



**SUPPLEMENTARY
AGENDA
ORDINARY COUNCIL MEETING
MONDAY, 22 NOVEMBER 2021**

Notice is given that the next Ordinary Council Meeting of Tiwi Islands Regional Council will be held on:

- Monday, 22 November 2021 at
- Pirlangimpi Board Room
- Commencing at 10:30am

Your attendance at the meeting will be appreciated.

Valerie Rowland
Chief Executive Officer

AGENDA

1 REPORTS FOR DECISION

1.1	PARU BRIDGE ROAD.....	3
-----	-----------------------	---

REPORTS FOR DECISION

ITEM NUMBER	1.1
TITLE	Paru Bridge Road
REFERENCE	240963
AUTHOR	Chris Smith, General Manager Infrastructure



SUMMARY

Council has received information from DIPL regarding the proposed design of the bridge on the Paru Rd, which will commence in 2022 and has requested that Council provide feedback on the three designs

BACKGROUND

NTG has funding to replace the one lane bridge on the Paru Rd with a two lane bridge which will be constructed close to the present position of the water pump supplying Paru outstation.

Below are the three designs being considered:





ISSUES/OPTIONS/CONSEQUENCES

While I am not an engineer, I can say that the single span bridge is the best for Council – it will last longer and will not require the cleaning and maintenance of the other two designs.

Attached is a paper submitted by DIPL explaining the three designs with pros and cons.

CONSULTATION & TIMING

Nil

RECOMMENDATION:

That Council consider the three designs and notify DIPL of their preference.

ATTACHMENTS:

1 Summary of Concept Design Options.pdf 1 Page

Table 6 Advantages and Disadvantages

Northern Crossing Options*	
Option 1 – Bridge Crossing – 20 m Single Span Bridge	
Estimated Cost	\$5.5 M
Advantages	<ol style="list-style-type: none"> 1) Relatively quick to install, once the abutments on either ends are constructed. 2) A single span can be used at this location therefore no pier construction within waterway. Reduces environmental impact and reduces restriction to stormwater flow. 3) Local manufacturing capability (Darwin) up to 23m long planks.
Disadvantages	<ol style="list-style-type: none"> 1) Highest cost of the 3 options. 2) Due to its remote location, inspection and maintenance cost will be high.
Option 2 – Reinforced Concrete Box Culvert – 9 / 2.1 x 2.1 m RCBC	
Estimated Cost	\$4 M
Advantages	<ol style="list-style-type: none"> 1) Simple construction method. 2) Culvert width is approximately 20.5 m therefore the headwall extents are similar to the bridge opening width meaning a similar impact to the waterway. 3) Local manufacturing capabilities (Darwin) with several pre-cast contractors.
Disadvantages	<ol style="list-style-type: none"> 1) Unlike RCP culverts, RCBC will require base slab to sit on. 2) Requires major reconstruction of the stream bed within the plan area of the works to provide a flat surface for construction of culvert base slab
Option 3 – Reinforced Concrete Pipe – 11 / 2.1 m diameter RCP	
Estimated Cost	\$3.7 M
Advantages	<ol style="list-style-type: none"> 1) Simple Construction method. 2) Limited local manufacturing capabilities (Darwin) limited to 1 or 2 pre-cast contractors for large diameter pipe culverts. Holcim was contacted and confirmed that the largest manufacturing capacity locally is 2.1m diameter. 3) No concrete base needed to support the pipes. 4) Lowest cost of the 3 options.
Disadvantages	<ol style="list-style-type: none"> 1) 11 cells of 2.1 m diameter RCP may require extra shipping to site. 2) Requires major reconstruction of the stream bed within the plan area of the works to provide a flat surface for installation of the pipes 3) Culvert total width is approximately 33 m. Headwall costs will be significantly greater than for a box culvert and will have a much greater impact on the upstream and downstream extents of waterway training. 4) DIPL do not have standard drawings for culverts greater than 1.8 m dia. therefore documentation costs would be greater

*Southern Crossing In all 3 options above, is either 2 / 2.1 x 2.1 m RCBC, or 2 / 2.1 m RCP.