



Daintree Estate Disaster Management Plan



Document Control

Rev No	Date	Description	Prepared by	Reviewed by	Approved
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Distribution:

Internal Council distribution
Residents Daintree Estate
Members of Noosa Local Disaster Management Group

Review

This plan should be reviewed annually in accordance with review process for the Noosa Local Disaster Management Plan.

Document Custodian

The document custodian is the Noosa Local Disaster Coordinator. All suggestions for amendment or updates are to be forwarded to Noosa Council, attention Local Disaster Coordinator.

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Acknowledgements

Council wishes to thank all contributors and stakeholders involved in the development of this plan.

Disclaimer

Information contained in this document is based on available information at the time of writing. All figures and diagrams are indicative only and should be referred to as such. While Noosa Council has exercised all reasonable care in preparing this document it does not warrant or represent that is accurate or complete. Council or its officers accept no responsibility for any loss occasioned to any person acting or refraining from acting in reliance upon any material contained in this document.

Authority of Plan

This plan is a Community Disaster Management Plan and forms a part of the Noosa Local Disaster Management Plan prepared under section 57 of the *Queensland's Disaster Management Act, 2003*.

This plan is the authority for actions by Noosa Council and the Noosa Local Disaster Management Group in preparation and response to disaster events affecting Daintree Estate. This plan provides guidance to residents of the estate in relation to their individual and collective preparedness and response.

Approval

This plan has been endorsed by the Noosa Local Disaster Management Group.



Local Disaster Coordinator

8 July 2016



Chair Local Disaster Management Group

8 July 2016

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Daintree Context

Introduction

Daintree Estate is a 97 lot residential estate constructed in the late 1990s. The estate lies within the catchment of Mt Tinbeerwah and has previously been subject to flash flooding. See Figure 1 – Daintree Catchment. The estate is also bounded on all sides by vegetation that may pose a fire risk.

The existing natural drainage systems and the systems constructed with the estate have been overwhelmed in periods of extreme rainfall, resulting in flash flooding which inundated houses. The estate has a single access road which is vulnerable to early closure during periods of heavy rainfall isolating the estate.

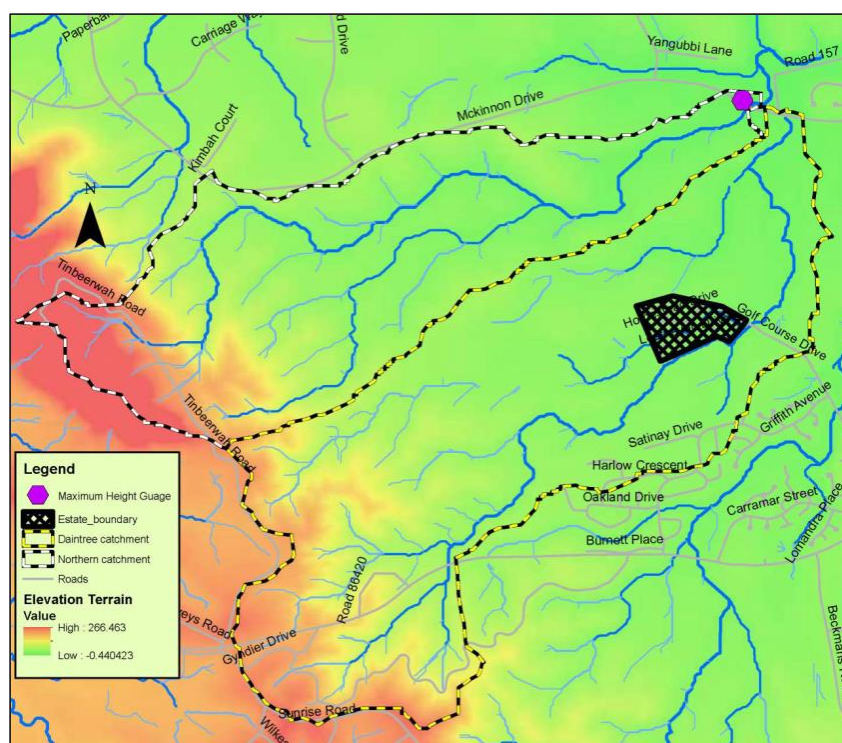


Figure 1 – Daintree Catchment

The estate has been subject to significant flash flooding on three recorded occasions, the most severe of which was the event on 24th February 2012. This event has been assessed as being in excess of a 1:100 event (i.e. the 1% Annual Exceedance Probability or 1% AEP event).

Subsequent to the February 2012 flood event, detailed flood modelling and assessment of flood mitigation options has been undertaken. The preferred flood mitigation option resulting from this assessment has subsequently been designed and constructed for the 'Daintree Estate Flood Mitigation Infrastructure Project' by Noosa Council. These mitigation works have been designed to reduce the frequency and severity of flooding in Daintree Estate. It has been demonstrated through modelling that the works will protect all homes in Daintree Estate from over-floor flooding for events up to and equal to the 1% AEP event. Despite these flood mitigation works, a residual flood risk remains for the estate during flood events greater than the 1% AEP event, an unlikely but possible scenario. One of the purposes of this document is to assist with managing risk under these conditions.

To date there have been no significant fire threats affecting the estate however the area is considered vulnerable to bushfire. This document is also intended to assist manage risk under these conditions.

A satellite image of Daintree Estate is at Annex A.

Purpose of this plan

This plan documents arrangements for *Preparation* and *Response* by the Noosa Council, Noosa Local Disaster Management Group and the resident community for flash flood and fire.

Risks to Community

Flash Flood and Storm Water Runoff

Flash flooding is caused by intense rainfall over short period of time.

The February 2012 rain event in the Daintree catchment was characterised by rainfall of 200mm over two days followed by an extreme rainfall event of 200mm in three hours. It is this sudden influx of water on a saturated catchment that can quickly overwhelm existing drainage structures. Such flooding can occur quickly leaving little time for residents to respond.

In all cases to date, the first impact of flash flooding on the residents of the estate is when Golf Course Drive is cut at the culvert near the estate entry. Once flooded the community is isolated although the period of isolation is likely to be short - in the order of four to six hours.¹

Flood mapping associated with the latest flood modelling for the estate is provided in Annex B for the 1% AEP event under current climate conditions. Residents should use this map to gain an understanding of the likely flooding characteristics for events up to the 1% AEP, while keeping in mind that future flooding conditions may vary and that extremely rare flood events could occur at any time which could cause the levee to over top or fail. This has potential to threaten homes and the safety of people sheltering in the estate.

Bush Fire

Most loss of life and property damage occurs around the fringes of residential areas where homes are sometimes surrounded by flammable vegetation. Daintree Estate is surrounded by vegetation and the estate is considered vulnerable to bushfire.

The Queensland Fire and Emergency Services fire hazard assessment for the area including Daintree Estate is assessed as MEDIUM based on a calculation of vegetation, slope, aspect and fire history. This level of fire hazard requires the community to be aware and prepared for bushfire. The overall bushfire danger to the estate is affected by the fire weather conditions on any given day and in periods where the Fire Danger Rating for the area is at HIGH (or higher) residents should ensure they are aware of the potential for fire to affect the estate and be prepared to take appropriate action to protect themselves and their property.

The bushfire risk to Daintree Estate is compounded by the location of the estate at the end of a single access road (Golf Course Drive). Any fire event that threatens to close this road (due to fire

¹ Sunshine Coast Council Daintree Flood Investigation Report, 2013

or smoke) will have a major effect on the ability of firefighters and emergency services to access the estate and will hinder residents' evacuation from the estate.

Responsibilities for Disaster Management in Daintree Estate

Disaster Management Concept for Daintree Estate

Both flood and fire threats to the estate have the following common characteristics.

- Rapid onset events providing very limited warning to residents and Council staff.
- May cause loss of life and damage to property.
- May obstruct Golf Course Drive isolating the estate.

These characteristics mean that Council staff and the Community must be **'Aware and Prepared'** to take specific actions when certain triggers and thresholds are reached or exceeded.

They also mean that residents must take the primary responsibility for their safety and wellbeing as Council, and the emergency services may be unable to render assistance, particularly when access to the estate at Golf Course Drive is cut off.

Residents should understand the triggers and thresholds for response and be prepared with their own personal emergency plan. Residents need to understand when extreme weather events may occur and consider their own safety. Early action to prepare or self-evacuate to family and friends will be needed as warning times are likely to be short. Once Golf Course Drive is closed by flooding the safest course of actions is for residents to shelter in place within the estate. In addition to personal plans, residents are encouraged to prepare plans and arrangements with other residents, including the need for emergency shelter and assistance in protecting property.

Noosa Council and the Local Disaster Management Group will foster community awareness, provide warnings and advice when needed and act to assist the community to prepare and respond to disasters.

Noosa Council's Responsibilities

Noosa Council's responsibilities to the community are to:

- Maintain this plan and carry out an annual review.
- Assign responsibilities for all tasks associated with this plan and update the list of responsibilities each year prior to the start of the wet season. The list of tasks and assigned responsibilities are provided in Annex F.
- Conduct pre-season and post season maintenance of built drainage assets to ensure they operate as designed. These are detailed in Annex F.
- Foster awareness and resilience to the risks to Daintree Estate and promote self-reliance and community preparedness.
- Facilitate a voluntary warden system within Daintree Estate involving residents who can act as a conduit for information between the community and Council.
- Monitor weather warnings and rainfall in order to provide timely, relevant warnings and advice to residents when severe weather or fire may impact the estate.
- Activate disaster response arrangements including the Local Disaster Management Group and Local Disaster Coordination Centre as required.
- Monitor access to the estate on a regular basis when activated to assess rising water levels and the need for road closures.

- Undertake road closure of the southern side of floodwaters on Golf Course Drive when required.
- Maintain communications with residents prior to, during and after events to ascertain immediate and longer term needs of individuals and the community.
- Provide evacuation support to residents who require evacuation but who have nowhere to go.
- Assist the community in clean-up operations and recovery after an event.

Responsibilities of Daintree Estate Residents

Resident's responsibilities are to:

- Contribute to this plan.
- Maintain awareness of weather and other circumstances that may threaten the estate.
- Develop, maintain and implement personal emergency plans and develop, as required, plans and arrangements with other residents for emergency shelter and assistance in protecting property.
- Maintain responsibility for personal safety at all times.
- Consider the need for early self-evacuation if personal safety and wellbeing are in doubt.
- Assist council and emergency services, where possible, by providing information on actual or likely impact of flood or fire within the community.
- Consider participating in the voluntary Daintree Estate Emergency Warden system.
- Assist neighbours and other residents of the estate to prepare and respond.
- Monitor access to the estate during heavy rainfall events and advise council of any rising flood waters or possible road inundation on Golf Course Drive.
- Do not cross floodwaters – If it's Flooded Forget It.

Community Awareness

A prepared community is likely to bounce back more quickly after an event than an unprepared community. Council has the responsibility to foster community awareness of disaster management for Daintree Estate. This plan provides the foundation for community awareness in Daintree Estate.

Residents also need to be aware of weather conditions and not rely on warnings from the Council before taking preparatory actions. Warning times for flash flooding are likely to be short.

Key messages for residents include:

- Read this plan.
- Know how you could be affected.
- Prepare a personal plan for how you are going to prepare for and respond to any future severe weather or fire event.
- Know the triggers that will prompt your action and those of others.
- Monitor the weather and be aware of impending threats.
- Work with neighbours and friends within the estate to plan for shelter and protection of property should your home become unsafe.
- Help friends and neighbours if you are able to.
- Monitor Council's Facebook page.
- Know your Wardens.
- Consider early collection of sandbags from the local SES.
- Do not cross floodwaters. If it's Flooded, Forget it.

Information to assist residents with preparing for flash floods is provided at Annex C. Residents are also encouraged to visit the Queensland Government Get Ready website at: <https://getready.qld.gov.au/>

Evacuation

The community should understand that their safest course of action is for early self-evacuation if possible because rare and extreme events can occur with little warning which could pose significant risk to personal safety while sheltering in place.

Residents who choose to self-evacuate will need to do so before Golf Course Drive is closed. Once Golf Course Drive is closed, there is no alternative for residents but to seek shelter in place, either in their own home or with friends and neighbours within the estate.

Assisted evacuations, such as for a medical emergency, will be conducted by the emergency services and calls for assistance should be made by calling Triple Zero (000).

Council may open designated evacuation centres to support those who wish to self-evacuate but have nowhere to go. Advice on the opening of such centres will be provided by the Council if and when necessary. Residents seeking such support should contact Council. It should be noted that evacuation centres provide emergency accommodation and offer only rudimentary services.

Communications

The short warning times for flood/fire mean that communication arrangements need to be in place before any event. Communication strategies for the estate are as follows:

- Direct messaging from the Noosa Local Disaster Management Group via text messages to the estate's Reference Group members when the Group activates at Alert, Lean Forward and Stand Up.
- Direct contact between Council's Disaster Management Officer and the volunteer Wardens on an as-needs basis.
- Direct contact between the Local Disaster Coordination Centre and the volunteer Wardens during an event.

Emergency Alert System

Emergency Alert is the national telephone based emergency warning system that is used when there is a potential for loss of life and/or a major threat to a significant number of properties.

The Emergency Alert can send messages:

- via landlines based on the location of the handset, and
- via mobile phones to the last known location of handsets at the time of the emergency.

Council is able to access the Emergency Alert System via the State Disaster Coordination Centre.

Procedures for the use of the system are detailed in the Queensland Emergency Alert Guidelines which can be viewed at www.disaster.qld.gov.au

Internal council procedures for activation of an Emergency Alert are detailed in Noosa Local Disaster Coordination Arrangements provided as part of the Noosa Local Disaster Management Plan.

Contact List

A contact list for disaster management within Daintree Estate is at Annex D.

Daintree Warden System

The Daintree Estate Emergency Warden System is a network of residents who volunteer to act as points of contact within the estate for both residents and council. The function of a Warden is to help maintain communications between residents and council to aid in the passage of information immediately before, during and after an event.

Wardens may also volunteer to monitor key locations to gauge water level rises so that council and the community have accurate and timely information on impending threats. Wardens may also assist in community awareness activities that Council may implement from time to time.

Wardens are volunteers who, if available, will likely remain in the estate throughout events. They are people who wish to help their community and who are prepared to provide information about the event to Council as well as assisting Council in passing information within the community. Council's primary contact with residents before, during and after events will likely be by telephone or email.

More information on the Warden System is at Annex E.

Power

During severe weather events, Daintree Estate may suffer power outages. These may result from the impact of weather or by Energex cutting power to the estate for safety reasons. Residents should be prepared for loss of power. Residents should consider:

- Alternate lighting and cooking capabilities.
- Alternate power supplies for critical medical devices.
- Having a battery powered radio to listen for emergency warnings and advice.
- Alternate battery charging capabilities for mobile phones/tablets and other key electronic devices.
- Having a non-mains powered telephone handset readily available.
- How and when to turn of power to their home before or during flash flood conditions.
- Undertaking works to protect your home's power circuits during a flash flood (such as raising switch boxes, etc).
- A standby bottle of medical gas if an oxygen concentrator is used on a daily basis.

Clean up and Recovery

Community recovery is the process undertaken to return a disaster affected community to normal. Immediately after an event, residents and Council staff will need to assess any damage and work together to clean up and recover the community.

Further information on Recovery processes within Noosa Council is provided in the Noosa Council Disaster Recovery Plan available from <http://www.noosa.qld.gov.au/disaster-management-plan>

Post Event Review Process

After an event it is important to review what happened so that we improve our disaster management plans and arrangements.

The Local Disaster Management Group will conduct post event reviews of significant events in Daintree Estate. Agencies such as emergency services and Council will typically conduct their own internal reviews before any community review. The community review will usually be undertaken at a community meeting. Residents are encouraged to participate in this review process to contribute to better disaster management plans and arrangements.

Part A – Threat Specific Arrangements - Flood and Storm Runoff

Weather and Flood Warning System

The types of weather systems that may produce extreme rainfall events are usually identified in advance by the Bureau of Meteorology and are the subject of severe weather warnings. These warnings are readily available to residents of Daintree Estate via the Bureau of Meteorology. They are the primary early warning system for the catchment.

Rainfall Gauges

Residents may personally monitor specific rainfall gauges to assist them in maintaining awareness of current weather effects. These rainfall gauges depicted in Figure 2 are the Mt Tinbeerwah Alert (MTT), and Tewantin Alert (TEW).

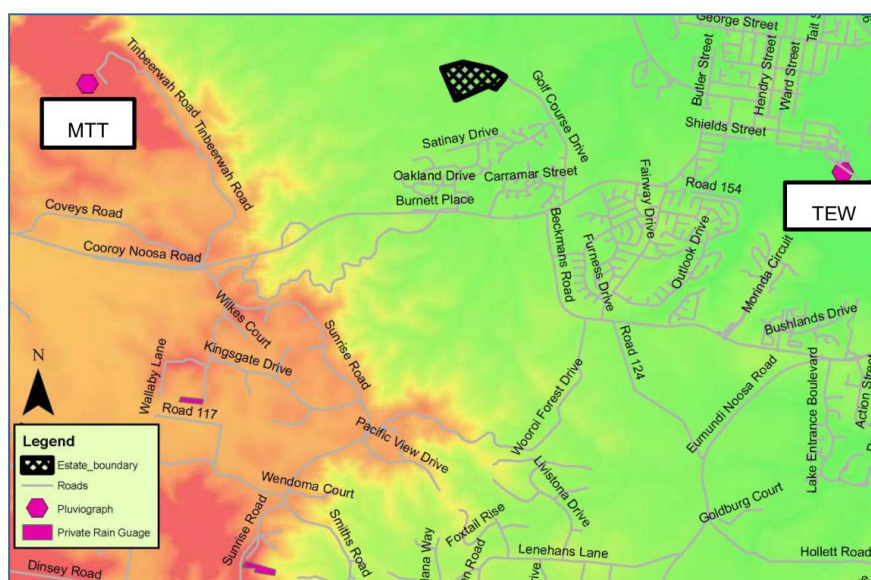


Figure 2 - Rainfall Gauges Locations.

Residents may monitor these gauges on the Bureau of Meteorology's website by navigating to: [Bureau Home](#) > [Australia](#) > [Queensland](#) > [Rainfall & River Conditions](#) > [Maryborough to Gold Coast Rainfall and River Conditions](#) and selecting the 1hr, 3hr or 24hr links under Latest Rainfall Data for the Noosa River. The above gauges are listed in the Noosa table.

Residents should note that there is a time lag between rain falling in the catchment and data appearing on the Bureau's website as updates are done hourly.

Additional Information

Further information is provided on the Bureau of Meteorology's MetEye site by searching for 'Tewantin' and reviewing current rainfall observations and forecasts. In addition to this, the Bureau of Meteorology's Brisbane and Gympie rainfall radars can be used to monitor rainfall with the specific advantage of determining whether more rainfall is 'on the way'.

Weather and Rainfall Triggers for Flooding Event

The initial trigger for preparatory action by Council and residents will be the issue of any severe weather warning for heavy rain in the Tewantin area. These could be for a Tropical Cyclone, East Coast Low or other severe weather system that could result in intense rainfall over short periods of time. Such warnings should trigger this plan and increased monitoring of relevant rain gauges.

Rainfall of specific intensities may indicate possible closure of Golf Course Drive and possible flooding within the estate. Based on the experience of February 2012 it has been assessed that the rainfall quantity /durations in Table 1 may be triggers for possible flooding of Golf Course Drive, particularly after a period of sustained rain. Continued heavy rain at these, or more intense levels, may lead to existing drainage structures being overwhelmed resulting in possible inundation of houses.

Rainfall of these intensities at the Mt Tinbeerwah Alert or Tewantin Alert rain gauges will alert Council staff of possible flooding at Golf Course Drive.

<i>Rainfall exceeding</i>	
<i>Duration</i>	<i>Rainfall (mm)</i>
<i>1 hr</i>	45
<i>2 hr</i>	59

Table 1 – Rainfall Alert Levels for Daintree Flooding

They reflect the understanding that continued rainfall at these intensities is likely to close Golf Course Drive and leave the Daintree Estate community exposed to a risk of flooding that could occur due to an extreme event.

Warning Times

Warning times are very short.

If heavy rainfall continues after the above rainfall thresholds are reached it is likely that it will be approximately **ONE HOUR** before flooding occurs on Golf Course Drive. Continued rainfall at these levels (or greater) may lead to flash flooding within the estate which may occur very quickly.

This short warning time means that residents will have little time to leave the estate or take other preventative measures. Pre-planning and arrangements between neighbours and friends within the estate is necessary to minimise harm to people or damage to property.

Pre-Season Maintenance and Inspections

Regular maintenance of the built drainage assets within the estate will assist in mitigating the impact of a flash flood event. This includes ensuring drainage inlets are clear. Pre-season clearing of the culverts within the estate is included in annual estate maintenance.

The concrete wall and earth levee should be subject to an annual inspection by a suitably qualified and experienced professional.

It should be noted that drainage flows to the east are through the Harry Springs Conservation Park which is not within the jurisdiction of the Council. However, Council will continue to liaise with the relevant agencies to undertake mitigation work within the park as required.

Residents should also ensure regular maintenance of drainage systems within their property to minimise the impact of storm water run-off.

Flood Warning Signs and Markers

Council has installed permanent flood height gauges on Golf Course Road above the culverts.

Residents are urged to ensure their own safety by not entering flood waters. Remember –

IF IT'S FLOODED FORGET IT.

Sandbags

As a consequence of the reduced likelihood of over floor flooding now that the flood mitigation works have been completed, Council will no longer deliver pre-packaged sandbags to the estate. Residents should contact the SES on 132 500 to enquire about sandbag availability.

Residents are encouraged to consider their property's flood risk and consider taking appropriate actions in preparation for flooding.

Flood Triggers and Actions

Council Flood Triggers and Actions									
<p>Severe Weather Warning (Tropical Cyclone, East Coast Low, Severe Storm)</p>	<p>Severe Weather Warning and Rainfall at MTT / TEW with more rain expected</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="background-color: #4a7ebb; color: white;">Duration</th> <th style="background-color: #4a7ebb; color: white;">Rainfall (mm)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 hr</td> <td style="text-align: center;">45</td> </tr> <tr> <td style="text-align: center;">2 hr</td> <td style="text-align: center;">59</td> </tr> </tbody> </table>	Duration	Rainfall (mm)	1 hr	45	2 hr	59	<p>Road closure at Golf Course Drive Culvert.</p>	<p>Flood Waters recede. Access to Estate restored.</p>
Duration	Rainfall (mm)								
1 hr	45								
2 hr	59								
<ul style="list-style-type: none"> • Advise Wardens of weather warning. • Place key council staff on alert. • Place LDMG on alert. • Text message Daintree Estate Reference Group members if event is likely to impact the estate. • Prepare for road closure. • Monitor relevant rain gauges. • Monitor water rises within estate. 	<ul style="list-style-type: none"> • Activate this plan and Coordination arrangements (LDMG – Lean Forward). • Monitor rain gauges MTT and TEW. • Provide warnings to community (Wardens, Reference Group). • Prepare road closure signage to be deployed. • Advise water and electricity providers of possible threat of flooding. • Consider possible evacuation centre requirements. 	<ul style="list-style-type: none"> • LDMG at Stand Up. • Deploy road closure signs to Golf Course Drive. • Continue to maintain communications with residents. Provide information on rainfall and actions being taken. Gather intelligence on impact to community (via Wardens). • Advise Qld Police Service and Qld Ambulance Service (QAS) of road closure and restrictions for emergency response. • Advise water and electricity providers. • Consider possible evacuation centre requirements. 	<ul style="list-style-type: none"> • Advise Police and QAS of opening of road. Resume normal emergency access. • Advise water and electricity providers. • Continue to maintain communication with residents (Wardens, personal contact). • Return any evacuees. • Check and clear all drainage inlets culvert for obstructions. • Commence Council road clean-up and assessment of damage to public assets. • Conduct assessment of resident requirements for clean-up. • Conduct flood impact capture and analysis to improve 						

			<p>understanding of future flood impacts.</p> <ul style="list-style-type: none">• Commence Recovery arrangements as necessary.• LDCC Stand Down (dependent on other events in Council area).• Conduct post event review of event to learn lessons for future events.
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Resident Flood Triggers and Actions									
Severe Weather Warning <i>(Tropical Cyclone, East Coast Low, Severe Storm)</i>	Severe Weather Warning and Rainfall at MTT / TEW with more rain expected	Road closure at Golf Course Drive Culvert.	Flood Waters recede. Access to Estate restored.						
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Duration	Rainfall (mm)								
1 hr	45								
2 hr	59								
<ul style="list-style-type: none"> Monitor BOM/Radio for further warnings and advice. Alert family members. Alert friends and neighbours. Assess situation and confirm personal plans and arrangements. Prepare property / home. Consider preparing for early self-evacuation. 	<ul style="list-style-type: none"> Self-evacuate before Golf Course Drive closed. Activate personal Emergency Plan. Activate arrangements with neighbours /friends. Monitor Information sources to maintain personal situational awareness. Secure personal assets from flood waters (lifting/storing in safe location). Prepare property / home for possible flooding while being mindful of the small window available for self-evacuation. Provide situational awareness to Council. 	<ul style="list-style-type: none"> Implement safe refuge arrangements (shelter in place). All emergency calls via Triple Zero (000). Police have responsibility to decision on individual requests for evacuation after road closure. Provide information on impact to Council (only if safe to do so). Help neighbours and others in your street if required. Do not cross flood waters – If it's Flooded, Forget it. 	<ul style="list-style-type: none"> Commence clean up and restoration of personal assets. Help neighbours. Commence recovery process. Participate in post event review processes. 						

Part B – Threat Specific Arrangements – Bush Fire

Weather and Fire

The fire season for most of Australia's east coast extends from spring to mid-summer. The greatest danger occurs after the dry winter/spring period, before the onset of the rainy weather common in summer.

On any given day, the fire threat is significantly affected by the prevailing conditions. Hot days with low relative humidity, high winds and lack of rain all contribute to increased fire danger.

- **Hot Days.** Sunshine and high temperatures rapidly dry timber and grass (fuel) which burn very quickly. Hot air can lower the moisture content of forests and grasslands greatly increasing the speed of the fire.
- **Low Humidity.** Relative humidity is the most commonly used measure of atmospheric moisture and very low relative humidity (e.g. less than 20 per cent), causes fuels to dry out and become more flammable.
- **Windy Days:** Air movement provides the oxygen the fire needs to keep burning. Higher winds mean more oxygen and more intense flames.
- **Dry Fuel Loads.** Dry grass, parched native shrubs and dead leaves and twigs are fire's basic fuel. During droughts and in very hot, windy weather, even heavy fuels like large logs and the green leaves and smaller branches of large trees can become dry and flammable.

Residents should maintain a heightened level of awareness during such weather conditions. For more on fire weather go to:

[www http://www.bom.gov.au/weather-services/bushfire/about-bushfire-weather.shtml](http://www.bom.gov.au/weather-services/bushfire/about-bushfire-weather.shtml)

Fire Weather Warnings

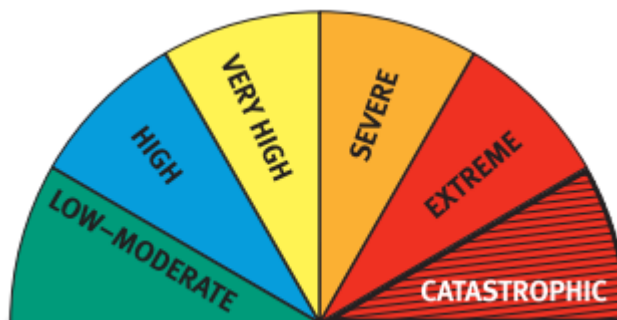
The Bureau of Meteorology issue Fire Weather Warnings when weather conditions are conducive to the spread of dangerous bushfires. Warnings are generally issued within 24 hours of the potential onset of hazardous conditions. Warnings are also broadcast on radio and television.

Fire Danger Ratings

Fire agencies determine Fire Danger Ratings and declare fire bans based on a range of criteria including forecast weather provided by the Bureau.

The Fire Danger Rating (FDR) is an early indicator of potential danger and should act as the first trigger for action. The higher the rating the greater need to act. The FDR is an assessment of potential fire behaviour, the difficulty of suppressing a fire and the potential impact on the community should a bushfire occur on any given day.

A Fire Danger Index (FDI) of 'low-moderate' means that the fire will burn slowly and will be easier to control whereas a FDI in excess of catastrophic will burn so fast and hot it will be uncontrollable. The diagram below depicts the fire danger rating system.



Catastrophic	Extreme	Severe
A fire with a rating of ‘catastrophic’ may be uncontrollable, unpredictable and fast-moving. The flames will be higher than roof tops. Many people may be injured, and many homes and businesses may be destroyed. During a ‘catastrophic’ fire, well-prepared and constructed homes will not be safe. Leaving is the only option for your survival.	A fire with an ‘extreme’ rating may become uncontrollable, unpredictable and fast moving. The flames may be higher than the roof tops. During an ‘extreme’ fire people will be injured and homes are likely to be destroyed. Leaving is the safest option for your survival.	A fire with a ‘severe’ rating may be uncontrollable and move quickly with flames that may be higher than roof tops. A ‘severe’ fire may cause injuries and some homes may be destroyed. Leaving is the safest option for your survival.
Very High	High	Low-Moderate
A fire with a ‘very high’ danger rating is one that can be difficult to control with flames that may burn into the tree tops. During a fire of this type some homes may be damaged or destroyed. During a fire with a ‘very high’ fire danger rating you should only use your home as a place of safety only if it is well prepared and you can actively defend it.	A fire with a ‘high’ danger rating is one that can be controlled, where loss of life is unlikely, and damage to property will be limited. During a fire with a ‘high’ danger rating you know where to get more information and monitor the situation for any changes.	A fire with a ‘low-moderate’ rating can be easily controlled and poses little or no risk to life or property. During a fire with a ‘low-moderate’ rating you should know where to get more information and monitor the situation for any changes.

Notes:

1. More information is available at: https://getready.qld.gov.au/natural_disasters/bushfire
2. A fire danger rating display board is located at Tinbeerwah Rural Fire Brigade Shed

Bushfire Warnings

Emergency services personnel issue bushfire warning messages (referred to as ‘community warnings’) through media and social media channels during significant bushfire incidents that may threaten life and property.

It is up to the community to take notice, seek information, make decisions and act.

Community warnings are used to inform residents of threat to properties, time to impact, the direction and strength of the fire and the steps residents must take to survive.

There are three levels of bushfire emergency warnings that will be issued as an event escalates. These are:

- **Bushfire Advice** – this is a general information message to let you know a fire has started but there is no immediate danger.
- **Watch and Act** – this represents a heightened level of threat. Conditions are changing, fires are approaching and you need to take action now to protect you and your family.
- **Emergency Warning** – this is the most serious warning, meaning you are in danger and need to take action now. The Standard Emergency Warning System (SEWS) alert signal will be played before the warning messages.

Residents should listen to their radio or use social media to find out more information on days with dangerous fire weather. Emergency services provide local radio and social media feeds with the most up to date information as it comes to hand.

Warnings are not only issued by the media or on social media platforms. Firefighters, State Emergency Service (SES) volunteers or police may doorknock in the area or you could receive an Emergency Alert message on your mobile or home phone with advice on the situation and where to go for further information.

The Standard Emergency Warning Signal (SEWS) is also used when bushfire threatens life. The siren sound effect is the same used for cyclone warnings.

Resident Bushfire Survival Plan

There are four main considerations for dealing with bushfire. They are:

- The safety of you and your family
- The resilience of your property
- The protection of irreplaceable valuables and important documents
- The maintenance of adequate levels of insurance.

Residents are encouraged to prepare and maintain a bushfire survival plan detailing how they will prepare their home and respond to a fire threat. A well-prepared home has an increased chance of survival in a bushfire.

During a large-scale event, Queensland Fire and Emergency Services (QFES) may not be able to provide resources to every property under threat so it is important to have a solid plan in place.

Plans must be written down and practised and should take into consideration the ages and physical capabilities of everyone in your household including children and elderly residents.

Bushfire Survival Plans need to address actions to be taken based on the Fire Danger Ratings.

The Queensland Fire and Emergency Services: booklet - '**Bushfire Survival Plan PREPARE.ACT.SURVIVE**' - is an excellent resource to assist residents preparing for bushfires.

Fire Mitigation

A number of entities contribute to fire mitigation supporting Daintree Estate. They are:

- **Noosa Council.** Council is responsible for the maintenance of Council parks and garden areas on Council land within and on the approaches to the estate. Regular upkeep to avoid build-up of fuel loads on Council land should be undertaken.
- **Department of National Parks, Recreation, Sport and Racing.** The Department, through Queensland Parks and Wildlife Service, is responsible for fire management including mitigation in the Tewantin National Park and the Harry Springs Conservation Park that surround the estate.
- **Residents of Daintree Estate.** Residents should reduce the fire risk to themselves by ensuring their property is adequately prepared and they are aware of what to do on days of high (or higher) fire danger rating. General advice to property owners is to strive to maintain a separation between bush and buildings of at least 10 metres or 1.5 times the height of nearby trees.

Fire Response

The fire response to any Bushfire in the vicinity of Daintree Estate will be undertaken and coordinated by the Queensland Fire and Emergency Services with support from other emergency services as required. Noosa Council may be required to support the affected community and provide resources to QFES on request.

Activation of the LDMG/LDCC

The LDC will activate the LDMG / LDCC to **'ALERT'** on days when Queensland Fire and Emergency Services declare a Fire Danger period incorporating the Noosa Shire area. Further changes to the activation level should be based on advice on the operational situation and the need to coordinate disaster operations.

Evacuation

The decision to evacuate residents of Daintree Estate in the event of a bushfire threatening the estate will be made by Queensland Fire and Emergency Services. Residents should listen to the instructions of emergency services and take appropriate action if advised they are to leave the area for their safety. Residents may choose to self-evacuate from the estate and should do so before any closure of Golf Course Drive.

If evacuations occur the Noosa Council will consider the need for evacuation centres and provide evacuation services as required.

The return of those evacuated after a fire may be delayed until it is considered safe to do so. Queensland Fire and Emergency Services will provide advice on when it is safe to return.

Emergency Alert

The Emergency Alert system may be used to provide warnings to residents of the estate. The Queensland Fire and Emergency Services are responsible for the issue of any Emergency Alert for a fire event. They should inform the Noosa Council of any Emergency Alerts that have, or are likely to be issued.

Annexes

- A. Image of Daintree Estate
- B. Flood Map - Flood Depths and Velocity 1:100 AEP
- C. Flash Flood Action Guide
- D. Disaster Management Contacts
- E. Daintree Warden System
- F. Tasks and Responsibilities
- G. Emergency Alert Procedures

Glossary

Annual Exceedence Probability	The probability that an event will be exceeded in any given year. Expressed as a ratio or percentage.
BOM – Bureau of Meteorology	Provides weather warnings and current weather observations.
Community Disaster Management Plan	A sub plan of the LDMP for preparation and response by a specific community often in response to specific risks.
Local Disaster Coordinator (LDC)	A person appointed under the Disaster Management Act to coordinate disaster operations.
Local Disaster Management Group (LDMG)	A group of people representing government agencies and the community authorised by the Disaster Management Act to make decisions about disaster management for the local government area.
Local Disaster Management Plan (LDMP)	Documents the arrangements and processes for disaster management for a local government area.
Lean Forward	An alert level within the Qld Disaster Management System which signals preparedness to undertake disaster operations. Usually coincides with activation of plans. Local Disaster Coordination Centre is readied to commence disaster operations.
Stand Up	An alert level within the Qld Disaster Management System which signals the conduct of disaster operations and the active management of the event through the Local Disaster Coordination Centre.



Annex B – Peak Flood Map – Peak Flood Depth and Velocity Vectors – 1% AEP



Annex C – Flash Flood Action Guide

<p>Step 1 Be Prepared (before an event)</p>	<p>Read this plan and keep it in a safe place. Talk to your family and neighbours about it. Know how flooding may affect you. Prepare a personal disaster plan detailing the actions you and your family will take if necessary. Keep it in a safe place and talk to your family about it. Prepare the resources you may need in a disaster. Speak to neighbours and others in your street and agree on what you will collectively do if threatened by flash flood. Know your emergency wardens.</p>
<p>Step 2 Be Aware (likely threats)</p>	<p>Be aware of weather that may impact the estate. Monitor BOM website for warnings, radar and rainfall gauges (Mt Tinbeerwah and Tewanin). Monitor reference points within estate to assess flood rises. Use information from the above sources to assess your personal situation and when you need to take action. Talk to your family about how they can help be aware.</p>
<p>Step 3 Take Preparatory Action (before impact)</p>	<p>When a severe weather warning is issued:</p> <ul style="list-style-type: none"> • Talk to your family about the warning. • Take precautionary actions to self-evacuate, or if staying, to protect property in accordance with your plan. • If appropriate, use sandbags to defend your home and the homes of your neighbours. • Secure your belongings and clear yards of potential flood debris. • Ensure you have sufficient water, food and other emergency supplies. • Talk to your neighbours about the warning and the actions you are taking. • Continue monitoring sources of information. <p>As waters rise:</p> <ul style="list-style-type: none"> • Move valuables to higher ground either in the house or to other unaffected houses in the street. • Consider evacuation and triggers for evacuation (note rapid closure of Golf Course Drive). • Talk to those in your street about the situation. • If unable to evacuate, prepare to shelter in place.
<p>Step 4 Shelter in Place (During impact)</p>	<p>Seek shelter in your own home or the homes of others within the estate. Do not cross flood waters – If it's Flooded, Forget it.</p>
<p>Step 5 Clean up and Recover (After Event)</p>	<p>Assess your personal situation and that of others. Work with Council and the Local Disaster Management Group to determine clean up priorities and required resources. Help others in your street.</p>
<p>Step 6 Review Personal Plans (Before next event)</p>	<p>Review your personal plans and improve them if necessary. Talk to your family about it. Talk with others in your street to identify how you can collectively be better prepared and able to respond to future events.</p>

Annex D - Disaster Management Contacts and Useful Websites

Contact Name	Contact Details	Remarks
Key Telephone Numbers		
Triple Zero (000) (police, fire, ambulance)	000	To be used for all emergencies
Council Customer Service	5329 6500	All hours
Council Civil Operations	0438 844 208	Alternate After hours number for Council
Council Local Laws	0438 174 297	Alternate after hours number for Council
SES	132 500	Flood /Storm. Note SES may be very busy and may not be able to get to you.
ENERGEX	131 962	For all electricity related matters
Unity Water	1300 086 489	For all matters relating to water supply
RSPCA	1300 363 736	For assistance with pets – no afterhours contacts available
Useful Websites		
Council Website	www.noosa.qld.gov.au	For information relevant to residents in Noosa Council area
Council Facebook	https://www.facebook.com/noosacouncil	For information relevant to residents in Noosa Council area including warnings and advice to prepare and respond to disasters
Bureau of Meteorology (BOM)	www.bom.qld.gov.au	For severe weather warnings, radar and rainfall observations
Qld Alert	www.qldalert.com	For information on current disasters and alerts
Dealing with Disasters	www.qld.gov.au/emergency/dealing-disasters/	For advice on preparing for and responding to disasters.
Get Ready Queensland	getready.qld.gov.au/	For practical advice on getting ready for disasters.
Qld Disaster Management	www.disaster.qld.gov.au	For information on disasters and the Queensland Disaster Management System

Annex E – Daintree Warden System

Roles and Responsibilities of Voluntary Wardens

Wardens act in a completely voluntary capacity but may assist Council and the community in the following ways:

- Act as a point of contact on behalf of the community for the Council.
- Work with neighbours and others in their area to help disseminate information from Council and other agencies.
- Provide information to Council on water level rises and other conditions within the estate (only when safe to do so).
- Assist in community awareness activities where possible.

Warden Pre-requisites

Wardens do not need any special skills other than the availability to assist and a willingness to help provide and disseminate information to Council and Residents. It is envisaged that Wardens will be responsible for working with a set group of houses. The number of houses that each Warden may work with is dependent on the number of Wardens registered.

Requirement for Wardens

The drainage patterns within the estate effectively split the estate in half along its east-west axis creating two distinct precincts – north and south. In flood conditions it will be impossible to cross over from one precinct to another. Several Wardens in each precinct are required for maximum effect.

Registering as a Warden

To register as a voluntary warden simply contact Council's Disaster Management Officer on 5329 6138 and request to be included on the Daintree Estate Emergency Warden Register. This register records the Warden's name, primary and alternate telephone contacts, email address (if available) and location within the estate.

On registering a Council officer will be in contact to familiarise you with the warden system.

Commitment by Wardens

In addition to assisting Council and the community with the passage of information during events, Wardens should be prepared to participate any awareness sessions hosted by Noosa Council. These sessions are aimed at helping Wardens understand their role and the processes they should follow to undertake their roles.

Identification of Wardens

To be effective Wardens should be known to the community. Warden contact details will be made available to residents of Daintree Estate on request.

Annex F – Tasks and Responsibilities

Task	Timing	Responsibility
Pre Wet Season Inspection / Maintenance		
The concrete wall and earth levee should be subject to an annual inspection by a suitably qualified and experienced professional.	September	Noosa Council
Noosa Council to undertake remedial action as required in accordance with the recommendations of the inspection report.	October	Noosa Council
Inspect level of debris / blockages along flood levee/wall and determine whether clearing is required.	At the commencement of the wet season and as required throughout the year.	Noosa Council
Mowing of drains and the grassed areas around the estate that convey flows (i.e. the grass strip downstream of Golf Course Drive)	At the commencement of the wet season and as required throughout the year.	Noosa Council
Inspect all culverts and ensure clear of debris blockages. This includes any loose debris located a short distance upstream that is considered a blockage risk.	At the commencement of the wet season and as required throughout the year.	Noosa Council
Flood Wardens		
Update list of flood wardens and their contact details	Every October	Noosa Council
Flood Warning System		
Monitor rainfall intensities / Bureau warnings	Always	Noosa Council
Issue warnings	At defined trigger events	Noosa Local Disaster Coordinator
Community		
Prepare Household Emergency Plan		All residents
Consider plan for early self-evacuation		All residents
Prepare homes	As required, particularly at start of wet season and when flood watch / alerts are issued	All residents
Tune in to warnings		All residents

Emergency Alert

Emergency Alert is the national emergency warning system that sends messages via:

- Voice message to landlines based on the location of the handset, and
- text to mobile phones within a defined area.

Emergency Alerts are provided to a defined area. The defined area for Daintree Estate is at Figure 5.



Figure 5 – Emergency Alert Polygon

Below is an example of a voice message that may be sent if there is a potential for loss of life and/or a major threat to a significant number of properties.

Emergency Emergency. This is a Flash Flood Watch and Act Message. Continued extreme rainfall in the Tewantin area may cause flash flooding and property inundation in Daintree Estate. Golf Course Drive is likely to be affected by flood waters in the next hour. Residents wishing to leave the estate should do so now. You should warn neighbours, secure your belongings and prepare to move to higher ground now. For more information contact Noosa Council.

NOTES: