

The Committee Secretary
Queensland Floods Commission of Inquiry
PO Box 1738
Brisbane QLD 4001

28 February 2011

Dear Sir / Madam,

We write to advise the Committee of our current research which examines the history of Brisbane's land use planning and reviews current plans, particularly in the watershed and floodplain of the Brisbane River. We especially analyse these issues in relation to climate change projections, estimates of population growth and the current policy of urban consolidation.

Our research provides perspectives on alternative land use planning in the floodplain illustrating how the new set of challenges presented by future forecasts might be understood and contribute to flood security and environmental amenity in tomorrow's city

We have undertaken this research within the disciplinary tradition of architecture and urban design. Between us we have researched and written about the environmental contexts of cities and buildings as well as designed buildings with concern for subtropical environments.

We address particularly the following term of reference:

- All aspects of land use planning through local and regional planning systems to minimize infrastructure and property impacts from floods

Land Use Planning: Brisbane

Our history of the watershed landscape of the Brisbane River covers the period 1823-2010. The following points provide a summary of our research and approach.

- 1) We analyse data from early surveys to draw up a composite map of the inhabited landscape; a broad, watershed terrain of hills and gullies feeding a network of swamps, ponds and creeks that flow into the Brisbane River with its tree-lined banks. This mapping reveals the city's fundamental watershed landscape.
- 2) The research analyses broad scale land use and the progressive loss of the landscape's open space as a result of increases in building, infrastructure and population numbers since European settlement. We analyse current zoning for housing future populations in a consolidating inner city with increases in building and infrastructure and find no commensurate increase in planned provision for open space environments.
- 3) The historical research draws attention to the impact of flood events in 1890, 1893 and 1974 for the CBD and inner city suburbs with particular focus on Rosalie / Milton, South Brisbane / West End and Woolloongabba. We analyse current and projected building and infrastructure planned for the floodplain and watersheds including the Brisbane City Council, (BCC), "Brisbane City Centre Master Plan 2006-2026: A vision for the Future of our city's centre", August 2006.
- 4) We review climate change forecasts including predictions for more severe periods of drought, flood and sea level rise. El Nino drought prevailing at the time of our research was dramatically underscored by the dust storm of 23 September 2009. La Nina forecasts and flash floods in May and October 2009 occurred during the analysis of Milton / Rosalie.

cont.

Some of our findings to date suggest that:

- 1) Over the last two centuries, land use planning has largely under-valued the environment through insufficiently recognising the importance of the flood mitigating landscape itself as legitimate urban land use of the floodplain.
- 2) Over the years various creeks have been buried in pipes, or channeled, and swamplands have been drained removing from sight water landscapes and awareness of the risk of flash flood and flood in low-laying land.
- 3) Historically post-flood rebuilding continued in the floodplain and in some periods permitted the location of polluting industry and infrastructure further undervaluing the environment.
- 4) Post-flood rebuilding has at times also continued in the floodplain and in some periods permitted the location of housing and commercial properties on known floodplains, putting owners at risk.
- 5) There are areas of the city where most major building and infrastructure have been constructed outside the floodplain, for example at The University of QLD. This has minimized, but not prevented, impact from floods on those buildings and infrastructure constructed on the floodplain.

From our findings to date we recommend that in order to minimize future impact on property and infrastructure from flooding in Brisbane:

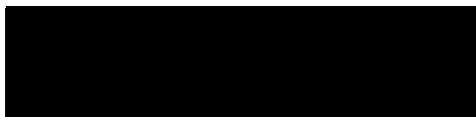
- 1) Value the watershed and floodplain as part of the natural river hydrology, ecology and environment of subtropical Brisbane and Moreton Bay.
- 2) Legislate to recognise the watershed and floodplain and limit development of the floodplain to aid flood mitigation and provide ecologically valuable open space (and potential urban 'wilderness') for the future city.
- 3) Identify, study, analyse and value the individual characteristics of each catchment which together form the watershed landscape and floodplain of Brisbane on a case by case basis to determine future appropriate land use and development for the future city.

A summary of our research work 'in development' can be found online at <www.sedimentarycity.com>.

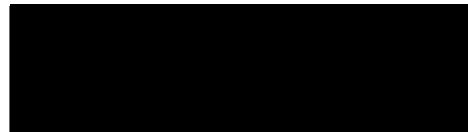
We would welcome a future opportunity to discuss our research and its relevance to the Inquiry.

Thank you for the opportunity to comment.

Yours faithfully,



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