QUEENSLAND FLOODS COMMISSION OF INQUIRY

STATEMENT OF ROBERT JOHN SAVAGE

I, Robert John Savage, Director of Development and Environment, North Burnett Regional Council make the following statement under oath as required by the Commissioner of Inquiry:

Summary of the assessment criteria and development controls contained in Council's planning scheme(s) including how such criteria is used to assess applications for development in the natural hazard management area

1. North Burnett Regional Council regulates development in the local government area through six planning schemes—those of the former shires of Biggenden, Eidsvold, Gayndah, Monto, Mundubbera and Perry. Five of those are essentially the same with respect to managing flood hazards, and the sixth, Mundubbera, follows the planning scheme template promoted by the State at the time.

Biggenden, Eidsvold, Gayndah, Monto and Perry Shire Planning Schemes

State Planning Policies

2. The Minister for Local Government and Planning identified that only the bushfire and landslide components of State Planning Policy 1/03 were 'appropriately reflected' in the planning scheme. Further, the Minister for Local Government and Planning advised the flood provisions of State Planning Policy 1/03 continue to have effect.

Purpose statements in all zone codes

3. The code purpose for each zone code in the five schemes includes an outcome statement relating to natural hazards—

> *'Within the (example)"Zone", "development"...is located and designed in ways that minimise the need for flood, bushfire and landslide mitigation, and to protect people and premises from such natural events;'*

Material change of use

4. Each zone code in the five schemes includes a performance criterion relating to flooding. This however only applies if development involves making a material change of use (MCU) but does not apply to building work or operational work if there is no MCU involved.
The performance criteria is—

> ***PC34 Flooding***
>
> *"Premises" are designed and located so as to:*
>
> *(a) not to be adversely impacted upon by flooding;*
>
> *(b) to protect life and property; and*
>
> *(c) not to have an undesirable impact on the extent or magnitude of flooding.*

5. A footnote to that performance criterion, effectively operating as a scheme explanatory note, states—

> *To assist an applicant to demonstrate compliance with PC33, the maximum recorded flood may be adopted as an indication of flood level.*

6. The planning scheme does not identify an acceptable solution for this performance criterion.

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Operational work or building work not involving a material change of use

7. The five planning schemes do not contain any assessment criteria relating to flood hazard for development constituting operational work or building work.
This would therefore mean that someone intending to develop a shed associated with a dwelling house, extending a dwelling house, enclosing underneath a dwelling house or similar proposals would not be subject to any planning scheme assessment criteria relating to flood hazard.

Reconfiguring a Lot

8. Development for reconfiguring a lot is code assessable against the 'Reconfiguring a lot Code'. The purpose of the code contains a statement relating to natural hazards as follows—

> *"Reconfiguring a lot" minimises the need for flood, bushfire and landslide mitigation, and protects people and premises from such natural events;*

9. The performance criteria in this code however do not make any explicit reference to flood hazard, but instead incorporates the following statement relating to safety—

> ***PC9 Layout and Design***
> *The reconfiguring of lots:*
> *(a) ensures safe and liveable communities;*
> *etc...*

10. North Burnett Regional Council, in considering proposals and providing pre-lodgement advice, has applied this performance criterion in relation to flood hazard, for example by requiring that each new lot provide a suitable building platform above either the highest known flood event or above the 1% AEP in relation to Gayndah. The emphasis here is on providing lots that are 'safe'.

Overlays and overlay codes

11. The five planning schemes do not have any overlays or overlay codes relating to flood hazard.

Mundubbera Shire Planning Scheme

Reflection of SPP 1/03 in the planning scheme

12. The Minister for Local Government and Planning did not identify that the planning scheme had 'appropriately reflected' SPP 1/03.

Overview

13. The Mundubbera Planning Scheme operates differently to the five other planning schemes in that it has a specific overlay and associated overlay code that provide a very basic trigger for assessment against flood hazard considerations. Unlike the other five planning schemes, the Mundubbera scheme does not contain any flood-related assessment criteria within the zone codes, other than for the Industrial Zone Code (discussed later).

Drainage & Flood Liability Overlay

14. The Mundubbera planning scheme incorporates a 'Drainage and Flood Liability Overlay' on the eastern edge of the town area. The overlay map was merely based on local knowledge about known flood levels in previous major flood events—not on flood modeling.
Development involving a material change of use of land mapped as being within the Drainage and Flood Liability Overlay is code assessable against the 'Cultural Heritage Features Overlays Code'. Development that would otherwise be exempt or self-assessable development then becomes code assessable against that code.

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15. Similarly, carrying out building work or operational work within the Flood Liability Overlay is code assessable against the Cultural Heritage Features Overlays Code.

Assessment Provisions—Cultural Heritage Overlays Code

Specific outcomes for flooding

16. *For development located in the Drainage and Flood Liability Overlay—*

Immunity from flooding

(a) An acceptable level of flood immunity is provided.

(b) Development minimises risks to personal safety and the risk of damage to property.

Flooding or drainage problems

(b) Works do not create or increase flooding or drainage problems.

Industrial Zone Code

17. The 'Specific outcomes and probable solutions—effects of works in the Industrial Zone' contain one assessment criterion relating to locating storage tanks above flood level—

Wastewater, surface water and refuse Disposal

Wastewater does not enter watercourses or groundwater because the following measures have been implemented—

paras (i) to (iv) unrelated to flooding...

(v) locating storage tanks containing hazardous, toxic or noxious wastes only in locations that are flood free for a 1 in 100 year flood event.

Reconfiguring a Lot Code

18. The Reconfiguring a Lot Code contains assessment criteria in the form of specific outcomes and probable solutions. The specific outcome relating to natural hazards is—

The reconfiguring does not result in increased risk to life or property as a result of flooding, landslip, wildfire, or other natural hazard, having regard to the likely subsequent development on the land.

19. The code contains the following probable solution—

A suitable building platform is available that—

(a) is not below the highest recorded flood level or otherwise subject to flooding or inundation;

(b) has an area of not less than 80 square metres;

(c) has a width-to-depth ratio of at least 1:2;

(d) has a maximum slope of natural ground level less than 20%.

20. For development that does not comply with these assessment criteria, the IDAS rules requires the assessment manager to assess the proposal against the overall outcomes/purpose of the code. There is no purpose that explicitly refers to natural hazards, but instead includes the following outcomes statement—

(a) lots are suitable for the intended use or probable uses having regard to the zone in which the site is included;

21. Council could consider that a reconfiguring of land that was subject to flooding to result in lots that were not fit for their purpose. It would then be possible to refuse such an application.

Filling and excavation code

22. Development involving filling or excavation is assessable against the Filling and Excavation code if involving more than 100 m³ of material. If involving less than 100 m³ the filling or excavation is self-assessable against the acceptable solutions in the Filling and Excavation Code.

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23. The Filling and Excavation Code within the Mundubbera planning scheme contains several references to flood hazard, as follows.
24. The code contains the following overall outcome—
Where filling or excavation occurs on a flood affected site, there is no increase in the risk of flood damage to life or property for existing and proposed development.
25. The code contains specific outcomes such as—
Filling and excavation does not cause any new or exacerbate any existing flooding or drainage problem including—
(a) the loss or reduction of flood storage;
(b) creation of afflux;
(c) hazards to property or people;
(d) any impediment to Counter Disaster Plan measure;
(e) creating new flood prone land or a flood hazard;
(f) adverse hydraulic impact on areas external to the site.
26. There is no solution identified for this specific outcome.
The code also contains the following specific outcome and associated acceptable outcome/probable solution—

Filling and excavation does not adversely affect environmental values in receiving waterways or wetlands nor adversely affect areas of nature conservation significance.	*Filling or excavation does not occur—* *(ii) within 100 metres of any wetland or creek or 200 metres of a river; or,* *(iii) below a 100 year ARI flood level.*

27. Council could only use the assessment criteria in this code for minimizing or avoiding worsening a flood but not for preventing more intensive uses within flood plains.

Description of how the natural hazard management area, as it relates to flood affected land, is reflected in the planning scheme(s)

28. None of the planning schemes contain *natural hazard management areas (flood)* —those areas that have been defined for managing natural hazards, such as floods in accordance with Annex 3 of SPP 1/03.

29. The Mundubbera planning scheme does not have a DFE, such as a 1% AEP, but simply maps land known to be inundated in previous flood events. The remaining five planning schemes do not attempt to map or define any areas subject to flooding.

Details of council's defined flood event including a description of how it was chosen and the way in which it was calculated and determined

Defined Flood Event – Gayndah

30. On 3 February 2009 I presented the following report to Council's Policy and Strategy Meeting.

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DIRECTOR OF DEVELOPMENT, ENVIRONMENT & INFRASTRUCTURE SERVICES MONTHLY REPORT TO COUNCIL

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Defined Flood Event - Gayndah

The Gayndah Flood Study has been subject to discussion by North Burnett Regional Council on several occasions. To date there has been no determination of a Defined Flood Event to replace that adopted by Gayndah Shire Council i.e. 1942 Flood levels. The Gayndah Flood Study Report prepared by BMT WBM described the February 1942 event as "a major flood event with a peak discharge at Gayndah in excess of the 0.5% Annual Exceedance Probability (AEP), in other words a 1:200 event.

To further inform Council advice was sought from the Local Government Association of Queensland Inc. in September 2008. Discussions and email correspondence have also been had with Rebecca Hoare, Environment and Planning Partner, Deacons.

- **Local government Association of Queensland Inc.**

  Copies of LGAQ's response to Council and their letter to five Government Ministers are attached. LGAQ consider that the matter of climate change allowance for rainfall intensity and flood events is one that should be researched, studied and determined on a whole of state or regional basis. They reiterate: that there is still no firm scientific or engineering basis on which this consideration can be given for flood hazard, equally and consistently across the state; that the Queensland Government's position is that a 1% AEP flood is the appropriate flood event on which to base the Defined Flood Event and climate change impacts should be considered in undertaking natural hazard assessments; and that the State has not set any guiding benchmark for how climate change impacts should be considered.
- **Deacons**

  Rebecca Hoare has had a preliminary look at the flood study by BMT WBM and proposes to provide advice which will include:

  - Review of the flood study and the recommendations made by BMT WBM;
  - Analysis of Council's legal obligations arising from the flood study (particularly in relation to Council's duty of care)
  - Recommendations to Council to minimize its risks in terms of its duty of care and potential third party claims faction against Council.

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Their estimated fee for this advice is in the range of $4000 - $6000 (plus GST). They advise that the advice can be provided within 2 weeks of receiving instructions.

It is considered that to proceed with this advice would not add any value to the information and advice that we already have. LGAQ and the State will also consider all Councils risks and duty of care in their further studies. Also any advice to NBRC would have the potential to impact on other Councils without them being aware.

The BMT WBM report recommends that consideration is given to flood events with a climate change allowance of 20% however the report acknowledges the lack of conclusive studies that quantify the impact of climate change.

Director Development Environment and Infrastructure considers that Council has given adequate consideration to climate change impacts and in view of:

a) The dearth of research and evidence on climate change relative to the Burnett River catchment

b) The lack of a coordinated State approach on setting a benchmark and

c) An advantage to be consistent with the majority of Queensland Councils in adopting a Defined Flood Event of 1% AEP;

Council should adopt a Defined Flood Event of 1% AEP. Should the State Government determine a uniform approach in the future, any results of that process will impact equally on all Queensland Councils.

Recommendation

That Council acknowledges the results of the Gayndah Flood Study Report prepared by BMT WBM and adopts the 1% AEP Flood Event. Further, that the maximum flood levels in each segment of Drawing 11-3 of the Gayndah Flood Study be adopted as the basis for determining habitable floor heights and that habitable floor heights be 300mm above those levels. Further that any future benchmark determined by the State of Queensland for climate change allowance relative to the Burnett River catchment be considered at such time as that determination is made. Further that advice from Deacons not be sought at this point of time.

At the Policy and Strategy meeting held on 3 February 2009 the following resolution was passed:

Defined Flood Event – Gayndah

C/01.09.13
Moved Cr P Baker Seconded Cr FO Whelan.

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That Council acknowledges the results of the Gayndah Flood Study Report prepared by BMT WBM and adopts the 1% AEP Flood Event. Further, that the maximum flood levels in each segment of Drawing 11-3 of the Gayndah Flood Study be adopted as the basis for determining habitable floor heights and that habitable floor height be 300mm above those levels. Further that any future benchmark determined by the State Government for climate change allowance relative to the Burnett River catchment be considered at such time as that determination is made. Further that advice from Deacons not be sought at this point of time.

CARRIED 7/0

Defined Flood Event – Mundubbera

31. Minutes of the Ordinary General Meeting of the Mundubbera Shire Council held on 18 September 2007 record:

    A discussion took place regarding flood levels and flood heights for Mundubbera Town.

32. The minutes record that Mundubbera Shire Council then resolved "*That Council adopt the level of 122 AHD as the minimum height for a habitable floor of a dwelling.*"

Defined Flood Event – Monto

33. At the request of Monto Shire Council on 21 December 2006, Council's Consulting Engineer advised on 5 January 2007 that he had established various "flood" heights for Monto Township. A copy of that advice appears below. These heights have been used by Council since that time in regard to advice provided to developers.

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Deponent

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5 January 2007

QANTEC McWILLIAM
consulting engineers

The Chief Executive Officer
Monto Shire Council
PO Box 216
MONTO QLD 4630

MONTO SHIRE COUNCIL
RECEIVED
8 JAN 2007
FILE 13/19
LETTER 118/20
COPY TO MEIS MCEO
AGENDA

ATTENTION: Bob Savage & Bob Spencer

Dear Bob

MONTO TOWNSHIP
ESTABLISHMENT OF FLOOD HEIGHTS

As determined at our meeting of 21-12-2000 I have established 'flood' heights for Monto Township as follows.

Location	1974 Flood Ht AHD (3 Moon Ck)
Mill/Faraday St	230.00
Huntings Bridge	229.74
Golf Links Estate/Stuart St	228.00
MSC Depot/Felmac	226.20

It is recommended that residential, commercial and industrial floor levels be set at 0.5m above the 1974 flood height.

In the case of Felmac Subdivision, the applicant should also determine the $Q_{(?)}$ level in the local gully from a local storm to ensure that the blocks are at a safe level above that level.

Attached are the details of the source levels and methodology of calculations.

Yours faithfully,

[redacted]

N C WELLER
Senior Engineer

Enc.

QANTEC McWILLIAM Pty Ltd - ABN 79 086 342 065
Phone 07 4121 3942 Fax 07 4123 1203 Email maryborough@qmcw.com.au Web www.qmcw.com.au
149 Adelaide Street, Maryborough QLD 4650 (PO Box 333, Maryborough QLD 4650)

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Defined Flood Event – Biggenden, Eidsvold, Mt Perry

34. As far as I can ascertain none of the Council's of these former shires undertook any work to establish a Defined Flood Event. Similarly, North Burnett Regional Council has undertaken no such work.

Description of any planning requirements to have evacuation routes and/or early warning systems for areas identified to be at risk of flooding, including information about how the existence of such evacuation routes and/or early warning systems are communicated to occupiers of areas at high risk of flooding

35. There are no planning requirements to have evacuation routes and/or early warning systems for areas identified to be at high risk of flooding.

Description of any controls or standards used to assess the storage of chemicals or other Environmentally Relevant Activities below the Q100 flood line or Council's defined flood event

36. North Burnett Regional Council has not received any recent applications for new construction associated with ERA's for the storage of chemicals. If we were to receive such an application it would be assessed under the provisions of Dangerous Goods Safety Management Regulation 2001 in conjunction with the Environmental Protection Act 1994. For example, council might require the applicant to undertake an independent study which gives confidence to council that they have the necessary safeguards in place to prevent damage to people, property and the environment.

Description of any conditions imposed by Council on the approval of development applications to ensure that hazardous materials affected by flood water do not affect public safety and/or the environment

37. There have been no development applications lodged with the amalgamated North Burnett Regional Council requiring conditions to ensure that hazardous materials affected by flood water do not affect public safety and/or the environment. However, if an application were to be received, Council is likely to require to undertake an independent study which gives confidence to council that they have the necessary safeguards in place to prevent damage to people, property and the environment.

Description of how levee banks are regulated in Council's area including examples

38. There are no levee banks constructed in the North Burnett Regional Council area.

Description of the measures used by Council to protect Council infrastructure (sewers, roads, stormwater etc) to ensure such infrastructure functions during a defined flood event

... North Burnett Regional Council experienced significant damage to its public infrastructure including rural roads (100%), water intake systems at two towns, sewerage pump stations, treated effluent holding tanks, caravan parks, parks along rivers and public buildings.

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I offer the following information about actions taken to protect council infrastructure as provided by the Director Technical Services:

- The rural road network was initially damaged from a heavy rain and flood event in March 2010. NDRRA approval to reconstruct this damage (about $650,000.00) was not provided until January 2011.
- The December 2010 event (including the March 2010 event and other heavy rain events in the lead up to the December 2010 event) impacted on 100% of the Council controlled rural road network. All roads were either flooded, damaged from flash floods or their pavements weakened due to saturation.
- In January 2011 (1/2/2011), Council closed a number of roads and imposed a 15 Tonne load limit on ALL roads and streets under its control. Road closures were detailed on Council's webpage. The load limiting was publically advertised, road advisory signage installed and a series of public meetings were held to explain the system. The purpose was to protect the road network and allow it to dry out and re-open quicker with reduced damage.
- Council experienced problems with the enforcement of road closures and load limiting roads through lack of readily available enforcement options (available to Council) such as "on the spot fines" and suitable legislation to support load limiting whole networks or parts there-off. In our instance, the Police and Queensland Transport officers who could enforce their legislation are not readily available within this Council area to undertake these enforcement duties.
- Technical Services Department staff considered requests for variations to the load limits based on the individual roads capacity to carry greater loadings. This system continued until the load limiting system was withdrawn on 22/5/2011. Although the roads were still partially saturated, a decision was made to remove the load limiting to allow the citrus fruit crop to transported to market and lot fed stock to be transported. This was a balance of economic/social wellbeing versus infrastructure protection made by the Council.
- Some damage was incurred with township streets but the damage was minor in nature. Public education and seeking their support assisted with the protection of these road assets.
- The raw water intakes, pumping stations and control systems for the water supplies to the towns of Mundubbera and Gayndah were destroyed by the flooded rivers. The river beds changed as a result of the flood and these towns are still reliant on temporary pumping systems until new designs are approved and the pumps reconstructed. The Eidsvold Water Treatment Plant was affected by flood water due its isolation. The towns are subject to

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water restrictions. Council could not protect itself against this damage. Gayndah and Mundubbera remain on level 3 water restrictions.

- The sewerage pump stations and holding tanks were flooded at the towns of Mundubbera, Gayndah and Monto. Where possible, control panels and electrical systems were removed prior to flooding to allow an expeditious recovery of these systems after the flood water resided. During the flood, effluent was discharged to the river system from three pump stations that had been shutdown. Council reported these overflows to DERM. In Mundubbera the pump stations, that were shutdown, had flood water entering the system from flooded homes. All new homes are being built at a height above flood level to minimise the future impact on these pump stations.
- Two caravan and camping grounds at Paradise Dam and Mingo Crossing went under water due to the high flow rate into this dam. The caravan parks were shut down as best as possible to enable electrical circuits to be recommissioned after the flood water went down and the clean up occurred.
- A boat ramp at Mt Debateable and another ramp at Greys Water Hole have been destroyed and another ski area (buildings, BBQ's, jetty and other structures) at Mundubbera was destroyed. The two boat ramps have been written off due to changes in river location. The ski area will be redeveloped soon. However no protection could be offered to these locations.
- Parks along the Burnett River were damaged as a result of flooding.
- Public buildings received some minor damage.
- A new bridge was destroyed, floodways damaged and/or destroyed and culverts damaged on various roads. Storm water systems within the towns were not damaged. All new bridges are being designed to cater for "dirty water (ie debris, trees, etc)" that may build up on the sides of bridges and cause excessive pressure. Floodways are being designed to withstand faster flowing water and will incorporate energy dissipation devices. The storm water systems performed adequately and not further protection is required.

Sworn by Robert John Savage at Gayndah this 12th day of September 2011 in the presence of:

[redacted]

Deponent

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Solicitor / Justice of the Peace / Comm. Dec.

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Deponent

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