



## **Attachment M**

**September and December 2013 Resolutions**

**Reports and Annexures**

**Timber Bridges and Rehabilitation Projects**

Moved: Cr Parsons      Seconded: Cr Newman

### 7.09/13 RESOLUTION

1. That Council fixes dates and times for the 2013/2014 Ordinary Council Meetings as follows:

Date	Location	Time
24 October 2013	Learning Centre	5.15pm
28 November 2013	Learning Centre	5.15pm
19 December 2013	Learning Centre	5.15pm
27 February 2014	Learning Centre	5.15pm
27 March 2014	Learning Centre	5.15pm
24 April 2014	Learning Centre	5.15pm
22 May 2014	Learning Centre	5.15pm
26 June 2014	Learning Centre	5.15pm
24 July 2014	Learning Centre	5.15pm
28 August 2014	Learning Centre	5.15pm
25 September 2014	Learning Centre	5.15pm

2. That the abovementioned dates be advertised in the local paper and on Council's website.
3. That the Ordinary Council Meetings Fixing of Date and Time of Meetings Policy be updated to reflect the date and time of Meetings as listed in recommendation number one (1).

### CARRIED

The Mayor ruled Item 9.34 to be brought forward for discussion and consideration, as particular community members in the gallery were waiting on the outcome of the deliberations.

### 9.34 Roads: Bridges – Timber Bridge at Nine Mile Road Severn River

**REPORT FROM: DIRECTOR OF INFRASTRUCTURE SERVICES**  
**Author: Malcolm Donnelly – Manager of Technical Services**

Moved: Cr Graham      Seconded: Cr Scherf

### 8.09/13 RESOLUTION

1. That Council approves the construction of a temporary bypass causeway adjacent to the bridge over the Severn River on Nine Mile Road, to be funded from the Roads to Recovery program, with an estimated cost of \$60,000.

2. That non-destructive testing be performed expediently on existing timber bridges as determined by Council's Director of Infrastructure Services, including the bridge over the Severn River on Nine Mile Road, to be funded from the timber bridge maintenance vote.
3. That once current condition assessments have been made on existing timber bridge components, a report be prepared for Council's consideration recommending those bridges to be rehabilitated or replaced using the unallocated Roads to Recovery funding.

**CARRIED**

Moved: Cr Graham                      Seconded: Cr Schumacher

**9.09/13 RESOLUTION**

That the Standing Orders be suspended at 5.53pm to allow the Member for Northern Tablelands, Adam Marshall, to address Council.

**CARRIED**

Mr Adam Marshall addressed Council and advised that he is working on a plan with the Minister for Roads, Minister Duncan Gay, and the Minister for Local Government, Minister Don Page, to have a State version of the Roads to Recovery Program for country councils for the renewal of local bridges and local roads. He also encouraged Council to apply for the next round of Local Infrastructure Renewal Scheme (LIRS) funding, as this provides for an excellent avenue for local councils to address their infrastructure backlogs.

Mr Marshall stated that, due to his previous role as Mayor of Gunnedah, he already has a good relationship with the Mayor and General Manager, and will continue to develop this relationship. He is happy to assist at a State level wherever he can. He acknowledged the Flight School development and the positive impact that it will have for the community, and advised that the State Government is currently looking at relocating 1,500 public service positions to country areas. Mr Marshall indicated that he would like to have further discussions with Council following the release of the final report from the Independent Local Government Review Panel. He closed his address by paying his respect to all involved in Local Government.

Moved: Cr Parsons                      Seconded: Cr Newman

**10.09/13 RESOLUTION**

That the Standing Orders be resumed at 6.07pm.

**CARRIED**

### ***9.34 Roads: Bridges – Timber Bridge at Nine Mile Road Severn River***

**REPORT FROM: DIRECTOR OF INFRASTRUCTURE SERVICES**

**Author: Malcolm Donnelly – Manager of Technical Services**

#### **ANNEXURES M AND N**

#### **PURPOSE**

The purpose of this report is to consider options for the renewal or replacement of a timber bridge over Nine Mile Road on the Severn River, and temporary access arrangements until a suitable permanent waterway crossing can be implemented.

#### **EXECUTIVE SUMMARY**

The bridge over the Severn River on Nine Mile Road is in very poor condition and is considered to be at risk of imminent failure if it continues to carry unrestricted traffic loads. As the subject bridge forms the only maintained public access for residents and landholders north of the Severn River, any closure or load restriction will have significant impact to the local community. This report discusses issues with the bridge and possible options for its repair or replacement, including preliminary cost estimates for some options. It is recommended that further technical investigations be performed to determine the best long term solution, however in the interim that a temporary low-level bypass be constructed and maintained to keep traffic off the existing bridge.

#### **BACKGROUND**

The timber bridge over the Severn River on Nine Mile Road at Dundee is presently in very poor condition, with significant decay to the timber girders and timber deck. There is currently a 10 km/h speed limit in place, but no load restrictions.

The bridge comprises a timber beam/girder construction over the top of an existing concrete causeway. The ten span structure is approximately 62 metres in length, and 4.2 metres wide to the outside of kerbs. The bridge consists of four (4) girders per span, located upon timber corbels and headstocks / sill logs. The piers and abutments are of concrete construction. It is understood that residents and landholders in the Nine Mile area cut and supplied the timber for the current bridge in around 1960, for erection by the former Severn Shire Council.

The Nine Mile Road Bridge forms the only maintained public road access for residents and landholders having property north of the Severn River. A diagram showing the bridge site is included as Annexure M to this Business Paper. The catchment area is approximately 160 square kilometres (16,000 hectares).

Residents and landholders were invited to provide comment and attend a site meeting to discuss options for the repair or replacement of the bridge, and alternative access for residents and landholders. One written response was received, from the Dundee Reserve Trust, and a copy of this correspondence is included as Annexure N. The proposed site meeting was deferred until Wednesday, 4 September 2013 to avoid a clash with the annual Hereford bull sale.

**(a) Relevance to Integrated Planning and Reporting Framework**

One of Council's objectives is to ensure that road infrastructure assets are fit for purpose and meet community service level aspirations. The adopted road hierarchy for Nine Mile Road adjacent the bridge site is Local Access Type A, which is the third of six levels that apply to Council's unsealed roads network.

**(b) Financial Considerations**

No funding has been set aside in Council's current Operational Plan specifically for the Nine Mile Road, Severn River Bridge. A general timber bridge maintenance vote of \$112,527 exists for maintaining all timber bridges in the Local Government Area and will not be adequate for any upgrades of the Nine Mile Road Bridge. Council's 2012/13 operational plan included a Roads to Recovery vote for upgrading numerous timber bridges; and this funding has been carried forward to the 2013/14 financial year. Provided all remaining Roads to Recovery projects remain within budget, there is \$352,737 available for timber bridge rehabilitation, which Council has not yet allocated to specific bridges and could be used either wholly or in part to fund an upgrade of the Nine Mile Road Bridge. The next timber bridge capital funding proposed within the ten (10) year transport infrastructure plan is scheduled for the 2016/17 financial year.

**COMMENTARY**

Two independent assessments have been made on the Nine Mile Road Bridge structure in recent years, including:

- (i) A Level 1 visual inspection by Local Government Engineering Services in January 2011, following the declared natural disaster event which had caused the deck to lift at the southern abutment; and
- (ii) A visual inspection augmented by limited non-destructive testing in September 2011 carried out by Wood Research and Development (WRD).

Both inspections highlighted the poor condition of the bridge and made recommendations for short-term rectification works to structural members and the tired deck. However, as a result of limited bridge funding and other bridge defects across Council's network, only minimal restoration works have been completed to date, and works have mainly focussed on replacing the worst of the deck timbers.

The WRD report in particular has highlighted that while quality hardwood timbers were used in the bridge, the construction methods used at the time have resulted in a significantly shortened service life. The areas of poor practice have included:

- Notching girders where they sit on corbels instead of using gently sloping cuts, which has allowed longitudinal cracks to propagate from the re-entrant corner;
- Vertical through-bolts and spikes used to hold down the deck planks and kerb logs, which has allowed ambient water to access internal untreated portions of timber. Improved methods use concealed fixing through the bottom of the deck timbers, or pre-drilling holes prior to preservative treatments;
- Epoxy was not used in temporary girder repairs to bond new hardwood directly to the planed underside of the girder, to ensure that plane sections remain plane, and as a consequence the girder strength was not significantly increased;



- Poor detailing preventing proper drainage of stormwater, and holding moisture against the timber. The internal girders were noted to be in worse condition than the outside girders as a result of higher moisture content. While gaps in the timber are not liked by landholders who may drive sheep across bridges, the larger gaps allow for better ventilation and drainage of the deck.

Options for the repair or replacement of the existing timber bridge include:

1. Repair the existing structure

The WRD report suggested that the existing timber bridge could be improved by:

- Replacing several girders in very poor condition with a high strength fibre or glulam girder having increased capacity and stiffness;
- Improving the remaining girders with a combination of retrofit, injection to fill cavities, and diffusion to prevent further decay;
- Remove vertical through-bolting from cross bearers and log girder connections, replacing them with horizontal connectors;
- Attach the deck properly to the girders with sound gauge beams horizontally connecting the girders.

The estimated cost of this repair option cannot reasonably be estimated until such time as further non-destructive testing is performed to provide a detailed condition assessment on each structural timber bridge component, which will in turn help to determine the most cost-effective repair treatment. Such initial investigation is likely to cost in the order of \$7,000, and may take in the order of four weeks to complete. The costs to rehabilitate the existing bridge superstructure could be in the range of \$100,000 to \$300,000 depending on the extent of works.

It is likely that the bridge would need to be closed to all traffic for four (4) to eight (8) weeks for the repair or replacement of timbers. A side-track for the duration of any works is likely to cost in the order of \$60,000, but would be highly variable as any major storm event would have potential to wash a temporary crossing away requiring regular maintenance and rebuilding of the crossing.

A rehabilitation of the existing bridge would provide the same waterway area underneath the bridge and the same frequency of overtopping in major storm events. A fully rehabilitated timber bridge could be expected to provide service for an additional forty (40) years.

2. Replace the timber girder and deck with a new superstructure

The bridge on Tent Hill Road over Beardy River which was replaced earlier this year is very similar to the Nine Mile Road Bridge, having the same number of spans, dimensions, and construction method (including both being built over an existing concrete causeway). The replacement of this bridge then is expected to have a similar cost, except that a temporary access road would be required for the Nine Mile Road Bridge as there is no alternative travel path.

Based on the most beneficial costing for the Tent Hill Road Bridge as tendered, a replacement bridge superstructure (comprising deck and girders) capable of SM1600 wheel loadings is estimated to cost in the order of \$400,000. Guard rail on the bridge and transitions, which is required for new bridges under the Bridge Design Code AS 5100-2004 where the bridge is more than 1.5 metres above the ground or where the depth of water adjacent the bridge is greater than 1.2 metres, would add a further \$80,000. A temporary side-track during works will cost in the order of \$60,000, subject to environmental conditions.

For a complete superstructure replacement, the bridge will need to be closed to traffic for a period in the order of six (6) to eight (8) weeks. A new concrete superstructure would be expected to provide a similar waterway area to the existing bridge, and provide service for an additional ninety years.

3. Demolish the existing bridge and reinstate the underlying concrete causeway

It is understood that the existing concrete bridge piers are built on top of steel piles driven into the ground, and so it may prove difficult to directly return the original underlying concrete causeway to service. Concrete x-ray investigations can be used to confirm the presence of structural and reinforcing steel.

Another option would be to raise the level of the existing concrete causeway where necessary, providing reinforced concrete infill between the raised piers, and either a bridging structure or box culverts over the one open span to accommodate minor flows and allow for continued fish passage.

This causeway option would provide a smaller waterway area than currently exists, and so residents and landholders could expect to have their access cut more frequently and for longer durations on each major rainfall event.

A rehabilitated causeway would be expected to have a design service life in the order of eighty (80) years, and cost approximately \$150,000. A temporary side-track during works will cost in the order of \$60,000, subject to environmental conditions.

4. Combination of bridge and causeway

Another option which could be considered is to effectively widen the existing causeway to provide a new permanent heavy vehicle access adjacent the existing bridge. The existing timber bridge superstructure could then be repaired with one capable of light loadings, say three (3) Tonnes or 15 Tonnes only, as funding and resources permit, to provide a relatively flood-free access for residents using passenger vehicles.

The benefits of this option are that:

- Having both a high level and low level access will provide some redundancy at this site, allowing for simpler bridge maintenance into the future and continued passenger access with no loss in level of service;
- A more economical bridge structure could be used for lower mass loads;
- The high-level bridge upgrade could be staged, and constructed as Council funding permits. Any funding used to construct a bypass would not be lost as would be the case with a temporary bypass.

A new causeway adjacent the existing causeway would be expected to cost in the order of \$150,000 to \$180,000. Traffic would need to use the existing bridge as a bypass during construction of a new causeway, which would significantly impact on heavy vehicle movements. Alternatively, a temporary side-track would still be required at an additional cost of \$60,000. A new parallel causeway would be expected to take in the order of six (6) to eight (8) weeks to construct.

5. Causeway used in combination with alternative access roads

If the concrete causeway underneath the existing bridge was to be reinstated per option three (3) above, there would be potential to construct a new road link to Bargens Road, providing an alternative flood-free access. Similar links could also be constructed through to the New England Highway, Carrot Farm Road, or Morven Road.

Taking the Bargens Road option as an example, this would require the construction of two (2) kilometres of new unsealed road along low-lying ground, and also the acquisition of new road reservation by either voluntary purchase agreement or compulsory acquisition. The cost for such a road extension including drainage structures could be in the order of \$100,000 to \$150,000, but would require further investigation to confirm a cost.

The existing single span bridge over Nobby Creek on Bargens Road is not currently in a state to accommodate additional traffic and would also require an upgrade if used as a detour. This bridge would likely be replaced with one or more box culverts, and works could cost in the order of \$75,000. The replacement of the Bargens Road bridge is listed in Council's forward Roads to Recovery program for completion in the 2014/15 financial year.

Therefore the total cost for this option would be \$275,000, but would provide a permanent second access.

Service levels:

A useful measure of the rarity of rainfall events is the Annual Exceedance Probability (AEP), which is *the probability that a given rainfall total accumulated over a given duration will be exceeded in any one year*. Based on the catchment size, there is a 1% probability that the flow in the Severn River will equal or exceed 350 cubic metres per second (m<sup>3</sup>/s) in any given year. Similarly, there is a 10% probability that the flow in the Severn River will equal or exceed 160 m<sup>3</sup>/s in any year, and there is an 18% probability that the flow will equal or exceed 120 m<sup>3</sup>/s in any year.

A detailed site survey would be needed as an input to hydraulic calculations to determine the probability of the existing timber bridge being overtopped in any given year. Advice from the Dundee Reserve Trust suggests the existing bridge can go under water for one to two days during major flood events, and that the causeway by itself could be under water for up to 14 days during periods of heavy rainfall.

Once the temporary causeway is constructed, the bridge should be closed to all traffic until a long-term solution is implemented by Council. However, should the causeway be flooded for an extended period, the bridge could be temporarily reopened to light traffic, with regular inspections by Council to monitor the bridge until the causeway can be reopened.

**(a) Governance/Policy Implications**

Nil.



**(b) Legal Implications**

A public road reserve should be opened over any new permanent road constructed through private land.

**(c) Social Implications**

Correspondence from the Dundee Reserve Trust identifies many of the social implications if the Nine Mile Road Bridge was to be closed or the load limit reduced without first having a suitable temporary causeway in place. This includes a reduction in the capacity to move livestock, produce, fuel, fodder, bees, fertiliser and machinery which are vital parts of rural businesses. Community sports days are also threatened if livestock cannot be moved in large numbers. The Nine Mile Road area is also used by Glen Industries to source firewood.

Other issues include the need for a safe crossing of the Severn River for sending children to school, commuting to Glen Innes for work, access for emergency services including fire protection, and access to health services, especially for people suffering medical conditions.

**(d) Environmental Implications**

Environmental approvals must be obtained prior to any works within or adjacent the Severn River, including consideration of continued fish passage. Controls will be identified during environmental assessments to minimise any risk of harm to the environment, and implemented into work schedules.

**(e) Economic/Asset Management Implications**

Council's Asset Management Policy notes that assets will be planned, created, operated, maintained, renewed and disposed of in accordance with sustainability principles and Council's priorities for service delivery.

The existing timber bridge is over 50 years of age and is near the end of its service life. From an economic perspective, a concrete causeway is expected to provide the lowest cost solution, however this will also provide the lowest level of service to residents and landholders.

**CONCLUSION**

As not all costs are known with a reasonable degree of confidence at present, it is recommended that additional non-destructive testing be performed to obtain a current condition assessment of the suspected poorest of Council's timber bridges. It is suggested that this report then be considered by Council when allocating the remaining timber bridge capital vote, but that as a minimum a temporary sidetrack be constructed at the Nine Mile Road, Severn River crossing at the earliest opportunity.

**RECOMMENDATION**

- 1. That Council approves the construction of a temporary bypass causeway adjacent to the bridge over the Severn River on Nine Mile Road, to be funded from the Roads to Recovery program, with an estimated cost of \$60,000.*
- 2. That non-destructive testing be performed expediently on existing timber bridges as determined by Council's Director of Infrastructure Services, including the bridge over the Severn River on Nine Mile Road, to be funded from the timber bridge maintenance vote.*

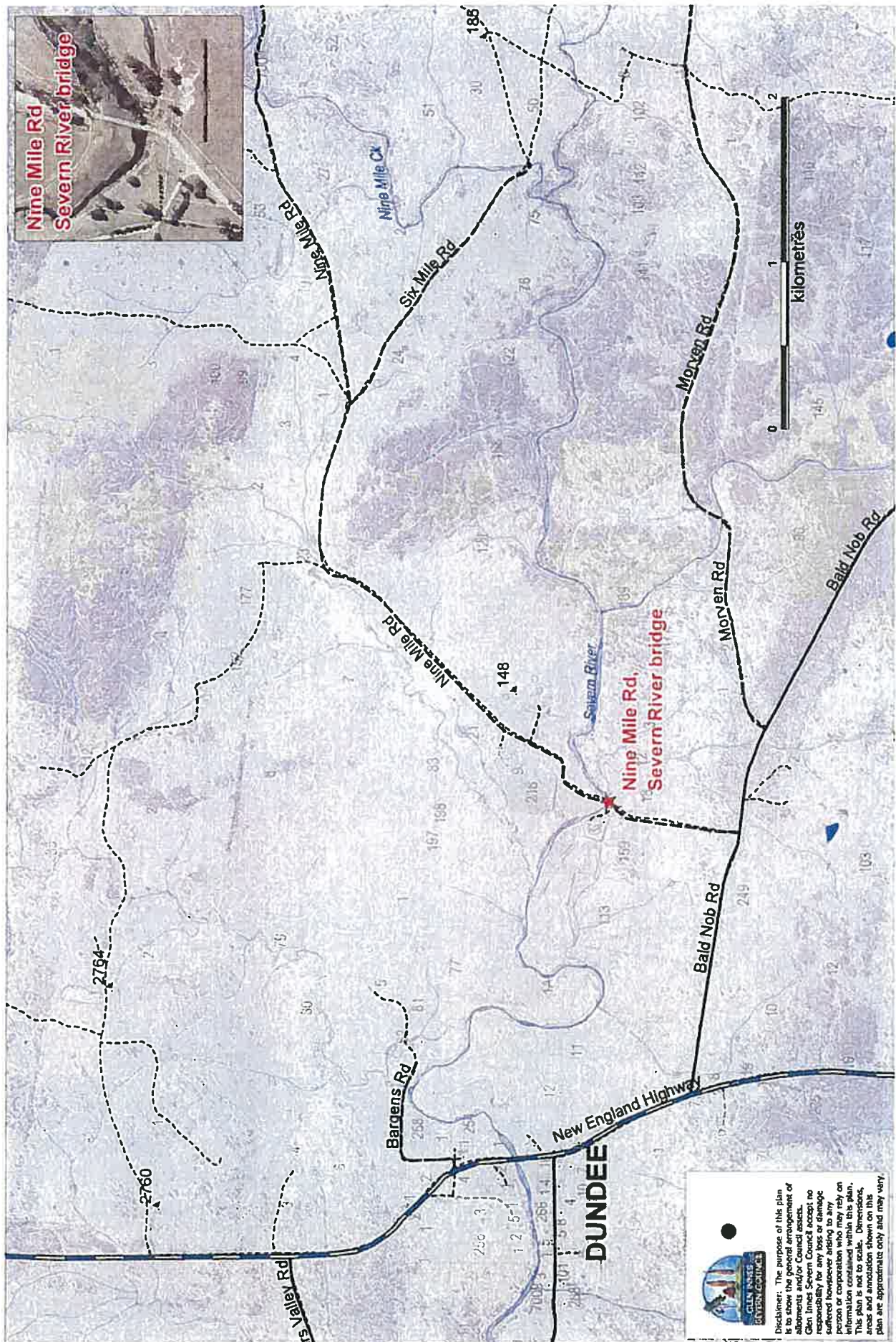
3. *That once current condition assessments have been made on existing timber bridge components, a report be prepared for Council's consideration recommending those bridges to be rehabilitated or replaced using the unallocated Roads to Recovery funding.*

# Annexure M

***Glen Innes Severn Council Meeting***

***26 SEPTEMBER 2013***





# **Annexure N**

***Glen Innes Severn Council Meeting***

***26 SEPTEMBER 2013***

# Dundee Reserve Trust

The General Manager  
Glen Innes Severn Council  
PO Box 61  
Glen Innes 2370

John Chappell  
Bridgewater  
571 Nine Mile Rd  
DUNDEE 2370  
Phone: (02) 67344170

12<sup>th</sup> August 2013

RE: Severn River Bridge on the Nine Mile Road

To the General Manager,

On behalf of the Dundee Reserve Trust committee and specifically the residents and landholders of the Bushy Park, Nine Mile and Six Mile road, we look forward to meeting with representatives of GISC in relation to the bridge over the Severn River on the Nine Mile road. We would like Hein Basson, Vanessa Menzie, Malcolm Donnelly, Colin Price and Mick Scherf to attend and provide an update on our bridge.

The date suggested (28<sup>th</sup> August) coincides with the Annual Hereford Bull sale, two studs who reside on the Nine Mile Rd will be selling Bulls on this day, other members of the community will be attending this sale. We request that you select another more suitable date to hold this site meeting. Wednesday 21<sup>st</sup> August or Wednesday 4<sup>th</sup> of September could be considered. If these dates are unsuitable please contact John Chappell to discuss alternatives. The community appreciates the opportunity to discuss the future of our bridge with GISC.

The community insists that an alternative temporary heavy vehicle access is in place prior to the start of load restrictions on the current bridge. The movement of livestock, stud stock, produce, fuel, fodder, bees, fertiliser and machinery are a vital part of our business. A load restriction without an alternative heavy vehicle route is a restriction of trade and will add considerable and unbearable costs to landholders and residents on this road. Our community sports may need to be cancelled as we will be unable to move the stock required for the campdraft. Glen Industries may also need to find alternative sources of firewood if heavy vehicle access is restricted.

The alternative temporary heavy vehicle access should be located adjacent to the existing bridge. We believe this is the best option and can be utilised while the wooden bridge is replaced.

Access between Nine Mile Road and Bargans Road is through private property on a farm track which would be impassable during wet weather. The bridge on Bargans road would not cope with the extra traffic.

There is no practical access between the Nine Mile Rd and the New England Highway.

Access between the Six Mile Rd and Morven Rd is again across private property, farm tracks prone to bogging and a crossing would need to be built to get over the Severn River.



The cost of developing other access routes will be immense, this money would be better spent on replacing the bridge.

We believe that the Severn River Bridge on the Nine Mile Road should be replaced as soon as possible. **The new bridge must not be any lower than the existing bridge.** If the level of the bridge is lowered the landholders and residents could be cut off for long periods (14 days or more) during times of heavy rainfall. This would be totally unacceptable.

This bridge is our only access to conduct our business, work (commuting to Glen Innes) send children to school and emergency services. Some residents suffer from critical health issues such as diabetes and anaphalaxix making access all the more important. The community has had concerns over this bridge for a number of years. Mrs Sue Sloman has been in touch with our past local members (Richard Torbay and Tony Windsor) and GISC on several occasions. These have been met with with replies of "the bridge is of a high priority and will be considered for funding".

We intend to contact our State member Adam Marshall and invite him to this site meeting. We hope that he may be able to assist Glen Innes Severn Council with the funding of the bridge replacement through State Government partnerships or bridge programs.

The residents and landholders need to be consulted and kept up to date with the current condition and future replacement of the Severn River Bridge on the Nine Mile Road.

As a community we are supportive and work with the Glen Innes Severn Council. We look forward to the construction of an temporary alternative heavy vehicle route and the construction of a replacement bridge.

Yours sincerely,

John Chappell  
Secretary  
Dundee Reserve Trust Committee

## **5 REPORTS**

### ***5.1 Roads: Bridges: Prioritisation of Timber Bridge Repair and Rehabilitation Projects***

**REPORT FROM: DIRECTOR OF INFRASTRUCTURE SERVICES**

**Author: Malcolm Donnelly – Manager of Technical Services**

#### **PURPOSE**

The purpose of this report is to consider the findings of recent bridge inspections, and to prioritise 2013/2014 timber bridge repair or rehabilitation projects within the allocated Roads to Recovery expenditure vote.

#### **BACKGROUND**

At the Ordinary Council meeting held in September 2013, it was resolved:

- 1. That Council approves the construction of a temporary bypass causeway adjacent to the bridge over the Severn River on Nine Mile Road, to be funded from the Roads to Recovery program, with an estimated cost of \$60,000.*
- 2. That non-destructive testing be performed expediently on existing timber bridges as determined by Council's Director of Infrastructure Services, including the bridge over the Severn River on Nine Mile Road, to be funded from the timber bridge maintenance vote.*
- 3. That once current condition assessments have been made on existing timber bridge components, a report be prepared for Council's consideration recommending those bridges to be rehabilitated or replaced using the unallocated Roads to Recovery funding.*

Construction of a temporary bypass causeway has been completed at the Nine Mile Road, Severn River crossing.

Quotations were invited from four (4) companies for providing non-destructive testing on Council's bridges. Following evaluation, a quotation was selected from Pitt and Sherry for completing Level Two (2) bridge inspections on all Council's bridges, and for producing an estimate and prioritised maintenance schedule for identified defects on 14 of Council's existing timber bridges, as identified on the next page:

Bridge Identification Number (ID)	Road Name	Watercourse	Number of Spans	Deck Length metres(m)	Deck Area metres square (m <sup>2</sup> )
5105	Bargens Road	Nobby Creek	1	8.4	33
5130	Cherry Tree Road	Furracabad Creek	2	18.3	86
5140	Claireville Road	Five Mile Creek	1	7.6	36
5150	Coxs Road	Deepwater River	2	15.6	65
5170	Furracabad Road	Furracabad Creek	4	30.3	158
5175	Gulf Road	Beardy River	5	42.4	182
5195	Polhill Road	Wellingrove Creek	3	26.0	109
5205	Glen Elgin Road	Glen Elgin Creek	2	16.1	81
5215	Mt Mitchell Road	Mann River	4	30.1	163
5220	Mt Mitchell Road	Yarrow River	2	16.1	69
5230	Mt Slow Road	Yarrow River	1	7.9	36
5235	Nine Mile Road	Severn River	10	61.6	265
5270	Shannon Vale Road	Mann River	4	44.0	242
5280	Shaws Road	Deepwater River	1	10.7	48

**(a) Relevance to Integrated Planning and Reporting Framework**

One of Council's objectives is to ensure that road infrastructure assets are fit for purpose and meet community service level aspirations.

**(b) Financial Considerations**

Council's 2012/13 Operational Plan included a Roads to Recovery (R2R) vote for upgrading numerous timber bridges, and this funding has been carried forward to the 2013/14 financial year.

Part of this funding has been used for construction of the temporary sidetrack at the Nine Mile Road, Severn River crossing. It is estimated that there will be in the order of \$240,000 R2R funding available for timber bridge rehabilitation in the balance of the 2013/2014 financial year, and this estimate may be further refined by the time of the Council meeting as the temporary sidetrack and other Roads to Recovery projects are completed.

**COMMENTARY**

A report on the condition of the 14 nominated timber bridges is expected to be received on or before Monday, 16 December 2013, and a late supplement to this report will be distributed at the earliest opportunity.

It is expected that the report will provide sufficient information to determine whether it is feasible to repair the existing Nine Mile Road, Severn River bridge using available funding, or whether available funding would be better served repairing other structures and a new allocation made in a future operational plan for the repair or replacement of the Nine Mile Road bridge.

**(a) Governance/Policy Implications**

Nil.

**(b) Legal Implications**

Nil.

**(c) Social Implications**

The consultants performing the timber bridge inspections will be assessing bridge condition from a purely technical viewpoint, and the prioritised bridge maintenance schedule may require some adjustment, within available resources, to account for local issues such as the availability of alternative access and level of service afforded by the structures.

**(d) Environmental Implications**

Prior to the commencement of any bridge works, environmental assessment will occur to identify controls to minimise any risk of harm to the environment, and will be implemented into work schedules.

**(e) Economic/Asset Management Implications**

Recommendations for bridge maintenance will be designed to ensure the safety and maximise the life of existing bridge structures using best practice techniques, so as to provide best value asset management outcomes.

## **CONCLUSION**

The bridge maintenance schedule developed by consulting engineers Pitt and Sherry is expected, with some local input, to provide a sound basis for prioritising timber bridge maintenance works using available R2R funding in an efficient manner.

## **RECOMMENDATION**

*That Council considers the bridge maintenance schedule to be distributed as a late supplement to this report, to allocate all remaining Roads to Recovery funding for the 2013/14 financial year.*

**9.16 Infrastructure Services Committee Meeting Minutes 11/12/13:  
Item 3.1 Roads: Bridges: Prioritisation of Timber Bridge Repair  
and Rehabilitation Projects**

**REPORT FROM: DIRECTOR OF INFRASTRUCTURE SERVICES**  
**Author: Malcolm Donnelly – Manager of Technical Services**

Moved: Cr Schumacher      Seconded: Cr Price

**ISC 3.1/12/13 RECOMMENDATION**

That Council considers the bridge maintenance schedule to be distributed as a late supplement to this report, to allocate all remaining Roads to Recovery funding for the 2013/14 financial year.

**CARRIED**

**RECOMMENDATION**

*That Council considers the bridge maintenance schedule to be distributed as a late supplement to this report, to allocate all remaining Roads to Recovery funding for the 2013/14 financial year.*



**Supplement to report 9.16 in the December 2013 Business Paper  
Infrastructure Services Committee Meeting Minutes 11/12/13: Item 3.1 Roads: Bridges: Prioritisation of Timber Bridge Repair and Rehabilitation Projects**

[illegible]

**DISCUSSION:**

The above costs are an estimate for budgeting purposes provided by the consultant and will not include all costs that may be incurred by Council, such as establishment costs, traffic management, environmental approvals, erosion and sediment control, side tracks, supervision costs and design costs. Further, as the bridge inspector could not view all bridge members due to water levels, there is likely to be more rehabilitation required on some structures than is reported above. Therefore a contingency has been applied above. The repair / rehabilitation work highlighted above can be undertaken from the remaining 2013/14 Roads to Recovery allocation.

Bargens Road is a Local Access Type C. The bridge appears to only serve one property. It may be more economical to replace the existing bridge with a culvert structure.

Furracabad Road is a Local Access Type B road. The bridge is located midway between Haymarket Road intersection and Cherry Tree Road intersection and is essentially a link road. Furracabad Road is nominated as a haul route for the windfarm development. The windfarm developers would be required to upgrade the bridge if they propose to use the route. Therefore, it would be prudent of Council to risk manage the bridge until more is understood about the need for the windfarm development to use Furracabad Road. The major defects on the bridge are the piers, which would cost in the order of \$80,000 to rehabilitate. Given that the bridge would be replaced to facilitate the windfarm development, it is not recommended that Council undertake this level of rehabilitation, and rather manage the risk. Risk management of the bridge would involve placing a temporary load limit for light vehicles only.

Council has been well informed on the history of the Nine Mile Bridge. The inspection report confirms that significant rehabilitation is required costing in the order of \$300,000 or replacement at around \$700,000.

Replacement options for bridges may include concrete, steel, timber, carbon fibre, single or dual lane bridges, or large culverts or causeways, depending on the level of service that Council considers appropriate for the hierarchy of the road.

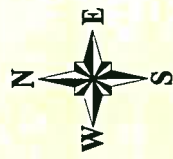
The remaining Council bridges will be similarly inspected and prioritised early in the new year for compilation into a full report for the purpose of community consultation on the draft revision of the Asset Management Plan in late January and February. Any remaining R2R allocation for 2013/14 could be spent on other maintenance identified from the inspection of the remaining bridges or as noted below on the Hunter Street pedestrian bridge.

One bridge that will not be inspected as it has been removed, and therefore will not appear in the bridges report, is the pedestrian bridge in Hunter Street adjacent to the showgrounds. The cost to provide a replacement bridge is in the order of \$10,000 to \$15,000. It is recommended that as there is likely to be around this amount remaining in the 2013/14 R2R budget, that this bridge be replaced.

**RECOMMENDATION:**

1. That Council considers the bridge maintenance schedule to be distributed as a late supplement to this report, to allocate all remaining Roads to Recovery funding for the 2013/14 financial year.
2. That repair/rehabilitation works highlighted in yellow be undertaken from existing 2013/14 Roads to Recovery funding
3. That the replacement of Bargens Road bridge #5105 be scheduled for 2014/15, subject to the application for a \$4 million loan Local Infrastructure Renewal Scheme Round three (3) application being successful. Alternatively, if the funding is not secured, then Council considers other funding options.
4. That the replacement of Nine Mile Bridge #5235 be scheduled for 2014/15, subject to the application for a \$4 million loan Local Infrastructure Renewal Scheme Round three (3) application being successful. Alternatively, if the funding is not secured, then Council considers other funding options.
5. That the replacement of Furracabad Road bridge #5170 be planned for, but not scheduled until the requirements of the windfarm development are clearly known.
6. That the replacement options for the above three bridges be investigated and reported back to the June 2014 Council meeting, by which time Council will have the advice on the LIRS application.
7. That the option for replacing Shaws Road #5280 with a replacement structure, such as a box culvert, be investigated and reported back to the February Council meeting.
8. That Furracabad Road bridge be temporarily load limited to 4.5 tonne.
9. That the pedestrian bridge in Hunter Street adjacent to the showgrounds be replaced from the 2013/14 R2R budget.

# TIMBER BRIDGE INSPECTIONS DECEMBER 2013



Asset_ID	Road_Name	Stream
5,105	Bargens Rd	Nobby Ck
5,150	Coxs Rd	Deepwater Rvr
5,205	Glen Elgin Rd	Glen Elgin Ck
5,235	Nine Mile Rd	Severn Rvr
5,280	Shaws Rd	Deepwater Rvr
5,270	Shannon Vale Rd	Mann Rvr
5,215	Mt Mitchell Rd	Mann Rvr
5,220	Mt Mitchell Rd	Yarrow Rvr
5,230	Mt Slow Rd	Yarrow Rvr
5,130	Cherry Tree Rd	Furracabad Ck
5,170	Furracabad Rd	Furracabad Ck
5,140	Clairville Rd	Five Mile Ck
5,195	Pohill Rd	Wellinggrove Ck
5,175	Gulf Rd	Beardy Rvr



## 14 Timber Bridges Inspected

Alternative route available

No-through routes

Additional Bridges

Bridge/Major Culvert Structure

