

South Cessnock Flood Mitigation Scheme Community Information Pack



July 2020

BACKGROUND

In June 2018 Council wrote to South Cessnock home owners and residents outlining a proposed Flood Mitigation Scheme based on the 2016 Flood Risk Management Study and Plan Report Cessnock City (Black Creek). The proposed Flood Mitigation Scheme included:

- Voluntary House Raising Scheme for properties experiencing over floor flooding in a 1 in 100 year ARI event (an event that has a 1 in 100 chance of happening in any year).
- Construction of a bund wall to divert flood waters around South Cessnock.
- Flood Warning System.
- Voluntary House Purchase Scheme for properties experiencing over floor flooding in a 1 in 100 year ARI event that can't be raised.
- Voluntary Flood Proofing Scheme for non-habitable structures (sheds, garages).

It was estimated the proposed Scheme would cost \$7 million. No funding was available for the project (the significant cost being well beyond Council's financial means).

LINK BETWEEN MINE SUBSIDENCE AND FLOODING

During the development of the Voluntary House Raising Scheme, investigations by Council, with information supplied by the South Cessnock community, identified the continued link between mine subsidence and flooding in South Cessnock. In response, Council approached Subsidence Advisory NSW seeking financial assistance to deliver the proposed Flood Mitigation Scheme that would provide some relief in South Cessnock.

In August 2018, the Hon. Victor Dominello MP, Minister for Finance, Services and Property wrote to Council (Report to Ordinary Meeting of Council – 5 September 2018 CO34/2018) and advised that Subsidence Advisory NSW would be undertaking further investigations into the impact of past subsidence issues in South Cessnock in the consideration of Council's compensation request. Council and Hunter Water provided historical data to Subsidence Advisory NSW to assist in their investigation.

SOUTH CESSNOCK MINE SUBSIDENCE FLOOD INVESTIGATION

Subsidence Advisory NSW released the South Cessnock Mine Subsidence Flood Investigation report in September 2019. The key findings included:

- South Cessnock has a history of flooding prior to mine subsidence.
- Mine subsidence has lowered ground levels up to 1m.
- Historical works undertaken to mitigate flood impacts of subsidence were ineffective.
- Subsidence has resulted in more homes being flooded more frequently.

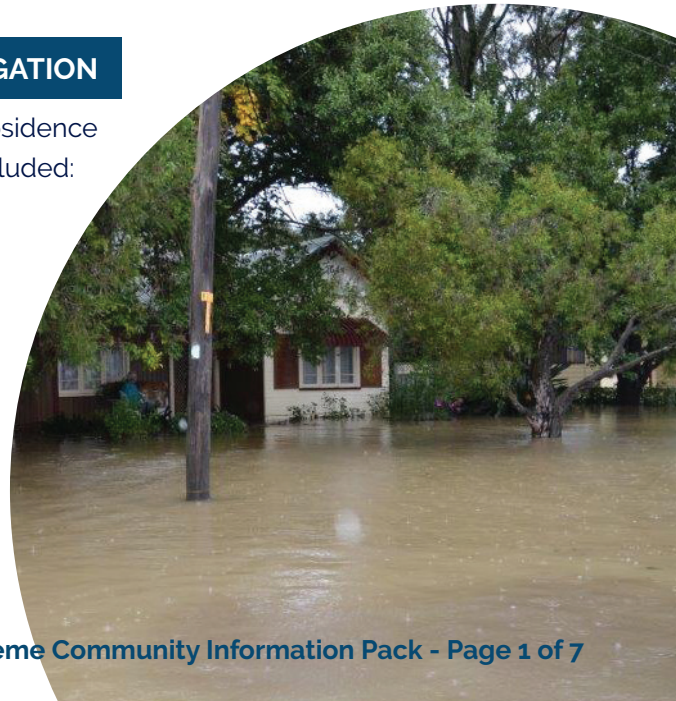


Figure 1 below shows the extent of subsidence resulting in a bowl shaped depression that covers a large portion of South Cessnock. At its deepest (as shown in purple) the subsidence is 1m deep.

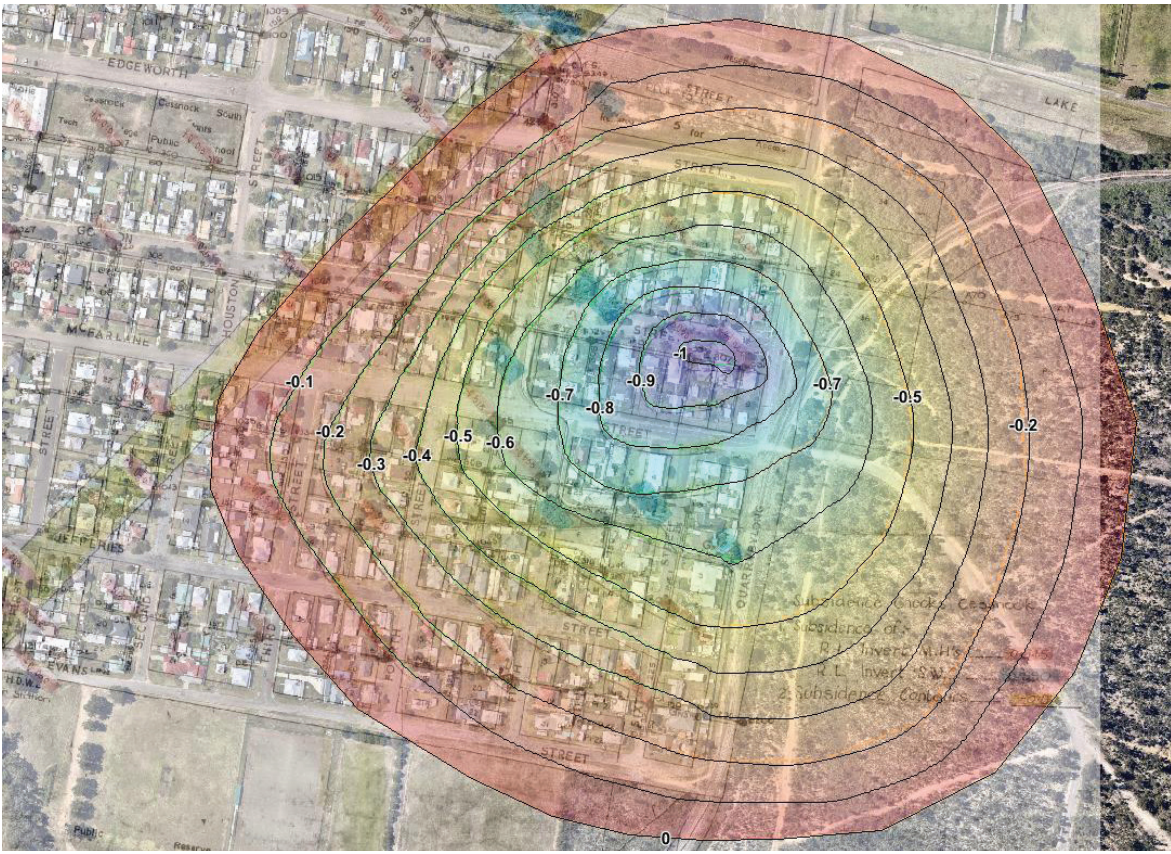


FIGURE 1 - EXTENT OF MINE SUBSIDENCE

Figure 2 shows the subsidence flood impacts in terms of yard flooding within the area of subsidence.

Number of Homes Experiencing YARD FLOODING

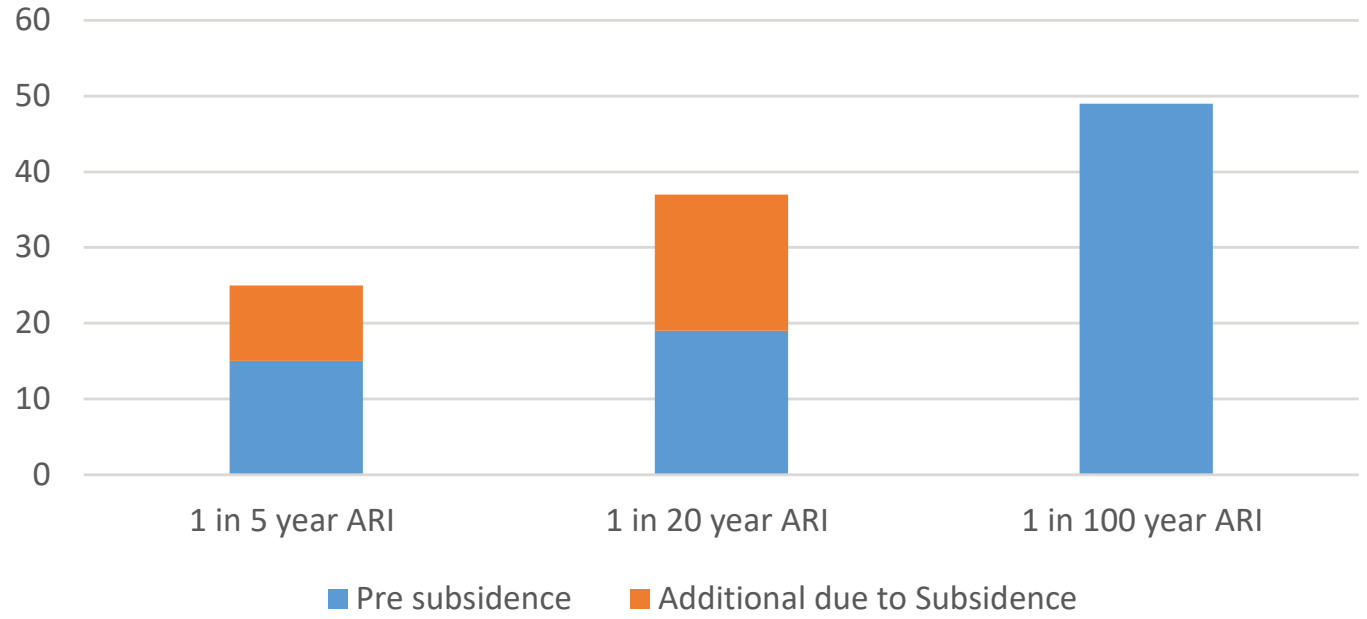


FIGURE 2 - YARD FLOODING

Figure 3 below shows flood impacts of mine subsidence in terms of over floor flooding. In addition there are up to four properties outside the area of subsidence that also experience over flooding in a 1 in 100 year ARI event.

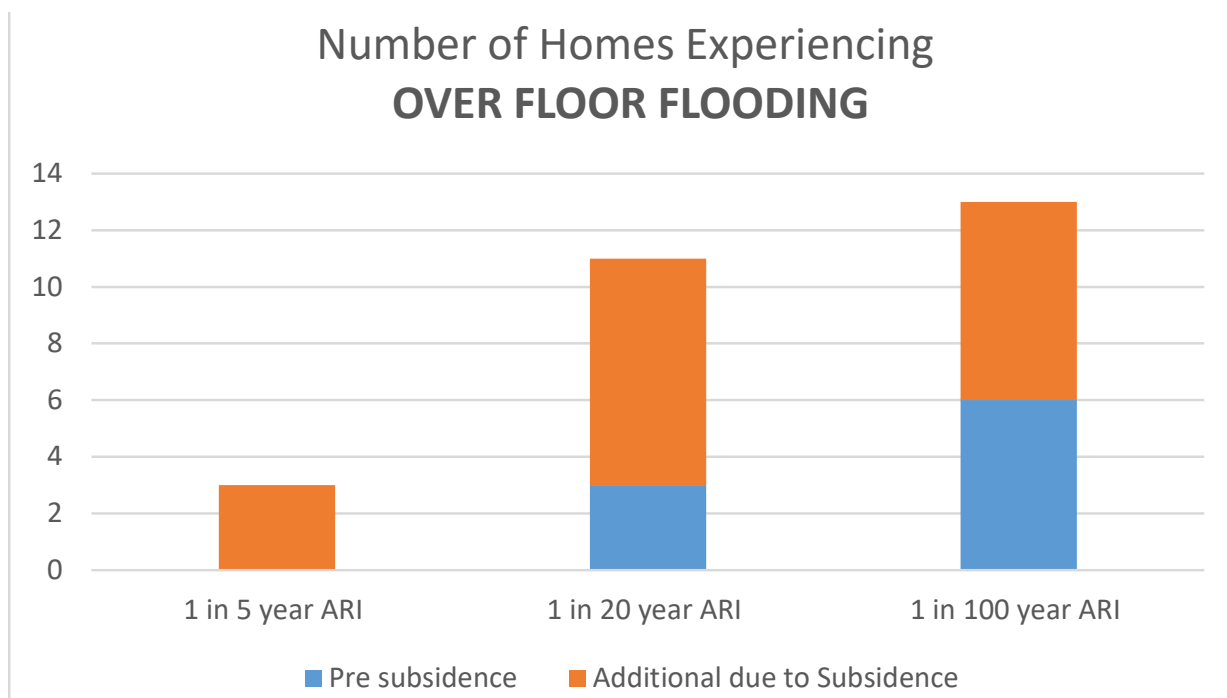


FIGURE 3 - OVER FLOOR FLOODING

COMMUNITY MEETING 2019

On 26 November 2019 members of the South Cessnock community were invited to attend a community meeting and learn about the key findings of the South Cessnock Mine Subsidence Flood Investigation Report. At this meeting ten residents and property owners heard directly from Subsidence Advisory NSW. Other attendees included representatives of NSW Department of Planning, Industry and Environment, NSW SES and Hunter Water. During this meeting residents had an opportunity to ask questions in relation to the report findings.

FLOOD MITIGATION AND COST BENEFIT ASSESSMENT 2020

In December 2019, Council commenced the South Cessnock Mine Subsidence Flood Investigation to refine the preliminary flood mitigation options and undertake a cost benefit assessment. The review considered:

- Bund Wall east of South Cessnock
- Diversion of the Kearsley Creek earth channel (north of South Cessnock)
- Raising of a section of Quarrybylong Street
- Lowering of a section of Edgeworth Street

Additionally, voluntary house purchase and voluntary house raising were considered.

SOUTH CESSNOCK FLOOD MITIGATION SCHEME

The South Cessnock Flood Mitigation Scheme was adopted by Council in May 2020 as shown in Figure 4 below. The Scheme is a combination of engineering and property options, consisting of:

- Earth Bund Wall (Figure 5)
- Raising of Quarrybylong Street (Figure 6)
- Kearsley Creek Channel Diversion (Figure 7)
- Voluntary House Raising

The adopted Scheme is expected to cost \$4.5 million.

Figure 4 below shows South Cessnock Flood Mitigation Scheme – Plan.

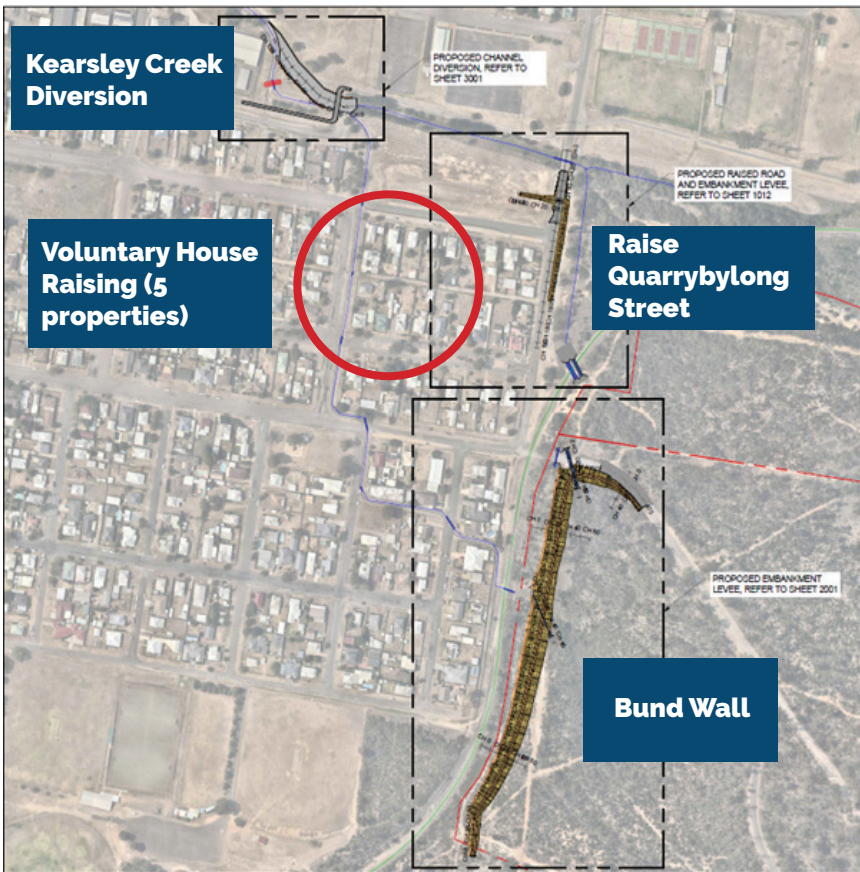


FIGURE 4 - SOUTH CESSNOCK FLOOD MITIGATION SCHEME

Figure 5 below shows the Earth Bund Wall.

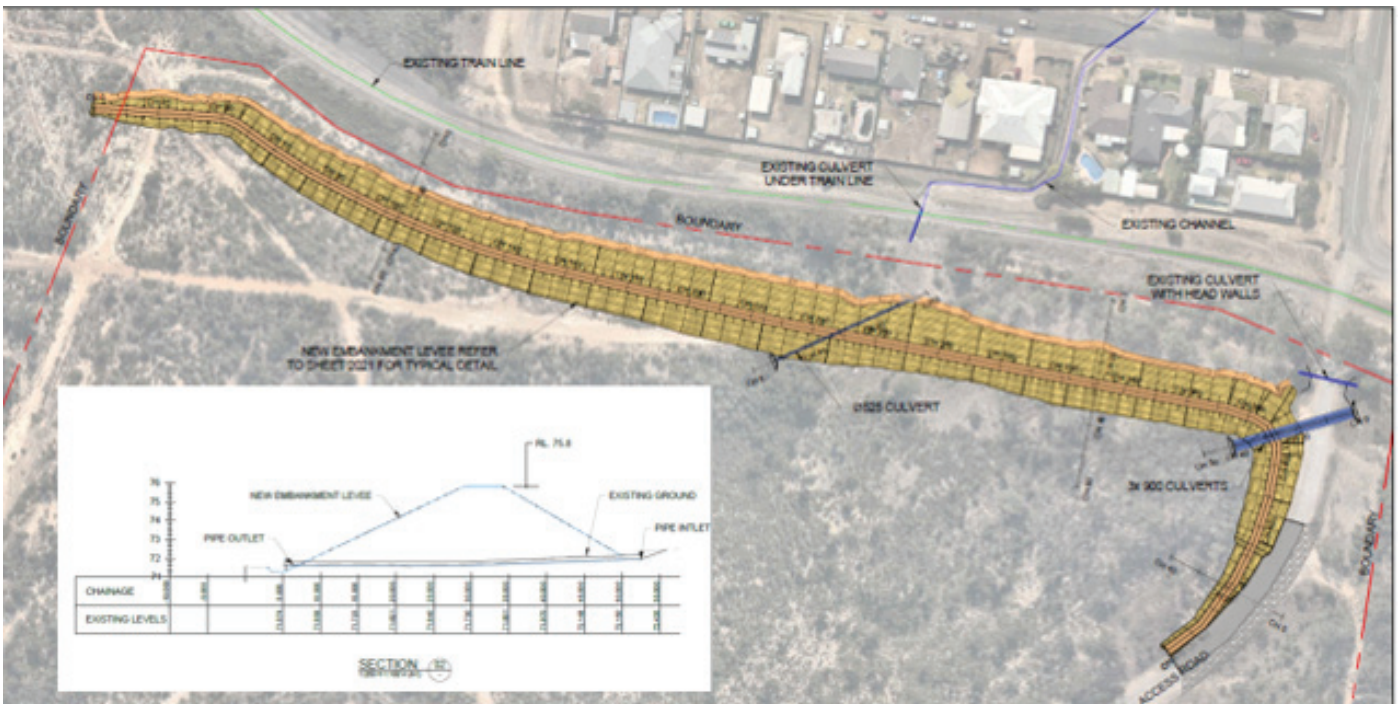


FIGURE 5 - EARTH BUND WALL

Figure 6 below shows the Raising of Quarrybylong Street.



FIGURE 6 - RAISING OF QUARRYBYLONG STREET

Figure 7 below shows the Kearsley Creek Channel Diversion.

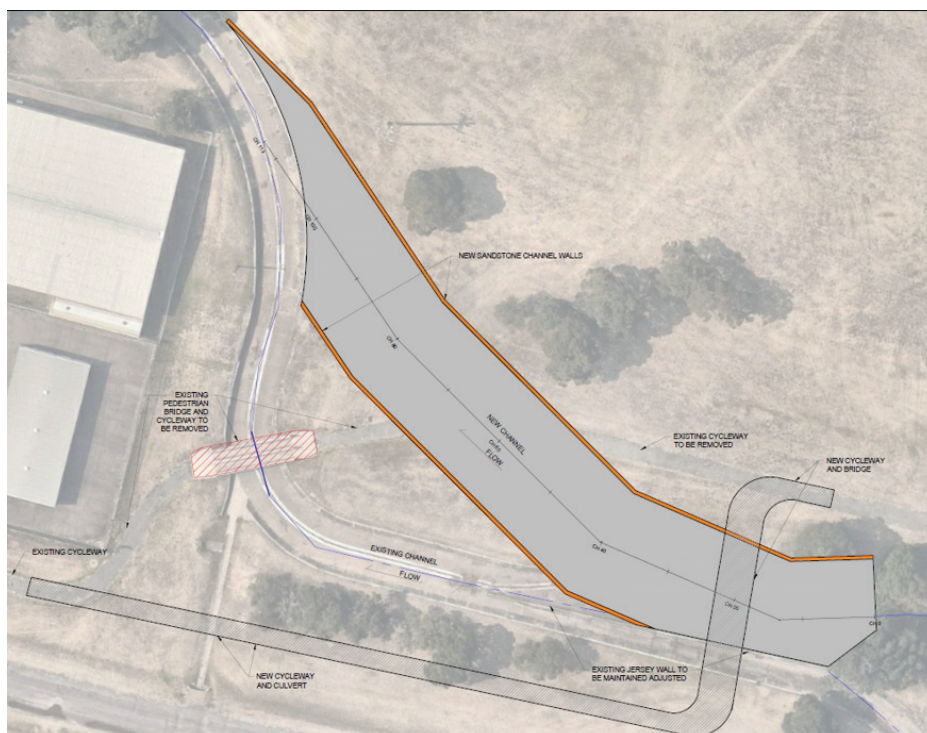


FIGURE 7 - KEARSLEY CREEK CHANNEL DIVERSION

The Scheme achieves the following in South Cessnock:

- Lowers the average flood depth in the area bounded by Gordon Avenue, Oliver Street and Edgeworth Street by 44cm (Figure 8), 14cm lower than the average pre-subsidence flood depth.
- Ensures no home experiences over floor flooding in a 1 in 100 year flood.
- Ensures safe pedestrian access to all homes in a 1 in 100 year flood (Figure 9).
- Minimises the number of homes to be raised to five.

Figure 8 below shows the change in flood depths in the 1 in 100 year ARI flood event after completion of the South Cessnock Flood Mitigation scheme.

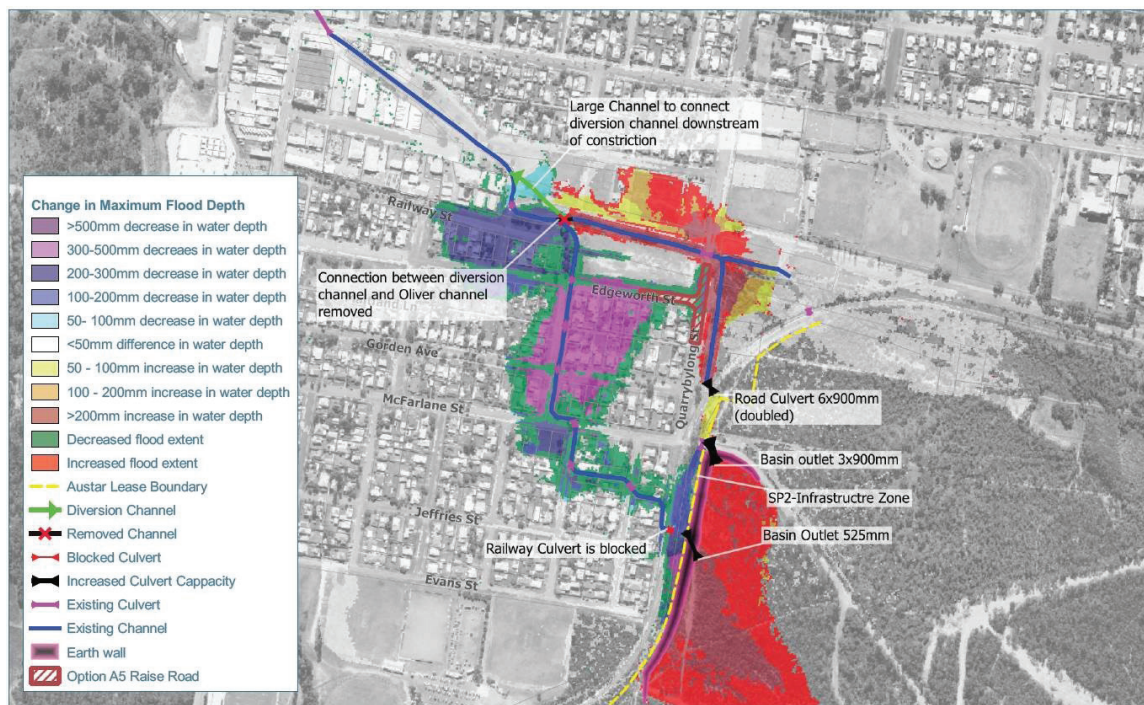


FIGURE 8 - CHANGE IN 1 IN 100 YEAR FLOOD DEPTHS POST SCHEME COMPLETION

Figure 9 below shows the flood hazard following the completion of the South Cessnock Flood Mitigation Scheme.

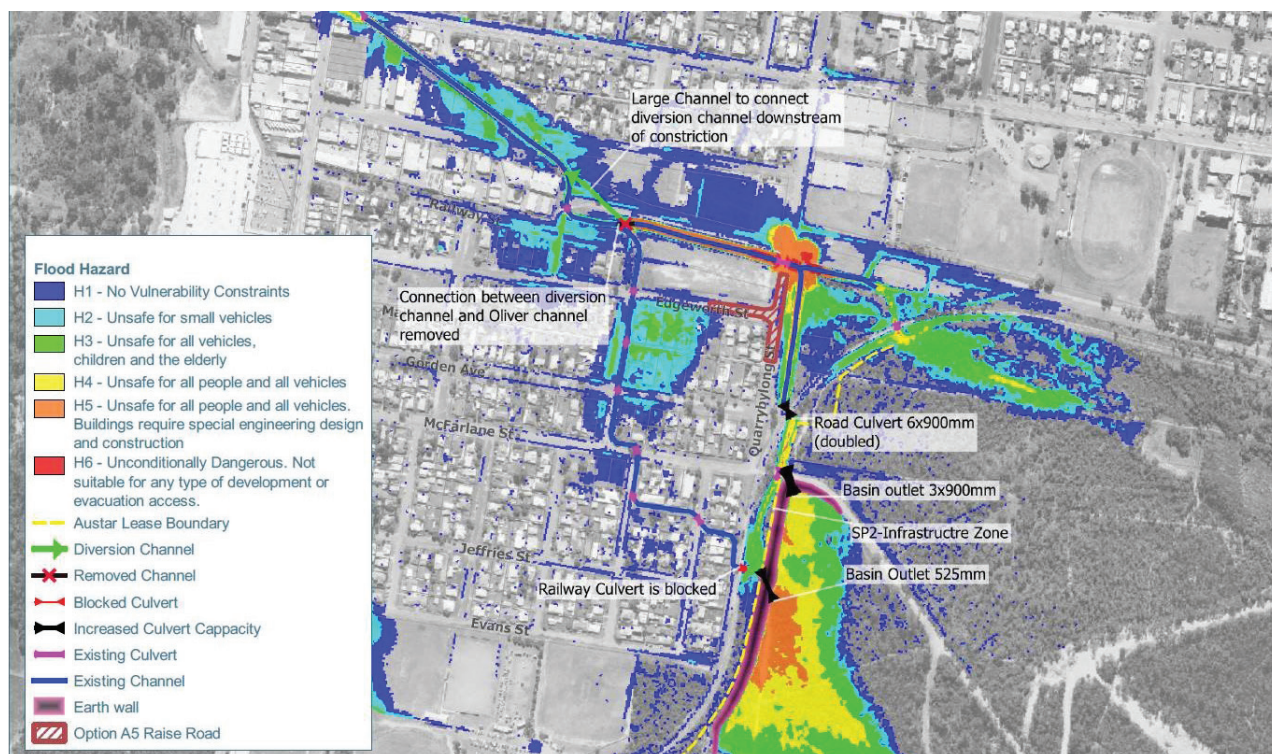


FIGURE 9 - 1 IN 100 YEAR FLOOD HAZARD MAP AFTER COMPLETION OF THE SOUTH CESSNOCK FLOOD MITIGATION SCHEME

In developing the Scheme the following impacts were carefully considered:

- Costs
- Reduction in flood damages
- Affordability and cost effectiveness
- Achieving flood depths at or below pre-subsidence levels
- Social and environmental impacts

FUNDING THE SCHEME

Council is now working to secure financial support to fund the Scheme. Council is seeking in-kind and financial support from both Subsidence Advisory NSW and Hunter Water. Council has met with both Subsidence Advisory NSW and Hunter Water in relation to this request and is continuing to liaise with both.

Council has also submitted an application for a NSW Government Floodplain Management Grant to assist in funding the Scheme. The NSW Government Floodplain Management grants are competitive and are open to local governments across NSW.

HAVE YOUR SAY

We're now seeking your feedback on the Scheme and look forward to hearing from you.

Please reply by 15 August 2020 via:

- Email: council@cessnock.nsw.gov.au
- Write: South Cessnock, PO Box 152 CESSNOCK NSW 2325
- Phone: 4993 4100 to arrange a one on one consultation.

WHAT'S NEXT?

Council is awaiting the outcome of grant and negotiations with Subsidence Advisory NSW and Hunter Water. In the meantime design and planning for construction will be progressed.

Council looks forward to hearing from you by 15 August 2020.

