



Rethinking safety through
INCLUSION
+
WELLBEING

ENVIRONMENT

PRIMARY STANDARD

28/01/2025

BIODIVERSITY AND BIOSECURITY

PURPOSE AND SCOPE

The purpose of this Primary Standard is to:

- Eliminate or minimise significant environmental impacts to biodiversity including native fauna and flora as a result of construction activities
- Eliminate or minimise the spread of biosecurity material as a result of construction activities.

1.0 BIODIVERSITY CRITICAL CONTROLS AND CONTROLS CRITERIA

Table 1 provides the mandatory Critical Controls and associated Controls Criteria which when implemented will reduce the risk of severe environmental impacts. The Critical Controls and associated Controls Criteria are considered operational controls and are to be included in project-specific management plans and procedures. The Controls Criteria support the successful implementation of the Critical Controls.

Table 1 Critical Controls and Controls Criteria

CRITICAL CONTROLS	CONTROLS CRITERIA
PRECONSTRUCTION ECOLOGY ASSESSMENT TO IDENTIFY FLORA AND FAUNA IS UNDERTAKEN	Ecologists are engaged to conduct ecological assessments and preclearing surveys including the relocation of fauna if necessary.
	Australian Qualification Framework (AQF) Level 5 Arborist engaged, and impact assessment completed to identify interfaces between vegetation and design.
	Controls to be documented in the Construction Environmental Management Plan (CEMP) and other relevant environmental documentation including relevant sub-plans, Environmental Control Plans (ECP).
	Biodiversity constraints such as threatened species, ecological communities and identified NO GO Zones are documented and avoided during design. Design outputs including design drawings document these locations.
VEGETATION CLEARING METHODOLOGY IS IN PLACE AND COMMUNICATED ACROSS THE PROJECT	Regulatory permits and approvals are obtained and in place.
	Specific vegetation clearing or tree removal methodology and permit system developed and communicated.
	Clearing boundary surveyed and verified.
	Tree Protection Zones are identified and communicated to project personnel and methodologies for delineation detailed.
FLORA AND FAUNA HABITAT IS IDENTIFIED AND MANAGED	Habitat trees, threatened species and ecological communities identified in project environmental documentation and communicated to project personnel and methodologies for delineation detailed.
	Flora and fauna habitat is identified in environmental documentation and management controls including required fauna/habitat connectivity structures detailed (i.e. sub-plans, ECPs, inductions).
	Fauna is relocated by a licensed ecologist prior to clearing.
RIPARIAN VEGETATION AND NATURAL WATERWAYS ARE PROTECTED	Ecologist, licensed spotter, catcher on-site during clearing activities.
	Ecological assessment completed prior to works and documented in the CEMP and other project environmental documentation.
	Physical controls to protect riparian vegetation and natural waterways are identified and detailed in project environmental documentation (erosion sediment control (ESC)).
	Planning for temporary waterway crossings is undertaken and construction methodology detailed including environmental controls.



CRITICAL CONTROLS	CONTROLS CRITERIA
FOREIGN BODIES (PATHOGENS AND WEEDS) ARE MANAGED	Weed assessment completed and weed management programme developed.
	Documented evidence of weed and seed checks completed prior to mobilisation and demobilisation.
	Pathogen testing programme is defined.
	Area with foreign bodies is identified with delineation details in project documentation.
THE SITE IS MANAGED TO PREVENT CONTAMINATION OF ADJACENT VEGETATION/HABITAT	Hygiene practices for pathogens (e.g. myrtle rust, chytrid fungus, phytophthora) are detailed within project documentation.
	Pework design and planning to identify stockpile areas, temporary works, refuelling and concrete washout and documented in the CEMP, ECPs and other project environmental documentation.
	Untreated water is prevented from draining into waterways/sensitive areas.
	Physical controls have been designed and documented to prevent contamination of adjacent vegetation/habitat (ESC).
NOISE, VIBRATION AND LIGHT SOURCES ARE IDENTIFIED AND MANAGED TO REDUCE IMPACT TO FAUNA	Preconstruction design and planning to identify any sources of noise, vibration and light and documented in the CEMP, ECPs and other project environmental documentation.
	Lighting plans are developed to manage direction and minimise light spill.
	Relevant noise criteria limits for the site and associated noise controls are detailed within the CEMP, ECPs and other project environmental documentation.
	Vibration monitoring regime is developed.
PREVENT FIRE THREATENING FLORA AND FAUNA	Fuel load is assessed and reduced within the clearing footprint in consultation with relevant fire authorities.
	Fire breaks are in place in consultation with relevant fire authorities.
	Appropriate fire response including resources and equipment are available.
	Hot works are completed within the regulator and permit conditions.
BIODIVERSITY MONITORING IS IN PLACE	A monitoring programme is developed and outlined in the CEMP, ECPs and other project environmental documentation.
	The monitoring programme is completed by a Competent Person.
FLORA AND FAUNA ARE MONITORED FOR DETERIORATION OR IMPACT	Vegetation and habitat areas to be retained are clearly delineated with signage and barriers.
	Weekly monitoring is conducted as per the monitoring schedule (biodiversity, noise, vibration, lighting) by a suitably qualified/Competent Person.
	Fauna/habitat connectivity structures are monitored for fauna.
PATHOGENS AND WEEDS ARE MANAGED TO PREVENT SPREADING	Vehicle/plant are restricted from driving in areas of high risk for weeds and pathogens.
	Washdown areas are used prior to entry and exit.
WATERBODIES/SENSITIVE AREAS ARE PROTECTED FROM CONTAMINATION AND MONITORED	Physical controls are in place as per project environmental documentation and regularly monitored (e.g. ESCs).
	Water quality monitoring is conducted, and parameters met prior to discharge to waterbodies or trade waste.
VEGETATION AND HABITAT AREAS TO BE RETAINED ARE PROTECTED	Delineation including signage and barriers are installed.
	Noise mitigation measures for potential fauna impacts are installed on-site, as detailed in project environmental documentation.
	No light spill observed to be extending into sensitive habitats.
	Connectivity structures implemented (egress/escape) as per environmental documentation.



2.0 FAUNA MANAGEMENT

A documented vegetation disturbance process including permit system must be in place prior to clearing. This includes advice from a qualified and experienced ecologist or licensed fauna handler to identify any fauna on-site. Fauna should only be handled by a licensed fauna handler/ecologist; however, if an animal is at risk of injury, or mortality from stress, carefully remove the animal from the hazard immediately.

The presence of hollow-bearing trees and logs is to be confirmed prior to the commencement of the construction phase and during the ecologists/licensed fauna handler preclearing inspection:

- Vegetation surrounding hollow-bearing trees or logs should be removed prior to the removal of hollow-bearing trees or logs themselves where practicable.
- Hollow-bearing trees are to be removed at an appropriate time of the day. A licensed fauna handler or ecologist must be on-site during the actual removal of hollow-bearing trees to capture and release any animals that emerge.
- Searches for fauna located within the hollows are to be completed where safe to do so prior to the removal of the relevant hollow-bearing tree or log.

Excavations/trenches are to be covered to prevent animal access overnight. If required to be left open overnight, at least one end of the excavation/trench is to be sufficiently sloped or by other suitable measure to allow wildlife to exit the excavation/trench. Any excavation/trench left overnight should be checked daily before construction starts.

The following describes the actions to be undertaken if fauna is found during activities:

- If fauna has been detected, halt construction and allow the animal to move away. If the animal will not move or is injured, contact the licensed fauna handler/ecologist for initial advice. Follow the instructions and keep the animal calm until the specialist can arrive.
- If safe to do so, in the absence of a licensed fauna handler/ecologist and if the animal is injured, calmly walk up to the animal with a form of material to cover the animal's eyes and place the animal in a cardboard box with holes for air. Immediately take it to the nearest veterinary clinic. If the animal is large and can't be moved out of the construction zone on its own terms, call the nearest veterinary clinic for advice if the wildlife specialist is not contactable by phone.

3.0 FLORA MANAGEMENT

A documented vegetation disturbance process including permit system must be in place and communicated to all project personnel and the supply chain prior to clearing. Project- or location-specific control measures are developed, included in the relevant clearing methodology documentation, and communicated to personnel and the supply chain for local species including threatened or endangered species. The documented methodology includes:

- The procedure for unexpected, threatened flora species finds must be communicated to project personnel.
- The requirement for any vegetation to be impacted or removed is to be identified by a suitably qualified person prior to clearing/impacting. Projects may use existing environmental assessment reports where it provides sufficient localised information on flora species and vegetation communities.
- Delineate all vegetation to be retained including physical barriers and suitable signage.
- Incorporate engineering controls to prevent unapproved impacts to vegetation, where feasible including geofencing, slew limiters and height restrictors. Geofencing can be linked to the project GIS where feasible and provides operators with an alert or lock out when there is a risk of encroachment into unproved areas.
- Approval must be obtained from relevant clients, government agencies, and landowners prior to impacting vegetation.



- Identify and communicate Tree Protection Zones to project personnel and delineate the zones.
- Any trenching or excavation works adjacent to trees must consider impacts to root structures, tree viability and tree stability. Advice must be sought from an AFQ Level 5 Arborist for any excavation works within a Tree Protection Zone (note: excavation works could impact root structures when undertaken outside the identified Tree Protection Zone).

The methodology must also include the requirement:

- To develop a work method statement for clearing activities
- For a vegetation disturbance permit to be completed and obtained before commencing clearing activities.

Clearing of native vegetation is to be avoided or minimised. Clearing must be restricted to the area assessed during the environmental assessment and approvals phase. Clearing cannot be undertaken outside of the assessed area without approval.

The clearing approval process for each activity/area will be managed through a permit system developed to meet project specific requirements. The permit will be updated to meet project-specific clearing processes or requirements.

Projects will aim to avoid the loss of hollow-bearing trees and logs and where possible, recover and relocate them to adjacent vegetated areas.

Stockpiling of materials is not to be undertaken within the Tree Protection Zone of any tree.

Pruning/clearing must only be completed by an AQF Level 5 qualified Arborist.

Vehicles are to be limited to using approved roads/haul roads. Vegetation outside of these areas and outside the limits of clearing is protected. This includes street trees and roadside vegetation.

Use corduroy crossings for temporary waterway crossings as a strictly temporary measure during initial clearing activities. Corduroy crossings are to be replaced with temporary waterway crossings designed and constructed in accordance with the **Primary Standard Temporary Waterway Structures**.

4.0 MANAGEMENT OF REGULATED, SIGNIFICANT, THREATENED FLORA

Prior to vegetation disturbance, an ecological assessment must be undertaken by a suitably qualified and experienced ecologist. This will include the identification of regulated, significant or threatened flora. The assessment and advice from the ecologist should include the following:

- Species and classification of the vegetation in accordance with local legislation and classification requirements
- Description of the likely Tree Protection Zone/structural root zones
- Controls to protect from physical damage (subsurface/above ground) including signage.

Ecologists/arborists will be required should any relocation of identified vegetation including threatened species be required.

Physical barriers must be used to create an ecological NO GO Zone for all flora that is to be retained or relocated. Physical barriers around the area will be installed as per the ecologist assessments or along the Tree Protection Zone boundary.

A Threatened Flora and Fauna Species Unexpected Find Procedure is to be documented and communicated to project personnel.

If construction is to impact any threatened, vulnerable or endangered species or communities, the requirements of all appropriate Commonwealth and State/Territory approvals are to be reviewed by the project environmental representative and confirmed to be met prior to any impact.

5.0 BIOSECURITY CRITICAL CONTROLS AND CONTROLS CRITERIA

Table 2 provides the mandatory Critical Controls and associated Controls Criteria which when implemented will reduce the risk of severe biosecurity impacts. The Critical Controls and associated Controls Criteria are considered operational controls and are to be included in project-specific management plans and procedures. The Controls Criteria support the successful implementation of the Critical Controls.

Table 2 Critical Controls and Controls Criteria

CRITICAL CONTROLS	CONTROLS CRITERIA
BIOSECURITY MANAGEMENT AND CONTROLS WITHIN MANAGEMENT PLAN	Relevant State and local legislation have been reviewed and requirements incorporated into CEMP and site-specific management plan if required (include site-specific legislative requirements).
	Contract specifications have been reviewed and requirements incorporated into CEMP and site-specific management plan.
	A review has been conducted to ascertain if a project is in a biosecurity risk area and outcome or controls included in the Project Risk Assessment (PRA).
	Weed and seed management and monitoring measures are detailed in the CEMP/Environmental Risk Action Plan (ERAP).
	Biosecurity areas are shown in CEMP (maps/locations) with control measures, exclusion zones and impacted areas.
	Project site access and footprint are defined and weed management areas have been considered in the planning and delivery stages.
	Biomaterial is removed to an appropriate licensed waste facility and detailed in the EMPs.
	A qualified person has reviewed the site access and footprint biosecurity risks and any recommendations have been incorporated in the EMPs (e.g. knockdown treatment).
WEED AND SEED WASHDOWN SITES	Site access and weed management are considered in Safety in Design (SID).
	Weed and seed and pathogen washdown facility locations are designed to be constructed on one property boundary.
PLANT AND EQUIPMENT TO PROJECT	Weed and seed and pathogen washdown facilities are designed to be located in a flat area, away from watercourses and drains and are georeferenced.
	Clearance weed and seed declaration is received prior to mobilisation of plant to site.
IMPORTED MATERIAL TO PROJECT	Weed and seed declaration for imported material is obtained and complies with relevant State legislative requirements (clean fill and biosecurity instrument permit).
	Clearing and grubbing weed treatment or removal process is developed.
CLEARING AND GRUBBING BIOSECURITY THREATS	Weed impacted topsoil has been identified and management/controls in place for reuse or off-site disposal.
	Herbicidal treatment programme in place for pre- and post-soil movement within the site boundary where weeds have been identified.
	Monitoring programmes established for disturbed areas within the project boundaries. (e.g. firebreaks, stockpiles, spoil windrows, waterway crossing and pads).
WEED CONTROL	Safe Work Method Statements (SWMS) are developed, reviewed and approved for chemical application for weed control.
	Biosecurity records document areas treated (GPS locations), types of weeds treated, date of application.
	Qualification records of persons undertaking weed control are maintained.
	Safety Data Sheets (SDS) are available for all chemicals used in weed control.
	Withholding periods for the herbicides and pesticides used to treat weeds have been documented in the EMPs.
Records of areas treated through mechanical removal and evidence of disposal provided.	



CRITICAL CONTROLS	CONTROLS CRITERIA
ALL IMPORTED PLANT, EQUIPMENT AND STRUCTURES ARE CERTIFIED FREE OF BIOSECURITY RISK	Biosecurity declaration and documentation is available for the plant and equipment and imported construction materials.
	Plant and equipment (including light vehicles) are certified clean and free of weed carriers prior to entering the project footprint.
	Biosecurity declaration and documentation are available for the structures (portable buildings/containers).
WEEDS WITHIN THE PROJECT DISTURBANCE BOUNDARIES HAVE BEEN TREATED, REMOVED, DISPOSED	Regular monitoring of site footprint and access for biosecurity risks is undertaken by a Competent Person.
	Biosecurity control measures have been implemented for clearing and grubbing of topsoil including stockpile management.
	Clearing and grubbing weed treatment or removal process is undertaken by the recommended control method.
	Withholding periods for the herbicides and pesticides used to treat weeds have been documented in the SWMS and implemented.
WEED WASHDOWN FACILITIES ARE AVAILABLE, BUNDED AND HAVE CONTROLS IN PLACE TO MANAGE WATER FROM WASHDOWN	Washdown facility is installed at an approved designated location entry/exit point.
	Washdown facilities are georeferenced, located in a flat area, and away from watercourses and drains.
	Washdown facility has a bunded impervious mat and is of sufficient size to prevent any over spray (inclusion of barriers may be required).
	Wastewater from washdown facility is contained as per design.
	Silt traps and/or filter bag to capture hydrocarbons.
	Hydrocarbons are removed with captured solids (weed seeds) and disposed of at licensed waste facility.
BIOSECURITY AREAS ARE PROTECTED AND EXCLUSION ZONES IN PLACE	Project biosecurity mitigation measures for site access are in place as per design.
	Signage is installed in the identified project biosecurity risk areas and No Go Zones have been established. (e.g. washdown facility and property boundaries are sign posted and delineated).
INSPECTION IS COMPLETED AFTER ANY RAINFALL EVENT	Visual inspection of known biosecurity threat areas after any rain event for growth (post-clearing, consider seed bank and storing spoil and unsuitable material).
	No evidence of weed growth along project site access and footprint post-rain event (two weeks).

6.0 CONTROL OF PEST ANIMALS

To discourage pest animals controls must be implemented including:

- Preventing and removing standing water on-site
- Storing rubbish in a sealed and covered area/bin, removing and disposing as soon as practical
- Preventing access beneath/in between buildings and structures
- Ensuring good housekeeping and site maintenance.



7.0 CONTROL OF PEST PLANTS

Controls must be implemented to prevent or minimise the spread of pest plants. They may include:

- Preventing weeds from seeding and proliferating by regularly trimming verges and fallow areas not subject to development. Trimming is generally preferable to removal to assist with soil and water management.
- Stockpiling weed infested topsoil separately and marking clearly. Infested soil can be retained on-site; however, it must be buried at least 300mm below the surface of finished grade to eliminate future weed growth.
- Covering trailers when transporting removed plant material to prevent seeds and other live plant material falling off (note: in some states it is illegal to transport declared weeds).
- Using a licensed disposal facility to dispose of vegetative waste.
- Washing or cleaning site vehicles to remove soil or plant material before the vehicle leaves the site boundary or quarantined zone in areas where declared pest plants or weeds are known to inhabit.

8.0 MANAGEMENT OF PEST SPECIES USING HERBICIDE/PESTICIDE

The use of herbicides/pesticides must be carried out by a Competent Person with verifiable experience and instruction of herbicide/pesticides application and site-specific risks. Specialist contractors may be required to identify and manage the eradication of the identified pest species. Prior to use, checks must be made with the local authority for the product licence conditions.

The following controls must be implemented (as relevant) when using herbicides/pesticides:

- Do not use herbicides/pesticides near or adjacent to natural watercourses, stormwater inlets or riparian zones.
- Before deployment check the prevailing weather conditions (i.e. wind or forecasted rain).
- Notify adjoining landowners.
- Maintain records of areas treated through mechanical removal and evidence of disposal.
- Maintain records of herbicide use including operative's details, dates, location (GPS locations), and plant types treated, registered name of herbicide, weather and quantities used (attaching SDS and mixing details).

9.0 PLANS, FORMS AND TEMPLATES

For relevant plans, forms and templates see the Laing O'Rourke HSEMS at www.lorhsems.com.