CEMENT CONCRETE & AGGREGATES AUSTRALIA

Fire Ant Management

CCAA Guideline for the Queensland Heavy Construction Materials Industry (Queensland activities)

April 2025

Image by *National Fire Ant Eradication Program*

Cement Concrete & Aggregates Australia is the voice of the heavy construction materials industry in Australia. CCAA members produce the majority of Australia's cement, concrete, and aggregates, which are crucial to Australia's building and construction sectors. These materials support the development of our nation's transport, energy, water, housing, defence, and social infrastructure. The industry generates approximately $15 Billion in annual revenues and employs approximately 30,000 Australians directly and a further 80,000 indirectly.

NATIONAL Fire Ant Eradication PROGRAM

Disclaimer

IMPORTANT NOTICE – PLEASE READ

This document has been produced by SLR Consulting Australia Pty Ltd for Cement Concrete & Aggregates Australia (CCAA) in good faith and provides general guidance to assist CCAA members in the appropriate management of fire ants in Queensland. Specifically, this guideline includes information for best practice fire ant management specific to hard rock quarries and sand extraction operations in Queensland.

This CCAA Guideline has been developed in collaboration with the National Fire Ant Eradication Program (NFAEP). The Program is a nationally cost-shared program funded by the Australian, state, and territory governments. Visit **fireants.org.au** to learn how you can help protect your industry and Australia from the devastating impacts of fire ants.

This document has also been prepared in consultation with members of CCAA, New South Wales Department of Primary Industry, and the Queensland Department of Agriculture and Fisheries.

This document was prepared having regard to information and opinion sourced by SLR Consulting Australia for CCAA in good faith prior to October 2024. Further research and development in the management of fire ant risks, applicable Australian laws, regulations and standards that are undertaken and issued following this date may affect the accuracy, currency or relevance of the contents of this document. Members must seek their own advice on this.

In addition to members seeking their own specialist advice, CCAA also acknowledges that it may be appropriate for members to have taken their own independent expert advice on the management of fire ats and the associated risks to adopt operational measures that are at variance to the general guidance provided in this document. This document should be considered as part, but not in substitution for, an overall assessment by members of the circumstances relevant to their particular activities.

This document should be used in conjunction with members' own assessment of operational matters, environmental issues and legal obligations particular to their individual situation. It is not a substitute for expert advice (including expert fire ant risk assessments), which should be obtained by members regarding the operation of their site. Further, CCAA does not represent or warrant that this document covers all applicable environmental and operational issues in relation to this subject matter.

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1 — Introduction

1.1 Background

Red imported fire ants *(Solenopsis invicta)* are an invasive species of ant native to South America. If left uncontrolled, fire ants have the potential to spread to large areas of Australia and severely damage the local environment, agriculture and tourism industries.

Fire ants were first detected in Australia in 2001, initially in South-east Queensland (SEQ). Following the discovery a nationally cost-shared effort commenced for the complete eradication in Australia, the National Fire Ant Eradication Program (NFAEP) was formed.

Fire ants can be transported in a variety of materials referred to collectively as 'fire ant carriers'. All operators are required to take steps to minimise the potential for moving fire ants in such materials.

The impact of fire ants is far reaching and is a key emerging issue within the construction materials sector given the constant movement of fire ant carriers in the form of essential construction materials throughout the community.

1.2 Objective

This fire ant guideline has been prepared specific to the extractive sector within the Queensland heavy construction materials industry with the core aims of:

- Outlining key legislative requirements of Fire Ant Management in Queensland ('QLD').
- Providing a guideline to ensure compliance with legislative requirements for operators within the QLD construction materials industry.
- Assisting operators to better understand and consider risks and mitigation measures concerning fire ants.
- Preventing the further spread of fire ants through the movement of extractive materials both onsite and offsite.
- Ensuring early detection and appropriate incursion response.

1.3 Scope

This guideline includes information for best practice fire ant management specific to hard rock quarries and sand extraction operations in Queensland. This guide has been developed for sites located within the fire ant biosecurity zones of Queensland as well as those located outside the fire ant biosecurity zones seeking to manage potential fire ant risks. Adherence to this guideline is voluntary, however adherence to legislative requirements is mandatory.

This guide does not override or replace federal, state or local government legislation, regulation, plans and policies. This guide considers the legislative requirements for fire ant management for sites located within Queensland.

2 — Definitions

A range of terminology has been used in this document.
Definitions for key terms are outlined below in Table 1.

TERM	DEFINITION
Biosecurity	Biosecurity is the way we stop the introduction and spread of harmful organisms such as viruses, bacteria, animals, plants, pathogens and insects into our country and how we manage the impacts of those already here.
Biosecurity Matter	The biosecurity matter is fire ants.
Biosecurity Risk	The biosecurity risk is the risk of an adverse effect on the economy, environment and the community that arises from the introduction, presence and spread of fire ants.
Biosecurity Zones	A biosecurity zone is a part of Queensland that has legal movement restrictions placed on it to limit the spread of pests and diseases within the state.
	Fire ant biosecurity zones 1 and 2 are defined areas to which specific movement controls apply in relation to the Queensland Biosecurity Regulation 2016 when moving a fire ant carrier.
Fire Ant Carrier	**Soil or growing media**, baled hay or straw, mulch, manure, **quarry products and recycled aggregate**, turf, potted plants, green waste.
IGR	Insect Growth Regulator containing either 5g/kg pyriproxifen or 5g/kg s-methoprene.
Interstate Movement	The movement of fire ant carrier across State borders.
Production Area	The production area can generally be defined in the extractive industry as the area to which material is processed stockpiled and stored prior to sales, this is inclusive of the long-term storage of materials for sale. The production area is considered high risk due to the frequency of Fire Ant Carriers being moved offsite.

2 — Definitions

Table 1 - Common Terms and Definitions

TERM	DEFINITION
Surveillance and Treatment Plan	A site-specific document that details the processes in place to systematically inspect, treat and manage fire ants on a site.
Vigorously Disturbed	Vigorously disturbed means agitating all parts of the material, using one of the following methods: • Crushing, cutting, hammering, chipping or shredding. • Screening by passing all the material through a screening bucket, grate or other sieve. • Mechanised turning by a machine that creates disturbance, including by rotary hoe, trommel or windrow turner, front end loader or washing.

3 — Legislative Requirements

All states and territories have their own individual legislative requirements with regard to biosecurity matters. It is important to understand these requirements and your responsibility when moving materials within and between States.

This section outlines legislative requirements in states where fire ant incursion has taken place. Due to the rapidly changing nature of biosecurity in Australia, it is the responsibility of the operator to remain up to date with all relevant biosecurity legislative changes.

3.1 Queensland Legislative Requirements

3.1.1 Biosecurity Act 2014

The *Biosecurity Act 2014* (QLD) commenced in July 2016, with aim to provide comprehensive biosecurity measures to protect the Queensland economy, agricultural and tourism industries as well as the environment. The *Biosecurity Act* 2014 considers measures to control risks from, pests, disease, and contaminants.

Under the *Biosecurity Act 2014* (QLD), all Queenslanders have a 'general biosecurity obligation' (GBO). This requires everyone to manage biosecurity risks that are under their control and that they know about or should reasonably be expected to know about. Under the GBO, individuals and organisations 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.

EMERGENCY ORDERS

The *Biosecurity Act 2014* (QLD) provides instruments that allow for rapid responses to emergent biosecurity events. Biosecurity Emergency Orders can be authorised by the Chief Executive as an urgent response if deemed necessary to: isolate, stop the spread or eradicate a biosecurity risk. To make an emergency order the Chief Executive must have reasonable grounds based on seriousness and likely impact.

Emergency Orders are used at the start of a response and last for 45 days unless revoked sooner. Due to the significant biosecurity risk posed by fire ants, Biosecurity Programs have been authorised to continue the eradication. A Surveillance Program and a Prevention and Control Program may be implemented to ensure the eradication of fire ants.

BIOSECURITY ORDERS

A biosecurity order may be issued if an authorised officer reasonably believes that a person has failed or may fail to discharge their general biosecurity obligation. This may arise where the authorised officer deems that there is a risk of spreading fire ants. The biosecurity order requires action to be taken to address the biosecurity risk within a stated timeframe and may require the immediate cessation of movement of fire ant carriers from the site.

3.1.2 Biosecurity Regulation 2016

The Biosecurity Regulation 2016 operates under the Biosecurity Act 2014 and prescribes how the Act is to be implemented and applied.

The regulation identifies ways which a person's GBO can be met to prevent or minimise biosecurity risks. This includes measures to prevent or control the spread of biosecurity hazards. In the case of fire ant biosecurity zones, regulatory provisions have been made, that restrict the movement of fire ant carriers in, between or out of the fire ant biosecurity zones.

Further information and legislative updates can be found at the QLD Department of Primary Industries.

4 — Industry Overview

4.1 The Sector

The extractive sector within the heavy construction materials industry plays a critical role in our daily lives producing the basic raw materials used in the construction and maintenance of roads and in the manufacture of pre-mixed concrete necessary for the construction of homes, schools, bridges and other major infrastructure on which communities depend. The term 'construction material' is used to denote all low-cost quarried hard rock, sand, gravel, and other earth material which are extracted in bulk and used for construction purposes.

Quarry materials include sand, gravels, fill and hard rock that are either land based, riverine or offshore deposits.

The production of quarry products has continued to increase over time in line with population growth and infrastructure delivery. For context, over 53 million tonnes of material were produced from hard rock and sand quarries across Queensland in 2021 with Southeast Queensland accounting for over 42% of total production.

In order to extract 5,000 tonnes or more per annum or dredging a total of 1,000 tonnes or more per annum, an operator is required to hold an Environmental Authority (EA) issued by the Department of Environment, Tourism, Science & Innovation (DETSI) for Environmentally Relevant Activities (ERAs), namely ERA 16 (extraction and screening). With reference to the DESTI Public Register Portal, there are over 250 EAs issued within Southeast Queensland alone that include ERA 16. Across QLD there are over 1,000 EAs issued.

The ERA 16 approvals do not necessarily relate to individual quarry sites. For example, some local governments and other operators (including the Department of Transport and Main Roads) hold a single EA that comprise multiple individual quarries (at times 100's of individual sites on the one EA).

The above demonstrates the prevalence of quarrying activities required to support development across QLD. Quarries produce road screenings, coarse and fine concrete aggregate, natural sand, manufactured sand road base, armour rock, rip rap, railway ballast, drainage materials, landscaping materials, filters and fills. Hard rock deposits are preferred for the manufacture of road base, asphalt aggregate, and road surface screenings. The majority of quarried products is used in road construction (embankments, sub-base, base, wearing course, asphalt, screenings, drainage media, shoulder gravels) and in concrete and concrete products (aggregates).

Quarried products require characteristics that ensure their serviceability for the engineered design life. In general, a rock suitable for use as coarse aggregate should be sound, high strength, durable, resistant to abrasion and chemical attack, and be relatively free of deleterious materials. Crushing behaviour, density, hardness and other characteristics such as surface characteristics, colour, and skid resistance, are important factors for particular uses e.g. skid resistant road surfacing.

Population statistics coupled with quarry material production has historically shown a strong correlation. It is currently estimated that each Queenslander requires at least 8 tonnes of quarry material per annum to service their needs. Next to water, concrete (which generally comprises 80% gravel and sand, 10% cement and 10% water) is the most consumed substance on the planet.

Recent analysis by Oxford Economics for the Queensland Department of Resources indicates that quarry material demand will see the strongest pick-up over the next five years, ramping up 15% (+8.7 Mt, 65.7 Mt) by 2028-29, and continue to grow to a peak of 66.2 Mt in 2029-30 (Oxford Economics Australia, 2023).

The above is provided to demonstrates that the industry is a core pillar of economic development, with the materials produced, underpinning all essential infrastructure development by supplying key resources.

In the context of this guideline, this also highlights the significance of the Fire Ant risk in relation to the spread of fire ants associated with the production, transportation and delivery of materials to end user sites across the region.

4 — Industry Overview

4.2 Hard Rock Quarries

Operations at hard rock quarries typically comprise the following basic elements:

- Clearing of vegetation and stripping of topsoil and overburden material using mechanical means and stockpiling for incorporation into on-site rehabilitation works where required, or use in constructing structures.
- Drilling and blasting the exposed underlying rock to a manageable size for the developed quarry benches to the quarry pit or bench below.
- Transferring raw material from the quarry face or pit floor to a designated crushing and screening plant/stockpile hardstand areas using an excavator or front-end loader into off-road haul trucks.
- Crushing and screening the raw material using crushing and screening processing plant(s).
- Stockpiling the final products using a front-end loader and/or off-road haul trucks within designated hardstand areas until required to be loaded into road trucks for transportation off-site for sale.
- Rehabilitating disturbed areas progressively once terminal benches are reached.

4.3 Sand Extraction

Site operations at sand extraction sites typically include the following basic elements:

- Clearing of vegetation, stripping of topsoil and overburden via mechanical and stockpiling for use or sale as soil material.
- Extraction and transfer of raw materials to the screening plant using an excavator or front-end loader into off-road haul truck(s).
- Screening the raw material using a processing plant.
- Stockpiling the final products using a front-end loader and/or off-road haul truck within designated stockpile areas prior to sale and off-site transportation to the end users.
- Rehabilitation of disturbed areas progressively once extraction is completed, and it is safe to do so.

Sand extraction can also be undertaken via dredging methods, where a water body is formed, typically this includes:

- The topsoil / overburden is initially removed from extraction areas.
- The stripped topsoil from the initial stripping campaign is stockpiled and either sold or retained for future use for rehabilitation works of the extraction pits.
- Once sufficient dry excavation has been completed to develop an initial working pit of suitable depth, the form of extraction is then via dredge.
- Extraction is typically done using a suction pump mounted on a dredge / pontoon with the suction line extending down under the water to resource level. The resultant extracted material in a saturated 'slurry' form passes through pipework to the existing screening and wash plant.
- The wash plant can be fed directly from the dredge line, therefore reducing the need for a machine to handle the raw feed at the plant. Following processing, sand is placed in stockpiles ready for transportation off-site. At some sites, sand produced may be bagged.

Sand extraction via dredging can also occur in marine or riverine environments. Typically, material is then deposited landside to be processed and / or stockpiled prior to transportation off-site to customers.

4 — Industry Overview

4.4 Downstream Applications

A number of quarry operators supply materials to concrete and asphalt plants for use. These operations form part of the supply chain for the materials to customers. These downstream applications operate under similar requirements as to ensure material is to remain fire ant free. The operators of these downstream applications have the same biosecurity obligations and are responsible for the management of fire ant carries on receival, and onsite management, any non-processed Fire Ant Carriers should be appropriately managed prior to transportation.

All personnel employed at locations receiving fire ant carriers from Biosecurity Zones should undergo training as specified in Section 7.1.2 to ensure staff are aware of their responsibilities. Mitigations strategies should be followed as generally specified in this guideline, however, is not specific to these downstream operations. The produced products at these sites (concrete and asphalt) cease to be regarded as a Fire Ant carrier.

4.5 Activities with High Potential for Fire Ant Interaction

From the above activities the following have been identified as high potential for fire ant interaction and spread:

- Vehicle movements into and out of the site.
- Soil stripping and removal from site.
- Product stockpiling and transportation from site.

Control measures are required to be implemented for the above activities. The primary activity and concern in relation to fire ants at the site is the extraction, processing and transportation of materials from the site to customers and end-users.

Image by *National Fire Ant Eradication Program*

5 — Roles and Responsibilities

It is important for effective fire ant management that all site personnel understand their responsibilities in relation to biosecurity obligations. Although this may vary site to site, general roles and responsibilities described in Table 2 have been supplied as a guide.

Table 2 - General Roles and Responsibilities

TITLE	RESPONSIBILITY
Management	• Develop and implement site specific protocols for Fire Ant Management (as outlined in Sections 7 and 8 of this guide). • Proactively lead in the implementation of onsite Fire Ant management protocols. • Never issue an instruction or undertake any activity that may increase the risk of the spread of fire ants. • Appoint competent persons to assist with the effective management of the objectives of onsite protocols. • Ensure all employees and visitors require induction sessions. • Ensure that all identified corrective actions which may arise from Risk Assessments, Audits, Inspections and incident investigations are implemented within the required timeframes and monitored for effectiveness. • Ensure adequate resources are allocated to ensure compliance and best practice of Fire Ant Management. • Ensure all suspected fire ants identified are reported to the NFAEP within 24 hours.
Site supervisor (or equivalent)	• Never issue instructions or undertake any activity that may increase the risk of the spread of fire ants. • Ensure employees effectively carry out their responsibilities. • Assist in the identification and development of appropriate training and development programs and activities. • Ensure all personnel are trained and competent to undertake set tasks. • Complete and record required site inspections or ensure that a suitably qualified person conducts the inspections. • Attend and where required conduct daily prestart meeting and weekly tool-box meetings on site. • Ensure outstanding actions from prestart and toolbox meetings are actioned within the appropriate timeframe. • Monitor the effectiveness of fire ant controls.
Employees	• Undertake training provided to minimise the spread of fire ants. • Familiarise themselves with the onsite requirements. • Actively implement onsite control measures. • Report any matters of concern relating to fire ant management.
Contractors/Drivers	• Be familiar with onsite requirements in relation to this guide. • Actively implement the control measures in line with this guide and specific onsite requirements • Report any matters of concern relating to fire ants to management.

6 — Potential Impacts from Fire Ants

6.1 Environmental Impacts

Fire ants are highly adaptable and have the potential to inhabit most areas of Australia. The potential environmental effects of fire ant infestation are as follows:

- Feeding on fauna that nests or feeds on the ground, including insects, spiders, lizards, frogs, birds and mammals.
- Displacement or elimination of some native species.
- They can eat and damage seeds which may cause major ecosystem changes over time.
- Predate or disturb the insects and animals that are required in the pollination of native plants, which may also cause long-term changes to the vegetation of our bushland areas.
- Attack species of birds which have ground-based habits. Species which occupy areas within one meter above ground may also be at risk.

The reduction in the biodiversity of Australian native fauna and flora is listed as a key threatening process under the *Commonwealth Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act).

6.2 Economic

Fire ants have the potential to impact businesses and communities on an economic level. The possible impacts may include:

- Cause damage to key infrastructure such as electrical equipment.
- Create unsafe conditions for use of public spaces.
- Cause disruption to businesses that have fire ant infestations which prevent the ability to supply their products.
- Cause disruption to businesses that do not have fire any infestations but require materials or products from areas that do have fire ant infestations.
- Affect exports of items to fire ant free countries.
- Mounds can damage or destroy equipment during operations.
- Impacts to livestock and agricultural activities.

6.3 Health

Fire ants have the potential to impact upon human health including:

- Fire ants can move quickly, this allows large numbers to move onto human prior to detection.
- Fire ant stings can cause a painful burning, itching sensation which can last for up to an hour.
- Bites from multiple ants can result in a sensation that their body is on fire.
- Small pustules may form at the site of the sting, which if broken may become infected.

In rare cases, fire ant stings can lead to a severe and sometimes fatal allergic reaction known as anaphylaxis.

6.4 Social and Lifestyle

Fire ant infestations have the potential to restrict everyday activities due to infestations in backyards, parks, playgrounds, beaches and sports grounds which then become unusable. People in fire ant-infested areas have changed their habits to avoid exposure to the ant.

Pets and domestic animals can also be impacted by fire ants, animals can also be stung and injured and may have allergic reactions or be blinded by exposure to the venom. (DAFb, 2024)

7 — Onsite Management Practices

Onsite management practices and requirements vary significantly depending on whether sites are located within a biosecurity zone / bordering the zone or are located outside the zone. It is important that operators are aware of what management practices apply to them. It is the operator responsibility to remain up to date with any changes to these zones and their legislative requirements when managing fire ant carriers.

7.1 Sites Located Within a Biosecurity Zone

This section outlines the current management practices for sites located within a biosecurity zone. This section can also be used for sites located near these biosecurity zones to ensure they are appropriately exercising their GBO.

7.1.1 Biosecurity Instrument Permit

It is common for operators located within the biosecurity zone to hold Biosecurity Instrument Permits (BIP). Under current requirements, operators who are transporting fire ant carriers from site are not required to hold a BIP provided fire ant carriers are properly managed and can provide records of the management practices undertaken. Where this guideline conflicts with the BIP, the BIP will take precedence.

7.1.2 Training and Awareness

Fire ants are classified as category 1 restricted matter under the *QLD Biosecurity Act* 2014 and as a result all individuals and organisations whose activities involve the movement or storage of fire ant carriers have a general biosecurity obligation to take all reasonable steps to ensure they do not spread fire ants.

The zones are reviewed monthly and updated where necessary. The NFAEP posts the zone changes on fireants.org.au.

A regular newsletter is produced by the NFAEP that can be subscribed to via fireants.org.au. This will ensure that operators remain up to date on the changing circumstances.

Fire ants are currently isolated to areas of South-east Queensland and Northern NSW. It is important that although fire ants are not yet widespread, all operators and personnel in the affected areas and surrounds are responsible for the identification and management of fire ants. All operators should ensure they remain up to date with these changes and implement the relevant mitigation measures. Operators are to ensure all staff undergo appropriate training and remain informed of any changes to the fire ant risk onsite.

Training and awareness materials are provided by the NFAEP and should be undertaken by all employees. The training materials are a 20 - 30-minute course that is free and available at all times. The course materials are available here.

Once completed, employees will have an improved level of awareness and be able to:

1. Identify fire ants and their nests,
2. Reduce the likelihood of spreading fire ants,
3. Treat fire ants.

A schedule of training is proposed on the next page in Table 3.

7 — Onsite Management Practices

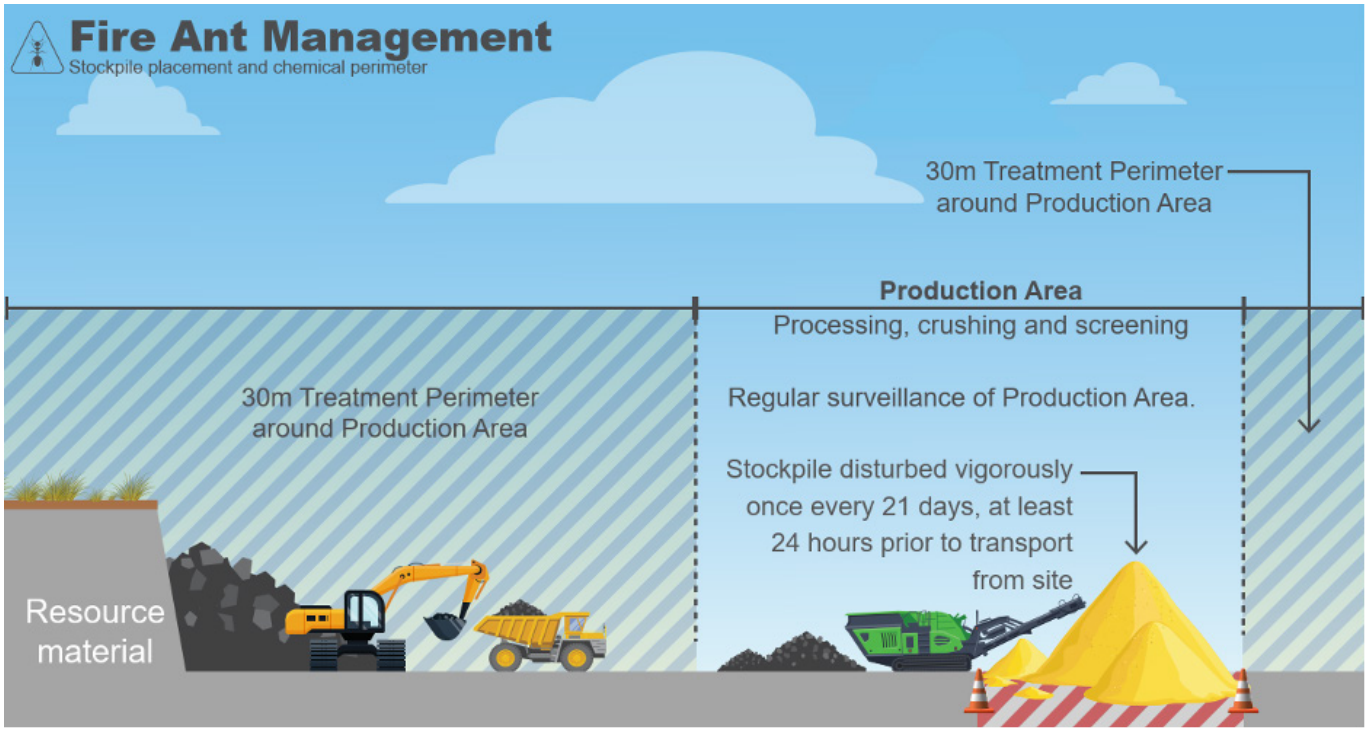
Table 3 - Training and Awareness Schedule

PERSON	FREQUENCY	RESPONSIBILITY
New Employee / Contractor	At Commencement	Complete the training available from the NFAEP.
Visitors	Site Induction and Awareness	Include in the site induction and awareness training the status of the site in relation to Fire Ants. 1. Is the site in a Biosecurity Zone 2. Is a current incursion present on site 3. Responsibilities of the visitor
All staff	Annually	Refresher training as per the NFAEP.
All staff	Monthly	Include in toolbox talk or all hands meetings the current state of play in relation to Fire Ants: 1. Zone status 2. Incursion status 3. Responsibilities 4. Active and Planned Treatment

7.1.3 Surveillance

A Surveillance and Treatment Plan (STP) is to be prepared for the sites which are located within Biosecurity Zones and are considered high risk. These can be developed utilising this guideline and the Surveillance and Treatment Record in Attachment 1. This will allow consistency between operations. For the purpose of this guideline the Production Area has been defined as see in Section 2, this definition as well as the surveillance and treatment measures are defined in Plate 1 below.

Plate 1 - Production Area Summary



7 — Onsite Management Practices

The following surveillance practices should be undertaken shown in Table 4.

Table 4 - Surveillance Requirements

Activity	Surveillance
Trigger	Operations are located within a Biosecurity Zone or in areas surrounding these zones.
Management Measures	The following surveillance measures should be undertaken: • Monthly inspections should be undertaken by trained site personnel who have completed the training and awareness requirements. • Monthly inspections are to focus on the Production Areas. • If responsive treatment is undertaken, monthly perimeter inspections are required treating all nests with Direct nest injection (DNI). If a Fire Ant is detected within the Production Area: • Notify the NFAEP within 24hrs. • Undertake Inspection to determine extent of incursion within the Production Area. • If fire ants have been identified within Production Area movement of Fire Ant Carriers offsite must cease until treatment has been effective. • If fire ants are located outside the Production Area treat nests via DNI.
Desired Outcome	• Fire ant incursions identified early. • Fire ant infestations contained and managed. • Prevention of fire ant presence within operational areas / Production Area where the risk of offsite movement if elevated. • Avoidance of fire ant spread across the Production Areas. • Avoidance of fire ant spreading from site with transport of Fire Ant Carrier.
Reporting Requirement	Report all new suspected fire ant identifications within 24 hours of sighting by calling the NFAEP hotline 13 22 68 (132 ANT) or completing an online form fireants.org.au/report. Retain inspection and induction records for a minimum of two (2) years and produced copies to a Biosecurity Queensland inspector upon request. Surveillance and treatment record templates can be found in Attachment 1.

7 — Onsite Management Practices

7.1.4 Site Management

In addition to regular surveillance, it is important to implement site management measures to ensure fire ant colonies cannot establish themselves onsite or are effectively managed where present to minimise risk of transportation offsite.

Quarries are large open areas. Extraction is typically ongoing, with processing and stockpiling of materials a daily occurrence at most sites. Materials produced is typically on demand with stockpiled products regularly disturbed to load trucks for delivery to customers. The current guidance for management of fire ant carriers (not including quarry materials) on site is to:

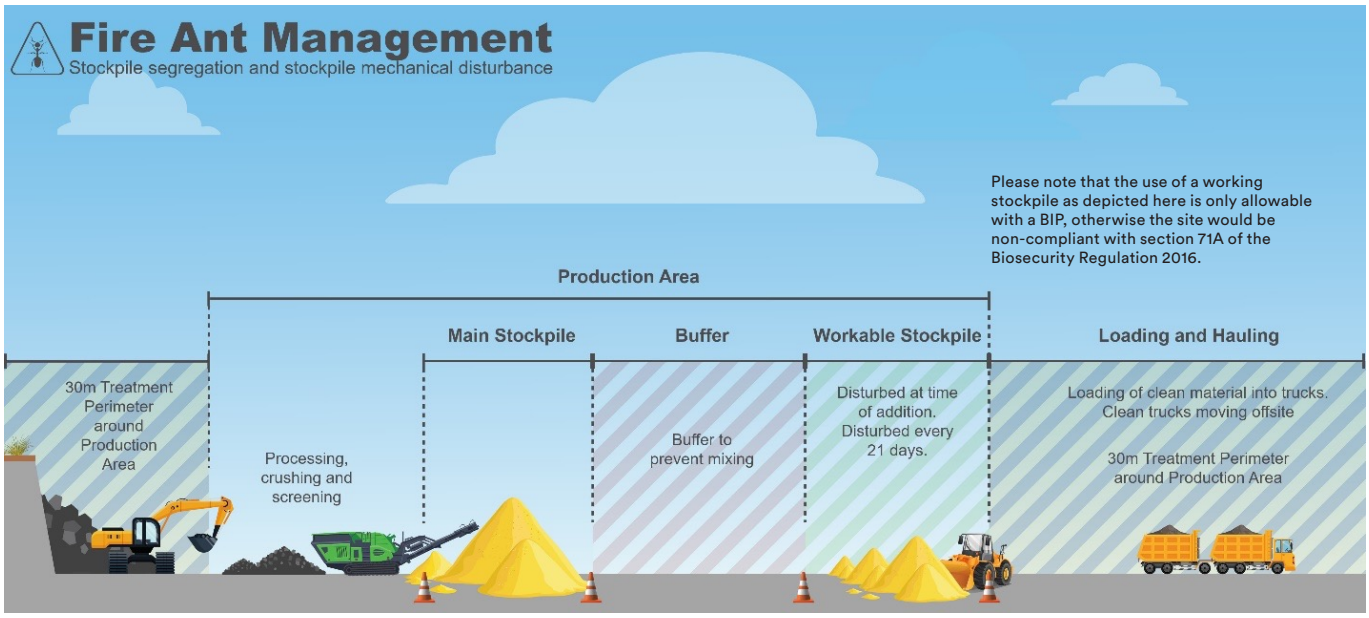
Where possible store material:

- Covered and off the ground.
- Covered, on a barrier that cannot be penetrated by fire ants, with a 30 cm chemical perimeter using bifenthrin (PER14317).
- Covered and on treated compacted ground with a 30 cm chemical perimeter using bifenthrin (PER14317).

Quarry materials are considered relevant fire ant carrier materials under section 71A of the Biosecurity Regulation 2016. The management measures set out below can be undertaken in place of the storage requirements of section 71(2). These measures focus on the management of production areas, and disturbance of stockpiled carrier materials as required by the regulation.

The below management measures should be undertaken on sites located within Biosecurity Zones. In addition, sites in the areas surrounding these zones may adopt these as preventative measures to ensure they remain free of fire ants.

Plate 2 - Site Management Measures



7 — Onsite Management Practices

Table 5 details these management measures, and associated reporting requirements.

Table 5 - Site Management

Activity	Site Management
Trigger	Operations located within a Biosecurity Zone or in areas surrounding these zones.

Management Measures	**Perimeter Barrier Active Area**
	• Maintain a 30 m chemical perimeter around Production Area using IGR bait: or
	• Inspect 30 m barrier and Production Area monthly and treat nests with DNI.
	Product Dispatch
	• For any fire ant carrier to be transported from the site, the fire ant carrier must be vigorously disturbed at least once every 21 days.
	Product Management in Production Area (High Risk Areas)
	• Disturb materials during or after excavation utilising one of the following methods. Any of the disturbance methods below must be carried out at least every 21 days while the carrier is kept at the place.
	  • Disturbing (turning) the material vigorously.
	  • Vigorous and thorough turning of products.
	  • Screen the material (e.g. sieving the material through a screening bucket or grate) before it is loaded for transport offsite.
	  • Crushing the material (e.g. processing through a crushing machine before it is loaded for transport offsite).
	  • Washing the material (e.g. processes that involve washing the material to remove impurities or contaminants before it is loaded for transport off site).
	• Quarries operate with large stockpiles of materials, which are not renewed each day (i.e. material may remain in stockpile for extended period before being sold as product). Prior to movement offsite the material is to be removed by:
	  • Loading a portion of the original stockpile into a smaller working stockpile with a suitable buffer away from the original stockpile to prevent mixing.
	  • Loading out only from the new working stockpile. Additions to the working stockpile can be made at any time, provided the entire working stockpile undergoes mechanical disturbance at the time of addition. Disturbances must then occur every 21 days and at least 24 hours prior to movement to allow time for it to become ant free.
	  • The final mechanical disturbance must occur 24 hours prior to the load out leaving the site. Disturbance can be through any combinations of turning, screening, crushing, shredding, chipping or washing.
	Please note that the above mentioned methods of large stockpile management, where the main stockpiles are not kept in accordance with section 71A of the Biosecurity Regulation 2016, are only permissible with a valid BIP. It is important to identify high and low risk areas of your quarry. It is recommended that a property plan identifying the high-risk areas is developed. This can be used to support a BIP application and allow for use of working stockpiles.

Desired Outcome	• Fire ant incursions identified early. • Fire ant infestations contained and managed. • Prevention of fire ant presence within operational areas / Production Area where the risk of offsite movement if elevated. • Avoidance of fire ant spread across the Production Areas. • Avoidance of fire ant spreading from site with transport of Fire Ant Carrier.
Reporting Requirement	Disturbance records must be kept for each relevant carrier with details on how and when the relevant carrier was disturbed. This is a requirement under the Biosecurity Regulation 2016. Disturbance records must be retained for a minimum of two (2) years and produced to a Biosecurity Queensland inspector upon request. Transport records to be kept, which includes how much material was moved, where it was transported to and when it was transported.

7 — Onsite Management Practices

7.1.5 Treatment

Sites moving Fire Ant Carriers located within Biosecurity Zones are required to prepare and implement a Site Treatment and Surveillance Plan (STSP). This can be developed utilising this guideline. This will allow consistency between operations. Treatment measures are to be implemented immediately if fire ants have been detected onsite.

Table 6 - Treatment Requirements

Activity	Treatment
Trigger	If fire ants have been identified onsite, immediate treatment is required. If the site is located within a Biosecurity Zone a treatment regime is required.
Management Measures	Treatment is to be completed by a suitably trained person. **Direct Nest Injection** Direct nest injection (DNI) is the most commonly used treatment and involves flooding fire ant nests and tunnels with fipronil (currently the only approved product for this method). It is important to follow application and treatment instructions to ensure the best result. Fipronil is odourless and affects the ants immediately, with the majority of the ants dying within several days. **Bait Treatment** There are two (2) types of bait that can be used for this method of treatment: • Fast acting bait – used to treat the immediate area around the nest. The method reduces nest activity in 1-4 weeks with nest death occurring soon after. • Slow acting insect grown regulator (IGR) – works by making the queen infertile with the nest naturally dying out in 3-4 months. This method is generally used to treat the remaining property. It is important that the correct treatment and methods are used for each specific incursion. To ensure best practice measures are implemented it is recommended that treatment measure be undertaken as per product specifications or discussed with a pest specialist. All fire ant treatment is to be undertaken by a suitably trained person. **Treatment Regime** The Production Area and the 30 m buffer surrounding the Production Area must have a treatment regime. Treatment must occur at least three months prior to the first movement of a Fire Ant Carrier from site. The following treatment programs may be used to prevent/ treat fire ants. **Broadscale Bait Treatment** Apply multiple rounds of bait across the 30 m buffer and within the Production Area. Three (3) rounds of treatment should be applied every 10- 12 weeks between September and June, a minimum of 30 m buffer should be treated with bait to ensure Production Area remains fire ant free. It is also recommended that broadscale bait treatment be undertaken over the surrounding areas to prevent incursions into Production Area. For larger areas or areas where access is difficult, bait treatment can be administered via drone to ensure sufficient barrier can be maintained. **Responsive Treatment** Treat any active fire ant nests with a toxicant bait or DNI. Ensure monthly surveillance of the treated area continues.

7 — Onsite Management Practices

	Post Treatment Monitoring of the treated site should be undertaken regularly until it is confirmed treatment has been successful. If fire ants remain active, further applications may be required, following the recommended treatment regime or each product type. It is important that sites who have had fire ant incursion implement a site-specific treatment plan to ensure effective treatment onsite. If fire ants are found within the Production Area, movement of Fire Ant Carriers must not recommence until treatment has been successful and no fire ants remain.
Desired Outcome	• Fire ant incursions identified early. • Fire ant infestations contained and managed. • Prevention of fire ant presence within operational areas / Production Area where the risk of offsite movement if elevated. • Avoidance of fire ant spread across the Production Areas. • Avoidance of fire ant spreading from site with transport of Fire Ant Carrier.
Reporting Requirement	If an incursion has been identified you **MUST** report within 24 hours of sighting by calling the NFAEP hotline 132268 (132 ANT) or completing an online form fireants.org.au/report.

7 — Onsite Management Practices

7.1.6 Transport Management

In addition to onsite management practices, it is important that materials be managed when transporting offsite. Table 7 identifies the requirements when transporting materials from sites located within the Biosecurity Zones.

Table 7 - Transport Management

Activity	Transport Management
Trigger	Operations located within a Biosecurity Zone or in areas surrounding these zones.
Management Measures	**Vehicle and Equipment Movement** All vehicles, including plant and equipment are to be visually free of Fire Ant Carriers before leaving the facility. This may be achieved with one of the following procedures: • Physical removal such as scraping. • Brushing down. • Washing down. • High-pressure pneumatic cleaning. Transportation records should be kept of all movement of the Fire Ant Carriers, including time, date, quantity, transport vehicle details and destination site. Earth moving equipment may be regarded in NSW as a Fire Ant Carrier, and is subject to the same obligations as carriers. However, is exempt from providing records provided: • Cleaned so that it is free from soil and any other fire ant carrier material AND checked visually and found free of fire ants. • Equipment that is new and unused. **Transporting Materials Interstate – QLD to NSW** Additional entry requirements apply if you are moving fire ant carriers from the Biosecurity Zone into New South Wales. 1. Check the current NSW Biosecurity (fire ant) Emergency Order. 2. Follow the NSW treatment or cleaning requirements on the type of material or machinery being moved. 3. Produce the approved Biosecurity Certificates that accompanied the fire ant carrier for inspection when requested by an authorised officer and retain this certificate for four (4) years. 4. Complete a record of movement declaration from and retain a copy for four (4) years. Further information on moving materials interstate can be found in Section 8.3 – Movement of Materials Interstate.
Desired Outcome	• Fire ant incursions identified early. • Fire ant infestations contained and managed. • Avoidance of fire ant spreading from site with transport of Fire Ant Carrier.
Reporting Requirement	• Records should be kept of mechanical disturbance undertaken which includes the date/ time and method of disturbance. • Records should be retained for a minimum of two (2) years and produced to a Biosecurity Queensland inspector upon request. • Information to be included in the disturbance records are the date/ time of disturbance and carrier. • Transport records to be kept, which includes how much material was moved, where it was transported to and when it was transported.

7 — Onsite Management Practices

7.2 Sites Located Outside the Biosecurity Zone

Fire ants are classified as a category 1 restricted pest under the *QLD Biosecurity Act* 2014 and as a result all individuals and organisations whose activities involve the movement or storage of fire ant carriers have a GBO to take all reasonable steps to ensure they do not spread fire ants.

7.2.1 Training and Awareness

A schedule of training for sites located outside Biosecurity Zones, is proposed below in Table 8.

Table 8 - Training and Awareness Schedule

PERSON	FREQUENCY	RESPONSIBILITY
Site Manager	Once	Recommended to undertake NFAEP free online training.
	Ongoing	Remaining up to date with Biosecurity Zones.

7.2.2 Surveillance

When a site is located outside Biosecurity Zones, the following surveillance practices could be proactively adopted as shown in Table 9.

Table 9 - Surveillance Management

Activity	Surveillance
Trigger	For operators located outside Biosecurity Zones.
Management Measures	There are no specific surveillance requirements for these sites, however, to ensure GBO is observed general site inspections should include inspections of Fire Ant Carriers. Fire Ant Carriers transported from Biosecurity Zones should be visually inspected on receival.
Desired Outcome	• Fire ant incursions identified early. • Early eradication of infestations within Production Areas. • Avoidance of fire ant spread offsite.
Reporting Requirement	Report all new fire ant identifications within 24 hours of sighting or detection by calling the NFAEP hotline 132268 (132 ANT) or completing an online form fireants.org.au/report.

7.2.3 Site Management

There are no site management requirements specific to fire ant management on sites located outside the Biosecurity Zones. GBO should be observed by all onsite staff at all times.

7 — Onsite Management Practices

7.2.4 Transport Management

Transport management only applies for sites located outside of the Biosecurity Zones who are receiving Fire Ant Carriers from sites located inside the Biosecurity Zones. Although it is the responsibility of the sender to manage fire ant risks on their site and ensure they are following movement protocols, it is important for the receiver of the Fire Ant Carriers to exercise their GBO, Table 10 outlines management practices for the receiver.

Table 10 - Transportation Management

Activity	Transport Management
Trigger	Operators receiving Fire Ant Carriers from a Biosecurity Zone.
Management Measures	Visual inspection of Fire Ant Materials which have been transported from Biosecurity Zone. Ensuring it is free from evidence of fire ants.
Desired Outcome	• Preventing the incursion of fire ants onsite. • Preventing the spread of fire ants from site. • No evidence of fire ants onsite.
Reporting Requirement	Records should be retained of where Fire Ant Carriers have been sourced from (only when from within Biosecurity Zone). Report all new fire ant identifications within 24 hours of sighting or detection by calling the NFAEP hotline 132268 (132 ANT) or completing an online form fireants.org.au/report.

7.2.5 Treatment

There are no ongoing treatment requirements for sites located outside the Biosecurity Zone.

7.2.6 Fire Ant Identification Onsite

If fire ants have been identified or are suspected onsite and the site was previously fire ant free, the operator is to report sightings to the NFAEP within 24 hours of sighting. Reporting can be completed either via phone at 132 ANT/ 132 268 or via an online form found in fireants.org.au/report.

8 — Movement of Fire Ant Carriers

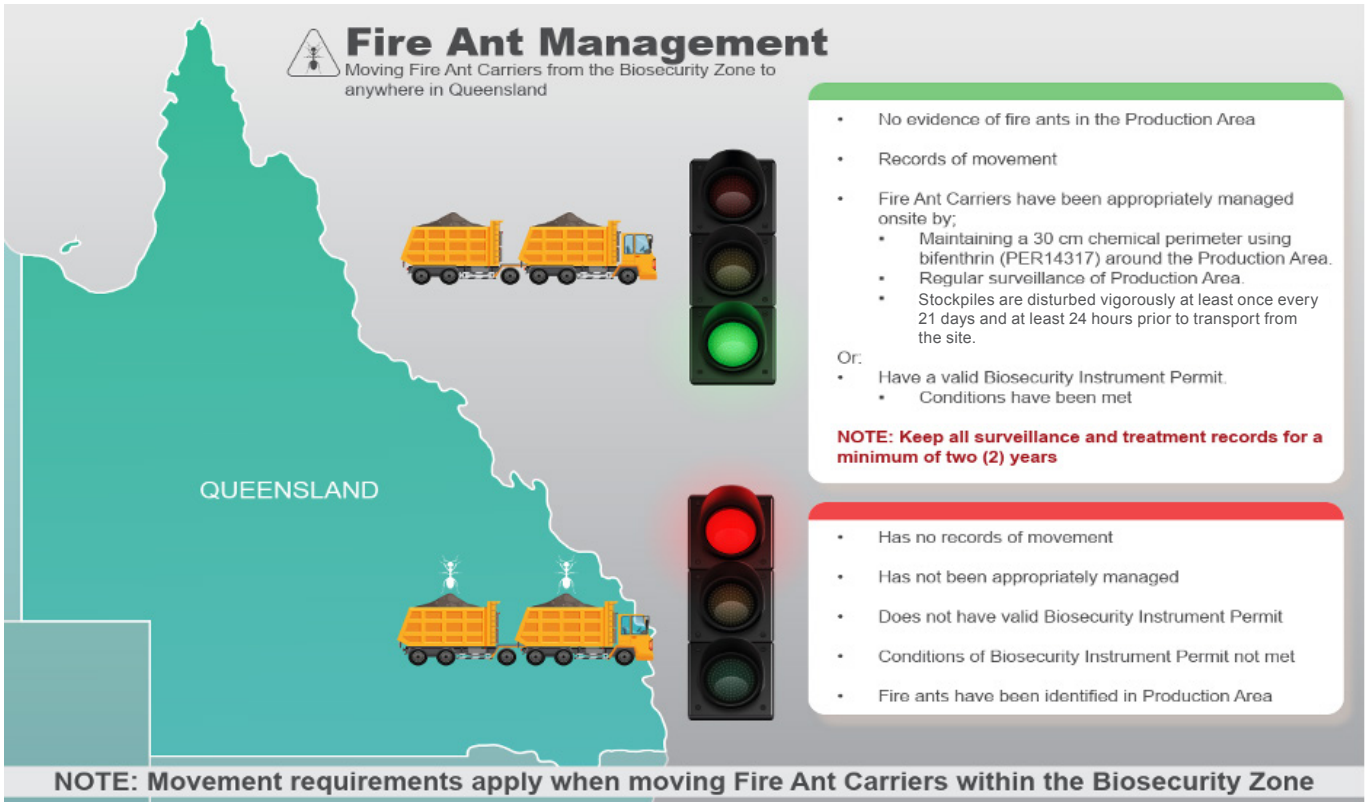
8.1 Transport Records

Different transport records are to be kept depending on where the material is coming from and the destination of the materials. It is important to be aware of what the specific requirements are and to ensure compliance when moving fire ant carriers. The below sections provide a quarry industry specific guide to what records are required. If you are unsure of which circumstance applies to you, an online compliance tool can be found on the NFAEP website.

8.2 Movement within Queensland

Specific requirements are mandatory when moving materials from a Biosecurity Zone, it is important that these measures are implemented to prevent the further spread of fire ants. Plate 3 summarises these requirements.

Plate 3 - Moving Fire Ant Carriers from QLD Biosecurity Zone



8 — Movement of Fire Ant Carriers

8.2.1 Movement within the Biosecurity Zone

Movement records are to be completed and kept for a minimum of two (2) years when moving materials within or between Biosecurity Zones, Including:

- Where are the materials moving from?
- Where are the materials moving to?
- What is the quantity of material?
- Date materials are moved.
- Name, person, business or company that is intending to move the materials.
- Type of materials being moved.

Materials to be transported within the Biosecurity Zone must be appropriately managed as per this guideline.

If Fire Ant Carriers are not properly stored using the methods outlined and kept in its original location for more than 24 hours a BIP will be required to move the carrier.

The holder of a BIP will be required to retain and comply with the conditions of the BIP. If an operator no longer wishes to hold a BIP because the site and products are appropriately managed, the operator can engage with DPI (QLD) whereby an officer will attend and assess the measure in place and what changes have been made since the BIP was initially issues. A decision will be made to whether a BIP is still required.

BIPs may be issued for materials which may not specifically be identified as Fire Ant Carriers but have the potential to spread fire ants. This is to ensure movement of products can continue and remain compliant with GBO.

If you are unsure if a material is a potential Fire Ant Carrier, you can engage the NFAEP to assist with the identification, this will ensure you are undertaking your GBO.

Applications for BIP can be completed online at fireants.org.au. It is important that Fire Ant Carriers are not moved until the permit is granted. Penalties apply for illegal movement.

8.2.2 Movement from within the Biosecurity Zone to outside the Biosecurity Zone (within Queensland)

Provided the Fire Ant Carrier has been stored in a way that reduces the risk of infestation, material from within the biosecurity zone to outside the biosecurity (within Queensland) can occur. Provided movement records are to be kept.

Movement records at a minimum should contain the following information:

- Where are the materials moving from?
- Where are the materials moving to?
- What is the quantity of material?
- Date materials are moved.
- Name, person, business or company that is intending to move the materials.
- Type of materials being moved.

Materials to be transported from Biosecurity Zone must undergo management and treatment measures as described in section 7.1.

It is important that movement records be kept by the sender and receiver to enable efficient tracking in the event of an outbreak. Records should be kept for a minimum of two (2) years and produced to a Biosecurity Queensland inspector upon request.

If Fire Ant Carrier are not properly stored and kept in their original location for more than 24 hours a BIP will be required. Applications for BIP can be completed online at fireants.org.au. It is important that Fire Ant Carriers are not moved until the permit is granted. Penalties apply for illegal movement.

8 — Movement of Fire Ant Carriers (out of QLD/into NSW)

8.2.3 Vehicle and Equipment Movement

This aspect relates to the cleanliness and maintenance of vehicles to ensure fire ant carriers are not transported off site such as material on tail gates, bodies, under carriage etc. This may be achieved with one of the following procedures:

Physical removal such as scraping;
Brushing down;
Washing down; or
High-pressure pneumatic cleaning.

Transportation records should be kept of all vehicle movements, including time, date, quantity, transport vehicle details and destination site.

8.3 Movement of Materials Interstate

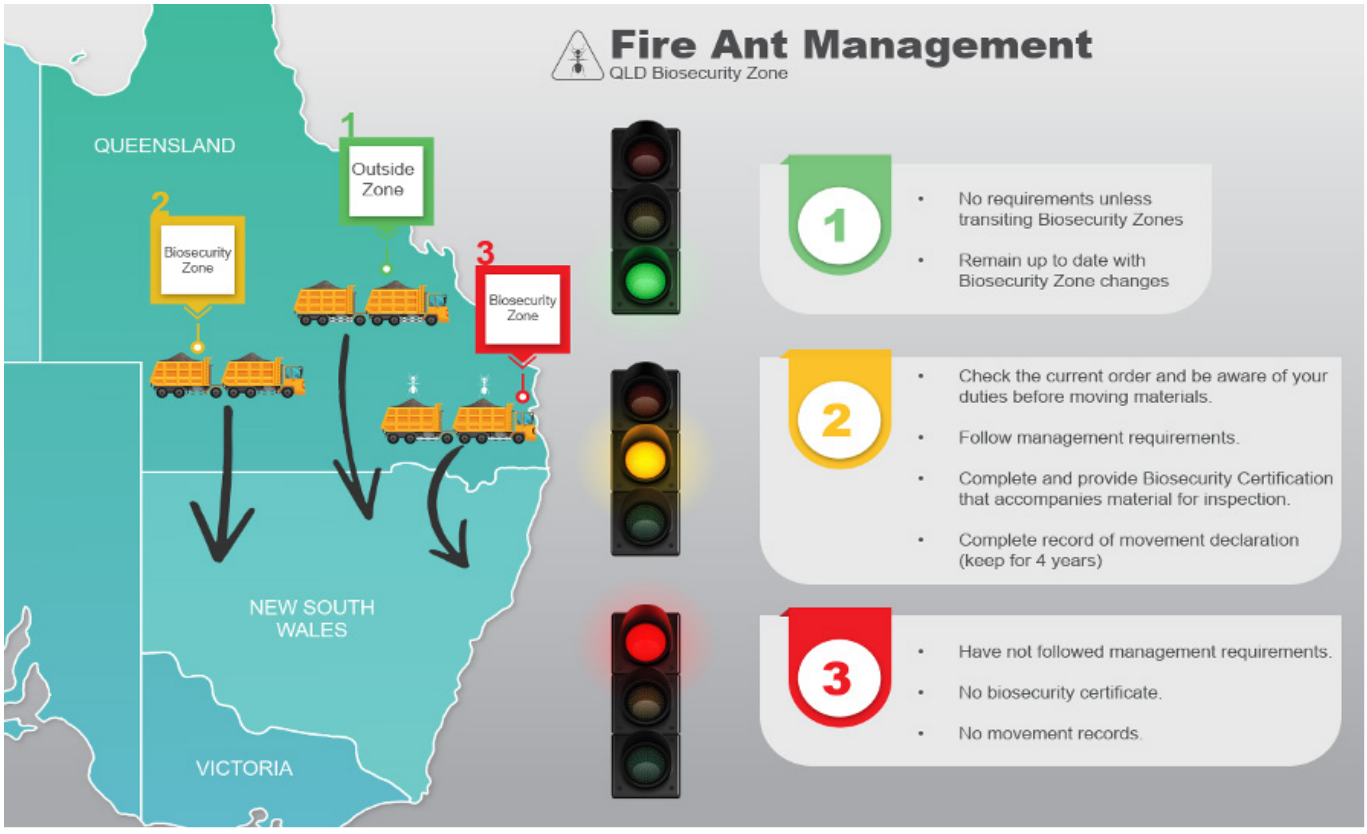
All states and territories have their own specific biosecurity requirements when moving Fire Ant Carriers across and within their borders. It is important to understand these requirements and remain up to date with any changes.

The Biosecurity Zone is located near the QLD/NSW border, therefore movement between these two states are rapidly changing with further incursions into NSW not uncommon. Check the current NSW Emergency Order by visiting the Department of Primary Industries webpage or calling the biosecurity help line on 1800 680 244.

In general, the following may be required when moving fire ant carriers from Queensland Biosecurity Zones:

1. Check the current NSW Biosecurity (fire ant) Emergency Order.
2. Follow the NSW treatment or cleaning requirements on the type of material or machinery being moved.
3. Produce the approved Biosecurity Certificates that accompanied the fire ant carrier for inspection when requested by an authorised officer and retain this certificate for four (4) years.
4. Complete a record of movement declaration from and retain a copy for four (4) years.

Plate 4 - Movement of Fire Ant Carriers from QLD to NSW



8 — Movement of Fire Ant Carriers (out of QLD/into NSW)

8.3.1 How to Apply for a Biosecurity Certificate / Record of Movement Declaration

A Biosecurity Certificate is currently required when moving materials from the Biosecurity zone interstate. A certificate can be obtained from the Department of Primary Industries QLD. Via phone: 13 25 23, Online via info@daf.qld.gov.au or in person. To obtain a certificate a Biosecurity inspector is required to complete an inspection of the material being moved as well as treatment/ management practices. The request should be made at least 48 hours before you want to move the materials requiring certification.

Once an inspector has completed their inspection and is satisfied that it meets all requirements for movement, a biosecurity certificate will be issued in the form of a Plant Health Certificate (PHC). The certificate must accompany the items to the destination described on the PHC. A plant health certification can also be accessed through Interstate Certification Assurance (ICA) or Certification Assurance Accreditation (CAA) Accreditation, under ICA Businesses can be accredited to issue plant health certificates. To become accredited businesses must be able to demonstrate it has efficient procedures that ensure products consigned to intra or interstate markets meets the specific quarantine requirements. To further discuss these options you can contact your local biosecurity officer at the Department of Primary Industries.

A Declaration of Movement Form is to be completed and submitted with approved Biosecurity Certificate, this form can be completed online at Fire Ant Carriers - Record of Movement Declaration (nsw.gov.au). Records of movement must be kept for four (4) years.

Image by *National Fire Ant Eradication Program*

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Image by *National Fire Ant Eradication Program*

Attachment 1: Surveillance and Treatment Record Template