AGENDA

FLOODPLAIN MANAGEMENT COMMITTEE
TO BE HELD IN THE COUNCIL CHAMBERS ON
THURSDAY, 9 OCTOBER 2025 AT 2:00 PM

DISTRIBUTION LIST
Councillor Scott Groat (Chair), Laurie Testoni (Councillor - Alternate), Steve Manwaring (DCCEEW), Craig Ronan (NSW SES), Michael Borg (NSW SES), Ian Parisotto (Community Representative), Paul Rossetto (Community Representative), Ema Munro (Community Representative), John Kerrigan (Community Representative), Steve Mortlock (Community Representative), Joseph Dal Broi (Community Representative)

General Manager, Scott Grant; Director Utilities, Graham Gordon; Water & Wastewater Manager, Durgananda Chaudhary and Minute Secretary, Joanne Bollen

Quorum = 3

If you are unable to attend this meeting please notify the Minute Secretary prior to commencement of the meeting by email or by telephoning Council on 1300 176 077.

This Committee meeting may be attended remotely and recorded by audio or audio-visual means for administrative purposes. No other recording is permitted.

Acknowledgement of Country

Griffith City Council acknowledges the Wiradjuri people as the traditional owners and custodians of the land and waters, and their deep knowledge embedded within the Aboriginal community.

Council further pays respect to the local Wiradjuri Elders, past, present and those emerging, for whom we acknowledge have responsibilities for the continuation of cultural, spiritual and educational practices of the local Wiradjuri people.

MINUTES

FLOODPLAIN MANAGEMENT COMMITTEE
HELD IN THE MURRAY ROOM ON
THURSDAY, 12 JUNE 2025 COMMENCING AT 2:00 PM

PRESENT

Councillor Scott Groat (Chair), Laurie Testoni (Councillor - Alternate), Steve Manwaring (DCCEEW), Craig Ronan (NSW SES), Michael Borg (NSW SES), Ian Parisotto (Community Representative), Paul Rossetto (Community Representative), John Kerrigan (Community Representative), Steve Mortlock (Community Representative), Joseph Dal Broi (Community Representative), Wendy Quayle (Community Representative)

Dan Williams (Torrent Consulting)

Quorum = 3

STAFF

General Manager, Brett Stonestreet, Director Utilities, Graham Gordon, Water and Wastewater Manager, Durgananda Chaudhary and Minute Secretary, Joanne Bollen

1 APOLOGIES

An apology was received from Councillor Laurie Testoni (Councillor – Alternate).

2 CONFIRMATION OF MINUTES

RECOMMENDED on the motion of Paul Rossetto and Steve Mortlock that the minutes of the previous meeting held on 6 March 2025, having first been circulated amongst all members, be confirmed.

3 BUSINESS ARISING

Nil

4 DECLARATIONS OF INTEREST

Pecuniary Interests

There were no pecuniary interests declared.

Significant Non-Pecuniary Interests

There were no significant non-pecuniary interests declared.

Less Than Significant Non-Pecuniary Interests

Members making a less than significant non-pecuniary interest declaration may stay in the meeting and participate in the debate and vote on the matter.

Community Representative, Ian Parisotto
EMR Breaching Protocol
Reason –

Community Representative, Paul Rossetto
CL5 &CL6
Reason – Have family and friends in the Yenda flood zone, also a Murrumbidgee Irrigation customer

5 ITEMS OF BUSINESS

CL01 TORRENT CONSULTING UPDATE

Dan Williams from Torrent Consulting provided the Committee with an update on the review of the Lake Wyangan Flood Study and Plan.

(Presentation included as Confidential Attachment).

CL02 PROJECT UPDATE - HANWOOD STORMWATER PUMP AND LEVEE PROJECT

Water & Wastewater Manger, Durgananda Chaudhary's, update on the Hanwood Stormwater Pump and Levee Project was included in the Agenda.

Director Utilities, Graham Gordon, gave a verbal update on the progress of the project.

The following major works have been completed:

- Earthen levee along DC DA and DC HANDEPOT completed,
- Kidman Way raised levee as per TfNSW requirements,
- Drainage network along Kidman Way, Mallee Street and service land between Mallee Street and Wattle Street,
- All 4 pumps operational.

Works to be completed:

- Pump shed/awning and security fencing,
- Official commissioning of the pump.

The project will provide the 1% flood immunity to Hanwood village.

RECOMMENDED on the motion of Paul Rossetto and John Kerrigan that the Committee note the information.

CL03 PROJECT UPDATE - MCCORMACK ROAD YOOGALI LEVEE - STAGE 2 PROJECT

Water & Wastewater Manger, Durgananda Chaudhary's, update on the McCormack Road Yoogali Levee – Stage 2 Project was included in the Agenda.

Director Utilities, Graham Gordon, gave a verbal update on the progress of the project.

Stage 1 – Upgrade of culverts at Bosanquet Road and Burley Griffith Way – completed.

Stage 2a: Raising of McCormack Road from Newman Road to Bosanquet Road – to be

completed by June 2025.

Stage 2b: Raising of DC605J Channel embankment from Bosanquet Road to Burley Griffin Way – to be completed by June 2025.

Stage 3: Raising of Burley Griffin Way from Railway line to McCormack Road:

- No funding available,
- Estimated cost obtained from TfNSW in 2024 was $5.0M, which is not fundable under existing floodplain management funding programs,
- Council to investigate alternative flood mitigation options and/or seek alternative funding source.

RECOMMENDED on the motion of Steve Mortlock and John Kerrigan that the Committee note the report.

CL04 EAST MIRROOL REGULATOR (EMR) EMERGENCY BREACHING PROTOCOL

A request was received by Councillor Scott Groat to *"supply a report on the cost of breaching the main canal at the EMR per emergency breaching protocol design document and the contractor employed to breach the canal".*

Director Utilities, Graham Gordon, advised the Committee that Griffith City Council adopted the East Mirrool Regulator (EMR) Emergency Breaching Protocols and Decision Support Framework on 13 November 2018, recommending that the Main Canal may be breached during a major flood. He explained that the timing of such an event is unpredictable.

In the event of a predicted or ongoing major flood event, an Emergency Operations Centre (EOC) is activated. The EOC coordinates multi-agency support and would oversee any canal breaching. The costs and contractor involvement are uncertain and would depend on availability at the time.

Because the breaching is coordinated through the EOC, funding may be available to support recovery and the restoration of critical infrastructure, such as the Griffith LGA's water supply network.

A 2016 internal memo, tabled by Paul Rossetto, was also discussed. He criticised the lack of progress, stating that despite years of discussion, none of these works had been completed. He also expressed doubt about the usefulness of the emergency breaching protocol, arguing that without proper preparation, it would fail when needed and called the situation unacceptable. The memo had outlined several preparation tasks that have not yet been completed. Director Utilities, Graham Gordon, update the Committee on the progress of the priorities.

- Priority 1 – Mirrool Creek Flood Warning System. This has been completed and implemented.
- Priority 2 – Yoogali Levee. Nearing completion with the exception of Stage 3 being the raising of Burley Griffin Way.
- Priority 3 – Yenda EMR Lawson Siphon Project. Funding was applied for and further detailed information will be presented at the next Floodplain Committee meeting.
- Priority 4 – Hanwood Levee and Pump Project. This project has been completed.

Council staff advised that funding support may be available after a disaster, but if breaching is done to prevent a disaster, the cost may fall on Council. The Committee requested that the outstanding preparation works be reviewed and reported back to the Committee. The 2016 memo will be checked for public release and further discussed at the next meeting.

Mr Parisotto criticised the current Emergency Breaching Protocol at the EMR, arguing it is poorly prepared and unlikely to perform in a major flood. He expressed frustration that, despite a detailed breaching manual, no permanent infrastructure upgrades have been made in over a century.
He further pointed out issues with the floodgate design and claimed the system does not meet 1-in-50 or 1-in-100 year flood standards. Discussion took place that like the North Merribee Canal realignment, the EMR should be upgraded to allow for safe floodwater flow, referencing flood modelling showing 140 m^3/s at the EMR and 25 m^3/s from the Dalton Runner.

The General Manager, Brett Stonestreet, reminded Committee members that this is a formal Griffith City Council Committee and not a forum for personal attacks or inappropriate conduct. Members were reminded to declare any conflicts of interest before participating in discussion. Mr Stonestreet stated that Mr Gordon would not be answering further questions on the matter. Any additional questions should be submitted in writing for a formal response. The General Manager reiterated that all Committee members are bound by Council's Code of Conduct.

Mr Parisotto tabled questions that will be answered and included in the Agenda for the next meeting.

RECOMMENDED on the motion of John Kerrigan and Paul Rossetto that the information be noted.

CL05 QUESTIONS TAKEN ON NOTICE AT FLOODPLAIN COMMITTEE MEETING HELD 6 MARCH 2025

At the Committee meeting held a number of questions were Taken on Notice. A response was provided in the Agenda of this meeting.

Director Utilities, Graham Gordon, sought clarification from Mr Rossetto during the meeting regarding his use of the abbreviation "NBC." Mr Gordon asked Paul Rossetto to confirm that he was, in fact, referring to the North Merribee Channel when using the term, to ensure accuracy and avoid any misunderstanding when answering his questions.

RECOMMENDED on the motion of John Kerrigan and Paul Rossetto that the report be noted.

CL06 CORRESPONDENCE RECEIVED FROM COMMUNITY MEMBERS

Discussion was held regarding the North Merribee Channel realignment and the correspondence received from Community members.

Mr Rossetto raised concerns regarding changes to the North Merribee Channel and showed a Google Earth image showing a long yellow section that is being decommissioned as part of the proposal. Mr Rossetto pointed out that after these changes, the water outlet seems to only benefit one of the Directors of Murrumbidgee Irrigation**,** which could be a serious issue as public and shareholder money might be involved unfairly**.** He believes that important information was left out of the original report and the Council may have been misled.

RECOMMENDED on the motion of Paul Rossetto and Ian Parisotto that the information be received.

Joe Dal Broi left the meeting, the time being 4:35pm.

6 OUTSTANDING ACTION REPORT

Item 20 June 2019 Farm Levees Mirrool Creek Floodplain – Illegal Levy Banks

Mr Parisotto raised concerns about changes to farm levees and how they affect flood planning, particularly the emergency breaching protocol, which is based on pre-2012 levee heights.

It was noted that current breaching protocols are based on post-2012 data and Council is seeking funding for a catchment-wide flood study to assess changes in terrain of Mirrool Creek. Steve Manwaring from DCCEEW advised that the completion of a future Mirrool Creek Rural Floodplain Management Plan is planned by the DCCEEW Water Group once funding is secured.

The General Manager, Brett Stonestreet, advised the Committee that this matter has been raised previously at various Committee meetings and at community meetings held at Yenda and Griffith. Council has responded previously on all occasions and the response remains the same.

Council intends to apply for funding to review the Flood Study for Mirrool Creek Catchment after current study infrastructure interventions have been completed. The new study will compare the landform levels against those documented in previous study. That comparison will identify what land forms have been altered during this time and who undertook those interventions. The study will then identify what change has occurred in terms of future flood flows and what properties will be adversely impacted by those flows. Council will then have objective information to consider what action (if any) will be taken as a consequence of these amended changes to floodwater flows.

7 GENERAL BUSINESS

7.1 Business for the next meeting of the Floodplain Management Committee

Mr Rossetto advised he has numerous motions to put forward for the next Committee meeting. Mr Stonestreet requested that he submit these items, including any amendments, a few weeks in advance. It was noted that a formal call for agenda items will be made three weeks prior to the scheduled meeting.

8 NEXT MEETING

The next meeting of the Floodplain Management Committee is to be held on Thursday, 4 September 2025 at 2:00pm.

There being no further business the meeting terminated at 5:09pm.

Griffith City Council INFORMATION REPORT

CLAUSE **CL01**

TITLE **Resignation of Committee Member**

FROM **Joanne Bollen, Governance Officer**

TRIM REF **25/116206**

SUMMARY

After the last Committee Meeting was held an email was received from Committee Member, Wendy Quayle, tendering her resignation from the Committee.

RECOMMENDATION

That the information be received.

ATTACHMENTS

(a) Email ⇩ 8

Joanne Bollen

From: WENDY QUAYLE
Sent: Friday, 13 June 2025 8:24 AM
To: Joanne Bollen
Subject: Floodplain management committee

Hi Joanne,
Having attended the committee meeting yesterday I realise that I don't feel I can make a significant contribution to the issues and don't want to be further involved.

Apologies for any inconvenience this has caused and best of luck to the committee going forward.

Kind regards
Wendy Quayle

Sent from my iPad

CLAUSE **CL02**

TITLE **Torrent Consulting Update - Lake Wyangan Flood Study and Floodplain Risk Management Study and Plan**

TRIM REF **25/114477**

Torrent Consulting to provide the Committee with an update and review of the Lake Wyangan Flood Study and Floodplain Risk Management Study and Plan.

CLAUSE **CL03**

TITLE **Questions Taken on Notice at Floodplain Committee Meeting held 12 June 2025**

FROM **Graham Gordon, Director Utilities**

TRIM REF **25/76682**

SUMMARY

The attached questions were taken on notice at the last meeting of the Floodplain Committee, held 12 June 2025.

RECOMMENDATION

The report be noted.

REPORT

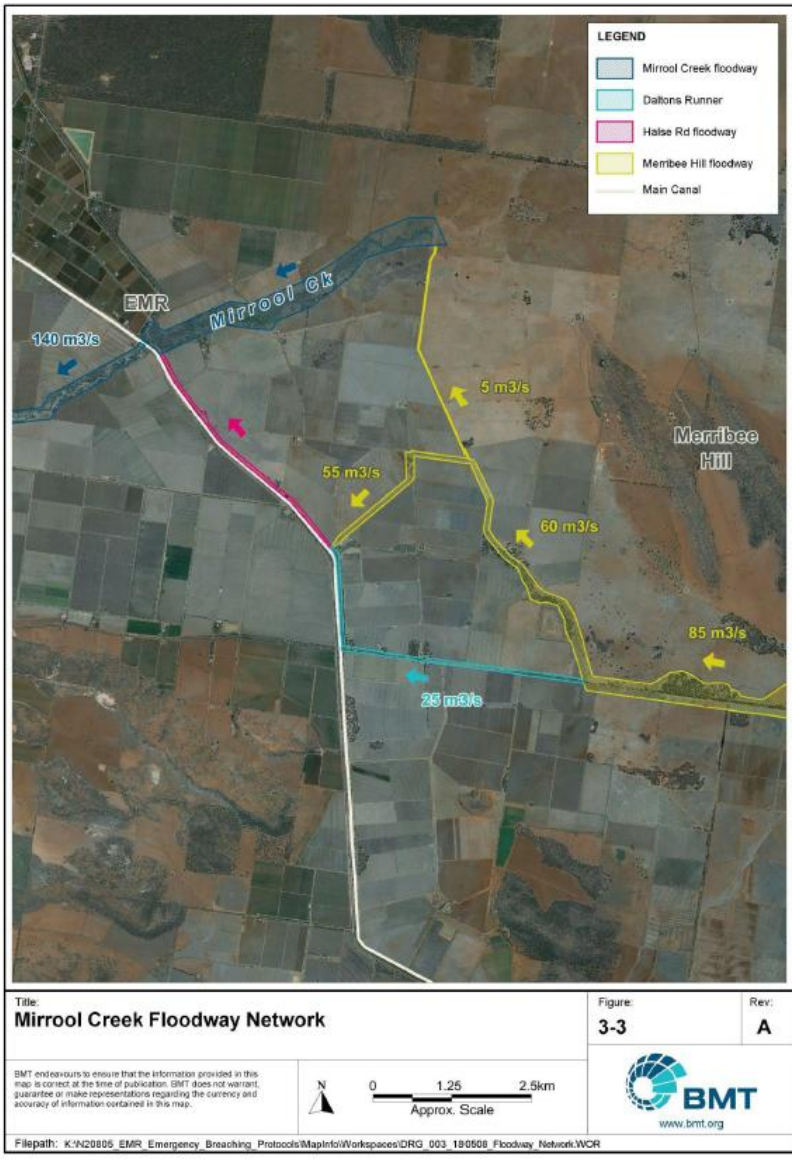
The Mirrool Creek Floodway network detailed figure 3.3 page 15 of the EMR Breaching Protocol adopted by GCC-November 2018, calculates 140m3/s flood flow at the EMR during the March 2012 flood.

Under this scenario if we have another 2012 flood event, what time frame do you have to breach the Canal Bank?

Response:

Page 11 of the EMR Breaching Protocol

- 16 hours for lower catchment dominated rainfall events
- 36 hours for upper catchment dominated rainfall events.



With the North Merribee Channel Realignment what's the time frame?

Response:

No change in the timeframe mentioned above as when we have another 2012 flood event, North Merribee Channel will be under water. North Merribee Channel realignment was approved to ease minor flooding.

Mr Williams statement FMC meeting April 2017, quote "The January 1984 event was much more significant at Ardlethan (being the record event on the Mirrool Creek at Ardlethan). March 2012 was less than half the flow rate but was still a reasonable event. Nothing close to the record that correlated with the Barellan bridge homestead gauge that recorded a higher level in 1984 than it did in 2012".

If we have another 1984 event and under this scenario with the current Floodway Network, what will the flood flow be at the EMR, and what time frame do you to breach the Canal Bank?

Response:

The quote "The January 1984 event" needs to be clarified. Flood Study information refers to a March 1989 event and therefore Mr Williams may have meant the 1989 event. However, historical Mirrool Creek flood flows show that the 2012 flood was the worst flood event, so for

planning purpose no change in the timeframe will be required even if we have another 1984 or 1989 event.

Table 8-7 Historic Mirrool Creek Flood Flows at the Main Canal

Flood Event	Estimated Peak Outflow	Derived Peak Inflow
1931	120m^3/s (~10,000 ML/day)	180m^3/s (~16,000 ML/day)
1939	80m^3/s (~6,900 ML/day)	100m^3/s (~8,600 ML/day)
1956	40m^3/s (~3,500 ML/day)	45m^3/s (~3,900 ML/day)
1974	65m^3/s (~5,600 ML/day)	80m^3/s (~6,900 ML/day)
1989	60m^3/s (~5,200 ML/day)	70m^3/s (~6,000 ML/day)
2012	130m^3/s (~11,000 ML/day)	220m^3/s (~19,000 ML/day)

Therefore there is a real unknown· effectiveness of the Emergency Breaching Protocol, increasing the risk to a shorter time frame to implement a breach and increasing the frequency of breaching the main canal bank.

The 2016 breach was only about 40m3/s with a longer time frame to be able to breach due to the extended rain event.

Siphon capacity about 40-50m3/s

Downstream gates about 40-50m3/s

Upstream gates about 20m3/s with base of gates about 1m to high.

Response:

It is correct to say that there are many factors that can impact the flood flows, e.g., land use patterns, soil moisture, rainfall patterns etc., and Council will endeavour to obtain all the information available at the time when Council has to recommend to the EOC (Emergency Operation Centre) on breaching.

As, Council is the flood authority, and Council has to make a recommendation (whether to breach or not to breach) based on the currently adopted studies and protocols, and the best available information at the time.

North Merribee Channel

Levees pre 2012 - Breaching Protocol

In Councils response letter to the Yenda Progress Association, Council is stating that the Mirrool Creek Floodway Network detailed in figure 3.3 page 15 of the EMR Breaching Protocol is compliant, quote "Given the adopted EMR Emergency Breaching Protocols and Decision Support Framework- 2018 calculated 55m3/s flow towards the EMR there was no further additional analysis required" and yet you have lodged DA objections to Water NSW to these levees in this floodway, "quote GCC objects to the proposed applications as listed below. Council is concerned that any additional work or modifications to the existing bank height and locations of levees may have significant impacts from flood waters in our Local Government Area" refer to CL07 attachment (k).

The interpretation of these statements is a complete contradiction and misleading.

Response:

Council lodged objections to Water NSW to the dams/levee projects in the floodway because these works can divert flood water to neighbouring properties.

North Merribee channel realignment was approved to protect upstream properties from minor flooding. This work doesn't divert flows to neighbouring properties but facilities unobstructed flow along an existing floodway.

In several FMC meetings prior to the adoption of the EMR Emergency Breaching Protocol November 2018 it was emphasised how important that the level of levees remain at pre-2012 levels.

For me to understand the importance of levees remaining pre-2012 levels I would like a copy of the documentation where the minister has signed off on the Breaching Protocol with conditions.

Response:

Pre 2012 level is emphasised because only after 2012 flood event, a detailed flood study of Mirrool Creek was carried out and a point of reference in terms of flood level and flood extent was established.

As the flood authority, adoption of the Emergency Breaching Protocol by Council was in accordance with NSW Floodplain Development Manual 2005 (now Flood Risk Management Manual 2023).
The EMR Emergency Breaching Protocol has been endorsed by MI, BOM, SES, and Water NSW.

Also documentation where it says that farmland is a low priority.

Response:

Refer to Flood risk and its impacts, and acceptability of risk detailed in Section 3 of NSW Flood Risk Management Manual.

Also where is the data "point of reference" of the level of levees (pre 2012) along Mirrool Creek which the 2015 Flood Study is based on.

Response:

Council and MI shared a LiDAR survey in 2004 for Griffith Flood Study 2005. The LiDAR information nowadays has been significantly improved and can be accessed for any new studies in the future.

Also was there funding provided to obtain this information.

Response:

Funding was available for the flood study, but not specifically for the LiDAR data collection.

Notes for GCC

Upgrade EMR to 1:100 ARI
The pioneers of our irrigation system built the creek siphons and the flood gates at the EMR in the early 1900's.

Almost 100 years later there hasn't been ANY PERMANENT improvement to the 1:50 ARI flood mitigation measures at the EMR but a 30 page manual on how to breach the channel bank. Surely our pioneers would NOT call this an innovative engineering solution.

If implementing the North Merribee Canal realignment, improves the floodway system with the construction of a permanent system to allow for the unobstructed flow of flood waters

and prevents floodwaters going through farms and utilises Halse Rd as a flood conduit to the EMR then the same should apply at the EMR to BUILD the proper infrastructure, a 1: 100 ARI to allow for unobstructed flow of flood water at the EMR with a CONDUIT into Mirrool Creek. The upgrade to a permanent system at the EMR to a 1:100 ARI is crucial for the connectivity of Mirrool Creek flood flow.

Therefore the construction of a 1:100 ARI is the bare minimum requirement, given the Mirrool Creek Floodway Network detailed in Figure 3.3 page 15 of the EMR Breaching protocol adopted by GCC - November 2018 calculated 140m3/s at the EMR, there is no further additional analysis required.

Response:

It was not about the innovative engineering solution. It was about providing the most cost-effective flood management solution for the community WITH THE AVAILABLE FUNDING RESOURCES.

There is no doubt that an improved main canal system at the EMR which allows 1% AEP Mirrool creek flow through without obstruction is the most effective flood management solution for Yenda, but at what cost to the community?

The main question at that time was whether Council could ever be able to fund the 1% AEP infrastructure, and the answer was NO.

So, Council had a choice to make, whether to wait for the $10-20M funding from the State and/or the Commonwealth to deliver the 1% AEP structure or do something as an alternative solution to help the Yenda community, and Council decided to do the following to provide the 1% AEP flood relief to the Yenda community:

(i) Installation of flood warning system at Barellan Bridge and at the EMR site.

(ii) Reinstatement of the flood gates,

(iii) Development of an emergency breaching protocol that allows breaching of the bank of the main canal if required.

If the Committee now wishes to provide an innovative engineering solution as a single 1% AEP flood relief infrastructure to protect Yenda community from Mirrool Creek flooding, then the Committee can recommend Council to do the following:

(i) Allocate 1/3rd of the total project cost in the budget, e.g., if the total cost is $21M, Council needs to allocate $7M in the budget,

(ii) Apply for funding for the 2/3rd of the total project cost e.g., if the total cost is $21M, apply for funding for the $14M, and

(iii) If successful, design and construct the required 1% AEP flood relief infrastructure.

LINK TO STRATEGIC PLAN

This item links to Council's Strategic Plan item 1.1 Provide clear, accessible, relevant information.

ATTACHMENTS

(a) Questions Taken on Notice - Floodplain Management Committee 12 June 2025 ⇩ 15

EMR Emergency Breaching Protocol

[redacted]

The Mirrool Creek Floodway Network detailed figure 3.3 page 15 of the EMR Breaching Protocol adopted by GCC- November 2018, calculates 140m3/s flood flow at the EMR during the March 2012 flood.

Under this scenario if we have another 2012 flood event, what time frame do you have to breach the Canal Bank?

Answer ..... [redacted] to [redacted] hrs

That's before the North Merribee Channel Realignment.

With the North Merribee Channel Realignment what's the time frame?

Answer ..... [redacted] to [redacted] hrs

Mr Williams statement FMC meeting April 2017, quote "The January 1984 event was much more significant at Ardlethan (being the record event on the Mirrool Creek at Ardlethan). March 2012 was less than half the flow rate but was still a reasonable event. Nothing close to the record that correlated with the Barellan bridge homestead gauge that recorded a higher level in 1984 than it did in 2012".

If we have another 1984 event and under this scenario with the current Floodway Network, what will the flood flow be at the EMR, and what time frame do you have to breach the Canal Bank?

Answer Flood Flow ..... [redacted] m3/s, Time ..... ??????

Therefore there is a real unknown effectiveness of the Emergency Breaching Protocol, increasing the risk to a shorter time frame to implement a breach and increasing the frequency of breaching the main canal bank.

The 2016 breach was only about 40m3/s with a longer time frame to be able to breach due to the extended rain event.

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Also documentation where it says that farmland is a low priority.

Also where is the data "point of reference" of the level of levees (pre 2012) along Mirrool Creek which the 2015 Flood Study is based on.

Also was there funding provided to obtain this information.

Notes for GCC

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The pioneers of our irrigation system built the creek siphons and the flood gates at the EMR in the early 1900's.

Almost 100 years later there hasn't been ANY PERMANENT improvement to the 1:50 ARI flood mitigation measures at the EMR but a 30 page manual on how to breach the channel bank. Surely our pioneers would NOT call this an innovative engineering solution.

If implementing the North Merribee Canal realignment, improves the floodway system with the construction of a permanent system to allow for the unobstructed flow of flood waters and prevents floodwaters going through farms and utilises Halse Rd as a flood conduit to the EMR then the same should apply at the EMR to BUILD the proper infrastructure, a 1: 100 ARI to allow for unobstructed flow of flood water at the EMR with a CONDUIT into Mirrool Creek. The upgrade to a permanent system at the EMR to a 1:100 ARI is crucial for the connectivity of Mirrool Creek flood flow.

Therefore the construction of a 1:100 ARI is the bare minimum requirement, given the Mirrool Creek Floodway Network detailed in Figure 3.3 page 15 of the EMR Breaching protocol adopted by GCC – November 2018 calculated 140m3/s at the EMR, there is no further additional analysis required.

CLAUSE **CL04**

TITLE **Agenda Items Received from Committee Members**

FROM **Joanne Bollen, Governance Officer**

TRIM REF **25/108698**

SUMMARY

The attached Agenda Items were received by a member of the Floodplain Management Committee.

RECOMMENDATION

The Committee note the report.

REPORT

Mr. Paul Rossetto has submitted two items for inclusion in Floodplain Management Committee Agenda.

Item 1 Upgrade Flood Gates Option (Attachment (a))

"Upgrade Flood Gates Option as per consultants BMT WBM Griffith Main Drain J and Mirrool Creek Risk Management Study and Plan report pages 51 – 78 Yenda Structural Options to be emailed to the Floodplain Management Committee as an Agenda item".

Item 2 Reinstatement of Attenuating Levee (Attachment (b))

"That the Floodplain Management Committee (FMC) recommends to Council the reinstating of an attenuating levee at the flood design height of the North Merribee Channel Banks recently levelled by Murrumbidgee Irrigation. Also, the installation of a syphon through the attenuating levee as per 1978 Water Resources Commission Report 'Guidelines for Mirrool Creek Flood Plain Development Barellan to Yenda'".

LINK TO STRATEGIC PLAN

This item links to Council's Strategic Plan item 1.1 Provide clear, accessible, relevant information.

ATTACHMENTS

(a) Agenda Item 1 ⇩ 19

(b) Agenda Item 2 ⇩ 50

Griffith City Council
Floodplain Management Committee
Meeting 12/6/25

Motion

Upgrade Flood Gates Option as per consultants BMT WBM Griffith Main Drain J and Mirrool Creek Risk Management Study and Plan report pages 51 – 78 Yenda Structural Options to be emailed to the Floodplain Management Committee as an Agenda item before the next FMC meeting in September 2025.

Overview

The agenda item focuses on the evaluation and proposed upgrade of flood gates as part of Griffith City Council's floodplain management initiatives. The upgrade intends to enhance Yenda and District resilience to flooding and improve the operational efficiency of flood management systems controlling cross flow of flood water into Mid to Lower Mirrool Creek.

History

The Pioneers of our irrigation system built the Main Canal across Mirrool Creek and then devised an under-canal siphon to transfer Mirrool Creek Floods at 5%AEP or 1:20 ARI Design Capacity. 2 major floods later 1931 & 1939 they were forced to build flood gates into the banks of the Main Canal bringing Flood Design capacity up to 2% AEP or 1:50 ARI. This system was successful for several major floods 1955, 1956, 1974, 1984 & 1989 the largest to date scouring the base of the 8 drop board gate structures in the southern bank. Consequently, the drop board gates were decommissioned reducing flood design capacity back to 5%AEP or 1:20ARI.

5th March 2012, approximately 1500 Yenda & District residents witnessed the biggest flood in their lifetimes damaging 450 homes, a dozen businesses and 100 farms as a greater than 1% AEP or 1:100 ARI rainfall event inundated the entire Upper Mirrool Creek catchment with falls of daily rainfall exceeding 130mm causing extensive run off after several days of less but still saturating rain. The Decommissioned Flood Gates were a contributing factor to the Yenda inundation as flood water over topped the Northern Branch Canal.

A 2016 September Rainfall event of 88mm recorded at Binya Post Office, Council and Murrumbidgee Irrigation saw it prudent to excavate the free board off the Southern Main Canal Bank allowing rising floodwater to spill into Mirrool Creek. Consequently, in 2018 reinstatement of the decommissioned flood gates occurred raising Yenda & District flood immunity back up to 2% AEP or 1:50 ARI. 2019 Griffith City Council endorsed an interim EMR Emergency Breaching Protocol. Unfortunately, to date there have not been any preparations, budgetary considerations or stock piling of soil for Main Canal reinstatement following the activation of the EMR Emergency Breaching Protocol remembering that there are thousands of irrigators depending on a daily continual supply of Irrigation water.

Objectives

- Increase protection against flooding events to safeguard properties, infrastructure, and residents.
- Modernize flood gate mechanisms to improve reliability and response times during emergencies.
- Comply with updated environmental and engineering standards for floodplain management.

Key Considerations

1. Current Flood Gate Conditions

- The existing infrastructure has aged and requires consistent maintenance, which increases costs.
- Operational issues have been identified during recent flood events, highlighting the need for improvements.

2. Proposed Upgrade Mechanisms

- Incorporation of automated systems to enhance gate responsiveness.
- Use of corrosion-resistant materials to increase durability.
- Integration of remote monitoring systems to facilitate real-time decision-making.

3. Budget and Funding

- Estimated cost of upgrades to be presented during the committee meeting.
- Potential sources of funding include state and federal grants, as well as council budget allocation.

4. Environmental Impact

- Assessment of potential impacts on local waterways and ecosystems during construction and operation.
- Measures to minimize disruption and ensure compliance with environmental regulations.

5. Community Engagement

- Consultation with residents and businesses potentially affected by the upgrades.
- Public awareness campaigns to inform about the benefits and timelines of the project.

Action Items

- Present technical evaluations and cost-benefit analyses to the committee.
- Discuss funding opportunities and finalize budget proposals.
- Review environmental assessments and ensure regulatory compliance.
- Plan community outreach and consultation efforts.

Next Steps

- Approval of the proposed upgrade mechanisms by the committee.
- Development of a detailed implementation timeline for the project.
- Coordination with stakeholders to ensure smooth execution of the upgrades.

Conclusion

The upgrade of flood gates represents a critical step in enhancing Griffith City Council's floodplain management capabilities. By investing in modern technologies and engaging the community, the council aims to protect lives, property, and ecosystems while preparing for future challenges posed by flooding events.

Figure 7-8 Main Drain 'J' Railway and Griffith Road Structures March 2012

7.3 Yenda Structural Options

7.3.1 East Mirrool Regulator Works Overview

The objective of upgrade options for the flood relief structures at the EMR is to increase the flow capacity to prevent Mirrool Creek floodwaters bypassing the structure through overtopping of the Northern Branch Canal. There are numerous options available to increase the flow capacity at the EMR such as additional siphons, additional gates, new regulating structures etc. Given the scale of works, the detail of the most appropriate structure will not be determined in the Floodplain Risk Management Study. Appropriate feasibility assessments, including environmental impact assessments, would need to be undertaken to identify the preferred option and progress a preliminary design. A major consideration of any works is the implications for Murrumbidgee Irrigation's water supply operations, both in terms of infrastructure design and long term operations, but also short term construction impacts. Accordingly, the assessment of potential upgrade works within the current study is limited to identifying an appropriate design capacity and assessing potential impacts of changes in design flood behaviour.

The 2014 Flood Study determined the design flows approaching the EMR as summarised in Table 7-2. With consideration of the existing capacity of the EMR flood relief structures, the following is noted:

- The current status of the EMR flood relief structures with the flood gates decommissioned and only the siphons functioning provides for approximately a 5% AEP design capacity.
- Reinstatement of the decommissioned flood gates provides for a total design capacity of the order of a 2% AEP design event.
- Design 1% AEP event flows are ~1.5 times the 2% AEP flows such that a similar scale up of the EMR flood relief structures would be required to provide 1% AEP capacity.
- The estimated March 2012 event flow approaching the EMR is representative of the 0.5% AEP design flood condition.

Table 7-2 Adopted Design Peak Flood Flows for Mirrool Creek at the Main Canal

Design Event Magnitude	Peak Flow U/S of Main Canal
5% AEP	20m^3/s (~1,700 ML/day)
2% AEP	100m^3/s (~8,600 ML/day)
1% AEP	160m^3/s (~14,000 ML/day)
0.5% AEP	220m^3/s (~19,000 ML/day)
0.2% AEP	290m^3/s (~25,000 ML/day)

Given the elevated embankment of the Main Canal, there is considerable attenuation of the Mirrool Creek approach flows as floodwaters back up behind the embankment. Figure 7-9 shows the simulated hydrographs for the March 2012 event including the approach flow to the EMR, the representative outflow at the EMR, and the flow further downstream at McNamara Road. The peak approach flow to the EMR is of the order of 220m^3/s with some 140m^3/s discharged downstream of the EMR.

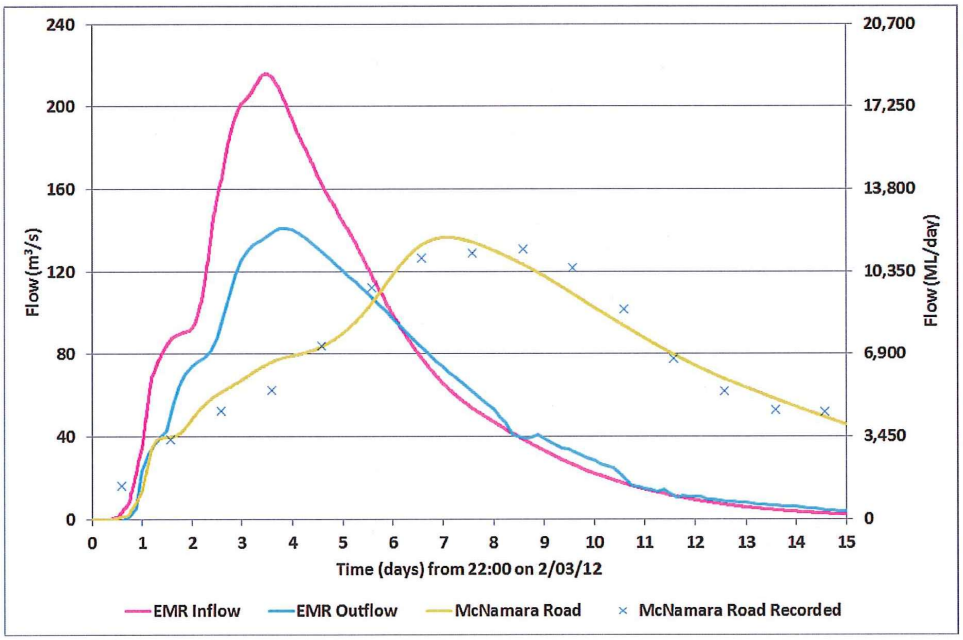


Figure 7-9 March 2012 Modelled Flow Hydrographs for Mirrool Creek

The report entitled *"MIA – Land and Water Management Plan: Hydrology of Mirrool Creek and Works Options on Floodway Lands"* (Dept. Water Resources, 1994) identified a number of potential options for upgrading of the EMR in order to better convey flood discharges from the Mirrool Creek. The options were summarised as:

1) **Retain Existing Regulator** – passes Mirrool Creek flows by means of subway and a five bay and eight bay flood check in the northern and southern bank of the Main Canal respectively.

2) **Option 2A –** retains the existing subway and eight bay flood check in the southern bank. The flood check in the northern bank is extended from five to eight bays.

3) **Option 4A –** passes Mirrool Creek flows by way of a natural waterway opening through the Main Canal. The Main Canal flows are siphoned under the Main Canal for a 48m width.

4) **Option 4A Amended –** As for Option 4A except the width of the natural opening increased by approximately 20m. The Main Canal flows by means of a 68m siphon.

The option to "Retain Existing Regulator" is equivalent to reinstatement of the currently decommissioned flood gates (i.e. eight bay southern bank check structure) as discussed above. "Option 2A" provides for an upgrade of the existing northern bank structure. The northern bank structure is the key limiting control for passing Mirrool Creek flood flows being of lesser width/flow capacity in comparison to the southern bank structure. Whilst some increase in overall design capacity would be achieved, the upgraded capacity would again be limited by current capacity of the southern bank structure.

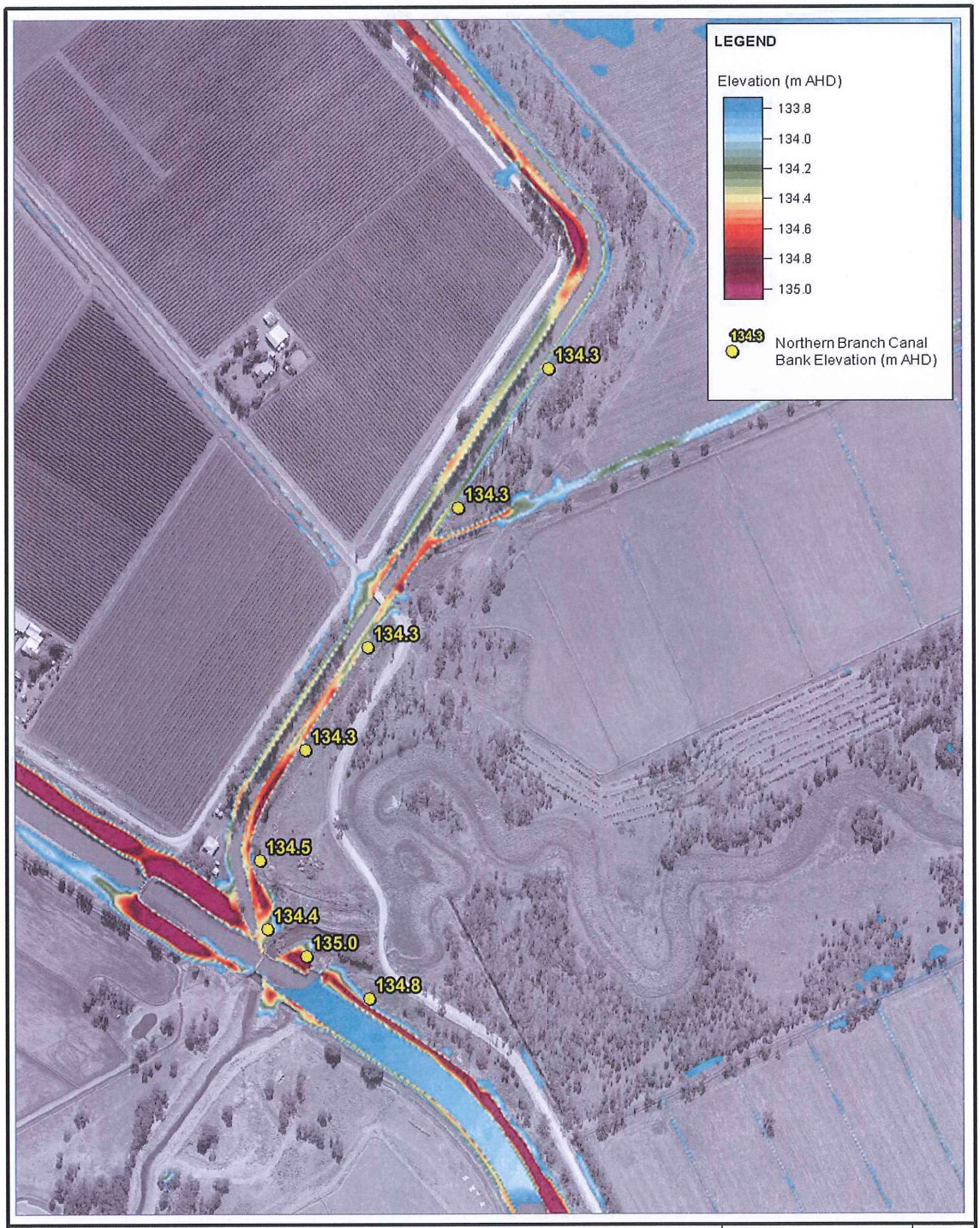
Both "Option 4A" and "Option 4A Amended" provide for a removal of the Main Canal embankments across a nominal width of the Mirrool Creek floodplain with the Main Canal flows siphoned beneath the natural floodplain section. This is similar to the "Lawson Siphon" arrangement for the Mulwala Canal across the Edward River floodplain at Deniliquin. The "Option 4A Amended" provided the greater waterway area for the passage of floods and was considered the most appropriate option moving forward.

Overtopping of the flood gates on the right bank of the Main Canal was noted as occurring at a water level of 134.9m AHD which was estimated to correspond to an estimated inflow of 140m^3/s. The nominal 68m siphon width provided for a design 1% AEP discharge (EMR outflow) of some 200m^3/s thereby providing a significant increase in design capacity. The increase in peak flows for the Option 4A Amended configuration from existing conditions was found to result in only minor increases in peak flood level of the order of 0.1m for downstream reference points including the Whitton Stock Route, Darlington Point Road and McNamara's Bridge.

7.3.2 Northern Branch Canal Bank Raising

The design capacity of the EMR upgrade options is linked to the maximum upstream water level able to be developed before overtopping of the Main Canal right bank. As noted, the Dept. Water Resources (1994) identified this critical headwater level to be 134.9m AHD. However, in undertaking the 2014 Flood Study and reviewing available detailed topographical data, flood flows towards Yenda are initiated at a level of only 134.3m AHD. This level represents the low points along the Northern Branch Canal at which overtopping are initiated. Figure 7-10 shows a detail of the elevations along the NBC with numerous low points identified. It can be seen that the NBC levels are generally below the Main Canal right bank levels at the EMR flood gates.

In investigating options for possible upgrades to the EMR flood relief structures, limiting the flow across the NBC and through to Yenda is a key objective. These flows are initiated as water levels increase upstream of the EMR, eventually overtopping the crest levels of the NBC. These threshold water levels that initiate overtopping of the NBC are an important design factor in assessing EMR upgrade options. It is these levels effectively provide a limit to the allowable head levels able to be built at the EMR flood relief structures, and accordingly define the structure capacity limits.



Title:
Northern Branch Canal Bank Height Elevations

Figure: **7-10**

Rev: **A**

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The EMR upgrade options in the Dept. Water Resources (1994) assessment are therefore expected to have a lower design capacity. The nominal 68m siphon width for Option 4A Amendment would need to be increased in order to provide a similar design flow capacity at the lower maximum upstream water level threshold of 134.3m AHD.

Given the flows through Yenda are largely via overtopping of the NBC, and this level of overtopping provides a limit on the effective discharge capacity to the EMR flood relief structures, raising and strengthening of the bank levels is considered an integral component of any Yenda works option, including EMR upgrades.

Similar to the Yoogali embankment works considered in Section 7.2, the NBC works largely also represent localised bank raising to remove the relative low points alignment the existing top of bank alignment. The nominal minimum design level of 134.8m AHD is proposed which corresponds to the existing bank levels of the Main Canal at the EMR Flood Escape. As noted, the existing low points along the NBC are around 134.3m AHD such that an increase in bank height of 0.5m would be required at these lowest points. Typically lower depths of fill are required more broadly along the NBC alignment to provide the proposed design level.

Upgrades to the EMR flood relief structures discussed in the following sections have adopted a design 1% AEP peak flood level of 134.3m AHD. Accordingly, provision of a contiguous NBC bank elevation of 134.8m AHD would provide for an additional 0.5m freeboard above the design flood level.

7.3.3 Reinstatement of Decommissioned EMR Flood Escape

The significant flood impact at Yenda experienced in the March 2012 event drew much attention to performance of the EMR flood escape. Following flooding of Yenda in June 1931 a set of flood gates were installed that allow flow to be released from the Main Canal to Mirrool Creek on the downstream side of the canal. With the exception of March 2012, during flood events since 1931 the escape doors and flood gates have been opened to allow flood waters from Mirrool Creek to flow through the Main Canal to the downstream floodplain. This was the case for the March 1939 event and March 1989 event which were both significant events on the Mirrool Creek system. Whilst major flooding of Yenda was avoided in 1939 and 1989, the structure was close to capacity with original gates operational.

The left bank flood gates (southern bank check structure) were decommissioned in the early 1990s and were unable to be operated during the March 2012 event. Figure 7-11 shows a photograph of the decommissioned gates with bulk spoil placed in from of the gates The March 2012 event was the first event since the flood gate installation in which the design capacity has been exceeded. Given the magnitude of the flows approaching the EMR for the March 2012, the capacity of the EMR would have been well exceeded even with full design operational capacity of both the siphon and flood gates.

The observed flood conditions for Mirrool Creek for the March 2012 event are estimated to be in excess of the 1% AEP (1 in 100-year) design conditions. The flood risk to Yenda from Mirrool Creek floodwaters emanates as the EMR capacity is exceeded, resulting in flow from the Mirrool Creek floodplain spilling over the Northern Branch Canal and progressing to Yenda. With both existing siphon and flood gates fully operational, this flow capacity may be expected to be exceeded for events in excess of the 2% AEP (1 in 50-year probability event). The current

decommissioned status of the EMR flood gates structures significantly reduces the capacity to transfer Mirrool Creek flood flows across the Canal to the order of a 5% AEP (1 in 50-year probability) design standard. Accordingly, substantial flood mitigation measures may be required to provide increased flood immunity to the Yenda township.

Figure 7-11 March 2012 Photograph of Decommissioned EMR Flood Escape

A 5% AEP flood protection standard is not considered appropriate for Yenda, with some 500 properties at potential risk. Further, as experienced in March 2012, such widespread inundation across the township provided significant hardships in the flood recovery.

The reinstatement of the decommissioned flood gates is considered as a standalone option as an interim measure. Whilst the reinstatement would provide additional discharge capacity to convey Mirrool Creek floodwaters, the combined siphon and reinstated flood gate capacity still only provides a 2% AEP design flood capacity. The generally accepted standard of protection considered for residential property is typically the 1% AEP design event. Accordingly, reinstatement of the flood gates in the current configuration is considered as an interim measure, with further options for augmentation considered separately.

The reinstatement of the existing structure may not be straight forward. Although recommended as an interim measure, there is some key constraints that require further consideration as part of the works assessment. These include:

- Structural integrity - this refers to both the existing structure and also the bed/banks of the Main Canal. Given the age of the structure, a full condition assessment (structural and geotechnical) would be required to inform the opportunity for reinstatement and the economic viability of an existing structure refurbishment in comparison to a replacement structure.

- Gate arrangements – refurbishment requires work on both flood escape structures, including gate modifications to provide the function of transferring Mirrool Creek floodwaters across the Canal and not close under headwater pressure from the upstream side.
- Siphon operation – part of the function of the existing northern bank structure is to provide maintenance flows to scour the siphons and remove siltation that may impact on siphon capacity. This function will need to be retained in any flood gate refurbishment.

7.3.4 EMR Flood Gate Upgrade

It is not the intention of the current study to determine the preferred configuration for providing the recommended capacity upgrades to the EMR flood relief structures. The solution involves major engineering design with potentially a number of design solutions. For example, this may incorporate a major upgrade to the existing structure through expansion of current flood gates, or alternative solutions such as siphoning Main Canal flows underneath the Mirrool Creek floodplain (similar to the Lawson Siphon at Deniliquin).

Various upgrade options to the existing flood relief structures were simulated using the existing flood models. Iterations were undertaking gradually increasing design capacity of the flood relief structures.

Some key indicators were identified to assess the relative performance of the upgrades options:

- Peak discharge through the EMR flood relief structures – this considered the combined discharge of the siphons and existing or upgraded gate structures.
- Peak water level U/S of the EMR flood relief structures – a critical level of approximately ~134.3m AHD has been identified as the initiation of significant overtopping of the NBC.
- Peak flow through Yenda – this is obviously the key indicator of effective performance of the management option
- Yenda flood depth – a reference location in Leaver Street, Yenda, was selected representing a location potentially subject to significant inundation.
- Myall Park flows – these represent combined flows moving through to Myall Park via Yenda and North Yenda.

The relative performance of a combination of upgrades to the EMR flood relief structures and a NBC levee is summarised in Table 7-3. The options represent:

a) Reinstatement of the decommissioned flood gates - this option provides for no major augmentation but a return to full function of the existing configuration.

b) Upgrade of the flood gates – this option provides for an approximate duplication of the capacity of the existing flood gates.

c) Reinstatement of the decommissioned flood gates plus construction of a NBC levee.

d) Upgrade of the flood gate plus construction of a NBC levee – as per above in provision of approximate duplication of existing flood gate capacity.

Results are provided in Table 7-3 for the 1% AEP and 0.5% AEP design flood events. Whilst the 1% AEP event would typically be considered an appropriate design flood standard for flood

mitigation options, the 0.5% AEP is more representative of the conditions experienced in the March 2012 flood event.

Table 7-3 Peak Flow and Water Level for Yenda Mitigation Works

Reference Location	Reinstate Flood Gates	Upgrade Flood Gates	Reinstate Gates & Levee	Upgrade Gates & Levee
1% AEP Event				
Flow through EMR Flood Structures (m^3/s)	84	114	92	114
Peak Level U/S Flood Structure (m AHD)	134.43	134.32	134.51	134.32
Flow through Yenda (m^3/s)	32	7	0	0
Leaver Street Yenda Flood Depth (m)	0.6	0.5	0.1	0
Myall Park Flow (m^3/s)	30	26	58	38
0.5% AEP Event				
Flow through EMR Flood Structures (m^3/s)	92	132	99	135
Peak Level U/S Flood Structure (m AHD)	134.49	134.43	134.64	134.45
Flow through Yenda (m^3/s)	60	24	1	1
Leaver Street Yenda Flood Depth (m)	0.7	0.6	0.3	0.1
Myall Park Flow (m^3/s)	44	41	103	74

Ultimately the key indicator of performance of each option is in the reduction in flooding in Yenda as represented by the "Flow through Yenda" and "Leaver Street flood depth" in the above table.

Although increasing the flood protection to Yenda, the reinstatement of the flood gates does not provide sufficient capacity to manage events of the order of the 1% AEP. Significant discharges of the order of $30m^3/s$ and $60m^3/s$ for the 1% AEP and 0.5% AEP events respectively would spill through to Yenda providing for significant inundation in the township, similar to conditions experienced in March 2012.

In conjunction with a NBC levee, reinstatement of the flood gates would provide suitable flood protection to Yenda. However, this protection is at the detriment to North Yenda properties in that the flow exceeding the EMR flood gate capacity is pushed north around the levee to North Yenda and through to Myall Park as indicated by the increased flows in the table.

The upgraded flood gate option (approximate duplication in flow capacity at the EMR flood relief structures) provides for almost a 1% AEP discharge capacity with a reduced flow through Yenda as shown in Table 7-3. The peak water level U/S of the EMR structure is just over the critical threshold value of 134.3m AHD. Under the greater flood magnitude of the 0.5% AEP event, this capacity would be insufficient to protect Yenda form significant inundation. A further increase in structure capacity of $20\text{-}30m^3/s$ however would appear sufficient to provide the higher flood immunity.

The combination of the flood gate upgrades and NBC levee effectively provide a 0.5% AEP flood immunity standard to Yenda. There is some increase flows through North Yenda to Myall Park as the levee pushes to the north the flow that would have previously inundated Yenda township.

7.3.5 EMR "Lawson Siphon" Type Structure

The Floodplain Risk Management Study has identified a required flood relief structure capacity of the order 120m^3/s to provide a 1% AEP design flood standard. This represents approximately a 50% increase in the current capacity of the combined siphon/flood gate arrangement if fully operable. This arrangement however would not provide full protection to Yenda for a similar to the March 2012 event conditions. This event has been estimated as representative of a 0.5% AEP event. Accordingly, an upgraded flow capacity of the order of 140 - 150m^3/s would be required to provide an equivalent flood standard protection to Yenda.

A siphon type structure was previously identified in the Dept. Water Resources (1994) options study. This study presented options for siphon widths of 48m and 68m providing for nominal flow capacities of approximately 140m^3/s and 200m^3/s respectively. However, in determining these arrangements a maximum allowable water level at the structure was assumed to be 134.9m AHD. As noted in Section 7.3.2, the current maximum water level prior to overtopping the NBC is only is approximately 134.3m AHD. Accordingly, to provide for a similar flow capacity at a lower operating water level, significantly larger siphon widths than the Dept. Water Resources (1994) options would be required.

Similar targets to the flood gate upgrade option are adopted in defining a design flow capacity for the siphon type structure. With consideration of the minimum level of the NBC embankment elevated to 134.8m AHD, the target design capacity provides for:

- 1% AEP discharge of 120m^3/s at operating water level of 134.3m AHD (0.5m freeboard to NBC overtopping); and
- 0.5% AEP discharge of 140m^3/s at operating water level of 134.5m AHD (0.3m freeboard to NBC overtopping)

The width of the siphon structure required to provide the nominal design discharge capacity is somewhat dependent on the channel and floodplain topography through the structure opening. Depending on design constraints, particularly in relation to integrating a siphon arrangement with the existing major regulating structures of the Main Canal and NBC offtake, the alignment of the floodway opening may not coincide with the location of the Mirrool Creek main channel. With general floodplain levels typically higher than the normal channel geometry, the flow capacity of the floodway opening section can vary considerably depending on location.

It is envisaged that a siphon type arrangement may require some realignment of the main Mirrool Creek channel section. The extent of Creek realignment and excavation works may be limited by environmental constraints. Accordingly, in determining a nominal width of floodway opening, consideration has been given to the potential variability of the design floodway section through the opening.

Figure 7-12 presents stage-discharge relationship for two siphon floodway arrangements, one with a nominal floodway opening of 100m width at existing floodplain levels (no Creek excavation), and a 70m width incorporating a realigned Mirrool Creek channel (excavated channel) of some 20m. The excavated Creek channel provides for some additional flow conveyance compared to the higher typical floodplain levels. Shown for reference is the indicative design window with the targeted 1% AEP and 0.5% AEP peak design flows and upstream water levels.

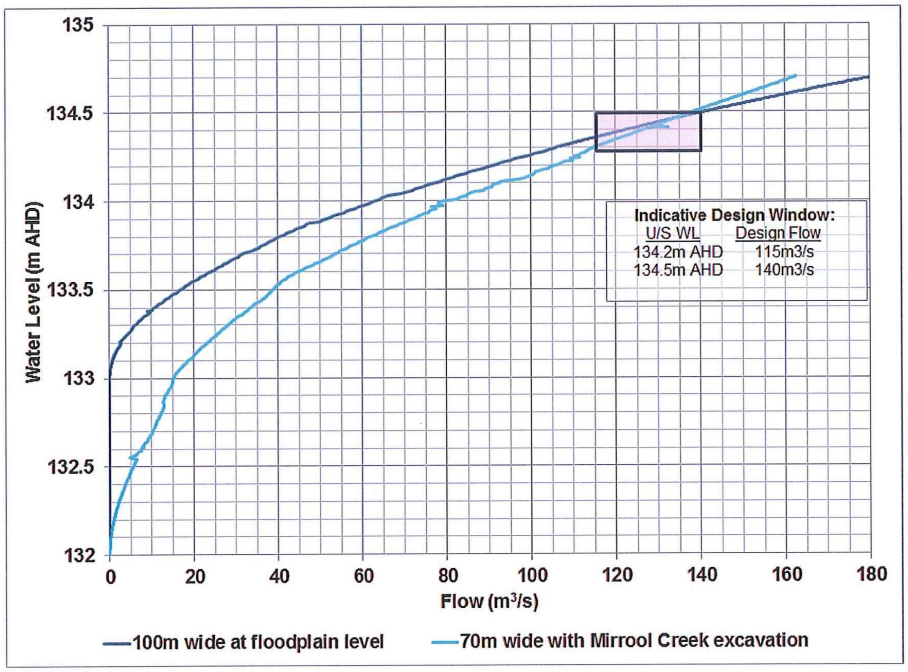


Figure 7-12 "Lawson Siphon" Type Structure Design Stage-Discharge

Concept design details for a gate upgrade arrangement and an alternative "Lawson Siphon" type arrangement are presented in Appendix C. To provide the nominal 1% AEP design protection to Yenda, the gate upgrade option provides for a structure consisting of 9 bays of 2.4m x 1.8m gate openings. The corresponding design for the siphon type structure provides for a floodplain opening of some 70-100m. Any additional capacity provided at the structures would increase the design flood immunity for the Yenda and North Yenda localities.

Murrumbidgee Irrigation is one of the major stakeholders in any future upgrade works. MI's ongoing operations represent one of the major constraints within design of upgrade options with consideration of:

- Integrating works within the existing operational supply system;
- Maintenance and operational responsibilities; and
- Construction phase impacts and potential disruption to MI business and impacts to customers.

Accordingly, in the context of the Floodplain Risk Management Plan, the recommendation is to progress concept design for the upgrade of the EMR flood relief structures. It is envisaged this works would identify a preferred option (e.g. gate upgrade configuration or Lawson Siphon type arrangement), undertake a review of environmental factors, confirm planning and approvals process and progress the preliminary design.

7.3.6 Impacts of EMR Works

Whilst the EMR upgrade options specifically aim to reduce the flood impact on the Yenda community, the changes in flow distribution through increasing discharge through the EMR flood relief structures and the NBC levee directing flow to the north, provide some changes in peak flood levels throughout the system.

Figure 7-13 to Figure 7-24 show the change in peak flood levels for three representative mitigation options; 1) upgrade of the flood gates (approximate duplication of existing capacity); 2) NBC levee; and 3) combined upgrade of flood gates with levee. Note that when referencing "upgrade of the flood gates", this condition is also representative of the siphon type structure which has been designed for the same flow capacity. Accordingly, the potential impacts of the different options are effectively the same.

The plots show the relative change in peak flood levels compared with conditions assuming only the reinstatement of the decommissioned flood gates. This has been used as the base case as represents the scenario upon which previous floodway definition and land use management have been based. It is noted it doesn't represent existing conditions given the decommissioned status of the flood gates, however, the reinstatement of the gates has been recommended as an interim measure. For each of the three upgrade options, the change in peak flood level for the 1% AEP and 0.5% AEP is presented for both the Yenda township locality and the broader Mirrool Creek floodplain. A summary of the key observations from the figures is provided below.

EMR Flood Relief Structure Upgrade 1% AEP Impact (Figure 7-13 and Figure 7-14)

- Option provides for limited reduction in flood inundation in Yenda. Whilst there are flood level reductions of the order of 0.1-0.2m, the majority of the township remains inundated.
- Areas in North Yenda and Myall Park show modest peak flood level reductions (0.1–0.2m).The larger capacity of upgraded EMR flood relief structures conveys greater flow down the Mirrool Creek with less flow spilling through Yenda and North Yenda in Myall Park.
- The higher flows discharged into Mirrool Creek provide for general increases in peak level of around 0.1-0.2m throughout the floodplain downstream of the Main Canal. A smaller percentage of floodplain area show flood level increases of 0.1-0.2m
- Downstream of the confluence with Main Drain 'J', the impacts of increased Mirrool Creek discharges are less significant.

EMR Flood Relief Structure Upgrade 0.5% AEP Impact (Figure 7-15 and Figure 7-16)

- Option provides for reduction in flood depths in Yenda with levels reduced by around 0.2m in general. However, the township is still subject to significant inundation at this flood magnitude.
- Areas in North Yenda and Myall Park again show modest peak flood level reductions (0.1–0.2m, although the benefit is not as extensive as for the 1% AEP event.
- The higher flows discharged into Mirrool Creek provide for general increases in peak level of around 0.05-0.1m throughout the floodplain downstream of the Main Canal. A smaller percentage of floodplain area show flood level increases of 0.1-0.2m.
- Impacts for areas downstream of the confluence with Main Drain 'J' remain less significant.

Northern Branch Canal Levee 1% AEP Impact (Figure 7-17 and Figure 7-18)

- Option provides for effective reduction in flood inundation in Yenda. Areas of previous flooding with depths of the order of 0.5-0.6m within the Yenda township now free from flooding. However, in the western corner of the town bounded by the Main Canal and the railway, some inundation is still evident. This inundation results from floodwater spilling over the railway embankment due to the higher flows forced around the levee through North Yenda, without any additional capacity provided at the EMR.
- Areas in North Yenda show peak flood level increases generally around 0.2m as flow is redirected by the levee alignment over the railway line in the vicinity of the Whitton Stock Route.
- With no additional capacity provide at the EMR flood relief structures, there is no significant impacts for the Mirrool Creek floodplain downstream of the Main Canal.

Northern Branch Canal Levee 0.5% AEP Impact (Figure 7-19 and Figure 7-20)

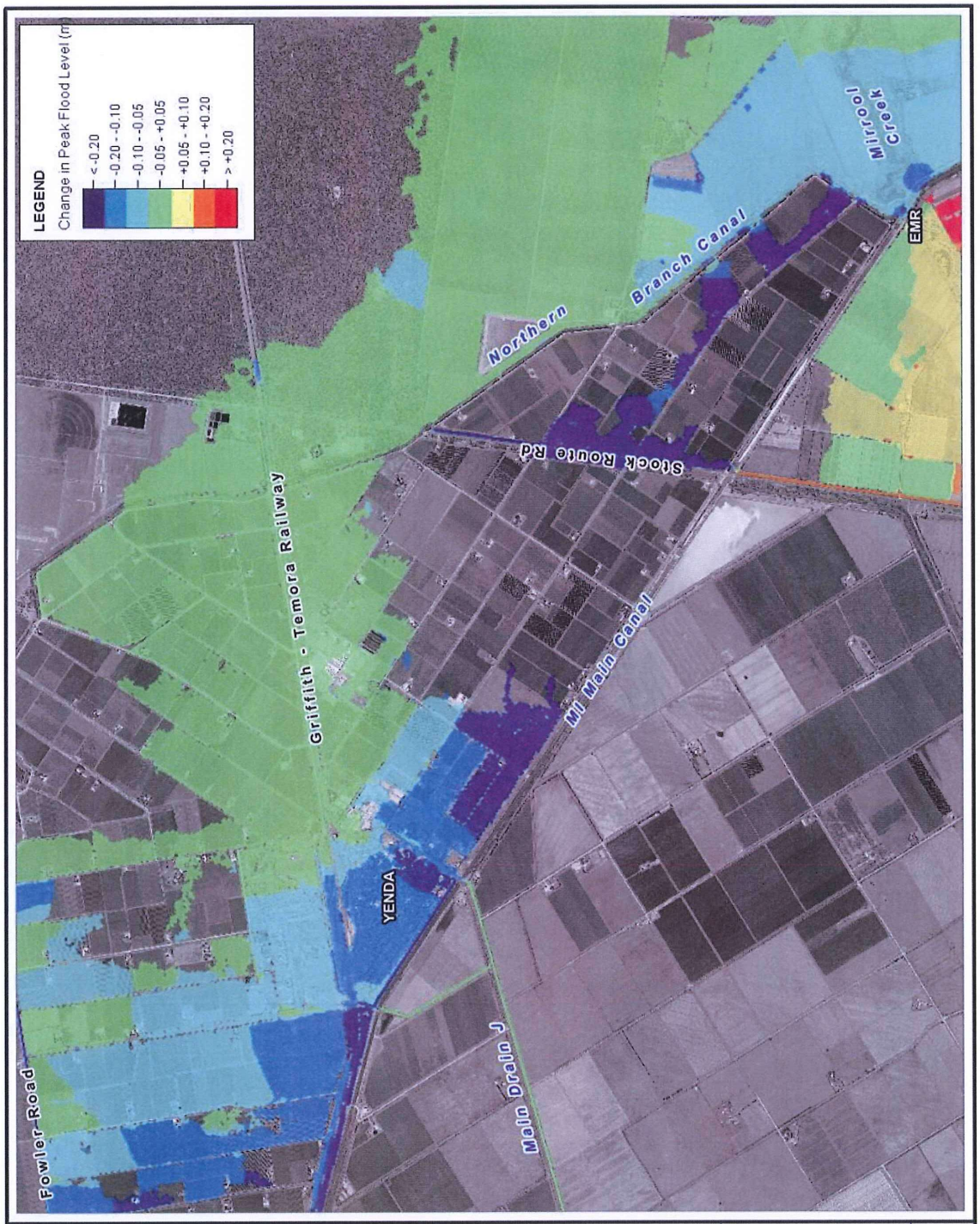
- Similar impacts as for the Option under the 1% AEP design flood condition. There is an increase in inundated are within Yenda from floodwater spilling over the railway embankment.
- The extent and magnitude of water level increases for areas upstream of the NBC and North Yenda are more significant. Peak flood level increases across broader areas in North Yenda are of the order of 0.2m.
- With no additional capacity provide at the EMR flood relief structures, there are no significant impacts for the Mirrool Creek floodplain downstream of the Main Canal.

EMR Flood Relief Structure Upgrade and NBC Levee 1% AEP Impact (Figure 7-21 and Figure 7-22)

- Option provides for effective reduction in flood inundation in Yenda. Areas of previous flooding with depths of the order of 0.5-0.6m within the Yenda township now free from flooding.
- Areas in North Yenda and Myall Park show modest peak flood level reductions (0.1–0.2m).The larger capacity of upgraded EMR flood relief structures conveys greater flow down the Mirrool Creek with less flow spilling through Yenda and North Yenda in Myall Park.
- The higher flows discharged into Mirrool Creek provide for general increases in peak level of around 0.1-0.2m throughout the floodplain downstream of the Main Canal. A smaller percentage of floodplain area show flood level increases of 0.1-0.2m
- Downstream of the confluence with Main Drain 'J', the impacts of increased Mirrool Creek discharges are less significant.

EMR Flood Relief Structure Upgrade and NBC Levee 0.5% AEP Impact (Figure 7-23 and Figure 7-24)

- Option provides for reduction in flood depths in Yenda with levels reduced by around 0.2m in general. However, the township is still subject to significant inundation at this flood magnitude.
- Areas in North Yenda and Myall Park again show modest peak flood level reductions (0.1–0.2m, although the benefit is not as extensive as for the 1% AEP event.



Title:
Yenda Mitigation Options - Change in Peak Flood Level
1% AEP Event EMR Structure Upgrade

Figure: **7-13**

Rev: **A**

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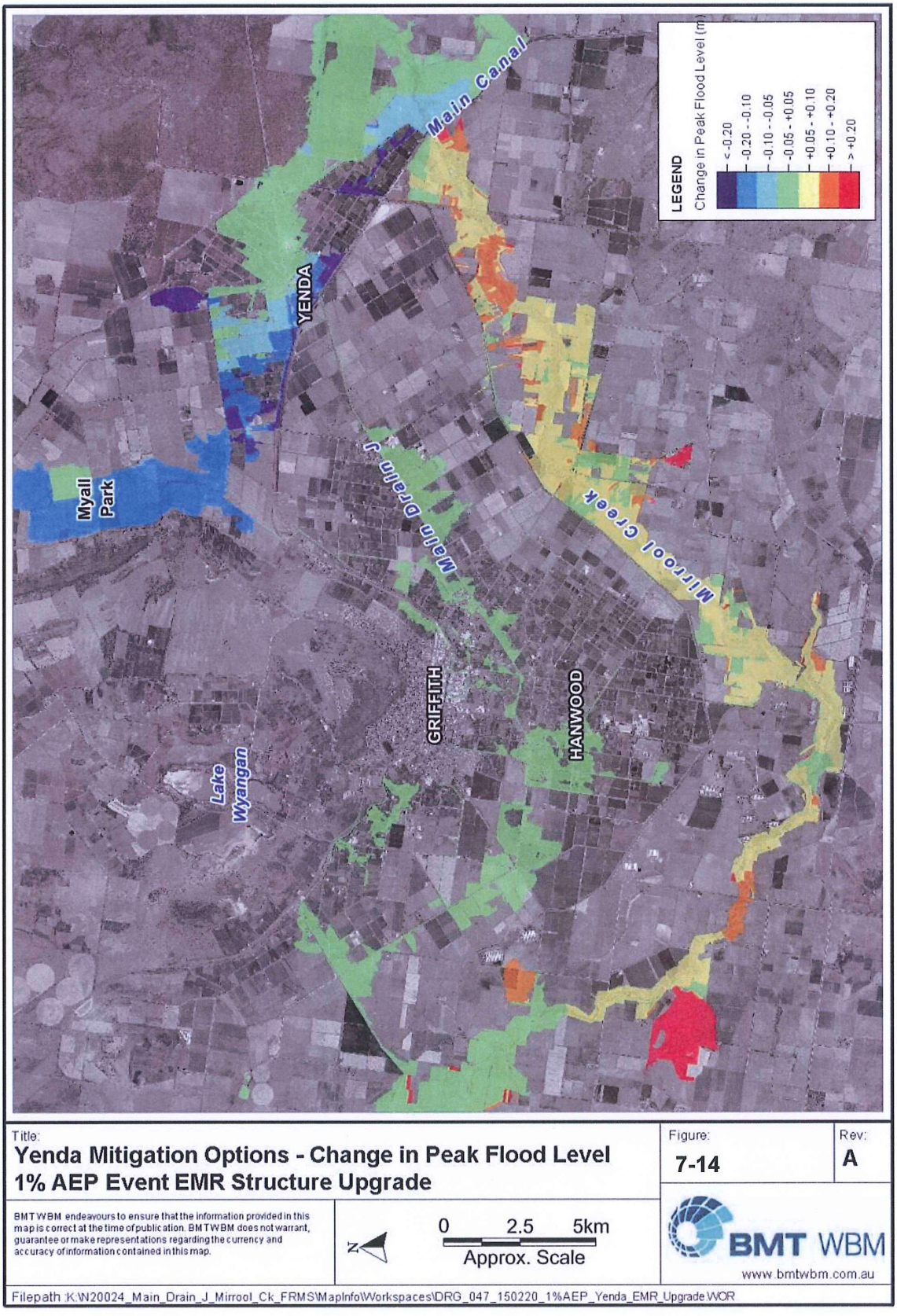
LEGEND
Change in Peak Flood Level (m)
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-0.20 - -0.10
-0.10 - -0.05
-0.05 - +0.05
+0.05 - +0.10
+0.10 - +0.20
> +0.20
Main Canal
YENDA
Myall Park
Main Drain J
Mirrool Creek
GRIFFITH
HANWOOD
Lake Wyangan
Title:
Yenda Mitigation Options - Change in Peak Flood Level
1% AEP Event EMR Structure Upgrade
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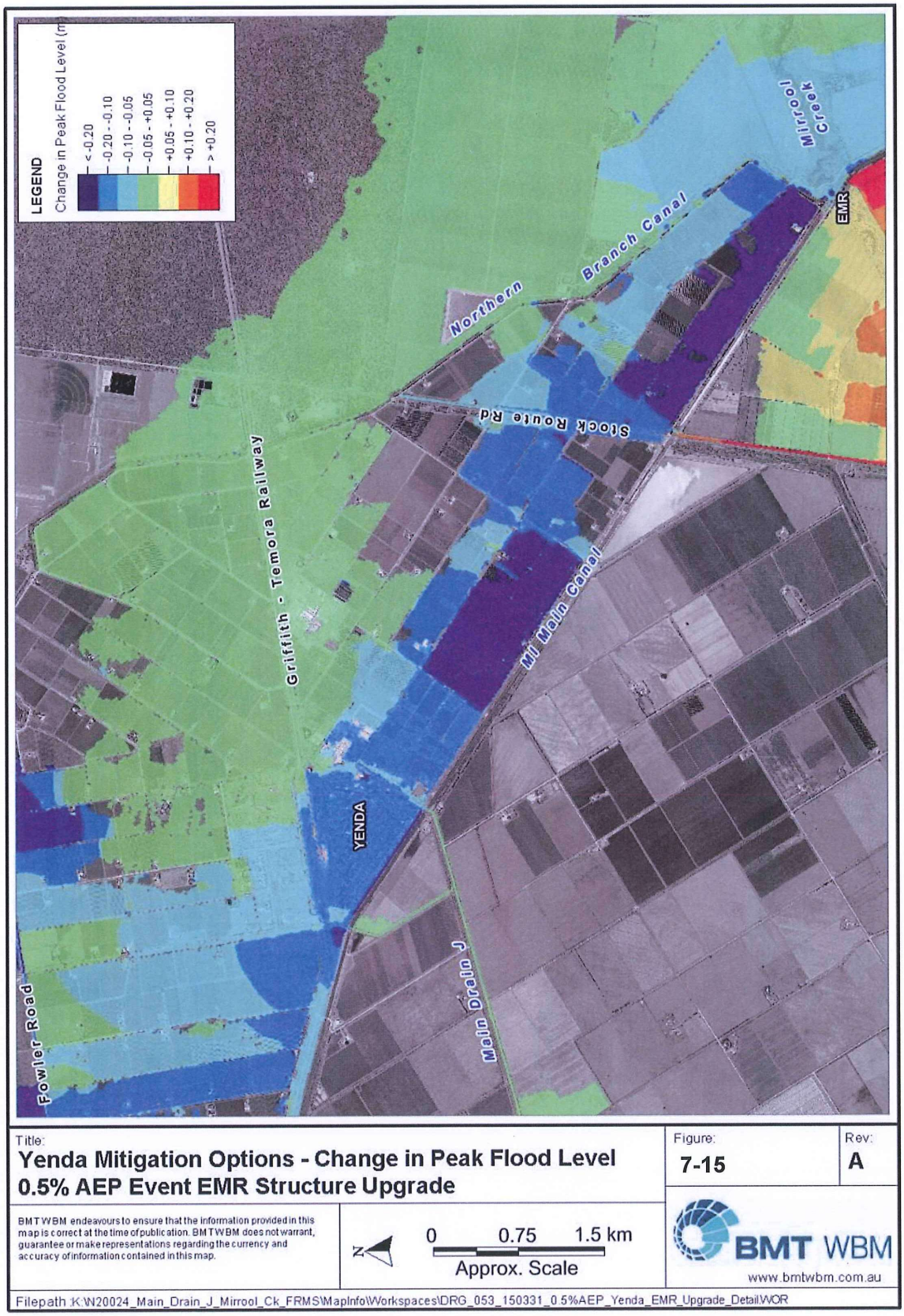
LEGEND
Change in Peak Flood Level (m
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-0.20 - -0.10
-0.10 - -0.05
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Mirrool Creek
EMR
Northern Branch Canal
Stock Route Rd
Griffith - Temora Railway
Mil Main Canal
YENDA
Main Drain J
Fowler Road
Title:
Yenda Mitigation Options - Change in Peak Flood Level
0.5% AEP Event EMR Structure Upgrade
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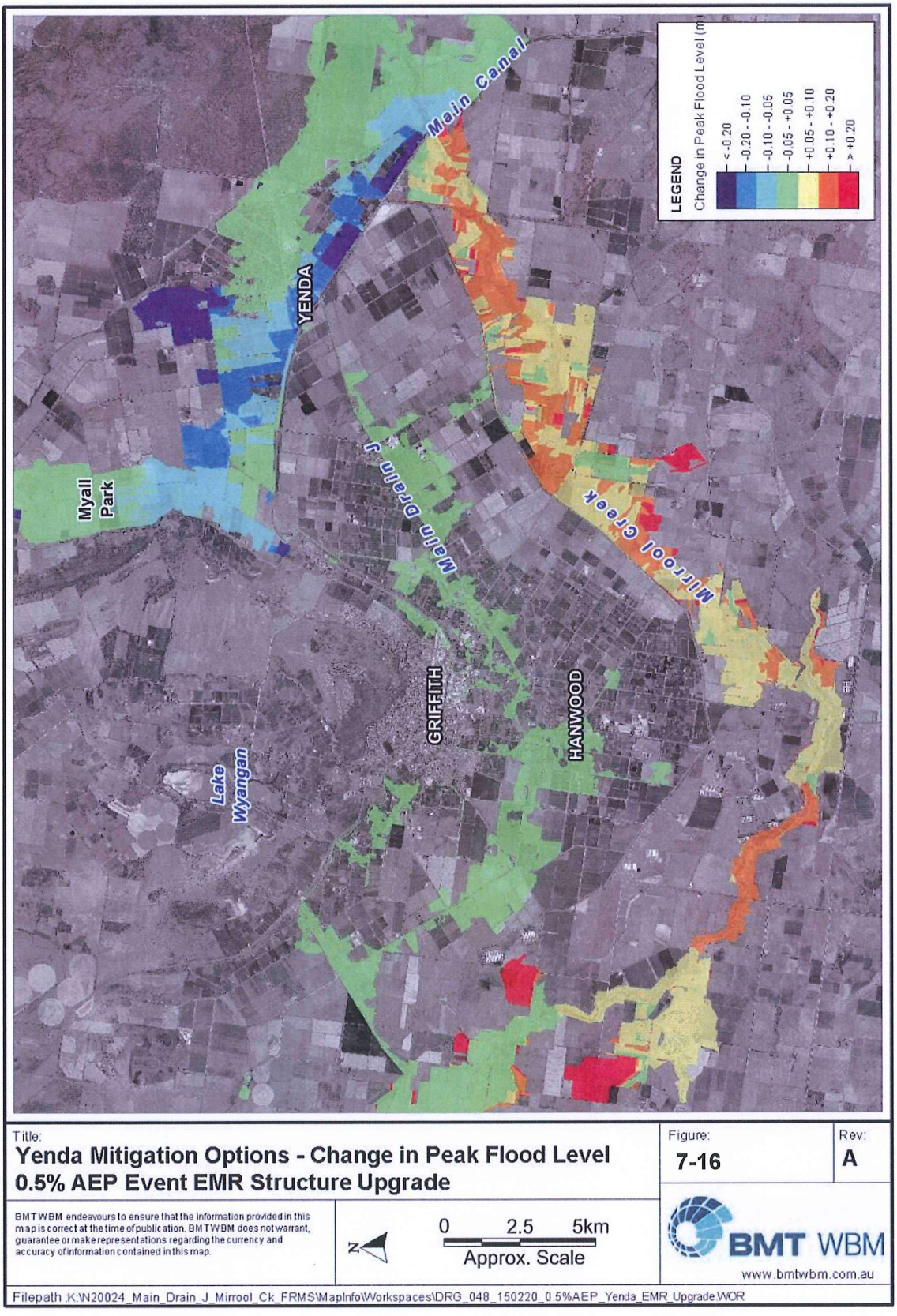
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YENDA
Main Drain J
Mirrool Creek
Myall Park
GRIFFITH
HANWOOD
Lake Wyangan
Title:
Yenda Mitigation Options - Change in Peak Flood Level
0.5% AEP Event EMR Structure Upgrade
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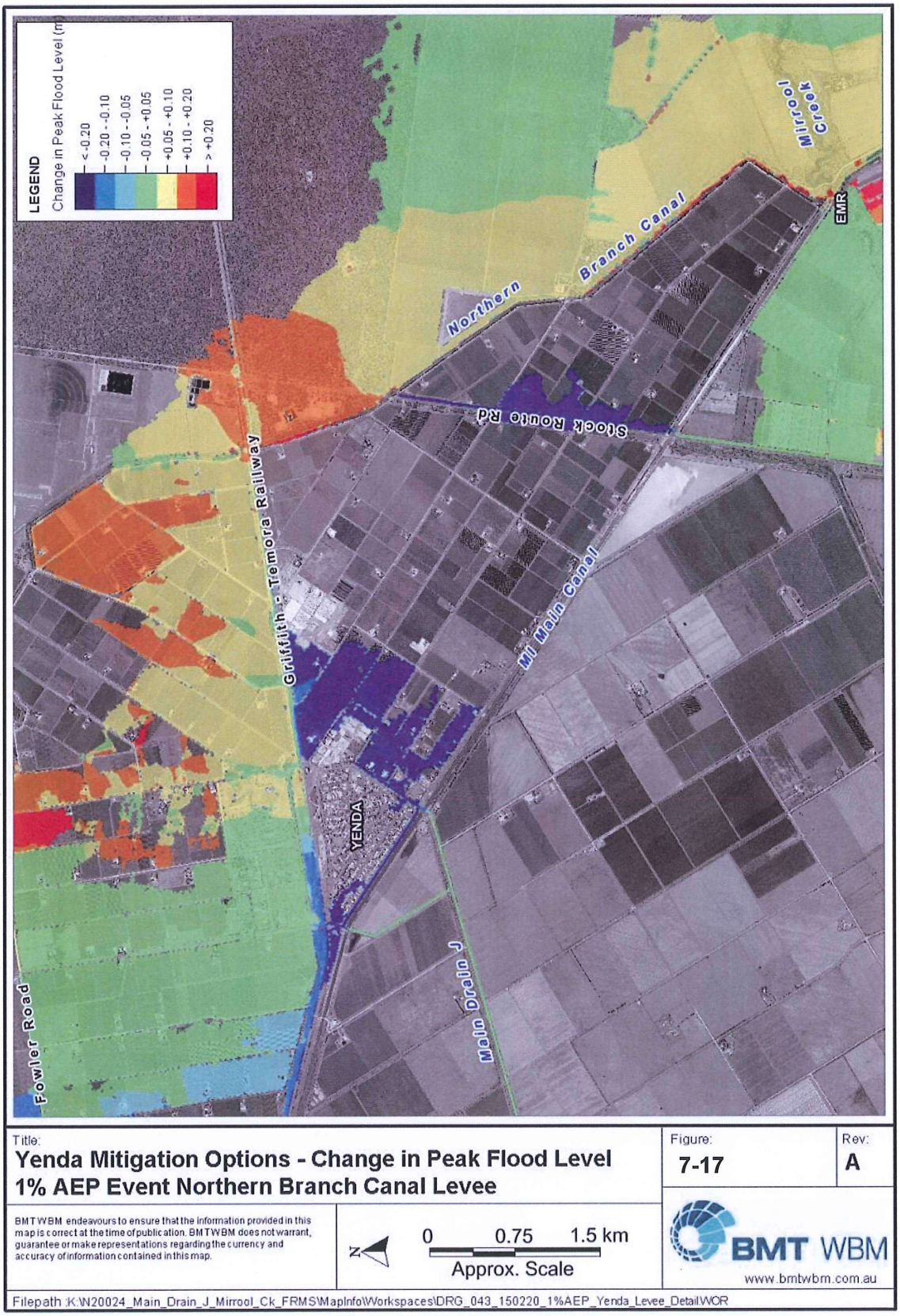
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Mirrool Creek
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Northern Branch Canal
Stock Route Rd
Griffith - Temora Railway
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YENDA
Main Drain J
Fowler Road
Title:
Yenda Mitigation Options - Change in Peak Flood Level
1% AEP Event Northern Branch Canal Levee
Figure:
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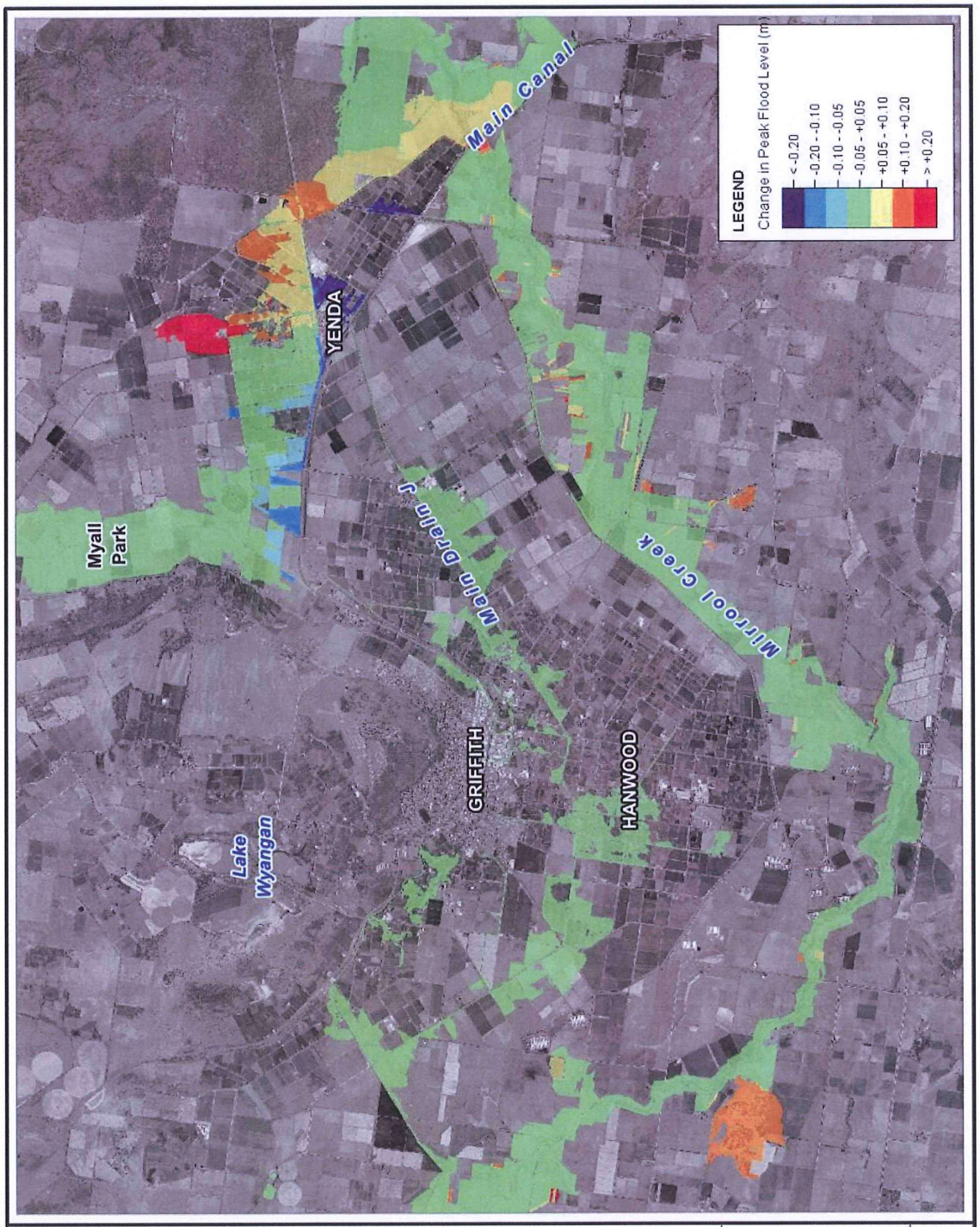

Title:
Yenda Mitigation Options - Change in Peak Flood Level
1% AEP Event Northern Branch Canal Levee

Figure: **7-18**

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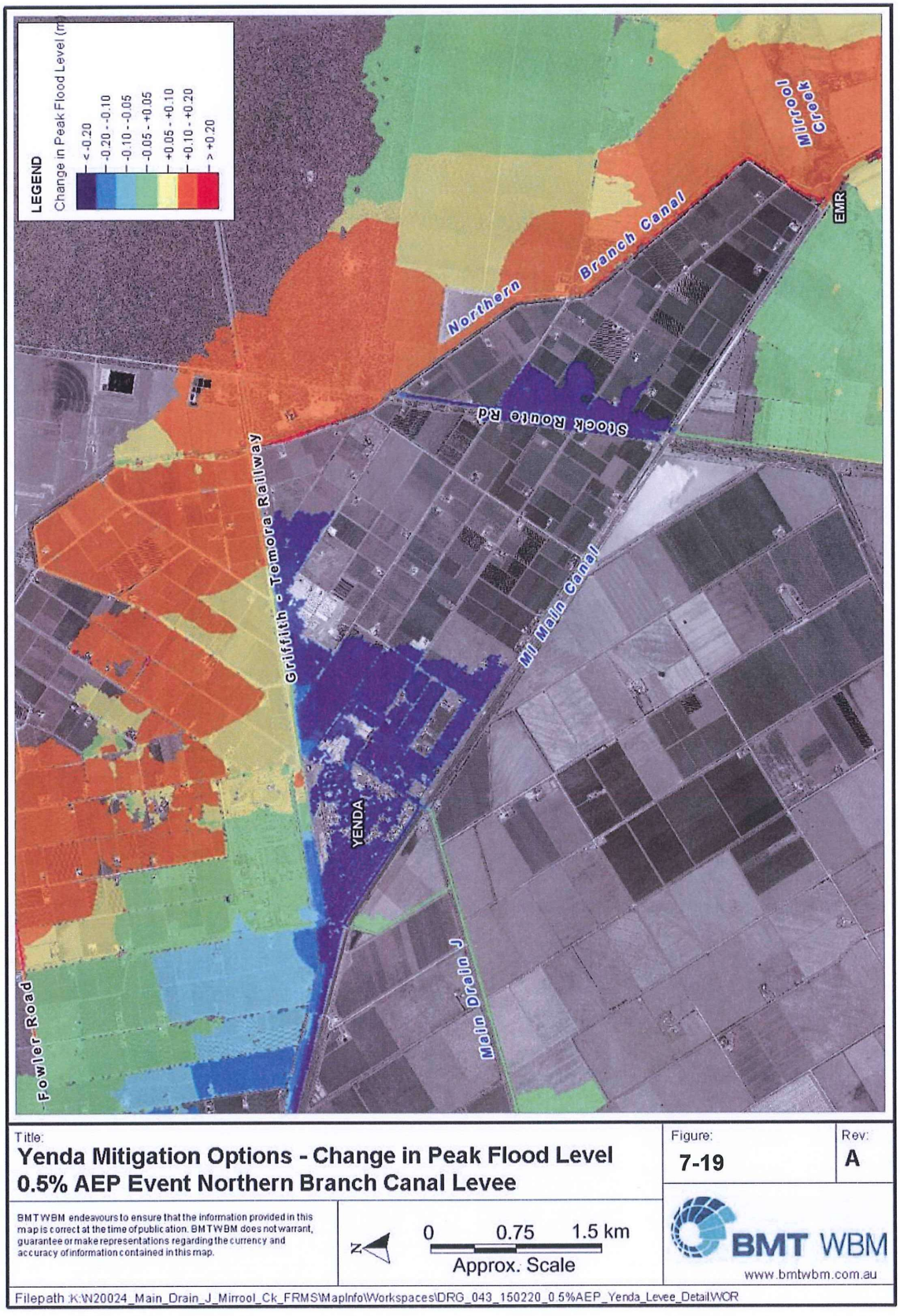
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Northern Branch Canal
Stock Route Rd
Griffith - Temora Railway
MI Main Canal
YENDA
Main Drain J
Fowler Road
Title:
Yenda Mitigation Options - Change in Peak Flood Level
0.5% AEP Event Northern Branch Canal Levee
Figure:
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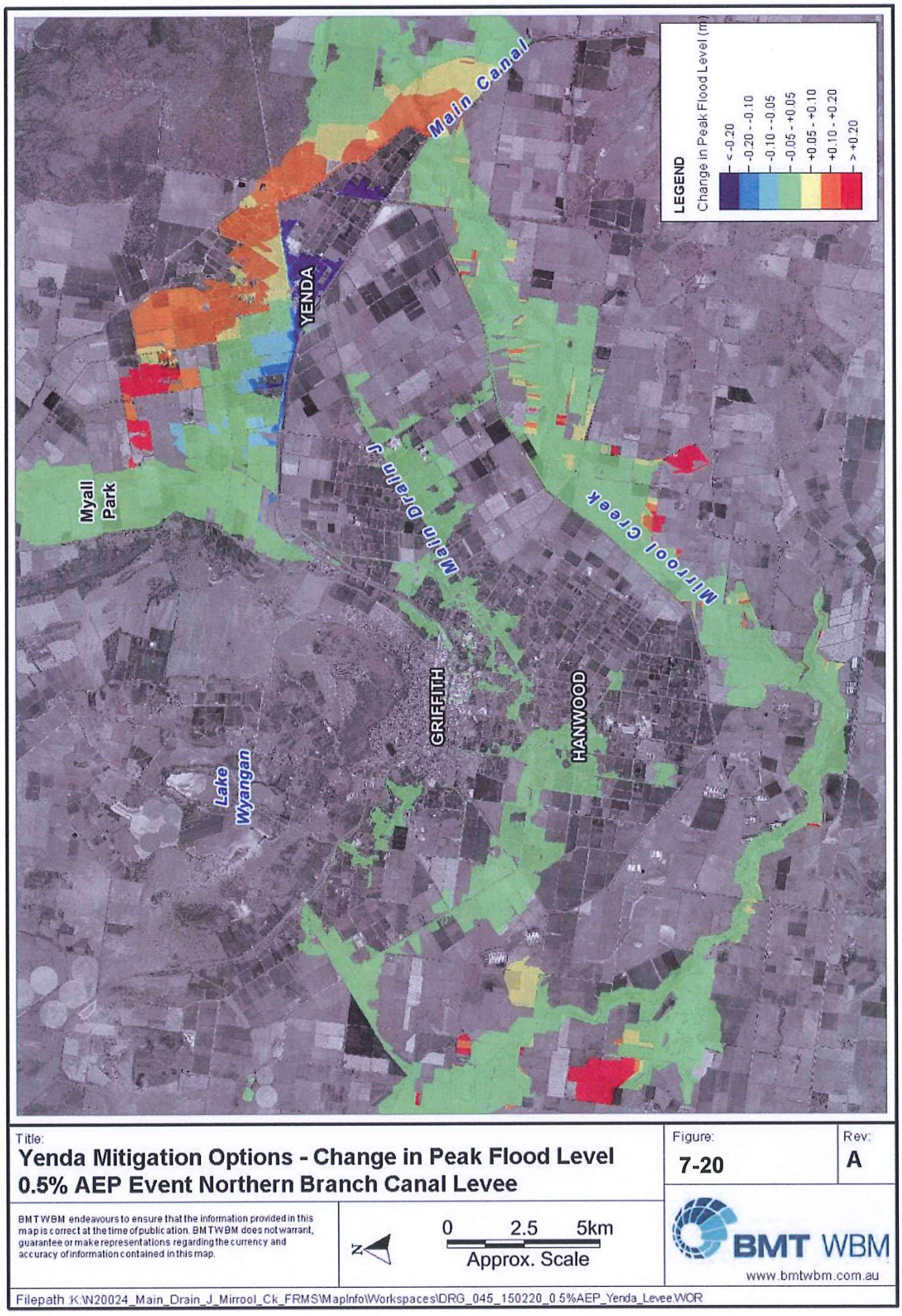
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Main Canal
YENDA
Main Drain J
Mirrool Creek
Myall Park
GRIFFITH
HANWOOD
Lake Wyangan
Title:
Yenda Mitigation Options - Change in Peak Flood Level
0.5% AEP Event Northern Branch Canal Levee
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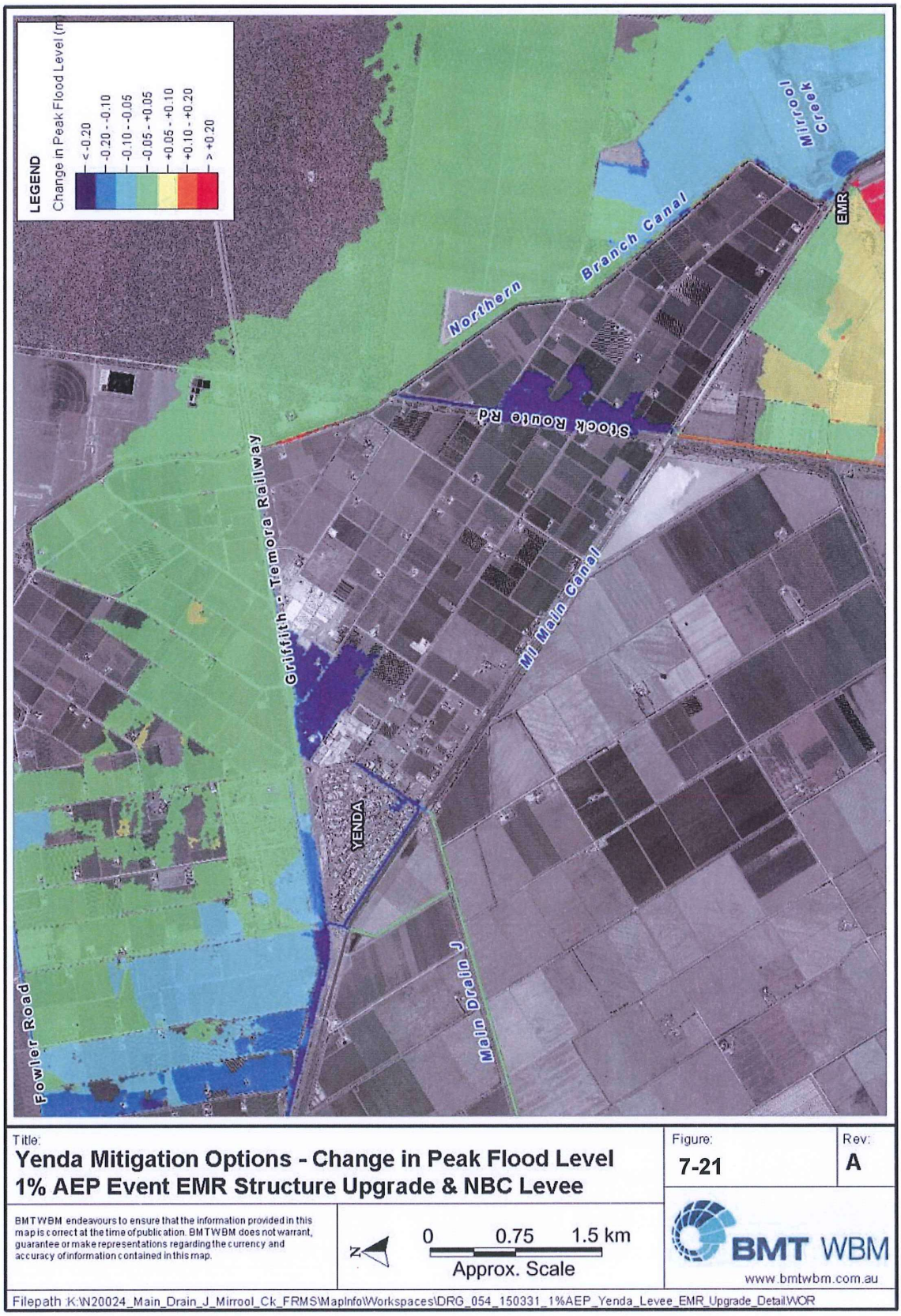

Title:
Yenda Mitigation Options - Change in Peak Flood Level
1% AEP Event EMR Structure Upgrade & NBC Levee

Figure: **7-21**

Rev: **A**

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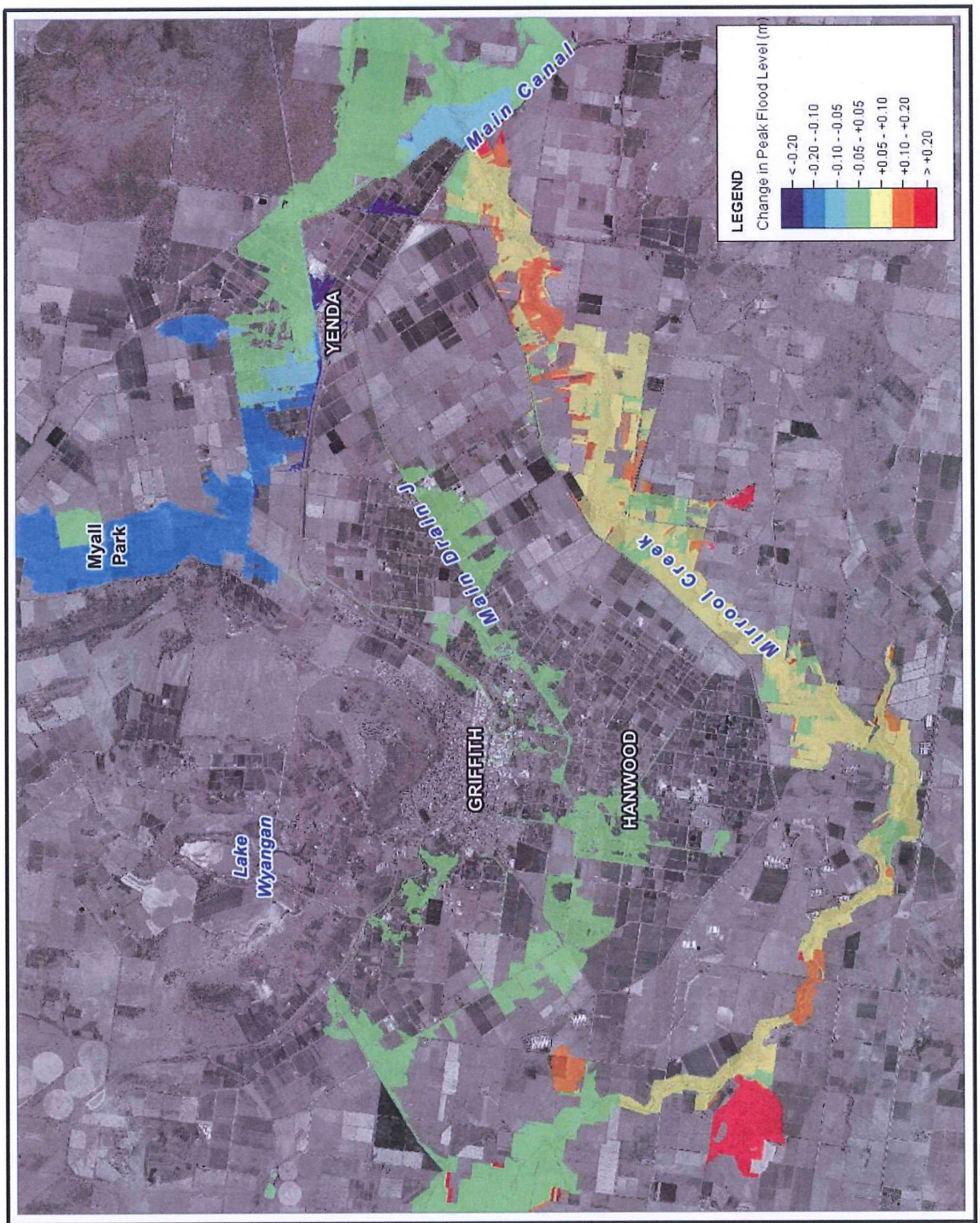

Title:
Yenda Mitigation Options - Change in Peak Flood Level
1% AEP Event EMR Structure Upgrade & NBC Levee

Figure: **7-22**

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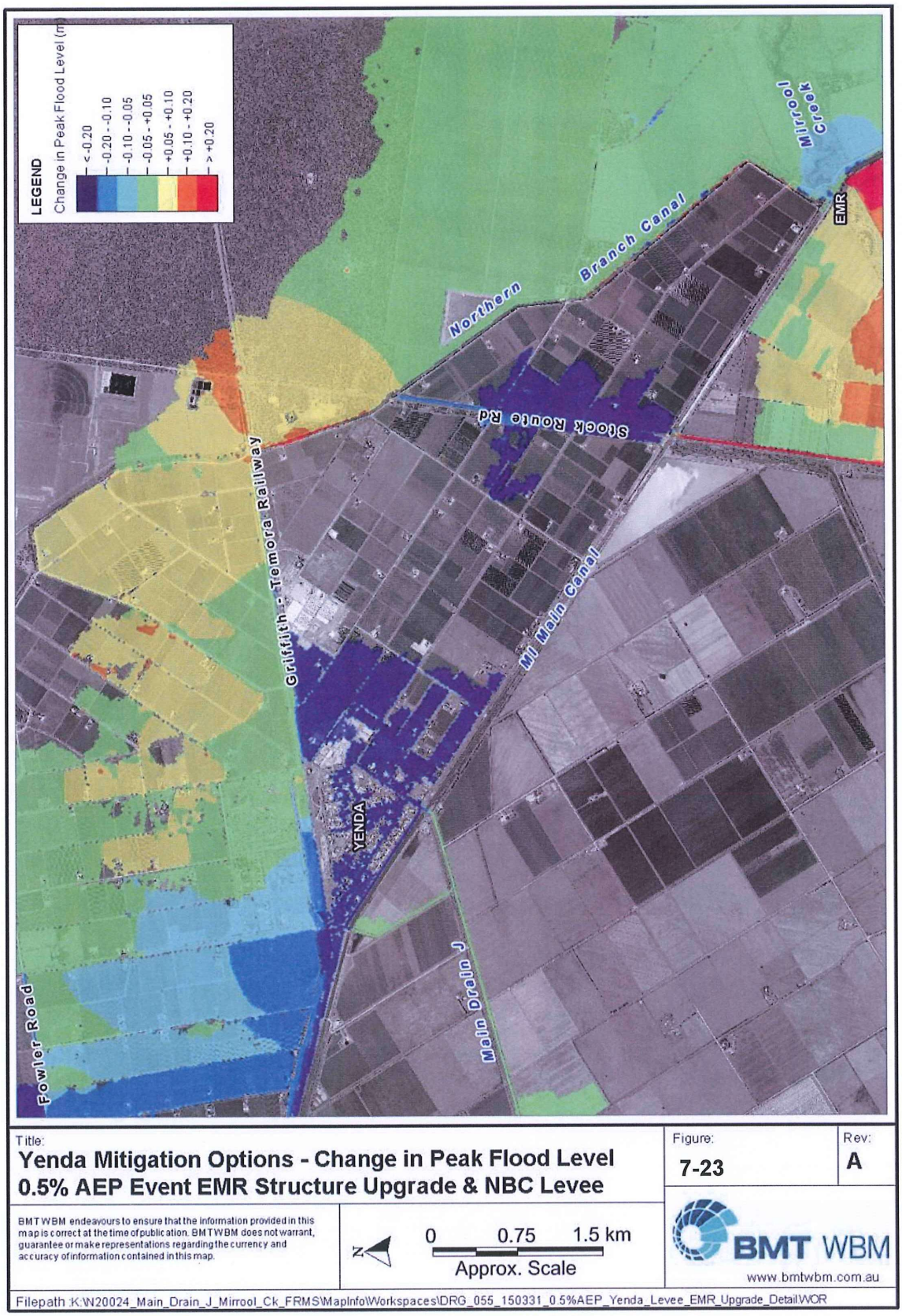
LEGEND
Change in Peak Flood Level (m
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Mirrool Creek
EMR
Northern Branch Canal
Stock Route Rd
Griffith - Temora Railway
Mi Main Canal
YENDA
Main Drain J
Fowler Road
Title:
Yenda Mitigation Options - Change in Peak Flood Level
0.5% AEP Event EMR Structure Upgrade & NBC Levee
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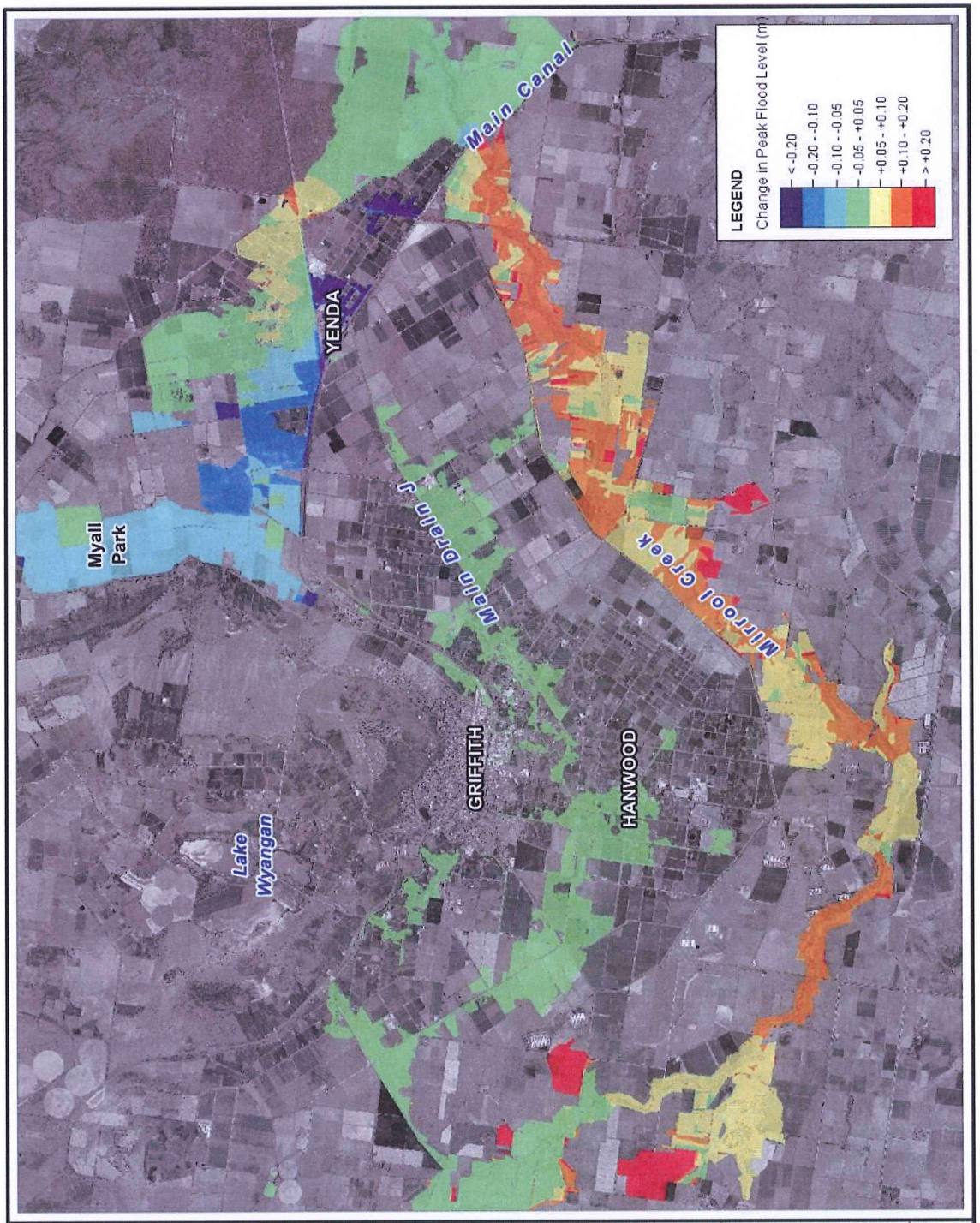
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Change in Peak Flood Level (m)
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> +0.20
Main Canal
YENDA
Myall Park
Main Drain J
Mirrool Creek
GRIFFITH
HANWOOD
Lake Wyangan
Title:
Yenda Mitigation Options - Change in Peak Flood Level
0.5% AEP Event EMR Structure Upgrade & NBC Levee
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The combined option of upgrades to the EMR flood relief structures and NBC levee provides for an effective solution to the Yenda flood problem. The peak design flood inundation depth and extent for the mitigation option is shown in Figure A-7 in Appendix A for the 0.5% AEP design event (similar to March 2012 magnitude). The minor residual flooding shown in Yenda is due to a combination of local catchment rainfall and some backflow across the railway from the North Yenda side. The majority of this flow may be expected to be managed effectively by the local drainage system, including the recent pump installations.

Whilst providing effective mitigation to the Yenda township, it is noted that changes in the flow distribution arising from the works provide for adverse impacts to other parts of the floodplain. Specifically the two key areas of potential adverse impact are North Yenda and the broader Mirrool Creek floodplain downstream of the Main Canal.

The impacts to North Yenda only come into effect for the 0.5% AEP flood event with relatively minor increases of the order of 0.05-0.1m in a relatively localised area. Impacts of this scale and magnitude are not considered a significant increase in overall flood risk and may be considered acceptable. Nevertheless, further reductions in peak flood impact in this area may be achieved by providing even more flow capacity at the EMR flood relief structures.

The most significant of the impacts of the proposed mitigation option is the extensive area of increased flood levels throughout the Mirrool Creek floodplain downstream of the Main Canal. Whilst this area largely represents the natural floodplain of the Mirrool Creek system, it has to be recognised that significant agricultural development has taken place, such that increases in flow has the potential to adversely impact existing landholders.

Nevertheless, typical increases in peak flood levels are only of the order 0.1m for the 1% AEP event and 0.2m for the 0.5% AEP. This magnitude of impact was similar to that documented in the Dept. of Water Resources (1994) options study. Considering the nature of flooding within this existing floodplain area, peak flood level increases of this magnitude are not considered to major implications. There is limited opportunity to offset these impacts within the natural floodplain areas with alternative measures.

In terms of changes in the peak flood extents these increases in flood levels translate into significant changes in the extent of floodplain inundation, as presented in Table 7-4. This shows reasonably consistent changes in the area of modelled floodplain inundation, with the EMR upgrade works indicating around a 20% reduction in flood extents in the Yenda and Myall Park locality corresponding to a 20% increase in flood extents along the Mirrool Creek floodplain. In reality these changes in flood extent may not always be evident, as the interface between flood waters emanating from Mirrool Creek and those from local rainfall and drainage can be difficult to discern. However, it indicates that increased flood extents are likely to be experienced along the Mirrool Creek floodplain with reduced flood extents being experienced in and around Yenda.

Another important consideration for the increased flooding conditions along Mirrool Creek is the potential impact on road inundation depth and duration, particularly for the principal transport link of Kidman Way. Figure 7-25 shows the modelled water level hydrographs on Mirrool Creek upstream of Kidman Way. The road is overtopped at an elevation of approximately 123.6m AHD and so the modelled indicates that overtopping of the road may be expected to occur for around 12 hours

longer over a total period of several days under the upgraded EMR condition, with upstream flood levels increased by around 0.05m to 0.1m.

Table 7-4 Summary of Floodplain Inundation Extents for the EMR Upgrade Works

Design Flood	Area of Modelled Flood Extent (ha)		
	Reinstated EMR	Upgraded EMR	% Change
Yenda and Myall Park			
1% AEP	689	536	-22%
0.5% AEP	838	705	-16%
Mirrool Creek from the Main Canal to Barren Box Swamp			
1% AEP	821	993	+21%
0.5% AEP	970	1,160	+20%

The peak flow rate along Mirrool Creek during the March 2012 event was larger than that of the modelled 0.5% AEP upgraded EMR condition (due to the Main Canal breaching) and Kidman Way was still trafficable throughout the event. Therefore the modelling suggests that the upgrade of the EMR is unlikely to impact on the trafficability of Kidman Way for events up to the 0.5% AEP.

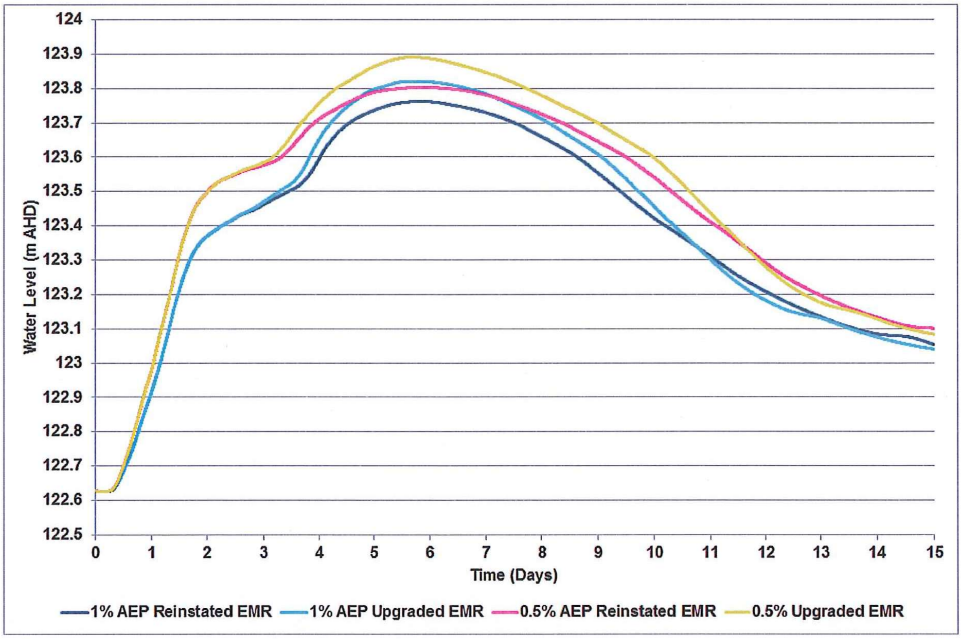


Figure 7-25 Impact of EMR Upgrade on Modelled Water Level Hydrographs at Kidman Way

The relative changes in flood level response shown at Kidman Way in Figure 7-25 is also indicative of the changes at other locations in the Mirrool Creek floodplain downstream of the Main Canal, such as Irrigation Way and the Railway at Widgelli. Increasing the capacity of the EMR flood relief

structures to a 0.5% AEP design standard typically provides for peak water level increases of the order 0.1m. The 0.5% AEP discharge capacity is similar to the peak flow conditions experienced in March 2012 that included significant breaching of the Main Canal. Accordingly, the EMR upgrades provide no significant additional flood impact to the main transport routes relative to the March 2012 conditions.

There was also some concern in March 2012 in regard to potential flooding of the electricity substation along Irrigation Way. Some localised earthworks was undertaken to prevent any significant spilling from the Mirrool Creek floodplain and provide additional protection to the substation. As with the general water levels in the vicinity of Irrigation Way, the magnitude of changes resulting from potential upgrade works provides no further significant increase in flood risk to the substation. Events in excess of the 0.5% AEP event may require some localised protection as undertaken for March 2012.

The changing of Mirrool Creek flow distributions can also potentially impact on the flood volumes being discharged through the Mirrool Creek floodplain. This is of most concern for Barren Box Swamp, where flood conditions are driven by the volume of floodwaters being discharged to the swamp rather than the peak discharge rate of the inflows.

Table 7-5 shows the modelled discharge volumes within Mirrool Creek over a 15 day duration. It can be seen that the modelling indicates an increase in discharge volumes of around 10% at Kidman Way under the upgraded EMR scenario. However, at McNamara Road the discharge volumes are similar as the total flood volume of the system is being accounted for once downstream of Main Drain J. Under the reinstated EMR scenario a greater volume of water is discharged to Myall Park, which is then drained back to Mirrool Creek via Main Drain J.

The overall change in flood volumes entering Barren Box Swamp will approach zero when considering volumes over periods longer than 15 days. As the flood waters being discharged along Mirrool Creek or into Myall Park both ultimately drain to Barren Box Swamp the total volume being discharged under different flow distributions between the two flow paths should be similar, given a long enough period of time. However, as more flow is directed along the Mirrool Creek alignment, the timing of flood volumes entering Barren Box Swamp will change. Flows along the Mirrool Creek floodplain will arrive at the swamp sooner than those being conveyed via Myall Park.

Despite the magnitude of the March 2012 flood event, significant flooding problems were not experienced within Barren Box Swamp. MI manages Barren Box as one of its key storages including for flood risk management within the system, with controlled storage/releases dependent on forecast hydrological conditions. The March 1989 flood event produced far more serious flooding conditions at Barren Box Swamp and subsequently land situated further downstream. Although a much smaller event in terms of magnitude of peak flows, the March 1989 event was of much greater volume than that of March 2012. This is because the March 1989 flood event was actually a series of flood events occurring over a period of several weeks. The cumulative discharge volume of these flood events exceeded that of the single event experienced in March 2012. Given the long periods of time over which the critical flood conditions of Barren Box Swamp occur it is not expected that alterations to the Mirrool Creek flow distribution would significantly impact on the flood immunity of the Barren Box Swamp storage capacity.

A key driver for the current study was to find solutions to the significant problems at Yenda as experienced in March 2012. On balance, the increase in flood discharges to the natural floodplain of Mirrool Creek as opposed to the redistribution of the flow to Yenda by irrigation infrastructure would appear the most appropriate scenario. Whilst it is recognised there are some adverse impacts to properties through the Mirrool Creek floodplain, the EMR upgrade works would effectively restore the flow distributions to more like natural conditions. The formal floodways adopted through the floodplain downstream of the Main Canal were based on Mirrool Creek flood flows being conveyed across the structure in a relatively natural distribution (i.e. no diversion of flow to Yenda).

Table 7-5 Summary of Mirrool Creek Flood Volumes for the EMR Upgrade Works

Design Flood	15 day Discharge Volume (GL)		% Change
	Reinstated EMR	Upgraded EMR	
Kidman Way			
1% AEP	754	810	+7%
0.5% AEP	878	970	+10%
McNamara Road			
1% AEP	1,116	1,122	+1%
0.5% AEP	1,260	1,301	+3%

In the context of flood events of the 1% AEP magnitude and above, the incremental increase in flood affectation as a result of mitigation works at the EMR over and above the existing 1% AEP and higher flood condition is not particularly severe and largely affects agricultural property as opposed to significant residential property in the case of Yenda.

7.4 Hanwood Structural Options

7.4.1 Hanwood Local Drainage Works

Flooding in Hanwood largely occurs when Main Drain 'J' is running at capacity. The elevated water levels in Main Drain 'J' extend a backwater influence along DC 'A'. This (together with a hydraulic gradient to drain DC 'A' and its contributing catchments) initiates extensive out of bank flooding, including within Hanwood. Flooding may last for a few days, until the tailwater level in Main Drain 'J' lowers to enable drainage out of Hanwood.

The flows draining through Hanwood are relatively small due to the size and flat nature of the upstream catchment, which is drained via DC 'DA'. It is principally the backwater influence of flooding from Main Drain 'J' that causes flooding within Hanwood, rather than a lack of capacity within the drainage channels to convey the local catchment runoff.

The extent of the backwater flooding into Hanwood can be limited through the construction of a bund. The proposed bund alignment is shown in Figure 7-26 with respect to the local flooding and drainage. The bund height is limited to that of the surrounding topography with which the ends of the embankment can be tied into. The nature of earthworks required is similar to those presented for Yoogali.

Motion for the Griffith City Council Floodplain Management Committee Meeting 11/9/25

Recommendation to Griffith City Council

Motion:

"That the Floodplain Management Committee (FMC) recommends to Council the re-instating of an attenuating levee at the flood design height of the North Merribee Channel Banks recently levelled by Murrumbidgee Irrigation. Also, the installation of a syphon through the attenuating levee as per 1978 Water Resources Commission Report 'Guidelines for Mirrool Creek Flood Plain Development Barellan to Yenda'

Page 7 *"Where the floodway crosses the North Merribee Supply Channel a syphon will be required to ensure that flood flows are unobstructed."* See attachment d)

The installation of a syphon aims to slow flood flows of the upstream flood storage area marked in yellow (see Figure 3.3 attachment a) immediately east and upstream of the North Merribeee Channel realignment (at the junction of the yellow, blue and red lines in Figure 3.3) in accordance with the principles set forth in the NSW Floodplain Development Manual.

Rationale:

This Motion prioritizes floodplain management practises that conform to regulatory guidelines and ensures coordination with Water NSW on existing concerns about unauthorised earthworks including recent legal action by NRAR.

1. The installation of the attenuating levee and syphon seeks to maintain a controlled release flood storage area rather than a floodway with uninterrupted flows of up to 5000ML per day. (double yellow lines on Figure 3.3)

2. the controlled drainage of flood storage areas reduces risks associated with abrupt flood flows and aligns with sustainable flood management principles.

3. The removal of North Merribee Channel banks increases risk of failure of the EMR Emergency Breaching Protocols and therefore risks Yenda township because of the increased speed of flood flows and initial volumes down Halse Road contrary to the consultants' recommendations dot point 2 in Councils own EMR Emergency Breaching Protocols and Support Framework Document page 26.

"Options for the improved management of local flood waters from Colinroobie runoff and floodplain flows around the south of Merribee Hill should be investigated. The objective of this investigation should be to identify a flood risk management option that both reduces the

impact to irrigation supply and operations and ***improves the reliability of Halse Road access for the deployment of Emergency Breaching excavators.***

4. Removal of the North Merribee Channel banks allows for a Flood Design in the Upper Mirrool Creek catchment above the EMR of .5% AEP or 1:200 ARI (55 cusecs or 5000 Megalitres per day) flood flow when the EMR under canal siphon flood design of 5%AEP or 1:20 ARI (20 Cusecs 20^3/s or 1700 ML per day) before interruption to the Main Canal Irrigation supply is required for the activation of the Northbank and Southbank floodgates.

5. In his response to Yenda Progress Association letter the GM, Mr Stonestreet states

"Given the adopted EMR Emergency Breaching Protocols and Decision Support Framework – 2018 calculated the 55m^3/s flow towards the EMR there was no further analysis required."

According to Figure 3.3 quoted in his letter The General Manager has incorrectly stated the total volume flood design of 55m^3/s towards the EMR when Figure 3.3 quite clearly also shows an additional 25m^3/s adding the Dalton Runner that previously would enter the Main Canal at Dalton Bridge and exit the Main Canal via the south bank flood gates not impacting the under-canal siphon.

6. The Council endorsed North Merribbee Channel re-alignment is a contradiction to Council lodged objections Water NSW re: landholder applications for earthworks upstream of the EMR "Council is concerned that any additional works or modifications to the existing bank height and locations of levees may have significant impacts from flood waters in our local government area" Refer to Cl 7 Attachment (k). *'a case of the pot calling the kettle black'.*

7. Installing a syphon deeper than the Murrumbidgee Irrigation design 'natural surface level' would enable better drainage of the flood storage area and prevent ponding after the flood peak has passed. Attachment d)

8. The Murrumbidgee Irrigation proposed earthworks North Merribee Channel re-alignment by removing a flood attenuating channel bank in place for over 50 years does not adhere to good flood planning principles but caters to Murrumbidgee Irrigation flood harvesting activities which it currently does not have a license for and has been negotiating with Water NSW for the past 2 years.

9. Its worth noting maps in the WRC 1978 Report 'Guidelines for Mirrool Creek Floodplain Development Barellan to Yenda' don't show a floodway. Attachment b) It was in 2003 that 2 adjacent rice farms constructed a 100-metre-wide flood storage area while laser levelling their farms after the 1989 flood when increased Mirrool Creek flood flows were observed due to unauthorised earthworks upstream Mirrool Creek catchment. Not after the 1978 WRC Report as wrongly stated in the General Manager's reply letter to Yenda Progress Association.

Several landholders impacted by the increased unauthorised flood plain harvesting levee earthworks commented about a couple of powerful families diverting Mirrool Creek flood flows towards their flood harvesting storages that have negatively impacted downstream properties not only in major flood events but regularly in minor flood events as experienced in 2016, 2021 & 2022. As mentioned above; Water NSW is presently addressing and NRAR taking legal action.

It goes without saying these couple of powerful families 'have had their cake and are now eating too' by constructing unauthorised flood harvesting earthworks and secondly lobbying MI and Council when they receive too much flood water to provide them with 'uninterrupted .5% AEP or 5000ML per day flood design drainage by removing the flood flow attenuating North Merribee Channel banks.

Conclusion

The degree of difficulty for Floodplain Management Committee members understanding the complexity of floodplain management in this location can't be overstated. It has taken many years of observation of several upper Mirrool creek flood events to fully understand the moving dynamic that flood plain harvesting levees have had upon the Upper Mirrool Creek catchment above the EMR.

Credit must be given to agencies like Water NSW and NRAR and recently OMBO (Office of NSW Ombudsman) for the confidence they instil to the local community in their pursuit of good governance in flood plain management matters transcending the local government area of just one Council.

It is hoped that Griffith City Council staff, Flood Management Committee members and Councillors appreciate the logic, time, effort and private expense that has been invested in bringing forward this complex and very important issue to your attention for your approval and endorsement.

Paul Rossetto, Yenda Progress Association Mirrool Creek flood spokesman.

Supporting References:

Murrumbidgee Irrigation Earthworks Proposal (February 2024 Floodplain Management Committee minutes

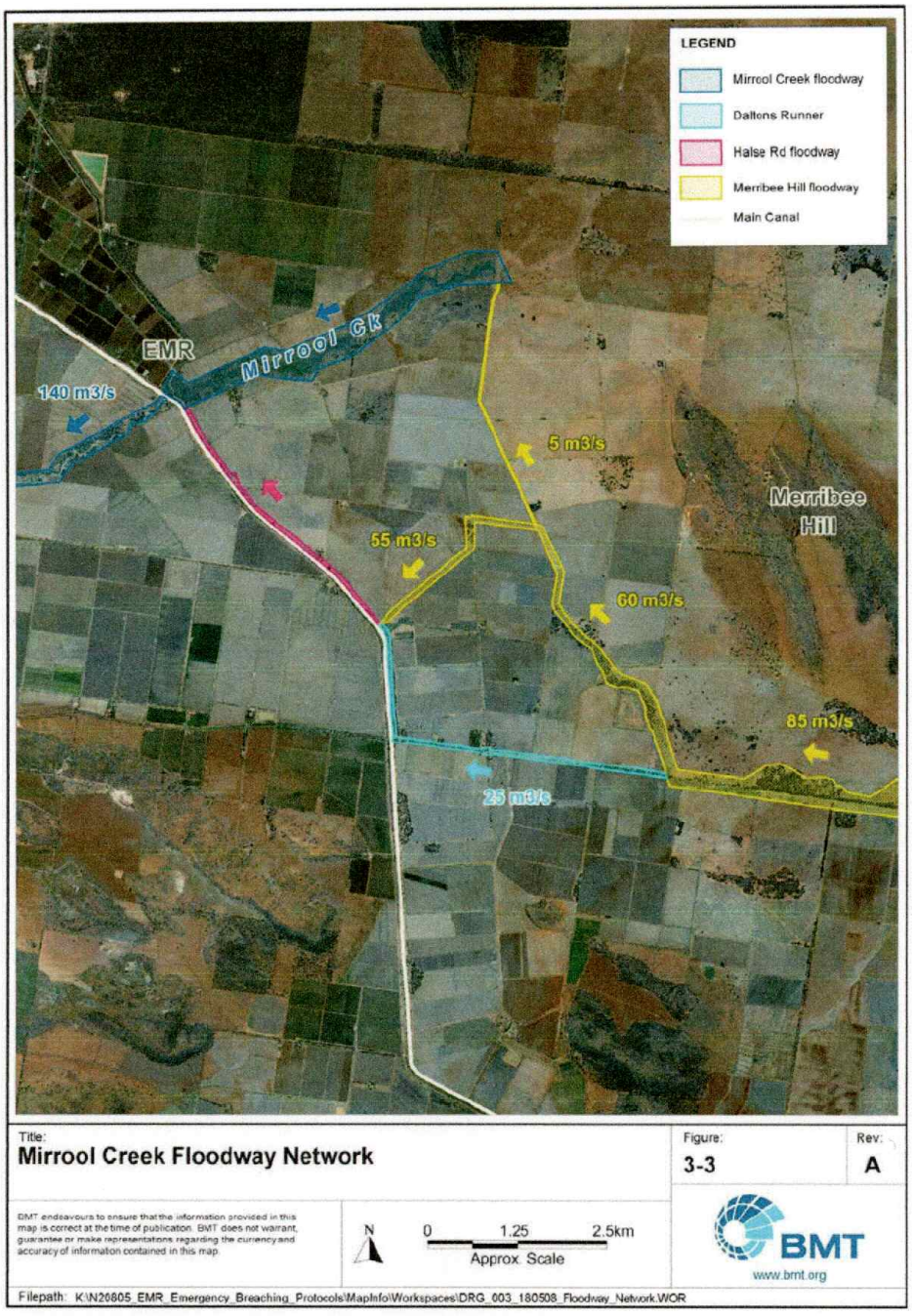
1978 WRC Guidelines for Mirrool Creek Development Barellan to Yenda

2023 NSW Floodplain Development Manual

2024 Griffith City Council General Manager Mr Brett Stonestreet reply letter to Yenda Progress Association

A

CL07 Attachment (d) EMR - Emergency Breaching Protocols - Final Document - Adopted on 13 Nov 2018



Title:
Mirrool Creek Floodway Network

Figure: 3-3

Rev: A

BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

N

0 1.25 2.5km

Approx. Scale

BMT
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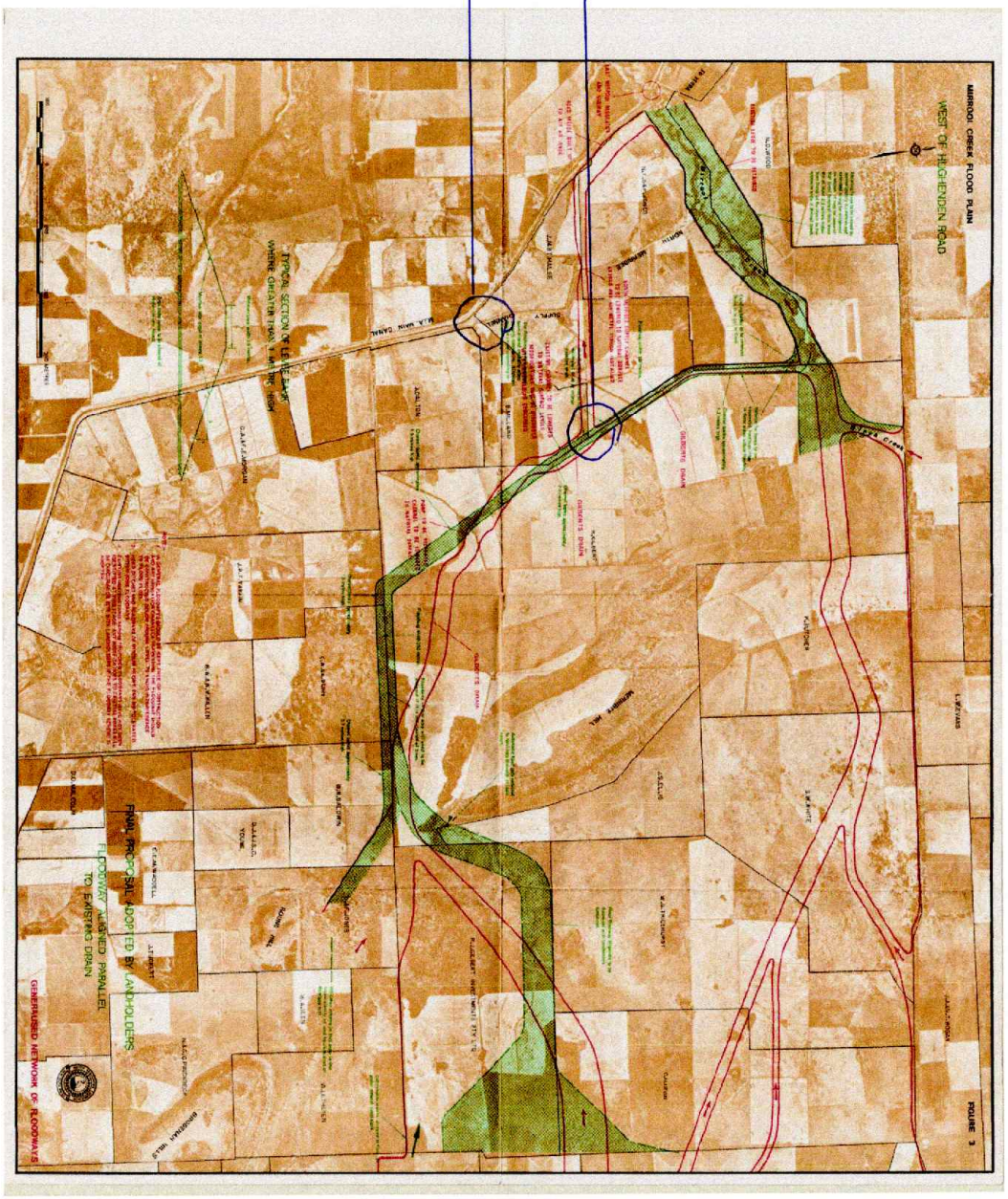
Filepath: K:\N20805_EMR_Emergency_Breaching_Protocols\MapInfo\Workspaces\DRG_003_180508_Floodway_Network.WOR

Inset A.

Inset B.



B

C
Hawe Farm
Floodway
Gilbats Drain
Mirrool Creek minor flood
Nov / Dec 2024.
Insert A.

d/

from Dalton Runner

Sergi and Halse Farm Floodway.
(Unauthorised)

Minor Flood Nov/Dec 2024

Insert B.

Showing Site of North Merribee Channel Banks cleared by M1 and proposed site for attenuating levee with a syphon mitigating flood flows.

Griffith City Council OUTSTANDING ACTION REPORT

TITLE **Outstanding Action Report**

TRIM REF **25/108808**

RECOMMENDATION

The report be noted.

ATTACHMENTS

(a) Action Report - Floodplain Management Committee - 9 Oct 2025 ⇩ 58

ACTION REPORT

FLOODPLAIN MANAGEMENT COMMITTEE 9 OCTOBER 2025

Date of Meeting	Agenda Item	Action	Action Officer	Comments
8 February 2024	**North Merribee Channel Realignment**	**RECOMMENDED** on the motion of Steve Manwaring and Luigi Forner that Council: **(a)** Endorse the report presented by Murrumbidgee Irrigation. **(b)** Look for funding opportunities to implement a permanent solution on the bypass channel downstream of Barren Box Storage and Wetlands. **(c)** Endorse the works proposed for the North Merribee Channel Realignment.	Graham Gordon	**13/08/2024:** Council has given approval for the work. MI is to carry out the work.
8 February 2024	**CL02 Yoogali Levee Project**	**RECOMMENDED** on the motion of Steve Mortlock and Joshua Stanbury that Council go out for tender and compare costings for: **(a)** Stage 2 only (McCormack Road Levee). **(b)** Stage 2 (McCormack Road Levee) & Stage 3 (Raising of Burley Griffin Way as a levee).	Durgananda Chaudhary	**13/08/2024:** Council is in discussions with TfNSW and DCCEEW regarding utilisation of funding.
23 November 2023	**CL01 Community Opinion Group Meeting 1 November 2023**	**RECOMMENDED** on the motion of Louie Forner and Steven Mortlock that: **(a)** Council request Murrumbidgee Irrigation to	Graham Gordon	**13/08/2024:** Council has asked MI to remove trees from drainage channels. Funding is not currently available for a flood study for the Mirrool Creek Catchment. Council

		have trees removed from the Mirrool Creek riparian zone and the removal of trees in any identified drainage channels. **(b)** Council advocate to the NSW Government to undertake a Flood Study for the entire Mirrool Creek Catchment. **(c)** Council contact the Natural Resource Access Regulator (NRAR) in relation to retrospectively unapproved earth works in Mirrool Creek, requesting that they support a study of the entire Mirrool Creek rural catchment area, so they can base their assessments on an actual model and facts.		will continue to liaise with DCCEEW regarding this request.
20 July 2023	**General Business**	Council to discuss the obstruction of willow trees at the inflow channel of Barren Box Swamp.	Graham Gordon	**13/08/2024:** Council to raise with MI.
20 July 2023	**General Business**	Council discuss ownership and maintenance of the drainage channel on Crook Road, Hanwood with Murrumbidgee Irrigation, accounting for the 86ML/day of water that the new Hanwood pump station has the potential to pump.	Graham Gordon	**13/08/2024:** This issue has been resolved.
4 May 2023	**EMR Regulator and Barellan water level sensors**	**RECOMMENDED** on the motion of Joe Dal Broi and Steve Manwaring that Council write to	GM	**20/07/2023:** Report to Committee on 20/07/2023. Council to pursue potential to transfer ownership of

		Water NSW for justification of services rendered for the fee in the vicinity of $17,000 that Council currently pay for the monitoring of water level sensors at the East Mirrool Regulator and in Barellan.		devices due to funding through BoM, or Council negotiate the frequency of device monitoring.
17 November 2022	**Lake Wyangan Flood Mitigation Action Update**	**RECOMMENDED** on the motion of Councillor Glen Andreazza and Steven Mortlock that Council apply for funding to review the Lake Wyangan Flood Study (2012) and Lake Wyangan Floodplain Risk Management Study and Plan (2013).	Graham Gordon	**13/08/2024:** Council has received funding from DCCEEW and engaged Torren Consulting to review the flood study and plan.
5 August 2021	**Education Strategy and Display Board**	**RECOMMENDED** on the motion of Councillor Dino Zappacosta and Sally Jones that Council investigate the feasibility of establishing an education program highlighting the history of the Mirrool Creek catchment area.	Durgananda Chaudhary	**13/08/2024:** This will be done once flood mitigation works are completed.
27 February 2020	**Hanwood Stormwater Pump and Levee**	Mr Mortlock enquired if Council had adequate generators available? Mr Gordon advised this should be investigated further in relation to emergency management.	Graham Gordon / Durgananda Chaudhary	**13/08/2024:** Under investigation.
20 June 2019	**Farm Levees Mirrool Creek Floodplain – Illegal Levy Banks**	**RECOMMENDED** on the motion of Peter Budd and Joe Dal Broi that the Committee endorse the Griffith Main Drain J and Mirrool Creek Floodplain Risk Management Study and Plan be reviewed and that investigations	Graham Gordon	Ongoing.

		are carried out to identify any illegal works taken out such as levy banks and appropriate action taken. The review is to take into consideration flows from adjoining Council areas and consultation to occur with those Councils in relation to what action Griffith City Council will be undertaking.		