Comparison of the mitigation measures set out in the draft risk treatment plans (RTPs) and the updated Mitigation Register

Biodiversity Risk Treatment Plan

Identifier	Risk controls set out in the draft RTPs (Tabled Documents 199 – 202) ¹	EES Attachment H Mitigation Register	Comment	Updated Mitigation Register (Tabled Document 505) ²	Kalbar further response to reconcile mitigations in the draft RTPs and Tabled Document 505
Terrestria	and aquatic biodiversity				
TE01	Vegetation removal will proceed only when applicable approvals and permits are obtained.	Appropriate approvals and permits will be obtained prior to any vegetation removal.	Same in substance		
TE02	Prior to clearing, nest boxes will be installed in areas of potential habitat adjacent to the project footprint to compensate for the removal of hollow-bearing trees and impacts on hollow-dependent fauna known or potentially present (yellow-bellied sheathtail bat, powerful owl, masked owl and eastern pygmy possum).	Prior to clearing, nest boxes will be installed in areas of potential habitat adjacent to the project footprint to compensate for the removal of hollow-bearing trees and impacts on hollow-dependant fauna known or potentially present (yellow-bellied sheathtail bat, powerful owl, masked owl and eastern pygmy possum).	Same. Note also the related measure, TE21.	Prior to clearing, artificial hollows and nest boxes will be created / installed in areas of potential habitat adjacent to the project footprint to compensate for the removal of hollow-bearing trees and impacts on hollow-dependant fauna known or potentially present (yellow-bellied sheathtail bat, powerful owl, masked owl and eastern pygmy possum).	
TE03	Appropriate offsets will be secured in accordance with state and Commonwealth legislation and policy.	Appropriate offsets will be secured in accordance with state and Commonwealth legislation and policy.	Same		

¹ The mitigation measures set out in the draft risk treatment plans are primarily contained in Table 7-1 of each plan, noting that the water risk treatment plan also contains mitigation measures in Table 7-2.

² Note that the mark ups shown in this column reflect the mark ups shown in Tabled Document 505. If there is nothing set out, it means that there is no change proposed to the mitigation measure set out in EES Attachment H.

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TE04	Extent of clearance and buffers around no-go areas will be clearly defined to avoid disturbance within areas to be retained.	The extent of clearance and buffers around no-go areas will be clearly defined to avoid disturbance within areas to be retained.	Same		
TE05	Access tracks and roads will be clearly marked to prevent establishment of secondary tracks and disturbance to adjacent vegetation. Existing roads to be used where practicable.	Access tracks and roads will be clearly marked to prevent establishment of secondary tracks and disturbance to adjacent vegetation; existing roads will be used where practicable.	Same		
TE06	Where practicable, access / haul roads that will experience heavy usage will not be established adjacent to areas of high ecological sensitivity.	Access tracks expected to experience heavy traffic will not be located adjacent to areas of high ecological sensitivity (comprising areas of the Gippsland Red Gum Grassy Woodland and Associated Native Grassland ecological community and 11 EVCs (refer to Table 9.3); hollow-bearing trees; known occurrences and identified potential habitat for swamp everlasting, dwarf kerrawang, gaping leek-orchid, slender wirelily, blue mat-rush, slender ticktrefoil and sandfly zieria; identified habitat for the giant burrowing frog and Australian grayling; and	Same in substance		

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		downstream waterways and wetlands).			
TE07	Parking areas, stockpiles, machinery depots and site buildings will be located in areas of low ecological value (such as blue gum plantations).	Parking areas, stockpiles, machinery depots and site buildings will be located in areas of low ecological value (such as blue gum plantations).	Same		
TE08	Large trees adjacent to the mine path but within the project area footprint will be retained and clearly marked and Tree Retention Zones will be identified.	Large trees will be retained adjacent to the project footprint and clearly marked; Tree Retention Zones will be identified and marked.	Same in substance		
TE09	Areas will be revegetated following the mine rehabilitation plan, to: Increase overall native vegetation cover in the project area Increase native vegetation patch size Increase habitat connectivity Exclude stock from areas of native vegetation	Areas will be revegetated and managed in accordance with the rehabilitation sub-plan to increase overall native vegetation cover in the project area, native vegetation patch size and habitat connectivity, and to exclude stock from such areas.	Same in substance		
TE10	Disturbed areas will be revegetated to recreate pre-existing vegetation communities, where possible, increasing habitat value and visual amenity while	Disturbed areas will be revegetated to recreate pre-existing vegetation communities, where agreed and practicable, to increase habitat value and visual	Same in substance		

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	reducing the likelihood for establishment and proliferation of weeds or risks associated with soil erosion.	amenity while reducing the likelihood for weeds to establish and proliferate, and for soil erosion to occur.			
TE11	Revegetation of mined areas will include: Planting of a range of locally occurring native shrubs, trees and groundcover plants in consultation with DELWP to recreate the target vegetation community. Inclusion of rocks, logs, dead trees, and stumps in the restoration and rehabilitation works for fauna habitat. Maintenance of plantings through a Rehabilitation Plan. Management of weeds and pest animals.	Revegetation of mined areas will include: Planting locally occurring native shrubs, trees and groundcover plants, selected in consultation with DELWP, to recreate the target vegetation community. Including rocks, logs, dead trees, and stumps in the restoration and rehabilitation works to provide fauna habitat. Maintaining plantings in accordance with the rehabilitation sub-plan. Managing weeds and pest animals.	Same in substance		
TE12	Staff/contractor inductions will incorporate an environmental component signed off by a suitably qualified representative (e.g., site environmental advisor/specialist).	Staff/contractor inductions will incorporate an environmental component signed off by a suitably qualified representative (e.g., site environmental advisor/specialist).	Same		

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TE13	Sensitive areas, such as those with fauna habitat, will be checked for fauna by a suitably trained ecologist or other qualified environmental specialist prior to construction and operational activities commencing.	Sensitive areas, such as those with fauna habitat, will be cleared of fauna (as far as practicable) by a suitably trained ecologist or other qualified environmental specialist prior to construction and operations activities commencing.	Same in substance		
TE14	Pre-clearing activities will remove the understorey and smaller non-hollow-bearing trees to disturb fauna and encourage them away from the clearing area.	Pre-clearing activities will remove the understorey and smaller non-hollow-bearing trees to disturb fauna and encourage them away from the clearing area.	Same		
TE15	Animals disturbed during clearing works will be relocated, with appropriate authorisation under the Wildlife Act 1975.	Animals disturbed during clearing works will be relocated, with appropriate authorisation under the Wildlife Act 1975.	Same		
TE16	All trenches will have graded sides to avoid fauna entrapment and allow animals to escape	All trenches will have escape ramps to avoid fauna entrapment and allow animals to escape.	Similar, except that that the RTP version requires graded sides and the EES version requires ramps. EES version is preferred.		No change needed, consolidated mitigations supersede the draft RTP.
TE17	Appropriate speed-limits will be applied in areas containing remnant native vegetation to reduce the risk of fauna mortality from vehicle strike.	Appropriate speed-limits will be applied in areas containing remnant native vegetation to reduce the risk of fauna mortality from vehicle strike.	Same		

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TE18	Traffic movements will be minimised during the night, dusk and dawn periods in remnant native vegetation areas, where possible	Traffic movements will be minimised during the night, dusk and dawn periods in remnant native vegetation areas.	Same in substance		
TE19	Hollow-bearing trees will be retained around project infrastructure, where construction permits	Hollow-bearing trees will be retained around project infrastructure, where construction permits.	Same		
TE20	Pre-clearance survey and supervision of large hollow-bearing tree felling activities will be carried out by a suitably qualified zoologist.	Pre-clearance surveys will be carried out by a competent environmental professional in all areas of vegetation to be cleared that have large trees (as defined in the Guidelines for the removal, destruction or lopping of native vegetation, 2017) or that are likely to support flora or fauna species listed under the EPBC Act and/or FFG Act.	Same in substance		
TE21	Salvaged or artificial hollows will be installed (under the supervision of an ecologist) in retained vegetation adjacent to the project footprint where hollow-bearing trees are lost.	Salvaged or artificial hollows will be installed (under the supervision of an ecologist) in retained vegetation adjacent to the project footprint where hollow-bearing trees are lost.	Same		
TE22	Isolation and fragmentation of habitat will be minimised when	Isolation and fragmentation of habitat will be minimised when	Same		

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	planning activities with potential to remove vegetation.	planning activities with potential to remove vegetation.			
TE23	Appropriate erosion and sediment control strategies will be implemented to prevent gully erosion in areas adjoining the project footprint.	Appropriate erosion and sediment control strategies will be implemented to prevent gully erosion in areas adjoining the project footprint.	Same		
TE24	No-go zones will be established around waterbodies adjoining the project footprint to prevent any disturbance to the biodiversity values present within these areas.	No-go zones with buffers will be established around waterbodies adjoining the project footprint to prevent any disturbance to the biodiversity values present within these areas. The width of buffer areas will be determined on a case-by-case basis.	Same in substance		
TE25	Strategies to control sediment runoff (and reduce the potential for increased turbidity in downstream aquatic habitats) and reduce the potential for spills will be implemented during construction and operations.	Strategies will be implemented during construction and operations to control sediment runoff (and reduce the potential for increased turbidity in downstream aquatic habitats) and reduce the potential for spills.	Same in substance		
TE26	-	Bunding for the fuel storage area (fuel farm) will be in accordance with Australian Standard 1940:2004 (Standards Australia,	Missing in draft RTP	Bunding for the fuel storage area (fuel farm) will be in accordance with Australian Standard 1940:2004 (Standards Australia,	The mitigation measure should be updated to refer to the AS currently in force (i.e. 1940:2017, 2017).

Identifier	Risk controls set out in the draft RTPs (Tabled Documents 199 – 202) ¹	EES Attachment H Mitigation Register	Comment	Updated Mitigation Register (Tabled Document 505) ²	Kalbar further response to reconcile mitigations in the draft RTPs and Tabled Document 505
		2004) ³ . The capacity (i.e., bund height), storage, stormwater control and maintenance, and operation of bunded areas will comply with EPA bunding guidelines (Environment Protection Authority Victoria, 2015) ⁴ .		2004) ⁵ . The capacity (i.e., bund height), storage, stormwater control and maintenance, and operation of bunded areas will comply with EPA bunding guidelines liquid storage and handling guidelines (Environment Protection Authority Victoria, 20152018) ⁶ .	
TE27	-	The design, construction, monitoring and rehabilitation of the temporary TSF will comply with the Department of Economic Development, Jobs, Transport and Resources: Technical Guideline Design and Management of Tailings Storage Facilities (Department of Economic Development, Jobs, Transport and Resources, 2017) ⁷ .	Missing in draft RTP	Additional targeted surveys for specified species, including the Giant Burrowing Frog (active searching, installation of song meters over multiple days after significant rainfall) as part of approval conditions recommended through the EES assessment process. [Partially in response to recommendations made by Aaron Organ in TN013 No.6 and partially in response to the evidence of Brett	The original formulation of TE27 in the Mitigation Register is no longer relevant given the temporary TSF is no longer proposed. No change needed, consolidated mitigations supersede the draft RTP.

³ Standards Australia. 2004. AS 1940:2004. The Storage and Handling of Flammable and Combustible Liquids. Standards Australia. Sydney, New South Wales.

⁴ Environment Protection Authority Victoria. 2015. Bunding Guidelines. Publication 347.1. Environment Protection Authority Victoria, Southbank, Victoria.

⁵ Standards Australia. 2004. AS 1940:2004. The Storage and Handling of Flammable and Combustible Liquids. Standards Australia. Sydney, New South Wales.

⁶ Environment Protection Authority Victoria. 20152018. Bunding Guidelines. Liquid Storage and Handling Guidelines Publication 347.1.1698 Environment Protection Authority Victoria, Southbank, Victoria.

⁷ Department of Economic Development, Jobs, Transport and Resources. 2017. Technical Guideline, Design and Management of Tailings Storage Facilities. Department of Economic Development, Jobs, Transport and Resources. Earth Resources Regulation. April 2017.

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				Lane regarding changes to the advisory list]	
TE28	Fauna salvage and relocation / translocation procedure will be developed and implemented to supported the biodiversity risk treatment plan.	The biodiversity sub-plan will incorporate fauna salvage and relocation/translocation procedures.	Same in substance		
TE29	Use of underpasses/culverts and overpasses will be investigated to maintain permeability for ground dwelling species and arboreal marsupials where access roads and linear infrastructure bisect or cross native vegetation.	Use of underpasses/culverts and overpasses will be investigated to allow ground dwelling species and arboreal marsupials to move between areas of native vegetation that are bisected or crossed by access roads and linear infrastructure.	Same in substance		
TE30	-	All remaining areas of ecological value near the project area and infrastructure options area will be managed under the supervision of a suitably qualified ecologist to enhance habitat features and compensate for those lost; including installing nesting boxes and logs, and other large woody debris relocated from cleared areas.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
TE31	Fauna escape features and refuges (including ramps and damp sandbags) will be provided	Fauna escape features and refuges (including ramps and damp sandbags) will be provided	Same in substance		

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	around remnant patches adjacent to the operational area of the project.	where remnant patches of vegetation are adjacent to construction and operational areas.			
TE32	-	Any water and other suppressants (applied to reduce dust) will not directly enter nearby waterbodies or remnant native vegetation.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
TE33	Appropriate speed limits will be applied on unsealed roads and tracks to limit dust generation.	-	TE33 is not included in the EES version but is very similar to AQ04 (EES), which reads: Speed limits will be implemented and enforced on unsealed project roads to minimise dust generation.	AQ04 (EES) is updated as follows: Speed limits of 20 km/hr in the event of dusty conditions and 50 km/hr under normal conditions will be implemented and enforced on unsealed project roads to minimise dust generation[evidence statement of Simon Welchman. [67], TN13 Item 99].	No change needed, consolidated mitigations include the updated AQ04 and supersede the draft RTP.
TE34	Construction machinery, vehicles and pedestrians will be confined to formed tracks and designated areas, where possible.	Construction machinery, vehicles and pedestrians will be confined to formed tracks and designated areas, where practicable.	Same in substance		
TE35	Excessive noise or vibration emitting equipment or machinery will be located away from sensitive ecological values. Where relocation is not feasible, control	-	Missing in EES version		TE35 should be included in the consolidated mitigation register.

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	measures such as mufflers or baffles will be employed.				
TE36	Lighting systems will be designed and used in a way that minimises potential impacts on fauna, particularly nocturnal species (mammals such as possums, gliders and bats, and birds); including, where applicable, use of light shields and directional lighting to avoid interference with foraging or roosting activities.	Lighting systems will be designed and used in a way that minimises potential impacts on fauna species, particularly nocturnal species (mammals such as possums, gliders and bats, and birds); including, where applicable, use of light shields and directional lighting to avoid interference with foraging or roosting activities.	Same		
TE37	Project infrastructure and activities will be microsited to avoid native vegetation. For example, if vegetation of high quality is identified during pre-clearance surveys, where possible, the location will be adjusted to avoid it.	Project infrastructure and activities will be micro-sited to avoid threatened flora species and native vegetation; including for example, if vegetation of high quality is identified during preclearance searches, where practicable, the location will be adjusted to avoid it.	Same in substance		
TE38	Limits of clearing sensitive areas (e.g., listed species habitat) will be marked to avoid unnecessary vegetation and habitat removal.	-	Missing in EES version		TE38 should be included in the consolidated mitigation register.
TE39	All trenches and other excavations will be checked daily and any trapped animals removed by a	All trenches and other excavations will be checked daily and any trapped animals removed by a competent environmental	Same in substance		

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	suitably qualified zoologist before any works commence.	professional before works commence.			
TE41	-	Areas used for handling and/or storage of concentrated flocculent and hazardous materials will be bunded appropriately to avoid spilled or stored material reaching the surrounding environment and will contain spill response equipment.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
TE42	-	Mobile plant and vehicles will be maintained regularly and in accordance with manufacturers' specifications; including inspections for leaks and spills.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
TE44	-	If a leak or spill occurs, contaminated soil will be excavated and disposed of by a qualified specialist at a licenced facility.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
TE45 / LUP03	Biosecurity procedures to avoid introduction and spread of weeds, pests and diseases into the project area and surrounding areas.	Biosecurity procedures will be implemented to avoid introducing and spreading weeds, pests and diseases into the project area and surrounds.	Same in substance		
TE46	Disturbed areas will be revegetated to increase habitat value and visual amenity while	Disturbed areas will be revegetated to increase habitat value and visual amenity while	Same in substance		

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	reducing the likelihood for establishment and proliferation of weeds.	reducing the likelihood of weeds to establish and proliferate.			
TE47	Revegetation of mined areas will include management of weeds and pest animals.	Revegetation of mined areas will include management of weeds and pest animals.	Same		
TE48	-	Currently known extant populations of gaping-leek orchid will be avoided, and project activities will be designed to minimise potential for indirect impacts to these populations.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
TE49	Construction machinery will not be permitted to access Cowells Lane to avoid potential indirect impacts to swamp everlasting, native vegetation and low-lying areas within the infrastructure options area.	Construction machinery will not be permitted to access Cowells Lane to avoid potential indirect impacts to swamp everlasting, native vegetation and low-lying areas within the infrastructure options area.	Same		
TE50	The extent of native vegetation cover and habitat connectivity within and adjoining the project area will be increased through restoration as part of progressive rehabilitation.	Progressive rehabilitation will aim to increase the extent of native vegetation cover and habitat connectivity within and adjoining the project area prior to clearing and fragmenting habitat in other areas.	Same in substance		
TE51	Faunal habitat features, such as logs and hollows, will be created	Faunal habitat features, such as logs and hollows, will be included	Same	Faunal habitat features, such as logs and hollows, will be included	

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	as part of habitat restoration works.	as part of habitat restoration works.		as part of habitat restoration works. Features will be implemented in accordance with the Fauna Impact Mitigation and Landscape Plan.	
TE52	Populations of listed or rare native plant species from ecological vegetation categories within the project area will be increased through targeted recovery programs.	Populations of listed or rare native plant species from EVCs within the project area will be increased through targeted recovery programs.	Same		
TE53	Prior to any proposed disturbance in unsurveyed areas, a detailed flora survey will be undertaken.	A detailed flora and fauna survey will be undertaken in accordance with relevant state and Commonwealth legislative requirements in the unsurveyed portion of the project area, located in the northwestern corner, prior to commencement of ground disturbance.	Same in substance		
TE54	-	Pre-clearance searches for fauna will be conducted by a competent environmental professional prior to vegetation removal.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
TE55	-	Construction activities will be delayed if significant weather events are forecast.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.

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TE56	-	Felling of large hollow-bearing trees will be supervised by a competent environmental professional.	Missing in draft RTP		No change needed, consolidated mitigations supersede the draft RTP.
	Additional controls identified in Table 7-2: • Development of a GDE management plan will be prepared prior to construction as part of the biodiversity risk treatment plan and environmental management plan. • Development of a faunal management plan – this plan has been developed • Prior to construction, targeted species surveys will be considered as part of the preclearance process for fauna	-			These controls are required by GW17, TE51 and TE27 (respectively) in Tabled Document 505.