ATTACHMENT 3

WORLD AND NATIONAL HERITAGE VALUES ASSESSMENT:

Table 1. World and National Heritage Values – Gondwana Rainforests of Australia

World Heritage Listing Criteria for the Gondwana Rainforests of Australia

A portion of the current extent of the Gondwana Rainforests of Australia was inscribed on the World Heritage List in 1986 and was known as the Australian East Coast Subtropical and Temperate Rainforest Parks World Heritage Site. The listing was extended in 1994 as the Central Eastern Rainforest Reserves of Australia. In 2007 the name was changed to Gondwana Rainforests of Australia. The current listing includes approximately 50 separate reserves located between Brisbane and Newcastle, and includes Main Range National Park which is the northern-most extent of the WHA.

The Gondwana Rainforests were inscribed for their outstanding universal significance in terms of natural heritage. The rainforests satisfied three of the four possible criteria for the listing of a natural property:

- Criterion (i): 'be outstanding examples representing major stages of Earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.'
- Criterion (ii): 'be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.'
- Criterion (iv): 'contain the most important and significant habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.'

National Heritage Listing Criteria for the Gondwana Rainforests of Australia

The Central Eastern Rainforest Reserves (now known as the Gondwana Rainforests of Australia) were included in the National Heritage Listing in 2007 under the *Environment and Heritage Legislation Amendment Act (No.1) 2003*.

The criteria for which the Gondwana Rainforests of Australia were included in the World Heritage List were taken to cause the World Heritage property to meet National Heritage criterion corresponding to each world heritage value. The corresponding National Heritage criteria for the property are:

- Criterion (a): 'the place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.'
- Criterion (b): 'the place outstanding heritage value to the national because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.'
- Criterion (c): 'the place has outstanding heritage value to the nation because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history.'
- Criterion (d): 'the place has outstanding heritage value to the national because of the place's importance in demonstrating the principal characteristics of:

  (i) a class of Australia's natural or cultural places; or

  (ii) a class of Australia's natural or cultural environments.

Key Values

The key values identified for the Gondwana Rainforests of Australia World Heritage Area have been identified by Hunter (2003). They include:

1. The World Heritage rainforests are an outstanding example of ecosystems and taxa from which modern biota are derived. These rainforests are exceptionally rich in primitive and relict species, many of which are similar to fossils from Gondwana. Ecosystems demonstrating this value include subtropical, warm temperate and cool temperate rainforest types.
2. The World Heritage Area (WHA) includes an outstanding range of ecosystems and taxa which demonstrate the origins and rise to dominance of cold adapted and dry adapted flora. Cool temperate rainforest, dry rainforest and wet sclerophyll ecosystems demonstrate this value.
3. The WHA includes outstanding geological features associated with the erosion of shield volcanoes.
4. The WHA includes significant centres of endemism where ongoing evolution of flora and fauna species is taking place. Ecosystems that are of particularly important as centres of endemism include cool temperate rainforest, subtropical rainforest, warm temperate rainforest, dry rainforest, wet sclerophyll forest, montane heathlands and rocky outcrops. The Border Ranges area is particularly important as a centre of endemism.
5. The WHA includes the principal habitats of a large number of threatened species of plants and animals. These species are of outstanding universal value from the point of view of science and conservation, including relict and primitive taxa.

Table 2. Key World Heritage values relevant to the Project Area

Key Values (Hunter 2003)	Key Values relevant to the Project Area
1. The World Heritage rainforests are an outstanding example of ecosystems and taxa from which modern biota are derived. These rainforests are exceptionally rich in primitive and relict species, many of which are similar to fossils from Gondwana. Ecosystems demonstrating this value include subtropical, warm temperate and cool temperate rainforest types.	Subtropical and Warm temperate rainforest containing primitive and relictual species belonging to the following families were recorded during field assessment and are relevant to the Project area: • Araucariaceae (Hoop Pine *Araucaria cunninghamii*) • Atherospermaceae (Socket Wood *Daphnandra apetala*) • Monimiaceae (Native Mulberry *Hedycarya angustifolia*) • Winteraceae (Scrub or Brush Pepperbush *Tasmannia insipida*) • Lauraceae (Red-barked Sassafras *Cinnamomum virens*, Pigeonberry Ash *Cryptocarya erythroxylon*, Mountain Walnut *Cryptocarya foveolata*, Pepperberry *Cryptocarya obovata*, Bolly Gum *Litsea reticulata*, Grey Bolly Gum *Neolitsea australiensis* and White Bolly Gum *Neolitsea dealbata*).
2. The World Heritage Area (WHA) includes an outstanding range of ecosystems and taxa which demonstrate the origins and rise to dominance of cold adapted and dry adapted flora. Cool temperate rainforest, dry rainforest and wet sclerophyll ecosystems demonstrate this value.	Wet sclerophyll forests with Sydney Blue Gum *Eucalyptus saligna,* Brush Box *Lophostemon confertus* and New England Blackbutt *Eucalyptus campanulata* occur within the Project area.
3. The WHA includes outstanding geological features associated with the erosion of shield volcanoes.	The Scenic Rim is largely formed by Tertiary basalt flows. The Main Range volcano is thought to have been at its highest at Spicers Gap with a potential original basalt thickness of 1000 m approximately. Today, an estimated 900 m of exposed basalt can still be found in that area. The basalt flows are believed to originally have extended to Kalbar-Boonah in the east and Rosewood in the north-east. Ancient streams eroded large areas of the eastern extent of the basalt flows of the Main Range volcano, leaving behind steep escarpments which are prominent today (Stevens and Willmott, 1996). Evidence of these former drainages is reflected in the serrated landforms along Main Range to the north of Cunningham's Gap, where valleys of their former headwaters frame the skyline. The scarps traversed in places along the proposed Class 5 walking trail continue to erode rapidly Willmott (2004) and large land slips are common.

Key Values (Hunter 2003)	**Key Values relevant to the Project Area**
4. The WHA includes significant centres of endemism where ongoing evolution of flora and fauna species is taking place. Ecosystems that are of particularly important as centres of endemism include cool temperate rainforest, subtropical rainforest, warm temperate rainforest, dry rainforest, wet sclerophyll forest, montane heathlands and rocky outcrops. The Border Ranges area is particularly important as a centre of endemism.	Flora species that are endemic to the northern Gondwana Rainforests of Australia World Heritage Area and were recorded within the Project area during field assessment are Mountain Boobialla, *Myoporum betcheanum* a rainforest pioneer-type species, Spear Lily *Doryanthes palmeri* which grows on rock pavements and White Malletwood *Rhodamnia whiteana* which grows in Cool Subtropical Rainforest. Fauna species and subspecies that are essentially or largely confined to the Gondwana Rainforests of Australia World Heritage Area and known to occur in Main Range National Park are: • Albert's Lyrebird *Menura alberti* • Rufous Scrub-bird *Atrichornis rufescens* • Pale-yellow Robin *Tregallasia capito capito* • Logrunner *Orthonyx temminckii* (Hunter 2003 states that this species also occurs in New Guinea but recent taxonomic revision (e.g., Boles 2007) means this species is confined to Gondwana Rainforests) • Three-toed Snake-tooth Skink *Coeranoscincus reticulatus* • Pouched Frog *Assa darlingtoni* • Fletcher's Frog *Lechriodus fletcheri* • Mountain Frog *Philoria kundagungan* • Brown Turban Pinwheel Snail *Ngairea levicostata*
5. The WHA includes the principal habitats of a large number of threatened species of plants and animals. These species are of outstanding universal value from the point of view of science and conservation, including relict and primitive taxa.	The Vulnerable taxon Bunya Mountains Bluegrass or Satin-top Grass *Bothriochloa bunyensis* is present in the ground layer of *Eucalyptus* Open Forest in the extreme north along a 200 m section of the disused Winder logging road proposed to be re-opened. As the common name suggests the main centre of distribution of the taxon is the Bunya Mountains (Fensham and Fairfax 1996). The disjunct occurrence on Main Range links these two high altitude sub-coastal basalt areas which share many rainforest and sclerophyll taxa. Other threatened plant species have been recorded from nearby areas, often from habitats different to those confirmed as being present within the project envelope. There is a very small likelihood that two other species may be present. They include Austral Toadflax *Thesium australe* (same habitat as the Bunya Mountains Bluegrass) and Boulder Orchid or Blotched Sarcochilus *Sarcochilus weinthalii* on boulders in rainforest.

Key Values (Hunter 2003)	Key Values relevant to the Project Area
	Threatened (EPBC Act listed) fauna species that are known or predicted to occur in Main Range National Park are: • Spotted-tailed Quoll *Dasyurus maculatus maculatus* (SE mainland) (Endangered) • Koala *Phascolarctos cinereus* (Vulnerable) • Greater Glider *Petauroides volans* (Vulnerable) • Long-nosed Potoroo *Potorous tridactylus tridactylus* (Vulnerable) • Brush-tailed Rock-wallaby *Petrogale penicillata* (Vulnerable) • Grey-headed Flying-fox *Pteropus poliocephalus* (Vulnerable) • Large-eared Pied Bat *Chalinolobus dwyeri* (Vulnerable) • New Holland Mouse *Pseudomys novaehollandiae* (Vulnerable) • Hastings River Mouse *Pseudomys oralis* (Endangered) • Red Goshawk *Erythrotriorchis radiatus* (Vulnerable) • Black-breasted Button-quail *Turnix melanogaster* (Vulnerable) • Swift Parrot *Lathamus discolor* (Critically Endangered) • (Coxen's) Double-eyed Fig-parrot *Cyclopsitta diophthalma coxeni* (Endangered) • Rufous Scrub-bird *Atrichornis rufescens* (Endangered) • Eastern Bristlebird *Dasyornis brachypterus* (Endangered) • Collared Delma *Delma torquata* (Vulnerable) • Three-toed Snake-tooth Skink *Coeranoscincus reticulatus* (Vulnerable) • Fleay's Barred Frog *Mixophyes fleayi* (Endangered) The Mount Mistake Spiny Cray *Euastacus jagara*, while not EPBC Act listed is listed as Critically Endangered on the IUCN Red List. Fauna species and groups that are relict and primitive taxa and known to occur in Main Range National Park include: • Albert's Lyrebird *Menura alberti* • Rufous Scrub-bird *Atrichornis rufescens* • Green Catbird *Ailuroedus crassirostris* • Regent Bowerbird *Sericulus chrysocephalus* • Satin Bowerbird *Ptilonorhynchus violaceus* • White-throated Treecreeper *Cormobates leucophaea*

Key Values (Hunter 2003)	Key Values relevant to the Project Area
	• Red-browed Treecreeper *Climacteris erythrops* • Chestnut-rumped Heathwren *Hylacola pyrrhopygia* • Speckled Warbler *Chthonicola sagittata* • White-browed Scrubwren *Sericornis frontalis* • Yellow-throated Scrubwren *Sericornis citreogularis* • Large-billed Scrubwren *Sericornis magnirostra* • Weebill *Smicrornis brevirostris* • Brown Gerygone *Gerygone mouki* • White-throated Gerygone *Gerygone olivacea* • Brown Thornbill *Acanthiza pusilla* • Buff-rumped Thornbill *Acanthiza reguloides* • Yellow-rumped Thornbill *Acanthiza chrysorrhoa* • Yellow Thornbill *Acanthiza nana* • Striated Thornbill *Acanthiza lineata* • Logrunner *Orthonyx temminckii* • Macquarie Turtle *Emydura macquarii* • Southern Leaf-tailed Gecko *Saltuarius swaini* • Granite Leaf-tailed Gecko *Saltuarius wyberba* • Lesueur's Velvet Gecko *Amalosia lesueurii* • Eastern Stone Gecko *Diplodactylus vittatus* • Robust Velvet Gecko *Nebulifera robusta* • Southern Spotted Velvet Gecko *Oedura tryoni* • Burton's Snake-lizard *Lialis burtonis* • Common Scaly-foot *Pygopus lepidopodus* • Major Skink *Bellatorias frerei* • Land Mullet *Bellatorias major* • Pink-tongued Skink *Cyclodomorphus gerrardii* • Eastern Crevice Skink *Egernia mcpheei* • Tree Skink *Egernia striolata* • White's Skink *Liopholis whitii* • Common Blue-tongued Lizard *Tiliqua scincoides* • Southern Angle-headed Dragon *Hypsilurus spinipes* • Water Dragon *Intellagama lesueurii*

Key Values (Hunter 2003)	Key Values relevant to the Project Area
	• Pouched Frog *Assa darlingtoni* • Tusked Frog *Adelotus brevis* • Common Eastern Froglet *Crinia signifera* • Fletcher's Frog *Lechriodus fletcheri* • Great Barred Frog *Mixophyes fasciolatus* • Fleay's Barred Frog *Mixophyes fleayi* • Giant Barred Frog *Mixophyes iteratus* (The Main Range population is thought to be extinct (Hines 2012b)) • Mountain Frog *Philoria (Kyarranus) kundagungan* • Red-backed Toadlet *Pseudophryne coriacea* • Eastern Banjo Frog *Limnodynastes dumerilii* • Striped Marsh Frog *Limnodynastes peronii* • Spotted Grass Frog *Limnodynastes tasmaniensis* • Ornate Burrowing Frog *Platyplectrum ornatum* • Green Tree Frog *Litoria caerulea* • Red-eyed Tree Frog *Litoria chloris* • Bleating Tree Frog *Litoria dentata* • Eastern Dwarf Tree Frog *Litoria fallax* • Broad-palmed Frog *Litoria latopalmata* • Pearson's Frog *Litoria pearsoniana* • Peron's Tree Frog *Litoria peronii* • Whirring Tree Frog *Litoria revelata* • Red Tree Frog *Litoria rubella* • Tyler's Tree Frog *Litoria tyleri* • Verreaux's Frog *Litoria verreauxii* • Wilcox's Frog *Litoria wilcoxii* • Mount Mistake Spiny Cray *Euastacus jagara* • Blue Spiny Cray *Euastacus sulcatus* • Brown Turban Pinwheel Snail *Ngairea levicostata* • Angular Flamed Pinwheel Snail *Ngairea dorrigoensis* • Moss Bug *Hackeriella veitchii* • a 'true' spider *Tarlina woodwardi* • Velvet Worms (*Peripatus*)

Key Values (Hunter 2003)	Key Values relevant to the Project Area
	• Flat bugs (subfamily Chinamyersiinae) • Carabid beetles (certain flightless, ground-living members of the Carabidae) • Trapdoor spiders (several genera of Mygalomorphae spiders) Black-breasted Button-quail *Turnix melanogaster* is considered significant as it is the only rainforest-inhabiting button-quail species (Hunter 2003).

Table 3. Significant impact assessment for Gondwana Rainforests of Australia World and National Natural Heritage Values

Note: World and National Heritage significant impact criteria (Significant Impact Guidelines 1.1) are identical with one exception and are therefore addressed together in this table to avoid repetition.

An action is likely to have a significant impact on a World Heritage Property and/or National Heritage Place if there is a real chance or possibility that it will:	**SRT Project Impacts**
VALUES ASSOCIATED WITH GEOLOGY OR LANDSCAPE	
Damage, modify, alter or obscure important geological formations in a World Heritage property or Natural Heritage Place	Major features of geological significance include the actively retreating eastern escarpment, the outcropping basalt at Bare Rock and the deeply incised west-flowing streams. The side tributaries in the headwaters of the major streams form ephemeral waterfalls after heavy rainfall events. These features can be viewed from parts of the proposed trail route and an existing path free of vegetation crosses Bare Rock. There will be no detrimental effects to geological features along any part of the route or at the accommodation nodes.
Damage, modify, alter or obscure landforms or landscape features, for example by infilling of the land surface in a World Heritage property or National Heritage Place	Ecocamps within the World Heritage Area will be designed to avoid trees and individual camping pods will be placed in a free form way to avoid trees, rocks or other important landscape features. They would be constructed of lightweight materials and apply green building principles. Structures will be prefabricated, and assembled on site on screw piles that enable water flows to continue unaffected. There is no excavation or infilling proposed. Of the proposed ~53 km Scenic Rim Trail, 35.3 km would be within the World Heritage Area and would follow existing walking tracks, snig tracks, fire lines and logging access roads wherever possible (25.7 km) with 17.2 km new trail proposed. The proposed Class 5 track is not a constructed feature, minimal disturbance is made to the path, steep grades may be involved and there is little or no signage provided by way of markers. Some limited soil disturbance and removal of ground layer plants is proposed on a small number of steep slopes, and the steep banks of a watercourse crossing to allow track construction. There may be a requirement to undertake minor stabilisation works at the creek crossing location to ensure this area is safe for walkers, remains stable and does not impact on water quality. The proposed mountain bike trail follows existing roads and tracks. Most of the planned route is on private land. There is no potential for the Project to modify, alter or obscure landforms or landscape features.
Modify, alter or inhibit landscape processes, for example, by accelerating or increasing susceptibility to erosion, or stabilising landforms, such as sand dunes, in a World Heritage property or National Heritage Place	The risk of erosion and other forms of bioturbation or landscape modification caused by facilities and the Class 5 walking trail which may interfere with geomorphic processes and landscape evolution is considered to be very low. Class 5 walking trails generally do not entail any modification to the ground surface. However, soil creep has been identified as a constraint on short sections of steep slope which are traversed. These areas are susceptible to soil disturbance. Consequently, installation of permanent raised board walks rather than contoured tracks has been recommended to minimise risk of accelerated erosion.
Divert, impound or channelize a river, wetland or other water body in a World Heritage property or National Heritage Place	There is no potential for the Project to divert, impound to channelize a river, wetland or other water body.

An action is likely to have a significant impact on a World Heritage Property and/or National Heritage Place if there is a real chance or possibility that it will:	**SRT Project Impacts**
Substantially increase concentrations of suspended sediment, nutrients, heavy metals, hydrocarbons, or other pollutants or substances in a river, wetland or water body in a World Heritage property or National Heritage Place	It is very likely that a Class 5 track as proposed and the low usage would not lead to any significant change in runoff conditions, thus limiting any risk of erosion and sedimentation occurring due to run-off. Similarly surface hydrology is not expected to be affected or altered. However, the same cannot be said for steeper slope sections of the trail where it must descend to cross drainage lines. The number of crossings is limited as most of the trail is confined to ridges and scarps. As steep slopes above watercourses are often associated with soil creep, any downslope pressure from foot traffic is likely to aggravate the soil creep, particularly along cleared tracks. Consequently, installation of permanent raised board walks rather than contoured tracks has been recommended to minimise risk of accelerated erosion in some locations. The Ecocamps will be established to achieve no reliance on reticulated services. Given the absence of nearby mains power the Ecocamps would be self-sufficient for power, using a combination of solar and gas with a small back-up generator for emergency power. Water would be sourced from roof capture. Solid waste would be removed from the site by each walking party, under the supervision of an experienced ecoguide. Structures will be prefabricated, and assembled on site on screw piles that enable water flows to continue unaffected. Two 4000 L plastic sealed septic tanks will be installed. One primary tank and one as an overflow tank (in the event of a prolonged period of wet water which precludes tanker access). The tanks would collect both grey and black water, and the primary tank will be emptied upon approaching capacity leaving the second tank for emergency situations. The tanks will be pumped out via a pipe that the small tanker truck connects to (with an on-board vacuum pump). Toilets will be ultra-low flush units (2 litre flush). A grease trap would be installed on the kitchen waste for disposal off site. All construction activities will be undertaken in compliance with approved Construction Environmental Management Plans that describe the required treatment of hazardous substances to protect the environment. During operations, all accommodation locations will have separate storage structures for flammable liquids and other hazardous substances. Chemicals for weed treatment will be managed by specialist contractors and will not be stored on site. With the proposed design and management of the Project components it is considered that the Project will not substantially increase concentrations of suspended sediment, nutrients, heavy metals, hydrocarbons or other pollutants or substances in a river, wetland or water body in a World Heritage property or Natural Heritage place.
BIOLOGICAL AND ECOLOGICAL VALUES	
Modify or inhibit ecological processes in a National Heritage Place	Broadly, ecological processes are the biological, chemical, physical and hydrological processes of ecosystems. Specifically, ecological processes include atmospheric cycling, nutrient cycling, hydrological regimes, soil functions, habitat functions, biotic interactions (including predator/prey relationships, competition and pollination), population dynamics, seed dispersal, evolution and natural disturbance regimes. The Project footprint is small and the proposed activities are passive in nature. Impact assessment has identified elements of the Project that

An action is likely to have a significant impact on a World Heritage Property and/or National Heritage Place if there is a real chance or possibility that it will:	**SRT Project Impacts**
	may affect hydrological regimes and biotic interactions. Appropriate project design can limit any potential for altering hydrological regimes by ensuring that tracks and other infrastructure do not concentrate runoff, or accelerate the natural processes of soil creep and landslip, and do not contribute sediment to aquatic ecosystems. Active feral animal control and on-going monitoring of feral animal activity leading to targeted management responses will limit the potential for the trail to facilitate feral animal movement. It is considered unlikely that the construction or operation of the project will modify and inhibit ecological processes in the project area or in the broader Main Range National Park area.
Reduce the diversity or modify the composition of plant and animal species in all or part of a World Heritage property or National Heritage Place	The re-opening of the disused section of the Winder Track will require removal of colonising vegetation and soil disturbance along a 1.55 ha linear corridor to create a 2.5 m wide road. The corridor comprises 1.5 ha of rainforest colonisers and 0.05 ha of Eucalyptus Open forest. The placement of trails will largely be confined to brushing of ground layer species where dense, and cutting a narrow path up to 0.6 m wide through dense viny plant growth in formerly logged and wind affected areas. However, some limited soil disturbance and removal of ground layer plants is proposed on a small number of steep slopes, and the steep banks of a watercourse crossing to allow track construction. There is no requirement for any clearing of remnant native vegetation or removal of larger sized trees at any site. Attachments 4 and 5 to the referral provide an assessment of the impacts of the Project on flora and fauna and the mitigation measures required to minimise impacts. Risks have been identified in order to determine necessary and effective mitigation measures for construction and operation of the Scenic Rim Trail. Many of the risks identified can be managed through best practice design and construction techniques. The most important risks to flora and fauna are associated with the introduction and/or spread of pathogens, weeds and feral animals which must be avoided, monitored and managed during both the construction and operational stages of the Project. Field assessment finds that habitat north of Cunningham's Gap is not suitable for the endangered Eastern Bristlebird; however, habitat south of Cunningham's Gap is suitable for the species although none have been recorded for over 20 years due to a fire event and the trail in this location uses existing walking tracks. The known location for the vulnerable Brush-tailed Rock Wallaby has access tracks present, is significantly disturbed by cattle and feral animals are present and would not be further impacts by the project. The endangered Hastings River Mouse was found to be present in habitat adjacent to the proposed Woodcutters Ecocamp. This is the edge of an apparently extensive area of habitat for the species and while significant impacts are not predicted with the careful design and operation of the Ecocamp, baseline surveys and monitoring are intended. The trail crosses a stream where Fleay's Barred Frog was heard calling. Baseline survey and monitoring of frog assemblages in this location are intended, and it is recommended that the approach to the crossing and the crossing itself are designed in consultation with QPWS frog expert/s. Both within and outside of the World Heritage Area, feral animal

An action is likely to have a significant impact on a World Heritage Property and/or National Heritage Place if there is a real chance or possibility that it will:	**SRT Project Impacts**
	management actions need to be undertaken in cooperation with the Queensland Parks and Wildlife Service and adjoining landholders. Target species will be Feral Pigs, European Foxes, feral Dogs and Cane Toads. The impact on individual ecological communities and species assemblages as a result of construction of the road, trails and overnight nodes will be negligible. The proposed impacts will not interfere with ongoing plant reproduction, dispersal and regeneration except at a highly localised scale. The Project has taken the largely weed free status of the area into account, and the mitigation measures for construction and subsequent operation of the mountain bike route and trails aim to minimise the risk of new weed introductions as well as limiting the spread of weeds which are present. The risk of introducing plant pathogens especially Myrtle Rust will also be dealt positively with by implementing a number of risk-reducing measures. The ecoguides accompanying hikers will play an important role in providing feedback on the condition and health of vegetation along the route. With the appropriate and continuous monitoring of the trail and Ecocamp sites by experienced and trained ecoguides, there is an opportunity for quick responses to any identified issues. Less obvious potential impacts need to be the subject of long-term monitoring programs. Section 6 of Attachment 2 to the referral sets out the key commitments for environmental protection. With the proposed low impact design and construction, and an ongoing commitment to monitoring and management of potential impacts on flora and fauna, the Project will not cause a reduction in the diversity or modification of the composition of plant and animal species within the World Heritage/National Heritage Property.
Fragment, isolate or substantially damage habitat important for the conservation of biological diversity in a World Heritage property or National Heritage Place	Ecocamps within the World Heritage Area will be designed to avoid trees and individual camping pods will be placed in a free form way to avoid trees, rocks or other important landscape features. They would be constructed of lightweight materials and apply green building principles. Structures will be prefabricated, and assembled on site on screw piles that enable water flows to continue unaffected. There is no excavation or infilling proposed. Of the proposed ~53 km Scenic Rim Trail, 35.3 km would be within the World Heritage Area and would follow existing walking tracks, snig tracks, fire lines and logging access roads wherever possible (25.7 km) with 17.2 km new trail proposed, although this largely follows existing footpads. The proposed Class 5 track is not a constructed feature, minimal disturbance is made to the path, steep grades may be involved and there is little or no signage provided by way of markers. Some limited soil disturbance and removal of ground layer plants is proposed on a small number of steep slopes, and the steep banks of a watercourse crossing to allow track construction. There may be a requirement to undertake minor stabilisation works at the creek crossing location to ensure this area is safe for walkers, remains stable and does not impact on water quality. The proposed mountain bike trail follows existing roads and tracks. Most of the planned route is on private land. No features of the proposed Project will fragment, isolate or

An action is likely to have a significant impact on a World Heritage Property and/or National Heritage Place if there is a real chance or possibility that it will:	**SRT Project Impacts**
	substantially damage habitat within the World Heritage/National Heritage Area.
Cause a long-term reduction in rare, endemic or unique plant or animal populations or species in a World Heritage property or National Heritage Place	The Class 5 trail will not cause any long term reduction in rare, endemic or unique plant species as there will be very limited clearing which will be confined to ground stratum species largely ferns which have widespread geographical distributions. Hardening of a narrow footpad is likely to occur through time in places although it is considered to be reversible due to the types of soil present, with ground stratum species able to recolonise through time if the trail is unused. The small total area of clearing of understorey to locate the Amphitheatre View Wilderness Ecocamp and Woodcutters Ecocamp (small patches totalling 0.1 ha) and the 200 m long section of Open Forest on the Winder route (0.05 ha) is unlikely to remove any conservation-significant species (e.g. endemics) based upon the taxa recorded from detailed site survey. The re-opening of the Winder management road will result in removal of colonising species which may include individuals of rare or endemic taxa (e.g. the Border Range – Main Range endemic tree White Malletwood *Rhodamnia whiteana*) or unique populations. The taxa recorded along the road during traverse of the route included species which have increased in abundance relative to less disturbed surrounding rainforest and species which appear to be present in similar densities to the surrounding species matrix. White Malletwood, for example has a low density in the rainforest and few individuals were observed along the former road. While localised variation in species composition has been observed within the rainforest (e.g. Walking Stick Palm *Linospadix monostachya* is very uncommon along the Winder route but abundant from parts of the walking trail further south) no patches of species of special biogeographic interest because of a patchy or unpredictable occurrences were encountered. Collectively, observations from the route suggest that the likelihood of removal of species from the 2.5 m corridor will lead to long-term reduction in species populations appears to be low. The nature and extent of proposed disturbance to vegetation will not cause a reduction in any rare, endemic or unique bird, reptile or frog population. There will be some disturbance to the steep banks of a watercourse crossing to allow track construction. There may be a requirement to undertake minor stabilisation works at the creek crossing location to ensure this area is remains stable and does not impact on water quality. This will ensure that two significant species of *Euastacus* crayfish are not affected. Of the other significant invertebrate taxa, Angular Flamed Pinwheel Snail is known to live under bark on trees and logs in rainforest and wet sclerophyll forest. Brown Turban Pinwheel Snail lives in rainforest but its microhabitat is unknown (Stanisic *et al*. 2010). Moss bugs live in damp moss mats found on *Nothofagus* trees (Williams & Bickel 2010). The spider *Tarlina woodwardi* lives in leaf litter (Raven 2012). Velvet worms are cryptic and largely confined to moist, humid microhabitats, including leaf litter and the interior of decomposing logs (Reinhard & Rowell 2005). Flat bugs (subfamily Chinamyersiinae) belong to the Aradidae which are usually found under logs, debris, and the bark of decaying trees or in leaf litter in moist forests and rainforests (CSIRO 2016). The flightless Carabid beetles live on the ground (Hunter 2003). Trapdoor

An action is likely to have a significant impact on a World Heritage Property and/or National Heritage Place if there is a real chance or possibility that it will:	**SRT Project Impacts**
	spiders live in tunnels or beneath fallen logs and stones and are often restricted to more moist areas (Williams & Bickel 2010). Other than for the moss bug *Hackeriella veitchi* which is associated with *Nothofagus* which is not present in the Project area, all of these invertebrate taxa could potentially suffer some loss of habitat such as leaf litter and ground debris. However, ground disturbance for construction of the Ecocamps and trail will be minimal, with no clearing of trees, and, as all infrastructure associated with the Ecocamps will be installed above the ground surface, the ground surface will recover with the addition of leaf litter over time. The extent of clearance of groundcover should not be sufficient to cause a long-term reduction in any population.
Fragment, isolate or substantially damage habitat for rare, endemic or unique animal populations or species in a World Heritage property or National Heritage Place	Ecocamps within the World Heritage Area will be designed to avoid trees and individual camping pods will be placed in a free form way to avoid trees, rocks or other important landscape features. Structures will be prefabricated, and assembled on site on screw piles that enable water flows to continue unaffected. There is no excavation or infilling proposed. Of the proposed 45 km Scenic Rim Trail, 35.3 km would be within the World Heritage Area and will follow existing snig tracks, firelines and logging access roads wherever possible. The proposed Class 5 track is not a constructed feature and minimal disturbance will be made to the path. Some limited soil disturbance and removal of ground layer plants is proposed on a small number of steep slopes and the steep banks of a watercourse crossing to allow track construction. Minor stabilisation works at the creek crossing location may be necessary to ensure this area remains stable and does not impact on water quality. The proposed mountain bike trail follows existing roads and tracks. The damage to vegetation is to be confined to regrowth (Winder road), ground stratum (trail) and shrub and ground stratum (Amphitheatre View site). The nature and extent of proposed vegetation disturbance will not fragment, isolate or substantially damage habitat for rare, endemic or unique animal populations or species in the World Heritage/National Heritage Area.
WILDERNESS, NATURAL BEAUTY OR RATE OR UNIQUE ENVIRONMENTAL VALUES	
Involve construction of buildings, roads or other structures, vegetation clearance or other actions with substantial, long-term or permanent impacts on relevant (World Heritage and National Heritage) values	Ecocamps within the World Heritage Area will be designed to avoid trees and individual camping pods will be placed in a free form way to avoid trees, rocks or other important landscape features. They would be constructed of lightweight materials and apply green building principles. Structures will be prefabricated, and assembled on site on screw piles that enable water flows to continue unaffected. There is no excavation or infilling proposed. Of the proposed ~53 km Scenic Rim Trail, 35.3 km would be within the World Heritage Area and would follow existing walking tracks, snig tracks, fire lines and logging access roads wherever possible (25.7 km) with 17.2 km new trail proposed. The proposed Class 5 track is not a constructed feature, minimal disturbance is made to the path, steep grades may be involved and there is little or no signage provided by way of markers. Some limited soil disturbance and removal of ground layer plants is proposed on a small number of steep slopes, and the steep banks of a watercourse crossing to allow track construction. There may be a requirement to undertake minor stabilisation works at the creek crossing location to ensure this area is safe for walkers, remains stable

An action is likely to have a significant impact on a World Heritage Property and/or National Heritage Place if there is a real chance or possibility that it will:	**SRT Project Impacts**
	and does not impact on water quality. The proposed mountain bike trail follows existing roads and tracks. Most of the planned route is on private land. There would be no long-term or permanent impacts on World Heritage or National Heritage values, and removal of the minimal infrastructure proposed would result in rapid recolonization of the Project area by native flora and fauna and a return to pre-development conditions.
Introduce noise, odours, pollutants or other intrusive elements with substantial, long-term or permanent impacts on relevant (World Heritage and National Heritage) values	Construction of the proposed walking trail and Ecocamps would create a short-term increase in noise levels, and it should be noted that no heavy machinery would be used during the construction process. An increase in noise will result from operation of the Scenic Rim Trail and two Ecocamps. Noise will be generated by voices, and will be predominantly in the normal speaking voice range (around 70 dB). If the ecoguide is addressing the walking group, this may reach an elevated voice level of around 76dB. The Woodcutters Ecocamp will be designed to shield the adjacent Hastings River Mouse habitat from noise and light. Groups of 10 will be walking the trail at a maximum frequency of 2-3 times each week when conditions are suitable, and will be overnighting at the Ecocamps along the route. Given the absence of nearby mains power the Ecocamps would be self-sufficient for power, using a combination of solar and gas with a small back-up generator for emergency power. The generator at each camp would be a low-decibel (53 dB(A) and low emission variety and will be housed within a sound-proof, vented enclosure. Occassional pumping of waste water storage tanks will create short-term noise at the locations. Solid waste would be removed from the Ecocamps by each walking group for subsequent disposal. No waste will be left on site. At the Ecocamp sites, two 4000 L plastic sealed septic tanks will be installed. One primary tank and one as an overflow tank (in the event of a prolonged period of wet water which precludes tanker access). The tanks would collect both grey and black water. The tanks will be pumped out via a pipe that the tanker connects to (with an on-board vacuum pump). Toilets will be ultra-low flush units (2 L flush). A grease trap would be installed on the kitchen waste for disposal off site. As there will be no exposed odour sources, no waste generated that will be released into the surrounding environment, construction noise is a short-term impact with no heavy machinery in use, and operational noise levels will be primarily restricted to human voices and occasional generator use and wastewater removal at the Ecocamp locations, it is not expected that the Project will significantly intrude on World Heritage and National Heritage values for the life of the project. The nature of the proposal is such that its decommissioning would leave no permanent impacts of World Heritage and National Heritage Values.

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