Bundaberg flood protection study
Developing a 10-year action plan for flood mitigation in Bundaberg.

Option A – Burnett River conveyance improvement
Option A involves river dredging along the town reach, removing Harriet Island, widening Millaquin Bend and regular maintenance dredging.

Stage 2 of the Bundaberg flood protection study involves assessing 11 flood mitigation options, including those identified through consultation with the Bundaberg community in late 2015. The following provides an overview of the assessment of Option A.

Viability
A key step in the options assessment involves identifying issues that may mean construction or implementation of the option is not viable. These relate to matters such as:

- The likelihood of obtaining environmental approvals, due to unacceptable environmental impacts
- Significant or unaffordable costs of construction or ongoing maintenance
- Potential for unacceptable impacts on other areas.

An option is considered to be unviable where the assessment identifies one or more of these matters are ‘unlikely to be achieved’.

The assessment of Option A found that this option is likely to have significant costs relating to construction and ongoing maintenance.

Costs and benefits
Initial cost estimates indicate that construction of this option would cost around $188 million. This assumes that Harriet Island is removed via a cost-neutral extraction agreement. Ongoing maintenance of dredging activities would be about $6 million per year.

The total cost of construction and ongoing maintenance for Option A has been estimated at $235 million. The estimated reduction in flood damages (i.e. the tangible benefits) would be in the order of $35 million.

Summary of assessment against key criteria
- This option would result in more flow in the river and less flow on the floodplain. This would reduce flood levels in some urban areas.
- The increased flood flow in the river would result in some increased flood levels in Bundaberg North (up to 0.3m) for smaller, more frequent flood events.
- Approximately 470 properties in the Bundaberg area would not be inundated in the 1% AEP flood event.
- Construction and ongoing maintenance of this option would cost around $235 million making it a moderate to high cost option.
- The cost of this option would be about five times the estimated monetary benefits.
- The option would require the treatment of dredged material and land-based disposal of dredge spoil due to the very low likelihood of at-sea disposal.
- It is expected that there would be difficulties in obtaining an environmental approval for such a large dredging program.

Likelihood of obtaining environmental approval

Affordability

Tolerable impacts outside benefited area

- Likely to achieve
- May achieve with modification
- Unlikely to achieve

1% AEP flood is the name given to a flood event which has a 1 in 100 or 1% chance of occurring in any year. It would be similar to the January 2013 flood.
**Option overview**

Option A aims to increase the amount of flood flow conveyed within the Burnett River. This would help to reduce flood levels on the floodplain. It would involve:

- Dredging of the Burnett River within the town reach (to -6m Australian Height Datum (AHD))
- Dredging and excavation at Millaquin Bend
- Removal of Harriet Island (and dredging to -6m AHD)
- Regular ongoing maintenance dredging of these three areas.

**Figure 1: Option layout**

Flood modelling has been undertaken for the proposed mitigation option. In general, the option does increase flow conveyance within the Burnett River and decreases flows along the Hinkler/Federation park flowpath; however, large conveyance improvements are limited to the 2% AEP event and events more rare than this. Additionally, improvements are limited to about 12km upstream of Harriet Island, with increased flood levels occurring downstream of Millaquin bend.

**Find out more about this option**

Community consultation on the flood mitigation options and the findings of the options assessment will take place from 24 October to 20 November 2016. To find out more about the flood mitigation options and to provide your feedback:

**Visit the website**

www.qld.gov.au/bundabergfloodstudy

Interactive mapping is available on the website so that you can see how the flood mitigation options would change flooding in your area.

**Contact the project team**

Email: bundabergfloodprotection@jacobs.com

Telephone: 1800 994 015 (during business hours)

**Next steps**

The Bundaberg flood protection study is due to be completed later this year. Engagement on the 10-year action plan will occur in 2017. It is important to note that the flood mitigation options have not yet been considered by the State government and are not government policy. No commitment will be made on any of the options until the State government has consulted with the community and stakeholders on the 10-year action plan.

The Queensland Government will continue to engage with the Bundaberg community as the action plan develops.