CBGU D&C JV

Weed and Pest Management Plan

Cross River Rail Project – Tunnel, Stations and Development Package (TSD)

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Referenced Documents

The following provides a list of referenced documents either as a sub-plan to this plan or referenced from.

Table 1 Referenced Documents

Document Number	Document Name	Location of Controlled Version
Referenced Project Plans include:		
CRRTSD-EN-MPL-CBGU-000019	Construction Environment Management Plan	TeamBinder
CRRTSD-EN-ENMP-CBGU-000012	Nature Conservation Management Plan	TeamBinder
CRRTSD-EN-ENMP-CBGU-000017	Water Management Plan	TeamBinder

Note: this Management Plan may not contain the current version of the documents listed above. Refer to the 'location of controlled version' for the most current version.

Glossary of Terms

Table 2 Terms

Acronym	Definition
All Staff	Means all employees, contractors and sub-contractors involved in the Project Works
CBD	Central Business District
CEMP	The Project's Construction Environmental Management Plan
CG	Coordinator-General
CGCR	Coordinator-General's Change Report
CGER	Coordinator-General's Evaluation Report
COEMP	The Project's Commissioning Environmental Management Plan
Contractor	The Contractors appointed to design, construct and commission the Project
Coordinator-General	The corporation sole preserved continued and constituted under section 8 of the SDPWO Act
CRR	Cross River Rail
DAF	Department of Agriculture and Fisheries
Directly Affected Persons	An entity being either the owner or occupant of premises for which predictive modelling or monitoring indicates the Project impacts would be above the performance criteria in the Imposed Conditions
EIS	Environmental Impact Statement
EMP	Environmental Management Plan (refers to the OEMP, CEMP, COEMP including any Project sub-plans)
EMS	Environmental Management System
Environmental Monitor	The Environmental Monitor engaged in accordance with Imposed Condition 7
Imposed condition/s	A condition/s imposed by the Coordinator-General under section 54B of the SDPWO Act for the Project
MRTS51	MRTS51 Environmental Management – DTMR Specification
WPMP	Weed and Pest Management Plan
OEMP	The Project's Outline Environmental Management Plan
Outline CEMP	The Project's Outline Construction Environmental Management Plan
Outline COEMP	The Project's Outline Commissioning Environmental Management Plan
Project	The Cross River Rail Project
Project Works	As defined in the Imposed Conditions
Proponent	The Authority
QA	Quality Assurance

Acronym	Definition
Rail Infrastructure Manager	A person who has effective management and control of rail infrastructure or proposed rail infrastructure, whether or not the person – owns or will own the rail infrastructure; or has or will have a statutory or contractual right to use the rail infrastructure or to control, or provide, access to it.
Rail Transport Operator	A rail infrastructure manager or rolling stock operator, or a person or organisation which is both
SDPWO Act	State Development and Public Works Organisation Act 1971
SEMS	Queensland Rail's Safety and Environment Management System
Sub-plan	Any sub-plan to an EMP
Project area	The Project area incorporates the entire Cross River Rail alignment
The Authority	The Cross River Rail Delivery Authority
TMR	Queensland Department of Transport and Main Roads
WMP	Waste Management Plan

1 Introduction

1.1 Background

The Design and Construction Joint Venture comprising of CPB Contractors Pty Ltd, BAM International Australia Pty Ltd, Ghella Pty Ltd and UGL Engineering Pty Ltd (CBGU D&C JV or CBGU) is responsible for delivering the Cross River Rail (CRR) Project (the Project) on behalf of the Cross River Rail Delivery Authority (the Delivery Authority).

This Weed and Pest Management Plan should be read in conjunction with the Nature Conservation Management Plan (NCMP) and the Project's overarching Construction Environment Management Plan (CEMP).

The CEMP provides specific details regarding the background of the Project, the scope of the Project and the staging and timing of key milestones associated with the construction of the Project.

1.2 Context

This Construction Weed and Pest Management Plan (WPMP) forms part of the CEMP developed for the Project. The WPMP describes how CBGU will:

- Manage weeds and pests
- Meet the General Biosecurity Obligations under the *Biosecurity Act 2014* and minimise introduction and spread of pest species during construction of the Project.

1.3 Objectives

The objectives of this WPMP are to achieve the environmental outcomes stated in the CEMP through the implementation of site-specific mitigation measures. It will also:

- Nominate the Project's monitoring and reporting requirements in relation to weeds and pests
- Ensure controls and procedures are implemented during construction activities to avoid, minimise or manage potential adverse impacts from weeds and pests
- Ensure appropriate measures are implemented to compliance with the General Biosecurity Obligation under the *Biosecurity Act 2014* and Queensland Rail procedures
- Monitor the effects of management and mitigation measures
- Provide the framework for a weed and pest monitoring programme to be developed, implemented and audited at each worksite so that Project-related impacts on local stakeholders and the environment can be avoided, or minimised and managed.

1.4 Legislative Framework

Delivery and implementation of the Project must comply with the environmental legislation, guidelines and standards specified in the CEMP (as updated to reflect any changes current at commencement of each Project phase) and any additional requirements specified in the conditions of approval.

1.4.1 Commonwealth Legislation

No Commonwealth legislation is specifically relevant to this WPMP.

1.4.2 State Legislation

State legislation that is likely to be relevant to the Project and this WPMP includes:

- *Cross River Rail Delivery Authority Act 2016*
- *Biosecurity Act 2015*
- *Biosecurity Regulation 2020*
- *Nature Conservation Act 1992* and *Nature Conservation (Wildlife) Regulation 2006*
- *Environmental Protection Act 1994*
- *State Development and Public Works Organisation Act 1971*

1.4.3 Local Legislation

No local legislation is specifically relevant to this WPMP.

1.4.4 Approvals, Permits, and Licences

CBGU will obtain licences, permits and approvals as required by law and maintain them as required throughout the delivery phase of the project. No condition of the Infrastructure Approval removes the obligation for CBGU to obtain, renew or comply with such necessary licences, permits or approvals.

Approvals relating to management of weed and pests that are expected to be required for the Project are identified in Table 3 below.

Table 3 Environmental approvals, permits and licences

Approval / Permit / Licence	Regulatory Authority	Responsibility / Timeframe	Items approved
Biosecurity Instrument Permit (if moving fire ant carriers from within the Fire Ant Biosecurity Zone)	Department of Agriculture and Fisheries	CBGU Timeframe – Two weeks	Movement of fire ant carriers from within the Fire Ant Biosecurity Zones must have an approved Biosecurity Instrument Permit.

1.4.5 Guidelines and Standards

Project works must be undertaken in accordance with specific guidelines and standards. Guidelines and standards related to the management of weeds and pests, that must be met include, but are not limited to:

- AS/NZS ISO 14001 Environmental management systems
- Department of Transport and Main Roads - Technical Manual – Environmental Processes Manual (August 2013)
- MRTS51 Environmental Management – TMR Specifications

- QUEENSLAND RAIL SEMS Plan – Fire Ant Management
- QUEENSLAND RAIL Framework – Pest Management
- QUEENSLAND RAIL Procedure – Managing weed spread

2 Required Outcomes

The following environmental outcomes must be achieved throughout construction of the Project. The environmental outcomes may be achieved by meeting the performance criteria in this WPMP, as part of the Nature Conservation Management Plan.

2.1 Environmental Outcomes

The following environmental outcomes in relation to weed and pest management are to be achieved for the Project:

- Natural asset values of open space areas near Project Works are maintained
- Construction activities do not result in the introduction or spread of weed and pest species
- Control the spread of existing weed and pest species within CBGU construction precincts
- Comply with the General Biosecurity Obligations pursuant to the *Biosecurity Act 2014*
- Comply with Queensland Rail's Pest Management Framework, Fire Ant Management Plan and Managing Weed Spread Procedure
- Maintain the current biodiversity of the Project precincts.

2.2 Performance Criteria

The following performance criteria must be achieved throughout construction of the Project:

- Ensure health and safe of personnel working on the Cross River Rail project
- The contractor must meet the General Biosecurity Obligations under the *Biosecurity Act 2014* in respect to managing weeds and pest including:
  - Taking all responsible and practical steps to prevent or minimise applicable biosecurity risks;
  - Minimising the likelihood of causing a biosecurity event, and limiting the consequences if such an event is caused; and
  - Preventing or minimising the harmful effects a risk could have, and not do anything that might make any harmful effects worse.
- Pest species prohibited and restricted under the *Biosecurity Act 2014* are not spread or introduced during construction
- Restricted weed and pest species are appropriately managed in accordance with the Department of Agriculture and Fisheries Species Information Sheets (https://www.daf.qld.gov.au/business-priorities/biosecurity/invasive-plants-animals/fact-sheets)
- Movement of Fire Ant Carrier from within the Fire Ant Biosecurity Zones occurs with an approved Biosecurity Instrument Permit

3 Site Inspections

There have been a number of flora and fauna surveys conducted since 2018 within the Project works area including:

- Cross River Rail (Tunnels, Stations and Development Package) Habitat and Weed Assessment – early works construction prepared by Cardno (23 September 2019)
- Fauna and Habitat Assessment for the Cross River Rail Project Dutton Park to Bowen Hills Section prepared by BAAM (26 September 2018)
- Weed Audit for the for the Cross River Rail Project Dutton Park to Bowen Hills Section prepared by BAAM (26 September 2018)
- Vegetation Assessment and Flora Report for the Cross River Rail Project Dutton Park to Bowen Hills Section prepared by BAMM (26 September 2018)
- Preliminary Tree Assessment for the Cross River Rail prepared by Oberonia Pty Ltd on behalf of BAAM (9 October 2018)

Cardno's habitat and weed assessments (2019) were completed at the four precincts, and involved on foot survey of those trees identified in the relevant Tree Plans for each precinct as to 'remove' or 'prune'. The weed assessment was completed concurrently to the fauna habitat assessment and included targeted searches for restricted weed species listed under the *Biosecurity Act 2014*. Where identified, restricted weed species were mapped using a hand-held GPS device.

BAAM's Fauna and habitat assessment (2018) field survey primarily focussed on assessing habitat values for significant fauna species or breeding places. However, a Weed Audit of the Project area was also undertaken. This involved traversing the Project area on foot over four days to quantify and map the location of weeds in the Project area. The field survey included a systematic search of all vegetation that will be directly impacted as part of construction works across the Project works area.

3.1 Weeds

A total of 11 restricted pest plants have been identified within the Project area to date. Table 4 below details the restricted pest plant species declared under the *Biosecurity Act 2014* (Biosecurity Act).

The highly disturbed and urbanised nature of the broader Project area has facilitated the introduction and spread of numerous introduced species. However, with respect to the TSD package, it is relevant to note that most of the weed species listed below were observed along road and rail easements adjacent and within the Project area, with fewer occurring within the TSD precincts. Notwithstanding this, all species identified across the broader Project area have been listed below, and are addressed throughout this WPMP because of the potential for weed introduction and spread, despite the relatively low abundance and diversity of weeds within the TSD precincts.

Table 4 Restricted weed species declared under the Biosecurity Act 2014 within the broader Project area

Species	Common name	Location	Restricted category under the *Biosecurity Act 2014*	Source
Asparagus aethiopicus	Ground Asparagus	Broader Project area	Category 3	BAAM Weed Audit 2018
Baccharis halimifolia	Groundsel Bush	Broader Project area	Category 3	BAAM Weed Audit 2018
Bryophyllum delagoense	Mother-of-millions	Albert Street Precinct	Category 3	Cardno Weed assessment 2019
Celtis sinensis	Chinese Elm	Broader Project area	Category 3	BAAM Weed Audit 2018
Cinnamomum camphora	Camphor Laurel	Broader Project area	Category 3	BAAM Weed Audit 2018
Lantana camara	Lantana	Broader Project area	Category 3	BAAM Weed Audit 2018
Dolichandra unguis-cati	Cats-claw Creeper	Broader Project area	Category 3	BAAM Weed Audit 2018
Opuntia stricta	Prickly Pear	Broader Project area	Category 3	BAAM Weed Audit 2018
Schinus terebinthifolius	Broad-leaved Pepper Tree	Broader Project area	Category 3	BAAM Weed Audit 2018
Spathodea campanulata	African Tulip Tree	Broader Project area	Category 3	BAAM Weed Audit 2018
Tecoma stans	Yellow Bells	Broader Project area	Category 3	BAAM Weed Audit 2018

3.2 Pests/introduced fauna

In accordance with the Department of Agriculture and Fisheries (DAF) Fire Ant mapping, the Project area is not mapped within a Fire Ant Biosecurity Zone and Fire Ants were not recorded during site inspections. However, the potential remains for the spread of Fire ants through the importation and use of material carrying Fire Ants, as such, it will be necessary for the Project to implement measure to address this potential risk.

A total of nine introduced fauna species were identified within the broader Project area during the site inspections completed by BAAM in 2018. One of the species recorded within the broader Project area, the

Red fox (*Vulpes vulpes*) is a restricted pest under the Biosecurity Act. Table 5 below details the location, category and source of the record for the Red Fox.

Table 5 Restricted weed species declared under the Biosecurity Area 2014 *within the broader Project area*

Species	Common name	Location	Restricted category under the Biosecurity Act 2014	Source
Vulpes vulpes	Red fox	Broader Project area	Category 3, 4, 5 & 6	BAAM Fauna and habitat assessment report 2018.

4 Impacts and Mitigation Measures

4.1 Impacts

4.1.1 Weeds

Potential impacts of invasive weed species include loss of habitat for native animals, loss of biodiversity and construction safety hazards. Specific impacts known to be associated with each of the 11 restricted weed species are listed in Table 6, and species information sheets can be found at https://www.daf.qld.gov.au/business-priorities/biosecurity/invasive-plants-animals/fact-sheets.

Table 6 Potential impacts of restricted pest plant species within the Project area

Species	Common Name	Potential impacts
Asparagus aethiopicus	Ground Asparagus	Forms a thick mat of tuberous roots and grows particularly well in shaded areas and in sandy soils. The dense growth of this species may form impenetrable thickets that smother native understorey plants and inhibit their regeneration, thereby transforming the ground layer of native plant communities (Biosecurity Qld, 2016).
Baccharis halimifolia	Groundsel Bush	Thick stands can inhibit the movement of livestock and reduce the productivity and carrying capacity of pastures. The air-borne pollen, which is produced in massive quantities for a short period of the year, is suspected of causing allergies in humans. The seed 'fluff' can also be a nuisance in urban areas, where it sticks to insect screens and accumulates in other areas. (Biosecurity Qld, 2016).
Bryophyllum delagoense	Mother-of-millions	Poisonous to livestock and humans. Cattle deaths resulting from ingestion of this species are quite common, particularly in south-eastern Queensland (Biosecurity Qld, 2016).
Celtis sinensis	Chinese Elm	It is a fast-growing tree that appears to favour clay soils associated with alluvial floodplains, creeks and gullies. It forms dense infestations, particularly along creek banks and prevents the regeneration of native vegetation. It also invades open areas within forests that have been cleared or otherwise disturbed. Dense infestations of this species use large amounts of water and also have the potential to affect populations of native animals through habitat destruction (Biosecurity Qld, 2016).

Species	Common Name	Potential impacts
Cinnamomum camphora	Camphor Laurel	It most frequently germinates under fences and powerlines, where birds tend to rest and deposit the seed. As it grows in these locations it can push over fences and disrupt power facilities. Mature camphor laurel (*Cinnamomum camphora*) trees develop a massive root system which are known to block drains and crack concrete pavements. The fruit, leaves, and roots are also toxic to humans if ingested in sufficient doses (Biosecurity Qld, 2016).
Lantana camara	Lantana	Forms dense thickets that smother native vegetation. Some varieties are poisonous to stock. Thickets are impenetrable for animals, people and vehicles (Business Qld, 2016).
Dolichandra unguis-cati	Cats-claw Creeper	Has the ability to completely smother native vegetation, even growing up over tall trees, and many bushland areas in eastern Australia have serious infestations of this species. It can grow as a ground cover along the forest floor of scrub remnants and can form a thick carpet of stems and leaves which chokes out small existing plants and prevents the germination of all other species (Biosecurity Qld, 2016).
Opuntia stricta	Prickly Pear	Vigorous in hot, dry conditions, causing other plants to lose vigour or die. Competes and invades pastures. Impedes stock movement and mustering. Can harm animals and prevent them from eating (Business Qld, 2016).
Schinus terebinthifolius	Broad-leaved Pepper Tree	Forms dense thickets that can choke native plants. Establishes in disturbed bushland. Competes with ground covers and shrubs, and tolerates shade. Spreads rapidly in waterlogged or poorly drained soils. Contains toxic resins that can affect human and animal health (Business Qld, 2016).
Spathodea campanulata	African Tulip Tree	Infests gullies, vegetation around waterways, and disturbed rainforest, where it out-competes native vegetation. Flowers are toxic to native stingless bees. Natural regeneration affected as bees pollinate native vegetation (Business Qld, 2016).
Tecoma stans	Yellow Bells	Readily invades native bushland and roadsides (Business Qld, 2016).

4.1.2 Pests

Potential impacts of invasive pest species include safety hazards, erosion and loss of biodiversity and habitat. Specific impacts known to be associated with the Red fox are listed in Table 7, and a species information sheet can be found at https://www.daf.qld.gov.au/business-priorities/biosecurity/invasive-plants-animals/fact-sheets.

Table 7 Red Fox Impacts

Species	Common Name	Potential impacts
Vulpes vulpes	Red fox	Greatest threat to long-term survival of many small marsupial species in Australia. Can significantly affect ground-nesting birds and turtles. Preys on small or young animals, lambs, poultry and livestock, despite an abundance of food. Can spread diseases to domestic animals.

Further, potential impacts associated with species which may be present within the Project area include:

- Safety hazards
- Nuisance to humans
- Displacement of native fauna
- Habitat loss and fragmentation
- Predation of local native fauna
- Hygiene risk around amenity blocks and food preparation areas
- Erosion from trampling, digging and uprooting ground and vegetation
- Carry and/or spread diseases.

4.2 Management and Mitigation Measures

The following mitigation measures should be implemented to achieve the nominated environmental outcomes and performance criteria. Relevant approvals and mitigation measures which are required to undertake the task will be compile in site specific documents.

4.2.1 General Biosecurity Obligations

Under the Biosecurity Act, individuals and organisations whose activities pose a biosecurity risk must:

- Take all reasonable and practical steps to prevent or minimise each biosecurity risk
- Minimise the likelihood of causing a 'biosecurity event', and limit the consequences if such an event is caused
- Prevent or minimise the harmful effects a risk could have, and not do anything that might make any harmful effects worse.

The Project area contains restricted biosecurity matters (weeds and pests) including:

- One Category 3,4,5 & 6 pest fauna species
- 11 Category 3 weed species.

4.2.2 General Weed Prevention Measures

The following general procedures may be implemented as required to meet the GBO when engaging in activities that pose a biosecurity risk, in a manner that is consistent with Queensland Rail's Safety & Environment Management System:

- Incorporate general awareness of invasive weeds by encouraging identification, awareness and reporting processes during toolbox/prestart meetings.
- Avoiding driving through weed infested areas
- Avoiding driving off road in areas of known weed infestation
- Avoiding slashing and other works in infested areas during peak weed seeding times
- Maintaining access tracks, and adjacent buffer zones
- Implementation of weed control programs to eradicate high priority isolated infestations
- Commencing work in clean (weed free) areas first then working towards and then within infested areas to limit spread
- Sourcing material and products including soil, from weed free areas
- Installing temporary fencing to isolate weed infested areas
- Ensure clothing and footwear are free of mud and seeds prior to leaving known weed infestation areas
- Ensuring that vehicles and machinery are free of weed, mud/soil and plant material prior to leaving known weed infestation areas
- Ensuring that all vehicles are cleaned on a regular basis

4.2.2.1 Disposal and Transport of Restricted Plants

Category 3 restricted matters must not be distributed or disposed of unless the distribution or disposal is performed in the way prescribed under a regulation. The prescribed disposal for Category 3 restricted matter - invasive plants includes:

- Burying the matter in the ground at a depth that ensures any seeds or vegetative material being disposed of cannot grow; or
- Transporting the matter directly to a waste facility if the matter is—
  - in a sealed container or a covered vehicle; or
  - covered in a way that prevents the restricted matter from being lost or released during transport; or
  - sealing the matter in plastic and leaving the matter in the sun until any vegetative material being disposed has decomposed.

4.2.3 Specific Weed Control Measures

Specific weed control measures for restricted weed present within the broader Project area have been detailed in Table 8 below. The control methods will be selected for individual outbreaks within the Project area, by the contractor as per the Species information sheets found at https://www.daf.qld.gov.au/business-priorities/biosecurity/invasive-plants-animals/fact-sheets..

4.2.3.1 Manual/physical Control

Physical control is the removal of weeds by physical or mechanical means, such as mowing, grazing, mulching, tilling, burning or by hand. The method used often depends on the area of weeds to be managed, what the land is used for, physical characteristics and the value of the land.

4.2.3.2 Mechanical Control

Mechanical control is the use of powered tools and machinery to manage weeds and is best suited to larger infestations. Care should be taken to minimise soil disturbance.

4.2.3.3 Biological Control

Biological control involves the use of insects or pathogens (diseases) that affect the health of weeds. Usually, these biocontrol agents are from the same country of origin as the weed species. Given the relatively small infestations and the time delay for biological controls to work, this method is not considered practical for the Project.

4.2.3.4 Herbicide Control

Herbicides control weeds either by speeding up, stopping, or changing the plant's normal growth patterns. This affects the plants by drying out the leaves or stems, or by making it drop its leaves.

Foliar Spray

In foliar spraying, the herbicide is diluted with water or diesel at a specific rate, and sprayed over the foliage to point of run-off (until every leaf is wetted, but not dripping). This method is most suited to shrubs, grasses and dense vines less than 6m tall. Advantages include quickness and economy. Disadvantages include the potential for spray drift and off-target damage.

Cut Stump

The cut stump method involves cutting off the weed completely at its base (no higher than 15cm from the ground) using a chainsaw, axe, brushcutter or machete. A herbicide solution is then sprayed or painted onto the exposed surface of the cut stump, with the objective of destroying the stump and the root system. It is essential that the herbicide solution is applied as soon as the trunk or stem is cut. A delay of more than 15 seconds for water-based herbicides and 1 minute for diesel-soluble herbicides will give poor results.

Stem Injection

The stem injection method involves drilling or cutting through bark into the sapwood tissue of woody plants and trees to transport the herbicide throughout the plant. It is essential to apply the herbicide immediately (within 15 seconds of drilling or cutting), as stem injection relies on the active uptake and growth of the weed to move the herbicide through its tissue.

Basal Bark

This method involves mixing an oil-soluble herbicide in diesel and spraying the full circumference of the trunk or stem of the weed. Basal bark spraying is suitable for:

- thin-barked woody plants
- undesirable trees
- saplings, regrowth, and multi-stemmed shrubs and trees.

Basal barking will usually destroy weeds as long as the bark is not wet or too thick for the diesel to penetrate.

Table 8 Control measures for restricted weeds present within the project area

Common Name	Control measures			
	Manual/physical	Mechanical	Biological	Herbicide
Ground Asparagus	✓			✓
Groundsel Bush		✓	✓	✓
Mother-of-millions		✓	✓	✓
Chinese Elm	✓			✓
Camphor Laurel		✓		✓
Lantana		✓	✓	✓
Cats-claw Creeper	✓		✓	✓
Prickly Pear		✓	✓	✓
Broad-leaved Pepper Tree	✓			✓
African Tulip Tree	✓			✓
Yellow Bells				✓

4.2.4 General Pest Prevention measures

Pest animals within the Project area are expected to be relatively minor. However, a Class 3, 4, 5 and 6 restricted matter was recorded, being a Red Fox. Under the Biosecurity Act, a person has the following

restrictions placed upon them when managing Red Fox including the invasive animal must not be distributed either by sale or gift, or released into the environment and must not be moved, kept or fed.

With respect to the Project, the most appropriate General Pest Prevention Measure relates to waste management. Specifically, measures should be implemented during construction in accordance with the Waste Management Plan to prevent inadvertent 'feeding' of this species. This would include storage of food wastes in appropriately sealed containers and ensuring that there is regular and scheduled removal of putrescible wastes for the duration of the Project.

4.2.5 Specific Pest Control Measures

Current options available for control of foxes in Queensland include poisoning, trapping, shooting, guard animals and exclusion fencing. The choice of control method should suit the individual circumstances and be in accordance with the Species Information Sheet found at https://www.daf.qld.gov.au/business-priorities/biosecurity/invasive-plants-animals/fact-sheets. Given the nature of the Project and the relatively low infestation of Pest species, it is not considered necessary at this time to implement specific fox control measures such as those detailed below. However, should monitoring show an increase in fox abundance in and around the Project area, then the appropriate measure should be investigated and implemented.

4.2.5.1 Trapping

The success of trapping (using soft-catch traps and snares, not the illegal unmodified serrated steel-jawed traps) depends on the skill of the operator. Trapping is predominantly used in urban areas where poisoning and shooting are restricted, where there is high risk to native species, or for live-capture research purposes.

4.2.5.2 Poisoning

Presently there are three poisons legally available for fox control in Queensland—sodium fluoroacetate (1080) strychnine and para amino propiophenone (PAPP). In the highly urbanised environment of the Project area it will be necessary to ensure that off-target risks are accounted for by ensuring highly targeted deployment of baits around precincts that have been fenced to prevent domestic animals entering them.

4.2.6 Fire Ants

The Project area is mapped as a Fire Ant Biosecurity Zone 2. The Queensland Rail, Fire Ant Management Plan (FAMP) outlines the requirements and control strategies for CBGU in order to meet the legislative and regulatory provisions established for the control and management of Fire Ants in Queensland.

With respect to managing Fire Ant biosecurity risks, this includes export and import of material, CBGU should:

- Manage fire ant risks under its control
- Take all reasonable and practical steps to prevent or minimise the spread of Fire Ants
- Minimise the likelihood of causing fire ant outbreaks, and limit the consequences if such an event is caused
- Prevent or minimise the adverse effects of Fire Ants on Queensland's economy, industries and environment when carrying out Queensland Rail activities in fire ant Biosecurity Zones
- Not do anything that exacerbates the spread or impact of Fire Ants and not omitting to do something if omitting to do that thing would exacerbate a Fire Ant risk.

These processes are to prevent the introduction of Fire Ants and other pests on Queensland Rail property.

As Fire Ants are susceptible to transportation due to human activity, it is good practice to inspect all machinery and equipment that enters the Project area from within or outside a Fire Ant Biosecurity Zone.

If material is required to be move, the following is to occur:

- All material exported from the Project Area (Fire Ant Biosecurity Zone 2) is permitted to move within zone 2 only
- If movement is required to be move within Fire Ant Biosecurity Zone 1, a Biosecurity Instrument Permit (BIP) will be required
- Soil can be moved from its original place in Zone 2 directly to a waste facility in Zone 2. Movement to a waste facility within Zone 1 requires a BIP
- All material imported into the Project Area is to be accompanied by a certificate declaring where the material has been sourced and that it is not from a Fire Ant Biosecurity Zone or it is accompanied with a Biosecurity Instrument Permit if it has come from a Fire Ant Biosecurity Zone.

If the soil is moving within Fire Ant Biosecurity Zones, one or more of the following must be undertaken:

- Treat soil prior to excavation
  - It is recommended that a licensed pest manager should be engaged two weeks prior to the anticipated excavation date to:
    - Inspected the area to be excavated – if fire ants are found report the occurrence
    - Undertake direct nest injection (DNI) of any fire ant nests
    - Treat the site with an appropriate bait in order to prevent fire ants becoming established in the area to be excavated
- Take soil from depth
  - A newly established, or young fire any colony, is often located within the first metre of soil. Removing the top one metre of soil at a site, undertaking the necessary excavation and then replacing the original top one metre of soil may reduce ant activity and the risk of ant movement to another location.
  - The top one metre of soil must not be missed with the soil being moved from the site. The top one metre should be retained on site or taken to a waste facility (refer to the zone restrictions above).
  - This method is not recommended for areas where the soil type is soft, loamy or sandy as fire ant nests can extend further than one metre below the surface in areas with these soil types
- Store soil appropriately
  - If the soil will be stored on the property for more than 24 hours, you must use either of the following storage options:
    - Off ground and covered (e.g. in a shed, under a shade cloth of tarpaulin
    - On ground, and covered, either on:
      - Concrete or bitumen (no cracks)

  - A barrier that cannot be penetrated by fire ants (e.g. 200 micron unperforated plastic sheeting
  - Compacted ground (other than sand) that has been treated with an appropriate chemical before storage

- Disturb soil during or after excavation
  - Any untreated soil scheduled to be taken off site should be disturbed before it is moved to another location.
  - Storing soil must either comply with the storage requirements, or disturb any stockpiles periodically to prevent fire ants becoming established. Disturbance means undertaking an activity to vigorously turn, crush, wash or screen the stockpile:
    - Every 21 days, and
    - 24 hours prior to moving the material to another location.

Fire ant Biosecurity Zone maps and supporting information on the suburbs within each zone should be displayed in common areas and distributed to relevant staff (refer to Appendix A). Fire Ant Biosecurity Zone maps and supporting information can also be obtained from the following sources:

- Biosecurity Queensland
- Queensland Rail Fire Ant co-ordinator/s
- Queensland Rail route maps.

5 Compliance Management

5.1 Roles and Responsibilities

The overarching roles and responsibilities are in accordance with those outlined in the CEMP. Specific responsibilities for the implementation of the environmental controls detailed in the WPMP are detailed in Table 9 below.

Table 9 Roles and Responsibilities

Role	Responsibility
All employees	Report outbreaks and sightings of restricted plants and animals
Environmental Coordinator/advisor	Manage independent consultant and pest and weed contractors and maintain records, carry out bi-monthly environmental inspection of site, monitor and review the effectiveness of the WPMP. Ensure site induction and training includes information on General Biosecurity Obligations.
Weed and Pest Contractor	Implement weed and pest control activities and ensure required specifications are met

5.2 Induction and Training

To assist with fulfilling the legislative duties and obligations, the induction and training process should also include general duties and measures established in the CEMP and this WPMP.

This would include:

- Identification of common pest and weed species
- Measures to minimise the spread and introduction of weed and pest species
- Identification of Fire ants and the risk of this species to human health and the environment.

All staff, sub-contractors and visitors to construction worksites must attend induction training that covers off the site wide controls as well as site-specific and work-specific risks and mitigation measures.

A training register must be maintained by CBGU to record training attendance and currency of training for each staff, contractor and visitor.

5.3 Communication

Communication strategies including internal communication, external and Government Authority consultation, and stakeholder and community liaison must be undertaken in accordance with the CEMP and the CSEP.

5.4 Incidents and Emergencies

The immediate response to all incidents is to make the area safe and undertake measures to prevent further environmental harm. The Environment and Sustainability Manager, Shared Services Director and Project Director should be notified immediately in the event of an environmental incident.

Further details regarding Incident Notification, have been outlined in the overarching CEMP.

5.5 Notifications

Under the GBO, CBGU and/or any of its contractors must report Category 1 (i.e. fire ants) and Category 2 restricted pest species listed under the Biosecurity Act to Biosecurity Queensland within 24 hours by phone on 13 25 23.

Should contractors become aware of suspected fire ants, a fire ant nest, or materials containing fire ants, they must report the issue to Biosecurity Queensland, within 24 hours:

- By phone on 13 25 23; or
- Online: http://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/invasive-ants/fire-ants/forms-and-notifications/report-fire-ants

New infestations must also be reported to the Queensland Rail Environment Hotline – internal: 892 5700 or external: (07) 3072 5700 or email Queensland Rail's Environment Team (Environment@qr.com.au).

6 Inspections, Monitoring, Auditing and Reporting

6.1.1 Environmental Inspections

CBGU will undertake environmental inspections to develop and evaluate the effectiveness of environmental controls.

If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance is observed, they will be recorded on the Project's Environmental Checklist. A register of all corrective actions including due date, closed out date, item description and responsible person will be recorded in such a way as to be able to be generated into a register when required.

Inspections are to be undertaken as nominated in the CEMP. For the purpose of this WPMP the following inspections are considered necessary:

- Inspections of work areas and lunch rooms for correct putrescible waste disposal
- Inspections of machinery and materials being brought into the Project Area for Restricted pests (e.g. Fire ants, Pest Plants).

6.1.2 Environmental Monitoring

Monitoring will be undertaken at the Project precincts to validate the to measure the effectiveness of environmental controls and implementation of this WPMP. The monitoring also helps in addressing any potential Community Complaints that may be made. The monitoring requirements specific to weeds and pests are outlined below.

6.1.2.1 Fire Ants

Fire Ants are classified as a category 1 restricted matter under the Biosecurity Act. Therefore, all personal must remain vigilant for potential fire ant incursions Anyone who becomes aware of suspected fire ants, a fire ant nest, or materials containing fire ants, must report the issue to Biosecurity Queensland, within 24 hours either by phone on 13 25 23; or Online:

- http://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/invasive-ants/fireants/forms-and-notifications/report-fire-ants

Visual surveillance, comprising inspections and monitoring, is a mandatory requirement when transporting any potential Fire Ant carriers including soil and ballast from within a Fire Ant biosecurity zone to the Project Area. As part of the environmental due diligence, when required an environmental officer will conduct on-site inspections as well as monthly follow up monitoring to check for the presence of Fire Ants.

6.1.2.2 Other Weed and Pest Requirements

- Undertake regular monitoring inspections of work areas to identify potential weed and pest impacts from construction works.
- Undertake inspections to ensure a waste is managed on the construction sites in accordance with the Waste Management Plan
- When weed control is undertaken, maintain daily herbicide log using Queensland Rail Form MD-12-731.

- Prepare and maintain vehicle clean down reports
- Regularly inspect construction worksites and other work areas, as appropriate, to assess compliance with mitigation measures identified to minimise impacts from weeds and pests.
- Prior to the completion of construction works, monitor rehabilitation activities to ensure compliance with the Landscape and rehabilitation plans.

6.1.3 Environmental Auditing

Audits will be undertaken to assess the effectiveness of environmental controls, compliance with this WPMP, compliance with Environmental Design Requirements, and other relevant permits, approvals, and guidelines. There will be a monthly internal audit undertaken by CBGU. This includes reporting on compliance with the CEMP and the Imposed Conditions. Specific audit requirements are included in the CEMP.

6.1.4 Corrective Actions

Corrective actions must be undertaken where monitoring or validated complaints indicate the environmental outcomes or Imposed Conditions are not achieved in relation to particular works, either because the performance criteria have not been met, or mitigation measures have not been implemented. Where corrective actions become necessary, the specific works that do not achieve the environmental outcomes or meet the Imposed Conditions must cease until the corrective actions have been developed and implemented.

The process for developing and implementing Correction Actions has been specified within the overarching CEMP.

6.2 Reporting

6.2.1 Environmental Reporting

To ensure compliance with Coordinator-General Condition 6 and where relevant the CEMP, CBGU will prepare and submit a monthly report within 6 weeks from the end of the month to the Delivery Authority. Reporting must be undertaken, as a minimum, during site preparation, construction and rehabilitation. Specific reporting requirements include:

- Results of pre-clearance weed surveys undertaken prior to construction works
- Any reporting requirements that arise from the requirements of the Biosecurity Instrument Permit (if required)

The specific requirements of the Monthly Report have been identified in the CEMP.

6.2.2 Incidents and Non-Compliance Event Reporting

Environmental incidents meeting the criteria of an NCE shall be notified verbally as soon as practical and in writing within 48 hours of becoming aware of an incident occurring to the Development Authority. Notification will generally be undertaken by the Environment and Sustainability Manager or a member of the CBGU environment team. Additional notification of the incident to the relevant authorities, EM and parent companies will also be undertaken as required

Further details regarding reporting, including provision of interim and detail reports have been provided in the overarching CEMP.

6.3 Documentation

6.3.1 Environmental Records

The process for managing and collecting environmental records is detailed in the overarching CEMP. All relevant records in relation to weed and pest must be maintained in accordance with these requirements. Additionally, a written record of the steps taken to ensure the soil is either inspected, stored and moved correctly, including chemical treatments applied and/or disturbance activities undertaken. This may include:

- Dated, written records of the risk mitigation measures undertaken and the details of where the soil has been taken from/to
- Photographs, site plans and surveyor's records
- Receipts and records of treatment applied by a licensed pest manager

6.3.2 Document Control

Document control requirements have been specifically addressed within the overarching CEMP.

6.3.3 Review

The overarching CEMP outlines the review frequency and requirements for the CEMP and associated sub-plans including this WPMP.

6.3.4 Communication

All internal and external communication with all stakeholders including the public, Coordinator-General, government agencies and the Delivery Authority must be done in accordance with the requirements of the CEMP.

Appendix A

Fire Ant Biosecurity Zone Map

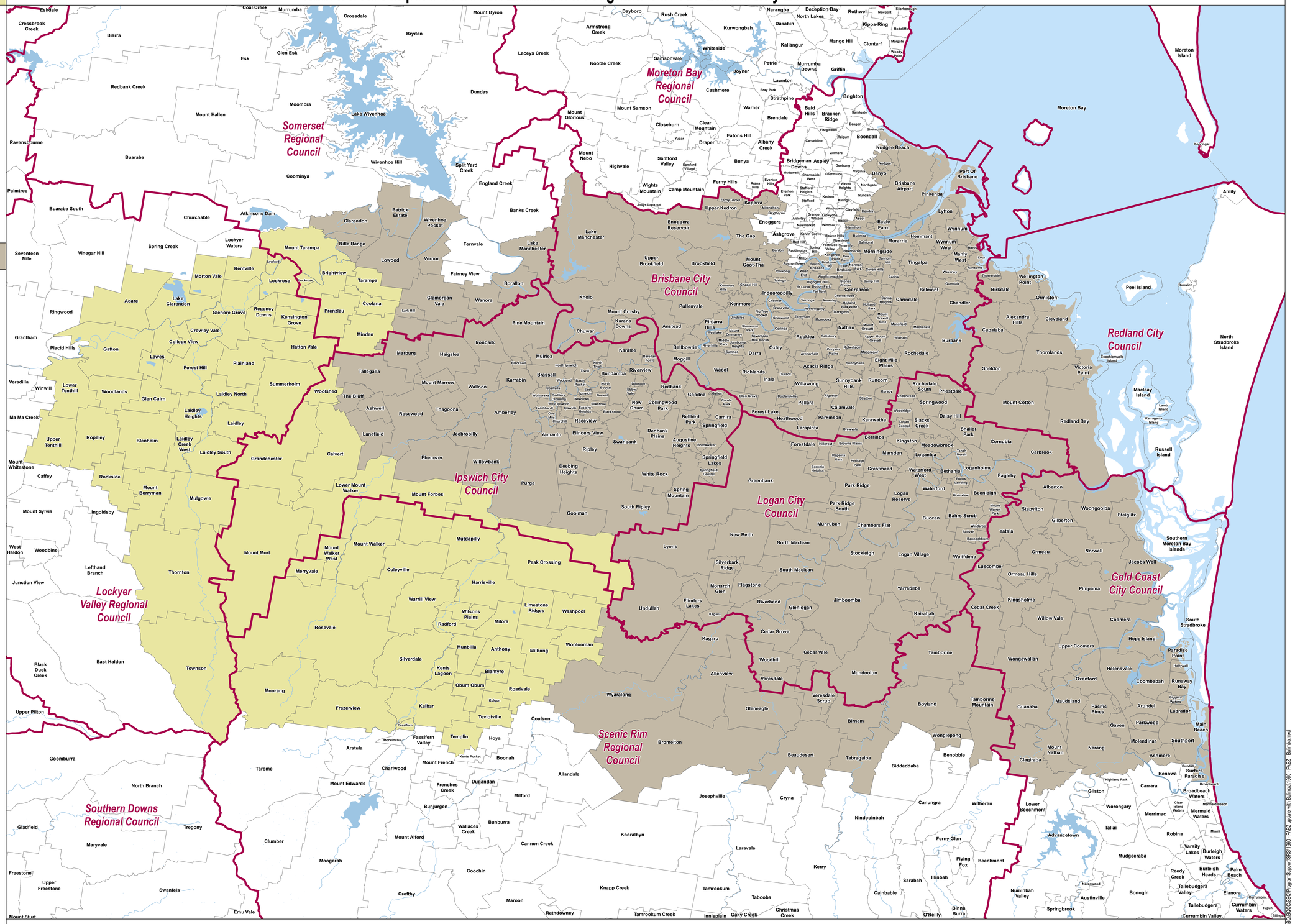
National Red Imported Fire Ant Eradication Program: Fire Ant Biosecurity Zones

Fire Ant Biosecurity Zone 1

Adare
Anthony
Blantyre
Blenheim
Brightview
Calvert
Coleyville
College View
Coolana
Crowley Vale
Fassifern
Forest Hill
Frazerview
Gatton
Glen Cairn
Glenore Grove
Grandchester
Harrisville
Hatton Vale
Kalbar
Kensington Grove
Kents Lagoon
Kentville
Kulgun
Laidley
Laidley Creek West
Laidley Heights
Laidley North
Laidley South
Lake Clarendon
Lawes
Limestone Ridges
Lockrose
Lower Mount Walker
Lower Tenthill
Lynford
Merryvale
Milbong
Milora
Minden
Moorang
Morton Vale
Mount Berryman
Mount Forbes
Mount Mort
Mount Walker
Mount Walker West
Mulgowie
Munbilla
Mutdapilly
Obum Obum
One Mile
Peak Crossing
Plainland
Prenzlau
Radford
Regency Downs
Roadvale
Rockside
Ropeley
Rosevale
Silverdale
Summerholm
Tarampa
Templin
Teviotville
Thornton
Townson
Upper Tenthill
Warrill View
Washpool
Wilsons Plains
Woodlands
Woolooman
Woolshed

Fire Ant Biosecurity Zone 2

Acacia Ridge
Alberton
Alexandra Hills
Algester
Allenview
Amberley
Annerley
Anstead
Archerfield
Arundel
Ascot
Ashmore
Ashwell
Augustine Heights
Bahrs Scrub
Balmoral
Bannockburn
Banyo
Bardon
Barellan Point
Basin Pocket
Beaudesert
Beenleigh
Belivah
Bellbird Park
Bellbowrie
Belmont
Berrinba
Bethania
Biggera Waters
Birkdale
Birnam
Blacksoil
Blackstone
Booval
Borallon
Boronia Heights
Boyland
Brassall
Brisbane Airport
Brisbane City
Bromelton
Brookfield
Brookwater
Browns Plains
Buccan
Bulimba
Bundamba
Burbank
Calamvale
Camira
Camp Hill
Cannon Hill
Capalaba
Carbrook
Carina
Carina Heights
Carindale
Carole Park
Cedar Creek
Cedar Grove
Cedar Vale
Chambers Flat
Chandler
Chapel Hill
Chelmer
Churchill
Chuwar
Clagiraba
Clarendon
Cleveland
Coalfalls
Collingwood Park
Coombabah
Coomera
Coopers Plains
Coorparoo
Corinda
Cornubia
Crestmead
Daisy Hill
Darra
Deebing Heights
Dinmore
Doolandella
Drewvale
Durack
Dutton Park
Eagle Farm
Eagleby
East Brisbane
East Ipswich
Eastern Heights
Ebbw Vale
Ebenezer
Edens Landing
Eight Mile Plains
Ellen Grove
Enoggera Reservoir
Fairfield
Ferny Grove
Fig Tree Pocket
Flagstone
Flinders Lakes
Forest Lake
Forestdale
Gailes
Gaven
Gaythorne
Gilberton
Glamorgan Vale
Gleneagle
Glenlogan
Goodna
Goolman
Graceville
Greenbank
Greenslopes
Guanaba
Gumdale
Haigslea
Hamilton
Hawthorne
Heathwood
Helensvale
Hemmant
Hendra
Heritage Park
Highgate Hill
Hillcrest
Holland Park
Holland Park West
Hollywell
Holmview
Hope Island
Inala
Indooroopilly
Ipswich
Ironbark
Jacobs Well
Jamboree Heights
Jeebropilly
Jimboomba
Jindalee
Kagaru
Kairabah
Kangaroo Point
Karalee
Karana Downs
Karawatha
Karrabin
Kenmore
Kenmore Hills
Keperra
Kholo
Kingsholme
Kingston
Kuraby
Labrador
Lake Manchester
Lanefield
Larapinta
Leichhardt
Logan Central
Logan Reserve
Logan Village
Loganholme
Loganlea
Lota
Lowood
Luscombe
Lyons
Lytton
MacGregor
Mackenzie
Main Beach
Manly
Manly West
Mansfield
Marburg
Marsden
Maudsland
Meadowbrook
Middle Park
Mitchelton
Moggill
Molendinar
Monarch Glen
Moores Pocket
Moorooka
Morningside
Mount Coot-tha
Mount Cotton
Mount Crosby
Mount Gravatt
Mount Gravatt East
Mount Marrow
Mount Nathan
Mount Ommaney
Mount Warren Park
Muirlea
Mundoolun
Munruben
Murarrie
Nathan
Nerang
New Beith
New Chum
New Farm
Newtown
Norman Park
North Booval
North Ipswich
North Maclean
North Tivoli
Norwell
Nudgee
Nudgee Beach
One Mile
Ormeau
Ormeau Hills
Ormiston
Oxenford
Oxley
Pacific Pines
Pallara
Paradise Point
Park Ridge
Park Ridge South
Parkinson
Parkwood
Patrick Estate
Pimpama
Pine Mountain
Pinjarra Hills
Pinkenba
Port Of Brisbane
Priestdale
Pullenvale
Purga
Raceview
Ransome
Redbank
Redbank Plains
Redland Bay
Regents Park
Richlands
Rifle Range
Ripley
Riverbend
Riverhills
Riverview
Robertson
Rochedale
Rochedale South
Rocklea
Rosewood
Runaway Bay
Runcorn
Sadliers Crossing
Salisbury
Seven Hills
Seventeen Mile Rocks
Shailer Park
Sheldon
Sherwood
Silkstone
Silverbark Ridge
Sinnamon Park
Slacks Creek
South Brisbane
South Maclean
South Ripley
Southport
Spring Mountain
Springfield
Springfield Central
Springfield Lakes
Springwood
St Lucia
Stapylton
Steiglitz
Stockleigh
Stones Corner
Stretton
Sumner
Sunnybank
Sunnybank Hills
Surfers Paradise
Swanbank
Tabragalba
Tallegalla
Tamborine
Tamborine Mountain
Tanah Merah
Taringa
Tarragindi
Tennyson
Thagoona
The Bluff
The Gap
Thorneside
Thornlands
Tingalpa
Tivoli
Toowong
Underwood
Undullah
Upper Brookfield
Upper Coomera
Upper Kedron
Upper Mount Gravatt
Veresdale
Veresdale Scrub
Vernor
Victoria Point
Wacol
Wakerley
Walloon
Wanora
Waterford
Waterford West
Wellington Point
West End
West Ipswich
Westlake
White Rock
Willawong
Willow Vale
Willowbank
Windaroo
Wishart
Wivenhoe Pocket
Wolffdene
Wongawallan
Wonglepong
Woodend
Woodhill
Woodridge
Woolloongabba
Woongoolba
Wulkuraka
Wyaralong
Wynnum
Wynnum West
Yamanto
Yarrabilba
Yatala
Yeerongpilly
Yeronga



Fire Ant Biosecurity Zone Map
as at 27 May 2020, 12.00 am

- Fire Ant Biosecurity Zone 1
- Fire Ant Biosecurity Zone 2
- Local Government Area
- Suburb

N

0 5 10
km

Contact the Department of Agriculture and Fisheries for more information or request a biosecurity instrument permit at www.daf.qld.gov.au/fireants or call 13 25 23

Queensland Government

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