

**ITEM 3. CENTENNIAL PARK RUSHCUTTERS BAY AND WOOLLOOMOOLOO CATCHMENT AREAS FLOOD STUDIES****FILE NO: S093244 & S101863****SUMMARY**

In March 2012, Council approved the tender for Flood Studies for the Centennial Park and Rushcutters Bay Catchment Areas, which comprise eight per cent of the City's Local Government Area (LGA). These Flood Studies are now complete.

The Woolloomooloo Catchment Area Flood Study is a joint project between the City of Sydney and Sydney Water. The project is managed by Sydney Water in close cooperation with the City. This flood study is also now complete.

In keeping with the NSW Government Floodplain Development Manual 2005, the City is now required to proceed to the next stage of the Floodplain Management process, which is to develop comprehensive Floodplain Risk Management Studies and Plans.

**RECOMMENDATION**

It is resolved that Council note that:

- (A) the Centennial Park Catchment Area Flood Study, as shown in Attachment B to the subject report, has been completed;
- (B) the Rushcutters Bay Catchment Area Flood Study, as shown in Attachment C to the subject report, has been completed;
- (C) the Woolloomooloo Catchment Area Flood Study, as shown in Attachment D to the subject report, has been completed;
- (D) the information from the Centennial Park Catchment Area Flood Study, Rushcutters Bay Catchment Area Flood Study and Woolloomooloo Catchment Area Flood Study will be made available to the community; and
- (E) the City will now proceed to the next stage of the Floodplain Risk Management process, which is the development of comprehensive Floodplain Risk Management Studies and Floodplain Risk Management Plans for the Centennial Park, Rushcutters Bay and Woolloomooloo Catchment Areas.

**ATTACHMENTS**

**(Note – Attachments B, C and D will be circulated separately from the agenda paper and to Councillors and relevant senior staff only. A copy will be available for viewing on Council's website and at the One Stop Shop and Neighbourhood Service Centres.)**

**Attachment A:** Catchment Plan

**Attachment B:** Centennial Park Catchment Area Flood Study (Draft Report)

**Attachment C:** Rushcutters Bay Catchment Area Flood Study (Draft Report)

**Attachment D:** Woolloomooloo Catchment Area Flood Study (Draft Report)

**BACKGROUND**

1. The development of Floodplain Risk Management Studies and Plans for all the stormwater catchments within the City's Local Government Area is required by legislation. The Long Term Financial Plan has allocated \$56 million for drainage capacity upgrade works arising from these studies over the next 10 years, and an additional \$62 million has been allowed for drainage upgrades in Green Square and Zetland over the next 10 years.
2. It should also be noted that the Decentralised Water Master Plan has recently been adopted by Council. This Plan includes provision for works associated with improving stormwater quality, and \$24 million has been allocated for these works in the Long Term Financial Plan over the next 10 years.
3. The NSW Government has developed a Flood Prone Land Policy (Policy) to determine if development on floodplains is appropriate and sustainable. The Policy promotes a merit based approach to balance social, economic, environmental and flood risk parameters.
4. The Policy states that individual councils have the primary responsibility for floodplain risk management and the NSW Government will, if required, provide technical and, in some cases, financial support.
5. The Floodplain Development Manual 2005, developed by the NSW Government, sets out a four stage approach as follows:
  - (a) preparation of a Flood Study to identify the nature and extent of flooding;
  - (b) preparation of a Floodplain Risk Management Study to investigate all available flood mitigation solutions or options in consideration of social, ecological and economic factors relating to flood risk;
  - (c) formulation of a Floodplain Risk Management Plan, including preferred solutions and/or options and formal adoption by the Council; and
  - (d) implementation of the Floodplain Risk Management Plan.
6. The preparation and implementation of the various Floodplain Management Plans are critical components in improving the way the City plans and manages flood risks, including infrastructure requirements.
7. In August 2008, Council resolved to establish a Floodplain Risk Management Committee to assist the City in the development and implementation of Floodplain Management Plans.
8. The Floodplain Risk Management Committee comprises three Councillors, City staff (engineering, planning and environmental) and representatives from:
  - (a) the local community;
  - (b) NSW Office of Environment and Heritage;
  - (c) NSW State Emergency Services;
  - (d) Waterways Authority of NSW;

- (e) Leichhardt Municipal Council for the Johnstons Creek Catchment; and
  - (f) asset holders and industry bodies, such as Sydney Water.
9. There are eight catchment areas (shown in Attachment A) in the City's LGA, all of which require the preparation of a Flood Study, Floodplain Risk Management Study and Floodplain Risk Management Plan.
10. The eight catchment areas are:

<b>Catchment Name</b>	<b>Area (Hectares)</b>	<b>Proportion of the City's LGA (%)</b>
Alexandra Canal	1,141	43
Blackwattle Bay	315	12
Centennial Park	153	6
City Area	199	7
Darling Harbour	307	12
Johnstons Creek	224	8
Rushcutters Bay	64	2
Woolloomooloo	265	10
<b>TOTAL</b>	<b>2,668</b>	<b>100</b>

11. The Flood Study for the Alexandra Canal Catchment Area is complete and, in March 2011, the preparation of the Alexandra Canal Floodplain Risk Management Study and Plan commenced.
12. Flood Studies for the Blackwattle Bay and Johnstons Creek Catchment Areas are also complete. The contract to prepare the associated Floodplain Risk Management Studies and Plans has been awarded and will commence in July 2013.
13. Preparation of the City Area and Darling Harbour Flood Studies commenced in March of 2013, and both are in the early stages of development.
14. Flood Studies for the Centennial Park, Rushcutters Bay and Woolloomooloo Catchment Areas have been prepared and are the subject of this report.

#### **CENTENNIAL PARK CATCHMENT AREA**

15. The Centennial Park Catchment Area (shown in Attachment A) includes the suburbs of Moore Park, and parts of Centennial Park and Paddington. The study area is fully within the City's LGA, however the total catchment area extends into Randwick City LGA.
16. The total area of the catchment is 153 hectares. The catchment drains to Centennial Park at various locations, including Busby's Pond and Kensington Pond. The drainage system consists of in-ground pipes, culverts and gully pits. The only above ground water feature in the study area is Kippax Lake.

**RUSHCUTTERS BAY CATCHMENT AREA**

17. The Rushcutters Bay Catchment Area is a fully developed catchment located within LGAs of the City (26 per cent) and Woollahra (74 per cent). It has a total area of approximately 240 hectares. The Rushcutters Bay Flood Study Catchment Area located within the City of Sydney is about 64 hectares (shown in Attachment A). It includes parts of Paddington, Darlinghurst and Rushcutters Bay.
18. Drainage systems within the catchment consist of open channels, covered channels, in-ground pipes, culverts and pits. The majority of the trunk drainage system is owned by the Sydney Water Corporation, and the feeding drainage systems are mainly owned by the City.

**WOOLLOOMOOLOO CATCHMENT AREA**

19. The Woolloomooloo Catchment Area (shown in Attachment A) includes the suburbs of Woolloomooloo, Darlinghurst, Potts Point, Elizabeth Bay and Sydney. It has a total area of approximately 265 hectares. The study area is fully within the City's LGA.
20. Drainage systems within the catchment consist of open channels, covered channels, in-ground pipes, culverts and pits. The majority of trunk drainage system is owned by the Sydney Water Corporation, and the secondary drainage systems are mainly owned by the City.

**KEY OBJECTIVES**

21. The key objectives of the Flood Studies were to:
  - (a) review previous studies and available data;
  - (b) collect historical flood information from various sources, including directly from the community;
  - (c) develop hydrologic and hydraulic models for estimating flows in the catchment area for use in the Floodplain Risk Management Study and Floodplain Risk Management Plan;
  - (d) define the flood behaviour in the catchment areas;
  - (e) investigate potential flood impacts resulting from climate change; and
  - (f) prepare maps to show the nature and extent of flooding.

**KEY IMPLICATIONS**

22. The draft Centennial Park Catchment Area Flood Study, draft Rushcutters Bay Catchment Area Flood Study and the draft Woolloomooloo Catchment Area Flood Study have identified a number of flooding problems, including ponding areas, trapped low points, flood corridors and regions of high hazard flows.
23. The next stage of the floodplain management process will involve a comprehensive assessment of the risks associated with the Flood Studies' findings and the development of Floodplain Risk Management Studies and Floodplain Risk Management Plans for these three catchment areas.

**BUDGET IMPLICATIONS**

24. Sufficient funds have been allocated in the 2013/14 Operational Budget for the development of these Floodplain Risk Management Studies and Plans.

**RELEVANT LEGISLATION**

25. Section 733 of the Local Government Act 1993 – "Exemption from liability-flood liable land and land in coastal zone" applies if the City follows the Floodplain Risk Management process as outlined in the Floodplain Development Manual 2005.
26. Environmental Planning and Assessment Act 1979 – land use planning and management of flood prone lands through Local Environmental Plan provisions rests with councils.

**PUBLIC CONSULTATION**

27. The City's Floodplain Risk Management Committee steers the preparation of the Flood Studies. During the study period, the Committee considered three-monthly progress reports. Members of the Committee were given the opportunity to review the draft Flood Study reports and provide comments.
28. At this stage, no public exhibition is proposed. The community will be invited to attend an information session to discuss the findings of the Flood Studies, together with the draft Floodplain Risk Management Studies and Draft Floodplain Risk Management Plans when completed.
29. Copies of the Flood Studies will be made available on the City's website.
30. When the draft Floodplain Risk Management Studies and Plans are complete, they will be reported to Council with a recommendation for public exhibition.

**GARRY HARDING**

Director City Operations

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