



Wagga Wagga
City Council

Flood Futures

MINUTES: Eunony Community Information Session

Main City and North Wagga Levee Upgrade Project- detailed design and options for North Wagga

Date: 18 March 2015

Location: Historic Council Chambers

Start: 6pm **Finish:** 7:40pm

In attendance

14 community members

Councillors: Mayor Rod Kendall, Deputy Mayor Councillor Dallas Tout

Council Staff: Director Corporate Services Craig Richardson (Facilitator), Director Infrastructure Heinz Kausche, Director Planning and Regulatory Services Andrew Crakanthorp, Manager Engineering Alex Fenwick, Acting Manager Corporate Strategy Governance & Communications Nicole Johnson, Executive Assistance Infrastructure Services Maree Ingram, Community Engagement Officer Lauren Fitzgerald, Communications Officer Josh Lang

State Emergency Service (SES): Region Controller Dave Buchtman, Deputy Regional Controller Jon Gregory, Community Engagement Coordinator Ian Leckie,

NSW Public Works: Manager Clients and Project Delivery Fred Spain

Apologies General Manager Phil Pinyon, Councillor Kevin Poynter, Councillor Paul Funnell, Councillor Yvonne Braid, Councillor Alan Brown, Councillor Greg Conkey, Councillor Gary Hiscock, Councillor Julian McLaren, Councillor Andrew Negline, Councillor Kerry Pascoe
The community members would like the following apologies noted: Cheryal and Philip Fitzgerald-Holmes

Comments, Statements, Questions and Answers

Questions relating to detailed design and floodplain modelling

Q. There are levee banks on properties that were washed away in 2010, are these going to be upgraded? These levees are located 6kms upstream from North Wagga and have been inspected by Council staff in regards to repair however no further action has occurred.

RESPONSE: Council Staff will follow up this matter.
UPDATE: Council staff will be undertaking repairs on these levees in the near future. Additional engineering advice is required to inform the repair of these levees.

Q. A 15cm change to the depth of water is the difference between no water to water in house. Have never been flooded before but could be with the upgrade and as a result could have affect on property value, will there be any compensation for the change.

RESPONSE: Work is underway in this area that will include the AADs for properties outside the levee. Further detail can be provided to residents regarding the modelling for a particular property. The question regarding compensation will also be assessed with further information to be provided.

Q. If you are applying for further funding, don't you need to apply for compensation funding at the same time?

RESPONSE: The application for funding to proceed with the construction of the upgrade levees will be lodged in April 2015. The matter of compensation will be assessed separately with further information to be provided.

Q. Benefit is only for the people and businesses inside the levee including better property values. Those affected by the increase get an adverse result eg value decreased, insurance increases. The concept of compensation needs to be built in now, it is critical so that the method of how we will be compensated is worked out. Those who benefit from the upgrade should pay a flood levy We need to make sure that no future increases are required due to any future development on the floodplain including those associated with quarries.

RESPONSE: Consideration will be given to Third Party Impacts and this work is underway. The upgrade of the levees is only one project on how we manage the floodplain. Council has received \$110k funding from Office of Environment and Heritage (OEH) to be used for the review of the Floodplain Risk Management Plan including the better management of both vegetation and development on the floodplain. Council will also look at options for properties outside the levees including house raising.

Questions relating to Option 1: Maintain North Wagga Levees at their current level and take no further action

Q. Who is the cost of flood damage to North Wagga borne by?

RESPONSE: The cost of restoring infrastructure is borne by residents, insurance companies, State Government, WWCC and other public authorities.

Questions relating to Option 2: Raising the North Wagga Levees to a 1 in 20 year flood event

Q. How high would the levee need to be raised to give this level of protection?

RESPONSE: Approximately 0.9m

Q. If the levee had of been raised by 0.9m would it have protected North Wagga in 2012?

RESPONSE: In 2012 the river reached a height of around 10.6m. A 1 in 20yr flood would see a 10.3m river, however it must be remembered that when reviewing required heights of the levee, we need to allow for a freeboard amount. The current physical height of the existing levee includes a freeboard of approximately 300mm. However once the river reaches a height of 9.9m the SES will call for the evacuation of North Wagga regardless of the freeboard amount, it will not let the freeboard impact on life. The 0.9m upgrade includes a 0.5m freeboard.

Q. What does the costing for the AADs include?

RESPONSE: It only includes the damage component; there is no costing for relocation during flooding.

RESPONSE: SES still has to consider evacuation of North Wagga due to isolation based on predictions from BOM, when the river hits freeboard range.

RESIDENT COMMENT – SES have to make an early decision to evacuate, can't be delayed.

RESPONSE: Agree, there may be a need to evacuate due to isolation regardless of levee upgrade.

SES COMMENT There are lots of intangibles in evacuations. Residents have sold out, despite floods, because of the hassles of evacuation. The SES would probably evacuate once North Wagga becomes isolated, levee protects bridges/access route. Evacuation will occur six hours before lowest access route is cut, 12 – 24hour notice will be given to residents.

SES UPDATE: In Relation to North Wagga if the Bureau of Meteorology (BOM) could confidently predict that the peak flood height at Wagga would be between 9.3 and 9.8 metres, then the SES may consider the option of resupply rather than evacuation, this would depend on the circumstances at the time. Once the design height of a levee is reached the safety of the structure is deemed to be compromised and levee failure could be a possibility. Once flood waters reach the levee design height this is the trigger point for evacuations. A levee overtopping scenario can be less dramatic, usually with a much slower inundation rate than that of a levee failure which usually has much faster inundation rates due to high rates of scouring. A levee overtopping can also lead to levee failure under certain circumstances where erosion and scouring can also lead to levee failure. We had firsthand experience with both overtopping scenarios which occurred during the 2010 and 2012 flood event.

RESIDENT COMMENT: If the levee upgrade goes

ahead, it is likely that North Wagga will be evacuated during a flood anyway.

RESPONSE: The upgrade does not represent a cost saving in respect to evacuations.

RESIDENT COMMENT – The summary table is misleading, whilst level of protection is given North Wagga will be evacuated anyway, the upgrade will not protect residents from evacuation.

Q. How far up the river does the modelling go, up to Gundagai, can that assist in regard to evacuations?

RESPONSE: The Bureau of Meteorology does river height predictions for further downstream. Council's own modelling shows what the predicted river heights look like across the LGA and has been upgraded since the 2012 flood. The modelling helps inform projects like this one and also assists the SES.

SES COMMENT: Council information and that of the BOM helps SES in regard to determining evacuation warnings. The BOM information is very specific. The BOM is the government authority which has been given the responsibility for flood warnings, predictions and timings during flood events

Q. With the 1 in 20yr increase is there any idea where the location of the edge of the yellow zone is?

RESPONSE: Close to Byrnes Road. Council have bigger scale maps here tonight from which you can see more detail.

Q. Has consideration been given to Kurrajong Lagoon Levees being upgraded to 10m – water won't be on North Wagga flats due to the Harness Racing development.

RESPONSE: Other existing levee banks should have been included in modelling, will take on notice in regard to the Kurrajong Lagoon Levees. It should have been picked up in LiDAR. In regard to the impacts of the Harness Racing development, modelling undertaken by the developer shows a 1cm impact in close proximity to the track doesn't extend to the North Wagga Village. The impact of the harness racing development will be confirmed.

UPDATE: The flood modelling was based on a digital elevation model generated by airborne laser survey. This technique captures all significant surface features in the terrain.

Q. – What river height cuts the road at North Wagga and the Wirdajuri Bridge?

RESPONSE: At approximately the 9m mark.

Q. There is a lot of vegetation on the floodplain that causes a funnel affect, does Council have any comment in regard to this?

RESPONSE: This issue has been raised at earlier meetings. The latest modelling takes into consideration vegetation however we need to have a look at high risk areas and we need to get a balance as to what needs to be done in respect to managing vegetation in the floodplain. Council has recently received some funding to allow early work to be undertaken in regard to this issue.

This issue falls within the Floodplain Risk Management Plan. It is on Council's radar for investigation.

RESIDENT COMMENT: There are a lot of suckers growing on the floodplain and trees that hold water back.

RESPONSE: The updated modelling has looked at old aerial photos of the floodplain and it recognised that increased vegetation has had an impact on water flows in the floodplain.

Q. What effect does the diverting of water from Lake Albert into Marshall's Creek have on River heights? How much does it add?

RESPONSE: Some water is diverted and some flows into the Lake. A separate study called the Major Overland Flood Flow Modelling has been undertaken which looks at the impacts of urban flooding including Marshall's Creek. The next step of this project is to integrate the riverine flood modelling with the major overland flood flow modelling.

Q. Can anything be done further downstream eg. widen the river at Malebo Hills to alleviate flooding of North Wagga?

RESPONSE: This has already been raised previously and needs to be assessed. There are other chokes points in the floodplain that need to be investigated as well.

UPDATE: Advice received from the consultants that undertook the flood modelling is that there is a backwater effect associated with constricted flow at Malebo Gap. However, this effect does not extend as far upstream as the Gobbagombalin Bridge.

RESIDENT COMMENT: Any development in the new light industrial area of Marshall's Creek sees land being raised which keeps pushing water to the north and puts more pressure on the Marshall's Creek area.

RESPONSE: the updated modelling includes development to date. The issue of future development and the add-on effect of this on water level is another area that needs to be looked at further.

[Questions relating to Option 3: Raise North Wagga Levees to more than 1 in 20 year flood event](#)

Q. The impact of the option on properties upstream of the levee has not been included the pros and cons column. Why are we considering doing this for North Wagga but not for properties outside the levee?

RESPONSE: Third party damages outside of the levee system will be taken into consideration during the decision making process.

[Questions relating to Option 4: The removal of the North Wagga Levees](#)

RESIDENT COMMENT: This is not really an option as it would not be well received by the North Wagga community.

Q. How often would North Wagga flood that would cause an issue?

RESPONSE: A 9m river is approximately a 1 in 5 year flood event.

RESIDENT COMMENT: On that basis it would flood twice as often compared to what it does now.

Q. Have any other flood mitigation measures been assessed ie pushing water away?

RESPONSE: Council has received \$110k funding from OEH to be used for the review of the Floodplain Risk Management Plan including the better management of both vegetation and development on the floodplain.

RESIDENT COMMENT: A 25% increase in costs only, doesn't fully mitigate Main City upgrade, pro for this is that it mitigates for about half of the Main City levee upgrade.

RESPONSE: Decrease in 1 in 10yr, remove North Wagga, approximately half of increase for 1 in 100yr for Main city levee. If you remove the North Wagga levee, there is no difference, no impact on the Main City levee for a 1 in 100n yr flood.

[Questions relating to Option 5: Relocation of the Village](#)

No questions asked.

[Questions relating to Options 6 and 7: Raising houses in both North Wagga as well as in East and Mill Streets](#)

Q. Is there any reason for doing away with Mill Street and East St?

RESPONSE: The options of removing the levees and relocating the village considered both the part of North Wagga and Mill and East Street. Raising houses was the only option to considered Mill and East Streets separately. This option was informed by community consultation undertaken at the time and was passed as a resolution of Council at the May 2013 Council Meeting.

Q. – If you were to take out the Mill street levee banks would you allow water through to take pressure off the main levee given that the SES would still evacuate at a 9m river?

RESPONSE: It would relieve pressure upstream for fencing and infrastructure, it would not affect housing. Council will take the potential combination of raising houses and removal of levee, on notice.

Q. How long did it take for the flood waters to get out of North Wagga after the 2012 flood?

RESPONSE: Generally three to four days. A lot of pumps were used and slots were cut in the levee to bring the water level down as the river dropped. After water receded power and other utilities including gas and sewerage had to be secured, once done residents were allowed back. The process of resident return is driven by the river height.

[Questions relating to Option 8: Voluntary Purchase](#)

www.wagga.nsw.gov.au/floodfutures

1300 292 442

for Properties in North Wagga

RESIDENT COMMENT: Sounds very expensive but \$1.2m AAD with current levee combined with removal option will be paid for in 30 years. Need to have long term thinking, this is a real option given that North Wagga is built on such low ground.

Open Discussion and Questions

Q. In regard to the levee banks up river, what is the level of commitment between Council and the Local Land Service in regard to maintenance and repair? There is some slight damage on the downstream of these levees that Council is responsible for, however on the River side there is severe undercutting. What communications have occurred between the two bodies in regard to the funding of these repairs?

RESPONSE: There has been not a lot to date, however it does need to occur. This can be included in the project however unsure of how much funding is available, will provide detail.

UPDATE: These levee banks are scheduled for repair later in 2015.

Q. In regard to the proposed Harness Racing development if the track is deemed to have no affect or cumulative impact why is there a need for a levee?

RESPONSE: There are no actual levees planned for the site. The car park will be built at ground level and the track built up in relation to the slope of the land to withstand a 1 in 10 year event.