Kris Hely -Submission Coffs Harbour ByPass October 2019- Attachment 1

EIS REFERENCE	Topic	REF #	Statement	Concerns and Comments
VOL 5 App H-I	Biodiversity	2.1.5 State or Regionally Significant Biodiversity Links Table 2.1	Pine Brush Creek not considered (as not considered a significant biodiv link owing to presence pf hwy).	PB creek bridge provides good fauna crossing due to its height & adjacent vegetation. Landcare group has been restoring upstream of bridge for 17 years Office of water guidelines for riparian buffers are not being referred to & smaller buffer reference used??
		Figure 3.1: Landscape features		Lindsay's cutting fauna underpass not shown? Koala corridor??
	Biodiversity	2.2.2 Connectivity value		Concerned not all corridors referenced eg regional corridor thru Kororo NR/Pinebrush creek
		3.2 Threatened ecological communities	Although EIS deems Lowland subtropical not to be congruent with '*condition class or key diagnostic species requirements of the listed community. Therefore, they were not considered to be the community as listed under the EPBC Act*'	Most areas of rainforest within Coffs & Korora Basin are limited to very small & isolated pockets of large mature pre European specimens. These are highly significant for our local area in terms of sources of seed for natural & human distribution, especially for all associated restoration projects occurring within Coffs area. Also, invaluable source of supplementary food for bird & bat species in times of limited resources Eg drought ie Now It is also obvious that these remnants as

				small areas will have a high edge to area ratio & therefore will be subject to weed invasion. Most bushland remnants suffer this fate in these human disturbed landscapes. This should not distract from the fact that they are important sources of local genetic material **and with restoration they would fit the EPBC criteria.** I also highly doubt that there are **20 woody weed species** on these sites**. I would like to see the species list record that justifies this statement**
VOL 5 AppH-I		3.3 Groundwater dependent ecosystems		
		4.2.3 Limitations p.84	Accurate surveys? 'A significant amount of rain occurred during spotlighting on the 16 March 2016, this prevented effective spotlight for mammals and reptiles.'	Accurate surveys? **Surprised no Powerful Owl or Barking Owl as we hear them regularly in Korora Basin (& a Sooty 2x) & Have observed powerful owl on tree fern Creek. Rose crowned Fruit Doves also sighted on regular basis**
VOL 5 AppH-I		4.2.4 Threatened species results p.94-95	there are 3 references to Koala 2 are *'near east of the Pacific Highway and south of Stadium Drive (Tallowwood*	These 2 presumably relate to the Lindsays cutting crossing is a well-recognized crossing area for Koala. **There is a fauna underpass here NOT**

		p.98	*Eucalyptus microcorys).' And 'within vegetation to the east of the Pacific Highway at the southern end of the alignment.'* *No large forest owls or gliders were recorded during field survey.*	**shown on maps and then these 2 vague references to the area.** Also, the development to the east is planting Koala habitat corridor as part of their staged development- how will this be affected by the removal of the large amount of vegetation to the east of the current highway bordering 'Elements" development? Why is this vegetation being removed? **Very surprising** Powerful Owl or Barking Owl as we hear them regularly in Korora Basin (& a Sooty 2x) & Have observed powerful owl on tree fern Creek. No Wompoo Fruit Dove listed either- common in Basin area.
VOL 5 AppH-I	Biodiversity	4.3 Aquatic habitat and threatened species P134	*Newports Creek, downstream of the study area, and Pine Brush Creek representing the highest condition waterways due to the relatively limited influence of impacts, degree of intact riparian vegetation and availability of structurally diverse habitat.*	Benefits of restoration works on Pinebrush creek over 17 years by landcare group increasing riparian health. With restoration work all our coastal creek & river systems can also become healthy and diverse
		4.3 Aquatic habitat and	Testing done in Oct & May	Likely reason for dry Oct reading is we have a dry spring here in Coffs region-

		threatened species P127		probably unknown by Sydney based consultants (well when the weather followed a pattern) Consideration given to high number of streams originate as groundwater springs on the lower & mid slopes of the ridgeline bordering Bruxner
Vol 5 Matters of National Environmental Significance				
VOL 5 MNES within study area	Biodiversity	5 5.1 page140	*The Commonwealth Solitary Islands Marine Park (SIMP) is located more than 5okm offshore and is not expected to be affected by the Project.*	Ensure all sediment & erosion controls are in place to prevent degradation of waterways that flow into SIMP. Furthermore use this Hwy bypass as an opportunity to improve waterway health by increasing areas of riparian vegetation on areas adjacent to the highway footprint.
		Table 8.11 Summary of Significant Impact Criteria assessments	Lowland Rainforest of Subtropical Australia (Critically Endangered) Does not occur within the study area. None of the four separate patches of rainforest vegetation occurring within the study area are considered to conform to the EPBC Act listing criteria for this	Would dispute this as partially based on presence of 20 WOODY WEED SPECIES- impossible scenario in this area and loosely defined/ described. **This needs to be substantiated**

			community.	
		8.4.3 Fragmentation of identified biodiversity links and habitat corridors		Use the project as an opportunity to repair and improve habitat connectivity and riparian health of the Boambee Coffs and Korora basins and that of the SIMP. With the revegetation of riparian buffers/ corridors in areas either side of the highway eg Newports creek, Coffs Creek, Tree Fern Creek, Jordans Creek, Pinebrush creek. Participate in assisting CHCC with the ongoing projects to repair and expand habitat corridors & riparian corridors in the Coffs Basin
		8.4.3 Fragmentation of identified biodiversity links and habitat corridors p.183		No mention of effect at southern approach- loss of koala habitat loss of corridor. no mention Lindsays cutting or underpass that's needs upgrading
		8.4.5 Injury and mortality of fauna P184		Need to consider future risks too fauna by planting of fauna food species immediately adjacent to hwy edge eg Fruit bat/nectar feeing birds killed on Sapphire to Woolgoolga
		8.4.6 Invasion and spread of weeds P184-5	However, strict hygiene measures will be implemented to prevent and mitigate the spread of weeds	RMS urgently needs to review this policy The previous upgrade from Sapphire to Woolgoolga (& north to corindi) has resulted in the spread of some high

			and reduce the potential of negative impacts to threatened species habitats. A Flora and Fauna Management Plan will include measures to ensure appropriate biosecurity management is undertaken during construction. This is standard procedure for Roads and Maritime projects.	priority weed species through movement of soil & mulch (weed list can be provided) as well as some non-local native species. there has been planting of non-local native species or exotic species that have recognized potential to spread onto local bushland (list can be provided) . landscaping of these areas has created weedy maintenance nightmares specifically at gaudrons rd interchange. Terrible planning, landscaper and landscape designer should not be hired for this project. Created a high maintenance area
VOL 5. 8.4 other impacts	Biodiversity	8.4.9 page 185	about noise light and vibration, important for Coramba Rd residents to: re interchange, noise, vibration and light spill	CBAG would like to see the Coramba Rd interchange redesigned to move the necessary infrastructure away from houses impacted badly in Roselands Estate. A single donut design similar to that built recently at Port Macquarie. Such as design would meet the Strategy vision & objective 4 “value the communities and towns along the road (page44) It’s disappointing there’s nothing about minimizing the impact on neighbors, in 4.3 Interchanges Approach.
VOL 5 9 mitigation		9.1 Mitigation of impacts to biodiversity Table 9.1	*Native vegetation will be re-established via implementation of an Urban Design Management Plan prepared in*	**These guidelines need urgent review, considering the issues/failures that have occurred in the Sapphire to Woolgoolga Hwy upgrade.** Especially

		Mitigation measures P193	*accordance with Guide 3: Re-establishment of native vegetation of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011). Re-established vegetation will comprise indigenous vegetation communities that occur within the study area.*	• Use of exotic invasive plants in landscaping • Use invasive non local native species in landscaping • Planting of native species adjacent to hwy that attract bats & birds increasing faunal mortality especially at time food resources low (eg drought ie NOW) • Spread od invasive species over a 30km stretch of highway! These need to be reviewed by persons from AABR (Australian Association of Bush Regenerators) e.g. local assessors
		9.1 Mitigation of impacts to biodiversity Table 9.1 Mitigation measures P193	*Native vegetation and fauna habitat removal would be minimised through detailed design where reasonable and feasible. Particular focus would be given to avoiding and minimising the removal of:* *• Hollow bearing trees* *• Native vegetation in riparian zones* *• Native vegetation from known fauna connectivity corridors and near proposed fauna crossing*	Ancillary sites could be altered slightly in their footprint to avoid removal of native vegetation including hollow bearing trees & threatened species and avoid situating on/over any riparian areas. Large areas of Koala habitat removed on the southern portion adjacent to Lindsays cutting

			structures.	
		9.1 Mitigation of impacts to biodiversity Table 9.1 Mitigation measures P194	*Protection and enhancement of vegetated riparian zones would be undertaken to improve opportunities for fauna movement (including Spotted-tailed Quoll and Pale-vented Bush Hen).*	How will this be maintained post construction period? Allowing for maintenance of sites in long term is required.
		9.1 Mitigation of impacts to biodiversity Table 9.1 Mitigation measures P194	*The Flora and Fauna Management Plan (FFMP) would be prepared in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) and implemented a part of the CEMP. The FFMP would build upon the strategies outlined in the TSMP and identify detailed site-specific and species-specific mitigation measures and management protocols to be implemented before, during and after all construction activities to further avoid or reduce impacts on threatened biodiversity.*	• Concerns again about continued vegetation management post construction phase • Introduction of invasive species through inappropriate planting • Putting threatened species at risk by unsuitable plantings directly adjacent to Hwy
		9.1 Mitigation of impacts to	*Mitigate against the loss of Rusty Plum individuals from the*	**Translocation of mature rusty Plum in other recent hwy upgrades in area has**

		biodiversity Table 9.1 Mitigation measures Removal of threatened flora P195	*local population by translocation of individuals to be impacted and where feasible seed collection and propagation.* *A Salvage and Re-establishment Plan for Southern Swamp Orchid individual(s) and Rusty Plum would be prepared prior to construction, outlining detailed procedures for the preparation of the re-establishment and receiving sites, plant movement, pre- and post- care of target individuals as well as detailing the objectives, monitoring procedures and contingency measures.* *Implement the Coffs Harbour Bypass Threatened Species Management Plan (Arup 2019c) which will include detailed and additional adaptive mitigation, management and monitoring actions.*	**been undertaken at huge expense with minimal positive outcomes** • Poor health & vigor of some transplanted mature specimens • Damage to bushland areas where translocated plants are established machinery required to move them damaging & removing existing native vegetation & encouraging dispersal of invasive species such as Broadleaf Paspalum • Improved results were by the planting of Rusty Plum raised from seed or dispersal of seed • REGULAR Maintenance of these areas is required • Resources better spent rehabilitating existing native vegetation (riparian & habitat corridors) or design so Rusty Plum is not disturbed This policy needs reviewing re above points
		9.1 Mitigation	*Realignment of*	No reference to DPI Office of Water

		of impacts to biodiversity Table 9.1 Mitigation measures P196	*watercourses (Newports Creek and tributaries, Coffs Creek, Treefern Creek, tributary of Pine Bush Creek)*	Guidelines for Riparian buffers??? Eg required buffers for stream grades 1-5 ?
		9.1 Mitigation of impacts to biodiversity Table 9.1 Mitigation measures P196	*Aquatic habitat would be protected in accordance with Guide 10: Aquatic habitats and riparian zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) and Section 3.3.2 Standard precautions and mitigation measures of the Policy and Guidelines for Fish Habitat Conservation and Management Update 2013 (DPI 2013) and with reference to DPI Office of Water guidelines for controlled activities on waterfront land.* *Any machinery used during instream works should be verified as clean and free of*	Again, no reference to DPI Riparian buffer guidelines as per Office Water This should also apply to terrestrial also eg Singapore Daisy spread through entire sapphire to corindi area by hwy

			potential weeds and pathogens to avoid biosecurity risk.	machinery & earthmoving procedures!
		9.1 Mitigation of impacts to biodiversity Table 9.1 Mitigation measures P197 Bulk earthworks altering floodplain topography	*The project would be designed and constructed to maintain hydrologic and geomorphic characteristics of the floodplain where reasonable and feasible.*	Concerned effects areas of native vegetation off site may be affected by changes to floodplain hydrology. Die back has occurred in previous upgrade areas where either inundation or restricted water flow. Has consideration been given to how many of these streams in the Shepherds' land through to Korora originate from springs in the mid & lower slopes of the ridgeline?
		9.1 Mitigation of impacts to biodiversity Table 9.1 Mitigation measures P197 Increased stormwater run off	*Detention basins to be included in designs, with the aim of reducing the volume and velocity of water entering waterways.*	Previous hwy upgrades have left these areas in a weedy state. How will these RT basin areas be maintained in long term? Funding? Management Plan for future?
		9.1 Mitigation of impacts to biodiversity Table 9.1 Mitigation	*Connectivity measures will be implemented in accordance with Table 9.2 of this assessment and on design principles outlined in Section 9.2*	Unsatisfied this address some areas of high Koala movement eg south alignment Lindsays cutting, Highlander estate reserved vegetation. Comments re this below in Habitat Connectivity

		measures P199 Fragmentation of identified biodiversity links and habitat corridors	*and finalised during detailed design to minimise impacts to fauna movement. Eight of the sixteen fauna connectivity features are located on mapped Koala movement corridors* *Bridges would be installed in areas of known Giant Barred Frog habitat (ie Newports Creek and Pine Brush Creek).*	Measures 9.2 Korora Basin Landcare group has undertaken restoration of Pine Brush for over 17 years this area if effected please retain mature rainforest remnant trees and consult
		Injury and mortality of Fauna p. 200	*Ongoing road kill monitoring for adaptive management of fencing and crossing structures.*	**This needs URGENT review**. Planting of non-suitable species has resulted in the death of approximately 50 threatened species (fruit bats) in the past month on the Sapphire to Woolgoolga -Corindi upgrade. URGENT REVIEW REQUIRED, involve local WIRES Fencing issues on the Ballina upgrade resulted in Koal death due to poor structure design (unable to access exit)
		Invasion and spread of weeds, pathogens and disease,	*Biosecurity risk and weed species would be managed in accordance with Guide 6: Weed management of the Biodiversity Guidelines:*	**URGENT review required of this policy due to:** • Cease planting invasive non local native species eg Queensland Elaeocarpus (Sapphire

		and pest animals. P.200	*Protecting and managing biodiversity on RTA projects (RTA 2011) and Guide 7: Pathogen Management (RTA 2011). Specific protocols would be prepared and implemented to manage, Chytrid fungus, Phytophthora and Myrtle Rust.*	Woolgoolga) Queensland Paperbark (Bonville -Bello section)- these are creating weed issues in area! • Cease planting of exotics that have invasive potential eg Giant Strelitzia already weedy in this area • Spread of weed propagules via machinery & earthworks & movement of soil matter eg Madeira Vine ,Singapore daisy etc • Manage area to prevent weed invasion eg look at weed volumes along hwy to Bellingen turnoff (numerous camphor germinated since upgrade= NO management of vegetation occurring spreading weeds into local area)
		9.2 Habitat connectivity measures	*Table 9.2 Fauna connectivity structures*	Cannot locate map that displays the reference points given in this table difficult to assess without Suggestions for additional fauna crossing and revegetation areas to develop corridors & riparian buffers (refer attached maps)
		9.2.1 Connectivity measures		

		design principles		
VOL 5 9 mitigation	Biodiversity	9.2.1 page 203	reinforces tunnel option	Tunnel option superior method of fauna connectivity. Great concept Fully support. Grateful that the tunnels option will be supported as have been working on five restoration habitat corridors over several years (eg Roberts' Hill) and without the tunnels those corridors would not be viable. But also would like to suggest a range of changes/ additions to other fauna crossing structures (refer maps) to improve connectivity in specific areas
VOL 5 9.2 Habitat connectivity measures	Biodiversity	table 9.3 page 206	Fauna connectivity structure design principles.	Culverts need regular maintenance current practice of doing nothing presents a risk to fauna. Weed infested entrances impede access and cover for feral predator species. Lindsays cutting fauna underpass has been in a degraded state for over 10 years. These areas need a maintenance plan and funding allocated to carry out regular maintenance. Under bridge culverts need to be supplemented by rope & pole for arboreal mammals (refer maps attached) If inadequate crossing structures are

				used poor ecological outcomes will result eg Kangaroo movement impeded near Emerald Beach causing LAMN headland to experience degradation though over grazing
		10 Offsetting required		Suggest that offsetting should be to benefit the biodiversity of the Coffs Korora and North Boambee Basins to provide for increased habitat connectivity, threatened species survival and the genic store that is held within these local native remnant vegetation **DO NOT support offsetting off site out of the immediate local area**. **Unless** protecting Lowland Subtropical Rainforest in the southern Clarence catchment eg Coramba Nature reserve adjacent land acquisition & expansion of this highly significant EEC
	Offset Strategy	2.1 Offset identification		• Work with CHCC & utilize CHCC reserve habitat corridors NRM strategy for west Coffs Tributaries to further develop habitat corridors within Coffs & north Boambee Valley. • Acquire adjacent riparian areas privately owned and create riparian buffers to link habitat currently isolated/fragmented (refer attached maps)

				• Restoration of lower reaches Pinebrush creek (upper areas restored over past 17 years) **area to east of current Highway is all council managed lands to the entrance of Pinebrush creek onto the beach entering SIMP. This entire riparian buffer could be a most suitable offset** • Acquire land adjacent to Coramba NR OR Kororo NR to undertake planting of cleared areas & expansion of this EEC vegetation types/Koala habitat • There are numerous sites in the Coffs North Boambee and Korora Basins where restoration works can be undertaken to improve LOCAL biodiversity outcomes or local riparian systems of Newports, Coffs, Tree Fern Jordons & Pine Brush Creeks ACT LOCAL (refer attached maps)
VOL 6A Executive Summary	Urban Design	1.5 Guidance and policy page 16	*Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects, September 2011* *Landscape design guideline -*	Considering failures on the Sapphire to Woolgoolga upgrade & other areas suggest these documents need revision to consider previously discussed design & implementation failures.

			Design guideline to improve the quality, safety and cost effectiveness of green infrastructure in road corridors, December 2018	Planting of unsuitable species and accidental introduction of invasive species and almost no consideration of future maintenance requirements that design would require. This has left portions of the hwy upgrades in a weed dominated & degraded state • Death of numerous fruit bats in early sept 2019 as feeding on Callistemon (Bottlebrush) cultivar planted directly adjacent to highway edge. No planting of fauna attracting plants alongside main road edges or in centre of dual lanes. • Gaudrons Road interchange sapphire- The manner of this landscaping is uncreative, unmaintainable & hideous! - introduced Elaeocarpus from Queensland & Strelitiza both with known weed potential- now dominated by exotic grasses and weedy juvenile pinus sp-recently powersprayed which resulted in many Strelitiza now yellowing, not the best look.

				PLEASE STOP PLANTING THIS PLANT TAKE IT OFF YOUR LISTS as is **Pink Euodia (*Melicope elleryana*)** its southern limit is Iluka and it a weed of coffs wetlands introduced by the nursery indusrty • Betwn Mailmans Track & Bellingen turn off-area planted approx. 20 years ago-unsuitable species used have now caused issues & the whole area is becoming degraded & weed dominated-Introduced Queensland Melaleuca-Camphor laurel beginning to dominate and no maintenance apart from occasional powerspraying (which only creates more weed issues in long term)integrated pest management required There are great examples of creative highway landscaping projects I have seen in Australia & overseas surely, we can do better in NSW the biodiversity

				state Maintenance requirements will always be greater in areas of high light levels eg edge area, revegetation areas, garden-landscape areas. This is exacerbated on the north coast with high rainfall & good soil fertility resulting in periods of rapid plant growth (incl weeds) within the 'wet season' especially. Plant growth patterns here are vastly different to areas further south. These requirements can be mitigated somewhat with good planning and. RMS needs to urgently review policies regarding vegetation management and local councils should not have to foot the bill for bad initial planning of Landscaped areas. Input from accredited AABR representatives (Australian Association of Bushland Regeneration) and local knowledge (eg CHCC Bush Regen Team) would be greatly beneficial
VOL 6A Executive Summary	Urban Design	1.5 Guidance and policy page 17	*Of relevance to the UDLCVIA is Goal 1 which relates to "the most stunning*	Why are areas of Lowland Subtropical rainforest being cleared?? A highly threatened ecosystem -listed EEC

			environment *in NSW" outlines applicable key directions* *and actions:* *• Direction 2: Enhance biodiversity,* *coastal and aquatic habitats, and water* *catchments* *- Actions - Focus development to* *areas of least biodiversity sensitivity* *in the region and implement the 'avoid, minimise, offset' hierarchy to* *biodiversity, including areas of high* *environmental value.*	Removal of Koala habitat in major corridor area (Lindsays cutting)
Concept Analysis Chapter 3				
		3.3 Vegetation	*Opportunities* *Develop species mixes to reflect and* *enhance the local natural species*	Support all the Opportunities listed on page However, the selection of species needs to be undertaken in conjunction with local knowledge e.g. CHCC Bush Regeneration to avoid introduction of unsuitable species as on Sapphire to

				Woologoola upgrade There is also an opportunity to create a low maintenance landscape that serves aesthetic, screening and biological functions whilst not requiring high resources for maintenance.
		3.7 Fauna connectivity	opportunities	Additional opportunity to contribute to the riparian restoration programs that are being undertaken in CHCC Reserves adjacent to all major creeklines in the project apart from Jordans Creek to increase local biodiversity outcomes and assist in the restoration of all habitat linkages in the Coffs and North Boambee Basins. **Fauna crossings need to be maintained to provide for good biodiversity outcomes**
		3.9 Transport	opportunities	Potential for cycleway so no biking on edge of highway is necessary to get into town
		3.12 Cultural and Urban Landscapes p.42	**Biological significance** *The vegetation in the park provides habitat* *for a range of threatened and significant* *species and populations,*	Incorrect species name- correct name is *Zieria prostrata*

			including the only population of the endangered low-growing form of the small shrub ***Zieria smithii***	
		4.1 The strategy Vision and Objectives p.44	2. *Provide a well vegetated, natural road reserve Considering the wider landscape and remnant native forests looking for opportunities to create ecological connections along the highway corridor while enhancing the visual integration of the highway into the landscape with revegetation responding to adjacent plant communities.*	Also consult with CHCC re restoration works in CHCC Reserve complex on habitat corridors within the North Boambee Coffs & Korora Basins. Incorporate into Strategy and support current restoration projects within the area that are dissected by the hwy footprint. Incorporate local information and input in any decisions on plant species selection to avoid inappropriate species choices. CHCC Bush Regeneration or CHCC weed services, local ecologists and ABBR (Australian Association of Bush Regenerators) accredited consultants. Species selection should reflect existing vegetation types. Species should be **local indigenous species** only within the scope of Revegetation works (note endemic is defined as a species that is ONLY

				known from that region eg Moonee Quassia, indigenous species are all species that naturally occur within a given region). Landscape plantings should not contain known weed species or species that have the ability to spread into native bushland eg Deities, Giant Bird of Paradise, Pink Euodia, Acacia sp. Again, local consultation required eg CHCC Consideration should be given to incorporating native indigenous rainforest species within the restoration areas reflecting that the hwy passes through areas that once would have been spectacular Lowland Rainforest especially on the south facing slops near Mackays & Gatelys rd and along Pinebrush, Newports, Tree Fern and Coffs Creek Non fauna attracting species should be planted within close proximity to the road corridor eg Callistemon cultivar causing Fruit Bat fatalities
		4.2 Landscape design Approach P.46	*Consider how maintenance and irrigation can be kept to a minimum with the use of native species in*	As discussed under 1.5 above Considering failures on the Sapphire to Woolgoolga upgrade & other areas suggest these documents need

			'natural' *informal planting arrangements as the* *predominant plant matrix*	revision to consider previously discussed design & implementation failures. Planting of unsuitable species and accidental introduction of invasive species and almost no consideration of future maintenance requirements that design would require. This has left portions of the hwy upgrades in a weed dominated & degraded state. Maintenance requirements will always be greater in areas of high light levels eg edge area, revegetation areas, garden-landscape areas. This is exacerbated on the north coast with high rainfall & good soil fertility resulting in periods of rapid plant growth (incl weeds) within the 'wet season' especially. Plant growth patterns here are vastly different to areas further south. These requirements can be mitigated somewhat with good planning and. RMS needs to urgently review policies regarding vegetation management and local councils should not have to foot the bill for bad initial planning of Landscaped areas.

		4.2 Landscape design Approach Design criteria P.47	Existing watercourses **3** *Opportunities to enhance watercourses through riparian planting and shading of water courses* **4** *Revegetated and protected watercourses provide fauna pathways under the highway*	As per above 3.7 Fauna connectivity Additional opportunity to contribute to the riparian restoration programs that are being undertaken in CHCC Reserves adjacent to all major creek lines in the project apart from Jordans Creek to increase local biodiversity outcomes and assist in the restoration of all habitat linkages in the Coffs and North Boambee Basins. Fauna crossings need to be maintained to provide for good biodiversity outcomes. Many are in a degraded state eg Lindsays cutting weed growth inhibiting entry. This issue of maintenance needs urgent attention by the RMS.
		4.2 Landscape design Approach Design criteria P.47	*Main alignment treatment* ***2*** *Retain significant large trees and existing patches of native vegetation where possible*	Concerned where Old growth remnant rainforest will be cleared at Korora interchange. This small area has trees of significant age and deserves protection as the last remnant trees of this type within Korora. Please work to protect these,

			3 *Vegetated median planted with frangible species to match existing environment*	as remnant riparian rainforest vegetation on Pinebrush and Newports Creeks 'Frangible' ??? Just as long as they're not invasive in local area and NOT with fruit or flowers that attract native animals. Planning here will mitigate future costly maintenance issues
			Raised highway ***3*** *Large rock fill and cut batters will comprise mostly grasses and small shrubs. In some areas where it is not feasible to revegetate rock batters these could be used as feature element of the project with local native tree plantings at base of large rock fill batters to soften visual impact* ***5*** *Integration of vegetated mounding to address potential noise issues associated with project*	Idea of "small shrubs & grasses" sound like a maintenance nightmare Depending on aspect and height of mound this idea too has many issues re successful plant establishment & weed growth. High maintenance over long term