Environmental Management Plan

Document Control

Revision	Date	Author	Approver	Summary of Changes
1.0	01/12/2021	Manager Environment		Initial Development of EMP
2.0	05/09/2025	Senior Environmental Specialist	Manager Environment	Update to align with Environment & Sustainability Specification Review

Contents

Introduction

Purpose

This document provides the required standard operational controls to be implemented to meet Powerlink's environmental objectives during the construction, operation, maintenance and decommissioning of Powerlink's assets.

Scope

The Environmental Management Plan (EMP) applies to activities carried out by Powerlink, its Contractor/s or representatives during the construction, operation, maintenance and decommissioning of the asset*. Powerlink is not responsible for activities undertaken by other parties (such as landholders or other utility companies).

Powerlink and its nominated Contractors or representatives will be responsible for implementing the requirements of this EMP.

**The content of this EMP reflects Powerlink's approved procedures for the construction, operation, maintenance and decommissioning of its assets and should not be altered to reflect the specific requirements of Project construction or associated approval conditions. Any requirements specific to a Project that are in addition to those listed in the EMP must be captured in the Environmental Annexure and/or included on the Environmental Work Plan (EWP).*

Legislative Compliance

Powerlink activities must be undertaken in accordance with all relevant Commonwealth, State, and local government legislation. An assessment of all environmental and planning approval requirements and other legislative requirements relevant to the activities is to be carried by Powerlink staff, Contractors and Maintenance Service Providers (MSPs) prior to the commencing the activity. There may also be existing approvals or exemptions which are subject to conditions. Some of the key potential requirements are identified in this EMP.

Approval Commitments and Requirements

Any commitments and requirements identified within a Ministerial Infrastructure Designation Assessment Report, referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), or any other approval process and resultant conditions, must be followed and undertaken. All approval commitments and requirements must be documented within Powerlink's Centralised Document Management System for Asset Specific (Functional Location) Environmental Information for referencing purposes, along with any relevant geospatial data recording.

Implementation

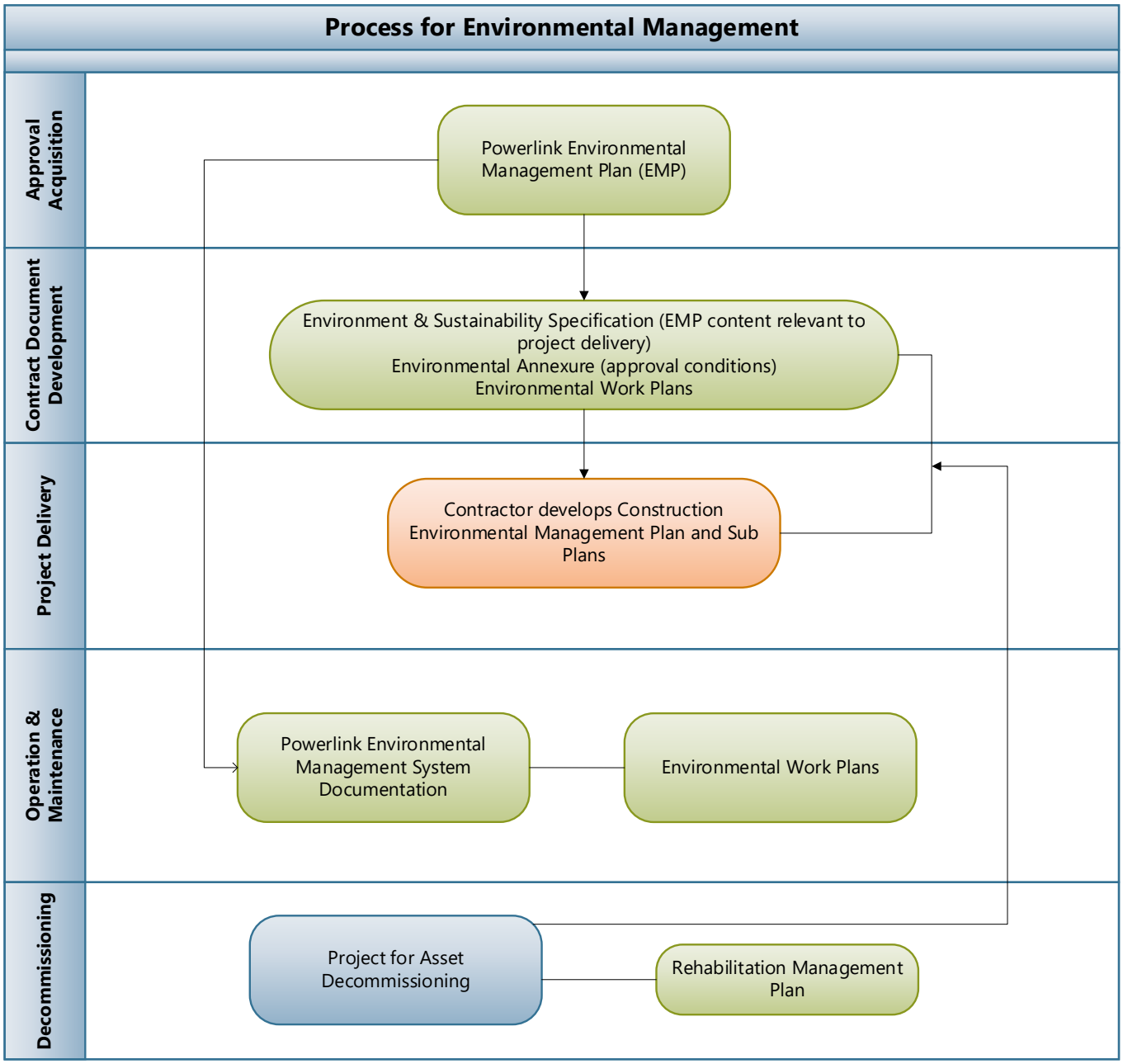
The following section provides an overview of Powerlink's process for environmental management, including the relationship to this EMP. Powerlink's process for environmental management is also depicted in the flowchart below.

1. **Acquisition of Approvals:** Powerlink's EMP is included as a supporting document for acquisitions of Commonwealth and State approvals. The environmental controls contained within this EMP specify Powerlink's minimum requirements for the management of environmental aspects relevant to activities undertaken by Powerlink and its Contractors.
2. **Contract Document Development:** Powerlink's Environment and Sustainability Specification is issued as part of Contract engagement documentation. This Specification defines Powerlink's environmental management requirements relating to Work Under Contract (WUC) for a Project.

   An Environmental Annexure is also developed and issued as part of Contractor engagement. The Environmental Annexure details Project-specific environmental management requirements relating to WUC.

   Environmental Work Plans (EWPs) provide a geospatial representation of key land and water based data sets which are of relevance to Powerlink's assets. EWPs are used by Powerlink staff, Contractors, relevant sub-Contractors and relevant MSPs for the identification of key environmental features and/or constraints which have been highlighted to enable works to be undertaken on, or in association with, a Powerlink asset.
3. **Project Delivery:** The Contractor is required to develop, and implement through Project delivery, a Construction Environmental Management Plan (CEMP). The CEMP must, at a minimum, meet the requirements as outlined within the Environment and Sustainability Specification and Environmental Annexure and all relevant legislative requirements. Roles and responsibilities must be nominated in the Contractor's CEMP, including timing/frequency for undertaking environmental management activities where applicable.
4. **Operation and Maintenance:** Activities undertaken by Powerlink and Contractors during the operation and maintenance phase are managed in accordance with Powerlink's Environmental Management System documentation, including this EMP. EWPs are also used by Powerlink staff, Contractors, relevant sub-Contractors and relevant MSPs for the identification of key environmental features and/or constraints which have been highlighted to enable works to be undertaken on, or in association with, a Powerlink asset.
5. **Decommissioning:** Activities undertaken by Powerlink and Contractors during the decommissioning phase are managed in accordance Steps 2 and 3 above.

   As the operational life of a transmission line and substation is typically 50 years, specific measures relating to decommissioning (removal or replacement of an asset) have not been included in this EMP. Environmental regulations, our understanding of environmental impacts and community expectations will have changed over this length of time and will need to be considered as part of the environmental assessment process, current at the time of decommissioning. Any agreements, requirements or conditions relating to asset removal or replacement (e.g. conditions of a development approval) will be retained within the relevant Objective site folder, to ensure that such measures are not overlooked at the end of the asset's life.



Roles and Responsibilities

Who	What
Powerlink General Manager Environment and Sustainability	Approves the EMP and any revisions.
Powerlink Manager Sustainability and Governance	Ensures this EMP is reviewed when changes to relevant environmental legislation or changes to Powerlink Standards occur.
Powerlink Manager Environmental Approvals	
Powerlink Manager Environmental Delivery	
Powerlink Senior Environmental Specialist	Responsible for updating this EMP when changes to relevant environmental legislation or changes to Powerlink Standards occur.
Powerlink Environmental Representative	Environmental specialist responsible for interpreting and promoting awareness and understanding the requirements of this EMP. Provide the Project team with Project-specific environmental advice and the required application of mitigation measures in this EMP. Facilitate the development of the Project-specific environmental verification and compliance plan to monitor the Contractor/s. Assist in verification of Contractor compliance against the EMP. Ensure any permits/approvals/licenses are obtained in accordance with the EMP. Undertake investigations of environmental events when required. Ensure that all environmental items are closed out prior to completion of the Project.
Powerlink Employees / Contractors	Undertake works in accordance with the documented EMP and Environmental Annexure requirements. Attend and actively participate in inductions and Project training requirements. Report environmental events to the relevant Supervisor as soon as possible. Participate in investigations if requested, including the implementation of corrective/ preventative actions as required.

Other Relevant Documentation

Land Access Protocol (LAP)

This EMP must be used in conjunction with Powerlink's Land Access Protocol (LAP). The LAP contains the guiding principles and commitments for land access which underpin Powerlink's relationship with landholders and our access to and use of land. A copy of the LAP is available from Powerlink's website.

Stakeholder Management – PQ Connect

PQ Connect provides a corporate-wide stakeholder management system or a single point of truth for all information captured through stakeholder engagement and complaints management processes. It provides a mechanism to track interactions with stakeholders and highlights constraints or commitments made by Powerlink.

Cultural Heritage

Management of Powerlink's cultural heritage related risk is governed by the Cultural Heritage Management Framework. This includes Aboriginal and other cultural heritage.

Assessment of risk posed by activities conducted by Powerlink staff, Contractors and MSPs is to be made by Powerlink's cultural heritage practitioners prior to the activity. Cultural heritage constraints are documented within PQ Connect, Environmental Work Plans (EWP's) and Cultural Heritage Implementation Documents (CHIDs).

Environmental Audits and Inspections

Environmental audits may be conducted by a Powerlink Environmental Representative at any given time throughout the Project against this EMP or other requirements (e.g. Project Environmental Annexure requirements, permits, approval conditions). The frequency of environmental inspections is dependent on the environmental risk determined for the work.

Independent audits may be required as a condition of Project approvals or at the request of the Regulator. The frequency of external audits will be undertaken in accordance with relevant Project approval conditions, or as directed by the Regulator.

Non-Conformance and Corrective Actions

The identification of non-conformances may be a result of an environmental incident, inspections/audits/ monitoring against this EMP, or other requirements (e.g. Project Environmental Annexure requirements, permits, approval conditions).

Powerlink's Corporate Health, Safety and Environment (HSE) Management System (HSEMS), includes processes and procedures for responding to environmental incidents or non-conformances, including notification requirements and implementation of corrective actions.

Emergency Response

Powerlink's processes and procedures for emergency response are maintained within the Corporate HSEMS. Powerlink's Emergency Management Procedure has been developed to prevent, plan for, respond to and recover from HSE emergencies at Powerlink sites, in order to minimise the consequences, prevent further harm and enable a safe and efficient resumption of normal operations.

Contractors must develop and implement an Emergency Preparation and Response Plan that describes the requirements and associated responsibilities to effectively prevent, prepare for, respond to, and recover from any emergency situation associated with the scope of work, including environmental incidents and natural disasters (e.g. floods events, bushfire, cyclone).

Training and Competency – Environmental

Powerlink staff or Contractors undertaking activities that have an environmental impact will have an appropriate competency matrix which includes specific environment related competencies.

Training records will need to be maintained by Powerlink for its staff and management. Contractors working on behalf of Powerlink will have the obligation to maintain training records for their staff and sub-contractors. Training records will be reviewed, including inductions, as part of routine environmental audits & inspections.

Review and Improvement

The EMP will be reviewed and updated as required to ensure the document addresses any site related environmental issues or changes in guidelines, policies, procedures or legislation. The review and update of the EMP is to allow for a process of continuous improvement. Any identified changes or deficiencies in the EMP should be promptly addressed and new revisions of the EMP issued as necessary. Any changes or updates to the EMP will be discussed with the Powerlink Environmental Managers (refer to Section - Roles and Responsibilities) to determine if such changes will trigger any broader organisational improvements or issues.

Defined Terms

Terms	Definition
ACDC	In Queensland, an Agricultural Chemicals Distribution Control (ACDC) licence, also known as a Commercial Operator Licence, is required for individuals who ground spray herbicides with powered machinery on land they don't own or occupy.
Acid Sulfate Soils (ASS)	Naturally occurring soils, sediments or organic substrates that are formed under waterlogged conditions. These soils contain iron sulphide materials (predominantly as the mineral pyrite) or their oxidation products.
ADR	In this document has the meaning '*Accepted Development Requirements for Operational Work that is Constructing or Raising Waterway Barrier Works'*.
AHD	An abbreviation for 'Australian Height Datum'.
APVMA	Is an abbreviation for 'Australian Pesticides and Veterinary Medicines Authority'

Terms	Definition
Appropriately Qualified Person	For Protected Matters: • Clauses NF1, VM1 & VM4 means an environmental scientist, ecologist or other subject matter expert appropriately qualified to undertake environmental and ecological impact assessments. • Clause NF11, means a fauna spotter-catcher, who holds a valid Rehabilitation Permit (fauna spotter-catcher). For Soil and Water: • Clauses SW1, SW5, SW9 & SW12 means undertaken by a Certified Professional Soil Scientist, or a soil scientist or agronomist with qualifications relating to soil science and at least 10 years relevant experience in soil assessment and management. • Clause SW13 means a Rehabilitation Specialist with a minimum of five (5) years' experience in supervising and carrying out large scale rehabilitation activities. • Clause SW20 means an environmental scientist or other subject matter expert appropriately qualified in best practice water quality assessment and management.
BTEXN	Is an abbreviation for 'benzene, toluene, ethylbenzene, xylene and naphthalene'.
CEC	Is an abbreviation for 'cation exchange capacity'.
CEMP	Is an abbreviation for a 'Construction Environmental Management Plan'.
CHID	Is an abbreviation for a 'Cultural Heritage Implementation Document'.
CSMP	Is an abbreviation for a 'Construction Sustainability Management Plan'.
Conservation Significant Fauna	Means a species listed as threatened or migratory under the *Environment Protection and Biodiversity Conservation Act 1999* and threatened or near threatened under the *Nature Conservation Act 1992*.
Conservation Significant Flora	Means a species or community listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* and threatened or near threatened under the *Nature Conservation Act 1992*.
Contract	Means the contract between Powerlink and the Contractor to which this Specification applies.
Contractor	Means a person required to perform WUC.
Environmental Aspect	The categorisation of environmental elements or issues.
Environmental Management Register (EMR)/Contaminated Land Register (CLR)	Public registers which contain information about contaminated land in Queensland. Land is listed on the Environmental Management Register (EMR) if notifiable activities have or are being carried out on the land. Land is moved from the EMR to the Contaminated land Register (CLR) where it is necessary to take action to remediate the land to prevent serious environmental harm and protect human health or other aspects of the environment.
Environmental Work Plan (EWP)	Is a spatial representation of environmental features and constraints.
Erosion and Sediment Control Plan (ESCP)	Is a plan showing how to prevent stormwater pollution throughout phases of soil disturbance until rehabilitation has occurred.

Terms	Definition
Hazardous Area	Areas of Queensland that have been declared to protect susceptible crops from damage caused by certain volatile herbicides.
High Risk Materials	Material with a high potential to contain biosecurity matter, such as mulch, soil, seed, hay, and propagation material.
HSE	Is an abbreviation for 'Health, Safety and Environment'.
HSEMS	Is an abbreviation for 'Health, Safety and Environment Management System'.
IECA	Is an abbreviation for the 'International Erosion Control Association'.
Incompatible Vegetation	Vegetation that has the potential to grow inside safe electrical clearances.
Maintenance work	Activities necessary to ensure access to, and the safe and reliable function of Queensland Electricity Supply Industry (QESI) infrastructure - as defined in the QESI *Code of Practice – Maintenance of Electrical Corridors and Infrastructure in Queensland Parks and Forests*. Note: Does not include the construction of new infrastructure or a change in existing infrastructure that increases the nature or extent of its impacts on the site.
MID	Is an abbreviation for 'Ministerial Infrastructure Designation'.
MNES	Is an abbreviation for 'Matters of National Environmental Significance'
MSES	Is an abbreviation for 'Matters of State Environmental Significance'
NATA	Is an abbreviation for 'National Association of Testing Authorities'.
OCPs	Is an abbreviation for 'organochlorine pesticides'.
OPPs	Is an abbreviation for 'organophosphorus pesticides'.
PAHs	Is an abbreviation for 'polycyclic aromatic hydrocarbons'.
PES	Is an abbreviation for 'Prescribed Engineering Service'
Potential Acid Sulfate Soils (PASS)	Are soils or sediments containing iron sulphides (commonly pyrite) which have the potential to produce sulfuric acid if they are drained or excavated.
pH	A numeric scale used to specify the acidity or alkalinity of an aqueous solution.
Polychlorinated biphenyls (PCBs)	Polychlorinated biphenyls (PCBs) is a group of harmful persistent organic pollutants that are toxic, persist in the environment and animals, bioaccumulate through the food chain and pose a risk of causing adverse effects to human health and the environment. Historically used as coolants and lubricants in electrical equipment.
PPE	An abbreviation for 'Personal Protective Equipment'.
Protected Area	Protected Area under the *Nature Conservation Act 1992*: The classes of protected areas to which this Act applies are— (a) national parks (scientific); and (b) national parks; and (c) national parks (Aboriginal land); and (d) national parks (Torres Strait Islander land); and (e) national parks (Cape York Peninsula Aboriginal land); and (f) conservation parks; and (g) resources reserves; and (h) special wildlife reserves; and (i) nature refuges; and (j) coordinated conservation areas.
QESI	An abbreviation for the 'Queensland Electricity Supply Industry'.
RPEQ	An abbreviation for a 'Registered Professional Engineer of Queensland'

Terms	Definition
Safety Data Sheet (SDS)	Safety Data Sheet (SDS) is a document that provides information on the properties of hazardous chemicals and how they affect health and safety in the workplace.
Site Management Plan	State how a site (listed on the EMR or CLR) will be managed in order to prevent environmental harm or public health risks.
Suitably Qualified Person	Suitably Qualified Person under the *Environmental Protection Act 1994* is a professional that has the necessary qualifications and experience to assess contaminated land and ensure that risks to human health and the environment have been appropriately managed.
Sulphur hexafluoride (SF_6)	Sulphur hexafluoride (SF_6) is an inorganic, colourless, odourless, non-flammable, extremely potent greenhouse gas which is an excellent electrical insulator.
TOC	Is an abbreviation for ‘total organic carbon’.
TRH	Is an abbreviation for ‘total recoverable hydrocarbons’.
WUC	Is an abbreviation for ‘Work Under Contract’ and means the work the Contractor is required to perform under the Contract.

Environmental Aspects

Protected Matters

Powerlink's hierarchy of management principles in the planning for and development of a Project must be applied as follows:

1. **Avoid:** locating activities to avoid direct and indirect impacts on Matters of National Environmental Significance (MNES) and Matters of State Environmental Significance (MSES).
2. **Minimise**: minimising direct and indirect impacts where they cannot be completely avoided.
3. **Mitigate and Manage**: implementing mitigation and management measures to reduce direct, indirect and cumulative impacts.
4. **Rehabilitate**: actively remediate and stabilise impacted areas.
5. **Offset (where required)**: provide suitable offsets for activities that result in significant residual impacts to MNES and MSES.

The following measures must be applied during Project planning to avoid and minimise impacts on conservation significant species and communities:

PM1 MNES habitat modelling must be used to develop constraints mapping to prioritise areas for disturbance footprint avoidance or minimisation. Siting of infrastructure (both permanent and temporary) must be carefully considered in the context of the MNES habitat mapping.

PM2 Vegetation clearing must be restricted to the minimal amount necessary for the construction and operation of a Project. Micro-siting of infrastructure such as tower footprints, access tracks, brake and winch sites, and assembly areas, as well as determining transmission line clearing limits, must be undertaken during the detailed design phase to further reduce impacts and to ensure areas of high ecological significance are avoided as a priority.

PM3 Areas of high terrain will facilitate the spanning of vegetated areas, particularly in habitats of low open woodlands and grasslands that feature very sparse canopy trees of very low height. In such areas, limit clearing, where possible, to that required for tower footprints and access tracks.

PM4 Watercourse crossings containing riparian vegetation corridors must be spanned where possible, and particularly where MNES ecological values have been identified by desktop mapping or surveys. For access tracks across ephemeral waterways, existing crossings or clearings must be used, where possible. Any clearing required within a riparian corridor must be minimised, with larger habitat trees preferentially retained.

Native Fauna

Objective: *Minimise impacts on wildlife and breeding places from construction, operation, decommissioning and maintenance activities.*

Performance Criteria: *No unauthorised impacts on protected animals, their habitat or breeding places.*

Compliance with environmental legislation, permits and approval requirements.

General Requirements

Planning

NF1 Prior to any disturbance activity, impacts to protected native fauna must be assessed under the EPBC Act and *Nature Conservation Act 1992* (NC Act). Any additional assessments required must be undertaken by an appropriately qualified person and any subsequently identified approvals and/or offset requirements must be obtained prior to the works commencing.

NF2 The EWP will nominate any Project-specific areas that have specific management requirements (e.g. no-go zones, critical habitat, habitat features to be retained).

NF3 Identify where water crossings may need to be constructed or upgraded and assess against the *Accepted Development Requirements for Operational Work that is Constructing or Raising Waterway Barrier Works* (ADR). Obtain any permits required for work that is not accepted development. Where it is accepted development, relevant notification process to be followed.

NF4 Identify areas of the asset that are potentially at risk of bird strike to determine where installation of diverters is required.

NF5 Identify towers where wildlife interactions have been identified or are likely (e.g. riparian zones) for consideration of fauna friendly anti-climbing barriers.

Execution

NF6 Impacts to protected native fauna must be completed in accordance with any relevant Works Approvals.

NF7 Tampering with an animal breeding place may only be carried out in accordance with a Damage Mitigation Permit or an approved Species Management Program.

NF8 Construct and/or upgrade water crossings in accordance with the ADR and/or permit conditions.

NF9 Prior to commencement of site activities where interaction with native fauna is expected (e.g. vegetation clearing), ensure appropriate measures are in place to recover and rehabilitate injured or orphaned native animals unavoidably impacted by clearing and construction activities. This includes the identification of local wildlife carers and wildlife associations in the CEMP, who may be able to provide wildlife services if required.

NF10 Temporary or permanent ‘no go zones’ are to be clearly signposted and delineated (using visible marking tape or the like) to ensure that there is no unauthorised clearing or damage of fauna habitat.

NF11 An appropriately qualified person (i.e. fauna spotter-catcher, who holds a valid Rehabilitation Permit (fauna spotter-catcher)) must be engaged to undertake pre-clearance habitat searches and be present during vegetation clearing activities and during any disturbance to habitat features (i.e. trees containing hollows, trees containing nests, hollow logs or during mulching of cleared vegetation if stockpiled longer than 24 hours), to minimise fauna harm.

NF12 Habitat features such as felled trees and logs will be relocated where possible to adjacent areas, where they will not impact on the safe and secure operation of the asset.

NF13 An authorised carer (holding a valid Rehabilitation Permit (rehabilitate and release a protected animal)) must be engaged to care for and rehabilitate injured or orphaned native animals.

NF14 Domestic pets and animals are prohibited on site during works.

NF15 Restrict vehicles to approved and mapped access tracks and only those vehicles required for the safe, efficient and essential construction activities will be allowed in the work area.

NF16 Excavations must be secured (e.g. covered, provision of exclusion fencing) to prevent access from native fauna.

NF17 Report any unplanned interactions with native fauna or fauna habitat immediately to Powerlink.

NF18 Diverters on spans must be installed where identified as required. Spans on which diverters are installed must be recorded in SAP by Powerlink.

NF19 Fauna friendly anti-climbing barriers must be installed on towers where wildlife interactions have been identified or are likely. Fauna friendly anti-climbing barriers must be recorded in SAP by Powerlink.

Conservation Significant Fauna[1]

The following measures for conservation significant species must also be applied, where relevant to a Project:

Birds (ground-dwelling)

NF20 Ground must be flushed by a fauna spotter-catcher prior to clearing within suitable habitat for ground-dwelling species (e.g. squatter pigeon and black-breasted buttonquail).

NF21 Active nests must be identified and delineated during construction activities. Nests that cannot be avoided must be relocated by a fauna spotter-catcher prior to clearing.

Birds (wetland)

NF22 Prior to construction works commencing, the fauna spotter-catcher must confirm the presence of any conservation significant wetland birds that may be disturbed by the activity.

NF23 Water extraction must be conducted at an alternative location where practicable, within the Project area should a conservation significant wetland bird be identified utilising the habitat.

NF24 Water extraction activities must be strictly controlled and monitored in liaison with the landholder to ensure no waterbodies are reduced to unusually low levels. Per waterbody, a single access point must be utilised for water extraction to minimise areas of disturbance and allow potentially occurring individuals to avoid the same area during construction. Existing access points to dams must be used preferentially over the creation of new ones.

Ground-dwelling fauna

NF25 Open excavations must be checked for trapped fauna in the morning and at the end of the day.

[1] Note: This section is not intended to replace Project-specific approval conditions (e.g. EPBC approval conditions) and should be read and applied (as relevant), in conjunction with State and Commonwealth Project approvals.

Arboreal fauna

NF26 Where they cannot be retained, hollow-bearing trees and stags must be soft felled to minimise the chances of injury or death and inspected by a fauna spotter-catcher to identify any potentially denning individuals (e.g. gliders, microbats, birds).

NF27 Vegetation clearing must be staged, with non-habitat trees felled first where practicable. This gives fauna a chance to disperse on their own at night as their habitat becomes less suitable.

NF28 The top strand of any new fencing used for the perimeter or within the Project area must be non-barbed wire, unless it is required to meet the Australian safety standards, electrical security requirements or necessary for insurance. Where barbed wire is used, fence visibility must be increased by affixing durable visibility tags, or tape, at every 30 cm interval along top of barbed wire fencing.

Koala

NF29 Where clearing is to occur in Koala habitat areas, thermal drone surveys must be conducted prior to commencing clearing activities each day.

NF30 Clearing must be carried out in a way that ensures any koalas present have time to move out of the clearing site without human intervention. Koalas will not be forcibly relocated at any time.

NF31 Clearing must be carried out in line with the Nature Conservation (Koala) Conservation Plan 2017 which prescribes the role of fauna spotter-catchers and clearing methodologies.

Flying-fox species

NF32 Prior to construction works commencing, the fauna spotter-catcher must confirm the presence of any flying-foxes that may be disturbed by the activity.

NF33 If a flying-fox camp is found within or in close proximity to the Project disturbance footprint, advice must be sought on appropriate management measures through the site environmental representative.

NF34 The top strand of any new fencing used for the perimeter or within the Project area must be non-barbed wire, unless it is required to meet the Australian safety standards, electrical security requirements or necessary for insurance. Where barbed wire is used, fence visibility must be increased by affixing durable visibility tags, or tape, at every 30 cm interval along top of barbed wire fencing.

Aquatic fauna

NF35 Clearing must be minimised within 50 m of waterways, where practical.

NF36 Where clearing around waterways is unavoidable, clearing must be at the smallest extent possible. Fauna spotter-catchers must be present to assess banks for wildlife and will be present for any dewatering.

NF37 Erosion and sediment controls must be in place to prevent contaminants entering waterways**.**

NF38 Water extraction activities must be strictly controlled and monitored in liaison with the landholder to ensure no waterbodies are reduced to unusually low levels. Per waterbody, a single access point must be utilised for water extraction to minimise areas of disturbance and allow potentially occurring individuals to avoid the same area during construction. Existing access points to dams must be used preferentially over the creation of new ones.

Vegetation Management

Objective: *Minimise disturbance of native vegetation, consistent with safe and reliable operation of the asset.*

Performance Criteria: *No unauthorised impacts on native vegetation.*

Compliance with environmental legislation, permits and approval requirements.

General Requirements

Planning

VM1 Proposed vegetation clearing activities must be assessed against all relevant Commonwealth, State and local government requirements. Any additional assessments required must be undertaken by an appropriately qualified person and any subsequently identified approvals and/or offset requirements must be obtained prior to undertaking vegetation clearing activities.

VM2 The extent of vegetation clearing areas must be nominated on the EWP and approval documentation and made available for the vegetation clearing activity.

Execution

VM3 Vegetation clearing activities must be undertaken in accordance with:

a. All relevant permits and approvals and/or exemptions, including 'Accepted Development Vegetation Clearing Codes'; under the applicable Commonwealth, State or local legislative requirements.
b. Approved Powerlink specifications.

VM4 Any proposed vegetation clearing activities not in accordance with existing permits and approvals must be assessed against all relevant Commonwealth, State and local approvals. Assessments must be undertaken by an appropriately qualified person. Any additional required permits or approvals must be obtained prior to undertaking vegetation clearing activities. Where notifications are required prior to clearing occurring, notifications to be lodged with relevant state agency as per relevant accepted development code requirements.

VM5 The extent of vegetation clearing areas will be nominated on EWP and made available for the vegetation clearing activity.

VM6 The EWP must nominate any areas that have specific management requirements (e.g. no-go zones, vegetation to be retained) and made available for the vegetation clearing activity.

VM7 Prior to commencing initial vegetation clearing, the extent of clearing (work area) must be clearly delineated on site, both geospatially, as well as using high visibility barriers or taping to ensure that clearing will not occur in areas to be preserved. The delineated limits of clearing must be maintained for at least the duration of clearing and earthworks.

VM8 Vegetation clearing is to be conducted in a staged approach (i.e. vegetation assessment; fauna assessment and/or removal or relocation; vegetation removal; soil surface stabilisation; revegetation) so the minimum area of ground is exposed at any one time.

VM9 Vegetation clearing is to be undertaken in a staged and sequential manner, moving away from environments, such as roads, which may potentially cause injury to fleeing fauna.

VM10 Dispose of felled timber in consultation with the landowner and occupier (where not freehold). Vegetation residues must not impact on downstream water flow or quality or the easement land use. Vegetation is not to be placed against standing or retained trees, or where it may increase any fire hazard and impact on the Powerlink assets in the event of a fire.

VM11 Burning of vegetation is strictly prohibited unless a permit is obtained from the local fire warden and/or local council, and Powerlink. Permits must be obtained and provided to Powerlink for review prior to any burning.

VM12 The felling of large trees that may cause damage to protective bank vegetation may be stem injected and left standing providing there are no additional safety risks.

VM13 Stockpiled material must be located at least 50 m clear of all drainage lines, watercourses or associated flood banks so as to prevent any obstruction to water flow and 10 m clear of standing timber, scrub or undergrowth.

Conservation Significant Flora[2]

The following measures for conservation significant species must also be applied, where relevant to a Project:

VM14 Low-growing conservation significant flora must be retained where possible. Where avoidance is not possible, removal of low-growing conservation significant flora must be restricted to incompatible vegetation.

VM15 Populations must be identified, and the extent mapped during pre-clearance surveys. The siting of infrastructure must avoid areas of known occurrence as a priority.

VM16 Clearing works must maintain a sufficient vegetation buffer around identified locations of threatened flora to maintain suitable micro-climatic conditions.

Threatened Ecological Communities[2]

The following measures for Threatened Ecological Communities (TEC) must also be applied, where relevant to a Project:

VM17 TECs must be identified, and the extent mapped during pre-clearance surveys. The siting of infrastructure must avoid areas of known occurrence as a priority.

VM18 Siting of infrastructure will aim to minimise fragmentation of TECs as much as possible (i.e. clear edges rather than dissect patches) to maintain core patch and population viability.

VM19 Indirect impacts due to dust generation affecting flora must be managed using dust suppression measures implemented as required i.e. on high wind days during extended dry periods.

VM20 To maintain the condition of the TEC areas, biosecurity management strategies must be implemented to control the spread of weeds and pests, particularly vehicles traversing the Disturbance Footprint.

[2] Note: This section is not intended to replace Project-specific approval conditions (e.g. EPBC approval conditions) and should be read and applied (as relevant), in conjunction with State and Commonwealth Project approvals.

Protected Areas

Objective: *No unauthorised disturbance within a Protected Area, World Heritage Area or State Forest.*

Performance Criteria: *Compliance with environmental legislation, permits and exemptions.*

No complaints from the Administering Authority in relation to works undertaken on behalf of Powerlink within Protected Areas.

General Requirements

PA1 Activities in a Protected Area, World Heritage Area or State Forest must be authorised to be carried out by the relevant government agency.

PA2 Maintenance work[3] within Protected Areas must be undertaken in accordance with the *Code of Practice for Maintenance of Electricity Corridors in Queensland's Parks and Forests* and site-specific EWPs.

PA3 Maintenance work within the Wet Tropics World Heritage Area must comply with the applicable Wet Tropics Permit.

PA4 Access to any Marine Park must be undertaken under an appropriate access authority and following notice to the Regulator.

[3] Maintenance work: activities necessary to ensure access to, and the safe and reliable function of Queensland Electricity Supply Industry (QESI) infrastructure - as defined in the *QESI Code of Practice – maintenance of electrical corridors and infrastructure in Queensland Parks and Forests*. Note: Does not include the construction of new infrastructure or a change in existing infrastructure that increases the nature or extent of its impacts on the site.

Biosecurity

Objective: *Manage the risk of spreading or introducing biosecurity matters as a result of Powerlink's activities*.

Performance Criteria: *Meet the General Biosecurity Obligations under the Biosecurity Act 2014 in respect to managing biosecurity matters.*

General Requirements

Planning

BIO1 Consultation with landholders must occur prior to entering their property in order to engage in proactive and open discussions regarding biosecurity requirements. This consultation must include, but is not limited to:

a. Property specific Biosecurity Management Plans.
b. Any known biosecurity matters that should be considered prior to entry.
c. Concerns in relation to biosecurity matters (currently on property, activity being managed, currently in region but not on property).
d. Biosecurity control practices currently implemented on the property.

BIO2 Reasonable requirements that meet the principles of the General Biosecurity Obligation (GBO) may be required to be implemented in addition to Powerlink's standard controls.

BIO3 Property access information and biosecurity management controls from landholder consultation must be recorded within PQ Connect and made available to relevant Powerlink staff and Contractors.

BIO4 Baseline biosecurity matter surveys must be completed at an appropriate time of year (e.g. spring or following significant rainfall) in order to capture representative and relevant biosecurity data (species and distribution). The survey areas must include relevant easement areas, immediate adjoining areas and associated access track routes.

BIO5 Data collected during landholder consultation and biosecurity matter surveys must be used to determine appropriate Project-specific biosecurity management requirements (in addition to the standard controls outlined below) required for construction activities and ongoing maintenance and operation of the asset.

Execution

Standard Controls

BIO6 Powerlink staff and Contractors must comply with all land access biosecurity requirements.

BIO7 Workers must receive a Project-specific induction that includes relevant information relating to biosecurity management requirements.

BIO8 A biosecurity inspection of vehicles (including personal vehicles if relevant), machinery and plant must be completed, and if required, clean down in the following situations:

a. All vehicles, machinery and plant upon first arrival to Project site and/or having left the Project site and returned from another work location.
b. Moving between and outside Queensland Biosecurity Zones.
c. Where vehicles, plant, equipment and machinery move between any nominated Project Biosecurity Zones.
d. Where personnel, vehicles, plant, equipment and machinery exit a known pathogen or disease risk area.
e. Where assessed as reasonable to manage biosecurity risks.

BIO9 Where a biosecurity inspection or clean down is required, the worker must:

a. Inspect vehicle, plant, equipment and machinery for biosecurity matter (including soil that may contain biosecurity matter).
b. Where the vehicle, plant, equipment or machinery are identified to be free of biosecurity matter, a 'biosecurity matter free' declaration form must be completed.
c. Where the vehicle, plant, equipment or machinery contains biosecurity matter, it must be cleaned to remove biosecurity matter, reinspected, and a 'biosecurity matter free' declaration form must be completed.

BIO10 Vehicle, plant, equipment, machinery and personnel must be disinfected when exiting a known pathogen risk area. Actions must be recorded on a 'biosecurity matter free' declaration form.

BIO11 Where a logbook is nominated as a required control on the EWP, a vehicle movement log form must be completed from time of clean down to destination to demonstrate where the vehicle has travelled during this time.

BIO12 Clean downs must be undertaken in accordance with the Queensland Government's biosecurity clean down requirements. Clean downs must be undertaken prior to arrival to the Project or at designated locations. Where clean downs are required to be completed at one-off locations, the site must:

a. Be selected at the edge, or nearby to any areas where weeds or pathogens need to be contained.
b. Be selected in consultation with/agreement from the landholder.
c. Ensure runoff will not enter any watercourse or waterbody.
d. Avoid sensitive vegetation.
e. Be selected in mud free locations which gently drain away from the clean down location.

BIO13 Workers required to self-certify or certify other vehicles, plant, equipment and machinery must have the following qualification, AHCBIO201 Inspect and clean machinery for plant, animal and soil material (or an equivalent competency).

BIO14 Vehicle journey planning must be undertaken, as far as practicable, in order to visit biosecurity free areas first, before travelling to areas affected by biosecurity matters.

BIO15 Avoid or minimise travel through areas heavily affected by biosecurity matters wherever possible.

BIO16 Established roads and tracks will be utilised where practicable, with slashing and gravelling to be considered in areas of high volume traffic.

BIO17 Ground disturbance and removal of native or pastoral groundcover must be kept to a minimum.

BIO18 Biosecurity Declarations must be accompanied with all high risk materials (eg. sand, soil, mulch), from suppliers of these products. Quantities of soil/gravel obtained from a landholders borrow pit must have a self-certifying 'biosecurity matter free' declaration form (excluding movement of material within the same property).

BIO19 Transportation of loads of plant material or soil (that may contain biosecurity matter) must be covered during transport.

BIO20 A Biosecurity Instrument Permit must be obtained before moving materials (e.g. soils and related equipment) out of biosecurity zones or within different biosecurity zones.

BIO21 Powerlink and its Contractors must participate as required with any Queensland Government Biosecurity directives for managing emergency situations.

BIO22 Regular monitoring of the easement and access tracks must be undertaken to identify any new outbreaks.

BIO23 Appropriate disposal of material potentially contaminated with biosecurity matter must be undertaken in accordance with *Biosecurity Act 2014* requirements.

BIO24 A biosecurity matter survey must be completed along the easement and established access tracks post construction and following the first wet season.

BIO25 As a joint land manager on easements and access tracks, Powerlink may assist with the control of biosecurity matter where:

a. It has been categorically established that their introduction or spread has been caused by Powerlink's activities.
b. Property owners are undertaking integrated pest management control measures.
c. Consideration has been given to the success of control:
    - Size (smaller/isolated incursion have a higher chance of success)
    - Species and its capacity for dispersion
    - Biosecurity status of the surrounding area.
d. Consideration is given to surrounding landholders, and other regulatory bodies (local councils, Natural Resource Management groups).
e. Required by a regulatory body (e.g. Council eradication notice).

Clean Down Sites

BIO26 Clean down facilities are to be constructed in accordance with Powerlink drawings (A1-H-154843-001 to 004). Clean down sites must be clearly marked in the field, recorded geospatially, and scheduled for regular weed monitoring during the Project.

BIO27 Temporary or Permanent clean down facility selection and site location selection must consider:

a. Clean down sites to be located in the following preferential order (in consultation with relevant stakeholders):
    - Utilise existing commercial clean down facilities
    - On Powerlink owned land
    - On easement
    - On road reserve
    - On existing and agreed access (off easement on private property).
b. Clean down sites must not be located on a clean property, but rather on the way out of a property affected by a biosecurity matter.
c. Clean down sites must not be located in environmentally sensitive areas, unless agreed to by the nominated Regulator (e.g. Temporary clean down facility in a National Park).
d. Clean down sites must be located as close as possible to the infested area to prevent further spread.
e. Runoff from clean down sites must be managed to ensure that sediment, grease, oil and viable plant material does not pollute waterways.
f. Clean down equipment must be maintained in a serviceable and usable condition.
g. Clean down sites must be recorded for monitoring of biosecurity matters (for a minimum of two maintenance cycles from the last time the site was used).
h. Temporary clean down sites must be decommissioned at the end of the Project with geofabric, and contaminated materials disposal of at a licensed disposal facility and the site rehabilitated to meet 70% groundcover or equivalent to pre-disturbance groundcover (as stipulated in the Environmental Annexure).

Herbicide Distribution

Objective: *Responsible distribution of herbicides and no adverse impacts on adjacent land activities or protected fauna, flora or waterways.*

Performance Criteria: *Chemicals stored, handled and disposed of in accordance with legislative requirements, Australian Standards and Safety Data Sheets (SDS).*

General Requirements

Planning

AC1 Prior to the distribution of herbicides, assess the receiving environment including the following:

a. Hazardous Areas.
b. Identification of and proximity to environmentally sensitive areas (e.g. Protected Areas, protected vegetation, waterways).
c. Land use (e.g. area is used for grazing and the landholder sells produce or livestock to market).
d. Landholder chemical use restrictions.

AC2 Only ground distribution of herbicide is permitted. No aerial distribution of herbicides is permitted.

AC3 Organisations and individual Contractors performing ground distribution or directing licensed commercial operators to use ground equipment must hold a Ground Distribution License.

AC4 Individuals who operate ground equipment for herbicide distribution must operate under a Commercial Operator's License (ACDC).

AC5 Workers completing chemical distribution activities in a Protected Area or the Wet Tropics must be trained and authorised to work in a Protected Area.

AC6 A Hazardous Area Distribution Permit is required to distribute restricted herbicides within a Hazardous Area unless an authorised technique is used.

AC7 Distribution of herbicides within a Fish Habitat Area must be undertaken in accordance with the *Fish Habitat Area Code of Practice – The lawful use of physical, pesticide and biological controls in a declared Fish Habitat Area*.

AC8 Any off-label use of a registered chemical must have an Australian Pesticides and Veterinary Medicines Authority (APVMA) off-label permit.

AC9 Any application of herbicides to be approved by Powerlink prior and where required in consultation with landholders.

Execution

AC10 Workers responsible for undertaking chemical distribution must complete checks to ensure equipment is in good condition and working correctly prior to use.

AC11 Careful consideration must be given to weather conditions before commencing ground distribution. As a minimum, wind direction, wind speed, temperature, relative humidity and predicted forecast must be checked by the worker responsible for the distribution activity to determine if weather is suitable for ground distribution of herbicides.

AC12 Weather conditions must be measured and recorded throughout the distribution activity.

AC13 Herbicides must not be decanted, mixed or stored within 50 m of a watercourse or waterbody.

AC14 Only targeted methods (e.g. cut stump, stem injection, low pressure basal bark) may be used in proximity to water and near sensitive areas (broadcast foliar spraying is not permitted in these areas).

AC15 Records must be kept for each and every ground distribution of chemicals. The records must include the following:

a. The full name and contact details, including address and telephone number, of:
   - The person who used the product
   - The owner or occupier of the land on which the product was used
   - Anyone who was responsible for organising, overseeing or directly supervising the chemical use.

b. The qualifications of the user and anyone responsible for organising or directly supervising the chemical use.
c. Name and active constituent of the chemical used in the distribution.
d. Description of any diluent used in the distribution.
e. Exact location of the land being treated.
f. Date and time (start and finish) of the distribution activity.
g. Weather conditions (direct and velocity), and any changes during the distribution activity.
h. Quantity and concentration of the total volume of the agricultural chemical applied.
i. Total area covered by the distribution.
j. Type of crop treated.
k. Purpose for which the distribution was carried out.
l. Any details stipulated in product label instructions or permit conditions.

AC16 Any damage to stock or crops, or other environmental harm caused by herbicide spray drift or misuse must be reported immediately.

Soil and Water

Objective: *No adverse impacts on waterbodies as a result of soil disturbing activities. Disturbed sites rehabilitated to a stable condition.*

Performance criteria: *Activities do not result in soil erosion beyond the site boundaries. Soil erosion within a Project site is rectified as soon as practicable after a rainfall event to prevent the release of sediment offsite and to protect infrastructure.*

Soil erosion and sediment controls are implemented and maintained in accordance with the International Erosion Control Association (IECA) Best Practice Erosion and Sediment Control Guidelines.

Compliance with contractual and legislative requirements for water quality management on site. Activities do not result in environmental harm or environmental nuisance to waterways within the site or adjacent waterways into which the site discharges.

General Requirements

Erosion and Sediment Control

SW1 Soil sampling and testing must be conducted to inform both erosion and sediment control (ESC) and rehabilitation requirements. Interpretation of results and recommendations for ESC management and rehabilitation requirements must be completed by an appropriately qualified person.

SW2 Soil disturbing work must be assessed to determine level of risk. Controls must be commensurate with the level of risk assigned. Erosion risk levels are defined as:

- **Low Risk**:
  - < 2500 m^2 disturbed surface area open at any one time OR < 10 t/ha/year soil loss predicted (using RUSLE); and
  - Controls installed and maintained in accordance with prescriptive standard (for example, Standard Drawings).
- **Medium Risk**: All projects not meeting the characteristics above or below.
- **High Risk**: Projects with two (2) or more of the following characteristics:
  - Project duration > 6 months;
  - Project working within or discharging to sensitive environment such as marine parks, wetlands or waterway;
  - Soils with very high erodibility rating (that is, dispersive soils);
  - Projects which have > 1 hectare of land exposed during months with monthly rainfall erosivity (R factor) is greater than 285; or
  - Topography factor (LS) is greater than 2 or modal slopes on the project are steeper than 15% (6.6 degrees).

SW3 Best practice ESC principals must be applied to prevent environmental harm. Erosion and sediment control for all Projects must be designed, installed, maintained and decommissioned in accordance with the IECA Best Practice Erosion and Sediment Control Guidelines 2008 (or later version if applicable). Erosion and sediment control must be designed, installed, maintained and decommissioned in accordance with the following principles:

a. Erosion and sediment controls are integrated with construction planning.

b. Effective and flexible erosion and sediment control plans are developed based on soil, weather, construction conditions and the receiving environment.
c. The extent and duration of soil exposure is minimised.
d. Water movement through the site is controlled – in particular, clean water is diverted around the site.
e. Soil erosion is minimised.
f. Disturbed areas are promptly stabilised.
g. Sediment retention on site is maximised.
h. Controls are maintained in proper working order at all times.
i. The site is monitored, and erosion and sediment control practices are adjusted to maintain the required performance standard.

SW4 Prior to soil disturbance activities, an Erosion and Sediment Control Plan (ESCP) must be developed and kept up to date. The ESCP must developed in accordance with the IECA Best Practice Erosion and Sediment Control Guidelines 2008 (or later version if applicable).

SW5 Minimum personnel requirements for ESCP development and verification will apply based on the erosion risk level of a Project. Minimum personnel requirements commensurate to erosion risk level are defined as:

- **Low Risk**: ESCP to be prepared by a person who has undertaken environmental representative training and has at least 5 years' experience in relevant construction type (for example, linear construction).
- **Medium Risk**: ESCP to be prepared by an appropriately qualified person with experience in relevant construction type (for example general transmission projects). Drawings and design for any items that are a Prescribed Engineering Service (PES) must be certified by a Registered Professional Engineer of Queensland (RPEQ).
- **High Risk**: ESCP to be prepared by an appropriately qualified person with experience in relevant construction type (for example major transmission projects). Drawings and design for any items that a PES must be certified by an RPEQ.

SW6 Implementation of the ESCP must include monitoring of the continued effectiveness of management measures and include revision of the ESCP where required.

SW7 Installation of erosion and sediment controls must be completed as soon as practicable and prior to initial earthworks operations (clearing and grubbing) for any stage of work.

SW8 Topsoil must be stripped to avoid mixing with subsoil and stockpiled for use in rehabilitation activities.

SW9 Ameliorants must be applied during stripping activities where determined by an appropriately qualified person.

SW10 All erosion and sediment controls, including sediment basins must be maintained in effective working order during the construction phase, to ensure dirty water is directed into sediment controls at all times.

SW11 Temporary erosion and sediment controls must be removed when permanent measures are in place and/or site stabilisation has occurred. Any areas used for erosion and sediment control must be rehabilitated.

SW12 For sites determined to have a high erosion risk, an independent and appropriately qualified person must assess compliance of the ESC measures.

Rehabilitation

SW13 A Rehabilitation Management Plan must be developed by an appropriately qualified person.

SW14 A Rehabilitation Specialist with a minimum of five (5) years' experience in supervising and carrying out large scale rehabilitation activities must be engaged and present on site when revegetation activities are being carried out and be available to provide advice or attend site where required during establishment and monitoring periods.

SW15 Ground preparation works must be carried out prior to commencing any rehabilitation treatments and in accordance with the Rehabilitation Management Plan.

SW16 Rehabilitation treatments must be undertaken in accordance with the Rehabilitation Management Plan and soil testing recommendations for the site.

SW17 In accordance with the IECA Best Practice Erosion and Sediment Control Guidelines, a minimum 60% ground cover must be achieved on all completed earthworks exposed to accelerated soil erosion within 30 days. ESC measures must remain in place until site stabilisation criteria is achieved.

SW18 Rehabilitation must be monitored until site stabilisation criteria is achieved.

Water

SW19 Site activities must not cause environmental harm or environmental nuisance to waterways within the site or adjacent waterways into which the site discharges.

SW20 A Water Quality Monitoring Plan must be developed by an appropriately qualified person and implemented to minimise the risk of sedimentation and/or contaminants from site entering waterways.

SW21 Prior to dewatering activities, investigations must be undertaken to identify nearest sensitive receptors, water quality objectives of any receiving waters and site conditions, to ensure the suitability of dewatering and a Dewatering Management Plan developed.

Acid Sulfate Soils

Objective: *No release of contaminants from the oxidisation of acid sulfate soils (ASS) outside the work area or into any sensitive receiving environments.*

Performance Criteria: *Disturbance of ASS is avoided, or if intercepted, is managed in accordance with the Queensland Acid Sulfate Soils Technical Manual to avoid adverse impacts to environmental values.*

General Requirements

ASS1 Prior to any soil excavation work in high risk areas (e.g. below 5m AHD) investigations must be undertaken in accordance with the *Queensland Acid Sulfate Soils Technical Manual* to determine the presence of ASS or potential acid sulfate soils (PASS) for any new Project developments, if not yet identified in the Environmental Annexure.

ASS2 Where ASS/PASS has been identified, an ASS Management Plan must be developed in accordance with the *Queensland Acid Sulfate Soils Technical Manual*. The ASS Management Plan must contain as a minimum the following:

a. Location.
b. Treatment method.
c. Amelioration application rates (e.g. lime at 25 kg per cubic metre).
d. Method for containment of affected soils and any runoff.
e. Rehabilitation plan.
f. PPE required.

ASS3 Where ASS/PASS is present, all soil disturbance work to occur in accordance with the ASS Management Plan.

ASS4 All staff and Contractors undertaking soil disturbing work in high risk areas must complete training/awareness on the identification and management of ASS.

Contaminated Land

Objective: *Manage existing land contamination. No unauthorised transport or disposal of contaminated soil.*

Performance Criteria: *Works are conducted in accordance with the requirements of the Environmental Protection Act 1994 and subordinate legislation to manage the risks to human health and the environment.*

Activities involving the disturbance of contaminated land do not cause contamination of previously uncontaminated sites or adjoining land.

The storage, handing, transport and disposal of hazardous materials does not cause contamination of land or waters.

General Requirements

CL1 Prior to acquisition of land parcels (including parcels where easements are proposed for acquisition) or completion of an environmental impact assessment, a search of the Environmental Management Register (EMR) and Contaminated Land Register (CLR) must be undertaken.

CL2 If sites are listed on the EMR or CLR and have an attached documented Site Management Plan issued under the *Environmental Protection Act 1994*, compliance with the conditions of the Site Management Plan is required.

CL3 For all soil disturbing work (resulting in any disposal of soil off site or relocation on site), within an existing Powerlink substation containing oil filled equipment, soil sampling and analysis must be completed if the substation is listed on the EMR or CLR or is > 20 years old. Soil testing must be undertaken in accordance with CL5, CL6, CL7 and CL8.

CL4 Where an assessment by a suitably qualified person has determined that the notifiable activity (associated with a listing on the EMR) is likely to have taken place in proximity to soil disturbing work, soil testing must be completed in accordance with CL5, CL6, CL7 and CL8.

CL5 Soil sampling and analysis must be undertaken by a suitably qualified person and in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure 1999* and *AS4482.1-2005 Guide to the investigation and sampling of sites with Potentially Contaminated Soil – Part 1: Non-volatile and semi-volatile compounds*.

CL6 In situ soil samples are to be collected prior to excavation from the nominated excavation works area, at a frequency of either 1:10 metres for trenches or 1:100 m^2 for non-trench areas. Where in situ soil sampling is not possible, soil stockpile sampling is to be undertaken at a rate of 1:25 m^3 up to 500 m^3, and 1:50 m^3 for soil quantities greater than 500 m^3.

CL7 All soil samples (and materials where applicable (e.g. concrete waste)) must be analysed for the following:

a. pH.
b. Heavy metals (Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Zinc and Mercury) – total and TCLP.
c. Total recoverable hydrocarbons (TRH).
d. Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene (BTEXN).
e. Polycyclic aromatic hydrocarbons (PAHs).
f. Asbestos presence.

If the substation is > 25 years old, samples must also be analysed for:

a. Polychlorinated biphenyls (PCBs).
b. Organochlorine pesticides (OCPs).

c. Organophosphorus pesticides (OPPs).

At least one soil sample must also be analysed for cation exchange capacity (CEC); clay content (% clay); and total organic carbon content (TOC). This sample should be at least 500g to enable clay content analysis to be completed.

Analysis for additional potential contaminants may be required based on the EMR/CLR listing specific details.

CL8 Soil samples must be analysed by a laboratory with National Association of Testing Authorities (NATA) accreditation for the analysis of the contaminants sampled for.

CL9 Soil analysis results must be assessed by a suitably qualified person prior to removal or relocation of excavated soil material.

CL10 If evidence of contaminated soil or a contamination source is identified during work (such as oil staining, buried asbestos sheeting, surrounding previous land use or previous land use of herbicides or pesticides), soil sampling must be undertaken in accordance with CL5, CL6, CL7, CL8 and CL9.

CL11 If soil analysis identifies a contaminant above the soil assessment criteria (SAC) for the relevant land use criteria, and the contaminant is causing or is likely to causing serious or material environmental harm, the Regulator must be notified.

CL12 A soil disposal permit is required where soil is required to be removed from a parcel of land on the EMR/CLR where testing identifies that contaminants are present that exceed the sensitive land-use criteria (i.e. Health Investigation Level (HIL-A) and Health Screening Level (HSL-A/B)).

CL13 Where contaminated soil is required to be disposed under the WUC, management measures associated with its disposal must be covered in the Waste Management Plan.

CL14 All plant and equipment must be operated and maintained to eliminate or minimise the risk of the escape of contaminants to the environment.

CL15 All waste products and hazardous substances with the potential to cause contamination must be appropriately stored and managed to prevent an accidental release of contaminants to the environment.

CL16 Spill response material and equipment must be available in proximity to potential contamination sources with sufficient capacity to contain and control.

CL17 In the event of a release of contaminants to ground, spill response measures must be immediately deployed (where safe to do so) to contain and clean up the spill.

Hazardous Materials

Objective: *No contamination of land or water as a result of a spill or release of hazardous material.*

Performance Criteria: *Hazardous materials are stored, handled and disposed of in accordance with legislative requirements, Australian Standards and SDS.*

General Requirements

HM1 Hazardous materials must be stored and handled in accordance with the applicable Australian Standards.

HM2 Safety Data Sheets (SDS) must be available for each chemical present on site. SDS must be available in a central location that is easily accessible by all site personnel.

HM3 An Emergency Response Plan must be developed for the Project. The plan must include procedures to ensure the correct storage, handling and transport of hazardous materials, and mandatory response to accidental spills and contamination incidences.

HM4 All staff and Contractors will be required to have training in the emergency management of spills. Evidence of this training must be recorded and maintained. Refresher training must be undertaken at least every 3 years.

HM5 Materials and equipment (spill kit) required to respond to a hazardous spill must be available at all times when hazardous materials are being stored, used, transported, loaded or unloaded.

HM6 Temporary drive-in bunding may be used on site (when self-bunded or double skinned tanks are not available) when large volumes of oil are being decanted or handled outside of a permanent bunded area. A suitably sized spill kit must be available for any spills associated with hose or pipe fittings.

HM7 Spill kits must be kept at the work area and monitored for restocking regularly.

HM8 All vehicle, plant, equipment and machinery carrying additional fuel/oil/diesel over 20 L must be equipped with a spill kit at all times.

HM9 All spills must be managed as follows:

1. Full protective clothing and equipment must be worn when managing a spill.
2. Assess spill (extent and potential to migrate offsite, fire hazard potential, type and volume).
3. Isolate the spill (prevent further spillage, block drains, prevent access to the area).
4. Notification of the spill.
5. Clean up and remediation.
6. Restock spill kit.

HM10 All wastes from the clean-up process must be disposed of safely and in accordance with legislative requirements.

HM11 No surfactants to be used/or disposed of in any site bunding, separators or pipe work associated with the oil containment system.

HM12 Any discharge of contaminants from oil separator outlets is to be reported to the Powerlink Environmental Representative.

HM13 No storage of superfluous material within a bund wall enclosure.

HM14 The refuelling of vehicles and machinery within 50 m of a watercourse, drainage line or open drain is prohibited. When possible, all refuelling must be off-site at an approved refuelling station.

HM15 Testing for the presence of asbestos, lead, chromium or PCB's on assets that may reasonably be expected to contain these hazardous substances, must be undertaken prior to disturbing.

HM16 PCBs may be present in oil filled electrical equipment on Powerlink sites. Where oil filled electrical equipment (e.g. transformers, CTs) is scheduled for repair, maintenance or disposal, the PCB concentration must be determined.

Sustainability and Resource Use

Objective: *Carry out activities in an environmentally responsible and sustainable manner so as to protect the environment (minimise the impact) and meet the general environmental duty. Activities are designed, planned and implemented to minimise the generation of waste materials.*

Performance Criteria: *Activities are conducted in accordance with the Construction Sustainability Management Plan (or where applicable the Construction Environmental Management Plan) and associated Waste Management Plan.*

Waste is handled and disposed of in accordance with the relevant legislative requirements.

General Requirements

SRU1 For Projects with a capital value >$100M, a Construction Sustainability Management Plan (CSMP) must be developed prior to WUC commencing. For Projects with a capital value <$100M, sustainability and resource use requirements must be included within the Project CEMP. The CSMP (or Project CEMP where applicable) must be appropriate to the associated activity, nature and scale of the works.

SRU2 NGERs reporting in accordance with the *National Greenhouse and Energy Reporting Act 2007* and subordinate legislation.

SRU3 Energy and Emissions Reduction:

a. Actively promote and ensure responsible energy use and energy efficient work practices.
b. Identify and implement opportunities for energy efficiencies in construction planning and delivery (e.g. component sourcing and transportation, spoil and materials handling).
c. Ensuring engines are correctly repaired and regularly serviced to ensure efficiency and to prevent/minimise spills and leaks.
d. Restricting unnecessary idling time of vehicles, plant, and equipment.
e. Turn off vehicles and equipment when not in use.
f. Improving engines' emission performance by fitting anti-pollution control devices where practicable.
g. Ensuring fuel conforms with relevant quality standards.
h. Avoiding onsite use of diesel or petrol powered generators by substituting for/or combination of mains, renewables, or battery powered options.

SRU4 Resource Efficiency and Waste Management:

A Waste Management Plan must be developed as part of the CSMP (or within the Project CEMP where applicable). The Waste Management Plan must specify the following:

a. Preference of waste management in the following order – avoid or reduce, reuse, recycle, recover, treat and dispose.
b. How each waste stream is to be stored, transported and disposed of specific to the WUC.
c. Estimated quantities of waste from each waste stream.
d. Details of waste transport companies to be utilised and copies of any relevant licences.
e. Details of waste disposal facilities to be utilised and copies of any relevant licences and waste acceptance criteria.
f. Include key actions and strategies to be implemented during construction to divert waste from landfill (where reasonable and practicable (e.g. clean concrete, recyclable packaging, bottle and can recycling).
g. Monitoring of waste management and frequency.

SRU5 General requirements for waste management include:

a. Waste reduction:

- In accordance with the *Waste Reduction and Recycling Act 2011*, single-use plastic products are banned.
- Where practical, Project components should be supplied to the sites with minimal excess packaging. This practice reduces on–site waste generation.
- In accordance with the waste management hierarchy, waste materials will be segregated during handling and storage on–site.
- Uncontaminated excess spoil may be reused as fill around site or to construct ancillary infrastructure (e.g. access tracks, where material is suitable) or reinstatement of eroded areas. Surplus clean fill material will be removed from site and appropriately disposed, if unable to be reused.

b. Discharge to the environment:

- Waste awaiting collection is to be left in a tidy and secure manner such that it does not impact on stock, landholders, or adjacent landholder activities, minimise attracting pest animals, or have the potential to be windblown.
- Discarding of cigarette butts and other litter to ground or waterbodies is prohibited.
- Putrescible waste will be sorted in closed waste containers, so it is secured from pest animals and to prevent the attraction and breeding of pest and disease vectors such as flies and rodents.

c. Regulated waste:

- All regulated waste must be managed in accordance with legislative requirements.
- Concrete waste below oil-filled equipment must be:
  - visually inspected for any evidence of hydrocarbon staining. Evidence of inspection (photos) must be recorded
  - if there is no evidence of hydrocarbon staining, concrete is to be disposed of through the general construction waste stream
  - if the concrete contains evidence of hydrocarbon staining, the affected areas must be tested for contaminants listed in CL7 prior to disposal from site. Test results are to be reviewed by a suitably qualified person prior to removal from site.
  - if testing is positive for contaminants listed in Schedule 9 Part 1 of the Environmental Protection Regulation 2019, the concrete is to be disposed of as regulated waste.
- Records of regulated waste disposal must be maintained. All waste records must be made available upon request (e.g. waste transport licence, Waste Tracking Certificates).

SRU6 Water Conservation:

a. Actively promote and ensure the responsible use of water and water efficient work practices.
b. Use of potable water for construction activities should be minimised where possible and appropriate.
c. Identify and implement measures to maximise the use of recycled water or capture, store and use stormwater or seepage groundwater for construction activities where possible and appropriate. Water must be fit for purpose (including from a health and safety perspective), and the use must not cause environmental harm.

SRU7 Sustainable Procurement:

a. Comply with Powerlink's Supplier Code of Conduct, which outlines the ethical, environmental and social expectations. The Contractor must outline its approach to ethical and sustainable procurement in the CSMP (or CEMP where applicable).

b. Embed environmental and sustainability objectives and targets throughout all relevant subcontracts and tender schedules.
c. Prioritise the use of renewable, reusable, or sustainably sourced materials for the Project.

SRU8 Sourcing of construction material (non-commercial sources):

a. Any excavation or placing fill in a waterway must be carried out in accordance with the *Riverine Protection Permit Exemption Requirements (WSS/2013/726)* or as otherwise authorised under relevant legislation.
b. Water must only be sourced by a registered or approved source. Records must be kept for sourced water. Any taking of water for the purpose of constructing or maintaining infrastructure must be carried out in accordance with the *Exemption requirements for constructing authorities for the take of water without a water entitlement (OSW/2020/5467)* or as otherwise authorised under a water entitlement.
c. The taking of a State-owned resource (e.g. quarry material, forest product etc.) must be undertaken in accordance with the relevant permit/approval.

Air Quality

Objective: *Manage dust, odour, emissions to minimise environmental harm or nuisance under the Environmental Protection Act 1994.*

Performance Criteria: *Seek to minimise complaints from dust generation, odour and emissions by ensuring that controls are implemented.*

Compliance with the Environmental Protection Regulation 2019 and Environmental Protection (Air) Policy 2019.

General Requirements

AQ1 Vehicle travelling speed must be restricted (<40 km/hr unless specified) on unsealed and off-road access tracks. Vehicle speeds must be further reduced on unsealed access tracks during dry, windy weather, and within the vicinity of residential properties and sensitive receptors, to a speed whereby visible dust emanating from soil type interaction is minimised.

AQ2 All vehicles and machinery must be fitted with appropriate exhaust systems and devices. Such devices must be maintained in good working order, in accordance with the manufacturer's recommendations and the *Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts, Australian Design Rules for Vehicle Emissions*.

AQ3 Turn off vehicles and equipment when not in use.

AQ4 Apply dust suppressants or watering to work areas, stockpiles and access tracks as required to prevent dust nuisance.

AQ5 Restrict vehicles to approved and mapped access tracks and only those vehicles required for the safe, efficient and essential construction activities will be allowed in the work area.

AQ6 Cover all loose loads for transport to and from the work site.

AQ7 Schedule dust generating activities in proximity to dust sensitive locations (e.g. residences or schools etc.), when possible, to minimise dust nuisance at the sensitive receptors. Consideration must be given to local site conditions, including soil type, rainfall, wind speed and direction, proximity to receptors and duration of the activity.

AQ8 In dust sensitive locations consider constructing access tracks from materials which are more stable and less likely to turn to bull dust.

AQ9 Orientate material stockpiles in a direction that reduces exposed surfaces to prevailing winds.

AQ10 Ensure chipping/mulching equipment has dust collection devices attached where possible.

AQ11 Carry out regular monitoring and visual surveillance of vehicles, plant and equipment working or moving within proximity to residences or other dust sensitive locations. The surveillance is to determine when actions are required to reduce potential dust nuisance.

AQ12 Limit dust inducing activities on days with high levels of bushfire smoke in the air and if wind is blowing towards receptors.

AQ13 Avoid or minimise queuing in roadways approaching the worksites or adjacent to other sensitive activities. Minimise queuing of construction vehicles and idling for excessive periods (e.g. more than five (5) minutes).

AQ14 Sulphur hexafluoride gas (SF_6) must be handled to minimise the potential for loss to atmosphere. SF_6 must not be intentionally vented to atmosphere. Report any losses of SF_6 gas to Powerlink's PQ Switch incident management system and against the SAP measuring point.

AQ15 Personnel handling SF6 must have appropriate experience and training in correct handling and loss prevention.

Noise and Vibration

Objective: *Manage noise and vibration to minimise environmental harm or nuisance under the Environmental Protection Act 1994.*

Performance Criteria: *Seek to minimise complaints from noise and vibration emissions by ensuring that controls are implemented.*

Compliance with the Environmental Protection Regulation 2019 and Environmental Protection (Noise) Policy 2019.

General Requirements

Planning

NV1 Where applicable, identification of sensitive receptors, noise a vibration modelling and the development of appropriate management measures must be undertaken during project planning.

Execution

NV2 Limit work hours to between 6.30 am to 6.30 pm Monday to Saturday (excluding public holidays) for construction work. Work must not occur outside these hours unless:

a. Permitted through a Ministerial Infrastructure Designation (MID) process or by a Development Approval or Local Law Approval.
b. Is in an emergency, due to limited line outages, maintenance activity, or other exceptional circumstances.
c. To accommodate a rostered delivery arrangement for major infrastructure projects.
d. To facilitate deliveries to site.
e. To facilitate commissioning of equipment.

NV3 In accordance with section 440S of the *Environmental Protection Act 1994*, noise limits must apply to the use of regulated devices (only between 7:00 am and 7:00 pm Monday to Saturday – excluding public holidays) unless permitted through a Ministerial Infrastructure Designation (MID) process or by a Development Approval, or it is in an emergency, due to limited line outages, maintenance activity, or other exceptional circumstances. Under the Act, regulated devices mean compressors; ducted vacuuming systems; generators; grass cutters; impacting tools; leaf blowers; mulchers; oxyacetylene burners; electrical, mechanical or pneumatic power tools (e.g. chainsaws, drills, electric sanders and grinders, electric welders, nail guns).

NV4 Appropriate plant and equipment to be selected for each task to minimise the noise contributions.

NV5 Ensure machinery is fitted with appropriate noise attenuation devices and is maintained in accordance with the manufacturer's recommendations.

NV6 Shut down any equipment generating loud, extraneous (unusual) noise until the source of the noise can be identified and rectified.

NV7 Schedule loud noise activities to occur at times to minimise noise nuisance to surrounding sensitive receptors. Physical noise barriers such as earth mounds, mobile screens, or noise attenuation devices should be used, where necessary.

NV8 Deliver and/or remove materials and equipment to and from the site within the approved hours for construction. All transport vehicles must be in good working order and must avoid using exhaust brakes in built up areas adjacent to the work site.

NV9 Ensure transport routes to and from the site are located, where possible, to limit the impact of traffic noise on potentially sensitive areas.

NV10 Plant to be turned off when not in use.

NV11 Plant must be regularly maintained and repaired or replaced if it becomes noisier.

NV12 Project inductions must include information on the potential adverse impact of reversing alarms and exhaust brakes and the need to minimise their use.

NV13 Wherever feasible, turning circles are to be created at the end points of vehicle work legs, which should allow trucks to turn and avoid the need for reversing.

NV14 Non-tonal reversing alarms to be used where practicable.

Visual Amenity

Objective: *Minimise the visual impact of the asset and associated activities adjacent to or within sensitive locations.*

Performance Criteria: *Impacts of Project activities, on existing visual amenity are minimised through appropriate design and siting, and minimisation of vegetation clearing near sensitive locations.*

Avoid or minimise nuisance from construction lighting on sensitive receivers.

Sites to be rehabilitated progressively, and as soon as practicable, following completion of works.

General Requirements

Planning

VA1 Position structures to minimise vegetation clearing near sensitive locations and retain existing vegetation along road reserves where safe to do so.

Execution

VA2 Worksites must be maintained in a neat and tidy manner.

VA3 Where night works are required, light used must be configured (i.e. guards and angle of lighting) to minimise light spill into adjacent habitats.

VA4 Minimise Powerlink asset light spill over to neighbouring sensitive receptors (without compromising asset security requirements e.g. security lighting).

Bushfire

Objective: *Eliminate or mitigate potential bushfire hazards on site.*

Performance Criteria: *No avoidable contribution to a bushfire as a result of Project activities.*

General Requirements

BF1 Where bushfire has been identified as a risk for the Project, a Bushfire Management Plan must be developed as part of the Emergency Preparation and Response Plan.

BF2 Fire hazard warnings associated with weather patterns and fire risk are issued by the Bureau of Meteorology and the Queensland Rural Fire Service. Daily checking of fire hazard warnings must be undertaken and work crews made aware of the fire warnings (e.g. through pre-starts).

BF3 Procedures guiding the response to emergency and fire situations, and requests from emergency management authorities, must be documented and communicated where applicable to Project location.

BF4 Firefighting equipment must be kept on site when hot works are being undertaken. Personnel must be trained in the use of the equipment.

BF5 All mobile plant must have a tested and tagged fire extinguisher available where practicable.

BF6 Burning of vegetation is strictly prohibited, unless a permit is obtained from the local fire warden and/or local council, and Powerlink prior to any burning. Permits must be obtained and provided to Powerlink for review prior to any burning.

BF7 Designated smoking areas are to be identified, and cigarette butt bins provided for safe disposal.

BF8 Utilise or establish parking areas for machinery/vehicles away from fuel sources where practical.

BF9 All work must be consistent with the mitigation measures documented in Powerlink's internal procedures for fire/bushfire prevention.

Transport and Traffic

Objective: *To operate vehicles in a proper and efficient manner to minimise impacts on the community (including local residents and other road users), associated with construction and maintenance activities (i.e. both on-site and vehicles transporting materials to and from the site).*

Performance Criteria: *Seek to minimise transport / traffic related complaints as a result of activities.*

General Requirements

TT1 Prior to construction a Traffic Management Plan must be prepared and approved by the road manager to minimise potential impacts.

TT2 If a road or lane closure is required, an approval for the closure must be obtained from the Queensland Police Service or Department of Transport and Main Roads (TMR) and advance notification provided of potential road closures or traffic delays to emergency services and the local community. Any temporary road closures must involve on-site traffic management, so that in the event of emergency service vehicles needing to pass through the areas where stringing is occurring, passage will be provided.

TT3 Apply for appropriate approvals and permits under the *Transport Infrastructure Act 1994* from the TMR for any permanent or temporary access to State-controlled roads, including associated roadworks for access, the transport of over dimensioned equipment and materials on State-controlled roads and for ancillary works and encroachments.

TT4 Consideration during Project planning, to undertake selected construction works likely to cause significant traffic disruption and delay at times of low traffic volumes or at night to minimise localised congestion and potential safety implications.

TT5 Dedicate traffic management personnel for traffic management and safety purposes, particularly when construction works are being conducted close to roads or where lane closures are required.

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