al. (2011). The proponent owns and operates a number of additional storages in the basin which should assist a more collaborative and Basin-wide approach.	Please include discussion of these issues in the turtle management plan and offset management plan.	Proponent to provide response	Offsets as considered applicable are proposed and included in the additional information to the draft EIS.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.2 Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
021.27		General - Corrections	Executive summary pE-33 Para 3, line 6 and Chapter 12, pages 12-23, 12-33 - EIS has referred to the Reef 2050 Long Term Development Plan.	Correct title is the Reef 2050 Long-Term Sustainability Plan.	Proponent to amend	Noted and corrected within the additional information to the draft EIS as relevant.	n/a	n/a
021.28		General - Corrections	Chapter 12, pages 12-24 - EIS has referred to the Department of Agriculture Forestry and Fisheries.	Update to refer to the Department of Agriculture.	Proponent to amend	Noted and corrected within the additional information to the draft EIS as relevant.	n/a	n/a
022.01	Private submitter 7	Transport	My concerns with the project is access, with the possibility of Glenroy crossing being flooded and not crossable, also a private crossing at Craiglea which is used regularly being flooded and not crossable. This would add considerable cost to my grazing business as it would mean approximately another 100 km to the road distance to Rockhampton.	The solution to this problem would be the installation of a high level bridge at Glenroy crossing.	Proponent to provide response	Impacts on the road network are addressed in the draft EIS. An upgrade is proposed with regard to Glenroy Crossing.	Volume 1, Chapter 16 Transport Volume 3, Appendix W Project commitments	Chapter 4 Land, Section 4.2.1 and 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments

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023.01	Private submitter 8	Flooding	I have serious concerns with localised flooding in the junction of Gogango Creek and the Fitzroy River!! In 2004, Gogango back flooded the Fitzroy from 0 m to 19 m in just 12 hours! Even if you could release the weir to 15 m in that time which I believe is impossible there will be mass flooding!! Even local storms will flood Gogango creek crossing on thirsty creek road!! Have taking this in account , this crossing will need to be raised bank to bank!! Your flood heights haven't taken in these events so I will be demanding compensation for this!	Unless the farmers can buy water at a cheap rate than this project is a white elephant! Gladstone lies on the big blue dam make them pump out of it! Also have you allowed to fence off the flooded areas of all effect land owners to stop cattle getting bogged when you release water? Leave my backyard alone!	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Upgrades and augmentation of Thirsty Creek Road have been considered. Further investigations will be undertaken during detailed design. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 16 Transport Volume 1 Chapter 18 Social impact assessment	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
024.01	Australian Heritage Council	Environment - GBR	The Fitzroy River Infrastructure project is within the catchment of the Great Barrier Reef and, in our view, poses significant, measureable risks to the reef and to local flora and fauna, risks that are identified in the Environmental Impact Statement. In particular, we are concerned at the extent of inundation required by the project. There are indications that such inundation would seriously reduce natural flows and habitats and likely result in poorer quality water being discharged into the southern Great Barrier Reef. The state of the Fitzroy River system (as part of the largest river system feeding into the Great Barrier Reef) is already rated only fair; this proposal will put further pressure on the system with consequent erosion of the state of the already fragile southern GBR. These are precisely the cumulative impacts identified by UNESCO as posing a threat to the World Heritage values of the reef.	Although the proponents do propose to compensate for the loss of flora values through offsets and to use mitigation measures in particular to offset the impacts on aquatic fauna, the Australian Heritage Council continues to have grave concerns about the serious decline in the condition of the Great Barrier Reef. As we indicated in our submission to the Great Barrier Reef Strategic Assessment, we believe it is critical that the cumulative impacts of any proposed projects on the heritage values of the reef must also be routinely considered.	Proponent to provide response	Noted. Environmental management measures are included in the draft EIS and additional information to the draft EIS. Assessment of potential project impacts on water quality against the Reef 2050 Plan is included in the additional information to the draft EIS.	Volume 1, Chapter 23 Environmental management plan	Chapter 8 Water quality, Section 8.2 Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
025.01	Public Safety Business Agency	Hazard and Risk Bushfire Mitigation	Draft guidance material for bushfire hazard has been developed in support of the State Planning Policy in the form of a draft model code (attached). The draft model code has been developed to meet QFES operational needs and adopt key recommendations for bushfire mitigation. The code is currently in consultation with peak bodies and key industry groups. In support of this process, please consider relevant sections of the draft model code as a guide to address SPP requirements for bushfire hazard. Applicable performance and acceptable outcomes within the model code are numbered 1-3, 10-15. The State Planning Policy (SPP) interactive mapping system indicates a very high, high, and medium potential bushfire area including potential impact buffer affecting the sites as shown on the attached mapping slides and at http://www.statedevelopment.qld.gov.au/about-planning/spp-mapping-online-system.html. This means the SPP applies to the site and relevant provisions within the draft model code given above provide a pathway to address the requirements of the SPP.	The draft EIS acknowledges the site is affected by bushfire hazard areas as part of the State Planning Policy mapping. PSBA supports the mitigation and emergency response measures during the construction phase as detailed in section 20.3.5.4. Infrastructure vulnerable to bushfire hazard during the construction phase include storage and office areas, amenities, power generation, and fuel and chemical stores. During the operational phase the draft EIS states that the project is not expected to exacerbate bushfire hazard to the community or the environment. It is advised that to inform mitigation measures for the construction and operational phases a bushfire site assessment should be conducted to determine the level of bushfire affecting the site and this in turn will guide adherence requirements against the draft model code.	Proponent to provide response	Bushfire risk is addressed in the draft EIS and management measures are clarified in the additional information to the draft EIS.	Volume 1, Chapter 20 Hazard and risk, Section 20.2.5.2, Section 20.3.5.4, Section 20.4.4 Volume 1, Chapter 23 Environmental management plan	Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
025.02	Queensland Fire & Emergency Services (QFES) - Community Safety Capability Branch	Legislation	The QFES is aware of the regulatory requirements outlined for planning and development approvals. The QFES has a responsibility to ensure a balance between the reduction of risk and enhancement of community resilience, whilst providing effective response and recovery capabilities. The QFES understands the objective of this document and QFES acknowledges our role in the consultation process. The QFES remains aware that QFES may provide the proponent with advice relevant to our jurisdiction and function. The document provided is a proposal only and is light on specific detail in particular the proposal mentions the construction of building structures. As stated the QFES is an advice agency under the Sustainable Planning Act (SPA) and will need to be involved in the construction as required by legislation.	The QFES also expects the proponent will comply where necessary with all relevant Queensland statutory legislation and will implement safety and health management systems to mitigate hazard and risk. Including but not limited to: • Hazard analysis and risk assessment undertaken in accordance with AS/NZS ISO 31000:2009 Risk Management – Principles and guidelines; and with HB203:2006 Environmental Risk Management Principles and Processes. • Implementation or emergency response plans detailing mitigation strategies to achieve specific outcomes as outlined in the State Planning Policy July 2014 specifically the Natural Hazards; risk & resilience section and maintain adequate separation of vegetation from exposures to prevent wildfire events threatening infrastructure in isolated areas; • All dangerous goods, explosives and hazardous substances transported, stored and managed in accordance with relevant legislation; • Development of safety management plans and emergency response procedures in consultation with the state and regional emergency service providers and provide an adequate level of training to staff who will be tasked with emergency management activities; • Compliance where necessary with the Queensland Fire and Emergency Services Act 1990. Otherwise having reviewed the document the QFES is satisfied with the content and provisions contained within.	Proponent to provide response	Hazards and risks are addressed in the draft EIS and management measures are clarified in the additional information to the draft EIS.	Volume 1, Chapter 20 Hazard and risk Volume 1, Chapter 23 Environmental management plan	Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan

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025.03	QFES	Traffic management	S20.7.4 - The small increase in light and heavy vehicle movements along the major road networks will not impact on QFES response capabilities.	No comment	Proponent to note	Noted.	n/a	n/a
025.04		External emergency services	QFES note in this part that there will be desktop and practical exercises to be conducted. QFES accept to be an external emergency provider involved in these scenarios. QFES accept the Operation Phase Hazard and Risk Assessment.	No comment	Proponent to note	Noted.	n/a	n/a
026.01	Private submitter 9	Land - access	In the 1950s a crossing over the Fitzroy River called Craiglee Crossing was created.	There is no mention of Craiglee Crossing in the EIS. I believe the authors of the EIS are not aware of the existence of the Craiglee Crossing and the importance of the crossing and the running of the Craiglee aggregation. I believe this is a major deficiency in the preparation of the EIS and its conclusions, particularly its assessment of the impact of the raising of the EBW.	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
026.02		Inundation and flooding impacts	In the event that Eden Bann raising stage 2 or stage 3 is constructed, I have assessed that I will be unable to use Craiglee Crossing.	Solution as follows:- 1. Raise the level of the Crossing so that after construction of stage 3 of the EBW raising, the decking of the Craiglee Crossing will be above Full Supply Level. 2. Purchase of an additional grader for construction and maintaining firebreaks. 3. Purchase of a dog trailer or hiring trucks to cart livestock 4. The movement of livestock and vehicles will be required to travel along public roads and will take considerable more time resulting in increased management costs, both in terms of purchase and maintenance of motor vehicles and trucks and the amount of time taken in travelling an additional distance. 5. There is presently no provision for the storage of fodder lick molasses. It will be necessary to construct adequate storage facilities for the storage of fodder lick and molasses and power to be installed.	Proponent to provide response			
027.01	Private submitter 10	Land - access	In the 1950s a crossing over the Fitzroy River called Craiglee Crossing was created.	There is no mention of Craiglee Crossing in the EIS. I believe the authors of the EIS are not aware of the existence of the Craiglee Crossing and the importance of the crossing and the running of the Craiglee aggregation. I believe this is a major deficiency in the preparation of the EIS and its conclusions, particularly its assessment of the impact of the raising of the EBW.	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
027.02		Inundation and flooding impacts	In the event that Eden Bann raising stage 2 or stage 3 is constructed, I have assessed that I will be unable to use Craiglee Crossing.	Solution as follows:- 1. Raise the level of the Crossing so that after construction of stage 3 of the EBW raising, the decking of the Craiglee Crossing will be above Full Supply Level. 2. Purchase of an additional grader for construction and maintaining firebreaks. 3. Purchase of a dog trailer or hiring trucks to cart livestock 4. The movement of livestock and vehicles will be required to travel along public roads and will take considerable more time resulting in increased management costs, both in terms of purchase and maintenance of motor vehicles and trucks and the amount of time taken in travelling an additional distance. 5. There is presently no provision for the storage of fodder lick molasses. It will be necessary to construct adequate storage facilities for the storage of fodder lick and molasses and power to be installed.	Proponent to provide response			
028.01	Department of Environment and Heritage Protection	Project Description	Section 2.4.3.2 of the EIS states that mobile concrete batching plants may be established at both Eden Bann and Rookwood constructions sites. However, Chapter 3 makes no mention of the code of practice for concrete batching plants.	Chapter 3 should refer to the document 'General environmental duty – Code of Practice for the concrete batching industry' available from the DEHP website. The code provides guidance to operators to help them comply with the Environmental Protection Act 1994 by meeting their general environmental duty.	Proponent to provide response	Clarification included within the additional information to the draft EIS.	n/a	Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
028.02		Water Quality and Aquatic Ecology	Incorrect Water Quality Objective used for Iron	Update the water quality guideline used for iron in Table 11-4 to state 350 ug/L	Proponent to amend	Updates provided in the additional information to the draft EIS.	n/a	Chapter 8 Water quality, Section 8.1
028.03		Water Quality and Aquatic Ecology	Inadequate description of data presented for copper	Clarify whether data for copper in Tables 11-6, 11-8 and 11-10 is representative of the dissolved or total fraction	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 8 Water quality, Section 8.1
028.04		Water Quality and Aquatic Ecology	Requirement to consider all relevant metals and metalloids in the assessment: Section 11.1.4.4 provided data describing baseline concentrations for a limited suite of metals including Al, Cu, Fe, Mn, and Zn. The EIS should include data for all relevant metals and metalloids, such as Se, Hg, As, Cr, Cd, Co, Ni, Pb and B.	Provide data for all relevant metals and metalloids, including Se, Hg, As, Cr, Cd, Co, Ni, Pb and B.	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 8 Water quality, Section 8.1

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028.05		Water Quality and Aquatic Ecology	Failure to meet seasonal Environmental Flow Objectives and lack of operational rules. The project will affect the flow regime in a number of ways: • reduction in the magnitude of flood events and delayed flows • reduction in the frequency and magnitude of small to medium downstream flood flows • increase water flows downstream during the dry season • decreased frequency and duration of no flow periods. The project will result in a range of ecological impacts as a result of these changes. The EIS relies on achieving the Fitzroy Basin Water Resource Plan (WRP) environmental flow objectives (EFOs) to manage flow related risks to aquatic ecosystems. Section 7.3.7.2 of the EIS states that 'Achievement of the WRP objectives regarding environmental flows is expected to effectively mitigate impacts to [sic] related to flow regimes.' However, section 9.3.2.5 of the EIS states that the existing non-mandatory Fitzroy Basin WRP seasonal base flow objectives would not be met at EB1 between May to August and September to December (representing up to 66 % of the year). This suggests the proposed mitigation measure to achieve WRP objectives will not be met either in the base case or development scenario. If EFOs cannot be met, the EIS should review their suitability and identify appropriate management rules that can effectively mitigate the impacts of the project. This should be supported by developing clear management rules that control the volume and timing of water releases to mitigate risks to ecological assets. The EIS does not appear to state such rules, so it is not possible to assess the proposed approaches to mitigate impacts on ecological assets.	Describe the operational rules controlling the volume and timing of water releases that will be used to mitigate or prevent impacts to ecological assets.	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
028.06		Surface water resources	Section 9.3.2.5 of the EIS states that 'Discussions with DNRM and DSITIA indicate that while the Project does not achieve the guideline objectives, they are considered appropriate as they do not adversely impact on the existing situation and are consistent with the non-mandatory nature of the specific EFOs.' The Water Assessment and Systems team were not involved in discussions and therefore cannot verify this statement.	Clarify what values this statement is referring to, particularly those relating to DSITI involvement, and identify (confidentially, if necessary) who was involved in the discussions.	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.3
028.07		Air Quality	Table 12-1 of the EIS, Project air quality objectives, shows the dust deposition reporting period as 'Annual average'. This would be correct if applied in NSW. However, in Queensland the correct reporting period is the monthly average.	Revise Table 12-1 to include the dust deposition limit from Page 13 of EHP's Guideline EM960	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
028.08		Terrestrial Fauna	The EIS has not adequately addressed advice previously provided by EHP that the EIS should address offsets for impacts on the habitat of the endangered red goshawk, Erythrotriorchis radiatus.	Amend Table 8-9 to show a high likelihood of occurrence for the red goshawk	Proponent to amend	Updates provided in the additional information to the draft EIS.	n/a	Chapter 6 Terrestrial fauna, Section 6.1

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028.09		Terrestrial Fauna	The EIS concludes that the likelihood of occurrence of the red goshawk in the project area is moderate. However, this conclusion was based on incorrect information.	Amend Section 8.3.5.2 and 8.3.9 to include an assessment of the significance of project impacts on the habitat of the red goshawk.	Proponent to amend and provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 6 Terrestrial fauna, Section 6.1
028.10		Terrestrial Fauna	Table 8-9 of the EIS states that 'the species has not previously been recorded in the region'. Section 8.1.2.1 the EIS states that the search area used for the Wildnet database search was a 2 km buffer along watercourses and about 20 km downstream of the Eden Bann weir. It appears that the absence of records in this limited search buffer was used to draw the conclusion that there are no records in the region. However, the EHP Wildnet database contains numerous red goshawk records in the region and three records that are within 10 km of the confluence of the Dawson and Mackenzie Rivers. These records are sufficiently close to the project area to be significant when considering a raptor species that have large home ranges. The red goshawk is listed as endangered under the NC Act and vulnerable under the EPBC Act. EHP previously provided advice to this effect, noting that the species 'preferentially nests with 1 km of watercourses and particularly favour the tall open Melaleuca woodland found along the riparian fringe'. In the national recovery plan habitat for the species in north Queensland is described as extensive, uncleared, mosaics of native vegetation, especially riparian vegetation, open forest and woodland. The EIS provides insufficient evidence to justify the statement in Table 8-9 that the red goshawk is unlikely to nest within the project footprint as no nests were recorded during field surveys. Furthermore, the EIS (Appendix N) notes there was evidence of a large raptor nest near Site 6, but no further information was provided about the species using the nest, so it is inconclusive whether or not a red goshawk was nesting in the project area.	Given the criteria used in the EIS to assess likelihood of occurrence, the EIS should rate the likelihood of occurrence of the endangered red goshawk as high. Therefore, the EIS should provide an assessment of project impacts on this species using the Queensland Environmental Offsets Policy Significant Residual Impact Guideline and/or the EPBC Act Significant Impact Guidelines. EHP recommends that offsets under the Environmental Offset Act 2014 for project impacts on the habitat of the red goshawk (prescribed matter 6 Protected wildlife habitat) should be required as a condition of approval.	Proponent to note and provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 6 Terrestrial fauna, Section 6.1
028.11		Noise and vibration	The noise assessment does not consider section 10 of the Environmental Protection (Noise) Policy 2008, which is a provision directed at controlling background noise creep. Noise creep is an additive effect that occurs when different noise sources occur at the same time.	Provide information on measured background noise levels at the most likely affected premises. Measurements should be made in accordance with the DEHP Noise Measurement Manual (2013).	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 9 Noise and vibration
028.12		Noise and vibration	The noise assessment has not provided any background noise measurements at premises most likely to be affected by construction noise. The only information presented (see Table 14-5, page 14-9) is a generalised estimate of background noise for broad scale land use from a 1997 Australian Standard.	Compare noise predictions with the requirement for controlling background creep in the Environmental Protection (Noise) Policy 2008, and, if necessary, propose mitigation measures that would ensure compliance with the policy.	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 9 Noise and vibration
028.13		Noise and vibration	The EIS proposes that noise from construction of the infrastructure will be regulated by section 440R of the Environmental Protection Act 1994. This is not appropriate as s. 440R applies to the construction and demolition of buildings such as houses, offices, flats, and commercial premises rather than the construction of dams.	Provide commitments in relation to meeting the acoustic quality objectives of the Environmental Protection (Noise) Policy 2008 (refer to the EIS's Table 14-1) and recommended outdoor planning noise levels (refer to the EIS's Table 14-2).	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 9 Noise and vibration

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028.14		Noise and vibration	As a consequence of this inappropriate application of s. 440R, the EIS does not propose commitments to achieve specific noise limits for construction noise at potentially affected premises. Noise predictions at nearer receptors are in the order of 59 dB(A) for building and 71 dB(A) for piling (refer to EIS Table 14-8 page 14-11). These predictions show noise levels will exceed acoustic quality objectives under the Environmental Protection (Noise) Policy 2008 (refer to EIS Table 14-1) and recommended outdoor planning noise levels (refer to EIS Table 14-2). However, no allowance has been made for penalties (upward adjustment of noise measurement) to account for the tonality or impulse of noise. The latter is relevant for assessing piling noise impacts.	Taking account of measured background noise levels at the most likely affected premises (see above issue 1), propose measures to ensure compliance with the Environmental Protection (Noise) Policy.	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 9 Noise and vibration
028.15		Terrestrial ecology and biodiversity offsets	The EIS has not adequately addressed advice previously provided by EHP that the EIS should address offsets for impacts on the powerful owl, Ninox sterna, which is an NC Act threatened species. EHP provided advice on this matter in May 2015 and in an earlier submission on the preliminary EIS. In previous advice EHP also noted that habitat for the powerful owl is similar to koala habitat, and that the area of the owl's foraging habitat lost as a result of the project would be similar to potential koala habitat. Table 8-15 shows the full extent of impacts on koala habitat by the project would be in excess of 1300 ha. In addition to this, Table 8-14 lists other riparian areas that are likely to provide nesting habitat for the powerful owl, and that would be lost. The EIS states that habitat loss will be gradual, allowing resident owls to find other places to breed. This is irrelevant in the consideration of offsets. The issue is how much habitat will be lost, not the timescale over which it will be lost. The EIS states that there is an abundance of suitable habitat remaining within the region. However, the riparian habitat that will be impacted by the project is acknowledged as significant nesting habitat for the species. As mentioned above, the EIS did not provide an assessment of the area of potential habitat for the powerful owl, particularly the riparian areas recognised as preferred nesting habitat for the species. The conclusion in section 8.3.9.3 and Table 8-17 that the project will not interfere with the recovery of the species, and will not cause disruption to ecologically significant locations (breeding, feeding, nesting, etc.) of the species, is not supported by evidence.	The extent of residual impact on foraging, roosting and nesting habitat of the powerful owl should be estimated and mapped, after which a significant impact assessment should be carried out. EHP recommends that offsets under the Environmental Offset Act 2014 for project impacts on the powerful owl (prescribed matter 6 Protected wildlife habitat) should be required as a condition of approval.	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 6 Terrestrial fauna, Section 6.2
028.16		Terrestrial fauna	On 27 August 2015, the Governor in Council approved changes to the list of threatened species under the Queensland Nature Conservation (Wildlife) Regulation 2006 (Wildlife Regulation).	The EIS should provide an assessment of project impacts on listed fauna and flora species in the current Wildlife Regulation that were not covered in the draft EIS.	Proponent to provide response	Updates provided in the additional information to the draft EIS.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.1
028.17		Offsets	On 27 August 2015, the Governor in Council approved amendments to the Queensland Nature Conservation (Wildlife) Regulation 2006 to include the white-throated snapping turtle (*Elseya albagula*) in the list of endangered species. Endangered is the most threatened category under Queensland legislation. Management measures and offsets are required that will address impacts on E. albagula. Another species of turtle, the Fitzroy River turtle (*Rheodytes leukops*), is found in the same habitat. These two cloacal breathing turtle species are ecologically similar, but have slightly different nesting habitats, and differ in diet and in the timing and duration of their nesting seasons. The EIS proposes offsets for project impacts on R. leukops under both the Environment Protection and Biodiversity Conservation Act 1999 and the Queensland Environmental Offsets Act 2014. The threats to R. leukops and E. albagula are essentially the same, hence some actions committed to by the proponent (e.g. threat abatement work, such as predator control, and turtle movement infrastructure) will benefit both species. The EIS notes that some management actions proposed for R. leukops will benefit E. albagula as well.	Offsets under the *Environmental Offset Act 2014* for project impacts on *Elseya albagula* (prescribed matter 6 Protected wildlife habitat) should be required as a condition of approval.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.2 Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle

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028.18		Offsets	The EIS outlines project impacts on landscape connectivity and the importance of the corridor role of riparian vegetation. However, the EIS states that 'corridors of local, regional and state significance, will still prevail directly adjacent to the high water level', and that offsets are not proposed because 'it is not considered that the prescribed activities associated with the Project will result in a significant residual impact on connectivity areas'. This statement is incorrect, and does not take account of advice previously provided by EHP. Connectivity areas are areas of remnant vegetation outside urban areas containing prescribed regional ecosystems that are required for ecosystem functioning (based on the definition in the Environmental Offsets Regulation 2014). The significance of the vegetation for connectivity must be considered in the context of the local and regional landscape. In previous advice, EHP provided the results of an assessment of connectivity using the Landscape Fragmentation and Connectivity tool for both the Rookwood and Eden Bann development footprints. In both analyses, the inundation as a result of impoundments would result in significant connectivity impacts due to loss of core remnant vegetation areas.	EHP recommends that offsets under the Environmental Offset Act 2014 for project impacts on connectivity (prescribed matter 3 Connectivity areas) should be required as a condition of approval. Impacts on connectivity can be mitigated by protection of non-remnant regional ecosystems within the local landscape that would contribute to connectivity along the Fitzroy River adjacent to the impoundments.	Proponent to provide response	Assessment of Project impacts on connectivity were addressed in the draft EIS. Additional information is provided in the additional information to the draft EIS.	Volume 1, Chapter 8 Terrestrial fauna, Section 8.3.6	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.1.3 Appendix C Connectivity
028.19		Offsets	In contrast to providing offsets for impacts on Fitzroy River turtle nesting habitat by the approach of developing a DBMP and offset delivery plan, section 22.3.3.2 of the EIS proposes to address impacts on aquatic turtle habitat by providing a financial settlement offset. If so, the financial settlement offset for project impacts on aquatic turtle habitat needs to be finalised prior to issuing the approval so that it may be included as a condition of approval. The offset calculations should also apply to the white-throated snapping turtle	EHP recommends that the proposed financial settlement offset for project impacts on aquatic turtle habitat must be finalised prior to issuing the approval and included as a condition of project approval.	Proponent to provide response	Addressed in the additional information to the EIS. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.2 Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
028.20		World Heritage Places	The project as described in the EIS will reduce the extent of riparian vegetation in the Fitzroy catchment, and therefore will be inconsistent with Queensland and Australian government approved Great Barrier Reef (GBR) sustainability policy. Note: The Office of the Coordinator General requested comments on how the project addressed action EHA10 of the Reef Sustainability Plan. Action EHA10 (2015-2020) is: 'Improve connectivity and resilience through protection, restoration and management of Reef priority coastal ecosystems including islands through innovative and cost-effective measures.' The EIS does not specifically address action EHA10 of the Reef Sustainability Plan. EHP advises that at the time of writing the Office of the Great Barrier Reef has not finalised definitions of priority coastal ecosystems.	The EIS should address project impacts on riparian vegetation in the context of the Reef 2050 Long Term Sustainability Plan and the Reef Water Quality Protection Plan 2013	Proponent to provide response	Assessment of potential project impacts on riparian vegetation against the Reef 2050 Plan's EHA10 target is included in the additional information to the draft EIS.	n/a	Chapter 8 Water quality, Section 8.2.4 Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
028.21		Cumulative and consequential impacts	The EIS does not adequately assess the potential impacts on the Great Barrier Reef World Heritage Area of more intensive agricultural development. Section 1.4.1 in the EIS states that the project will deliver 42,000 ML of water to any person or entity that makes a submission (the use is unspecified in the Resource Operations Plan). Section 12.4.2.3 states that part of that 42,000 ML reserve would be used to supply new agricultural development. A specific agricultural development scenario proposed in the EIS is based on an increase of 2,000 ha to 3,000 ha of irrigated crops. Section 12.4.3 insufficiently discusses the potential impacts of agricultural development (intensive animal husbandry/irrigated broad-acre cropping and intensive horticulture) on World Heritage Properties. Potential impacts identified include surface water quality and groundwater degradation and vegetation clearing.	The EIS should demonstrate how the likely increase in water use in the catchment, particularly for agriculture, will deliver outcomes for water quality and other matters consistent with the objectives of the Reef Water Quality Protection Plan 2013 and the Reef 2050 Long-Term Sustainability Plan.	Proponent to provide response	Facilitated development is addressed in the draft EIS. Further assessment regarding the potential use of 42,000 ML/a high priority water for agricultural purposes is included within the additional information to the draft EIS.	Volume 2, Chapter 12 Cumulative and consequential, Section 12.4	Chapter 8 Water quality, Section 8.2.3 Chapter 11 Consequential impacts

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028.22		MNES Offsets	The impact and offset calculator tables (Tables 14-2, 14-3, 14-7 and 14-8) should stand alone and fully explain column headings (using subscripts if necessary).	Amend Tables 14-2, 14-3, 14-7 and 14-8 to fully explain column headings and cell inputs.	Proponent to Amend	Clarifications are provided in the additional information to the draft EIS.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.2 Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
028.23		MNES Offsets	Offsets for project impacts on turtle nesting habitat - Fitzroy River Turtle and White-throated snapping turtle	The proponent should revise the Fitzroy River turtle nest habitat offset management plan proposed under the EPBC Act. The proponent should prepare a Direct Benefit Management Plan and offset delivery plan for the white-throated snapping turtle consistent with the Queensland Environmental Offsets Policy. The documents may be based on the same information and research as noted above for the species management program, particularly in relation to commitments for monitoring and managing nest sites, but should also take account of the different statutory requirements for them.	Proponent to provide response	The offsets proposal as updated in the additional information to the draft EIS is considered adequate for the purposes of decision making. Direct benefit management plan framework is not provided at this time. Potential impacts, mitigation, management and offsets in relation to white-throated snapping turtle are included.	n/a	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.2 Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
028.24		MNES Offsets	The area of Brigalow (Acacia harpophylla) Threatened Ecological Community (TEC) that will be inundated by the project has not been verified.	EHP recommends that the offsets for project impacts on Brigalow TEC should be based on a map verified by the Queensland Herbarium. The proponent should undertake adequate field surveys to estimate the area of Brigalow TEC that will be impacted, and submit a map of that area for verification by the Queensland Herbarium. EHP recommends that an offset management plan for Brigalow, containing detailed commitments and success criteria, should be required as a condition of project approval.	Proponent to provide response	Noted in the additional information to the draft EIS.	n/a	Chapter 13 Project commitments Appendix D Revised project commitments
028.25		MNES Offsets	The proposed offset for black ironbox, Eucalyptus raveretiana, is based on an estimate of residual impact from surveys carried out in 2007. In previous advice, EHP recommended that the estimate of the residual impact on black ironbox should be based on more recent information. Furthermore, the offset proposal uses a one year time horizon to calculate the offset requirement. Previously, EHP advised that the time frame to successfully deliver the offset may be significantly longer than one year, and possibly up to ten years.	The proponent should carry out new surveys, or source more recent survey information, to determine the appropriate residual project impact on black ironbox. The offset for project impacts on black ironbox should have an offset delivery timeframe that is based on successful establishment of planted trees. EHP recommends that an offset management plan for project impacts on black ironbox, containing detailed commitments and success criteria, should be required as a condition of project approval.	Proponent to provide response	Noted in the additional information to the draft EIS.	n/a	Chapter 13 Project commitments Appendix D Revised project commitments

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028.26		Species management program	The species management program required under Section 332 (Tampering with animal breeding places) of the Nature Conservation (Wildlife Management) Regulation 2006 covers the Fitzroy River turtle, Rheodytes leukops. However, there is now a requirement for it to address the endangered white-throated snapping turtle, Elseya albagula. Furthermore, the species management program requires more detailed information (consistent with the EHP guideline (available by request)), including commitments related to management, research and population monitoring activities prior to approval by EHP.	The species management program must be updated to cover the endangered white-throated snapping turtle, Elseya albagula. The species management program should include objective commitments to management, research and monitoring of Rheodytes leukops and Elseya albagula populations including, but not necessarily limited to, the following matters: • recognised management strategies for achieving recovery and maintenance of sustainable populations • specific information on the location and scope of impacts of the project on turtle breeding places • research into the use of foraging and nesting habitat within the impoundments, and downstream to the tail-waters of the next impoundment; the research should include: o passive integrated transponder (PIT) tagging of turtles prior to completion of construction (as proposed by the draft species management program, Volume 3 Appendix M) o GPS satellite telemetry studies to identify habitat use and migration during a range of stream flow events o nest sites' location, height above water, and characteristics. • modelling of the management of impoundment levels, and the timing and rates of downstream releases with reference to minimising the drowning of turtle nests during the nesting and hatching periods while achieving water supply and environmental flow objectives defined by the Fitzroy Basin Water Resource Plan • developing measurable and auditable actions for managing impoundment levels and the timing and volumes of water releases to minimise flooding of turtle nests • developing objective commitments for monitoring and managing nest sites including: o defining GPS locations of nest sites and/or reaches of the catchment to be managed (e.g. Fitzroy River between x km AMTD and y km AMTD o defining the period of monitoring and management, e.g. from May to December each year for a minimum number of years (normally equivalent to age at first breeding plus 50% of the adult life expectancy—EHP considers that a minimum period of 20 years would be adequate)	Proponent to provide response	Recommendations have been considered in the development of the species management plan as included within the draft EIS and revised for the additional information to the draft EIS.	Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.1 Chapter 12 Environmental management plan Chapter 13 Project commitments Appendix D Revised project commitments Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan
			028.26 Continued	o objectives for nesting success, injury and mortality o specific actions for weed management at nest sites o specific actions for managing predation of nests. • details of commitments for monitoring and management of turtle passage in both directions past the impoundment walls, including: o objectives for measuring passage success with respect to turtle injury and mortality o proposed corrective action where objectives are not achieved. • the parties responsible for management actions • approval of programs by EHP before implementation • peer review of research and monitoring programs by external technically skilled experts • reporting and contingency planning, including publishing of monitoring programs and monitoring reports on a website.	Proponent to provide response			
028.27		Turtle passage and design	The design of turtle movement infrastructure for weirs is still experimental. Consequently, the proposed design should be tested and accompanied by turtle movement studies to help to demonstrate whether the structures are effective. A trial will allow for modification of design should they prove ineffective. Table 5.2 provides detail about a specifically designed turtle ramp to be installed at each weir. The table acknowledges that it is at a concept level. A turtle passage trial at Eden Bann Weir, which should be completed prior to raising the weir's level, could be based on the design of the trial started at Tartrus Weir on the McKenzie River several years ago but not completed.	EHP recommends that it should be a condition of project approval that there should be a trial, or trials, of the effectiveness of turtle passage proposals prior to the construction of the weir infrastructure. The effectiveness should be tested in collaboration with EHP's turtle experts.	Proponent to provide response	Noted. Potential impacts, mitigation, management and offsets in relation to the Fitzroy River turtle and white-throated snapping turtle are included in the development of the species management plan as included within the draft EIS and revised for the additional information to the draft EIS.	Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program	Chapter 5 Fitzroy River turtle and white-throated snapping turtle, Section 5.1 Chapter 12 Environmental management plan Chapter 13 Project commitments Appendix D Revised project commitments Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan

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029.01	Capricorn Conservation Council	Project rationale	E1.2 • GAWB: up to 30,000 ML, Local government authority: up to 4,000 ML intended use of the remaining 42,000 ML; mining development in the Bowen and Surat coal basins; potentially some agricultural development within the Fitzroy Agricultural Corridor. • Only ½ of barrage used – what about • RRC is currently promoting the need and desire for this development for economic growth in Rockhampton • Agriculture: Fitzroy Industry and Infrastructure Study (DIP 2007) identified that the potential existed for animal production, fodder crops and some horticulture to be undertaken within the Lower Fitzroy Agricultural Corridor. The study was completed in 2007 but no further implementation plans were developed and no demand profiles were confirmed. • Regional Development Australia's Growing Central: E-4 Draft environmental impact statement June 2015 41/20736/447130 Volume 1 Executive summary Queensland it is possible that some future demand for high priority water will arise. • The current Project concept/preliminary design is modular to facilitate staging • The GFP is designed to transfer 30,000 ML/a (and possibly more if required) from the Fitzroy system	1. No business case for majority of water – especially for agricultural use in The Fitzroy Agricultural Corridor 2. Alternative sources of water not sufficiently considered: e.g., flood harvesting, off-stream storage, water grid interconnectivity, water us efficiency, low water use crops (especially products which require little if any irrigation, fertiliser and pesticides;	Proponent to provide response	1. Strategic, economic, technical and commercial considerations in relation to demand for water are addressed in the draft EIS. The project rationale is discussed in the context of contributing towards regional water supply security solutions following extensive State and local government analysis and investigations undertaken as part of the Central Queensland Regional Water Supply Strategy (CQRWSS) study. The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations. Business cases with regard to agricultural development are being progressed separately by others, such as the Growing Central Queensland Initiative (http://rdafcw.com.au/growing-central-queensland/) The proponents continue to engage with the Growing Central Queensland Initiative and other stakeholders regarding demand requirements. 2. Assessment and investigation of alternative water sources is not the scope of the Project. The GCQRWSS study considered a range of alternative water supply options.	1. Volume 1, Chapter 1 Introduction, Sections 1.4 and 1.6 2. Volume 1, Chapter 1 Introduction, Section 1.4.1	n/a
		Project rationale	029.01 continued.	3. Capacity to obtain the 30000 ML industry water and LGA from alternative sources 4. Cost benefit analysis for 42000 ML not present.	Proponent to provide response	3. GAWB has undertaken separate analysis and assessment of water supply options in relation to its requirements for a contingent supply (http://www.gladstone-fitzroypipeline.com.au/) 4. The cost-benefit analysis presented in the draft EIS is presented for each development stage up to and including the supply of 76,000 ML/a.	3. Volume 1, Chapter 1 Introduction Sections 1.5.3. and 1.6.2 4. Volume 1, Chapter 19 Economics, Section 19.4	n/a
		Project rationale	029.01 continued.	5. Mine waster use over economic life of weirs; Current excess of mine water; real cost of - pumping to Surat basin (Wandoan coal was to use Nathan supply but CSG RO water excessive 25 years 6. FIIS/FAP/Soils make this highly speculative given the failure of other Fitzroy Industry Infrastructure Study-Fitzroy Agricultural Precinct FIIS-FAP) – pre-purchase proposals, and likely cost of water for med-low value production (as opposed to 25 years of endeavours to obtain sustainable pasture fed / low irrigation production compatible for Nature conservation, biodiversity, river health, etc	Proponent to provide response	5. While some demand for water from mining and related industries can be expected in the long term, volumes required are difficult to predict. There are no existing or proposed coal mines in the Rockhampton and Gladstone regions. SunWater has separately considered other regional supply options such as Connors River Dam and Nathan Dam as well as use of coal-seam gas water initiatives. 6. Water demand assessments with regard to agricultural development are being progressed by others, such as the Growing Central Queensland Initiative (http://rdafcw.com.au/growing-central-queensland/) The proponents continue to engage with the Growing Central Queensland Initiative and other stakeholders regarding demand requirements to understand demand as it might arise and facilitate the staged development of the project.	5. Volume 1, Chapter 1 Introduction, Section 1.4.2 6. n/a	n/a

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		Project rationale	029.01 continued.	7. Barrage – improve water use efficiency and total; water cycle management instead 8. RRC industrial park highly speculative (note Stanwell Industrial estate history; magnesium industry)	Proponent to provide response	7. The Fitzroy Barrage was assessed and included for consideration as part of the CQRWSS study and also as part of the options for the project. It is concluded that additional supply from the Fitzroy Barrage will not provide a regional water demand solution. 8. The project is proposed in the context of providing a solution towards regional water supply security. Consideration of potential future industrial urban and agricultural activities is being considered. The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations.	7. Volume 1, Chapter 1 Introduction, Section 1.6.1 8. Volume 1, Chapter 1 Introduction, Sections 1.4 and 1.6	n/a
		Project rationale	029.01 continued.	9. CCC comments on the federal Government's Agricultural Competitiveness Green Paper (appendix A) expand on the environmental and economic concerns and possible alternatives to the Lower Fitzroy Infrastructure Project (LFIP), or other Fitzroy Basin dams. 10. Significant research and development into river health and agricultural options which improve ecological connectivity and biodiversity resilience is needed before any approvals or construction. 11. The needed to be a moderate approach before the entire LFIP can be approved and constructed. Assessments of the timeframe for the Fitzroy Barrage freshwater supply to become vulnerable, for example to higher sea levels and storm surge which could over-top the barrage or threaten the integrity of the structure would guide decision making about alternatives.	Proponent to provide response	9. Noted. 10. Agricultural development is not the scope of the EIS. As applicable assessment of impacts potentially arising from facilitated agricultural development are included within the additional information to the draft EIS. 11. The Fitzroy Barrage is owned and operated by RRC. RRC and DEWS are investigating water supply security for Rockhampton. The assessment considers various growth scenarios to determine the timing and magnitude of potential water supply shortfalls under the existing water supply arrangements. Further the assessment considers a number of other significant opportunities for increasing water security, including the construction of water storages elsewhere in the Fitzroy Basin. Refer to https://www.dews.qld.gov.au/__data/assets/pdf_file/0003/338736/rockhampton-rwssa.pdf	9. n/a 10. Volume 2, Chapter 12 Cumulative and consequential impacts, Section 12.4.2.3 11. Volume 1, Chapter 1 Introduction, Section 1.4.1	10. Chapter 11 Consequential impacts
		Project rationale	029.01 continued.	12. Given the already modified state for riverine to lacustrine of the Barrage and Eden Bann Weir sections, would it not be more sensible to improve their operations (including fixing the poorly designed fishways) before considering Rookwood Weir which will drown great lengths of habitat and critical natural flow, sedimentation and water filtering capacity above and below the final major river conjunction of the Basin? 13. The Connors River Dam, despite being approved has not proceeded apparently due to limited markets for the water. CCC does not promote the Connors River Dam due to habitat loss and threats to the Connors role and the source of the Fitzroy's most reliable seasonal flushing. However unless a comparative study is done into the biological impacts of upper catchment storage options vs. the LFIP, we are prone to poor decision making. Specifically, storages high in the catchment impact only part of the river's ecosystem and the negative impoundment effects on water quality have greater potential for mitigation due to natural stream and floodplain processes than lower impoundments, of estuary truncation as in the case of the Fitzroy Barrage. Lower in-stream impoundment generally have greater whole of system biological impacts (including Great Barrier Reef lagoon) than upper catchment barriers.	Proponent to provide response	12. As concluded from the CQRWSS study, improved utilisation and management of existing infrastructure will not be sufficient to respond to regional water supply demands into the future. 13. Regional water supply security objectives have considered a range of options and alternative solutions. Each potential infrastructure development is and has been subject to its own environmental assessment. Consideration of other proposed storages as an alternative to the project addressed in the draft EIS. It is determined that neither Connors River Dam nor Nathan Dam would achieve the water demand requirements in the Lower Fitzroy.	12. Volume 1, Chapter 1 Introduction, Section 1.4.1 13. Volume 1, Chapter 1 Introduction, Section 1.6.3	n/a
029.02		Project alternatives	E1.4 •GAWB's Strategic Water Plan concludes that the GFP Project (with its link to the Project) is the preferred option • Water storage infrastructure - Nathan Dam on the Dawson River... unlikely that supply from Nathan Dam will achieve Project objectives and provide an economically viable solution to long-term water supply requirements in the lower Fitzroy system • Fitzroy Gap Dam: Environmental impacts on the aquatic ecosystems, terrestrial flora and fauna and loss of land associated with inundation will be considerably more severe than the Project due to impoundment outside of the river bed and banks • Non-infrastructure options - Agricultural demand has the potential to be met through the take up of currently unutilised, or under-utilised, water allocations.	1. More detail required on the 'GFP' project. 2. GFP 'preferred option' needs better explanation and justification on environmental and economic grounds 3. Nathan Dam on the Dawson River – still states '(will) primarily service coal mines and power stations in the Surat Basin; yet the main potential purchaser of water Wandoan Coal and Power Station projects have been withdrawn; also	Proponent to provide response	1. The GFP was subject to and obtained separate environmental approval; refer to http://www.statedevelopment.qld.gov.au/assessments-and-approvals/gladstone-fitzroy-water-pipeline.html. 2. GAWB's 2004 Strategic Water Plan identified 13 water source augmentations. Evaluation of these options against water quality, security, environmental, social and water pricing criteria resulted in nine options being selected for further assessment comprising weirs on the Fitzroy River, weirs on Baffle Creek, raising Awoonga Dam and/or Castle Hope Dam and a desalination plant (GAWB 2013). Detailed analysis of these options is provided in GAWB's 2013 Strategic Water Plan. 3. The proposed Nathan Dam is subject to its own environmental assessment, demand studies and business case.	Volume 1, Chapter 1 Introduction, Section 1.6.2	n/a

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		Project alternatives	029.02 continued	4. The Upper Dawson is anticipated to receive up to 85,000,000 ML of coal seam gas produced water (QGC and Santos). The Woleebee pipeline alone is estimated to release, '36,500 Megalitres of treated CSG water per year from QGC's Queensland Curtis LNG project for beneficial use by industrial and agricultural industries'. There needs to be a full business case and comparative ecological impact assessment of utilising this water rather than adding additional barriers to natural river flows. 5. This assessment would need to examine the current and projected prospects of Dawson Valley and Surat Basin 'beneficial use by industrial and agricultural industries, compared to the prospective use of that water in existing high demand, high growth areas. After all a 'whole of water cycle management' approach should consider that the producers of the water (CSG-LNG) should be responsible for the economic and ecologically sustainable use of the water, i.e. for industrial supply. 6. The cost of pipelines and distribution should be met by that industry and not defrayed as an artificial flow regime into the Dawson River with untested assumptions that local agricultural or industrial users will benefit, (especially once other limitations of soils, risks of increasing cropping intensity on productivity and water quality pressures from run-off, irrigation infrastructure and operating costs, transport and other costs) 7. Fitzroy Gap dam – Agreed, even if technically possible and aside from the massive costs and lack of coherent economic argument, ecological consequences of the Gap Dam would be catastrophic, given the flooding of the highly variable and fragile soils of the floodplains of the Fitzroy Dawson and Mackenzie.	Proponent to provide response	4., 5. and 6. The Woleebee Creek to Glebe Weir Pipeline beneficial use scheme supplies treated CSG water to customers within the Dawson Valley Water Supply Scheme. Separate environmental assessment and demand analysis has been undertaken by SunWater regarding this supply of water and approval obtained (Beneficial use approval ENBU04254412). Use of the water is regulated through the Fitzroy WRP and in accordance with the Fitzroy ROP. Given the location of infrastructure and distance to the Project, together with current demand, it is unlikely that supply from this area will achieve Project objectives and provide an economically viable solution to long-term water supply requirements in the lower Fitzroy. 7. Noted.	Volume 1, Chapter 1 Introduction, Section 1.6.2	n/a
		Project alternatives (continued)	029.02 continued	8. The potential for 'agricultural demand to be met' needs far greater assessment than a speculative assumption that the agricultural use will produce investments in feedlots and cropping. There is an underutilising of current supply for irrigated cropping, industry or improved pasture and no evidence that 3+ industrial scale cattle feedlot entities (the number assumed to create the initial business case for the previous FIIS/FAP proposal for Rookwood-Eden Bann) were prepared to invest. There needs to be a more thorough consideration of the potential water market then 'build it and they will come'.	Proponent to provide response	8. Agricultural development is not the scope of the project. Regional water supply security is the focus and requires strategic, long-term planning for water storage infrastructure. Various State and regional stakeholders, including the Growing Central Queensland Initiative have and are progressing detailed analysis in this regard; refer to http://rdafcw.com.au/growing-central-queensland/ Impacts arising from potential facilitated development are assessed in the additional information to the draft EIS.		Chapter 11 Consequential impacts
029.03		Consultation	E1.6 Table E-4 Consultation phases	1. Consultation has been diluted due to the on-again off-again project development over seven years. Given the significance of the project to the river system there should be a formal community reference group of stakeholder established. This was standard practice for projects such as the Nathan and Connors Rivers Dams. Such a reference group would raise community awareness and provide greater opportunities for diversity of input than the last minute series of displays and library meetings just before the EIS comments are due. Some examples of stakeholder groups o Gladstone Healthy Harbour Partnership o water quality policy development through the former Fitzroy Water Quality Advisory Group (more recently Fitzroy Partnership for River Health), o GBRMPA advisory committees (LMAC, IRAC, TRAC) o and with the on-going legal challenges to mine and port expansion, 2. It would be better for all interests concerned to put efforts into collective understanding and participative decision making vs. decisions about the Fitzroy being made outside the region (Coordinator General, federal Environment Minister, GAWB). 3. Example: Multi-Criteria Decision Analysis (MCDA) Also Known as Multi-Objective Decision Analysis (MODA), http://www.fao.org/fishery/eaf-net/eaftool/eaf_tool_31	Proponent to provide response	1. Consultation has been ongoing since the project commenced in its current form in 2008. The project maintains a 1800 free call number, website and dedicated email address. Separate to project briefings held in the region (including Rockhampton) in 2008/2009, transition to the bilateral process facilitated a formal process for stakeholders to further review and comment on the project through the development of terms of reference. The project provides newsletters and updates at regular intervals and has conducted meetings and briefings pre- and during the draft EIS release with stakeholders. 2. Consultation has been undertaken (and continues) at a National, State and local/regional level, through DSD, DNRM, DAF and DEHP. 3. The EIS has is being undertaken in accordance with the requirements of the terms of reference (ToR).	Volume 3, Appendix F Consultation Report	Chapter 2 Consultation

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029.04		Project description	E.2 • The Project is expected to be staged, with sequencing and timing dependant on a number of demand triggers including existing and new consumers, drought conditions and security of supply requirements. • Maps Figure E2-E4	1. The language appears to indicate the highly speculative about the viability of LFIP; While population trends may be fairly indicative of future water demand, industrial demand growth is much more speculative. Even more uncertain is the potential for agricultural demand 'triggers', given the nature of regional soils, expected higher costs for irrigation, higher temperatures/evaporation, availability and costs of fertilisers (peak Phosphorus estimate to been within a few decades, certainly during the mid-life economic cycle of the weirs). 2. The possibility of utilising the already approved Stanwell-Gladstone infrastructure corridor for two way water pipelines and possibly greater use of off-stream storage to enable utilisation of flood event / high flow years to balance the Boyne-Fitzroy supply regimes, without expensive ecologically detrimental stream segmentation needs more rigorous study before any approval should be given to expanding Eden Bann and especially constructing Rookwood Weir. 3. Need to be more detailed mapping of extent of inundation of river banks, flood runners, side gullies, wetlands, medium and low flow pool and riffle zones to better illustrate the habitat disruption of weirs. These maps should be accompanied with section by section description of changes to habitat type and quality e.g. o Riparian vegetation 'drowning' by higher average water, number / area of trees expected to be lost, o Weediness and erosion/collapse risks of weir 'tidal zones' o Stream depth variations from 'natural' system' including light penetration, temperature profiles	Proponent to provide response	1. The project is proposed in the context of providing a solution towards regional water supply security. Consideration of potential future industrial urban and agricultural activities is being considered. The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations. 2. The CQRWSS considered a number of supply options and solutions, including the GFP to transfer water between the Fitzroy and Boyne catchments. The GFP through the Fitzroy ROP has an interim allowance to take water under high flow conditions without the need for a storage. Water storages on the Fitzroy River will provide long-term water security to the region. 3. Aquatic habitat types are described in the draft EIS.	Volume 1, Chapter 1 Introduction, Section 1.4 Volume 1, Chapter 7 Aquatic ecology, Section 7.2.1 Volume 3, Appendix J Eden Bann Weir baseline aquatic ecology report Volume 3, Appendix K Rookwood Weir baseline aquatic ecology report	n/a
029.05		Climate / Climate change	E.3 Environmental values, potential impacts and mitigation & E3.1 Climate, natural hazards and climate change. Water storages are likely to become more important for the purpose of water supply, mitigating drought and for maintaining environmental flows.	1. More detailed modelling of the range of possible climatic scenarios is needed. The trend since 1950s has been reducing annual regional average rainfall, interspersed with above average flow years. 2. Consideration of risk that expensive, ecologically disruptive infrastructure may not in fact create; o significant improvements in water security during deeper longer El Nino decades o lower flow regimes o reduced flushing o increased risk of stagnation and o reduced water quality o disruption to subsurface flows and o ground water dependant species	Proponent to provide response	1. and 2. Flow assessment has utilised 100 plus years of data including significant dry periods (1969 when the system is determined to fail and more recent 2000-2007 period of low flows). Climate and climate change assessment undertaken in accordance with the ToR is included in the draft EIS. Further clarification is provided in the additional information to the draft EIS.	Volume 1, Chapter 4 Climate, natural hazards and climate change, Section 4.4	Chapter 7 Surface water resources, Section 7.3
29.06		Land	E3.2 Land Scenic amenity & lighting Topography, geology & soils Contaminated land Land use & tenure The Project is located in a rural area, with beef cattle grazing the predominant land use. • Large rural properties border the weir sites and impoundments, with limited public access. Public viewpoints within the Project area are limited to river crossings at Glenroy, Riverslea and Foleyvale with relatively low usage. • Class A agricultural land and strategic cropping land are mapped in areas along the Fitzroy, Mackenzie and Dawson rivers. • The Project's impact on agricultural land and strategic cropping land will be negligible, as there is a limited development footprint outside of the river bed and banks. Inundation during operations will be confined to within the river bed and banks and will not impact on the productive capacity of the surrounding land.	1. Recognition of predominant land as grazing need also to examine the impact of lost or altered riparian grazing, including alterations to improved grazing land management practices like: o Control grazing of riparian for fire and erosion protection o Loss of riparian and biodiversity fencing investments from land mangers and Natural Resource schemes (Envirofund, NHT, Caring for Country, Reef stewardship) o Loss of natural river bed crossing points for wildlife (as well as stock) o Loss of visual amenity and habitat due to decline in tree and sedge cover due to increased inundation and bank saturation, o Increased weediness between high and low weir watermarks (e.g. Parthenium, Nogoora burr, castor oil plant – some of which are toxic to wildlife and stock) 2. 'Limited' public viewpoints ignores the small number of recreational users such as the Fitzroy Canoe Club which have utilised the natural flows and shady campsites on gravel beds and shady lower river benches for decades. The historical granting of freehold right to the river has lead to the limiting of public access (as opposed to the tourism and recreational opportunities available along the Murray River – especially the Victorian side which contains many 'River Reserves'. Eden Bann destroyed the Fitzroy systems best 'white water experience' location; Rookwood will do the same to the same for hundreds of kilometres from the natural rock-bar at Rookwood right up to and over the sand and gravel beds of the Lower Dawson and Mackenzie.	Proponent to provide response	1. Impacts on land use practices and vegetation, including riparian are addressed in the draft EIS in accordance with the ToR. 2. Noted.	1. Volume 1, Chapter 5 Land, Sections 5.3, 5.5 Volume 1, Chapter 6 Flora, Section 6.3.2, 6.3.3, 6.3.4 Volume 1, Chapter 7 Aquatic ecology, Section 7.3.9 Volume 1, Chapter 23 Environmental management plan	n/a

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			• Existing land use in the Project area is predominantly cattle grazing, with existing potential contamination resulting from the storage and use of hydrocarbons, herbicides, pesticides and livestock dips. One potential contamination site is located within the Eden Bann Weir impoundment and one potential contamination site comprises the existing Eden Bann Weir. Two potential contamination sites are located within the Rookwood Weir construction footprint. Four subject lots are listed on the Environmental Management Register for containing a livestock dip or spray race. No sites are recorded on the Contaminated Land Register. • The main activity occurring on properties affected by the Project is cattle grazing, breeding and fattening. There is some crop cultivation for grains near the weir sites and a small number of properties with irrigation licences • Reserves (primarily for the purposes of camping, water, roads and stock) will be locally impacted by the Project. In the order of 4 ha of the Aricia State Forest will be impacted as a result of Eden Bann Weir impoundment	3. Before the project is approved there should a comparative study of the recreational and tourism (camping and picnic reserves, farm stay, eco-tourism possibilities) or the natural river system and the proposed still water pondages, (camping and picnic reserves, farm-stay, eco-tourism possibilities) 4. If approved there should be compensation, and offset investments to support and encourage greater public access and enjoyment of the river. 5. Public access points currently are not well managed and landholders experience vandalism and report damage to river banks and vegetation from inappropriate use by 4WD vehicles. Any public access points created by the project will need to have a monitoring and compliance plan 6. The reference to Class A agricultural land needs to be referenced to the Land Suitability for Irrigated Agriculture along the Fitzroy River, Land Services Bulletin DNRQ00027, Forster, B.A., Sugars, M.A., 2000. The reports and accompanying maps show that a tiny amount of soils (<3%) are suitable for irrigated agriculture o Class 1 (negligible limitations) = 2 267 ha o Class 2 (minor limitations) = 8 690 ha o Class 3 (moderate limitations = 50 360 ha o Class 4 (marginal, severe limitations) = 55 000 o Class 5 (unsuitable, extreme limitations) = 177900 ha 7. The report shows that even the Class 1 and 2 soils occur in tiny disaggregated patches making economic viability of cropping investments capable of effectively utilising the 30 000 ML agricultural water supply very risky 8. The costs of converting the 97% of land with soils limitations, both in terms of soils tilling/profiling, increased salinity and erosion risk management, high fertiliser demand/cost (with increased risk to water quality and the Great Barrier Reef) needs closer examination. 9. The cost benefit analysis of LFIP relying largely on assumed industrial demand must include a risk assessment of the financial hazards of under (not never) utilised agricultural demand – A close examination of the business case for the under-utilised (and structurally compromised) Paradise Dam on the Burnett River should be included. 10. The loss of biodiversity caused by the drowning of riparian areas could have a detrimental impact on productivity of grazing lands and needs to be better assessed. 11. The assessed potential contamination sites notes some potential sites though notes there are no records on the register. This seems somewhat inadequate given the possibility that weir construction, operation increased water tables, reduced flows and sedimentation, let alone the previous suggestions (FIIS/FAP) of three to nine industrial scale cattle feedlots and the already mentioned speculative addition of intensified agricultural activity will potentially mobilise salts, sediments from legacy land clearing, metals such as Cadmium form poor quality superphosphate applied liberally during the Brigalow Scheme, mine water contaminant accumulation in fine sludge, reduced flushing and filtration from loss of riffle zones. 12. The recognition of current main use for grazing with on or off stream water and some irrigation seem to be an indicator of 'most appropriate use' especially since the comments about irrigation appears somewhat dated given the time lapse since the project was an election promise (FIIS 2005*). Previous endeavours like pivot irrigated peanuts have been abandoned, though a little irrigation for improved pastures and a trial of irrigated Leucena (results unknown) still occurs. The variable, generally poor soils types and the cost benefits of irrigation suggest that the market for agricultural use of LFIP are tenuous.	Proponent to provide response Proponent to provide response Proponent to provide response	3. There is no indication from publically available material nor has the Project team been made aware of any such commercial interests being undertaken in the area. It is not considered that development of the Project would prevent such enterprises from being established in the region. The draft EIS is considered to appropriately address the ToR in this regard. 4. As stated in the draft EIS it is not intended that the project will promote recreational use of the river. Due to safety considerations access to and near the weir sites themselves will be prohibited. 5. No new public access points are proposed as part of the project. Refer to 4. above. 6. The assessment presented in the draft EIS has considered Fosters and Sugars (2000) in accordance with the ToR. An assessment of the impacts on agricultural land is in accordance with DAF requirements. Further clarification is provided in the draft EIS. 7. and 8. Business cases with regard to agricultural development are being progressed separately by others, such as the Growing Central Queensland Initiative (http://rdafcw.com.au/growing-central-queensland/) The proponents continue to engage with the Growing Central Queensland Initiative and other stakeholders regarding demand requirements. 9. The cost benefit analysis includes a sensitivity analysis with regard to the value of water, amongst others. 10. Impacts on biodiversity are included in the draft EIS. Impacts on land use and productivity are also included. 11. As per the draft EIS, further investigations are proposed as applicable. 12. Noted.	4. Volume 1, Chapter 2 Project description, Section 2.5.1 6. Volume 1, Chapter 5 Land, Sections 5.3.2.3 and 5.3.3.3 9. Volume 1, Chapter 19, Section 19.4 10. Volume 1, Chapter 6 Flora, Section 6.2.6 and Volume 1, Chapter 5 Land, Section 5.5.3 11. Volume 1, Chapter 5 Land, Section 5.4.3	n/a 6. Chapter 4 Land, Section 4.2.1 n/a

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				13. *FIIS/FAP » Feedlots: Suitable areas for as many as 10 feedlots consisting of 15,000 head. » Piggeries: Suitable for some 20 to 30 piggeries, ranging in size from 9000--72,000 head. » Fodder crops: Suitable for the production of fodder crops to supply the feedlots with their hay requirements. » Horticulture: Suitable for horticultural tree, vine and vegetable crops, such as citrus, grapes and carrots. 14. Limited public access areas (reserves) suitable for recreation or scenic values generally consist of river crossings and shady middle and lower river benches. Higher water levels (and water level variability, let alone probably lower water quality and invasive aquatic weediness) will severely limit.	Proponent to provide response	13. Noted. 14. Addressed in the draft EIS. Public access is limited and will not be encouraged as a result of Project development. Some loss of reserve areas are predicted.	14. Volume 1, Chapter 5 Land, section 5.5.3	n/a
029.07		Flora Flora continued	E3.3 Desktop assessments, vegetation mapping, field surveys and bio-condition assessments were undertaken to determine existing flora values… Regional ecosystems are typically fragmented across the landscape as a result of historic clearing including parts of the riparian zone of the lower Dawson, lower Mackenzie and Fitzroy rivers. In addition, 185.9 ha of high value regrowth will be lost within the Eden Bann Weir Project footprint and 372.3 ha of high value regrowth within the Rookwood Weir Project footprint. Approximately 40 ha of essential habitat are mapped within the Eden Bann Weir Project footprint and 11 ha of within the Rookwood Weir Project footprint. In accordance with the SP Act, the Project is deemed to be 'other community infrastructure', specifically 'water cycle management infrastructure' and is considered not assessable development. The clearing of native vegetation (including regrowth vegetation and essential habitat) is exempt development and will not require approval or assessment against the Brigalow Belt and New England Tablelands state code within Module 8 of the SDAP in conjunction with the SP Act. Offsets are not proposed in terms of Queensland legislation for remnant vegetation. Offsets are proposed for impacts on Commonwealth listed species, namely, Brigalow TEC and black ironbox (Eucalyptus raveretiana) in accordance with the EPBC Act Environmental Offsets Policy.	1. It is noted that 'further studies' are necessary to fully assess the loss, disaggregation or other impacts of the weirs and other infrastructure, construction, traffic etc. 2. What is not noted is the viability of any remediation or biodiversity offset potential for the diverse, fragmented floral communities. For example loss of specialist riparian communities like Coolibah or Black-iron box are virtually impossible re-create away from their preferred riverine soils, flow regimes let alone replicate the co-dependent ecosystems. 3. The area contains many small to medium groves and well or moderately interconnected biodiversity corridors, many of which are protected with control grazing regimes and fencing, existing or potential nature covenants or refuges. 4. Landholder and community investment lost or threatened by the Weirs and significantly by the speculated intensification of irrigated agriculture needs further assessment. 5. 'natural values' for the intrinsic values and ecosystem services contributions must be considered in a whole of life cycle analysis of the proposal. For example: o Loss of the shade provided by riparian vegetation and resulting higher evaporation, hotter surface water temperatures o Loss of refuge (low, drooping limbs, native sedges, tree roots, fallen branches and logs, for aquatic species from denuded weir 'tidal zones' 6. The application of the SP Act to apply 'not assessable exemption for impacted vegetation in in contempt of the Australian and Queensland Government's stated commitment to 'building biodiversity resilience', ensuring 'no net loss of biodiversity', preventing more species becoming prone to extinction and the vegetation's role as a fragile remnant riparian corridor along the largest river basin feeding the ecosystem of the Great Barrier Reef. 7. The application of exemptions needs to be tested against the expectations of the UNESCO World Heritage Committee review into the management of the 'outstanding universal values' of the Great Barrier Reef World Heritage Area. The WHA Committee review and the associated GBR Strategic Assessment clearly noted the need for whole of GBR catchment actions and the historical legacy of land clearing, agricultural practices and coastal urban and industrial developments as major factors in the decline of GBR water quality and biodiversity loss.		1. It is considered that assessment meets the requirements of the ToR for the EIS. Further studies are proposed to refine the assessment as the project developments, including further opportunities for avoidance, mitigation and management of impacts. 2. An in situ offset for the impact on black-ironbox is proposed and described in the draft EIS. 3. Noted. Biodiversity is addressed in the draft EIS. No nature covenants or refuges are impact by the Project. 4. Land use and productivity impacts are addressed in the draft EIS. Clarifications are provided in the additional information to the draft EIS specific to land holder queries. 5. Impacts on terrestrial and aquatic ecosystems are addressed in the draft EIS. It is not proposed that the weir will be cleared on vegetation prior to impoundment. Die back of vegetation will occur over a period of time. Simultaneously, as is evident from the existing Eden Bann Weir, re-establishment of vegetation in the riparian zone will occur. 6. Legal obligations are addressed in the draft EIS and offsets as necessary and applicable are included. Community infrastructure designation provides for exempt development and is addressed in the additional information to the draft EIS. 7. An assessment of the project impacts on the GBRWHA is included in the draft EIS. An assessment against the Reef 2050 water quality targets is included in the additional information to the draft EIS.	2. Volume 2, Chapter 14, Section 14.3.4 3. Volume 1, Chapter 6 Flora, Section 6.2.6 and Chapter 5 Land, Section 5.5.3 4. Volume 1, Chapter 5, Section 5.5.3 and Chapter 18 Social impact assessment, Section 18.3 5. Volume 6 Flora, Section 6.3 7. Volume 2, Chapter 9 World Heritage properties and National Heritage places	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.4 Chapter 4 Land, Section 4.2.2 Chapter 8 Water quality, Section 8.2 Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.4 Chapter 4 Land, Section 4.2.2 Chapter 8 Water quality, Section 8.2

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Sub and Issue No.	Submitter	Issue - Category	Issue - Details	Submitter Recommendations / Suggested Mitigation	Direction to Proponent	Proponent response	Relevant draft EIS chapter and section	Relevant AEIS report chapter and section
		Flora continued	Introduced plants and weeds are ubiquitous across the Study area. Eight weeds listed under Queensland legislation, five of which are Weeds of National Significance were recorded during field studies. A Weed Management Plan would be prepared and implemented to prevent the introduction of new weed species into the area and minimise the spread of weeds within the site.	8. Work currently being done by GBRMPA and other groups to map and analyse, catchment by catchment ,this legacy and estimate impacts of future land use changes needs to be included in the assessment of the weirs – not just the loss of riparian corridor and aquatic connectivity but the impact of the suggested intensification of irrigated agriculture in the Lower Fitzroy. 9. A search of SPP: Matters of State Environmental Significance regulated vegetation maps virtually the entire riparian corridors of both Eden Bann and Rookwood inundation zones as containing 'regulated vegetation'. Why does the draft EIS dismiss the extent of the loss and claim that the loss 'will not require approval or assessment'? 10. There is a building body of evidence of limitations to weed control (Glyphosate resistance, changes to aquatic micro floral communities from residues herbicides, implication for amphibian morbidity from pesticides and associated surfactants to name but a few). Aquatic weeds in the Fitzroy Barrage (Hymenachne, Para Grass, Hyacinth, Water Lettuce, Salvinia) have been an intractable problem. 11. Spraying, bio-control, physical removal has been an expensive and partially successful ongoing operation. 'Black water' caused by successful spaying especially in the semi-enclosed water bodies, back water creeks and floodplain lagoons has been detrimental to water quality and biodiversity (birds, fish, macro-invertebrates, turtles and probably native mammals and monotremes). 12. Excessive decaying vegetation dislodged in flow events and floods has been attributed as the cause of extensive fish kills due to low dissolved oxygen. 13. Researchers are continuing to find new or more toxic forms of cyano-bacteria in the Fitzroy (Fabbro, L. CQU) 14. The increased noxious weed threat from hundreds of additional kilometres of still, lower flushing streams will create a significantly higher ecological threat, directly and indirectly from the control mechanism required.	Proponent to provide response	8. Further assessment with regard to impacts from potential facilitated development is included within the additional information to the draft EIS. 9. Refer to 6. above. 10. and 11. Noted. — Weed management would be undertaken with reference to relevant Queensland and local government legislation, guidelines and plans including: LP Act; Plant Protection Act 1989 (Qld); Biosecurity Queensland policies and guidelines; DAFF pest factsheets; Rockhampton Regional Council (RRC) Pest Management Plan 2012-2016; and Central Highlands Regional Council (CHRC) Draft Area Pest Management Plan 2014-2016. 12. An assessment with regard to decaying vegetation as a result of the project is included in the draft EIS. 13. Noted. A water quality monitoring program is to be developed. Appropriate and applicable management measures will be applied. 14. Refer 10. and 11 above.	10. Volume 1 chapter 23 Environmental management plan, Sections 23.4.3 and 23.5.1 12. Volume 1, Chapter 11 Water quality, Section 11.3.2 13. Volume 1, Chapter 23 Environmental management program, Section 23.5.2 Volume 1, Chapter 21 Cumulative impacts Volume 1, Chapter 23 Environmental management plan Volume 2, Chapter 12 Cumulative and consequential	8. Chapter 11 Consequential impacts
		Flora continued		15. The full costing of the weed potential to: o reduce water quality, o increase aquatic species mortality o increase nutrient and pesticide to the Fitzroy Barrage, Estuary and Keppel Bay o be magnified by the numerous (hundreds) of seasonally dry side gullies, minor tributaries, billabong and floodplain becoming anoxic, anaerobic bacterial species accumulation areas, aside from breeding grounds to noxious insects detrimental to wildlife, stock and humans. 16. as well as the ongoing cost of a weed control program needs to be considered as part of the assessment of the economic viability of LFIP. 17. Economic modelling must include high risk assessment for the anticipated 'new normal' weather patterns of higher temperatures, reduced flows, higher 'extreme' events like major floods as well as localised events as experienced from ex TC Oswald *(Ex-Tropical Cyclone Oswald tracked south, inland and parallel to the east Australian coast producing heavy to intense rainfall over the region causing widespread major river flooding. The low pressure system then stalled for 48 hours in the Capricornia region of Queensland, producing intense rainfall and widespread 24-hour totals up to 300 millimetres with isolated heavier falls greater than 400 millimetres and isolated 48-hour totals greater than 800 millimetres) BOM Ex- TC Oswald Floods -January and February 2013* 18. Natural flows and seasonal flushing have proven to be the best 'control' for aquatic weeds and blue-green algae bloom minimisation, through there are perennial complaints that agricultural and environmental pests species like Parthenium are spread from upper catchments regardless of how much weed control local land managers undertake.	Proponent to provide response	15. and 16. Potential impacts associated with weeds and pests as a result of the project are addressed in the draft EIS. Mitigation and management measures are proposed. Environmental management costs are included within Project costs and considered as part of the economic assessment and benefit cost analysis. 17. Environmental management presented in the draft EIS describes the emergency preparedness and response planning measures considered as part of operations of water storage infrastructure. Environmental management costs are included within Project costs. 18. Noted. Large floods are not impeded by the weirs and flushing can occur. Weir design has incorporated large outlet works capable of making releases of up to 58 m^3/s to simulate post-winter flushing flows.	15. and 16. Volume 1 Chapter 5 Land, Section 5.5.3 Volume 1, Chapter 6 Flora, Section 6.3.4 Volume 1, Chapter 7 Aquatic ecology, Section 7.3.10 Volume 1, Chapter 19 Economics, Section 19.1.2 Volume 1, Chapter 23 Environmental management plan, Section 23.5.1 17. Volume 1, Chapter 19 Economics, Section 19.1.2 Volume 1, Chapter 23 Environmental management plan, Sections 23.2.8, 23.2.9 and 23.5.4 18. Volume 1, Chapter 2 Project description, Sections 2.1, 2.3.1 and 2.5.2 Volume 1, Chapter 23 Environmental management plan, Sections 23.5.1 and 23.5.2	n/a
		Flora continued		19. Assessment should be made into who would pay for the increased Biosecurity controls and water quality risks: o Gladstone Area Water Board? o SunWater? o Local government? o Irrigation permit holders? o Local land managers (non-irrigation)? o General community through increased rates, Biosecurity costs increasing water, land and general taxation? o Compliance agencies and consultants and research funds to address the considerably increased risk?	Proponent to provide response	19. Environmental management costs for project related impacts are included within Project costs and considered as part of the economic assessment and benefit cost analysis	19. Volume 1, Chapter 19 Economics, Section 19.1.2	n/a

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029.08		Aquatic ecology	E3.4 Aquatic habitats in the Fitzroy, Mackenzie and Dawson rivers are highly dynamic • The impoundment created as a result of the existing Eden Bann Weir is the dominant aquatic habitat type within the Eden Bann Weir Project footprint. Upstream of the existing impoundment, the Fitzroy River (as well as the Dawson and Mackenzie rivers) exists as a series of pool-riffle-run sequences • Three fish species, southern saratoga (Scleropages leichardti); leathery grunter (Scortum hillii); and Fitzroy River golden perch (Macquaria ambigua oriens), identified as known or likely to be present, are considered to have a local conservation value due to their restricted geographic range • Six turtle species have been identified as known or likely to be present: the Fitzroy River turtle (Rheodytes leukops), white-throated snapping turtle (Elseya albagula); saw-shelled turtle (Elseya latisternum); Krefft's river turtle (Emydura macquarii krefftii); broad- shelled river turtle (Chelodina expansa) and eastern snake-necked turtle (Chelodina longicollis). The Fitzroy • River turtle is listed as vulnerable under the EPBC Act and NC Act. The white-throated snapping turtle, saw- shelled turtle, Krefft's river turtle, broad-shelled river turtle and eastern snake-necked turtle are native species listed as least concern under the NC Act	1. The proposed Rookwood Weir and the raising of Eden Bann will reduce natural 'highly dynamic' river system by over 200 kilometres, converting a diverse riparian system from the last of Dawson and Mackenzie Weirs (Baralaba and Tartrus) to the top of the barrage pondage to a lacustrine dominated system (separate by reduced flow riffle/pool remnants. 2. Even if was ecologically and economically possible to offset, mitigate, restore, replicate or invest in species protection research for vulnerable species or threatened communities, it would be impossible to replace 200 kilometres (+ given the peripheral impacts above, below and beside weir pondages) of the largest river system entering the GBR lagoon. 3. Highly engineered fishways and turtle ramps cannot mitigate against the loss of the 'highly dynamic' diverse river system. 4. Increased 'dynamic' activity such as weir overflows increase the threat to turtles (cracked shells); there is no way a beautifully engineered, highly turtle enticing rock ramp can ensure that the weirs will be a barrier to up-stream migration and avoidance of 'over the top' falls. 5. The Fitzroy Barrage fishway has proven marginally effective (e.g. Wire tooth Jewfish, Sawynok, W.) with various studies to re-design, re-rebuild, add additional fish ways, Yeppen floodplain modifications to increase alternative passage ~5 yearly vs. 25 yearly. The EIS also appears to acknowledge that the existing Eden Bann fish loch is not fully effective;		1. and 2. Potential changes to aquatic habitat are addressed in the draft EIS. Mitigation and management are proposed. Where residual impacts remain offsets are provided as appropriate. 3., 4. and 5. Fishways and turtle ramps are designed in accordance with best available information and proposed to be implemented in conjunction with monitoring programs inclusive of adaptive management provisions. DAF and DEHP guidelines and recommendations have been considered and adopted as appropriate and are reflected in the proposed mitigation and management measures. As appropriate management plans are updated in the additional information to the draft EIS.	1. and 2. Volume 1, Chapter 7 Aquatic ecology, Sections 7.2.1, 7.3.2 and 7.3.3 Volume 1, Chapter 22 Offsets Volume 2, Chapter 14 Offsets Volume 1, Chapter 23 Environmental management plan, Sections 23.5.1 and 23.5.2 3., 4. and 5. Volume 3, Appendix X Fish passage technical report Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program	3., 4. and 5. Chapter 5 Fitzroy River turtle and white-throated snapping turtle Chapter 12 Environmental management plan Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan
		Aquatic ecology (continued)	• Estuarine crocodile (Crocodylus porosus), listed as vulnerable under the NC Act, is confirmed present within the Eden Bann Weir Project footprint. Although crocodiles are occasionally observed upstream of the proposed Rookwood Weir site they are uncommon beyond Glenroy Crossing • Studies of macroinvertebrate diversity recorded a total of 4,270 individuals from 59 families of macroinvertebrates during the wet season and 233 individuals from 28 families during the dry season. A total of one hundred and five species of macrophytes have been previously recorded in the Fitzroy Basin catchment, however, macrophytes abundance and diversity was relatively low within the Project footprints at the time of survey	6. The EIS appears to contain no reference to the more recently identified river dependant Dolphin species Australian Snubfin and Australian Humpback. While predominantly residing in the Fitzroy Delta and inshore waters, there is a body of research showing the negative impact of dams and weirs on riverine/estuarine dolphins. 7. There needs to be an assessment of the potential water flow, water quality, altered run off, particularly if agriculture intensifies* in and near the floodplain, alteration to fish species and population mix on these and other downstream megafauna. 8. *Studies have shown that coastal dolphins in CQ already have elevated levels of pollutants (DDT, PCBs) in their bodies (Cagnazzi, D., SCU). Could the weirs and the speculative intensification of flood plain agriculture being a potential contributor to increased soil, fertiliser and pesticide run- off have implications for dolphin health (morbidity, mortality)further downstream? *(River Dolphins: Can They Be Saved? By: Elizabeth Carpino Date: Sunday, May 1, 1994. "Dams and other destructive river developments affect river dolphins by reducing the numbers of fish in rivers and lowering levels of dissolved oxygen." http://www.internationalrivers.org/resources/river-dolphins-can-they-be-saved-3940*		6. Australian snubfin dolphin (Orcaella heinsohni) and Indo-Pacific humpback dolphin (Sousa chinensis) are addressed in the draft EIS as migratory and marine species protected under the EPBC Act. 7. and 8. Potentially facilitated agricultural development is addressed in the draft EIS. Additional assessment has been undertaken with regard to potential consequential impacts. Results are presented in the additional information to the draft EIS.	6. Volume 2, Chapter 11 Migratory and marine species, Sections 11.4.1 and 11.4.2 7. and 8. Volume 2, Chapter 12 Cumulative and consequential, Sections 14.4.2 and 14.4.3	7. and 8. Chapter 8, Water quality, Section 8.2 Chapter 11 Consequential impacts, Section 11.4
		Aquatic ecology (continued)	• Macrophytes were uncommon in riverine (in-channel) habitats within the Eden Bann Weir Project footprint and generally in low abundance at sites assessed within the proposed Rookwood Weir footprint. Aquatic weeds recorded within the catchment include salvinia (Salvinia molesta) and Hymenachne amplexicaulis • Potentially toxic blue-green algae blooms are known to occur throughout the Fitzroy Basin catchment in response to high pH, high nutrients and low flows (Noble et al. 1997). Within the Rookwood Weir Project footprint, filamentous algae were particularly prevalent in riffle and run habitats where clear, shallow water occurred. Only low levels of blue-green algae have been recorded from the existing Eden Bann Weir impoundment (frc environmental 2008). • The Project's operation will result in the inundation of an additional 114.5 km of natural riverine habitat, increasing the area of impacted habitat within the Fitzroy, Dawson and Mackenzie subcatchments by 10 per cent. In regard to each weir: o Raising of Eden Bann Weir (to Stage 3) is expected to inundate an additional 27.5 km of natural river habitat, comprising approximately 14.5 km of natural pool habitat, 8.5 km of run habitat and 4.5 km of riffle habitat. This equates to approximately 282 ha of aquatic habitat o Approximately 87 km of river habitat will be inundated as a result of the proposed Rookwood Weir Stage 2, comprising approximately 46.4 km of pool habitat, 29.1 km of run habitat and 21.2 km of riffle habitat. This equates to approximately 660 ha of aquatic habitat. This provides for normal operating conditions as well as low spillway flow conditions at the weir. The proposed Rookwood Weir fish passage infrastructure comprises a right bank fish lock to cover low and high reservoir levels to cater for flows from a minimum operating level up to 500 m^3/s. The lock arrangements proposed are considered suitable for the purpose of fish passage as:	9. There appears to be no species management plans for 'non-listed turtles' despite the significant habitat and potential food source alteration from weir construction, operation and potentially agricultural intensification. 10. Highly engineered turtle ramps cannot guarantee increased mortality and morbidity from water quality changes, shell damage from falls over flowing weirs. 11. Given the historical segmentation of the whole basin from weirs and dams (and the possibility of further habitat loss if Connors River Dam is resurrected and Nathan Dam ever proceeds, there should be detailed analysis of population dynamics / species balance from the LFIP barriers, and creation of deeper pondages likely to favour 'common' or non-endemic, less threatened species over Rheodytes leukops (aptly named 'white eyed river diver due to its preference for riffle zone enhanced, higher dissolved oxygen natural pools. 12. Could the loss of such habitats plus the competitive pressure for food and nesting sites push Rheodytes beyond vulnerable status. How will this be accounted for within the Federal Environment departments standards of 'not more species extinctions' or the Queensland Government's biodiversity, biodiversity offsets, 'net benefits' or at least 'no net loss of biodiversity' standards? 13. Macro invertebrate studies, despite being a proxy for more detailed water quality and trophic health indicator have been acknowledged in a range of studies and working groups in the Fitzroy Basin – (Fitzroy 'Ensham' Technical Reference Group/Water Quality Advisory Group/Fitzroy Partnership for River Health, intermittent sampling e.g. Dee River, graduate/master research projects). The altered flow regimes, water chemistry changes, water depth/temperature/turbidity/light and other changes need better study to assess permanent harmful changes to the food web are allowed.	Proponent to provide response	9. Mitigation and management measures for non-listed species are included within general measures presented in the draft EIS and included within the wider Project environmental management plan. Not withstanding, a number of measures proposed for the species specific management of impacts on the Fitzroy River turtle and white-throated snapping turtle apply to non-listed turtle species as well. 10. Weir design and turtle ramps are designed in accordance with best available information and proposed to be implemented in conjunction with monitoring programs inclusive of adaptive management provisions. DEHP guidelines and recommendations have been considered and adopted as appropriate and are reflected in the proposed design, mitigation and management measures. While presented as features to avoid injury and mortality for listed species, design features apply to all turtle species. Water quality management measures and monitoring programs are included. 11. and 12. Competition for resources with more generalist species has been considered and is addressed in the draft EIS, including proposed mitigation and management measures for impacts on the species. 13. The draft EIS predicts a short-term increase in macroinvertebrate diversity and abundance in response to nutrient release from inundated vegetation. Some reduction in macroinvertebrate taxa within the impoundments is expected. Mitigation and management are proposed to reduce the level of impact.	9. Volume 1, Chapter 7 Aquatic ecology, Sections 7.3.4, 7.3.6, 7.3.8, 7.3.9, 7.3.10 Volume 1, Chapter 23 Environmental management plan, Sections 23.5.1 and 23.5.2 10. Volume 1, Chapter 11 Water quality, Section 11.3.2 Volume 3, Appendix L Fitzroy River turtle (Rheodytes leukops) technical report Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program 11. and 12. Volume 3, Appendix L Fitzroy River turtle (Rheodytes leukops) technical report Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program 13. Volume 1, Chapter 7 Aquatic ecology, Section 7.3.3, 7.3.6 and 7.3.9	n/a

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		Aquatic ecology (continued)		14. Microbial studies (cyano-bacteria, anaerobic bacteria, diatoms, etc become even more important due to their importance to the food chain, decomposition cycle and even greater sensitivity to water flow quality chemical etc changes. 15. The economic viability of the project is substantially based on the suggested 36 000 ML for intensive agriculture. This needs much more analysis due to the probability of increased soil, fertiliser and pesticide run-off.	Proponent to provide response	14. Noted. Assessment is considered appropriate to the nature, scale and extent of the potential impact in accordance with the ToR. Potential impacts on blue-green algae are addressed in the draft EIS. 15. The economic viability of the project considers all stages of development. The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations. Demand growth is predicted from industry, urban and agricultural development. The cost benefit analysis for each project stage includes a sensitivity analysis with regard to the value of water, amongst others.	14. Volume 1, Chapter 11 Water quality, Section 11.3.2 Volume 1, Chapter 23 Environmental management plan, Sections 23.5.1 and 23.5.2 15. Volume 1, Chapter 19 Economics, Section 19.4	n/a
		Aquatic ecology (continued)	- The lock is in a configuration known to work (although physical model studies are required to assist with refinement of entry / exit conditions and sedimentation management)	16. Similarly the economic cost and environmental harm from aquatic weeds and their management (spraying etc) deserves much greater independent scrutiny. This should include modelling for new Biosecurity risks/species, potential of greater climatic variability/'extremes' favouring weedy species in high evaporation, limited flow weir storages (particularly the backwater gully which will rarely get flushed even in flood times (checkout the weed history of Long Island Environmental Reserve, Ramsay Creek, Limestone Creek and Lion Creek right near the Barrage – until a large localised rain events occur these side stream accumulate all manner of aquatic weed and expensive control programs are ineffective and expensive. 17. Unless there is a true reflection of the direct and indirect cost (water quality, low oxygen levels, massive debris deposited into Keppel Bay the economic case for LFIP would be flawed. 18. A review of emerging trends and risks of blue-green algae is necessary – reports to groups such as Fitzroy Water Quality Advisory Group and CQ Mine Rehabilitation Group have suggested there are shifts in algae communities and levels of neuro-toxicity (Fabbro, L. CQU).	Proponent to provide response	16. Potential impacts associated with weeds and pests as a result of the project are addressed in the draft EIS. Mitigation and management measures are proposed. Environmental management costs are included within Project costs and considered as part of the economic assessment and benefit cost analysis. 17. The draft EIS is considered to address the requirements of the ToR. Direct and indirect impacts associated with the project have been considered. Avoidance, mitigation and management measures are proposed. costs associated with thee measures are included within the project costs. 18. Potential impacts in relation to blue-green algae as a result of the project are addressed in the draft EIS. The proponents are involved in monitoring and reporting programs within the Fitzroy Basin and contribute to the ongoing collection of data and assessment of water quality in the catchment. The Project environmental management plan includes provision for the development of water quality management plans and these will include consideration of relevant information at the time of development as applicable.	16. Volume 1, Chapter 6 Flora, Section 6.3.4 Volume 1, Chapter 7 Aquatic ecology, Section 7.3.10 Volume 1, Chapter 19 Economics, Section 19.1.2 Volume 1, Chapter 23 Environmental management plan, Section 23.5.1 18. Volume 1, Chapter 7 Aquatic ecology, Section 7.2.2 Volume 1 Chapter 11 Water quality, Sections 11.2.3, 11.2.4, 11.2.5 and 11.3.2	n/a
		Aquatic ecology (continued)	- The lock is in a configuration known to work (although physical model studies are required to assist with refinement of entry / exit conditions and sedimentation management)	19. Given the lower reaches of river system, proximity to the delta (limiting the 'normalisation' of water before it reaches the already truncated tidal zone – Fitzroy barrage roughly halved the ~100k tidal zone) and scale of the expected inundated riverine habitat, occurring as it does along the largest river basin entering the GBR lagoon, the negative impact and inability for effectively offsetting, mitigating or replacing, is of the greatest environmental concern. A true assessment of the 'natural values', ecosystem services, natural productivity, potential negative economic 'externalities along with alternative water security strategies is a must before approvals and possible terminal harm is down to water, soils, and the Great Barrier Reef. 20. Eden Bann fish loch 'known to work' needs greater study and justification before any attempt to implement and install additional larger lochs at Eden Bann and Rookwood. The expensive experience of Paradise Dam and the continuing puzzle over how to fix the Fitzroy barrage fishway must be solved before any additional barrier to fish migration/reproductive fertility is approved.	Proponent to provide response	19. Assessment of potential project impacts including downstream of the project areas and on the GBRWHA is included in the draft EIS in accordance with the ToR. 20. Fishways are designed in accordance with best available information and proposed to be implemented in conjunction with monitoring programs inclusive of adaptive management provisions. DAF guidelines and recommendations have been considered and adopted as appropriate and are reflected in the proposed mitigation and management measures. As appropriate management plans are updated in the additional information to the draft EIS.	20. Volume 3, Appendix X Fish passage technical report	n/a

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029.09		Terrestrial fauna - birds	8.2.2.2 • A total of 98 bird species from 41 families were recorded in wet and dry season surveys at Eden Bann Weir study area and 133 bird species from 50 families were recorded during the wet and dry season surveys within the Rookwood Weir study area. This comprised a range of different bird groups including waterbirds, raptors, parrots, forest birds, grassland birds, open woodland birds and nocturnal birds. • Three threatened species were encountered during surveys at both Eden Bann Weir and Rookwood Weir. The southern sub-species of squatter pigeon (Geophaps scripta scripta), listed as vulnerable under the EPBC Act and the NC Act, was encountered on several occasions in woodland habitats with a grass understorey. The black-necked stork (Ephippiorhynchus australis) (Figure 8-9) and the black-chinned honeyeater (Melithreptus albogularis), both listed as near threatened under the NC Act, were also observed during field surveys. In addition to these three threatened species, the cotton pygmy-goose (Nettapus coromandelianus), listed as near threatened under the EPBC Act and the NC Act, was observed at Rookwood Weir.	1. Impact on birds (depending species mix, population/ competition) will vary in complex unpredictable ways. Loss of current riparian trees with overhanging branches is likely to put pressure on smaller species while encouraging more water birds. 2. Loss of sections of natural sedges potentially being replaced by bare or noxious weed infested banks will put pressure on bird feeding, nesting and protection sites. 3. Tunnel builders such as pardalotes and bee-eaters could be impacted if there is a loss or loss of stability of high side stream banks. 4. Birds which use the lower grassy banks or sand gravel beds will lose resting areas, in stream refugia and potentially nesting sites. 5. The main concerns are associated with the changes to water quality and depth and consequent variation in supply and type of food from herbivorous water birds seeming aquatic plants, macro-invertebrate, fish , frog seeking species. 6. These impacts are more diffuse and extremely difficult to predict and manage for a whole of bird species management plan than a simplistic assessment of some habitat and other pressures on the small number of listed species. 7. Threats from toxic algal blooms, turbidity changes (more silty, lower oxygen, deep colder water) reducing access to food; conversely excess silt deposition caused by increased salinity risk from water table changes, irrigation run-off may temporarily favour diving species like terns, but this effect is shortlived if the natural fish species mix becomes dominated by catfish (already the case since the barrage) of 'harder to swallow invasive Tilapia.		1. - 7. An assessment of potential impacts on bird species in accordance with the requirements of the ToR is included within the draft EIS. Mitigation and management measures are proposed, including for water quality.	1. - 7. Volume 1, Chapter 8 Terrestrial fauna, Sections 8.2.1, 8.2.2, 8.3.5 and 8.3.6 Volume 1, Chapter 23 Environmental Management Plan, Sections 23.5.1 and 23.5.2	n/a
029.10		Mammals	8.2.2.3 • Twenty-eight mammal species were detected during field surveys at Eden Bann Weir including five introduced species and two conservation significant species: the little pied bat (Chalinolobus picatus) and the echidna (Tachyglossus aculeatus). Forty-two mammal species were recorded during both the wet and dry season surveys at Rookwood Weir including eight introduced species and two conservation significant species: the little pied bat and echidna. Indirect evidence of koalas (Phascolarctos cinereus) in the form of faecal pellets was observed within both the Eden Bann Weir and Rookwood Weir study areas.	1. As with bird species and populations, the main concerns are the alterations and loss habitat 2. Large mature trees within the inundation zone will be prone to death and collapse with the consequent loss of nesting hollows, flowers, seeds, and insect food sources for some species. 3. Wider stretches of river over an additional 100 kilometres and loss of shallow river crossing zones flooding of mis stream sites will put pressure on smaller species and favour larger predators and feral animals especially pigs which will prosper from the increased extent of the water body, (e.g. the flooded side gullies will become perfect hiding and brooding places for pigs, thus putting more pressure on the wider landscape and other mama' through fouling of water, increased bank erosion. 4. The Fitzroy riparian corridor forms one of the last remaining remnant biodiversity corridors connecting the inland ranges with the coastal ecosystem. The reduction of this corridor from the weirs will add unacceptable pressure on species, including Koala.	Proponent to provide response	1. - 4. An assessment of potential impacts on mammal species in accordance with the requirements of the ToR is included within the draft EIS. Mitigation and management measures are proposed.	1. - 4. Volume 1, Chapter 8 Terrestrial fauna, Sections 8.2.2, 8.3.5, 8.3.6, 8.3.8 Volume 1, Chapter 23 Environmental Management Plan, Sections 23.5.1 and 23.5.2	n/a
029.11		Reptiles	• Queensland Brigalow Belt Reptile Recovery Plan (Richardson 2006). The plan identifies a number of threats to reptiles of the Brigalow Belt, including the following that are relevant impoundment associated with the Project: o Loss of habitat due to clearing and thinning o Hydrological changes o Removal of woody debris and rocks • The plan recommends a halt to clearing and fragmentation in the vicinity of significant populations or the presence of key habitat.	1. Reptiles will experience positive and negative impacts from increased water availability though with some loss of riparian habitat. 2. Water dragons and skinks may prosper as may Keelback snakes especially if cane toad (Rhinella marina) flourish 3. The caution is expressed in the Queensland Brigalow Belt Reptile Recovery Plan. 4. There needs to be a stronger ecosystem health monitoring regime using reptiles as a indicator (baseline and if approved part of the environmental management plan) 5. The potential for reptiles to either drown in weir locks or use locks and turtles ways for increased ambush predation should be assessed.	Proponent to provide response	1. - 5. An assessment of potential impacts on reptile species in accordance with the requirements of the ToR is included within the draft EIS. Mitigation and management measures are proposed.	1. - 5. Volume 1, Chapter 8 Terrestrial fauna, Sections 8.2.2, 8.3.2, 8.3.5, 8.3.6 Volume 1, Chapter 23 Environmental Management Plan, Sections 23.5.1 and 23.5.2	n/a
029.12		Amphibians	8.2.2.5 • A total of 12 amphibian species were detected in the wet and dry season surveys in the Eden Bann Weir study area (11 recorded in wet season, three recorded in dry season) and 12 amphibian species were recorded in the Rookwood Weir study area. • The ornate burrowing frog (Platyplectrum ornatum) and cane toad (Rhinella marina) were the most commonly encountered amphibian species in the wet season. Both species were detected at all survey sites. Only one species, the northern banjo frog (Limnodynastes terraereginae) (Figure 8-13) was encountered in the dry season but not in the wet season. • As expected, amphibian diversity and abundance was notably higher in the warm, humid wet season compared to the cooler dry season. This trend is associated with frog activities levels and the availability of habitat resources.	1. Water flow, water quality changes and shape, size and depth of water bodies will be altered with the building of the weirs. 2. Loss of riparian sedges and trees may reduce habitat for both tree and ground dwelling frogs. 3. Drowning of large areas of sand and gravel beds will permanently destroy extensive burrowing frog habitat. 4. Large increases in areas of lower quality, still water will favour Cane Toads. 5. Probable shift in bird populations from smaller species (like honeyeaters) to larger frog predating species will put further diffuse pressure on amphibians. 6. Fertiliser, pesticide, nutrient run-off if intensive agriculture ever proved viable would increase risks of deformity and species pressure. 7. Fertiliser, pesticide, nutrient run-off if intensive agriculture ever proved viable would increase risks of deformity and species pressure.	Proponent to provide response	1. - 5. An assessment of potential impacts on amphibian species in accordance with the requirements of the ToR is included within the draft EIS. Mitigation and management measures are proposed. 6. and 7. Assessment of consequential impacts from potentially facilitated agricultural development on MNES was presented in the Volume 2 of the draft EIS in accordance with the ToR. Clarifications are provided in the additional information to the draft EIS regarding potential change in agricultural land uses and impacts that have the potential arise and affect MNES.	1. - 5. Volume 1, Chapter 8 Terrestrial fauna, Sections 8.2.2 and 8.4 Volume 1, Chapter 23 Environmental Management Plan, Sections 23.5.1 and 23.5.2	6. and 7. Chapter 8 Water quality, Section 8.2 Chapter 11 Consequential impacts

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029.13		Biodiversity	Back on Track Biodiversity Action - 8.2.2.6 Plan species • The purpose of the biodiversity is plan is to: Identify priority threatened species for the Fitzroy NRM region so that resources for conservation and management effort can be focussed and effective o Provide a framework to direct management and research as well as a strategic approach to address threats to species recovery o Raise awareness to a broader range of threatened species and threatened species issues o Guide regional investment on biodiversity conservation and ensure progress towards the targets of the FBA Central Queensland Strategy for Sustainability: 2004 and Beyond Plan	1. Federal and Queensland government strategies and investment for biodiversity protection and resilience generally state aims of no more species extinctions, no net loss of biodiversity and better science to understand ecosystem health, species recovery. 2. The LFIP lack any substantial scientific research or monitoring investments and fails to clearly acknowledge the degree of pressure the further segmentation of this essential riverine and riparian habitat , not just directly dependant species but ecological health as well as agricultural and fishery sustainability through the Basin and Southern Great Barrier Reef. 3. A more detailed economic study must be done to include the potential loss of intrinsic value as well as the changes in the value of the ecosystem services of a naturally flowing (within the limits of an already heavily cleared, segmented Basin) compared to the cost of the loss of ~ 1/3 of the remaining lower Fitzroy to impoundment. 4. River impoundments worldwide are known to cause unintended species extinctions (river dolphins) and coastal water quality changes resulting in coral loss, toxic algal blooms, explosive blooms of jellyfish to name but a few. 5. A history of decision making based on limited baseline ecosystem knowledge, inadequate research, failure to properly understand and value ecosystem services and trophic food webs as potential negative economic factors should not be repeated in the decision of LFIP. 6. LFIP like most EIS documentation fails to truly consider whole of catchment and other cumulative impacts and should not proceed unless capable to passing independent peer review assessment. The 20th century trends for industrial scale dams is under review with many nations now removing river barriers and improving water use technologies. Unless this is done all biodiversity action, the investment in biodiversity fencing, land management practices and policies will be undone.	Proponent to provide response	1. Noted. The draft EIS acknowledges Commonwealth, State and local government strategies, initiatives and programs and endeavours to support practices as appropriate to the potential impacts arising from the project. 2. The proponents have committed to a range of mitigation and management measures in line with recommendations and practices from Commonwealth, State and local government publications. Significant offset contributions are proposed in accordance with legal requirements. 3. Environmental management measures in response to potential project impacts are included within project cost estimates. 4. Volume 2 of the draft EIS addresses indirect project impacts in the downstream and estuarine/marine areas in accordance with the ToR. 5. The draft EIS is considered to adequately address project impacts in accordance with the ToR. Mitigation and management measures are proposed, along with offsets as applicable. Commitments are made with regard to additional studies and surveys to supplement the draft EIS assessment relative to the stage and timing of development. 6. The draft EIS adequately addresses the ToR. Cumulative impacts are addressed.	1. Volume 1, Chapter 6 Flora Volume 1, Chapter 7 Aquatic ecology Volume 1, Chapter 8 Terrestrial fauna 2. Volume 1, Chapter 22 Offsets Volume 1, Chapter 23 Environmental Management Plan Volume 2, Chapter 14 Offsets 3. Volume 1, Chapter 19 Economics 4. Volume 2, Chapter 9 World Heritage properties and National Heritage places Volume 2, Chapter 10 Threatened species and ecological communities Volume 2, Chapter 11 Migratory and marine species 5. Volume 1, Chapter 21 Cumulative impacts	n/a
029.14		Introduced species	8.2.2.7 • Table 8-12 Introduced terrestrial fauna species	1. Unnatural water impoundments generally favour all or the listed feral species and put pressure on species adapted to the historical riverine system wets and drys. This increases competition and predation of native species and the EIS barely acknowledges the problem or suggests solutions.	Proponent to provide response	Pest and feral animal management is addressed in the draft EIS. Mitigation and management is proposed. – Weed management would be undertaken with reference to relevant Queensland and local government legislation, guidelines and plans including: LP Act; Plant Protection Act 1989; Biosecurity Queensland policies and guidelines; DAFF pest factsheets; RRC Pest Management Plan 2012-2016; and CHRC Draft Area Pest Management Plan 2014-2	Volume 1, Chapter 8 Terrestrial fauna, Section 8.3.8 Volume 1, Chapter 23 Environmental Management Plan, Sections 23.4.3 and 23.5.1	n/a
029.15		Terrestrial fauna - impacts	8.3 Potential impacts and mitigation measures - 8.3.1 Overview. • Activities associated with raising Eden Bann Weir and constructing Rookwood Weir have the potential to cause a number of direct and indirect impacts on local terrestrial fauna. • As the infrastructure already exists, potential impacts associated with raising Eden Bann Weir are likely to be lower in magnitude and significance than developing a greenfield site at Rookwood	1. Most of the EIS relates to limited standard wildlife risk practices and not to the much more difficult and probably unachievable flow diversion matters. Unless there is a requirement for impoundments to include bypass channels, rather than highly engineered locks or ramps project approval and completion should clearly acknowledge the seriousness of the ecological consequences. 2. The acknowledgment that the 'greenfield' site of Rookwood has a higher ,magnitude of impact is noted; this substantiates the concerns through this submission that if water security become a critical community survival issue it would be sensible to review the Fitzroy barrage and Eden Bann options on already highly modified section of river and areas that have at least gone through a period of some ecosystem stabilisation and adaptation, rather than the very large Rookwood component. (Have personally witnessed the effect of high rainfall, heavy localised storms and a moderate flow event on the alluvial soils at the junction of the Dawson-Mackenzie; the normally turbid waters turned to 'chocolate mousse' consistency, the perpetual inundation up to and beyond this junction has the potential to massively reduce water quality and increase soil loss along some of the more productive part of the lower catchment.	Proponent to provide response	1. Fishways and turtle ramps are designed in accordance with best available information and proposed to be implemented in conjunction with monitoring programs inclusive of adaptive management provisions. DAF and DEHP guidelines and recommendations have been considered and adopted as appropriate and are reflected in the proposed mitigation and management measures. As appropriate management plans are updated in the additional information to the draft EIS. 2. Assessment of alternatives considers storage from the Fitzroy barrage and Eden Bann Weir alone will not provide the volumes of water predicted to be required to achieve medium to long-term water security in the region.	1. Volume 3, Appendix X Fish passage technical report Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program 2. Volume 1, Chapter 1 Introduction, Sections 1.4 and 1.6	n/a

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029.16		Fauna injury and mortality	8.3.2 Individual fauna injury and mortality & 8.3.2.1 Potential impacts. • Fauna at particular risk of vehicle strike include the squatter pigeon, echidna and reptiles such as the black-headed python, carpet python and bearded dragon that commonly occur on tracks throughout the region. • Small terrestrial animals within the impoundments such as skinks, geckos, rodents and juvenile animals in nests or borrows, may be trapped by rising water and be injured or drowned • Vegetation is expected to re-establish on riverbanks at the full supply levels and loss of vegetation from within the impoundment (Section 8.3.4.2) will deter use of the impoundment for foraging and breeding by terrestrial fauna species. The water levels within the existing Eden Bann Weir impoundment already fluctuate due to seasonal variations in inflows and managed water extraction and this cycle will continue and is unlikely to have a notable long-term impact on terrestrial faunal assemblages upstream.	1. Fauna deaths from construction and initial filling while of concern probably is less of a species threat than the habitat loss and changes. 2. Vegetation adapted to certain soil types and moisture saturation and flow/flood patterns cannot be assumed to 're-establish on riverbanks at the full supply levels'. Many species are adapted to certain patterns and won't necessarily regenerate at all or in balance along a higher point in the river channel zone. This zone will also be reduced in width due to higher pondage water levels and trees can't 'migrate' onto natural river levees or the alluvial plain, not just because of soil/moisture types but by land use/grazing regimes which allow clearing of re-growth. 3. 'Tidal zones' of weirs and dams commonly become weedy, outcompeting or reducing recruitment of native trees and sedges; exotic grasses like Buffel, Guinea, Para, Hymenachne etc, will also reduce re-generation of a native tree line and add significantly to the 'hot' fire risk, potentially killing the few very old trees like paperbarks, which might survive more permanent root zone inundation. 4. The EIS does not appear to recognise the length of time a riparian corridor need to become a diverse stable community – i.e. beyond the estimated 100 year life of the weirs. If properly assessed and costed, a monitoring, mitigation or restoration program would add substantial costs to the Project.	Proponent to provide response	1. Noted. 2. and 4. Regeneration of the riparian areas is evident from the existing Eden Bann Weir and Fitzroy Barrage. 3. Weed and pest management plans are discussed in the draft EIS. Weed management would be undertaken with reference to relevant Queensland and local government legislation, guidelines and plans including: LP Act; Plant Protection Act 1989; Biosecurity Queensland policies and guidelines; DAFF pest factsheets; RRC Pest Management Plan 2012-2016; and CHRC Draft Area Pest Management Plan 2014-2	3. Volume 1, Chapter 23 Environmental management plan, Sections 23.4.3 and 23.5.1	n/a
029.17		Habitat degradation Habitat degradation continued	8.3.7 Degradation of habitat & 8.3.7.1 Potential impacts. Based on field observations, the largest contributors to habitat degradation within the Eden Bann Weir and Rookwood Weir study areas are historic land clearing associated with agriculture, livestock (within the riparian zone and in shallow water areas), feral animals (Section 8.3.8) and weeds. Construction activities have the potential to introduce and / or spread weeds, which can increase the edge effects associated with vegetation clearing. Generally, the landscape surrounding the site of Eden Bann Weir and Rookwood Weir is highly fragmented, and as such, isolated patches of vegetation are presently exposed to these processes. Earthworks and increased vehicle movements associated with construction activities at the weir site have the potential to exacerbate local levels of weed infestation.	1. The EIS acknowledges the legacy of land clearing in the study areas (though not necessarily the pertinent issues of whole of Basin clearing, a matter of clear focus by UNESCO World Heritage Committee, GBR Strategic Assessment and the various Reef rescue plans stemming from these) 2. Weed spread through construction while noted as a risk is insufficiently assessed long term. 3. Of note is the comment 'the landscape surrounding the site of Eden Bann Weir and Rookwood Weir is highly fragmented' 4. This necessitates a more thorough assessment of the viability of case for intensification of agriculture as part of the economic feasibility statements. Appendix B shows a brief analysis o f the study: Land suitability for irrigated agriculture along the Fitzroy River / B.A. Forster and M.A. Sugars 2000. https://publications.qld.gov.au/dataset/soils-lower-fitzroy-river-lfz 5. Only about 3% of the land in the area of study appears, without moderate, severe limitations, suitable for sustainable agriculture. Almost 180 000 Ha is classified by soil type 5 – 'unsuitable – extreme limitations'. 6. Work done by NRM and Landcare groups in the past 25 years have begun to improve soil health, ground cover and biodiversity conservation within the limits of rain fed grass fed grazing regimes. The Lower Fitzroy is capable of supporting both aims. The soil types and limitations raised by the Study: soil distribution and complexity, flooding, salinity, erosion, would appear to need considerable terra-forming, levelling, mixing, fertiliser and energy (diesel) to produce an economical feasible 'food bowl'. Even if this could be achieved and compete with more fertile areas closer to larger markets , there would need to be wholesale clearing and application of fertiliser. 7. The first of these will threaten the remnant habitat patches and corridors as well as add soil loss risks to the river and GBR. The second will exacerbate the risk of phosphate leaching into ground water and nitrogenous run-off into and beyond the estuary. 8. The best management and mitigation plans for the direct impact of the weirs cannot scratch the surface of the agricultural intensification risks. 9. Without fully assessing the direct and consequential economic and ecological costs of the aspect of LFIP, the business case has to stand or fall on the supplementary water supply for industrial and urban use.	Proponent to provide response Proponent to provide response	1. Noted. 2. Construction activities are managed by a construction environmental management plan that will be based on the project environmental management plan. Weed and pest management measures are included. Construction areas are proposed to be rehabilitated and reinstated and long-term impacts are not expected. 3. Noted. The Project area is highly fragmented as a result of existing land uses and not as a result of the project. 4. , 5 and 6. Agricultural development and investigations into soil suitability for agriculture is not the scope of the project. Various State and regional stakeholders, including the Growing Central Queensland Initiative have and are progressing analysis in this regard; refer to http://rdafcw.com.au/growing-central-queensland 7. and 8. Consequential impacts on MNES arising from potential agricultural development, including sediment and nutrient impacts on water quality, are addressed in the draft EIS in accordance with the ToR. Additional assessment and analysis is presented in the additional information to the draft EIS. 8. The project is proposed in the context of providing a solution towards regional water supply security. 9. Consideration of potential future industrial urban and agricultural activities is being considered. The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations.	2. Volume 1, Chapter 23 Environmental management plan, Section 23.4.3, 23.4.8 and 23.4.11 7. and 8. Volume 2, Chapter 12, Section 14.4.2	Chapter 8 Water quality, Section 8.2 Chapter 11 Consequential impacts Chapter 8 Water quality, Section 8.2 Chapter 11 Consequential impacts
029.18		Offset -financial	22.3.3.2 Financial offset proposal • Offsetting of impacts to aquatic habitat is proposed through the application of a financial offset.	1. A financial offset can only effectively be applied to research and improved monitoring / compliance situations. A loss of a major riverine habitat cannot be practicably offset and therefore loss should be avoided.	Proponent to provide response	The financial offset proposed is subsequent to the provision of mitigation and management measures being implemented.	n/a	n/a

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029.19		Economics	E3.16 • The economic assessment identified that the primary benefit of the Project is an increase in the availability of high priority (high reliability) water. Other benefits include the reduced need for water management and contingency strategies due to periods of supply shortfall and an increase in employment and use of local suppliers during construction. • The benefit cost analysis found that all the Project development stages that were considered provide a net gain to society. The benefit cost analysis includes costs associated with management, mitigation and offsetting environmental impacts associated with the Project. • An analysis against the core objectives and principles of ecologically sustainable development (ESD) demonstrates that the Proponents have incorporated sustainability considerations throughout planning and design phases and are committed to incorporating sustainability considerations in construction, operation and decommissioning of the Project. An iterative planning approach has been taken to the design and development of the Project, integrating both environmental and social considerations into decision making for the Project and supporting the objectives of ESD.	1. The EIS should more honestly and clearly that the high priority water is for industry and that the case for an agricultural corridor is like the landscape 'marginal' of with severe limitations. 2. Without considering the true value of a naturally* flowing river systems (* at least the loss of another 100k of an already segmented system) the statement about 'net gain to society' cannot be justified. 3. Iterative designs and adaptive management concepts give a false or misleading hope that should the ecological impacts prove greater than anticipated or the economics unstainable, the subsequent building of bypass channels to re-create a semblance of a natural system, or weir removal altogether are unlike to ever happen. 4. Even if they were removed or totally redesigned, it is probable that very long term changes will have happened to riverine and riparian habitats and potential pushed already vulnerable species like Rheodytes into extinction.	Proponent to provide response	1. The draft EIS is clear as to the use of water for industry as is clear through the Fitzroy WRP that provides for an allocation of 30,000 ML (of the 76,000 ML) being made available to GAWB for industrial purposes. Consideration of potential future industrial, urban and agricultural activities is being considered for the allocated 42,000 ML. The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations. 2. It is considered that the draft EIS and additional information presented provide a fair account of the existing environmental values of the project area and potential project impacts on these values are accurately reflected. Reasonable and practical mitigation and management measures, and where necessary offsets, are proposed and included within project costs. 3. and 4. The ability to adaptively manage, update designs and augment infrastructure are included in the SMP and have been discussed with DEHP. These measures are proposed in addition to the application of current best practice design and management mitigation and management measures being employed.	n/a	n/a
029.20		Agricultural development	19.3 Project benefits & 19.3.1 Increased ability to satisfy water demand. • High priority water will be sold primarily for industrial and urban/residential uses and potentially some agricultural development (These benefits will be realised once the development is complete (i.e. from Year 3 onwards). • During operations the availability of additional high priority water is expected to deliver regional benefits to business and industry. The rationale for the Project is to provide water security for urban growth and industrial development, plus potential for future agricultural development, which will provide an overall benefit for the region through business and employment opportunities and increased economic activity.	1. While industry is acknowledged as the primary user the statements about 'potential for future agricultural development' are highly speculative given the limitations noted previously	Proponent to provide response	Noted.	n/a	n/a
029.21		Ecology and environment impacts	19.3.5 Ecological and social impacts. • For the purposes of the economic assessment, the BCA does not: o quantify any additional impacts on the ecology and environment of the area, beyond those which have been avoided, mitigated, managed and/or offset (through measures such as the species management program (SMP) for the Fitzroy River turtle, the provision of fish passage and the provision of other environmental offsets) o Quantify any additional social impacts beyond those which have been avoided, mitigated, managed and/or offset (for example, implementation of indigenous cultural heritage management plans, upgrades to river crossings and roads, and compensation in relation to land impacts).	1. This is a fundamental (failure to quantify impacts on ecology and environment...). 2. The initial FIIS/FAP from 8-10 year ago costed new river crossing as being in excess of $8M (Riversleigh). LFIP adds replacing Glenroy and Foley vale, presumably included in the $400 000+ price tag, but does not add the cost of other infrastructure private and public investment necessary to make the agricultural corridor part of the business case meaningful.	Proponent to provide response	1. It is considered that project-related impacts and the necessary mitigation, management and offset requirements are addressed and included as project costs within the economic assessment in accordance with the ToR. 2. Agricultural development is not the scope of the project. Various State and regional stakeholders, including the Growing Central Queensland Initiative have and are progressing analysis in this regard; refer to http://rdafcw.com.au/growing-central-queensland	n/a	n/a

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029.22		Economics	19. Economics • Residual value 25 yr • The need to develop a strong, growing and diversified economy • The analysis of the core objectives and principles of ESD in demonstrates the Proponent's commitment to incorporate sustainability considerations throughout design, construction, operation and decommissioning of the Project. In conclusion, this EIS demonstrates that an iterative planning approach has been taken to the design and development of the Project, effectively integrating both environmental and social considerations into decision making for the Project and supporting the objectives of ESD.	1. Stanwell Power station water requirements use in 25 years?? ~ end of current engineered life span let alone alternative energy likelihoods – maybe the water and food security issues could be met from the (?) 2. Stanwell pipeline costs included (construction and operation) 3. Operating/pumping costs for industrial and urban supply as well as costs and maintenance of assumed agricultural users need more assessment) 4. Transition to sustainable industry agriculture urban consumption options for alternative water harvest and efficiency not explored 5. Risk that cost of water won't give Gladstone rind cost effective supply 6. Extreme risk that agricultural water will be too expensive and ecologically harmful (saline soils, limited patches, compared to potential for continued improvement in soil health and ground cover management compatible with nature conservation 7. Summary needs more substantiated beyond platitudes.	Proponent to provide response	1. The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations 2. Noted. 3. Not within the scope of the project. These elements have been included within the assessment undertaken for the GFP and would be included within assessments undertaken by others should such infrastructure be required. The project proposes supply of water through run-of river means for abstraction either direct from the impoundment or at the Fitzroy Barrage. Economic assessment considered appropriate for the purposes of the draft EIS. 4. Not within the scope of the Project ToR. Refer to 1. above. 5. Not within the scope of the Project ToR. GAWB has however undertaken separate analysis and assessment in this regard. Refer to http://www.gawb.qld.gov.au/cqrwss; http://www.gawb.qld.gov.au/strategic-water-plan1 6. Various State and regional stakeholders, including the Growing Central Queensland Initiative have and are progressing analysis in this regard; refer to http://rdafcw.com.au/growing-central-queensland. 7. Summary provides an overview of the outputs of the economic assessment and benefit cost analysis.	n/a	n/a
029.23		Biological diversity	Table 19 - 10 Comparative analysis of the NSED core objectives To protect biological diversity and maintain essential ecological processes and life support systems where there are: o threats of serious or irreversible environmental damage, o lack of full scientific certainty o should not be used as a reason for postponing measures to prevent environmental degradation	1. Aside from a brief mention about weirs enabling better 'environmental flow 'management, an (argument as fragile as the Fitzroy corridor soils) the project is difficulty to perceive as contributing to 'biological diversity and maintain essential ecological processes and life support systems' o If built and intensification of agriculture enabled the threats of serious or irreversible environmental damage would appear manifest. o Many of the studies are dated and limited in scope and validation so the case for 'full scientific certainty' has not been made 2. Offsets – riverine, riparian and specialised endemic species cannot be offset elsewhere or financially compensated for or tokenistic added to 'research and habitat restoration '	Proponent to provide response	The objective or guiding principle aims to 'protect biological diversity and maintain essential ecological processes and life-support systems'. The project environmental management plan identifies management and mitigation measures to protect biological diversity during the construction and operation phases of the Project. Where significant residual impacts have been identified offsets are proposed. In conjunction with the project environmental management plan, environmental flows will be maintained though water releases from the weirs. This will maintain river health.	n/a	n/a
029.24		Sustainable development	19.5 Sustainable development The three core objects of ESD, as outlined by the NSESD, are: o To enhance individual and community well- being and welfare by following a path of economic development that safeguards the welfare of future generations o To provide for equity within and between generations o To protect biological diversity and maintain essential ecological processes and life- support systems.	1. Alternatives to LFIP have not fully considered 2. 'Permanent' alteration of natural system inequitable –ignores precautionary principles 3. Permanent loss of unique habitat – biodiversity offsets/investments not feasible for the dissection of the last 100sk of largest river feeding GBR ecosystem.	Proponent to provide response	1. Alternatives to a strategic regional water supply solution have been investigated (CQRWSS) and project-specific alternatives have been considered and are reported in the draft EIS. 2. Securing a regional water supply together with mitigating and managing environmental impacts will facilitate that the project does not reduce or degrade the health, diversity and productivity of the environment or adversely affect current and future generations while provide opportunities for economic growth. 3. Refer to 029.23.	1. Volume 1, Chapter 1 Introduction Sections 1.4 and 1.6	n/a
029.25		Economic impacts	19.4.1 - Summary of economic impacts • Rookwood Stage 1 and the existing Eden Bann Weir stage 1 being considered the most preferred when considering only the provision of unallocated water held as strategic water infrastructure reserve, with this scenario delivering the highest NPV ($453,568,000) and BCR (3.10) • Rookwood Weir Stage 2 and Eden Bann Weir Stage 3 being the most preferred, when considering estimated theoretical high priority yields, delivering a slightly higher NPV ($912,907,000).	1. 'Natural values' (habitat, connectivity, Water Quality algal blooms weed control , GBR impacts) ignored or dismissed as negligible, or manageable 2. EIS needs to have independent analysis of minimal options (Eden Bann 2,3 alone, barrage enhancements, unallocated supply for other sources CSG RO, treated mine water, Paradise Dam under-utilised supply, other?) 3. Needs proof that the enhanced water security is absolutely necessary without the massive disturbance to natural system from Rookwood. Needs research into this. 4. Cost of increased emissions of Methane and Hydrogen sulphide from drowned vegetation and stagnant/slow flowing water. 5. Similarly to the officially dismissed scope three Greenhouse gas emissions for fossil fuel use, there should be at least an acknowledgement of the GHG impacts including +ve and –ve implications for soil carbon of the suggested industrial and agricultural end uses of water from the project.	Proponent to provide response	1. Environmental costs are included within the economic assessment. 2. The draft EIS addresses the project ToR. Consideration of project alternatives are discussed. 3. The need to secure a regional water supply is recognised (CQRWSS). The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations. 4. Addressed in the draft EIS. 5. The draft EIS has addressed the ToR.	2. Volume 1, Chapter 1 Introduction Sections 1.4 and 1.6 4. Volume 1, Chapter 13 Greenhouse gas emissions, Section 13.1.3	n/a

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029.26		Offsets - staging	22.3.3.3 Offset staging There is yet to be a decision on the order or composition in which the proposed developments will proceed.	1. Adds concern the draft EIS has been released to capitalise on anticipated creation of northern development funding sources	Proponent to provide response	The need to secure a regional water supply is recognised (CQRWSS). The staging of the project will allow flexibility to respond to changes in timing and demand growth. This will ensure that the infrastructure developed is sustainable in terms of performance (yield) and cost, inclusive of social, cultural and environmental considerations	n/a	n/a
029.27		Fitzroy River Turtle	22.4 Summary. A significant residual impact has been identified for the FRT	1. The risks even with research and nest protection programs for the Fitzroy River Turtle can in now effective manner counter the loss of the oxygenated pools/riffle zones lost to weir inundation over 100+ kilometres. 2. What practical steps and financial steps will be set aside in the event that weirs and subsequent agricultural water use indicates the species is being pushed towards extinction?	Proponent to provide response	Addressed in the draft EIS and further commitments included in the additional information to the draft EIS, including monitoring programs and allowances for adaptive management..	Volume 1, Chapter 7 Aquatic ecology Volume 1, Chapter 23 Environmental management plan Volume 2, Chapter 10 Threatened species and ecological communities Volume 2, Chapter 14 Offsets, section 14.3.3 Volume 3, Appendix M Fitzroy River turtle (Rheodytes leukops) species management program	Chapter 5 Fitzroy River turtle and white-throated snapping turtle Chapter 12 Environmental management plan Appendix E Fitzroy River turtle and white-throated snapping turtle species management program Appendix F Revised draft environmental management plan Appendix G Offset proposal for the Fitzroy River turtle and white-throated snapping turtle
029.28		Regulated vegetation	22.4 Summary. Whilst impact to a second matter, regulated vegetation, will occur, the prescribed activity is exempt and an authority is not required. As such a condition requiring an offset cannot be applied under the EO Act in this regard.	1. Refer to regulated vegetation maps and impossibility of replicating soil type and surface, subsurface water/moisture, nutrient and associated complementary floral and faunal diversity to offset loss. The exemption of the prescribed activity needs further explanation and legal / policy clarification or change. Refer to Map Appendix C showing regulated vegetation within or immediately adjacent to much of the proposed Weirs inundation zone. A similar pattern (though already modifies by the existing inundation is mapped for the Eden Bann area.	Proponent to provide response	Legal obligations are addressed in the draft EIS and offsets as necessary and applicable are included. Community infrastructure designation provides for exempt development and is addressed in the additional information to the draft EIS.	Volume 1, Chapter 3 legislation and project approvals, Sections 3.3.18 and 3.3.21	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.4
	The Capricorn Conservation Council provided documentation (and a map) attached to their submission which consisted of; CCC's submission on the Agricultural Competitiveness Green Paper submitted on 12/12/2014 (Appendix A), Land suitability for irrigated agriculture along the Fitzroy River 'pie chart' (Appendix B) and a map showing the regulated vegetation of the Rookwood area (Appendix C).					Noted. Not within the scope of the project ToR.	n/a	n/a
0.30.01	Department of Education & Training (Training and Skills Investment)	Social - Workforce and Procurement	The Queensland Government's Building & Construction Training Policy requires that all Queensland Government agencies (including Government owned corporations and Statutory Bodies) apply the Queensland Government Building and Construction Training Policy to eligible infrastructure projects.		Proponent to note	Noted.	n/a	n/a
0.30.02		Social - Workforce and Procurement	DET maintains a register of indigenous owned businesses delivering services across Queensland called the Black Business Finder.		Proponent to note	Noted.	n/a	n/a
031.01	WWF - Australia	General comment	The proposal and associated documentation do not meet current standards for good water infrastructure planning and management, nor do they meet government legislative and policy requirements. Courts have recently overturned development decisions due to failures to meet legislative requirements. To avoid a similar situation occurring, WWF-Australia recommends the issues highlighted in this submission are fully addressed before assessment of the proposed LFRIP proceeds further.	The draft EIS for LFRIP is significantly deficient and fails to comply with legislative and policy requirement of both the Australian and Queensland Governments. The draft EIS should be rejected. It will require substantial amendment to fully identify impacts and set out means to ensure these impacts will be managed to achieve a net benefit to the Great Barrier Reef as a matters of national environmental significance, as well as to its Outstanding Universal Value.	Proponent to note	Noted.	n/a	n/a
031.02		Net benefit failure	Under the Reef 2050 Long Term Sustainability Plan (Reef 2050) and the GBR Strategic Assessment Program, the Queensland and Australian Governments have committed to implementing a wide range of actions to address UNESCO's concerns regarding the declining condition of the Great Barrier Reef World Heritage Area (GBRWHA). One of the key Queensland and Australian Government commitments under these initiatives to address UNESCO 's concerns is to ensure that development actions in Reef catchments deliver a 'net benefit' the Great Barrier Reef (Reef 2050: EHA8, EHT4 and EBT3) "to enhance the condition of matters of national environmental significance, including the Reef s Outstanding Universal Value". Despite this clear commitment, the proponent has failed to demonstrate in the EIS how the proposed project will provide a net benefit that enhances the condition of MNES and the OUV of the Great Barrier Reef World Heritage Area. The requirement for development projects to deliver a net benefit to enhance the condition of the OUV of the GBRWHA is demonstrated in the recent approval under the EPBC Act of the AQUIS development project near Cairns (EPBC 2014/7169).	To comply with government commitments and policy settings, the proponent must demonstrate that the LFRIP will provide a net benefit that enhances the condition of MNES and the OUV of the GBRWHA.	Proponent to provide response	Potential impacts on and to the GBRWHA are addressed in the draft EIS, including mitigation and management measures to protect ecosystem health and considers cumulative effects.. Further assessment of potential project impacts as relevant to the Reef 2050 Plan and is provided in the additional information to the draft EIS together with environmental management measures.	Volume 2, Chapter 9 World Heritage properties and National Heritage places Volume 2, Chapter 12 Cumulative and consequential Volume 2, Chapter 13 Environmental management system	Chapter 8 Water quality, Section 8.2 Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan

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031.03		Consequential impacts assessment Consequential impacts assessment continued	In 2003 and 2004, the approval of the Nathan Dam on the Dawson River in Central QLD under the EPBC Act 1999 was overturned by the Courts because the Minister had not considered the consequential impacts to the GBR from the use of water provided from the dam. If constructed, water supplied from the Nathan Dam would have been used for industrial, urban and agricultural purposes, including irrigating approximately 30,000 hectares of land in the lower Dawson River catchment. The EPBC Act has since been amended to reflect the Nathan Dam decision under section 527E of the Act, which requires the impacts arising from an indirect consequence of an action to be fully considered when the development action is being assessed for approval (legal advice for further information is attached to this submission). Given the similarities between the proposed Nathan Dam and the LFRIP in that both projects will provide water for industrial, urban and agricultural purposes, it is very concerning that the consequential impacts potentially caused to the GBR by the use of water provided by the LFRIP has not been fully considered in the EIS - particularly as the LFRIP is located much closer to the GBR coastline than the proposed Nathan Dam. Therefore, there is a significant risk that the use of water provided by the LFRIP will potentially cause consequential impacts to the OUV of the GBRWHA, which needs to be fully considered in the projects EIS. Also under the Reef 2050 Long Term Sustainability Plan (2050 LTSP) and the GBR Strategic Assessment Program, the Queensland and Australian Governments have committed to ensuring that the potential direct, indirect and cumulative impacts potentially caused to the OUV of the GBRWHA by development projects in and adjacent to the GBRWHA will be fully assessed in the Environmental Impact Statements (EIS) of development projects.	To provide guidance to the assessment of direct, indirect and cumulative impacts to the GBRWHA, the Australian Government Department of Environment in collaboration with the CSIRO, GBRMPA and AIMS developed the 'Framework for understanding cumulative impacts, supporting environmental decisions and informing resilience based management of the Great Barrier Reef World Heritage Area'. In particular, the proponent has failed to properly assess direct, indirect and cumulative impacts potentially caused by: • The degradation of catchment functions and ecosystem services in the lower Fitzroy River catchment that protect and maintain the OUV of the GBRWHA • The use of 42,000 ML of water provided by the project that may potentially be utilized to increase irrigated and intense agricultural production in the lower Fitzroy River Catchment, which will potentially cause further degradation of water quality in the GBR from increased sediment and nutrient pollution • The use of water for industrial purpose in the Gladstone region The Queensland Government's LFRIP EIS media release stated 'the Coordinator-General's evaluation of the project's EIS will take into account the Palaszczuk Government's new targets for nitrogen reduction and sediment run-off in Great Barrier Reef catchments'. The EIS clearly fails to do this. To meet the Queensland Governments nitrogen and sediment reduction targets, the LFRIP EIS must assess the potential nitrogen and sediment loads resulting from the land uses supported by water provided by the project. The EIS should also contain specific mechanisms that will enable a net benefit for water quality to be achieved. All consequential and cumulative impacts should be assessed and addressed to achieve a net benefit.	Proponent to provide response	Consequential and cumulative assessment was undertaken for the Project and reported in the draft EIS. Further assessment regarding quantification of potential impacts from facilitated agricultural development are included in the additional information to the draft EIS.	Volume 2, Chapter 9 World Heritage properties and National Heritage places Volume 2, Chapter 12 Cumulative and consequential	Chapter 11 Consequential impacts
031.04		Greenhouse gas	Although the proponent has acknowledged that methane will be released to the atmosphere as the vegetation that is inundated by the LFRIP decomposes, it appears the proponent has not incorporated these emissions in the projects greenhouse gas emissions assessment. The emissions arising from consequential land uses must also be assessed and addressed.	The proponent must be required to assess the volume of GHG emissions that will be released from the decomposition of vegetation that has been inundated by the project.	Proponent to provide response	A greenhouse gas assessment in accordance with regulatory requirements is provided in the draft EIS. Scope 3 greenhouse gas emissions are not required to be assessed.	Volume 1 Chapter 13 Greenhouse gas emissions	n/a
	NB: WWF provided an Addendum to its submission to the Coordinator-General on 10.09.2015 and the contents of the Addendum revealed the following:							

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031.05A		General comment	In the draft EIS, the proponent of the LFRIP has failed to properly assess cumulative and consequential impacts potentially caused to environmental values, the GBRWHA and other MNES.	The Addendum provides a background where, under the Terms of Reference for the LFRIP EIS, makes reference to; Part B s9.1, Part C s1.51 and Part C s1.5 and the requirements what the proponent is required to address.	Proponent to note	Noted.	n/a	n/a
031.06A		Consequential impacts assessment	Issues the proponent has not adequately addressed in the draft EIS includes: Failure to properly assess consequential impacts to MNES from using water provided by the project for agricultural purposes. Although required under Part C section 1.5 of the ToR to provide a detailed assessment of the likely impacts to MNES and water quality from using water for agriculture purposes, the proponent has instead only provided a generalised statement in the draft EIS that the risk of impacts to MNES from agriculture will be low, which the proponent states is due to the adoption of improved agricultural practices, licencing requirements for intensive animal industries and that agricultural projects potentially impacting MNES will be assessed under the EPBC Act.	Given the adoption of agricultural BMP programs are voluntary, the proponents assumption that uptake of agricultural BMPs will minimise the risk of consequential impacts occurring to the GBRWHA and other MNES from the use of water provided by the LFRIP is incorrect. Due to this, the proponent must be required to provide a detailed assessment of the consequential impacts to MNES and other environmental values that may potentially occur from utilising 42,000 Ml of water for agricultural purposes in the lower Fitzroy River catchment.	Proponent to provide response	Consequential and cumulative assessment was undertaken for the Project and reported in the draft EIS. Further assessment regarding quantification of potential impacts from facilitated agricultural development are included in the additional information to the draft EIS.	Volume 2, Chapter 9 World Heritage properties and National Heritage places Volume 2, Chapter 12 Cumulative and consequential	Chapter 11 Consequential impacts
031.07A		Cumulative impacts - water quality	Issues the proponent has not adequately addressed in the draft EIS includes: Failure to properly assess cumulative impacts to water quality. Under Part B section 9.1 of the ToR, the proponent is required to assess the cumulative impacts to environmental values that may occur as a result of the LFRIP in combination with impacts caused by existing or other proposed projects. While the proponent has provided some information about potential cumulative impacts in Chapter 12 of Volume II of the draft EIS, it has not provided any information regarding the cumulative impacts potentially caused to water quality in the lower Fitzroy River catchment and the GBRWHA as a result of the construction, operation and use of water provided by the LFRIP in combination with other water quality impacts caused by the construction, operation and use of water from existing and proposed development projects located throughout the Fitzroy Basin.	For example, the proponent has failed to quantify the cumulative impacts to water quality that will potentially be caused by the LFRIP in combination with: - Increased storm water runoff from urban expansion areas - Waste water and toxic legacy floodwater discharged from mine sites - Alteration of catchment hydrology caused by diverting waterways and disturbing groundwater systems by mining operations - Increased sediment and nutrient pollution resulting from agricultural expansion supported by other proposed water storages - Reduced water availability due to climate change In addition, the proponent has also failed to assess the potential cumulative impacts caused to water quality by the LFRIP against relevant baselines such as the Environmental Values and Water Quality Objectives for the Fitzroy Basin under the Environmental Protection (Water) Policy 2009 and the water quality targets contained in the Fitzroy Basin NRM Plan.	Proponent to provide response	Potential impacts on and to the GBRWHA are addressed in the draft EIS, including mitigation and management measures and consideration of cumulative effects. Further assessment of potential project impacts as relevant to the Reef 2050 Plan is provided in the additional information to the draft EIS together with environmental management measures.	Volume 1, Chapter 11 Water quality Volume 2, Chapter 9 World Heritage properties and National Heritage places Volume 2, Chapter 12 Cumulative and consequential Volume 2, Chapter 13 Environmental management system	Chapter 8 Water quality, Section 8.2 Chapter 11 Consequential impacts
031.08A		Compliance with government commitments	Failure to comply with government commitments to UNESCO. Under the Reef 2050 Long Term Sustainability Plan (Reef 2050) and the GBR Strategic Assessment Program, the Queensland and Australian Governments have committed to implementing a wide range of actions to address UNESCO's concerns regarding the declining condition of the GBRWHA.	One of the key Queensland and Australian Government commitments under these initiatives is to ensure that development actions within and in adjacent catchments deliver a 'net benefit' the Great Barrier Reef (Reef 2050: EHA8, EHT4 and EBT3), which will enhance the condition of MNES, including the Outstanding Universal Value of the GBRWHA. Despite this clear commitment, the proponent has failed to demonstrate in the EIS how the LFRIP will provide a net benefit that will enhance the condition of the OUV of the GBRWHA and other MNES.	Proponent to provide response	Potential impacts on and to the GBRWHA are addressed in the draft EIS, including mitigation and management measures to protect ecosystem health and considers cumulative effects.. Further assessment of potential project impacts as relevant to the Reef 2050 Plan and is provided in the additional information to the draft EIS together with environmental management measures.	Volume 2, Chapter 9 World Heritage properties and National Heritage places Volume 2, Chapter 12 Cumulative and consequential Volume 2, Chapter 13 Environmental management system	Chapter 8 Water quality, Section 8.2 Chapter 12 Environmental management plan Appendix F Revised draft environmental management plan
032.01	Department of Natural Resources & Mines	Land	Volume 1, Chapter 5 – Land, Section 5.3.2.2 Geology, Regional geology and Figure 5-8 (Regional Geology) As Figure 5-8 does not feature lithology, just age date codes in legend, the information displayed on the map does not link to the rock unit names and lithology used in the text.	Re-do map with lithology or rock unit name in legend. Suggest simplifying the map as the 17 Permian units with the same shade of blue is confusing.	Proponent to provide response	Revised mapping provided in the additional information to the draft EIS.	n/a	Chapter 4 Land, Section 4.1
032.02		Land	Volume 1, Chapter 5 – Land, Figure 5-23 (Eden Bann Weir Exploration Permits for Minerals) Eden Bann Weir inset box EPM number is hard to locate when over the impoundment area on northern bank of river.	Suggest moving the label for EPM 19439 slightly north of current location so easier to identify and read.	Proponent to amend	Revised mapping provided in the additional information to the draft EIS.	n/a	Chapter 4 Land, Section 4.1

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032.03		Project description - gauging stations	Volume 1, Chapter 2 – Project Description, Section 2.3.3.3 Gauging stations and monitoring weirs The EIS states: "SunWater's existing stream gauging station at The Gap (Figure 2-2) will be inundated by the weir reservoir as a result of raising Eden Bann Weir for the Project. The station would require reinstatement and recalibration." The Department of Natural Resources and Mines (DNRM) own and operate existing stream gauging station at The Gap GS 130005A, not SunWater. The EIS states that inundation of the existing stream gauging station would not occur until stage 2 construction is finalised. DNRM suggests the addition to this paragraph that the station could remain operational until stage 2 is complete.	Update the EIS to refer to the DNRM owned gauging station. Suggest including the following: "The station would require reinstatement and recalibration, however it could remain operational until the Eden Bann Weir Stage 2 is implemented."	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.5
032.04		Project description - gauging stations	Volume 1, Chapter 2 – Project Description, Section 2.3.3.3 monitoring weirs The EIS states: "An existing Department of Natural Resources and Mines (DNRM) stream gauge is located upstream of the proposed Rookwood Weir site at the Riverslea Road river crossing (Figure 2-6). This gauge will be inundated as a result of construction and will require reinstatement or relocation and recalibration. Minor works are required approximately 700 m downstream of Rookwood Weir for the construction of a new monitoring weir. The monitoring weir is proposed to be located on a natural rock bar and is designed so as not to impede fish passage. A new gauge downstream of Rookwood Weir is proposed at the same location as the monitoring weir." It would be beneficial for data continuity for the Riverslea GS 130003A that construction and installation of the replacement gauge occur prior to construction of Rookwood Weir. The EIS states that inundation of the existing stream gauging station would not occur until stage 2 construction is finalised. DNRM suggests the addition to this paragraph that the station could remain operational until stage 2 is complete.	To maintain data continuity for the Riverslea GS 130003A, construction and installation of the replacement gauge occur prior to construction of the Rookwood Weir. Suggest including the following in the paragraph: "The existing Riverslea GS 130003A could remain operational until Rookwood Weir Stage 2 is implemented."	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.5
032.05		Legislation	Volume 1, Chapter 9 – Surface Water Resources, Section 9.1.2.1 Overview The EIS states: "Fitzroy Basin Resource Operations Plan (as amended October 2011 and as amended September 2014) (Fitzroy ROP)" This reference is incorrect.	Amend the EIS: Fitzroy Basin Resource Operations Plan September 2014.	Proponent to amend	The project assessment period has utilised a number of versions of the Fitzroy ROP. Appropriate dates are thus included in the reference as considered relevant.	n/a	n/a
032.06		Surface water - subcatchment areas	Volume 1, Chapter 9 – Surface Water Resources, Figure 9-1 The subcatchment areas do not correctly match the Fitzroy Water Resource Plan Schedule 2 defined sub catchment areas. This may lead to potential confusion if it was intended to match WRP defined subcatchment areas.	Amend Figure 9-1 to correctly reflect the sub catchment areas as defined in Schedule 2 of the Fitzroy Water Resource Plan.	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.1
032.07		Surface water - WASOs	Volume 1, Chapter 9 – Surface Water Resources, Section 9.1.2.2 Water Resource (Fitzroy Basin) Plan 2011 The EIS states: "Performance indicators for WASOs and EFOs are defined at nodes within the Fitzroy WRP plan area." WASOs are not defined at nodes but by water allocation priority for supplemented and by water allocation groups (WAGs) for unsupplemented water allocations.	Amend the EIS to reflect this issue.	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.1

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032.08		Surface water - WASOs	Volume 1, Chapter 9 – Surface Water Resources, Section 9.1.2.2 Water Resource (Fitzroy Basin) Plan 2011 The EIS States: "WASOs for water allocations per water allocation group in the Fitzroy Water Management Area are listed in Table 9-1." These are unsupplemented water allocations.	Amend the EIS: "WASOs for unsupplemented water allocations per water allocation group in the Fitzroy Water Management Area are listed in Table 9-1".	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.1
032.09		Surface water - EFOs	Volume 1, Chapter 9 – Surface Water Resources, Section 9.1.2.2 Water Resource (Fitzroy Basin) Plan 2011 The EIS States: "The performance indicators for the EFOs specified in the Fitzroy WRP are:" This definition could be improved by making reference to Node 0.	Amend the EIS: "The performance indicators for the EFOs specified in the Fitzroy WRP for Node 0 are:"	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.2
032.10		ROP - operational rules	Volume 1, Chapter 9 – Surface Water Resources, Section 9.3.2.4 Water allocation security objectives The EIS States: "Since changes to existing operational rules are also likely to be required, a ROP amendment will be sought, again requiring compliance with WRP objectives." A ROP amendment is a requirement following construction of a weir and/or upgrade.	Amend the EIS: "A ROP amendment will be required due to changes to existing operational rules. Amended operational rules will be required to meet WRP objectives."	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 13 Project commitments Appendix D Revised project commitments
032.11		Surface water - flow regimes	Volume 1, Chapter 9 – Surface Water Resources, Section 9.3.2.4 Water allocation security objectives The EIS States: "Low flow or no flow (waterholes) entitlements have the potential to be impacted as a result of the project, both upstream and downstream of the weirs. It is likely that changes to stream flow regimes will alter the ability of these users to extract water under the existing licence conditions. It is acknowledged that this impact will be addressed in the amended Fitzroy ROP. It is envisaged that individual negotiations will be undertaken between the proponent and entitlement holder once the Project receives a trigger and a development scenario is determined. The negotiations will be based on the voluntary purchase/sale of entitlements and will consider the inclusion of options for the provision of an alternative water supply. Proposed arrangements will be submitted to the State for review and approval." The statement that likely changes to stream flow regimes will alter the ability of users to extract water under existing licence conditions is incorrect. This statement should reflect existing water sharing rules as defined in the ROP, instead of existing licence conditions. The statement that the impact to existing licence conditions addressed in the amended Fitzroy ROP is not considered appropriate and should be removed. It considered necessary that the proponent engage with DNRM prior to negotiations with low flow entitlement holders and during development of proposed arrangements particularly if a new water product/allocation is proposed to ensure that the proposed arrangements can fit within the regulatory framework at the time.	Amend the EIS as follows: "Low flow or no flow (waterholes) entitlements have the potential to be impacted as a result of the project, both upstream and downstream of the weirs. It is likely that changes to stream flow regimes will alter the ability of these users to extract water under the existing ~~licence conditions~~ water sharing rules as identified in the ROP. ~~It is acknowledged that this impact will be addressed in the amended Fitzroy ROP.~~ It is envisaged that individual negotiations will be undertaken between the proponent and entitlement holder once the Project receives a trigger and a development scenario is determined. The negotiations will be based on the voluntary purchase/sale of entitlements and will consider the inclusion of options for the provision of an alternative water supply. Proposed arrangements will be submitted to the State for review and approval prior to negotiations commencing to ensure that any arrangements are within the current regulatory framework."	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.1
032.12		Land tenure	Volume 1, Chapter 3 Legislative and project approvals Table 3-7 Land tenure is required to be in place prior to development approval and construction.	Insert requirement to obtain tenure, including applying for Land Act 1994 tenures prior to development or construction in Table 3-7.	Proponent to amend	Amendments included in the additional information to the draft EIS.	n/a	Chapter 13 Project commitments Appendix D Revised project commitments
032.13		Compensation	Volume 1, Chapter 2 Project description Intended tenure holder and any intention to compensate landowners is unclear.	Include information on the tenure holder for the water storage infrastructure and inundation areas, and any intention to compensate landowners as part of acquiring the tenure (by agreement or otherwise).	Proponent to amend	Land tenure and compensation are discussed in the draft EIS. Clarification is provided in the additional information to the draft EIS.	Volume 1, Chapter 5 Land, Sections 5.5.2.1, 5.5.2.2, 5.5.3.1 and 5.5.3.2	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised project commitments

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Sub and Issue No.	Submitter	Issue - Category	Issue - Details	Submitter Recommendations / Suggested Mitigation	Direction to Proponent	Proponent response	Relevant draft EIS chapter and section	Relevant AEIS report chapter and section
032.14		Vegetation management	At present the proposal does not appear to be exempt development. The EIS states that Stage 3 of Eden Bann Weir will inundate 1690 ha and Stage 2 of Rookwood will inundate 1930 ha. The Report states that storage water will be contained within the bed and banks. It is uncertain at this point what vegetation if any will need to be cleared along the Fitzroy, Dawson and McKenzie rivers. Much of the mapped Category B over the river itself appears to only cover water or sand. In places these un-vegetated areas are up to 80 metres wide. If the project is not considered exempt, then any clearing of vegetation, including inundation will require an operational works permit for the clearing of vegetation. Operational works are required to be assessed against the State Vegetation Management State Code (SVMSC). Eden Bann Weir When viewing the Regulated Vegetation Management map (RVM) on Google Globe, most of the bed of the river is mapped as Category X with only a small area mapped as least concern 11.3.25 at the 170 km point (upstream of the ocean. There are significant areas of Category X along the banks but along the majority of the Fitzroy river there is a narrow strip (100 metres wide in places) of Category B vegetation. Therefore if the Eden Bann project floods any of the bank vegetation then there will be a potential requirement to provide offsets for the clearing of watercourse vegetation, endangered and of concern vegetation and essential habitat (EH). Mapped essential habitat is present at the Weir site.	In summary: If the project is required to be assessed against the SVMSC then the proponents must provide accurate details of the projects inundation footprint so that the extent of clearing can be determined.	Proponent to provide response	Clearing extents are provided in the draft EIS. Clarification on the proposed CID status is provided in the additional information to the draft EIS. Assessment against SVMSC is not required.	Volume 1, Chapter 6 Flora, Section 6.3.2	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.4
		Vegetation management (continued)	Rookwood Weir When viewing the RVM on Google Globe, some of the bed of the river is mapped as Category X but much of the bed is mapped as Of concern Category B vegetation. There is a small area of vegetation mapped as EH and endangered Category B vegetation. Therefore if the Rookwood project floods any of the bank vegetation then there will be a potential requirement to provide offsets for the clearing of watercourse vegetation, endangered and of concern vegetation and essential habitat (EH). Any vegetation clearing within the bed of the river where mapped as Category B will also be assessed. There are some small areas mapped as wetlands – if these areas are inundated, then an offset is likely to be required. Designation as Community Infrastructure SunWater and Gladstone Area Water Board may be able to undertake the formal designation process to have the Lower Fitzroy Infrastructure Project designated as a community project. Chapter 5 of the Sustainable Planning Act 2009 – section 201 states that 'Land may be designated for community infrastructure only if the Minister or local government is satisfied the community infrastructure will facilitate the implementation of legislation and policies about environmental protection or ecological sustainability'. If the project is not designated by DILGP, then the clearing of Category B vegetation will not be exempt and the project will have to be assessed against the SVMSC.		Proponent to provide response (continued)			
033	Private submitter 11	General comment	Cattle bogging, loss of access, difficulty pumping water, loss of country & fencing difficulty.		Proponent to provide response		Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments

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034	Private submitter 12	Potential flooding	I have been unable to assess the impact either positive or negative upon my property "Jaffra", Jackson Road, Gogango, described as portion 89 as I have not been able to determine from the maps available as to the level of flooding upon my property which comprises significant improved pastures and fertile farming.	I do not consider the project has had sufficient consultation to enable meaningful submissions to be made.	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Consultation for the project has been ongoing since 2008. Further updates are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18 Appendix F Consultation report	Chapter 2 Consultation, Section 2.6 Chapter 4 Land, Section 4.2.2 Chapter 13 Project commitments Appendix D Revised Project commitments
035.01	Private submitter 13	Access	I am writing regarding the LFRIP, in particular the 'Rookwood Weir' stage one. Firstly congratulations on the progress so far on such a beneficial project. The positive impacts of this project are enormous and wide reaching for the local, state and federal economy across a broad range of industries. I am concerned, and have raised the issue of access with Geraldine Squires (PEC GHD).	Our cattle grazing business and home, is located on the northern side of the Mackenzie River with our main access via the Foleyvale crossing on the Apis Creek Road. As you are aware this crossing is frequently submerged for extended periods, and is understandably a great impost to our business and personal lives. My concerns are that the proposed Rookwood Weir would exacerbate this problem and not be addressed until stage two is completed. The impacts would be felt from stage one completion.	Proponent to provide response	Land use and potential Project impacts on the use of rural land for rural purposes was addressed in the draft EIS, including proposals to enter into negotiations with impacted landholders with regard to specific impacts on their individual properties. Further updates, including clarification regarding Foleyvale Crossing) are provided in the additional information to the draft EIS.	Volume 1 Chapter 5 Land, Section 5.5.3.2 Volume 1 Chapter 18	Chapter 4 Land, Section 4.2.2 Chapter 10 Transport, section 10.2.1 Chapter 13 Project commitments Appendix D Revised Project commitments
035.02		Bridge infrastructure	I note in the current EIS that there is no proposed higher level bridge for the Foleyvale Crossing for stage two development. I also note that there is a proposed high level bridge across the Fitzroy at Riverslea for stage one.	Could I suggest that there is no need for two high level bridges in such close proximity. If the Riverslea Bridge was made to satisfactory standard (two lanes instead of one) and the current local council (Stoney Creek Road) linking the Riverslea crossing to the Apis Creek Road had some upgrading, there would be no need for a high level crossing at Foleyvale. The reduced construction costs, and long term synergies this proposal creates offer considerable positives to all parties concerned. I urge you to strongly consider the merits.	Proponent to provide response	Noted. The proposed Foleyvale deck level determined accommodates a raised Rookwood Weir Stage 2 development and would not require additional upgrading for a potential second stage development.	n/a	n/a
036.01	Private submitter 14	Water allocation viability	We hold a 1 378 megL water allocation in Zone B of the Lower Fitzroy Water Supply Scheme to which we purchased with the property, 'Lake Learmonth' in 2006. It is our understanding that the scheme was set up following the building of the EBW for the purpose of supplying water to the Stanwell Power Station. Prior to the Weir being built, the water was available (un-supplemented) from a natural permanent supply in the river. We have done extensive trials on our property in an attempt to utilise the water. As a result, we found that the soils low fertility and sandy nature are unsuitable for any viable agricultural purposes. Consequently, no water has been pumped since 2007. The isolation from other irrigation areas also creates problems for agronomy, vermin control and contracting. The position we find ourselves in is that we have a large allocation that is unviable to use, unable to be traded or sold nor be surrendered leading to an ever increasing financial burden.	Sun water's annual allocation charge at the time of purchase in 2006 was $344.50 ($0.26 per ML per year) and is now $16 508.44 per annum ($11.98 per ML per year). We are concerned that the creation of further water storages on the lower Fitzroy (namely Eden Bann and Rookwood) will see other current un-supplemented allocation holders charged with similar fees to those imposed upon us.	Proponent to provide response	Noted. Clarification on water allocations and entitlements relative to the project are provided in the additional information to the draft EIS.	n/a	Chapter 7 Surface water resources, Section 7.1 Chapter 13 Project commitments Appendix D Revised project commitments
036.02		Agriculture - water usage	The allowance for mines to discharge surplus water into the river has had an impact on stock consumption. A number of graziers along the river have noticed stock water consumption reduced in comparison to when dams, lagoons or bore water is made available. Our off-stream stock water is sourced from a lagoon with plans to ensure all livestock have sole access to this source in due course. The use of river water for irrigation purposes is currently not satisfactory or economically viable; and the act of damming water which has been disposed of by mines upstream will further compound the present situation for agricultural purposes. At present, there are approximately 12 pivots on the entire Fitzroy River that are currently not in use.	When mines are closed in years to come, open cut mines will see overflow entering the catchment and further polluting the river. The current penalties placed on companies are seen as far too lenient and an easy option in comparison to treating water before placing into the open water source. The additional storage of water on the lower Fitzroy will not see a direct increase in interest in agriculture as is already evident by the amount of water presently available but unused.	Proponent to provide response	Noted.	n/a	n/a

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037.01	Department of Energy and Water Supply	Water allocation and security objectives	Vol 1, s9.3.2.4 - Surface Water Resources - Water allocation & security objectives (p9-40). The last 2 sentences of the 4th paragraph on p9-40 read: "further modelling will be undertaken once development of a specific infrastructure scenario is triggered to assess project yields against the performance of supplies delivered by the existing infrastructure. The project is committed to maintaining existing supply reliability for current water allocation licensees." It is important to acknowledge that: • water infrastructure, such as RRC's Fitzroy Barrage, may have been developed enabling water supply with performance better than the WASO. • It is understood that the project is expected to be operated in conjunction with the existing water infrastructure, including Council's Fitzroy Barrage. •The yield for the project should be generated wholly by the proponent's infrastructure. These 2 sentences of the 4th paragraph referred to above are part of a paragraph that starts discussing unsupplemented entitlement performance whereas the sentences are considered to apply primarily to the performance of existing supplies from the current EBW and Fitzroy Barrage.	These 2 sentences: 1. should appear as a new and separated paragraph in this s9.3.2.4 2. include specific reference to the existing EBW and Fitzroy Barrage and 3. refer to the generation of the additional yield of the project wholly by the proponent's infrastructure. For example: "Further modelling will be undertaken once development of a specific infrastructure scenario is triggered to assess project yields against the performance of supplies delivered by the existing EBW and Fitzroy Barrage. The project is committed to maintaining existing supply reliability for current water allocation licensees and ensuring that the additional yield for the project is wholly attributable to the new infrastructure."	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 13 Project commitments Appendix D Revised project commitments
037.02		Operational arrangements	Vol 1, s9.4.4.2 - Surface Water Resources - Operations (9-67) The last 2 sentences of the 4th paragraph read: "Since changes to existing operational rules are also likely to be required, a ROP amendment will be sought, again requiring compliance with WRP objectives." This additional work to develop operational rules may need to also consider the performance of supply provided by the existing EBW and Fitzroy Barrage.	These 2 sentences could appear as the last paragraph in this section (9.4.4.2) and should include reference to the existing EBW and Fitzroy Barrage for example: "Since changes to existing operational rules are also likely to be required, a ROP amendment will be sought, again requiring compliance with WRP objectives, and recognising the capability of the existing water supply infrastructure in any conjunctive operational arrangements."	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 13 Project commitments Appendix D Revised project commitments
037.03		Legislation	Vol 1, sE1.5 - Executive Summary - Regulatory framework and EIS process (pE-8) The final sentence of the 1st paragraph does not reference the Water Supply (Safety & Reliability) Act 2008 (WS(S&R)Act).	The WS (S&R) Act 2008 should be added to the list of legislation administered under the IDAS framework.	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3
037.04		Legislation	Vol 1, s3.3.24 - Queensland Legislation (WS[S&R]Act). 1. s3.3.24 attempts to summarise the WS(S&R)Act requirements. However, it omits a section very relevant to this case. Section 340 states: This chapter does not apply to- (a) A hazardous waste dam; or (b) A weir that does not have a variable flow control structure on the crest of the weir. This means any of the Act's provisions only apply for stages where gates are to be added to the crest of the weir i.e. EBW stage 3 and RW Weir stage 2.	Include this exclusion in the EIS.	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3
037.05		Legislation	Vol 1, s3.3.24 - Queensland Legislation (WS[S&R]Act). 2. This section does not follow the flow of how the Act is applied which takes away from the ability to easily understand the legislation.	This section of the EIS would follow much better if after noting the above exclusion it next went through what a FIA is(an assessment of the number of people whose safety would be at risk if the dam failed), and when one is required by the Act. The dimensional requirements should suffice since this is what catches these dams - with the variable flow control structure.	Proponent to respond	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3

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037.06		Legislation	Vol 1, s3.3.24 - Queensland Legislation (WS[S&R]Act). 3. References are continually made throughout the report to the dams being referable or non-referable. The failure impact assessment (FIA) only has effect in determining if a dam is referable when the assessment has been accepted by DEWS. Since DEWS has not even sighted a FIA, the proposed works can only be considered to be "expected to be referable or non-referable" as the case might be and not actually referable or non-referable.	Any dam that requires completion of an FIA is assessable as a "Particular Dam" (State Development Assessment WSA Module 16) or as currently in the EIS "Pursuant to Schedule 3, Part 1, Table 4(4) of the Sustainable Planning Regulation". Evidence of acceptance of the FIA needs to be provided with a "Particular Dam" application (s561 of WS(S&R) Act). After this it can continue with what makes a dam referable (number of PAR from FIA) much as it currently states. Whether a dam is referable or not only affects the contents of the development approval not whether one is required. The EIS currently gives the misapprehension that development approval is only necessary for referable dams. Change to "expected to be referable" or not referable as the case may be or similar.	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3
037.07		Legislation - particular dams	Vol 1, s3.7 - Project approvals (Table 3-7, p3-33). The 5th row of the table on this page sets out the requirements for operational works for a referable dam. The IDAS trigger should refer to "Particular Dams" instead of referable dams. The description of why it applies reads: "The EBW is classed as a referable dam". This approval should reference the "Particular Dams" trigger instead of whether the dam is referable. As noted for s3.3.24 strictly speaking only the final stage at each weir requires approval. The list of relevant legislation includes the Water Act instead of WS (S&R) Act. This table within it are also reproduced in the Executive Summary as Table E-2.	The "Particular Dams" trigger applies to dams which must be Failure Impact Assessed under the WS (S&R) Act. This indicates that FIAs for EBW & RWW would need to be submitted to DEWS for acceptance for stages which include the addition of gates to the crest of the weir. The statement should be rewritten to include both EBW and RWW as "Particular Dams". Water Act should be changed to WS (S&R) Act.	Proponent to respond	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3
037.08		Legislation - particular dams (operational works)	Vol 1, s3.7 - Project approvals (Table 3-7, p3-36). The 1st row on this pages reads: "A FIA must be undertaken prior to submission of the operational works application for a referable dam". The need for a FIA is based on the "Particular Dams" criteria for requiring a FIA and not based on whether the dam is referable. A FIA must be submitted before a dam can be accepted as being a referable dam.	The sentence should read: "A FIA must be accepted by the Chief Executive of the Department of Energy and Water Supply prior to submission of the operational works application for a particular dame."	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3
037.09		Legislation	Vol 1, s9.3.2.8 - Surface Water Resources (Uncontrolled releases of water due to system failure - p9-59). The 2nd paragraph of s9.3.2.8 states that the dam is referable in terms of the Water Act. The relevant legislation is the WS (S&R) Act.	The reference should be corrected to the WS (S&R) Act.	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3
037.10		Failure impact assessment	Vol 1, s20.4.6.2 - Hazard & risk (Failure impact assessment) p20-36 The 1st paragraph of s20.4.6.2 states that raised EBW is referable under the Water Act. Paragraph 2 of s20.4.6.2 states that the FIA for RWW shows that the weir is non-referable and that further FIAs will be undertaken at five yearly intervals.	Change the reference from the Water Act to the WS (S&R) Act 2008. In order to determine if the weirs are referable a FIA must be submitted to DEWS for assessment. If the FIA is accepted DEWS will then set time periods for ongoing FIAs in the notice of acceptance of the FIA.	Proponent to amend	Amended in the additional information to the draft EIS.	n/a	Chapter 3 Legislation, regulatory frameworks and project approvals, Section 3.3