

7.1 QUESTIONS WITH NOTICE – ST PETERS BILLABONG EROSION STUDY - SUBMITTED BY CR KESTER MOORHOUSE

QUESTION WITH NOTICE: St Peters Billabong Erosion Study
SUBMITTED BY: Cr Kester Moorhouse
FILE REFERENCE: qA1040
ATTACHMENTS: A - D

BACKGROUND & QUESTIONS

Cr Moorhouse has submitted the following background and Questions with Notice:

The Council commissioned a slope stability assessment report from Coffey Geosciences Pty Ltd which was received in December 2000 (refer to **Attachment A**). It outlined the following recommendations (page 7);

“We recommend a regular review of the condition of the edge of the Billabong (at least once a year and after major floods or changes to the water level). Consideration should be given to locally treating erosion and slope failures if they occur in order to prevent progressive deterioration of the slope. This strategy of on-going maintenance is considered essential to maintain the integrity of natural slopes.”

1. Given the recommendations for at least annual reviews, was the stability of the bank formally reviewed in between the Coffey Report in December 2000 and the Golder report in June 2021?
2. If so, were any actions taken to locally treat erosion and slope failures?
3. The Coffey Report lists thirteen (13) properties “*at risk of being affected by slope instability in the next 50 years*” (page 7). Now that twenty-four (24) years have passed since the Coffey Report was written, is it the opinion of staff that these thirteen (13) properties are at risk of being affected by slope instability in the next twenty-six (26) years?
4. Considering the costs outlined in the *Golder Outline Designs and Indicative Estimates of Possible Construction Cost Ranges* report dated June 2021 (refer to **Attachment B**) and the recent increases in costs of civil construction, how much is it anticipated that cliff slope stabilising measures will cost?
5. How many of the properties on River Street and Eighth Avenue with a boundary on the Billabong embankment had development applications approved since December 2000, either under the Development Act of 1993 or the Planning Development and Infrastructure Act of 2016?
6. Were any of the houses or structures situated within ten (10) metres of the cliff face built since the Coffey Report was received in December 2000? (refer to **Attachment C**).

REASONS IN SUPPORT OF QUESTIONS

There exists significant public interest in the Council’s management of the St Peter’s Billabong cliff area. As noted in the recent St Peters Billabong Erosion Study NPSP staff budget bid, “*the action of “doing nothing” will ultimately result in slope instability of the soil cliff, and the potential impact to the citizens, private property/assets and the community will be significant.*”

**RESPONSE TO QUESTIONS
PREPARED BY GENERAL MANAGER, GOVERNANCE & CIVIC AFFAIRS**

Prior to answering the specific questions that have been asked by Cr Moorhouse, I have set out below some background to this issue.

Over the period from 1938 until 1980, land was purchased by the former Town of St Peters to create the St Peters River Park and Billabong.

On 6 November 1976, the Mayor of St Peters announced that the State Government had agreed to fund two thirds of the cost of \$300,000 to develop the reserve and to divert the River Torrens in a straight line by-passing the 'horseshoe bend':

"The development involves the diversion of the River Torrens by cutting across the neck of the loop, and the formation of a level area that will be grassed and available for use as playing fields. The course of the river will be about seven hundred metres shorter when the neck is cut out.

The first three hundred metres of the loop will be filled in, but the rest will be retained in its natural state. Though cut off from the mainstream by the diversion, the loop will be fed with the river water by underground pipeline. After forming the creek and a lake in the loop, this water will flow back into the river through another pipeline".

The President of the Royal Australian Institute of Architects, BJ Vogt, cautioned against interfering with the course of the Torrens River and called for further studies to be conducted on the proposal as it could worsen erosion, stating that *'the project should be more than-a-straight forward engineering job.'* (The Advertiser, 23 March 1974).

The St Peters Council proceeded with the diversion and two (2) weirs were built to control the flow of water and the water level in the new main river channel.

The Billabong was officially opened on 16 October 1988.

Since that time, as the cliffs over this section of the Billabong are steep, erosion of the cliff face has become evident in some locations. The erosion of the cliff face, which has been assessed through work commissioned by this Council, has identified that the erosion has been caused by stormwater runoff eroding the upper soils and fluctuations of the water level of the Billabong which is undermining the lower slope.

Progressive deterioration of the vertical faces is expected to occur in the future which could impact on the crest of the embankment – albeit the extent of the erosion is not fully known at this stage.

Pedestrian access along the crest of the embankment is limited or non-existent in some sections, with uneven ground, overgrown areas, obstructions, etc. As such, as Elected Members have been advised, it is considered that in the current condition that there is a safety risk to pedestrians, due to the very high potential for serious injury or worse from tripping and/or falling, which is exacerbated by the close vicinity of the steep embankment.

It is important to note that formal pedestrian access has not been established or maintained by the Council in this section of land (across the top bank of the Billabong), due to the steepness of the cliffs.

However, it would appear that an "informal track" has been established over time by people walking through this area – this access is however not authorised by the Council.

There are 15 properties which share the boundary of the top bank of the Billabong. Of the 15 properties, 12 have dwellings located on them which were erected in the period from 1920 – 1950. Two dwellings have more recently been erected (ie 1995 and 1997) and one (1) property is currently vacant. An aerial image of the subject properties is enclosed for your information (refer to **Attachment D**).

Of the 15 properties which abut the top of the bank of the Billabong, 12 properties are encroaching onto Council owned land (ie the top of the bank of the Billabong) – noting that these encroachments could date back to 1920.

This is not surprising, as research undertaken by the Council has highlighted that in 1927, the property boundary was identified as “*the centre of the river*”.

In 1938, the area at the rear of these properties was purchased by the former Town of St Peters and declared ‘*Reserve Land*’. The property boundary was altered at that time to the “*top of bank*”.

Given the age of some of the dwellings in this location, it is, as stated above, not surprising therefore, that some properties do encroach onto this section of Council owned land, as the need for property owners to adjust their boundary fences to the updated boundary at that time, may have been overlooked. Table 1 below sets out the year in which the dwellings were built.

TABLE 1: EIGHTH AVENUE DWELLINGS WHICH ABUT THE TOP BANK OF THE BILLABONG – YEAR DWELLINGS WERE BUILT

Address	Year Built
12 Eighth Avenue St Peters	Vacant Land – Current Development Application
14 Eighth Avenue St Peters	1920
16 Eighth Avenue St Peters	1930
1 River Street St Peters	1925
3 River Street St Peters	1990
5 River Street St Peters	1950
7 River Street St Peters	1952
9 River Street St Peters	1945
11 River Street St Peters	1950
13 River Street St Peters	1951
13A River Street St Peters	1950
15 River Street St Peters	1920
17 River Street St Peters	1997
19 River Street St Peters	1920
21 River Street St Peters	1920

As Elected Members are aware, there are a number of issues that the Council must consider and work through in respect of this issue. The most critical issue at this time for the Council, is the matter of the erosion.

To this end, as Elected Members are aware, funding has been included in the draft 2024-2025 Budget for a geotechnical assessment to be undertaken which will include on-site sampling and testing of the stability of the bank.

Once the extent of the erosion is more fully known, the Council can then determine a suitable treatment to control the rate of the erosion and appropriate communication will occur with the respective property owners.

In terms of the encroachment issues, these matters will be addressed with the affected property owners.

Question 1: *Given the recommendations for at least annual reviews, was the stability of the bank formally reviewed in between the Coffey report in December 2000 and the Golder report in June 2021?*

The stability of the bank has not been formally reviewed during this period.

Question 2: *If so, were any actions taken to locally treat erosion and slope failures?*

No actions have been undertaken to treat erosion of the banks of the St Peters Billabong, as no actions have been necessary at this stage until the Council has considered the various options to address the issue.

Question 3: *The Coffey report lists thirteen properties “at risk of being affected by slope instability in the next 50 years” (page 7). Now that twenty-four years have passed since the Coffey report was written, is it the opinion of staff that these thirteen properties are at risk of being affected by slope instability in the next twenty-six years?*

Council staff do not have expertise in this area and therefore, are not in a position to answer this question and as Elected Members are aware this is why staff have requested funding as part of the draft 2024-2025 Budget to undertake a geotechnical assessment to determine the extent of the problem and possible treatment options.

Question 4: *Considering the costs outlined in the Golder Outline Designs and Indicative Estimates of Possible Construction Cost Ranges report dated June 2021 (see Attachment B), and the recent increases in costs of civil construction, how much is it anticipated that cliff slope stabilising measures will cost?*

At this stage, there is little to be achieved in respect to quantifying the estimated costs of any solution.

To this end, as Elected Members are aware, that is why staff have requested funding for a geotechnical assessment to be undertaken to determine the extent of the problem, options to address any potential issues and the costs associated with the various options which will then be based on 2024 estimates.

Question 5: *How many of the properties on River Street and Eighth Avenue with a boundary on the Billabong embankment had development applications approved since December 2000, either under the Development Act of 1993 or the Planning Development and Infrastructure Act of 2016?*

A total of 11 properties have had Development Applications approved since December 2000.

The Planning Policy framework applicable to these parcels of land has changed over time, however the allotments have always been within residential type zones that envisage residential development and associated structures. No aspect of the applicable Planning Policy specifically prevented or prevents the construction of residential development in this area and on the existing allotments and accordingly, relevant authorities (ie the Council), have not been or are not in a position to refuse such Development Applications.

The Planning Policy framework has always referenced natural hazards and site stability as relevant planning considerations and accordingly, Council staff have requested engineering reports and other associated information to determine that the proposal satisfactorily addresses those relevant policies.

Question 6: *Were any of the houses or structures situated within ten metres of the cliff face built since the Coffey report was received in December 2000? See Alexander Symonds survey 2020 (Attachment C).*

Yes.

The number of dwellings that have been erected within 10 metres of the top of the bank are:

- one (1) dwelling and pergola (approved under the *Development Act 1993*);
- one (1) dwelling and pergola (approved under the *Development Act 1993*); and
- one (1) dwelling (approved under the *Development Act 1993*).

In answering this question, it is important to note that on Page 17 of the **2020 Golder** report, it states that an exclusion zone of at least 3.0 metres should be established at the crest of the slope and that signage to warn of the possibility of slope instability should be erected.

As set out in the report, the purpose of the 3.0 metre exclusion zone is to reduce the risk to the public accessing this area of the Billabong due to the erosion of the slope. The 3.0 metre exclusion zone has been based on the expected rate of the erosion within a 50 year interval (i.e. 1.0 metre to 3.0 metres).

In addition, the Golder report suggests that as a **Control Measure** “Future developments are excluded for a lateral distance of 10 metres from the crest of the slope. Stormwater outflows from the future developments must be directed away from the slope and into the existing stormwater collection system. The purpose of the 10 metre exclusion zone is to reduce the impact of future developments on the slope (e.g. through leaking services, loads imposed by footings, etc.). The recommended 10 metre exclusion zone has considered the effect of future developments, rate of slope retreat and recommendations provided in the Coffey report. **It should be noted that consideration could be given to development within this 10 metre zone if an engineering assessment is undertaken**”.

As part of the assessment process that is undertaken when Development Applications are assessed, applicants are required to provide engineering data to ensure that the structures have taken into account the geology of the particular allotments and this includes bank stability.