Appendix M Consolidated Management Measures

Consolidated Management Measures

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
General								
G1	Environmental awareness training aimed at ecological issues as part of site induction.	During construction and operation	Site Supervisor	Environmental harm caused to fauna is minimised. Preservation of vegetation and limiting unnecessary clearing.	To be completed as part of induction training prior to construction and operation for all staff.	To be enforced as part of CEMP and OMP. To be communicated to all staff during pre-start / inductions.	Not applicable	**High** This is a repeatable management measure which can be enforced simply.
G2	Ensure all vehicles are strictly controlled and do not operate in areas outside the needs of the Project construction.	During construction and operation	All staff and contractors	Environmental harm caused to fauna is minimised. Unnecessary damage to vegetation is minimised	Completed daily during construction at relevant work areas.	Works to be undertaken in accordance with the proposed CEMP. To be communicated to all staff during pre-start / inductions.	Trigger: Vehicles operate outside areas of construction Action: Monitor vehicle movements and induct staff on no-go areas.	**Medium** This management measure depends on the enforcement at the site.
G3	Ensure all vehicles comply with designated speed limits whilst traversing site.	During construction and operation	All staff and contractors	Environmental harm caused to fauna is minimised.	To be enforced daily.	To be communicated to all staff during pre-start / inductions. To be enforced as part of CEMP and OMP.	Not applicable	**High** This is a repeatable management measure. Speed limits are routinely enforced across various Projects of this type.
G4	Minimise the occurrence of off-road vehicle movements.	During construction and operation	All staff and contractors	Environmental harm caused to fauna is minimised. Unnecessary damage to vegetation is minimised.	Completed daily during construction at relevant work areas.	Works to be undertaken in accordance with the proposed CEMP.	Not applicable	**Medium** This management measure depends on the enforcement at the site.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
G5	Provide timely, ongoing communication and consultation with all directly impacted landowners and other stakeholders.	At all times during clearing , construction and operation	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation.	Ensure checks are completed with landholders prior to any activities which may result in impacts to landholders and other stakeholders.	To be enforced through construction and operation procedures.	Not Applicable	**Medium** Landholder and stakeholder consultation is often overlooked. Will require the site representative to correctly carry out timely notifications.
Habitat Clearing and Connectivity and Direct Fauna Mortality Management Measures								
HC1	Vegetation located adjacent to the Project construction works to be appropriately marked to avoid unnecessary clearing/vegetation damage.	Pre-clearing, clearing and construction	Environmental Representative / Environmental Engineer	Preservation of vegetation and limiting unnecessary clearing.	Completed daily during construction at relevant work areas.	Monitoring to be included in the proposed CEMP. To be communicated to all staff during pre-start / inductions.	Trigger: Vegetation is cleared outside the required area Action: Revegetate	**High** This is a repeatable measure which provides clear direction. This is a proven measure suitable for limiting disturbance.
HC2	Revegetation works to be undertaken in areas where land has been disturbed but is not required for operations, using hydromulch and native grass to minimise erosion (as per Section 5.5.3)	Subsequent to construction works.	Environmental Representative	Returning of disturbed land that is not required in operations to previous quality.	Completed upon finish of construction works.	To be evaluated in accordance with the proposed RMP.	Trigger: Erosion, revegetation is unsuccessful via site inspection Action: Revegetate and re-mulch	**Medium** This management measure depends on the quality of revegetation works undertaken.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
HC3	Survey and pegged disturbance footprint, prior to clearing to avoid unnecessary clearing of vegetation beyond that detailed during the design phase.	During pre-clearing, clearing and construction.	Environmental Representative / Contractors	Preservation of vegetation and limiting unnecessary clearing.	Completed daily during construction at relevant work areas.	Monitoring to be included in the proposed CEMP. To be recorded in detailed design documentation. To be communicated to all staff during pre-start / inductions	Trigger: Vegetation clearance extends beyond survey peg Action: Revegetate and rehabilitate	**High** This is a repeatable measure which provides clear direction. This is a proven measure suitable for limiting disturbance.
HC4	Prior to any vegetation disturbance, a suitably qualified fauna spotter catcher is to be onsite to inspect and remove fauna (if required). All fauna recorded during pre-clearing surveys will be recorded on a dedicated fauna register. Construction areas that pose a risk to fauna to be fenced off where practical.	During pre-clearing and clearing.	Environmental Representative	Environmental harm caused to fauna is minimised.	Completed daily during construction at relevant work areas.	Works to be undertaken in accordance with the proposed CEMP.	Trigger: Fauna not removed, incorrect fencing of fauna Action: Remove fauna, replace fencing	**High** Presence of a trained ecologist during pre-clearance surveys is a proven measure to prevent any impacts to fauna.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
HC5	All fauna and flora, including fauna habitat (i.e., hollows, fallen logs, cracking soils etc) and weed species must be recorded in a detailed register during pre-clearing surveys. All fauna recorded during the pre-clearing, clearing, construction and operation will be recorded on a dedicated fauna register. Environmental representative is to manage all records of threatened species and upload data to a public mapping register (e.g., ALA or Wildlife Online databases).	During pre-clearing works, clearing, construction and operation.	All staff and contractors / Environmental representative	Environmental harm caused to fauna is minimised	Completed during pre-clearance surveys and daily during clearing and construction at relevant work areas.	Works to be undertaken in accordance with the proposed CEMP.	Trigger: Fauna / fauna habitat not recorded properly Action: Assess fauna records regularly for detail requirements.	**High** Presence of a trained ecologist during pre-clearance surveys is a proven measure to prevent any impacts to fauna.
HC6	Design and construction of fencing/infrastructure to direct fauna towards safe passage and around construction area.	During the design, clearing and construction phases.	Environmental Representative / Environmental Engineer	Preservation of vegetation and limiting unnecessary clearing. Environmental harm caused to fauna is minimised.	To be undertaken during detailed design process. To be monitored during operation.	To be recorded in detailed design documentation. Success to be documented in the OMP.	Trigger: Fauna movements in unsafe areas. Action: Fencing is to be regularly checked and any fauna in unsafe areas are recorded.	**Medium** This management measure depends on the detailed design process.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
HC7	Vehicle washdown procedures. Wash-down areas will be clearly marked to prevent contaminated water from leaching into soils or flowing into nearby watercourses.	During clearing, construction and operation.	Environmental Representative	Preservation of vegetation and limiting unnecessary clearing. Environmental harm caused to fauna is minimised.	To be enforced daily.	To be enforced as part of CEMP and OMP.	Trigger: Contamination leaching into soils and watercourses Action: Vehicle washdown areas are regularly inspected for contaminants.	**High** This is a repeatable management measure. Vehicle washdown implemented across various Projects of this type.
HC8	Appropriate speed limits should be in place throughout the site and all contractors will be educated on the risks to local fauna and reduce increase in dust emissions when driving.	During clearing, construction and operation.	Environmental Representative	Environmental harm caused to fauna is minimised.	To be enforced daily.	To be enforced as part of CEMP and OMP.	Not applicable	**High** This is a repeatable management measure. Speed limits are routinely enforced across various Projects of this type.
HC9	To reduce the risk of mortality to native wildlife, no domestic animals are permitted onsite.	During all project phases.	All Staff and Contractors	Environmental harm caused to fauna is minimised.	To be enforced daily.	To be enforced as part of CEMP and OMP.	Trigger: Fauna mortality from domesticated animals Action: Any domestic animal brought to site is immediately removed and the incident is reported.	**High** This is a repeatable management measure which can be enforced simply.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
HC10	Avoid clearing trees with obvious hollows. If trees are required to be removed the proponent shall engage the services of a licensed, qualified Spotter Catcher to complete pre-clearing checks and be present during removal. They should also inspect the clearing limits. If hollow bearing trees do require removal, they should first be inspected using an elevated work platform to determine if fauna are present. If fauna are detected, they would be safety removed prior to tree felling.	During pre-clearing works, clearing and construction.	Environmental Representative / Contractors	Environmental harm caused to fauna is minimised.	To be enforced during construction.	To be enforced as part of CEMP.	Trigger: Trees with hollows are cleared Action: A fauna spotter catcher is to advise which trees are not permitted for removal.	**Medium** This measure requires a spotter catcher to enforce. Potential for trees with hollows may be missed.
HC11	Habitat trees must only be cleared once there are no animals present within the tree.	During clearing and construction.	All staff and contractors	Environmental harm caused to fauna is minimised.	To be enforced during clearing and construction.	To be enforced as part of CEMP.	Trigger: Fauna injuries due to clearing Action: A fauna spotter catcher is to inspect hollows and advise when it is safe to remove trees.	**Medium** This measure requires a spotter catcher to enforce.

HC12	Tree hollow preparation and clearing must be undertaken through the following steps: Clearly mark the HBT to be removed and/or retained by differentiating with coloured flagging tape; • Remove all non-hollow bearing vegetation prior to the removal of hollow-bearing trees; • Following the clearing of non-hollow bearing vegetation, there must be 12 hours between clearing works prior to clearing hollow bearing trees; • Hollows must be checked again and gently tapped along tree trunk using an excavator or loader to scare fauna from hollows; • Re-check hollows after felling to ensure no fauna have	During clearing and construction.	Environmental Representative / All staff and contractors	Environmental harm caused to fauna is minimised.	To be enforced during clearing and construction.	To be enforced as part of CEMP.	Trigger: Tree hollows to be retained are removed. Fauna injuries occur during tree hollow removal. Action: A fauna spotter catcher is to advise which trees are not permitted for removal. A fauna spotter catcher is to inspect hollows and advise when it is safe to remove trees.	**Medium** This management measure requires a spotter catcher to enforce onsite.

	become trapped or injured during the clearing works; • If taking the hollow-bearing trees down in stages, the non-hollow-bearing branches should be removed using a cherry picker before the hollow-bearing branches are removed; • Fell trees into the zone of disturbance to avoid damaging adjacent vegetation; • Any logs from the felled trees should be distributed into areas of vegetation to be retained where it would not be considered a fire hazard; and Any stockpiles of vegetation that are left for 12 hours must be re-checked before removal or mulching.							

HC13	Any hollows that are removed are to be stored and transported safely by a fauna spotter catcher as per the Guideline for the Relocation of Large Tree Hollows (Central Coast Council, 2016): **Hollow Removal:** • A fauna spotter catcher is required to inspect tree hollows for resident fauna before removal procedure; • Any unnecessary limbs should be removed using a chainsaw and trunk above the hollow should be cut using a chainsaw before cutting the lower section, a cloth sling should be attached to the section. • The cutting point of the hollow is to be selected, if the hollow is to include the compete	During clearing and construction.	Environmental Representative	Environmental harm caused to fauna is minimised.	To be enforced during clearing and construction.	To be enforced as part of CEMP.	Trigger: Fauna injuries occur during tree hollow removal. Tree hollows are damaged during removal/relocation process. Action: A fauna spotter catcher is to inspect hollows and advise when it is safe to remove trees. Tree hollow removal and relocation are undertaken as per the Guideline for the Relocation of Large Tree Hollows	**Medium** This management measure requires a spotter catcher to enforce onsite.

	chamber, the cut should be positioned low enough to conserve enough termite mud (Central Coast Council, 2016); • The cut hollow section is to be lowered carefully to prevent damage (potentially using friction drum or crane, this is dependent on the decision of tree arborist, based on size and weight of the hollow section). **Storage:** • If the hollow sections is stored on the ground temporarily, the hollow must be re-inspected before relocation and installation. **Relocation/Transportation:** • Relocation of a hollow must be undertaken subsequent to							

	submission of the relevant approvals and permissions; • A fauna spotter catcher is required to inspect tree hollows for resident fauna and collect any evidence samples of tree hollow use (i.e., feathers, pellets etc.); • A fauna spotter catcher is to assess the recipient tree with suitability for roosting habitat, and located in an ideal locations (i.e., away from noise and lighting); • An arborist is to inspect the recipient tree for structural integrity and whether tree is suitable for hollows to be place 10-15 m high; and • The hollow section is to be transported carefully to							

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	prevent damage, using a cloth swing and crane. **Installation in recipient tree:** • Termite mud is to be used at the base of the hollow, with a minimum thickness of 100 mm; • The hollow section is to be lifted carefully to prevent damage, using a cloth swing and crane. Tree arborists are to guide the placement of the hollow sections onto the supporting branch; All fasteners and hardware used to affix the section to the recipient tree are to be suitable for external use. (e.g., galvanised, stainless steel, brass).							

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HC14	All clearing and construction staff and fauna spotter/catchers onsite must have a two-way radio on hand at all times to effectively communicate the observation of fauna or potential risks and/or injuries.	During clearing and construction.	All staff and contractors	Environmental harm caused to fauna is minimised.	To be enforced during clearing and construction.	To be enforced as part of CEMP.	Trigger: Injuries to personnel/fauna occur due to inadequate communication. Action: All staff collect a two-way radio at the site office daily.	**Medium** This management measure depends on the enforcement at the site.
HC15	Any native bee nests identified during pre-clearance, clearing on construction works must be safely relocated using the following procedure: • Nest entrances to be blocked using cloth at dusk; Nests are to be removed the following day by a fauna spotter / catcher, via appropriate hollow removal methods (i.e., cherry picker) and are to be relocated more than 2 km from the site.	During clearing and construction.	All staff and contractors	Environmental harm caused to fauna is minimised.	To be enforced during clearing and construction.	To be enforced as part of CEMP.	Trigger: Damage to bee nests or incorrect relocation Action: A fauna spotter catcher is to relocate bee nests to an appropriate location.	**Medium** This management measure requires a fauna spotter catcher and depends on the enforcement at the site.

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HC16	Following the widening and grading of the access road, road verges will be revegetated to maintain and enhance the narrow east-west connectivity along the current Forest Road track, particularly where it runs through otherwise cleared pasture.	Post clearing and construction	Environmental Representative	Environmental harm caused to fauna is minimised.	To be enforced following clearing and construction.	To be enforced as part of CEMP.	Not Applicable	**High** This is a repeatable measure which provides clear direction. This is a proven measure suitable for limiting disturbance.
HC17	Habitat clearing activities should be undertaken during 'quiet' periods for the relevant species (i.e., no clearing is to be undertaken during breeding periods when fauna are most active/mobile) where practicable.	During clearing and construction.	Environmental Representative	Environmental harm caused to fauna is minimised.	To be enforced during clearing and construction.	To be enforced as part of CEMP and MNES MP.	Trigger: Fauna death/injuries occur during habitat clearing. Action: A fauna spotter catcher is to advise when it is safe to remove trees.	**High** This is a proven measure suitable for limiting fauna stress and mortality

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HC18	Pre-emergent herbicides must be applied following vegetation clearing before the weed seeds germinate and are to be irrigated into the soil. Potential pre-emergent herbicides can include dimethphenamid-d, flumioxazin, indaziflam, isoxaben, napropamide, oryzalin, oxadiazon, oxyfluorfen, pendimethalin, prodiamine, and trifluralin. A secondary layer of pre-emergent herbicide will be required 7 to 10 days after initial application and irrigated into the soil.	During clearing and construction.	Environmental Representative	Prevention of weeds within the disturbed / cleared environment.	To be enforced during clearing and construction.	To be enforced as part of CEMP.	Trigger: Weeds are established in the cleared environment. Action: Herbicides are to be used to eradicate weeds.	**Medium** This management measure depends on the enforcement at the site.
Pest and Weed Management Measures								

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
PW1	Implementation of sediment control mechanisms to minimise the risk of weed seed washing into drainage channels.	During clearing and construction.	Environmental Representative / Environmental Engineer	Prevent the introduction or spread weeds.	Sediment control mechanisms to be inspected weekly during construction and operation.	To be included in ESCP.	Not applicable	**Medium** **The effectiveness of this management measure depends on the implementation and type of sediment control mechanisms employed.**
PW2	Implement control strategies outlined in the Department of Agriculture and Fisheries (DAF) weed and pest animal fact sheets and other relevant government biosecurity management strategies.	During all Project phases.	Environmental Representative	Prevent the introduction or spread weeds. Control pest species.	Control strategies to be inspected as required and will be subject to specific documentation and performance metrics.	To be enforced as part of CEMP and OMP.	Not applicable	**High** **This management measure involves inclusion of strategies identified in proven material.**
PW3	Onsite waste disposal strategies (particularly for food wastes) to be employed that will not encourage the presence of pest fauna	During clearing, construction and operation.	All Staff and Contractors	Control pest species and limit the potential for pest species to occur.	Limit the potential for pest species to occur.	Weekly monitoring during construction and monthly during operations. To be enforced as part of CEMP and OMP.	Trigger: Presence of pest fauna onsite due to waste Action: Waste management strategies as per council guidelines	**Medium** The effectiveness of this management measure relies on enforcement at the site level.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
PW4	Monitoring and weed inspections particularly in response to reported outbreaks or complaints from adjacent property owners	During all Project phases.	Environmental Representative / Contractors	Prevent the introduction or spread weeds.	Limit the outbreaks based on a robust monitoring scheme.	Weekly monitoring during construction and monthly during operations. To be enforced as part of CEMP and OMP.	Trigger: Weed infestations occur onsite Action: Environmental representative is to inspect the site weekly during construction and monthly during operations and record any weeds before eradication methods are applied.	**Medium** The effectiveness of this management measure relies on enforcement at the site level and receiving information from the adjacent property owners which may not always be forthcoming.
PW5	Regular onsite inspections of site infrastructure / equipment for resident pest fauna and establishment of a register for pest sightings	During all Project phases.	Environmental Representative / Contractors	Control pest species.	Identifying pest fauna will help ensure no further impacts occur.	Weekly monitoring during construction and monthly during operations. To be enforced as part of CEMP and OMP.	Trigger: An increase of pest fauna onsite. Action: Weekly monitoring during construction and monthly during operations.	**Medium** The effectiveness of this management measure relies on enforcement at the site level through inspections.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
PW6	Weed management during and following rehabilitation to prevent habitat degradation and potential increased fire risk.	During construction and operation.	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation No adverse impacts from fire during construction and operation. Prevent the introduction or spread weeds.	Identification and reporting of weed management effectiveness.	To be enforced as part of CEMP and OMP but requires enforcement at the site.	Trigger: Increased fire risks Action: Weekly monitoring of weeds during construction and monthly during operations.	**Medium** The effectiveness of this management measure relies on enforcement at the site level through inspections.
Air Quality and Dust Management Measures								
A1	Implementation of dust suppression measures, if dust is visible or when wind conditions become adverse, including: • Watering of exposed areas; and • Physical barriers (e.g., covering of exposed soil piles). The aim of measures is to prevent an increase of particulates (PM^{10} and $PM^{2.5}$) above the current baseline conditions.	At all times during clearing and construction	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation	Minimal to no offsite impacts.	To be enforced as part of CEMP.	Trigger: Increase of particulates (PM^{10} and $PM^{2.5}$) above the current baseline conditions Action: Dust suppression measures are inspected and reviewed for adequacy weekly during construction and monthly during operations.	**Medium** Dust suppression is a common management measure with proven success and effectiveness.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
A2	Trigger points for management decisions based on any or all of the following: • Real-time measurements of wind conditions; • Wind conditions as forecast by predictive numerical weather systems; and Dust monitoring at sensitive receptors when complaints are received.	At all times during clearing and construction	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation	Minimal to no offsite impacts.	To be enforced as part of CEMP and OMP.	Not Applicable	**Medium** Relies on an effective real-time mechanism and appropriate trigger points to guide site personnel.
A3	Suspension of earthworks during high wind conditions and change in operations during worst-case conditions (e.g., implementation of stricter dust controls).	At all times during clearing and construction	All Staff and Contractors	No adverse impacts from air pollution and dust during construction and operation	Minimal to no offsite impacts.	To be enforced as part of CEMP.	Trigger: Action:	**High** Suspension of earthworks and change to operations will alleviate any potential impacts.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
A4	Monitor dust control measures regularly for effectiveness.	At all times during clearing and construction	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation	Regular monitoring.	Regular monitoring of dust control measures during adverse weather conditions. To be enforced as part of CEMP and OMP.	Trigger: Dust controls are ineffective Action: Regular monitoring of dust control measures during adverse weather conditions.	**Medium** Relies on regulator monitoring during adverse weather conditions.
A5	If required, vehicles carrying loads with the potential to produce dust will be covered when moving within or outside the construction-site.	At all times during clearing and construction	All Staff and Contractors	No adverse impacts from air pollution and dust during construction and operation	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP.	Trigger: Increased dust during loaded vehicle movements Action: All vehicles carrying loads must be inspected for before leaving site.	**High** Covering of loads is a regulated in Queensland. This will be enforced onsite.
A6	Minimise extended engine idling and queuing adjacent to sensitive receptors.	At all times during clearing , construction and operation	All Staff and Contractors	No adverse impacts from air pollution and dust during construction and operation	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP but requires enforcement at the site. Inclusion in site induction material.	Trigger: Increased noise and fire risk Action: Included in site induction material.	**Low** This measure is dependent on the type of machinery or equipment used. This is a readily used management measure which is hard to enforce.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
A7	Onsite burning of any material will not be undertaken without a valid permit from the relevant QFES Fire Warden.	During all Project phases.	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation No adverse impacts from fire during construction and operation.	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP but requires enforcement at the site.	Trigger: Out of control fires Action: A permit must be obtained prior to onsite burning. Inclusion in site induction material	**High** This measure is effective in ensuring the strict no burning unless permitted.
A8	Ensure onsite fire-fighting equipment is regularly maintained and adequate staff training is implemented.	During all Project phases.	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation. No adverse impacts from fire during construction and operation.	Equipment is regularly maintained and there are no breaches.	To be enforced as part of CEMP and OMP but requires enforcement at the site.	Trigger: Out of control fires Action: Fire equipment is maintained during construction and operations. Inclusion in site induction material	**High** This measure will ensure equipment is working and appropriate should it be required. This measure is readily implemented across various projects.
A9	Regular cleaning of machinery and vehicle tyres to prevent wheel entrained dust emissions.	At all times during clearing , construction and operation	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation.	Equipment is regularly maintained and there are no breaches.	Enforce equipment and vehicle maintenance schedule.	Trigger: Dirty vehicle at prestart Action: Clean equipment	**Low** Will require the site representative to correctly carry out maintenance procedures. Effectiveness is generally limited.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
A10	Areas stripped of topsoil for Project construction will be rehabilitated as soon as practicable where not required during operations.	During construction and operation	Environmental Representative	No adverse impacts from air pollution and dust during construction and operation. No adverse impacts from fire during construction and operation.	Ensure topsoil is not left standing for long period of time.	To be enforced as part of CEMP and OMP but requires enforcement at the site.	Not Applicable	**High** This is an effective and commonly used management measures.
A11	All plant and equipment (e.g., haulage trucks) are to be maintained and operated in accordance with Australian Design Rules and manufacturer's specification.	At all times during construction and operation	Site supervisor	No adverse impacts from air pollution and dust during construction and operation. No adverse impacts from fire during construction and operation.	Equipment is regularly maintained and there are no breaches.	Enforce equipment and vehicle maintenance schedule.	Trigger: Equipment fails pre-start / mechanical inspections Action: Repair equipment.	**Low** Will require the site representative to correctly carry out maintenance procedures. Effectiveness is generally limited.
A12	Report any malfunctioning equipment to the Site Supervisor	At all times during construction and operation	All staff and contractors	No adverse impacts from air pollution and dust during construction and operation. No adverse impacts from fire during construction and operation.	Equipment is regularly maintained and there are no breaches.	Enforce equipment and vehicle maintenance schedule.	Not Applicable	**Low** Will require the site representative to correctly carry out maintenance procedures. Effectiveness is generally limited.

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A13	Visually inspect the Project area and operations for smoke, fumes and dust	At all times during construction and operation	All staff and contractors	No adverse impacts from air pollution and dust during construction and operation. No adverse impacts from fire during construction and operation.	Regular monitoring.	Regular monitoring of dust control measures during adverse weather conditions. To be enforced as part of CEMP and OMP.	Trigger: Increased smoke, fumes and dust onsite Action: Regular monitoring of dust control measures during adverse weather conditions.	**Medium** Relies on regulator monitoring during adverse weather conditions.
Heat Island Effect Management Measures								
HIE1	Fencing around the solar array perimeter is to be checked and maintained regularly to minimise fauna within the solar array perimeter and minimise potential impacts from the heat island effect.	During construction and operation	Environmental Representative / Contractors	Environmental harm caused to fauna is minimised. Unnecessary damage to vegetation is minimised	Completed daily during construction at relevant work areas.	Works to be undertaken in accordance with the proposed CEMP.	Trigger: Fauna are recorded within solar array perimeter Action: Fencing is checked daily and fauna is removed from solar array and relocated to appropriate habitat by fauna spotter catcher	**Medium** This management measure depends on the enforcement at the site.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
HIE2	Fauna proof fencing will be established along the PV Power Station area and will: • Be a minimum 1.8m high; • Be 3 m from any retained trees (excluding grasses) on the habitat side of the fence or plantings and be clear of all overhanging branches and vines; • Have a minimum 50 cm wide scratch panelling installed along the top of the length of the habitat side of the fence; and Be dug into the ground to a depth of at least 150 mm.	During construction and operation	Environmental Representative / Engineering Representative	No significant impacts to fauna as a result of construction and operation and heat island effect. Protection of Koala.	No death or injury from construction, operation or heat island effect.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Not Applicable	**High** Management measure is identified in the design guidelines for fauna with it effectiveness identified as high.

HIE3	Inclusion of fauna and Koala escape mechanisms along the PV Power Station side of the fencing i.e., escape climbing poles and fauna escape ramps will be implemented. These will involve the following: • Koala escape poles will be made from salvaged tree trunks (where possible) to encourage the use by entrapped Koalas and be a minimum of 125 mm in diameter; • Koala escape poles will be installed within 300 mm of the fencing; • Shrubs will be planted around the base of escape poles to provide cover and refuge for entrapped fauna and encourage the use of escape poles by entrapped Koalas; and	During construction and operation	Environmental Representative / Environmental Engineer	No significant impacts to fauna as a result of construction and operation and heat island effect. Protection of Koala.	No death or injury from construction, operation or heat island effect.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Fauna is trapped within solar array perimeter Action: Fencing is checked daily and fauna is removed from solar array and relocated to appropriate habitat by fauna spotter catcher	**High** Management measure is identified in the design guidelines for fauna with it effectiveness identified as high.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
	• Fauna escape ramps will be designed as specified in the Preliminary Documentation. Refer to Section 5.2.5 of the Preliminary Documentation for further details.							
HIE4	A fully-funded agreement will be put in place with a relevant organisation or authority for the maintenance and monitoring of the fencing and fauna escape mechanisms in perpetuity.	During construction and operation	Environmental Representative / Environmental Engineer	No significant impacts to fauna as a result of construction and operation and heat island effect. Protection of Koala.	No death or injury from construction, operation or heat island effect.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Not Applicable	**High** Management measure is identified in the design guidelines for fauna with it effectiveness identified as high.
HIE5	Solar panels will be made of non-reflective glass to minimise the amount of glare	Design stage	Environmental Representative / Environmental Engineer	Minimise the amount of glare and therefore the potential impacts to people and fauna.	No impacts from glare.	To be implemented as part of detailed designed.	Not Applicable	**High** Management measure is identified in the design guidelines.
HIE6	Any glare or external lighting identified as hazardous to be modified if requested by the Civil Aviation Authority.	As required during construction and operation	All staff and contractors	Modifications to solar panels are made as requested to minimise hazards to aviation.	No impacts from glare to aviation.	As required/requested	Not Applicable	**Medium** Management measure is applicable if issues arise and will be managed accordingly.
Noise Management Measures								

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
N1	Work hours are restricted to 6.30 am to 6.30 pm Monday to Sunday (noise generating activities). If work required outside of normal hours consultation to be undertaken with Environmental Representative.	During clearing and construction.	All Staff and Contractors	No adverse impacts from noise during construction and operation.	Ensure noise generative activities are completed within these hours.	To be enforced through construction and operation procedures and as part of CEMP and OMP.	Not Applicable	**High** Setting a time based management measure is able to be easily enforced. Any exceedance is likely to be reported by neighbouring landholders and stakeholders.
N2	Use of horns, bells, beepers, and other audible signals will be minimised as much as practicable without contravening safe work procedures.	During clearing, construction and operation.	All Staff and Contractors	No adverse impacts from noise during construction and operation.	Ensure noise generative activities are generally limited.	Enforced but governed by per safe work procedures.	Not Applicable	**Low** A number of safe work procedures require such audible signals, therefore limiting the effectiveness.
N3	Plant and equipment will be switched off when not required.	During clearing, construction and operation.	All Staff and Contractors	No adverse impacts from noise during construction and operation.	Ensure noise generative activities are generally limited.	To be enforced through construction and operation procedures and as part of CEMP and OMP. Potential to be governed by per safe work procedures.	Trigger: Plant and equipment is left running Action: Plant and equipment is inspected daily and turned off before/at COB.	**Medium** Requires onsite enforcement. Regularly implemented measure.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
N4	In cases where noise or vibration levels are identified as being too high, modification or substitution of work methods will be considered and undertaken where possible.	During clearing, construction and operation.	Environmental Representative	No adverse impacts from noise during construction and operation.	Ensure noise generative activities are generally limited.	To be enforced through construction and operation procedures and as part of CEMP and OMP. Potential to be governed by per safe work procedures.	Trigger: High noise and vibration levels Action: Work method will be modified/substituted where possible.	**Medium** Effective in limiting noise impacts. However, work methods may be governed by safe work procedures therefore limiting modification or substitution.
N5	Noise to be mitigated by properly maintaining all equipment used onsite in accordance with manufacturers specifications. Where in accordance with manufactures specifications, equipment will be fitted with noise suppression equipment.	During clearing, construction and operation.	Environmental Representative	No adverse impacts from noise during construction and operation.	Ensure noise generative activities are generally limited.	To be enforced through construction and operation procedures and as part of CEMP and OMP. Potential to be governed by per safe work procedures.	Trigger: Noisy equipment Action: Fit equipment with noise suppression equipment	**Medium** Effective in limiting noise impacts. However, work methods may be governed by safe work procedures therefore limiting modification or substitution.
N6	Designated access routes, unloading areas and parking areas.	During clearing, construction and operation.	All Staff and Contractors	No adverse impacts from noise during construction and operation.	Proper designation of these routes and areas.	To be identified during detailed design.	Not Applicable	**Low** Designation of these areas is important to limit offsite noise impacts.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
N7	Sensitive receptors located in proximity to the proposed works will be consulted with and given advance warning of any out of hours or high noise work activities.	During clearing, construction and operation.	Environmental Representative	No adverse impacts from noise during construction and operation.	Ensure checks are completed with landholders prior to any activities which may result in impacts to landholders and other stakeholders.	To be enforced through construction and operation procedures.	Trigger: Complaints as a result of construction. Action: Consultation with nearby sensitive receptors	**Medium** Landholder and stakeholder consultation is often overlooked. Will require the site representative to correctly carry out timely notifications.
N8	Minimise the drop heights of materials.	During clearing, construction and operation.	All Staff and Contractors	No adverse impacts from noise during construction and operation.	Minimal to no complaints as a result of construction.	Implement as part of construction procedures, including in the CEMP.	Not Applicable	**Medium** Effective management measure to limit noise impacts offsite. Requires enforcement by site personnel.
N9	Enforcing speed limits to ensure that all operations are operating at the lowest operable noise level to minimise the impacts of noise and vibration upon wildlife; and	During clearing, construction and operation.	Environmental Representative	No adverse impacts from noise during construction and operation.	Minimal to no complaints as a result of construction.	Implement as part of construction procedures, including in the CEMP.	Trigger: Speeding onsite Action: Induct staff on speed limits across site	**Medium** Effective management measure to limit noise impacts offsite. Requires enforcement by site personnel.
Accidental Release of Pollutants Management Measures								

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
RP1	All refuelling activities and the storage and handling of oil and chemicals will comply with relevant Australian Standards.	During clearing, construction and operation.	All Staff and Contractors	No adverse impacts from accidental release of pollutants during construction and operation.	To be enforced during construction and operation.	To be enforced as part of CEMP and OMP. Regular checks to be completed.	Trigger: Inappropriate refuelling practices Action: Staff to be inducted on refuelling techniques	**High** This is an effective management measure which ensures such chemicals are effectively stored.
RP2	Bunding of chemical storage facilities and appropriate storage of chemicals according to AS 1940 'The storage and handling of flammable and combustible liquids'.	During construction and operation.	All Staff and Contractors	No adverse impacts from accidental release of pollutants during construction and operation.	To be enforced during construction and operation.	To be enforced as part of CEMP and OMP. Regular checks to be completed.	Trigger: Unsafe chemical storage Action: Staff to be inducted on safe storage of chemicals	**High** This is an effective management measure which ensures such chemicals are effectively stored.
RP3	Appropriate spill control materials including booms and absorbent materials will be onsite at refuelling facilities at all times. These will be used for mitigating and managing events where a substance is spilled into surrounding waters.	During clearing, construction and operation.	All Staff and Contractors	No adverse impacts from accidental release of pollutants during construction and operation.	To be enforced during construction and operation.	To be enforced as part of CEMP and OMP. Regular checks to be completed.	Trigger: Uncontrolled spillages Action: Staff to be inducted on spill control techniques	**Medium** This management measure is reactive but effective in ensuring impacts should spills occur are limited.
RP4	Locate and design roads and other built infrastructure so that minimal runoff to waterways occurs.	During design and construction.	Environmental Representative	No adverse impacts from accidental release of pollutants during construction and operation.	Proper environmental design of roads and built infrastructure.	To be identified during detailed design.	Not Applicable	**Medium** Design of roads and other built infrastructure is important to limit onsite and offsite runoff impacts.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
RP5	Drainage design that allows for the retention of mine affected water prior to any discharge into the aquatic environment.	During design and construction.	Environmental Representative	No adverse impacts from accidental release of pollutants during construction and operation.	Proper environmental design of roads and built infrastructure.	To be identified during detailed design.	Not Applicable	**Medium** Design of drainage is important to limit onsite and offsite runoff impacts.
Bushfire and Fire Management Measures								
BF1	Protocols outlining the fire management measures for the Project will be developed and implemented prior to the commencement of Project operations.	Prior to operations. During clearing and construction.	Environmental Representative	No adverse impacts from fire during construction and operation.	Inclusion and enforcement of management measures.	Inclusion and enforcement of management measures.	Trigger: Out of control fires Action: Enforcement of management measures.	**High** Protocols to be developed by a suitably qualified person.
BF2	A qualified person will be appointed as Site Safety Advisor and will have on-site a set of safety data sheets (SDS) for hazardous and dangerous materials.	During clearing, construction and operations.	Environmental Representative	No adverse impacts from fire during construction and operation.	Regular checklists.	To be enforced as part of CEMP and OMP.	Not Applicable	**High** Effective management of fuel loads greatly decreasing the risk and impacts of fire.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
BF3	A Bushfire Management Plan (BMP) will be prepared for Project operations, informed by consultation with the Queensland Fire and Emergency Service (QFES).	Prior to construction.	Environmental Representative	No adverse impacts from fire during construction and operation.	Implementation of a Bushfire Management Plan. Enforcement onsite.	To be enforced as part of BMP.	Trigger: Out of control fires Action: Enforcement of management measures.	**High** Bushfire Management Plan to be developed bt a suitably qualified person. This measure is readily implemented across various projects.
BF4	If works are undertaken during the bushfire season, the fire danger rating will be monitored daily through the QFES website.	During clearing, construction and operations.	Environmental representative	No adverse impacts from fire during construction and operation.	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP.	Trigger: Unplanned fires Action: Daily monitoring of fire ratings.	**High** This measure ensures no risk of out of control fires or adverse impacts to the environment
BF5	Open fires, including open barbeques, billy fires and brush burning will not be permitted on site.	During clearing, construction and operations.	All staff and contractors	No adverse impacts from fire during construction and operation.	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP but requires enforcement at the site.	Trigger: Unplanned fires Action: Staff made aware during staff induction	**High** This measure is effective in ensuring the strict no burning unless permitted.
BF6	Hot works activities will only be undertaken during a declared Total Fire Ban where an exemption has been issued by QFES.	During clearing, construction and operations.	Site Supervisor	No adverse impacts from fire during construction and operation.	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP.	Trigger: Unplanned fires Action: Staff made aware during staff induction	**High** This measure ensures no risk of out of control fires or adverse impacts to the environment

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
BF7	The following precautions will be taken to minimise the possibility of fire due to hot work activities: ▪ The area over which hot work will take place will be maintained free of combustible material; ▪ Firefighting equipment, including a validated portable fire extinguisher, and trained personnel will be available during all hot work operations; and Water trucks will be available to respond to fire.	During clearing, construction and operations.	Site Supervisor	No adverse impacts from fire during construction and operation.	Equipment is regularly maintained and there are no breaches.	To be enforced as part of CEMP and OMP but requires enforcement at the site.	Trigger: Unplanned fires Action: Fire equipment is maintained during construction and operations. Inclusion in site induction material	**High** This measure will ensure equipment is working and appropriate should it be required. This measure is readily implemented across various projects.
BF8	Vehicles may not idle or be parked in areas of long grass.	During clearing, construction and operations.	All staff and contractors	No adverse impacts from fire during construction and operation.	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP.	Trigger: Unplanned fires Action: Staff made aware during staff induction	**High** This measure ensures no risk of out of control fires or adverse impacts to the environment

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
BF9	Smoking is not permitted on site aside from in a designated safe zone.	During clearing, construction and operations.	All staff and contractors	No adverse impacts from fire during construction and operation.	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP.	Trigger: Unplanned fires Action: Staff made aware during staff induction	**High** Designation of onsite smoking areas will greatly limit the potential for impacts associated with fire.
BF10	In accordance with solar array standards a 10 m bushfire setback will be established from the Project boundary, within the Project area.	During construction and operations.	Environmental representative	No adverse impacts from fire during construction and operation.	This measure will be implemented throughout construction and operational phases.	To be enforced as part of CEMP and OMP.	Not Applicable	**High** This measure ensures no risk of out of control fires or adverse impacts to the environment
BF11	Vegetation within the site will be regularly inspected and managed for fuel loads.	During clearing, construction and operations.	Environmental representative	No adverse impacts from fire during construction and operation.	Vegetation is free of fuel loads and does not pose a risk of fire.	To be enforced as part of CEMP and OMP but requires enforcement at the site.	Trigger: Unplanned fires due to fuel loads Action: Environmental representative to inspect vegetation weekly during construction.	**High** This measure ensures no risk of out of control fires or adverse impacts to the environment.
BF12	Fire management should be undertaken in accordance with the Bushfire Management Plan.	During clearing, construction and operations.	Environmental representative	No adverse impacts from fire during construction and operation.	Implementation of a Bushfire Management Plan. Enforcement onsite.	To be enforced as part of BMP.	Not Applicable	**High** Bushfire Management Plan to be developed by a suitably qualified person. This measure is readily implemented across various projects.
Koala Habitat Management Measures								

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K1	Site inductions and pre-start meetings are conducted prior to construction works to raise awareness of koalas on site and protocols relating to the protection of koalas and their habitat.	Environmental Representative	During pre-clearing works, clearing, construction and operation.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	Completed prior to construction at relevant work areas.	To be enforced as part of CEMP, OEMP and MNES MP.	Not applicable	**High** This is a repeatable measure which provides clear direction. This is a proven measure suitable for limiting disturbance.
K2	Any retained habitat is to be clearly demarcated with temporary fencing, tape and/or other visible markers, and access to this habitat is restricted to reduce the degradation and loss of habitat.	Environmental Representative	During pre-clearing works, clearing and construction.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	Retention of vegetation as much as possible within Project Area and in particular along the Access Corridor.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Vegetation clearance extends beyond survey peg Action: Revegetate and rehabilitate	**High** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.
K3	Clearing of vegetation should be staged and timed to provide a minimum of 12 hours between clearing events including between non-habitat and habitat trees.	Environmental Representative / Environmental Engineer	During clearing.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death, stress or injury from construction activities.	To be implemented as part of detailed designed. To be enforced as part of CEMP and OMP.	Trigger: Vegetation is cleared outside permitted times Action: Fauna spotter catcher to advise when clearing is permitted	**High** Management measure is identified in the design guidelines for the vulnerable koala with it effectiveness identified as high.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K4	Any appropriate habitat links, or trees retained as stepping stones, are maintained from the clearing site to adjacent habitat areas.	Environmental Representative	During clearing and construction.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	Retention of vegetation as much as possible within Project Area and in particular along the Access Corridor.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Not applicable	**High** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.
K5	Trees are to be thinned out on the site prior to bulk clearing to encourage resident koalas to establish new home ranges.	Environmental Representative / Environmental Engineer	During clearing.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death, stress or injury from construction activities.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Not applicable	**High** Management measure is identified in the design guidelines for the vulnerable koala with it effectiveness identified as high.
K6	Trees are to be felled in a controlled manner using a vertical tree grab on an excavator.	Environmental Representative / Environmental Engineer	During clearing.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death, stress or injury from construction activities.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Incorrect felling techniques Action: Fauna spotter catcher is to inspect felling techniques daily Felling is to be undertaken by a qualified contractor only	**High** Management measure is identified in the design guidelines for the vulnerable koala with it effectiveness identified as high.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K7	Trees with koalas are clearly flagged with a specific colour or design of flagging tape and the on-site fauna spotter is alerted.	Environmental Representative / Environmental Engineer	During pre-clearing, clearing and construction.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death, stress or injury from construction activities.	To be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Clearing of trees with Koalas present Action: Fauna spotter catcher to advise when clearing is permitted	**High** Management measure is identified in the design guidelines for the vulnerable koala with it effectiveness identified as high.
K8	A 60 km/h speed limit on the Access Corridor between dusk and dawn with appropriate signage recommendation will be put forward to Council. As part of site inductions, staff will be reminded to adhere to this recommendation to not exceed 60 km/h.	Environmental Representative / Environmental Engineer	During pre-clearing, clearing, construction and operation.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death or injury from vehicle strike.	Design and configuration to be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Speeding onsite Action: Induct staff on speed limits across site	**Low** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as low.
K9	Road signage to be used to alert drivers of potential koala movement across the road.	Environmental Representative / Environmental Engineer	During all project phases.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death or injury from vehicle strike.	Design and configuration to be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Not applicable	**Low** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as low.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K10	Night-time vehicle movements on site and travelling to and from the site is restricted when koalas are most active between 6pm to 6am.	All staff and contractors	During pre-clearing, clearing, construction and operation.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death or injury from vehicle strike.	Design and configuration to be implemented as part of detailed designed. To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Night time driving Action: Staff are to be made aware of movement restrictions during induction periods	**Medium** Management measure is identified in the design guidelines for the vulnerable koala with its effectiveness identified as medium.
K11	In the event of a person recording a sick, injured or dead Koalas located in the Project Area, all work must cease immediately and the koala is reported to RSPCA on 1300 ANIMAL (1300 264 625).	All staff and contractors	During pre-clearing, clearing, construction and operation.	Protection of Koala.	No death or injury from construction activities.	To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Injury to fauna / Koala Action: RSPCA is alerted and work is to cease until animal has been removed by RSPCA / fauna spotter catcher	**Medium** Such procedures are expected to be effective and repeatable.
K12	Fauna spotter/catchers are to be aware of appropriate quarantine and biosecurity procedures for koalas found to be affected by disease	Environmental Representative	During all project phases.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death or injury from construction activities, vehicle strike or dog attacks.	To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Disease outbreaks in Koalas Action: Fauna spotter catchers to be inducted on biosecurity measures	**Medium** Such a measure is reliant on the capability of the fauna spotter/catcher and are expected to be effective and repeatable.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K13	Hygiene and biosecurity measures to minimise the of introduction and/or spread of myrtle rust (caused by the fungus *Austropuccinia psidii*) in the Project area are enforced through vehicle washdown procedures. Wash down areas will be clearly marked to prevent vehicles entering the site that may carry vegetation pathogens known to affect koala food trees (e.g., myrtle rust).	Environmental Representative	During all project phases.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No disease, illness or death from pathogens as a result of construction and operation.	To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Spread of myrtle rust within Project area Action: Vehicle washdown areas are regularly inspected for myrtle rust. Project area is inspected for myrtle rust weekly during construction.	**High** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.
K14	Visual monitoring of adjacent habitat by site personnel to record and notify RSPCA of any koalas and potential disease occurrence.	Environmental Representative	During all project phases.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No disease, illness or death from pathogens as a result of construction and operation.	To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Increase in diseases in Koalas Action: RSPCA are to be notified of any koalas and potential disease occurrence	**High** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K15	Fauna egress infrastructure installed along fencing to prevent entrapment (refer to **Section 5.2.2.1**).	Environmental Representative / Environmental Engineer	During design, construction and operation.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death or injury from construction activities, vehicle strike or dog attacks.	To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Fauna trapped within fencing boundaries Action: Remove trapped fauna	**High** Management measure associated with koala furniture to allow koalas to escape is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.
K16	In the event a Koala is observed at the Project Area, all work must cease immediately within the surrounding area until the Koala has moved on from the area.	All Staff and Contractors	During pre-clearing, clearing and construction.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death or injury from construction activities or vehicle strikes.	To be enforced as part of CEMP and MNES MP.	Trigger: Koala injury due to construction vehicles Action: Fauna spotter catcher to advise when works can commence	**High** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K17	In the event that a tree within the Myrtaceae family is left within the disturbance footprint boundaries, the trees are to be monitored on a regular basis for the presence of myrtle rust. If myrtle rust is detected on the trees, they are to be treated in accordance with appropriate disease control measures.	Environmental Representative	During all project phases.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No impacts to Koalas recorded. No trees are infested with myrtle rust.	To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Spread of myrtle rust within Project area Action: Project area is inspected for myrtle rust weekly during construction.	**Medium** Such a measure is reliant on the capability of the personnel and are expected to be effective and repeatable
K18	Domesticated dogs are not permitted onsite.	All staff and contractors	During all project phases.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death or injury from dog attacks.	To be enforced as part of CEMP, OEMP and MNES MP.	Trigger: Fauna mortality from domesticated animals Action: Any domestic animal brought to site is immediately removed and the incident is reported.	**High** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.

No.	Action	Applicable Phase	Responsibility	Environmental Outcome to be achieved	Performance / Completion Criteria	Proposed Monitoring and Evaluation Program	Triggers for Remedial Actions	Effectiveness
K19	Clearing of Koala habitat trees should be undertaken during the non-breeding season only. Therefore, clearing should only be undertaken between April – July.	Environmental representative / All staff and contractors	During clearing and construction.	No significant impacts to Koalas as a result of construction and operation. Protection of Koala.	No death, stress or injury from construction activities.	To be enforced as part of CEMP and MNES MP.	Trigger: Clearing of koala habitat during peak koala season Action: Do not clear during peak koala season. Clearing to be undertaken between April – July. Staff are to be made aware of clearing restrictions during induction periods	**High** Management measure is identified in the EPBC Act referral guidelines for the vulnerable koala with it effectiveness identified as high.