

OVERVIEW OF DRAFT WAVERLEY FLOOD STUDY AND RESULTS OF 2017 AND 2018 COMMUNITY CONSULTATION

About the Study

The Waverley Local Government Area (LGA) Flood Study has been prepared to define the flood behaviour under historical, existing and future conditions (i.e. incorporating the potential impacts of climate change). Flooding has occurred at several locations within the Waverley LGA in the past, including in 2015 and 2017. Prior to this study, Council had not undertaken an investigation with the ability to model the complex nature of floodplain flow patterns in the urban environment.

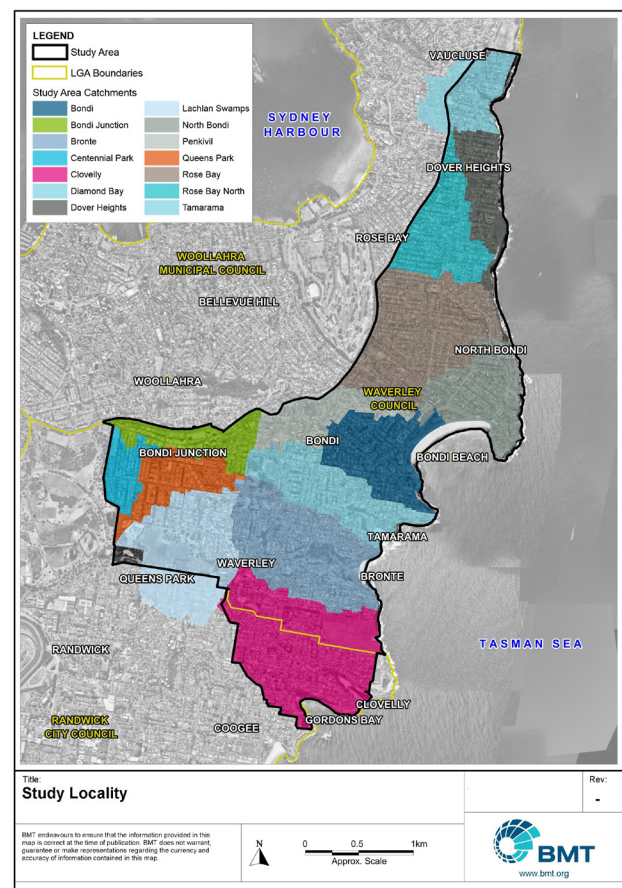
The study area encompasses approximately 10km² that includes the entire Waverley LGA and a section of the Randwick LGA. This includes 13 catchments within the Waverley LGA and 2 catchments within the Randwick LGA (i.e. Clovelly and Gordons Bay).

The study is focused on local overland flooding conditions within the urban environment that may occur when the capacity of local creeks, channels and stormwater drainage systems are exceeded in response to intense rainfall. The oceanic interaction along the coastal boundary of the study area was also considered.

This flood study forms an initial stage towards the development of a comprehensive Floodplain Risk Management Plan that will ultimately guide the direction of future floodplain risk management activities across the Waverley LGA.

Specifically, the study includes the following components:

- Compilation and review of existing information relevant to the study
- Community consultation and participation program to identify local flooding concerns, collect information on historical flood behaviour, advise on the outcomes of the flood study and flood behaviour predictions, and engage the community in the on-going floodplain management process
- Development of appropriate computer flood models and calibration/verification for historical events to confirm that the simulated results match the observed conditions
- Determination of flood conditions for a range of design events, ranging from relatively frequent events to more extreme/rare events
- Assessment of the potential impact of climate change using the latest guidelines.



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Community Consultation Summary

In late 2017, the community was informed about the development of the flood study via an information brochure and questionnaire that was mailed out and posted on Council's website. The community questionnaire asked residents to provide details of their flood experiences and concerns regarding flooding within the study area. A series of community information sessions and resident interviews were also held in mid-2018. Overall, the consultation found that:

- 91 respondents have experienced some degree of flooding within their property (53 from Waverley LGA and 38 from Randwick LGA)
- 23 respondents have experienced flooding above floor level
- 214 residents indicated that they had experienced flooding in their street (92 from Waverley LGA and 134 from Randwick LGA).

Existing Flood Behaviour

The computer flood models have been used to derive expected flood conditions for a range of flood magnitudes for local overland flows resulting from intense rainfall and the oceanic interaction along the coastal boundary. The key study outputs include a suite of design flood mapping to visualise the potential flood inundation and associated risks (including peak flood level, depth, velocity and hazard mapping).

The flood modelling results were reviewed to identify 12 hotspot locations within the study area where there is a concentration of flood-affected properties. The identified hotspot locations include:

- William Street – Owen Street, Rose Bay
- Glenayr Avenue – Plowman Street, North Bondi
- Elliott Street – Bonus Street, North Bondi
- Brassie Street – Niblick Street, North Bondi
- Beach Road – Warners Avenue, North Bondi
- Wallis Parade – Ramsgate Avenue, North Bondi
- Roscoe Street – Beach Road, Bondi Beach
- Chambers Avenue – Jaques Avenue, Bondi Beach
- Francis Street – Simpson Street, Bondi Beach
- Tasman Street – Tamarama Street, Bondi
- Palmerston Avenue – Murray Street, Bronte
- Alt Street – York Road, Queens Park.



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Future investigations and potential floodplain risk management activities will be aimed at reducing the flood risk at these hotspot locations.

The study also includes the provision of information to assist Council in future floodplain management and land-use planning including:

- Identification of properties experiencing flooding in each design event;
- Derivation of a Flood Planning Area (FPA) for application of land use development controls;
- Flood Control Lot mapping identifying properties where flood-related development controls would apply; and
- Emergency response considerations mapping identifying roads that may not be trafficable during the peak of a flood event and individual properties that are considered unsafe for on-site refuge.

