

## **Annexure A – Background to Hawkesbury-Nepean Valley-wide Flood Risk Assessment\***

The flood evacuation issues for the Marsden Park and Bringelly precincts cannot be considered in isolation of the valley-wide flood risk for the Hawkesbury-Nepean and South Creek systems. This valley system already represents a flood evacuation liability of in excess of 40,000\* people in what will be one of the largest and most complex flood emergency operations in Australia. A repeat of the historical flood of record of 1867 would require this magnitude of response. This situation exists without any consideration of the growth in risk resulting from the NW and SW Growth Centres, infill development on existing zoned land, and other development outside of the growth centres such as the un-resolved Penrith Lakes Development. All of these issues are connected and inter-dependent in a flood emergency management context.

In general, if any part of any site is located on the floodplain i.e. below the Probable Maximum Flood (PMF) then it must be possible to safely evacuate people from that site. The 1:100ARI flood level, which may have a role in determining building floor levels, is not the relevant consideration in this evacuation context. There appears to be a common view in the urban planning community that all land above the 1:100ARI level is low flood risk. SES does not share the view because such a conclusion is a gross generalisation. In a risk-to-life consideration it is quite misleading, especially in a Hawkesbury-Nepean/South Creek context.

In terms of the sites in question at Bringelly and Marsden Park, it is an inescapable fact that the evacuation of these sites will be additional to and concurrent with all other flood response and evacuation operations taking place in the Hawkesbury-Nepean valley-wide context. It is also true that because of the scale of the weather system that will cause the flooding in the Hawkesbury-Nepean valley, there is a high likelihood of concurrent flooding in the South Creek catchment and also in the nearby Georges River catchment. The Georges River is in its' own right, the second largest potential flood emergency operations theatre in NSW.

The SES and supporting emergency services do not have an unlimited capability to manage floods irrespective of how large and complex the problem becomes as urban growth continues. Therefore, rather than attempting to undertake ad hoc precinct-specific flood evacuation assessments, the SES recommends that a strategic analysis is undertaken to determine the total flood evacuation liability and emergency management capability for all land that is proposed to be developed within the South creek and Hawkesbury-Nepean catchments, irrespective of the timetable for that development.

Unless this strategic approach is adopted then it is likely that flood evacuation capability will be the subject of what can only be seen as a death by a thousand cuts. In an urban planning context it is also possible that ad hoc decisions taken today could result in the inability to develop other more significant land at a later date (e.g. Penrith Lakes as a case study). The NSW Floodplain Development Manual (2006) prescribes that such a strategic approach must underpin floodplain risk management to avoid repeating the many examples that we see around NSW of poor local urban planning outcomes on floodplains.

The need for strategic floodplain risk management approach in this valley has been advocated since as long ago as 1993. The Cabinet endorsed Hawkesbury-Nepean Flood Management Strategy echoed this in 1997, and the NSW Floodplain Development Manual has reinforced this approach since it was gazetted in 2006.

As an example of the consequences of failing to adopt the necessary strategic approach, we need look no further than the Hawkesbury-Nepean valley. The State Government initiated the Hawkesbury-Nepean Flood Management Strategy in 1997. That Strategy has already seen State Government expenditure of more than \$160 million on flood evacuation infrastructure in order to deal with the consequences of past ad hoc urban growth. Unfortunately, recent evidence presented to the SES suggests that significant elements of the improvements gained by the Strategy over the last decade, may have already been undermined by continuing and un-controlled infill development, particularly in the Hawkesbury City LGA. The SES is currently working to assess the validity of this evidence.

The Service is strongly of the view that a strategic and valley-wide flood risk and evacuation capability assessment is necessary and this should commence now and cover all growth centres in the South Creek and Hawkesbury-Nepean valley system.

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\*Note: This Annexure was prepared as an attachment to correspondence to the Department of Planning and Infrastructure on the Marsden Park and Bringelly Precinct Acceleration Proposals on 25 July 2008, by the then Director of Emergency Risk Management, more recently, the Director Community Safety (retired) of the NSW State Emergency Service. The issues discussed therein have relevance to strategic planning issues across the Hawkesbury Nepean valley and the NW and SW Growth Centres. The precise figures relating to population size are based on information available to hand in July 2008 and will obviously require updating to accurately assess current proposals.