

Abstract

Objectives

Strathfield Municipal Council engaged WMAwater to undertake the Cooks River and Coxs Creek Flood Study utilising current technology and data. The information and results obtained from the study will provide a firm basis for the development of targeted stormwater management studies, and a subsequent Floodplain Risk Management Study and Plan.

The study was developed in order to meet the primary objective of defining the flood behaviour (2, 5, 10, 20, 100 and 200 year ARI design storms and the Probable Maximum Flood) in the Cooks River and Coxs Creek catchment and to: define flood behavior in terms of flood levels, depths, velocities, flows and flood extents within the Cooks River and Coxs Creek catchment study area, prepare flood hazard and flood extent mapping, prepare suitable models of the catchment and floodplain for use in a subsequent Floodplain Risk Management Study. to assess the adequacy and capacity of Council's existing pipe network and quantify overland flows, to consider the potential effects of a climate change induced increase in design rainfall intensities.

This report details the results and findings of the Flood Study investigations. The key elements include:

- description of study area,
- results of distribution of questionnaires (Figure 5),
- a summary of available historical flood related data,
- calibration of the hydrologic and hydraulic models,
- definition of the design flood behaviour for existing conditions through the analysis and interpretation of model results sensitivity analysis and the assessment of the effects of a climate change induced increase in design rainfall intensities.

A glossary of flood related terms is provided in Appendix A.

The Study Area

The Cooks River and Coxs Creek have a combined catchment area of approximately 22km² contributing up to Punchbowl road. The contributing catchment includes some areas from the suburbs of Strathfield South, Enfield, Enfield South, Rookwood, Belfield, Chullora, Potts Hill, Bankstown North, Greenacre, Punchbowl, Mt Lewis, Wiley Park, Roselands, and Belmore.

Outcomes: The main outcomes of this study are: * full documentation of the methodology and results, * preparation of flood contour, depth, velocity, hazard and extent maps for the study area, * a modelling platform that will form the basis for a subsequent Floodplain Risk Management Study and Plan.

Recommendations: This Flood Study should be adopted by Council before proceeding with the subsequent floodplain risk management Study and Plan. As part of these subsequent studies a risk analysis of the implications of climate change on flooding should be undertaken.

The key recommendation from this study is to highlight the importance of collecting and maintaining a database of historical rainfall and flood height data. It is vital that information from future flood events is collected within 24 hours and the magnitude and direction of flow paths through private property recorded. This information will significantly improve the accuracy of the design flood levels and extents and ensure that known flood areas are identified and assessed. Data collection can be undertaken by Council Officers digitally photographing flood marks etc. (they can be levelled later based on the photograph) and possibly mailing out a resident questionnaire requesting information and photographs. Unfortunately if this process is not done quickly, information is lost forever.

Stormwater within this section is carried within the underground piped network and open channel system, or when this is exceeded, along roads or through private property.

Resource locator

Unique resource identifier

Code 3212685c-ceaa-43fe-8471-f82ef5875176

Presentation form

Edition 26/07/2017

Dataset language English

Metadata standard

Name ISO 19115

Edition 2016

Dataset URI <https://datasets.seed.nsw.gov.au/dataset/3212685c-ceaa-43fe-8471-f82ef5875176>

Purpose Land and Resource Management

Status On going

Spatial representation

Type vector

Spatial reference system

Code identifying the spatial reference system 4283

Topic category

Keyword set	
keyword value	
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
West bounding longitude	151.050749
East bounding longitude	151.093439
North bounding latitude	-33.909694
South bounding latitude	-33.874007
NSW Place Name	Cooks River
Vertical extent information	
Minimum value	-100
Maximum value	2228
Coordinate reference system	
Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711
Temporal extent	
Begin position	
End position	N/A
Dataset reference date	
Resource maintenance	
Maintenance and update frequency	As needed
Contact info	
Contact position	Data Broker
Organisation name	Strathfield Municipal Council
Full postal address	council@strathfield.nsw.gov.au
Email address	council@strathfield.nsw.gov.au
Responsible party role	pointOfContact
Limitations on public access	

Responsible party

Contact position	Data Broker
Organisation name	Strathfield Municipal Council
Full postal address	council@strathfield.nsw.gov.au
Email address	council@strathfield.nsw.gov.au
Responsible party role	pointOfContact

Metadata point of contact

Contact position	Data Broker
Organisation name	Strathfield Municipal Council
Full postal address	council@strathfield.nsw.gov.au
Email address	council@strathfield.nsw.gov.au
Responsible party role	pointOfContact

Metadata date 2024-03-25T07:20:38.207362

Metadata language