



**lismore**  city council

# Flood Response

June 2022



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# Introduction

The Lismore City Local Government Area, together with large parts of northern NSW and southern QLD, were impacted by unprecedented flooding events during February and March 2022. These floods have had devastating impacts across the community, with lives lost, homes and businesses destroyed and critical infrastructure sustaining major damage.

Lismore has been at the epicentre of this natural disaster, with flood levels unmatched in recorded history. With the major flood event of 2017 as a point of comparison, flood waters were nearly three metres higher than those that devastated the Lismore community at that time.

The compounding effect of a further major flood event in the second half of March, after communities had spent countless hours cleaning, repairing, and rebuilding homes and businesses, has resulted in a sense of exhaustion and frustration across our fragile community.

Lismore City Council has played a critical role in the immediate aftermath of this disaster, working to restore essential infrastructure, reopen roads and support emergency services.

We are grateful for the support of our emergency response agencies including NSW Police, the State Emergency Services, the Australian Defence Force, the Rural Fire Service, the Department of Public Works and Resilience NSW among others. We are also grateful to the countless community organisations who have offered support and resources.

As flood waters recede and the community begins the painful and lengthy process of recovery, the sheer magnitude of the challenges facing us becomes clear.

While the impacts of this flood event are still being assessed, initial estimates have more than 3000 businesses across Lismore impacted, affecting more than 18,000 jobs including almost 1000 agricultural jobs. Nearly 1400 houses across the Local Government Area have sustained major damage with at least 37 destroyed completely.

Five lives were tragically lost during these flood events, and the wellbeing and mental health challenges that will impact our community in coming months and years will be difficult to quantify and even harder to manage.



# “ It is estimated that the cost to rebuild our community will come close to \$1 billion.

The impacts on our local infrastructure and community assets have been overwhelming. Lismore City Council owned assets have sustained significant damage. This includes large sections of our roads network, our water and wastewater facilities, our resource recovery centre and key community assets including Lismore Regional Gallery, Lismore Memorial Baths, Lismore City Hall, the Lismore branch of the Richmond Tweed Regional Library and Lismore Regional Airport. It is estimated that the cost to rebuild our community will come close to \$1 billion.

Lismore is in critical need of support from all levels of Government to fund our recovery, support our people and – importantly – to put in place strategies to prevent this type of devastation in the future. We have been grateful for the commitments made to date, which must be delivered on in a timely and coordinated way. We will need significant ongoing financial support and assistance to rebuild our City and our community - short term assistance will not have a meaningful impact given the scale of this disaster.

Tough decisions will need to be made in the coming weeks and months around flood

mitigation, future housing strategies, business reinvestment and attraction. Lismore City Council will be fully engaged in all these discussions, to ensure the local perspective forms the foundation for these key decisions.

We are committed to ensuring businesses can reinvest with confidence, and families can rebuild their homes knowing their lifestyle will be secured into the future.

Lismore City Council extends its heartfelt gratitude for the tremendous outpouring of support across our region. We thank those who stepped into tinnies to pull friends and strangers alike to safety as flood waters rose at alarming heights. We thank those who volunteered in the immediate aftermath at our Evacuation Centres, Recovery Centres and Distribution Centres, as well as those who made generous donations to these sites. We thank the Mud Army for working tirelessly, knee deep in mud and debris, to help clean and rebuild our community. Lismore has heart and resilience, and we thank everyone who offered support to this community in its hour of need.



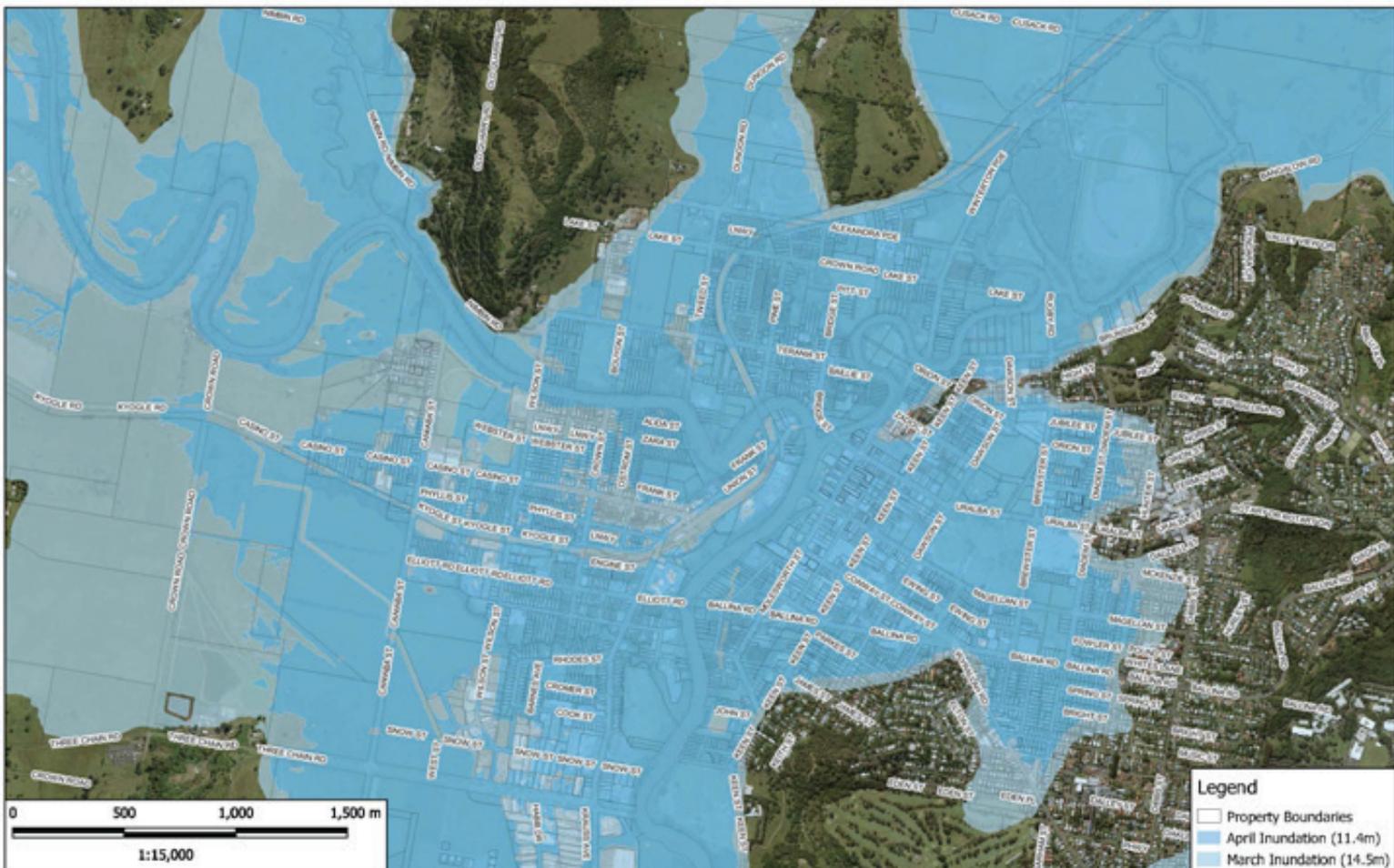


**LISMORE CITY COUNCIL**

While all reasonable care has been taken the council does not guarantee the accuracy of the information contained on this map and any reliance placed on such information shall be at the sole risk of the user. An acknowledgment or original application. Digital Cadastral Database (c) Land Information Centre



## Flood Extents 2022 March and April



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## Flood Extents 2022 March and April





0 2.5 5 7.5 10 km



1:170,000

**Legend**

- Villages
- March Inundation (14.5m)
- Lismore LGA
- Main Roads

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Where an illustration has been included in this report, it is for illustrative purposes only and does not constitute an offer of any financial product. All information is provided on an "as is" basis and is subject to change without notice. All information is provided on an "as is" basis and is subject to change without notice.



**Lismore LGA Flood Inundation  
March 2022 - 14.5m (Average)**

# The Impact to Lismore Local Government Area: Key figures

## Essential & Community Infrastructure (Council owned)



Roads & Bridges  
**\$150-200M**



Water & Wastewater  
**\$108M**



Waste and Resource Recovery  
**\$10-20M**



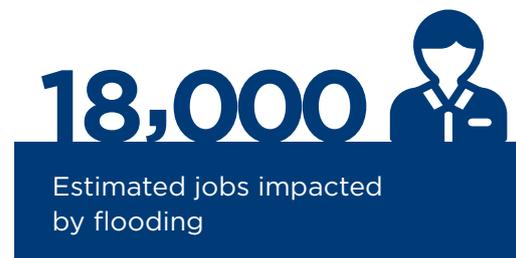
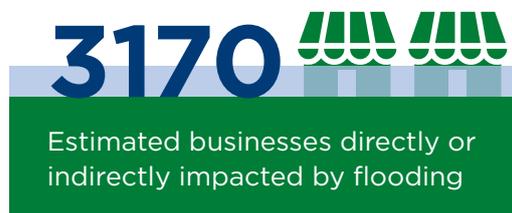
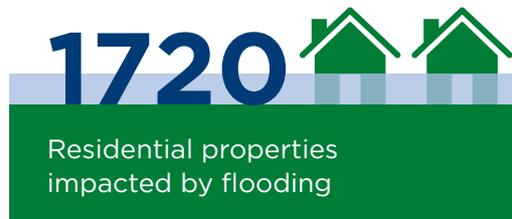
Council Facilities and Depots  
**\$20M+**

**TOTAL = Over \$350M in damage to Council assets**

Preliminary estimates of landslip remediation for our road network is \$90M

# The Impact to Lismore Local Government Area: Key figures

## Property damage (Homes and businesses)



Estimated volume of flood waste collected



**70,000 tonnes**  
**(14,000 truckloads)**



## Our community at a glance...

Total population

**43,798**

Total households

**18,548**

Urban population

**27,641**

Average household size

**2.43**

Rural population

**16,157**

Average weekly income

**\$1,062**

Unemployment (pre-flood)

**7.8%**

Average age

**43**

### Compared to NSW, Lismore has a higher proportion of:

Children and young people aged 5 to 19 and older people aged 45 to 64

Labourers, community and personal service workers and sales workers

People employed in education, health and food industries

People that travel to work by car

People who speak a language other than English

**4.5%**

Aboriginal and Torres Strait Islander people

**4.5%**

One parent families

**21.1%**

People born in Australia

**86%**

Single person households

**27.5%**

Reported needing help in their day-to-day lives due to disability

**5.7%**

# Our Immediate Response

## Emergency Management

The peak of the 2022 flooding disaster across the Northern Rivers was experienced in the early hours of 28 February. However, Council's flood management response commenced more than a week before, on 22 February when Council activated procedures for the operation of the Lismore flood levee system in response to heavy rains and minor flood warnings.

As the situation intensified, Council staff worked with emergency services including the State Emergency Services (SES) to ensure that emergency messaging was shared via social media and through our SMS alert system.

Staff also volunteered across the weekend to man sandbag stations and support community readiness.

As the flooding reached "major flood" level, the Emergency Management Committee (EMC) took over the regional approach to disaster management. The EMC is chaired by NSW Police and has representatives from all key emergency services including the SES and Australian Defence Force (ADF). The EMC's role is to address immediate safety concerns and mobilise emergency response efforts. Both Council's General Manager and its Local Emergency Management Officer played a key part in this Committee, with the Emergency Operations Centre based at Council's Corporate Centre in Goonellabah.

### **The Monday morning following the overtopping of the levee, Council took the following actions, as agreed with the EMC:**

- Made the Council Chambers at Goonellabah available to the EMC as the headquarters for the regional emergency response. This site became the base for key emergency personnel including the Police, SES, ADF and various state and local government organisations.
- Stood up and managed an additional "overflow" Evacuation Centre at the Goonellabah Sports and Aquatic Centre, housing around 300 impacted residents as well as an emergency food bank and clothing supply.



# Essential Council Infrastructure

**During the flood event and in the immediate aftermath, Council sustained significant damage to critical infrastructure. This included:**

- Council's sewage treatment plants, with the plant and pump stations at South Lismore impacted by power outages, and the plant in East Lismore completely inundated.
- Damage to Council's waste management facility, with landfill cells and leachate pumps inundated and unable to function. Waste collection services were immediately postponed, as a result of this and access challenges.
- Impact to 90% of our road network.
- Destruction of the water supply main to Nimbin village.

Large parts of the community were isolated as a result of flood waters and/or access roads being washed away or damaged. Large landslips blocking roads were cleared on Nimbin Road, Rock Valley Road, Jiggi Road, Tuntable Falls Road, Terania Creek Road, Gungas Road, Blue Knob Road and many other minor roads. Emergency Works and Restoration of access became a key priority for Council teams and local contractors, in conjunction with emergency services.



# Community Support

**Together with other Government agencies, Council played a key role in establishing a number of community hubs to assist in the immediate aftermath of the flood events.**

- **Lismore Recovery Centre:** In conjunction with Resilience NSW, Council is the site manager for the Lismore Recovery Centre at Southern Cross University where vital community services are co-located in order to help residents deal with the losses they have sustained. Services onsite include Service NSW, Services Australia, as well as community services including St Vincent de Pauls and the Salvation Army.
- **Lismore Distribution Centre:** Council mobilised the Lismore Distribution Centre at the Lismore Showgrounds, transferring responsibility for managing this site to Lifeline shortly after opening. The Distribution Centre has helped thousands of families with access to essential items including food and water, as well as clothing and personal care items.
- **Lismore Community Hub:** Working with Resilience NSW, Council has supported the establishment of a Community Hub in the Harold Fredericks Carpark, with essential services, mental health support services, pop-up stores and personal care facilities including showers and laundry services.
- **Relocation of critical support services:** Council worked with Commonwealth and State Government agencies to identify temporary sites for operation, including Services NSW, Services Australian and the NSW Ambulance Service.
- **Local Emergency Response Network (LERN):** In advance of the formal Recovery structure being set up, Council convened and chaired a committee consisting of government services such as Resilience NSW, Department of Communities and Justice and NSW Health as well as not-for-profit organisations such as St Vinnies, Lifeline and the Salvation Army. This committee worked to ensure that the various agencies involved in the human-centric aspects of flood recovery were aligned and working in an integrated way for the benefit of the community.

Lismore Community Hub



# What have we done so far?

- Emergency repairs to Council's waste facility, sewage treatment plants and water infrastructure
- Participated in the EOC, Northern Rivers Recovery Committee, Local Recovery Committees
- Advocated for significant funding from State and Federal Governments to support recovery
- Majority of flood waste removed from Lismore CBD and surrounding impacted areas
- Established usage agreement and EPA licensing for temporary waste transfer point to service the entire regions flood clean-up effort
- Emergency repairs to all flood damaged roads to ensure safety and access
- Assessed more than 90 percent of our 1200km road network for flood damage
- Restored water and sewerage services to basic operations
- Restored kerbside waste collection services across the LGA
- Reviewed initial damage assessments on 1720 residential properties, with more than 80% of these classified as either being destroyed or suffering major or severe impact.
- Reviewed initial damage assessments on 800 commercial, industrial or community properties, with around 65% of these properties classified as either being destroyed or suffering major or severe impact
- Coordinated the establishment of a Recovery Centre at Southern Cross University and Distribution Centre at the Lismore Showgrounds
- Identified suitable sites for temporary accommodation and supported State agencies to source and supply emergency housing
- Opened the Lismore City Council Flood Appeal and created a Lismore Flood Appeal Committee to agree on the process to distribute funds.
- Engaged with business community to promote and support funding opportunities



# Next Steps

- Finalise flood waste collection as people continue to clean and empty their properties
- Remediate temporary waste transfer point in East Lismore
- Collaborate with PWA to transport waste to interstate landfill
- Complete assessment of the road network and bridges
- Work with TfNSW, Resilience NSW and PWA on planning, administration and delivery of restoration work programs across all of Council's assets including major landslips which require specialist expertise
- Deliver relief on water rates and interest on outstanding rates and continue to lobby for increased powers to deliver substantive rate relief
- Continue to engage with State and Federal members to ensure funding availability
- Complete repairs to the South Lismore Sewage Treatment Plant and East Lismore Sewage Treatment Plant
- Repair community buildings and facilities, including the Regional Art Gallery, Lismore Memorial Baths, Lismore Library and Lismore Regional Airport
- Advocate for more assistance for local businesses
- Ongoing participation in the Northern River Reconstruction Corporation, and key regional bodies including:
  - The State, Regional and Local Recovery Committees
  - Northern NSW Health and Wellbeing Subcommittee
  - Infrastructure Coordination Office & the Regional Infrastructure Sub-Committee
  - Regional Economic and Tourism Recovery Committee
  - Waste and Environment Regional Subcommittee
- Support the Lismore Flood Appeal Committee to distribute over \$1.1M to affected parts of our community.



# Counting the cost Essential Infrastructure

## Roads

**90% of our 1200km road network has suffered extensive damage, with an estimate of \$150-200 million to rebuild and repair.**

An extended period of wet weather over summer and the subsequent February and March 2022 major flood events has taken a huge toll on the Lismore road network. From 21 November 2021 to the end of April 2022, Lismore has had rain on 3 days out of 4, resulting in many potholes across the network. This damage has been exacerbated by increased highway bypass traffic and bulk waste clean-ups after the flood events.

Emergency repairs on more than 80 roads have been carried out to support access and safety for residents. Several construction crews worked extended hours to ensure damaged roads were reopened/made safe as soon as possible.

**There are more than 90 areas of major damage to the road network, with each having the potential restoration cost of \$1M or more, including major landslips that have resulted in roads that are still closed including:**

- Keerrong Road
- Koonorigan Road
- Mountain Top Road
- Quilty Road
- Tuntable Creek Road
- Woodlawn Road

**Landslips have also reduced traffic to single lanes on key access roads including:**

- Nimbin Road
- Rock Valley Road
- Stony Chute Road
- Wallace Road

There has been damage to many bridges, causeways, reinforced concrete pipes, reinforced concrete box culverts, footpaths and road furniture within the network. Further geotechnical assessments will be required before final costs are known.

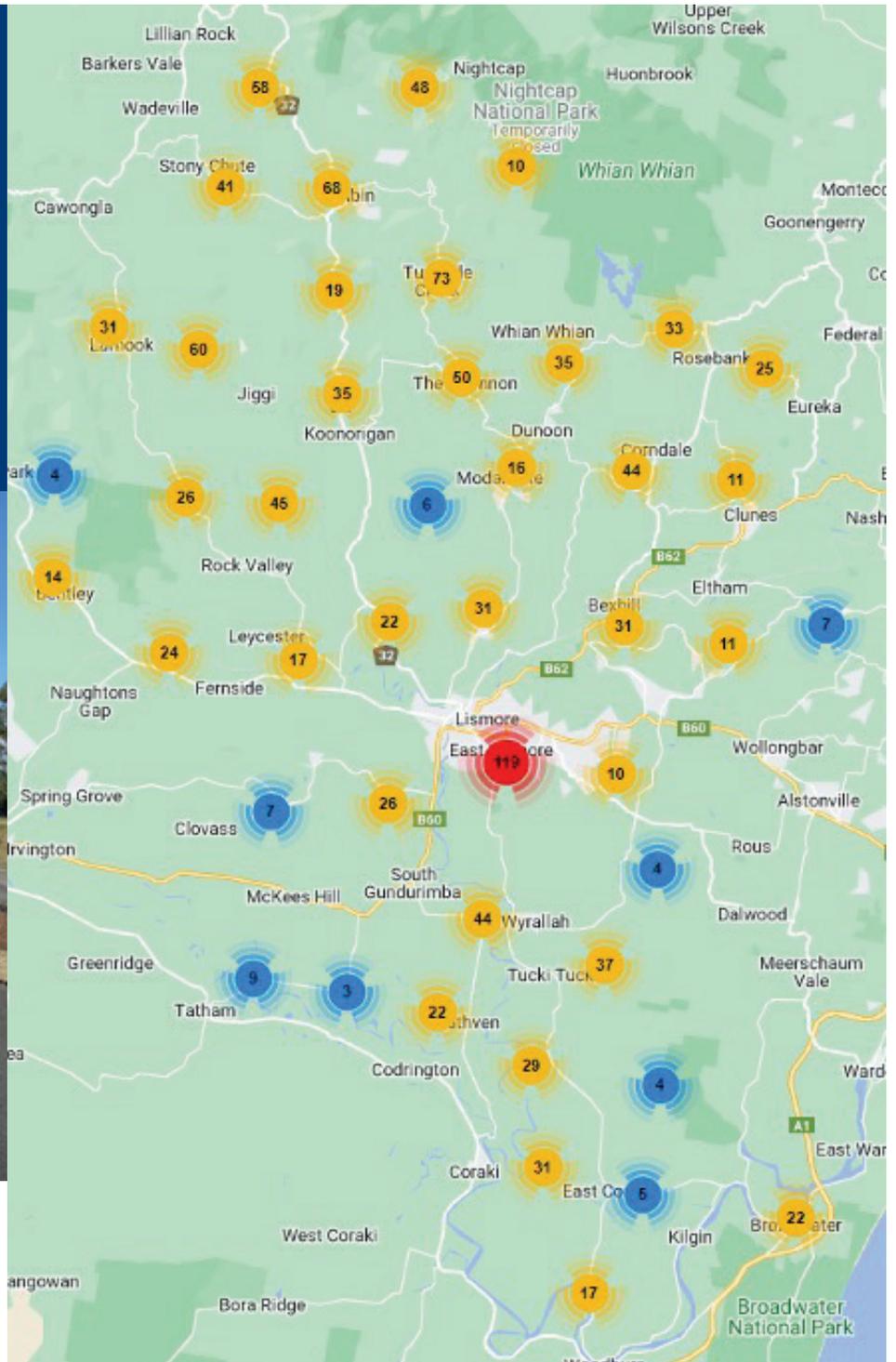




By the end of April 2022, inspections of the road network had identified more than 1200 incidents of road damage across the Local Government Area as indicated on the heat map to the right →



Bruxner Highway, South Gundurimba



Our next steps are to continue emergency work to ensure access to rural properties and undertake immediate restoration works to restore flood damaged road surfaces, road drainage systems and the like.

For more significant damage, we need to work with geotechnical engineers and start design and investigation work to deliver restoration. Restoration work of this nature can be quite complex to deliver, and is exacerbated by demand for contractors in the area. Council will work with state agencies and other local councils in the Northern Rivers to coordinate efforts where possible.

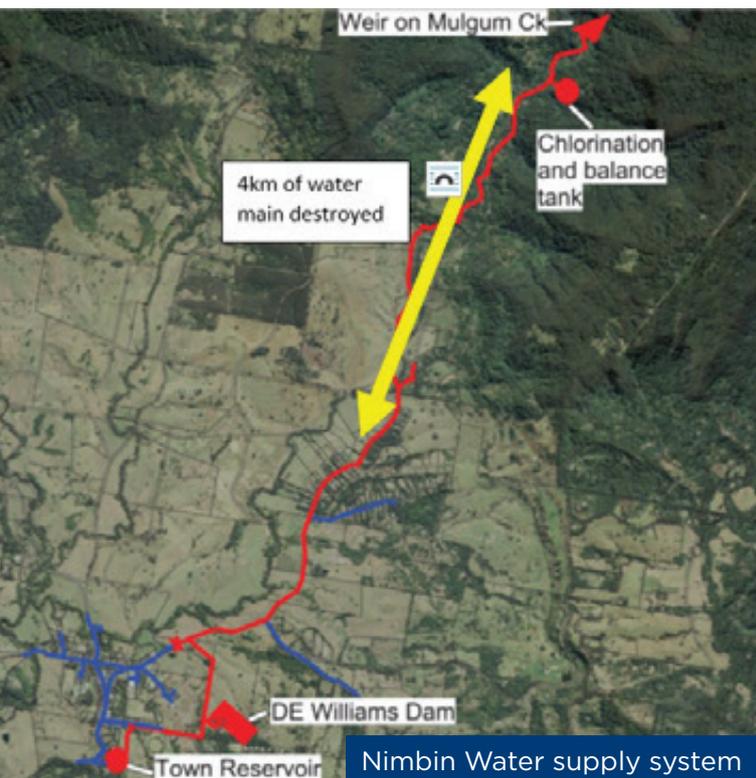
# Counting the cost Essential Infrastructure

## Water

**Emergency road and water supply restoration works were completed on 30 March 2022, with a damage repair cost estimated to be in the order of \$3.5M.**

Immediately following the February flood event, the Lismore reticulated water network experienced substantial water loss in the High Street Reservoir catchment which serves the Lismore Base Hospital, resulting in significant consumption of our bulk water supply. Council staff worked to isolate sections of the reticulated water supply network to arrest the loss of water within 24 hours, which was largely attributable to damaged hot water systems in flood affected properties.

**In Nimbin, a 4km length of water main from the chlorination and balance tank was destroyed because of flooding and debris along Mulgum Creek. This section of Gungas Road was effectively destroyed, and the river path was re-directed.**



This section of destroyed water main resulted in the water supply for Nimbin township being limited to the capacity held within the DE Williams dam – a supply of 60 days, resulting in water restrictions for Nimbin residents. Eighty properties connected directly to this destroyed rural supply main no longer had access to water. The urgency of this work resulted in Council water and roads crews coordinating with the Australian Defence Force to construct a new access road and lay 4km of poly pipe to restore security of the water supply for the Nimbin township.



**Emergency repair works were completed by the end of March 2022 to restore water supply to Nimbin village.**

**The next steps are to complete repairs to Gungas Road and bury the water pipeline to protect that infrastructure from future damage.**



# Counting the cost Essential Infrastructure

## Wastewater

**Estimated costs to repair Lismore's Sewage Treatment facilities: \$17.7M**

**Estimated costs to flood-proof these facilities for the future: \$80M**

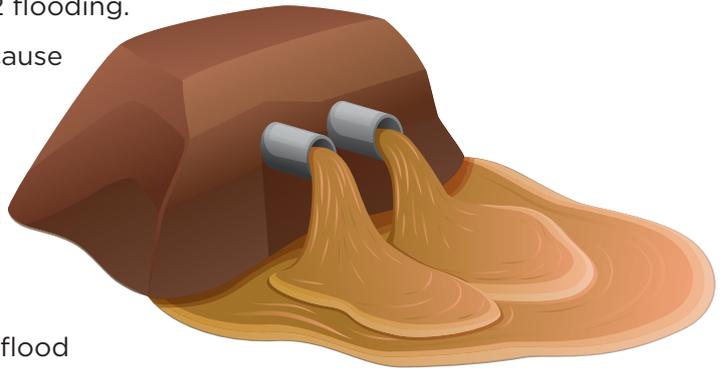
### South Lismore Sewage Treatment Plant

South Lismore Sewage Treatment Plant suffered inundation of flood waters to lower levels of the plant. It was able to be restored to emergency operation and was treating and discharging effluent within EPA licence limits within a short timeframe.

However, sewage pump stations (SPS) transferring sewage to the South Lismore Sewage treatment plant were impacted by the flood. All of the Lismore CBD, North and South Lismore, Lismore Heights and parts of Girards Hill rely on these sewage pump stations to dispose of sewage to the South Lismore sewage treatment plant. There are 12 of these pump stations located around those areas and none of them were functioning post February 2022 flooding.

These pump stations sustained severe damage because of the flood inundation and there was no power supply to any of them. Council staff immediately commenced work to restore them to operation and worked on an interim solution to manage sewage in these areas via the use of pump out tankers and temporary pumps.

It is estimated that the cost of repairing the South Lismore treatment plant and pump stations to pre-flood operation will be in the order of \$11M. Future proofing this sewer pump network to prevent future recurrence of this damage is estimated to cost \$24M.



### East Lismore Sewage Treatment Plant

East Lismore Sewage Treatment Plant (ELSTP) suffered major damage and has been non-operational since the first flood event.

The influent received at East Lismore immediately post-flood (estimated volume was 4.2ML/day or nearly two Olympic swimming pools) was initially undergoing partial treatment only (i.e. primary screening) before being discharged into Monaltrie Creek and the Wilson River. Public Works Advisory and the Environment Protection Authority were engaged at an early stage to develop temporary and longer-term treatment and restoration solutions in conjunction with Council staff.

The date to return ELSTP to full treatment capability is still to be determined.

The 19 East Lismore Pump Stations (SPS) were undamaged and transferring sewage to East Lismore treatment plant via the network, however, a temporary pumping solution was required at Wade Park and anticipated to be in place up to 10-12 weeks. The Wade Park SPS was inundated and suffered a major environmental overflow which was reported to the EPA.

# Counting the cost Essential Infrastructure

## Waste management

### Estimated cost to repair Lismore Recycling and Recovery Centre:

### Estimated cost to remediate facility: \$10-20M

#### Lismore Recycling and Recovery Centre:

Lismore Recycling and Recovery Centre (LRRRC) is the central waste hub for the Lismore Local Government Area and surrounds. It has recycling and landfill capabilities and utilises the sewer treatment plant adjacent to the site for leachate treatment.

The LRRRC experienced flooding impacts which damaged much of the centre's infrastructure. The associated leachate flow and level monitoring systems, power generators and leachate pumps were damaged beyond repair. Inundated by flood waters, the cells contents were pushed into the surrounding area east of the site.

As well as securing its own site to minimise the environmental impact of the damage caused, Council worked with Public Works Advisory in the days immediately following the flood to establish a temporary flood waste transfer site while regional facilities were set up in Alstonville and Coraki. This temporary facility was used for the transfer of bulk refuse from houses and businesses destroyed in the floods. Public Works undertook coordination of the kerbside removal and disposal of flood waste across the LGA, in collaboration with the ADF.

It is estimated that the total clean-up of flood-affected items will reach 70,000 tonnes or the equivalent of 14,000 truckloads.

**The total cost for the recovery and remediation works at Council's facility are estimated at around \$10-20M dollars, including:**

- solid waste recovery and clean up,
- waste cell leachate pump & monitoring systems repair
- waste cell leachate liner damage removal and repair, flood impact leachate management, contaminated resource stockpiles and municipal asset recovery (the cell liner repairs require specific expertise and a scope of repairs is currently being finalised)



Cell 2B before flood



Cell 2B during flood

# Counting the cost Essential Infrastructure

## Lismore Regional Airport

### Estimated cost of repairs \$1M

Lismore Regional Airport (LRA) was impacted by over 2 metres of water through the terminal and across the runways and apron. Damage was sustained to the security fencing surrounding the airport, to facility lighting and telemetry systems and the loss of the airport server room.

The airport was out of operation for two weeks. Limited operations were able to recommence after that.

LRA is currently operational (at a higher risk level) for RPT (Rex) passenger operations, Army aircraft movement and some charter flight activities. Fuel is now on site, however no normal terminal access is available. Twenty privately owned hangars were also damaged, as well as a number of privately owned aircraft.

Work required to restore the airport to full operations include restoration of the security fence, repair of the apron, and restoration of the runway lights, telemetry, and weather station.



# Counting the cost Essential Infrastructure

## Blakebrook Quarry

Blakebrook Quarry was inundated but has since been returned to normal operations. Some damage to plant onsite was experienced, but this has not resulted in any impacts to service delivery.

Asphalt production capability will be critical in the next stages of recovery as we seek to rebuild and repair our roads network.



# Counting the cost

## Essential Infrastructure

### Council's Fleet

Council lost 53 vehicles due to flooding, including 13 utes, 4 cars, 10 trucks, 6 tractors and 1 garbage truck. The Richmond Tweed Mobile Library semi-trailer was also lost.

These vehicles had been relocated in advance of the flooding to areas which had not been subject to flooding in previous flood events.

Council also lost a substantial portion of its small plant, including chainsaws, mowers, and whipper snippers, which was located at the Brunswick St Depot. Again, the Brunswick St Depot had not previously been subject to flooding.

Council is currently liaising with insurers to address these losses. Sourcing replacement vehicles will be a challenge, due to the ongoing supply chain impacts of COVID. Council was facing delays of up to 12 months for new fleet prior to the flood.

Council has traditionally sourced its plant and equipment from local or regional suppliers wherever possible. These suppliers have now suffered extensive flood damage and stock that was on order has been lost.

In the case of small plant, Council is also working with neighbouring councils to source immediate replacements on loan, to minimise impact on service levels.



# Counting the cost Community Assets

## Lismore Regional Gallery

**Cost to repair Gallery: \$2.5M**

**Cost of artworks lost/impacted: \$3.6M**

**Lismore Regional Gallery was inundated across all levels, with every artwork in the Gallery submerged.**

Working with our insurers, Council has transferred all art pieces into offsite storage where they are being reviewed to determine whether any can be salvaged. Initial analysis suggests that some artwork may be able to be recovered.

Council's insurance covers all Council-owned artworks, art held and temporarily managed by the Gallery, and separate cover for the Hannah Cabinet.

The Hannah Cabinet was fully submerged in flood waters and floated through the Gallery during the peak of the flood. Pleasingly, we expect to be able to fully restore the Hannah Cabinet although the restoration process will take close to 12 months to complete.

The Regional Gallery itself has sustained considerable damage and will be out of operation until repair work has been completed. We currently have no estimate on this work, as it is dependent on funding.



# Counting the cost Essential Infrastructure

## Richmond Tweed Regional Library - Lismore Branch

### Estimated cost to repair Library: \$1.3M

**The Lismore Branch of Richmond Tweed Regional Library sustained flood damage across its ground and first floor.**

**Several collections - over 29,000 books - were destroyed including:**

- Adult Fiction
- Large Print Books
- Junior & Young Adult Books
- Children's Story Books
- Children's DVDs
- Jigsaws
- Audio Books
- Parenting Collection (non-fiction books on parenting topics)
- Junior Non-Fiction Books

The RTRL Mobile Library Truck sustained severe damage and will need to be replaced. A temporary solution has been put in place until a replacement truck can be sourced and fitted out.

While the scope of repair works is being assessed, an additional Goonellabah Library site has been established to ensure the community retains library access.

We have seen overwhelming community support for a series of book drives, seeking new and near-new books across the collections that were impacted.



# Counting the cost Essential Infrastructure

## Other Council assets

### Estimated total cost to repair other Council buildings: \$15M

**Many other Council-owned buildings suffered flood inundation and will need to be repaired. This includes:**

- Lismore Memorial Baths (pictured below)
- Lismore City Hall
- Visitor Information Centre
- Terania Building (currently leased by ACE)
- Gundurimba Building (currently leased by Binney's Funerals)
- Brunswick Street Workshop
- Lismore Caravan Park
- Laurie Allen Centre
- Lismore Transit Centre
- Stockpot Kitchen (former Regional Art Gallery)
- Cattle Saleyards
- Old Council Chambers Municipal Building
- All impacted public toilets
- All impacted sports facilities (including sporting fields, grandstands, clubhouses and kiosks):
  - Albert Park
  - Oakes and Crozier Oval
  - Mortimer Oval
  - Nesbitt Park
  - Arthur Park
  - Wade Park
  - Caniaba St Reserve
  - Humbley Oval
  - Marie Mackney Netball Courts
  - Richards Oval
  - Elaine Blanche Tennis Courts
  - Nielson Park
  - Riverview Park



# Counting the cost Essential Infrastructure

## City Safe CCTV network

### **The City Safe Closed Circuit TV network in the CBD will cost \$330K to replace.**

The existing CCTV camera system was installed approximately 3 years ago and was not due for replacement for a further five years.

An agreement has been reached with Resilience NSW to fund the full replacement of this network immediately, in order to ensure public safety in the CBD. Cameras are located across 23 locations.



# Major project delays

## Prior to floods Council was in the middle of a \$66M capital works program.

These works are predominately funded by State or Federal Grant programs or stimulus funding from previous disasters or COVID.

Council has been liaising with the relevant grant funding bodies and reviewing these projects to revise delivery timeframes resulting from flood impacts. No major projects have been cancelled, so work will continue to deliver major projects including:

- Lismore Employment Lands (Oliver Ave link)
- Oakes and Crozier Oval upgrades
- Nimbin Rainbow Road Walking Track
- Northern Rivers Rail Trail
- Lismore Regional Airport upgrades
- CBD footpath replacement

Road, bridge, water and sewer projects that were disrupted are now being completed, and delayed works will be re-scheduled.

Council events that were to be held in the first half of 2022 will be postponed. This includes scheduled events to be held out of the Art Gallery, Quad, Lismore Library and Lismore Memorial Baths. The Lismore Masters Games will also be postponed.

## Other projects that will continue:

- Affordable Housing developments at Bristol Circuit and Cynthia Wilson Drive.
- Clyde Campbell Solar car park
- Lismore Laneways Revitalisation
- Heritage Park shadesail
- Pedestrian spine from City Hall to the river
- Albert Park (pictured below)
- Lismore Walking Trails

Albert Park



# Our community

## Residential Homes

Across the Lismore LGA, 2520 buildings have been assessed by the SES as damaged (as of 10/3/22). Of those 1720 were classified as residential with the level of damage categorised as follows:



Destroyed	37
Severe Impact	482
Major Impact	880
Minor Impact	215
Nil Impact	106



It is estimated that more than 2000 people have been rendered homeless because of the floods.

Lismore, like many parts of the Northern Rivers region was facing a housing crisis prior to the floods, with a rental vacancy rate of 0.4% and rising house prices making both rentals and home ownership increasingly unaffordable or unavailable. The loss of such a significant amount of housing stock, primarily in the less expensive parts of the town, will exacerbate the housing crisis.

The level of residential construction work required is likely to be impacted by shortages of materials and labour resulting in significant delays and price increases.



# Our community

## Business impact

Of the 2520 buildings assessed by the SES as being damaged, 656 were classified as commercial or industrial and 144 as 'other' (includes categories such as schools and community facilities etc). The level of damage to commercial and industrial buildings has been categorised as follows:



Destroyed	7
Severe Impact	241
Major Impact	264
Minor Impact	133



The Lismore LGA has 4,145 registered businesses, with 3,170 estimated to have experienced some level of disruption (based on location), be it supply, distribution, accessibility, or total flood inundation.

The LGA had 23,232 jobs across all industries. Based on business location, it is estimated 18,098 jobs have been impacted by the flood.

The agricultural sector output was valued at \$92 million in 2015/16 and directly employs over 1000 people. It is estimated that 875 farmers have been either directly or indirectly impacted by the flood.

The ripple effects of the business disruption to the wider Lismore economy are so widespread as to be incalculable at this time.

**Lismore City Council's Economic Development Team have provided ongoing support to businesses since the City's inundation, helping to access grants, complete applications, get the right referral advice and address general Council matters.**



# Environmental impacts

**The prolonged and intense rainfall in the upper catchment, and the resultant major flooding, have had very significant environmental impacts across the entire LGA.**



Due to their scale and complexity thorough assessment of these impacts is a huge task, and it is not possible at this stage to precisely quantify them.

Lismore City Council's Environmental Strategies Team has commenced assessment of impacts on riparian vegetation and other high conservation value vegetation in the CBD and urban bushland reserves. We have reached out to current and past partners of the Rural Landholder Initiative to understand the impacts on their habitat restoration projects, and on the rural environment generally.

Landslips have been reported from across the upper catchment, ranging from small-scale to very significant. As well as damage to homes and infrastructure, these landslips have caused loss of soil and vegetation, and continue to be a source of sedimentation of creeks and the river.

The volume and velocity of water coming down the creeks and into the Wilsons and Richmond Rivers has caused significant erosion of banks, as well as damage to riparian vegetation. This includes riparian vegetation that had previously been restored with both public and private funds and countless volunteer hours. Exposed banks are now vulnerable to continued accelerated erosion which may also cause further sedimentation of waterways.

Other areas of vegetation, including revegetated and restored habitat, have also been affected by floodwaters. Prolonged inundation, foliage coated by mud and pollutants, and the impact of high velocity water and flood debris are all causes of loss of or damage to vegetation.

Areas where vegetation has been lost or damaged, particularly riparian areas, are now vulnerable to establishment and spread of exotic weed species.

Waterways have been polluted with sediment, industrial and agricultural chemicals, waste and debris.

In turn, these impacts on vegetation and waterways represent potential decline in the habitat (homes and food sources) available to native fauna species including the koala and platypus.

Council will continue to work with government agencies and non-government organisations such as Landcare, Ngulingah Local Aboriginal Land Council, wildlife rescue organisations, industry groups and landholders to understand the profound impacts of these events, and to develop and implement strategies to repair damage and restore the integrity of our precious natural environment.



In turn, these impacts on vegetation and waterways represent potential decline in the habitat (homes and food sources) available to native fauna species including the koala and platypus.



# Mental Health and Welfare

**The trauma experienced by residents who have lost their homes and possessions is anticipated to have long-term mental health impacts.**

The uncertainty around housing and employment is also contributing to high levels of anxiety and stress. The loss of social networks through clubs, sporting associations, schools, social and civic spaces is contributing to a general sense of social breakdown

Lismore is a community still in shock and will require significant mental health services in the months ahead. Funding for such services have been announced but details of how this will be delivered is unclear. Ongoing communication through mainstream and social media will be required.

Lismore prides itself on its reputation as a creative hub for the region. The ability to continue to hold iconic events such as the Lismore Lantern Parade and Eat the Street will aid the return to a level of normalcy.

**The One from the Heart community concert was held on 15th May at the Lismore Showgrounds. 12,000 free tickets were made available to people living in the most affected postcodes, with 1000 tickets available for sale to the wider community.**

**With performances from Daryl Braithwaite, Jon Stevens, Paul and Dan Kelly, Grinspoon, Lime Cordiale, Sheppard, Darlinghurst and the Buckleys, the Concert provided some respite and joy to our community during this difficult time.**

**Thank you to Chugg Entertainment, to all the artists involved and to those who worked so hard to make this concert become a reality including the 60 Council staff who volunteered their time on the day.**





## The Future of Lismore

### Flood mitigation and resilience

**Prior to the recent flood event, Council was in the process of updating its Floodplain Risk Management Plan, designed to provide a suite of flood mitigation measures including:**

- engineering (i.e. structural mitigation),
- planning (land use zoning and development controls)
- property modification (house raising, house purchase etc.) and
- emergency management (flood response, flood warning, community awareness, etc.)

In 2021 the NSW Government engaged the CSIRO to review options being considered for the Far North Coast Water Strategy. This review is now being expedited, and the government has committed to a range of funding to implement recommended solutions.

**Council has already passed a resolution seeking clear understanding of the Terms of Reference of this Study and intends to participate fully in this work to ensure local perspectives are fully considered.**

# The Future of Lismore

## Reconstruction

**On 19 April, the NSW Premier announced the formation of the Northern Rivers Reconstruction Commission (NRRC). The NRRC will sit within the Department of Regional NSW and report to the Deputy Premier.**

The NRRC will coordinate planning, rebuilding and construction work of essential services, infrastructure, and housing across multiple government agencies to help people in the Northern Rivers communities to rebuild their homes and lives as quickly as possible.

The NRRC will have a long-term remit for reconstruction of flood-hit communities in the Northern Rivers, which will continue beyond the immediate response and recovery phase, which is being led by Resilience NSW. The term for the NRRC is between 3 to 5 years.

The NRRC will be supported by an advisory board consisting of local representatives, such as local members of parliament and mayors, as well as leaders in the community.

Council looks forward to fully engaging with the NRRC to ensure that there is a strong local perspective considered in all decisions made by the NRRC.

**Council takes comfort from the series of announcements made to date around recovery funding, including commitments to fund Lismore's road repairs, repairs to sewage treatment services and recovery of Council's building assets where those costs exceed the insurance limit.**



# The Future of Lismore

## Housing Response

**Solving the short-term housing crisis is critical to Lismore's economic and social recovery. Returning people to their homes as quickly as possible will ease local housing pressures and reduce the mental health impact of the flood emergency.**

It is imperative that Lismore is able to keep its local community together, to ensure critical skills are available to support recovery, including trade and contractor skills which will be in high demand in the coming years. Without suitable accommodation solutions, residents will have no other choice than to leave the region.

Resilience NSW, working with the Department of Planning and the State Housing Taskforce, are accountable for short- and medium-term housing solutions across Lismore and other affected parts of the Northern Rivers. Council is pleased to note one such site has been established in Wollongbar (pictured below), with further sites to be announced in the coming weeks.

### **Council's role in supporting Lismore's housing crisis is:**

- Working with relevant agencies to identify appropriate sites for temporary housing
- Streamlining the development application process to facilitate short to medium term housing solutions
- Participating in meetings across the region, in order to align services and support.
- Council is currently reviewing its Growth Management Strategy and Housing Strategy in order to ensure that Council's position on key issues is clear and well understood by the Reconstruction Commission.

### **This will include consideration of key strategic issues including:**

- Opportunities for new flood-free land to be released for residential and business purposes,
- Potential for increased density in suitable flood free locations
- Advocating for land-swaps to relocate people from high-risk areas
- Feasibility and design work for a new commercial precinct
- Support for flood resilient rebuilding opportunities
- Voluntary housing buy-back schemes
- Voluntary house raising schemes



# Economic recovery

**Many of Lismore's businesses are at an inflection point. The cumulative impact of the flood in 2017, a global pandemic and the current natural disaster event has left people questioning whether they have the appetite to reinvest and rebuild their businesses in our local government area.**

Council has welcomed the support provided to date to large organisations in Lismore, including Norco, in order to encourage the reinvestment that our community so desperately needs. We also note the grant programs available through government departments such as the Department of Regional NSW, Services NSW and the Rural Assistance Authority which have targeted opportunities to support recovering businesses.

Businesses must have confidence that they can reinvest in Lismore and its surrounds. Key to this confidence will be a defined program of work to build stronger flood resilience across the LGA, together with sufficient investment to support businesses that are keen to rebuild.

We note the impact of a national shortage of building materials, skilled contractors and supply chain constraints arising from the recent construction boom on our ability to rebuild our community. A program to ensure areas that have been declared as part of the national emergency have priority is required to ensure the rebuild is not further delayed by a lack of access to building materials.

Further consideration should also be given to how flood insurance operates in Lismore and surrounds. Flood insurance is generally unavailable or unaffordable to residents and businesses in high-risk areas and this situation has been exacerbated by the most recent flood. The Insurance Council of Australia has commented that insurance is unlikely to be available to large areas of Lismore unless there are strategies to 'de-risk' through flood mitigation and adaptation activities.

Responses to Council's Business Flood Impact Assessment Survey has identified that 89.8% of respondents (264 respondents completed the survey) did not have any form of flood insurance. Estimates by business completing the survey have identified over \$38.5M in expected building repair costs identified to date.

In 2021, the Prime Minister, Scott Morrison, announced a cyclone reinsurance pool for northern Australia, backed by a \$10bn government guarantee, which aims to protect more than 500,000 properties. The government expects the pool will reduce premiums by more than \$1.5bn over 10 years and it is set to launch in July 2022. This scheme needs to be extended to cover Lismore and the Northern Rivers.



# Reflections

During this natural disaster, and its immediate aftermath, a number of opportunities to improve preparedness and response have become clear. Council is contributing to the various inquiries into the Floods, and will work with stakeholders to raise concerns and take actions to improve in the following areas:

- \* **Power outages impacted both emergency response and early recovery. How can this be better managed?**

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- \* **Our pumps are critical to our flood response, but also susceptible to flood damage. How can we best ensure our pumps are deployed where they are most needed, yet also protected from damage?**

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- \* **What steps can we take to ensure that emergency warning capability is improved, and aligned across all agencies?**

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- \* **Our emergency response was unprepared for an event of this magnitude. How can we ensure essential emergency services can scale up quickly and effectively?**

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- \* **Are there better ways to manage Evacuation Centres so that consistent support is provided at each?**

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- \* **What are the barriers to a more timely regional response on emergency housing?**

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- \* **How can we enable affordable flood insurance for people living in flood-prone areas?**

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- \* **In large scale emergencies, how can we work with our state and federal government stakeholders to minimise red tape and bureaucracy to deliver fast support where it is needed.**

# Our lived experience: A message from the Mayor

***Lismore's last significant flood was in 2017. It caused huge damage across the community, largely because the flood topped the levee for the first time since its construction in 1999, sending water flowing through the CBD and other low lying areas. Floods hit their peak at 11.59m.***

*On Sunday, 28 February 2022, the community started preparing for another possible flood. Initial predictions were that it could possibly hit the heights of the 2017 experience. In activating their flood plans, local vendors removed stock and equipment from their stores, and moved this to higher ground, or to purpose-built shelving onsite so that flood water wouldn't reach it. Most included a buffer of a metre or so above the 2017 flood levels just to be safe. Sandbag stations were set up to stop water entering properties. People in low-lying areas went to stay with family and friends to wait out the weather.*

*This was simply not enough.*

*During the course of the evening, as the deluge continued, water rose much faster than expected. By 3am, flood waters yet again topped the levee and rushed into town. At their peak, flood levels reached around 14.4 metres. The height of these floods were unmatched in living memory.*

*Those three metres made all of the difference.*

*They meant that people who thought they were safe on their second storey got trapped in their roof cavity as waters rose at terrifying speeds. They spent hours calling for help, climbing through windows, trying to break through roof panels to climb to relative safety.*

*They meant that people who thought they had "flood proofed" their place saw all of their belongings placed at height destroyed anyway.*

*They meant that people who didn't need to evacuate the 2017 flood were caught unawares and found themselves clinging to their roof and waiting for rescue. Many people were sleeping as waters crept up, missing that critical evacuation window.*

*They meant that the emergency response, which may have been suitable for a 11.59m flood was simply unable to respond to the significance of the event. Rescues were effected by locals in tinnies, kayaks and jetskis.*





Mayor Steve Krieg had his home and business destroyed in the flood.

“

As waters receded, the streets of Lismore came to resemble a war zone.

*Piles of refuse lined the streets as people cleaned and emptied their flood-ravaged houses. Many will never be suitable for occupation again. People assessed the damage to their properties and businesses - many require gutting, rewiring, new walls and floors before they're habitable again - which will take months if not years depending on the availability of qualified tradespeople in the area.*

*The “mud army” spent countless hours, exhausted and dirty, hosing out properties, scrubbing walls and floors and trying to return their homes and businesses to space that could be used again. Just as the community started to see a light at the end of the tunnel, a further significant flood swept through the CBD, sending many residents back to square one.*

*As well as having been entrusted with the role of Mayor during this difficult time, I have been personally impacted by this disaster. I've lost my two businesses in the CBD and my family lost our home and most of our belongings. I, like many others, am piecing my life back together. I continue to have faith in Lismore - that we will work together to rebuild the city that we love, and that we will retain our hope and positivity as we do so.*

***The people of Lismore are resilient and courageous. We will build back, better than before.***

# Conclusion

**While we remain optimistic about the level of support committed by the State and Federal Governments to assist Lismore’s recovery, we have a long road ahead of us.**

**Three key factors will be critical in meeting this overwhelming challenge:**

1

Funding must be available in a timely manner, without red-tape. Lismore City Council is constrained in its financial resources, and cash-flow limitations mean that it is not able to fund large-scale recovery works upfront, with costs recovered from various government departments at a later date. Council is hopeful that the Reconstruction Commission will streamline access to funding.

2

Decisions made by State and Federal bodies such as the Reconstruction Commission need to reflect local perspectives and be made in consultation with those communities that these decisions will impact. Coordination between those in a position to assist will be crucial in order to ensure decisions are informed by local views and able to be delivered efficiently.

3

Short term assistance will not be enough. Commitment to supporting Lismore over the medium term will be core to any recovery effort.



Lismore City Council is committed to rebuilding Lismore as a strong, vibrant Regional City. We look forward to working with the Reconstruction Commission and other government departments to ensure that the right investments are made in Lismore’s future, to support housing, business and social outcomes for our community.



# Appendix A: How you can help

## Lismore City Council Flood Appeal



### LISMORE Flood Appeal

To help with our flood affected community, you can donate to the Lismore Flood Appeal by direct bank transfer.

**The bank details are:**

**Name:** Lismore City Council Flood Appeal Account  
**BSB:** 062 565  
**Account:** 10864633

Council has established a Flood Appeal Committee comprising all Councillors, Council staff representatives and members of the community. This Committee will agree the process by which funding is allocated to those most in need.

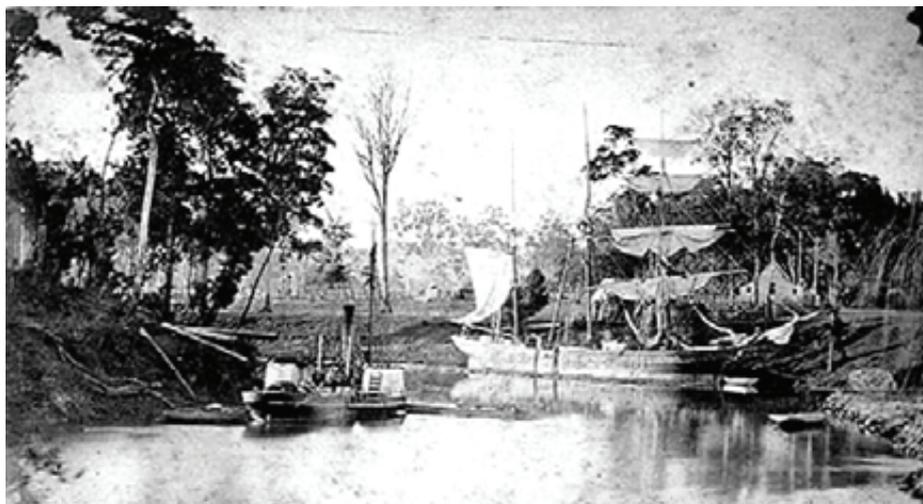
*Council is accepting donations for the purpose of disaster recovery and community support arising from the current Lismore flooding disaster. In making a donation, you acknowledge that Council retains full discretion as to how any and all donated funds are used, which may include distributing funds to other organisations or persons for those organisations to use and distribute as they determine. Council has no obligation to enforce any use of funds by a third party.*

## Libraries and Art Gallery

- Richmond Tweed Regional Library is accepting donations of money and books to rebuild its damaged library collections. More information can be found here: <https://rtrl.nsw.gov.au>
- Lismore Regional Gallery also has a fundraising appeal that can be found here: [www.givenow.com.au/lrg-recovery-fund](http://www.givenow.com.au/lrg-recovery-fund)

## Appendix B:

# A short history of flooding in Lismore



Lismore was first settled by red cedar cutters and farmers looking for high quality fertile land. All transport was by boat, using the river system as a major trade route to the sea.

Ships could not travel upstream much further than the junction of Leycester Creek and the Wilsons River. This junction was also suitable for the ships to turn around.

Lismore grew rapidly around the river trade, timber and

agricultural industries, becoming one of the major North Coast towns. In the 1890s the railway linked the river and rail systems, further confirming Lismore's status as a regional centre.

The importance of the river diminished as road transport improved after WWII. By this time Lismore was a major city, established adjacent to the Wilsons River.

While the location of Lismore is ideal as a service and trading centre for produce and freight, floods come very quickly and consequently have a major impact.

During heavy rain, rainfall from the high surrounding hills comes down the steep creeks and rivers meeting at Lismore, then slowing down and spreading across the floodplain before moving out to sea.

In 1954 and 1974 Lismore experienced very severe flooding, creating major problems for the community.

Following the 1974 flood, the government of the day commissioned several studies to consider ways to overcome Lismore's flood problems.

The then government assisted with the purchase of land at Goonellabah to create a new commercial area and new planning schemes to limit growth in floodplain zones. A voluntary purchase scheme aimed at assisting people to move out of the seriously affected flood zones was also introduced. The study concluded by stating that it would be very difficult to construct a levee system for Lismore.

Following the 1989 flood the concept of a levee to protect the CBD was again investigated. After examining the hydraulic effects of more than 20 possible levee schemes, it became clear that it was both practical and financially feasible to construct a limited levee system around South and Central Lismore.

In 1999 a government-funded scheme to protect the CBD and South Lismore from a 1-in-10-year flood event was approved. This proposal would mean that most of the smaller floods would not enter the central area of Lismore and substantially improve the time available for the evacuation of residents and the business community in larger floods.

In March 2017, the Lismore flood levee was overtopped for the first time, causing one of the most damaging floods in living memory in terms of material and community destruction. Following the flood, Lismore City Council launched its Flood Ready project to develop a comprehensive, community-wide action plan for natural disasters. Working with emergency services, local agencies and community groups, the Lismore Flood Ready plan provides a clear framework on how to be prepared and resilient before, during and after a natural disaster.

# Appendix C: The Levee, our pumps and gates

## How our pumps work

**There is a range of large and small pumps that are activated during a flood event to extract rainwater from within the levee walls and pump it into the Wilsons River.**

The largest two pumps are at the Browns Creek Pump Station. They are the original pumps from the 1960s when Browns Creek was first filled in and the carpark built over the tunnel that the creek now runs through. When the CBD levee was constructed, the pumps were refurbished and upgraded to increase their capacity.

Once the river height reaches 5.2m, the Browns Creek gate is closed and the first pump automatically kicks in. If the height reaches 5.4m, the second pump automatically starts. They both operate until the height of the river drops below 5.4m, when pump 2 stops, with pump 1 continuing until the height drops to 4.8m. If the height rises again to 5.2m, the cycle restarts and will do so while ever the gates are closed.

The levels are dictated by the intake levels of the pumps and the depth of water required to operate the pumps without damaging them.

Each pump has a capacity of 3000 litres per second.

The Gasworks Creek gate is closed at 4m and also has two pumps that operate on the same principle at Browns Creek pumps but start at different heights. Pump 1 starts at 6.4m and pump 2 at 7m. Both stop at 5.5m. Each pump has a capacity of 2000L/s

Lower Hollingworth and Upper Hollingworth Gates close at 4m. The one pump at the Lower Hollingworth Gate starts at 4m. This pump is designed to keep water out of South Lismore.

There are six additional smaller pumps in the CBD near the old RSL, Bowling Club/Spinks Park, the Transit Centre, Glasgow Lane, Woodlark Street (near bridge) and an optional one at Three Chain Road (near Coates Hire) if required.



# Levee keeps out a rising river

**The CBD and South Lismore levees are designed to protect the city from a 1-in-10-year flood.**

There have been numerous floods but has only been overtopped once in the March 2017 flood.

The lowest and first overtopping point is at the spillway opposite the old Police Station in Molesworth St. However, even though the design height of the levee is 10.95m at the spillway, the levee may actually overtop when the official Wilsons River Height gauge at the Rowing Club is around 10.2 – 10.6m (with 10.2m being possibly the worst case). This depends on the amount of rain falling in the Leycester and Wilson catchments and the downhill slope of the surface of the flood water.



The slope varies from flood to flood. The variable level at which the river will overtop is due to the overtopping point being located some 500m or so up river from the official gauge site.

The second overtopping point is at Gasworks Creek south of the CBD which has a design level of 11.3m. The third overtopping point is in Spinks Park where the levee wall has a design level of 11.6m.

The inundation is staged and the overtopping points positioned in order to minimise the impacts of fast flowing water on properties and infrastructure as it flows in.

Our second levee is designed to protect South Lismore also from a 1-in-10-year flood. It has two sections which are between the Bruxner Highway and Wilson Street (4.7km) and Riverview Park to Wardell Street (400m).

The South Lismore Levee is designed to overtop at Caniaba Street, North of Three Chain Road at 11.55m, flowing into Hollingworth creek, but can overtop anywhere north from here, depending on flows from Leycester Creek.

# Gates

**There are 32 gates along the levee that Council staff close at varying stages depending on the river level.**

The first three gates at Upper and Lower Hollingworth Creek (South of Kyogle Road and at Riverview park) and Gasworks Creek are closed when the river reaches 4m. All other gates are closed in a specific sequence when the river reaches or is predicted to reach 5, 6 and 7m. The final gates under 11 Molesworth Street are closed at 9m. The temporary pop up deflector walls in Keen Street and Richmond Lane are constructed when it is predicted that the levee will over-top.

Timing of the closure of some gates can vary depending on whether cars are still parked in the Kirklands Riviera, Rowing Club, and the Upper and Lower Hensley carparks behind the levee wall.

If vehicles are not removed from these carparks and the gates need to be closed, they may be towed. Depending on the number of vehicles, this can take a long time. If the gates need to be closed quickly the remaining cars may unfortunately be stranded on the river side of the levee.

# Deflector Walls

**There are five Deflector Walls within the Brown Creek Floodway.**

These are designed to provide some protection to the buildings within the floodway from fast flowing water when the levee overtops through the Browns Creek Floodway.

They are at the Clive Campbell Carpark toilet block, at the driveway to bottle shop behind Mary G's, in Keen Street at Singh's Tyre and Mechanical and Lismore Antiques and in Richmond Lane.





Bice Rd, Leycester



24t excavator clearing landslide over Bice Rd, Leycester



Keerrong Rd: Culvert washout



Dunoon Rd: Culvert washout



Towns Bridge: Temporary crossing after 2nd flood

March 11, 2022 9:53 am  
-28.654776, 153.275051  
Wallace Road | Wallace Road | 1.36



Wallace Road, The Channon

March 9, 2022 9:55 am  
-28.713419, 153.159038  
Quilty Road | Quilty Road | 4.9



Quilty Road, Rock Valley



Terania Creek Road



Terania Creek Road



Mountain Top Road, Georgia



Mountain Top Road, Georgia



Coraki Road: Pavement damage caused by haulage of flood waste



24 Mar 2022 11:22:56 am  
28.90397378S 153.2841097E  
Coraki Road  
South Gundurimba  
Lismore City Council  
New South Wales

Coraki Road: Pavement damage caused by haulage of flood waste



Active landfill site: Cell 2B