

Living in the North Rockhampton Flood Management Area



A number of flood mitigation measures have been implemented as part of the North Rockhampton Flood Mitigation Project.

This information aims to help residents and property owners understand the flood mitigation measures that have been implemented to reduce the risk of flooding in the North Rockhampton Flood Management Area.



Building flood resilience

The flood mitigation measures for the North Rockhampton Flood Management Area (NRFMA) aim to reduce flood risk and improve the flood immunity of a large area of North Rockhampton.

The mitigation measures will provide protection from Fitzroy River flooding up to and including the 1% Annual Exceedance Probability (AEP) event (9.54m on the Rockhampton Flood Gauge) and will substantially reduce the property impacts and risk

of flooding in the protected area. The NRFMA Project was initiated by Rockhampton Regional Council and is jointly funded by Council and the Queensland Government.

The Rockhampton Regional Council Flood Management Strategy outlines how Rockhampton Regional Council intends to work towards improving community resilience and better respond to flooding in the future.

The Flood Management Strategy is available on Council's website. Alternatively, contact Council for a hard copy.

Our Mission:
Continually improve flood resilience through an informed, planned, integrated and risk based approach to flood management.

Understanding flood types

It is important to understand that flooding is caused by different factors. Areas of North Rockhampton are subject to riverine, creek, and stormwater overland flow flooding. Some resi-dents have been impacted regularly by different types of flooding in recent years. The NRFMA mitigation measures only protect against riverine flooding.



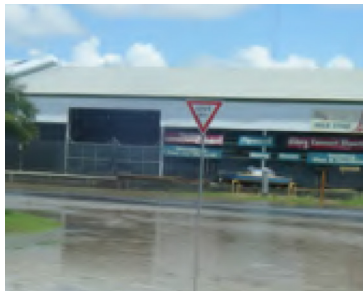
River Flooding

River Flooding is caused by widespread, prolonged rainfall over the catchment area of the Fitzroy River. As the river reaches capacity, excess water overflows its banks onto the floodplain. The community generally receives many days notice of significant river flooding and is able to prepare for impacts in urban areas. The impact can be felt for many weeks through inundation, isolation and recovery efforts.



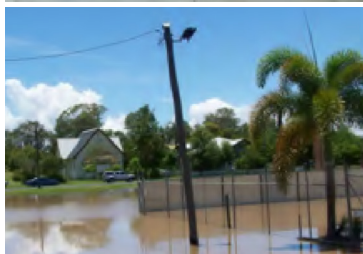
Creek Flooding

Creek flooding is caused by significant rainfall in local creek catchments. Creeks can rise quickly, become fast flowing and recede very quickly, with little warning. Due to the limited warning, this type of flooding can present a greater risk to life than river flooding.



Stormwater Overland Flow Flooding

Stormwater and overland flow flooding is caused by significant rainfall when water flows across the ground or rises naturally from underground. During and after heavy rain, water may also cause stormwater infrastructure to overflow, resulting in overland flow flooding. The impact of overland flooding is usually of short duration with water generally draining, either directly or via a natural watercourse, to the Fitzroy River.



Storm Tide Flooding

Storm tide flooding is caused when a storm surge, generally related to cyclonic activity, creates higher than normal sea levels. Flooding can also occur from king tides which are predictable events occurring twice a year; once in summer and once in winter. In an extreme event associated with cyclonic activity, the impact may be felt in the Fitzroy River as far upstream as Rockhampton.

North Rockhampton mitigation measures

The mitigation measures will provide protection from Fitzroy River flood events up to and including the 1% Annual Exceedance Probability (AEP) event (9.54m on the Rockhampton Flood Gauge) and will substantially reduce the property impacts and risk of flooding in the protected area.

Stage 1 completed works include the following:

- installation of backflow prevention valves on stormwater drains to prevent backup of Fitzroy River flood waters into areas of the Berserker locality between Queen Elizabeth Drive and Ellis Street,
- purchase of a temporary flood barrier system to initially be deployed at Ellis and Rodboro Streets to prevent back up of flood waters through Frenchmans Creek and overland flow paths,
- refurbishment works on the sewerage network to reduce the inflow of flood waters and consequently reduce the risk of sewerage surcharge in the areas protected by the backflow prevention devices, and
- construction of a small levee and associated drainage works along Dowling and Fraser Streets adjacent to Moores Creek and Kershaw Gardens.



Stage 2 completed works include the following:

- installation of backflow prevention valves on stormwater drains to prevent backup of Fitzroy River flood waters into areas of the Berserker locality between Stage 1 and Water Street,
- regrading and raising of Water Street
- relocation and extension of existing temporary flood barrier system to be deployed along Water Street to prevent back up of flood waters through Frenchmans Creek and overland flow paths

Mitigation does not mean flood-proof

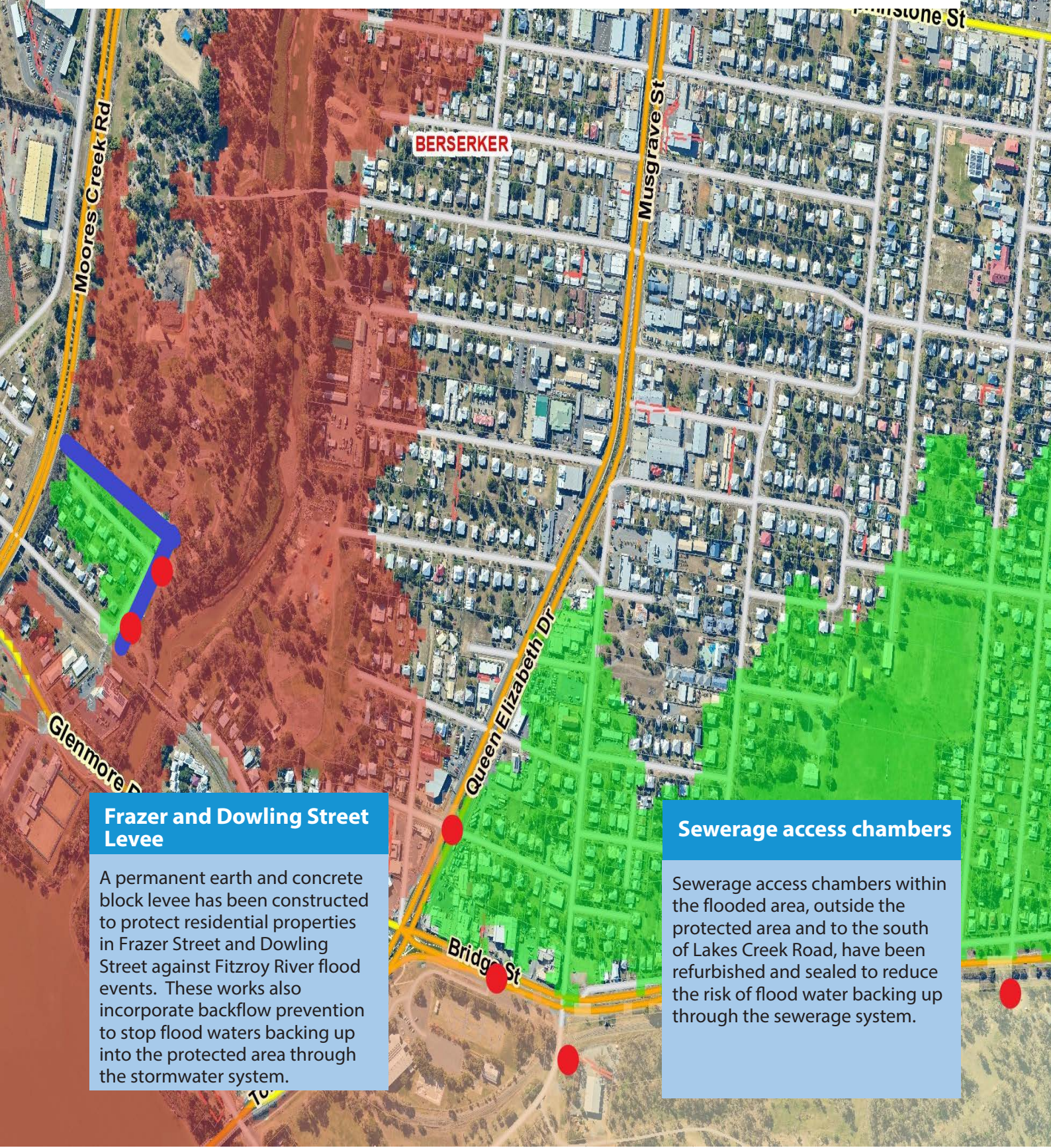
Mitigation works undertaken for the North Rockhampton Flood Management Area (Stage 1 and 2) will significantly reduce the risk of riverine flooding, but no system can eliminate all flood risk. There will always be residual risk that:

- significant local rain may still lead to localised flooding,
- local rain may occur while the Fitzroy River is in flood causing flooding in the protected area from local runoff,
- the levees and temporary barriers will be overtopped by a flood greater than 9.54 metres,
- the levees, temporary barriers or backflow prevention valves may fail, or
- the sewerage network may surcharge due to flood water back up through the network.

NRFMA - Completed works

The mitigation measures are designed to prevent water backing up from Fitzroy River flooding and will not stop flooding from heavy local rain that would occur either with or without the NRFMA works.

Regular inspection and maintenance of flood mitigation infrastructure will be undertaken to ensure the systems are fully operational and in good condition.

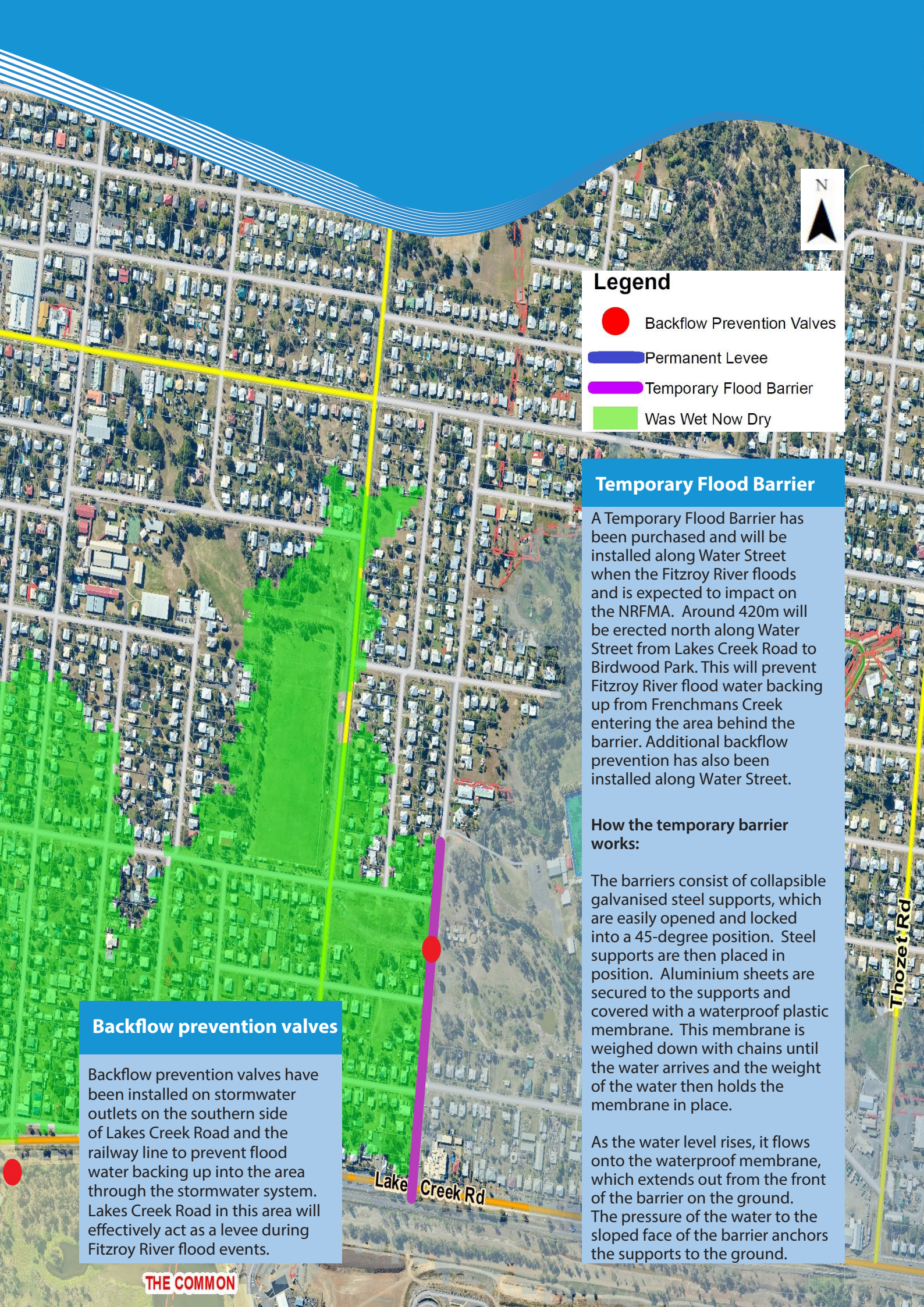


Frazer and Dowling Street Levee

A permanent earth and concrete block levee has been constructed to protect residential properties in Frazer Street and Dowling Street against Fitzroy River flood events. These works also incorporate backflow prevention to stop flood waters backing up into the protected area through the stormwater system.

Sewerage access chambers

Sewerage access chambers within the flooded area, outside the protected area and to the south of Lakes Creek Road, have been refurbished and sealed to reduce the risk of flood water backing up through the sewerage system.



Legend



Backflow Prevention Valves



Permanent Levee



Temporary Flood Barrier



Was Wet Now Dry

Temporary Flood Barrier

A Temporary Flood Barrier has been purchased and will be installed along Water Street when the Fitzroy River floods and is expected to impact on the NRFMA. Around 420m will be erected north along Water Street from Lakes Creek Road to Birdwood Park. This will prevent Fitzroy River flood water backing up from Frenchmans Creek entering the area behind the barrier. Additional backflow prevention has also been installed along Water Street.

How the temporary barrier works:

The barriers consist of collapsible galvanised steel supports, which are easily opened and locked into a 45-degree position. Steel supports are then placed in position. Aluminium sheets are secured to the supports and covered with a waterproof plastic membrane. This membrane is weighed down with chains until the water arrives and the weight of the water then holds the membrane in place.

As the water level rises, it flows onto the waterproof membrane, which extends out from the front of the barrier on the ground. The pressure of the water to the sloped face of the barrier anchors the supports to the ground.

Backflow prevention valves

Backflow prevention valves have been installed on stormwater outlets on the southern side of Lakes Creek Road and the railway line to prevent flood water backing up into the area through the stormwater system. Lakes Creek Road in this area will effectively act as a levee during Fitzroy River flood events.

Council have a Local Disaster Management Plan to plan, organise, coordinate and implement measures to mitigate, prepare for, respond to and recover from disasters within the Rockhampton Region. When a Fitzroy River flood is anticipated, the Local Disaster Coordination Centre (LDCC) is enacted. The LDCC implement a series of procedures outlined in the Disaster Management Plan and Emergency Response Plans. The plans have been refined to include the steps required for the NRFMA.

Should the flood water continue to rise and the temporary flood barrier may be overtopped, all residents will be advised. Residents in the NRFMA are urged to remain prepared for the possibility of evacuation if required and advised.

Council has undertaken extensive flood modelling to ensure we understand the behaviour of Fitzroy River flooding and that our response to these events is well informed, planned and appropriate. To reflect the reduced flood risk associated with the NRFMA Stage 1 works, Council have adopted updated Fitzroy River Flood Maps. The updated mapping excludes the NRFMA from Fitzroy River flood inundation extents up to and including the 1% AEP design flood, commonly referred to as a one in a hundred year flood event. A subsequent update to the maps will occur to reflect the impacts of the Stage 2 works.

Legend

North Rockhampton Flood Management Area

Hazard Classification

- Extreme
- High
- Medium
- Low

Extract of the Fitzroy River Flood Hazard 1% AEP Flood Event

Copyright notice: Copyright protects this publication. Reproduction by whatever means is prohibited without prior written permission of the Chief Executive Officer, Rockhampton Regional Council. Rockhampton Regional Council will not be held liable for any inaccuracies or omissions in this publication or any use of the data for uses or purposes that the data is not intended for. Any queries should be directed to the Customer Service Centre, Rockhampton Regional Council or telephone 1300 52 52 71.

The Digital Cadastral Database is current as at July 2016. © The State Government of Queensland (Dept. of Natural Resources and Mines) 2016. All other data © Rockhampton Regional Council 2016.

Scale: 0 0.05 0.1 0.2 Km. 6,000 at A3.

Printed on 21/02/2016

Will this change planning rules for my property?

If your property is located in the North Rockhampton flood management area the mitigation works undertaken will significantly reduce but not totally eliminate the risk of flooding from the Fitzroy River. If your property is located in the area protected by Stage 1 some changes to the planning rules will apply. No new lots (subdivision) are able to be created within Stage 1 but new houses or other development may be supported subject to additional requirements outlined in the Flood Hazard overlay code and all relevant building codes. Properties within Stage 2 of the NRFMA will be subject to the development or land use controls identified for Riverine Flooding in the Flood Hazard overlay code. In the next amendment to the Planning Scheme, the updated Flood Hazard mapping (reflecting Stage 2) will be included and the development and land use provisions will be updated accordingly.

The Planning Scheme contains flood hazard overlay maps to provide detailed information on areas that have been or could be impacted by flooding. Planning provisions for properties identified in the overlay maps ensure new development and redevelopment either avoids, or becomes increasingly resilient to flood risk.

How does this effect my property insurance?

The adopted updated flood mapping includes the NRFMA (Stage 1) on Fitzroy River Flood Maps. Council will communicate these changes and the more recent Stage 2 changes to the Insurance Council of Australia in an effort to reduce insurance costs for properties within the NRFMA. Updated flood information is available via a Council Flood Search and/or Planning and Development Certificate. You can also provide this information directly to your insurer.

Will my property still flood?

No mitigation measure is entirely flood proof. Being ready to respond in the event of a major flood is everyone's responsibility. Be prepared by following these steps:

- **Step 1: Prepare your emergency plan**
What are you and your family going to do in the event of a riverine, creek or overland flood? Create an emergency plan with your family.
- **Step 2: Emergency and Evacuation kits**
Your emergency kit contains a collection of essential items that will equip your household in the event of a flood.
- **Step 3: Prepare your home**
It is important to:
 - Understand your risk,
 - Clear away rubbish and unimportant items in your yard such as sheets of iron, garden waste or timber,
 - Store all poisons and garden chemicals well above ground level and out of reach of children,
 - Identify indoor items you will need to raise or empty if flood threatens,
 - Consider alternatives to carpet and relocate power-points to well above previous flood levels (using a licensed contractor), and
 - Make sure your home, contents and car insurance is current and adequate.
- **Step 4: Tune into warnings**
Tune in, log on, listen out and act! Finalise your preparations, secure items around your home, activate your Emergency Plan, take shelter, or evacuate if advised.



Next steps

Council will continue to explore further flood mitigation measures in line with Council's mission to become more flood resilient.

Further stages of North Rockhampton mitigation measures may include:

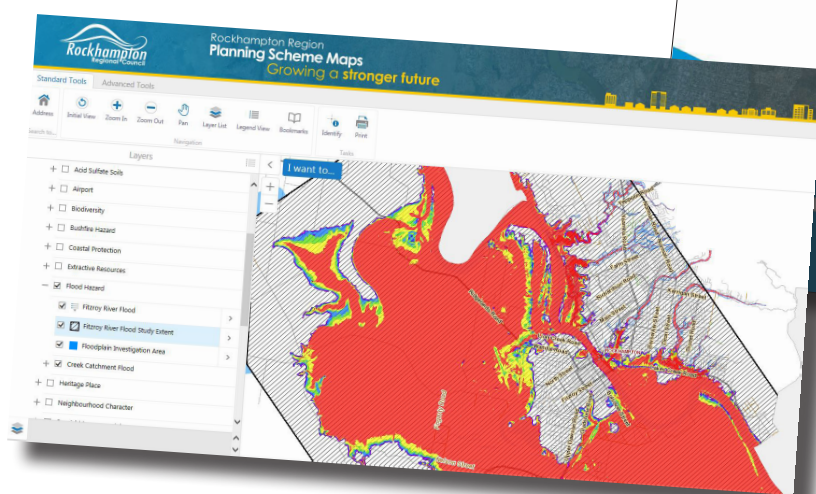
- Installation of stormwater and sewerage pump stations to reduce the risk of flooding of the protected area from local rainfall when the river is in flood and to further reduce the risk of sewerage surcharge in the protected areas, and
- Potential installation of valves on the sewerage network to further control backflow and ongoing programs to reduce stormwater and floodwater infiltration and inflow into the sewerage network.

Council's flood information

Council has a range of free tools and information that can help residents understand their flood risk and how a flood may affect your property.

Flood information tools available on Council's website include:

- Rock E Plan Interactive Mapping - Flood Hazard Overlay Maps, in the Rockhampton Region Planning Scheme,
- A range of River Gauge Flood Height Maps,
- Flood Search Property Report,
- Disasters Happen - Be Prepared resources, and
- Flood Management Strategy.



Find out more. Please call (07) 4932 9000 or 1300 22 55 77
or visit Council's website www.rrc.qld.gov.au

