Junortoun drainage and flooding webinar

Monday 4 May 2026

CITY OF GREATER BENDIGO

Welcome

Welcome and Acknowledgement

Independent facilitators: Martina and Maree

One hour session:

- Clarity
- Follow-through
- Direct answers to questions

Submit questions via the Q and A

Introductions

Michelle Wyatt: Manager, Climate Change and Environment

The purpose of tonight:

- Provide clear updates
- Respond to questions
- Report on commitments made in Workshop 2
- Improve how we communicate with you

Ian McLauchlan: Manager, Flood Recovery and Resilience

Context

The floods were huge events in the lives of our residents.

We understand you have lots of unanswered queries and requests.

We have heard your feedback.

We are sorry.

Report card. Webinar.

We are open to suggestions on how we can improve our communication.

Themes in Junortoun

Workshop 1:

- How have learnings from the 2011, 2022 and 2023/4 floods shaped changes in preparation for future floods?
- How can Junortoun have a stronger voice in decision-making?
- We would like a panel with agencies involved in flood mitigation, response and recovery.

Workshop 2 'top three' challenges:

- Drainage and infrastructure: including impacts of development
- Creek management (e.g. clean the creek)
- Retention dams and volume of water

Junortoun report card

Status update

Completed	To be completed	Not commenced
• **Defects** – All 91 defects have been rectified. See map on the previous page • **McIvor Highway walkway** – Between Trotting Terrace and O'Keefe Rail Trail has been reconstructed • **McIvor Forest Estate wetlands pit** – Upgrade complete • **Splitters Creek Ecological Assessment** – Completed to inform the Waterways Flood Mitigation Action Plan, commissioned by the Junortoun Community Action Group	• **Cumbungi (vegetation) removal** – In Splitters Creek upstream from the trotting terrace to the school. To be completed by end of June 2026, subject to weather • **New box culverts** – Domain Village, McIvor Highway. Design underway. Installation scheduled for 2026/2027 or 2027/2028. • **Junortoun Flood Study** – See detail on the next page • **Future Planning for Junortoun** – Background research is underway. See detail on the next page • **Splitters Creek Waterway Flood Mitigation Action Plan** – To be completed. See detail on the next page • **Coliban Channel** – Investigation into decommissioning underway through Coliban Water's Rural Water Efficiency Project • **O'Keefe Rail Trail Footbridge** – Replacement of timber footbridge over Splitters Creek near Baptist Church. Design underway. To be completed 2026/2027	• **Splitters Creek crossings** – The effectiveness of upgrading the crossings at different locations (e.g. Wilkie Road, St. Vincents Road, Homebush Drive) will be assessed as a part of the Junortoun Flood Study • **Desilting from O'Keefe Rail Trail to Splitters Creek –** Investigation required in collaboration with private land holders and North Central CMA into sediment removal opportunities within this section of waterway

Items of community interest

- Management of Splitters Creek
  - Mixture of DEECA managed land and private land
  - City is not currently the appointed crown land manager nor has any responsibilities or rights over the Creek
  - Victorian Floodplain Management Strategy outlines accountabilities and obligations for LGA's and communities wanting to manage waterway for flood mitigation purposes
  - Any clearing, desilting etc. requires various approvals (Flora/Fauna, Cultural Heritage, Works on Waterways, Land use Activity, Land Manager consent), supporting flood study demonstrating need vs environment and funding.
  - Scope needs to be defined
  - Flood Study needed to support approvals – the Flood Study will help with coming up with an ongoing plan
  - Funding will need to be resolved
  - Waterway management framework being developed to clarify these issues

- Requests for culvert upgrades
  - Domain village – beneath walking trail along Highway (under design – delivery expected 6-12 months)
  - Wilkie Road (Deferred pending Flood Study findings)
  - St Vincents / Sommerset Park / Homebush Drive (Deferred pending Flood Study findings)
  - McIvor Highway at Popes Road (Department of Transport and Planning project - completed)

Items of community Interest

- New subdivisions and development
  - Intensive development, particularly broad-acre, required to incorporate detention and water quality systems (e.g. McIvor Forest Estate)
  - IDM requires drainage system to have capacity to manage 20% or 10% Annual Exceedance Probability (AEP) events *(sec 16.6 of IDM)*
  - Various detention requirements can be specified by the City to ensure that drainage system capacity is not exceeded and downstream risk is managed *(sec 19 of IDM)*
  - Discretionary exemptions for some infill, low density and rural residential development sites, in consideration and context of relativity/contribution within broader catchment and downstream flow paths and infrastructure. *(sec 19.3.4 of IDM)*
  - Development only required to convey 1% AEP flows. Council can require 1% AEP detention solutions where downstream conveyance flow paths represents significant risk, must be defensible in VCAT

- Urban drainage systems
  - To be designed in accordance with Australian Rainfall and Runoff Guidelines (current 2019) *(Sec 16.2 IDM)*
  - Minor residential networks generally designed to accommodate 20% AEP events (minor network) *(Sec 16.6 IDM)*
  - Major network represented by overland flow paths (e.g. roads, reserves) up to 1% AEP event *(Sec 16.17 IDM)*.
  - Designed to the standard of the day
  - Usually only upgraded at end of life i.e. when due for replacement (80+ year life) or where significant localised flood risk identified (e.g. above floor flooding)

Junortoun AEP event rainfall equivalents

- Representative rainfall amounts for various Annual Exceedance Probability (AEP) events

Bendigo / Junortoun - Total Design Rainfall Depths (ARR2016)
Units: Milimetres (mm)

Duration	50% AEP	20% AEP	10% AEP	5%	1% AEP
30 min	13.2	19.5	24.3	29.4	42.8
1 hour	16.5	24.5	30.6	27.1	54.9
3 hours	23.6	34.1	42	50.4	72.8
6 hours	30	42.3	51.2	60.3	83.5
12 hours	38.3	52.7	62.8	72.8	96.1
24 hours	47.7	65.3	77.2	88.7	114

Items of community Interest

Developments - Silvergum Retreat

- 2021 development application
- Minor drainage system (pipes in the ground) designed to hold up to a 20% AEP event
- Major drainage system (overland flow) event results in overland flow within roads
- Predevelopment regulation and control for both 20% and 1% AEP event – via detention basin (due to potential for impact on Bendigo Baptist Church)
- Major and minor storm to pre-development levels based upon ARR2019 (non-climate change)



Items of community Interest

Developments - McIvor Heights

- 2021 development application
- Minor drainage system designed to command 20% AEP event
- Detention to 20% AEP only
- Detention achieved via onsite rainwater tanks for each lot
- Increased culvert capacity beneath highway
- Represents 0.5% of total catchment. Determined to not contribute materially to downstream impacts. No 1% AEP detention requirement.



Items of community Interest

Developments - Rangelea Rise

- 2021 development application
- Minor drainage system designed to command 20% AEP event
- Detention to 20% AEP only per IDM section
- Detention achieved via onsite rainwater tanks for each individual lot
- Increased capacity beneath highway



- Represents 0.46% of total catchment. Determined to not contribute materially to downstream impacts. No 1% AEP detention requirement.

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Post 2022-2024 Floods

- McIvor highway roadside service track graded
- McIvor Forest Estate pit upgrade and clearing completed
- Drainage basin and wetlands mapped and inspected



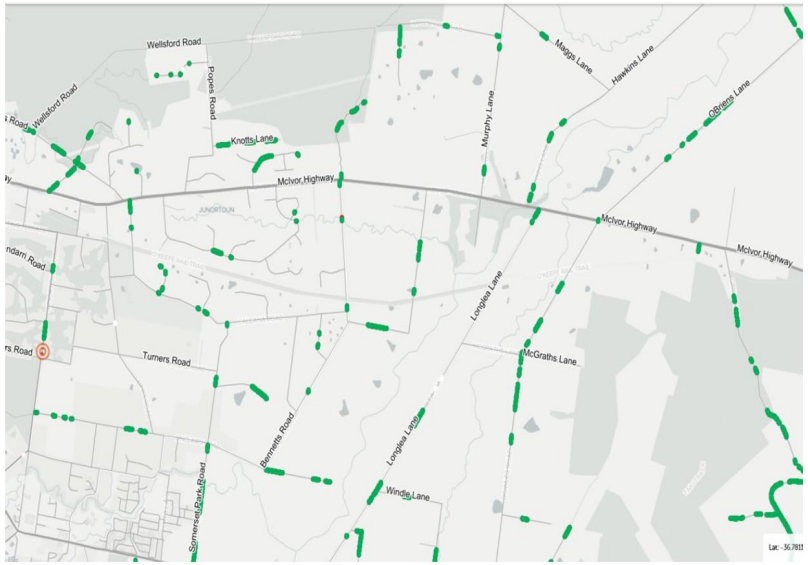


- Pending minor vegetation clearing in splitters creek near CMC & Trotting track
- Bendigo Spine flood model update – expect completion June 2026
- Junortoun flood study – funded and led by NCCMA

Post 2022-2024 Floods

- Community engagement sessions
- Site meetings and inspections of various sections of creek, detention basins, channels etc.
- Rectification of impacted essential public infrastructure (i.e. roads, paths, bridges, culverts etc.) - NDRRA funding agreement

Junortoun and district flood rectification works as at April 2026



For **Junortoun**:

- 91 works identified
- 100% of works completed

These works included:

- Excavation or removal of debris
- Road and shoulder grading
- Gravel re-sheeting
- Drainage structure reconstruction
- Pothole and road repairs
- Replacing signage and guidance posts

Key: Completed

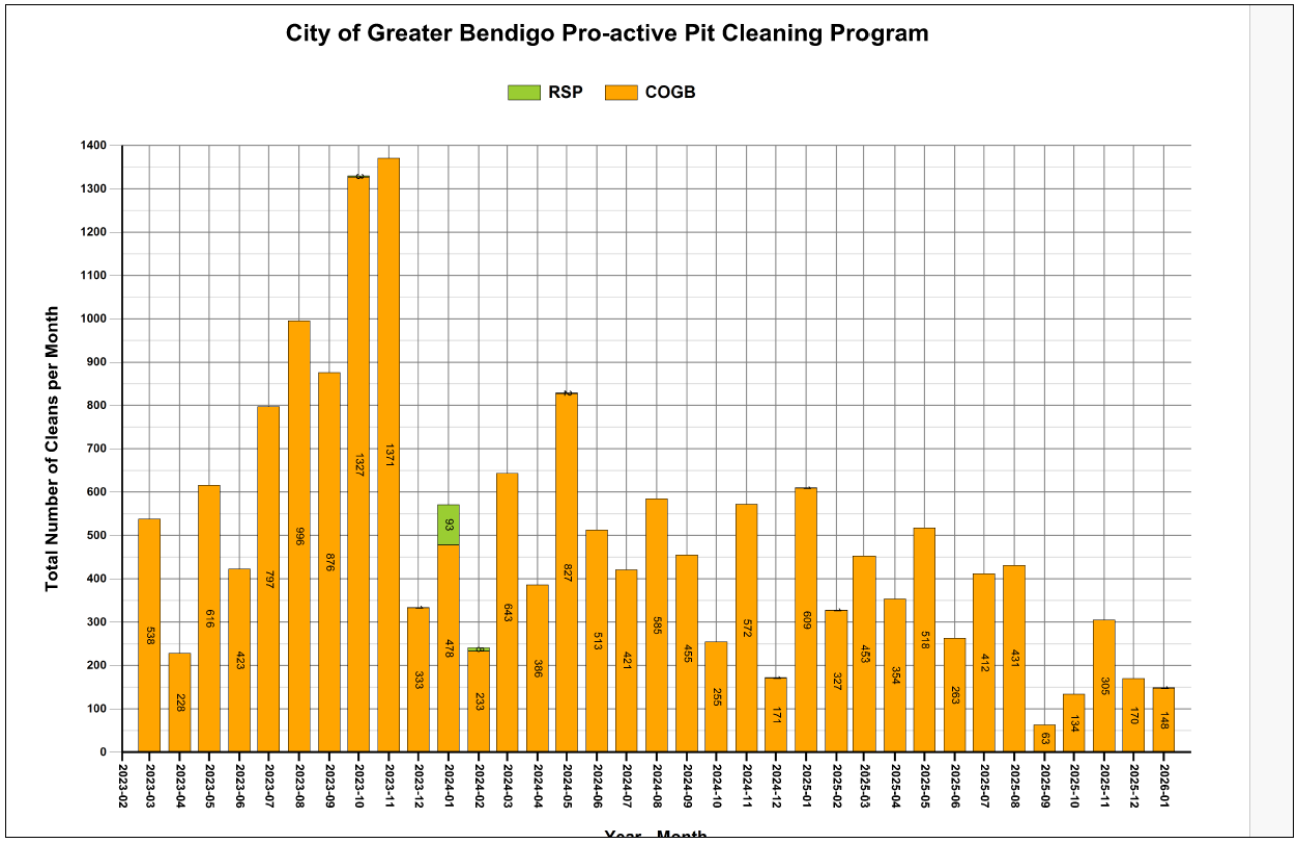
Other items

- Driveway culverts – landowner responsibility for maintenance and upgrade
  - Works within road reserve permit requirement
  - Typically recommend minimum 375mm where silting and blockages may be an issue (300mm absolute min)

- Drainage system maintenance
  - Over 52,000 pits across the City (would take approx. 13 years to clean all pits in one cycle)
  - City undertakes its periodic pit clearing on a planned 3 year cycle focusing on approx. 30% of the pits
  - Proactive focus on on-road and high priority pits only due to resource constraints
  - All other pits inspected and cleared on reactive / request basis
  - Concerns regarding pit and drain maintenance can be reported – inspections and programming as required/resources permit
  - Similarly, roadside table drains are cleaned out reactively/proactively as resources permit
  - Roadside drain clearing usually identified during road inspections (varies depending on road classification) or via community requests.
  - **A note on flood rectification and recovery funding vs ongoing maintenance funds**

Other items

- Drainage system maintenance – historical pit cleaning
  - Surge resources following Oct 2022 and Jan 2024 floods
  - Typically average of 328 pits inspected and cleaned per month (16 pits per day)
  - Proactive program impacted by reactive requests

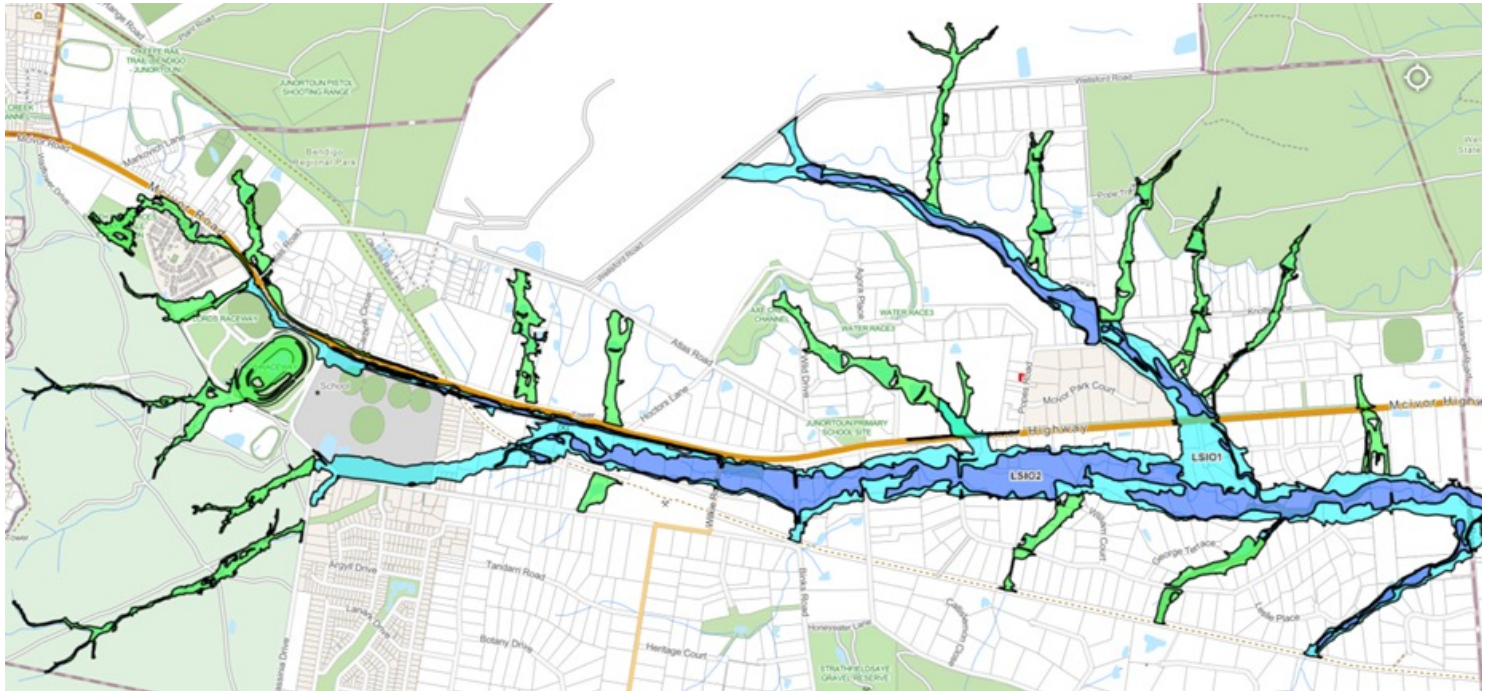


Junortoun flood events

- Observed flooding across several local roads and McIvor Highway
- Through property and above floor flooding reported along Splitters Creek as well as isolated areas within various catchments e.g. McIvor Forest Estate, Domain Village, Sommerset Park Rd
- Debris from forest catchment contributing to blockages within urban drainage system
- Flood behavior observed in 2022 and 2024 consistent with previous/current modelling
- Drainage pipes and culverts are not designed to convey flows beyond 20% or 10% AEP events

Junortoun flood events

- Current flood mapping prepared as part of 2013 Bendigo Urban Flood Study
- Flood mapping assumes development based upon zoning
- Primary watercourse is Splitters Creek which receives water from several catchments
- Approximate catchment area > 2500 Ha
- Future modelling to consider climate change impacts



Time for questions

All questions raised will be captured.

Responses will be provided after tonight's session if we don't get to your question tonight.

If you'd like a response in writing, please include your email address with your question.

Email addresses will not be visible or shared during the Webinar.

Questions will be grouped into themes by the moderator.

Next steps

- **Workshop 3: Junortoun**
  Wednesday 13 May 2026
  Supper 5:30pm
  Workshop 6pm – 8pm

- **Community Resilience Planning**
  Ongoing Community Resilience Officer
  Junortoun Local Flood Plan supported by Junoroun Community Action Group
  Get involved - admin@junortoun.vic.au

Enquiries

- **Infrastructure, drainage and planning:** flooding@bendigo.vic.gov.au
- **Emergency management and resilience:** resilienceandrecovery@bendigo.vic.gov.au
- **General enquiries:** 1300 002 642 | requests@bendigo.vic.gov.au
- **Junortoun Community Action Group:** admin@junortoun.vic.au

Resources

Vic Emergency App for warnings or online:
https://emergency.vic.gov.au/respond/

BoM App for weather and warnings or online:
https://www.bom.gov.au/

Current waterways and flood studies on Let's Talk:
https://letstalkgreaterbendigo.com.au/flood-and-waterways-studies

Splitters Creek Flood Mitigation Action Plan -
https://letstalkgreaterbendigo.com.au/flood-and-waterways-studies/junortoun-waterways-study

Thank you