Macquarie Park Floodplain Risk Management Study & Plan

The November 1984 flood is the largest known flood in the study area.
This photo shows conditions in Ford Street, North Ryde

Flood Study Report
April 2010

Bewsher

CITY OF RYDE

Macquarie Park Floodplain Risk Management Study & Plan

Flood Study Report

April 2010

Report of City of Ryde's
Macquarie Park Floodplain Management Committee,
Prepared by:
Bewsher Consulting Pty Ltd
6/28 Langston Place, Epping NSW 2121 Australia
P O Box 352, Epping NSW 1710 Australia
Telephone: (02) 9868 1966. Facsimile: (02) 9868 5759
Web: www.bewsher.com.au E-mail: postmaster@bewsher.com.au
ACN 003137068. ABN 24 312 540 210

TABLE OF CONTENTS

Page

TABLE OF CONTENTS

Page

FIGURES

TABLES

APPENDICES

FOREWORD

The NSW Government's Flood Policy is directed at providing solutions to existing flooding problems in developed areas, and ensuring that new developments are compatible with the flood hazard and do not create additional flooding problems in other areas. Under the Policy, the management of flood prone land remains the responsibility of local government.

The policy provides for a floodplain management system comprising the following four sequential stages:

1. Flood Study	Determines the nature and extent of the flood problem.
2. Floodplain Risk Management Study	Evaluates management options for the floodplain with respect to both existing and future development.
3. Floodplain Risk Management Plan	Involves formal adoption by Council of a plan of management for the floodplain.
4. Implementation of the Plan	Involves construction of flood mitigation works, where viable, to protect existing development. Uses planning controls to ensure that future development is compatible with flood hazards.

The Council of the City of Ryde is responsible for local planning and land management in its Local Government Area (LGA) including the management of flood prone areas in Macquarie Park. Through its Floodplain Risk Management Committee, Council proposes to prepare a comprehensive Floodplain Risk Management Plan for the study area in accordance with the NSW Government's 2005 Floodplain Development Manual.

This report is part of the first stage of the management process and has been prepared for Council by Bewsher Consulting Pty Ltd. It documents the nature and extent of flooding throughout the study area and therefore is enabling Council to proceed to undertake a Floodplain Risk Management Study where detailed assessment of the flood mitigation options and floodplain management measures would be undertaken and to then develop a Floodplain Risk Management Plan.

EXECUTIVE SUMMARY

In accordance with NSW Government policy, the Council of the City of Ryde is committed to preparing a Floodplain Risk Management Plan for Macquarie Park. This report documents the first stage of the process of preparing the Plan – that is, the preparation of a flood study report.

The study area consists of a portion of the Lane Cove River floodplain and those City of Ryde areas which drain in a northeasterly or easterly direction to it. Much of the 1,558ha study area is developed. It is crossed by a number of major roads including Epping Road, Lane Cove Road and the M2 Motorway and the underground Epping to Chatswood railway line.

The consultants drew on both previous flood study reports and additional community consultation to review historical records about flood problems that have been experienced in the catchment and this process found that the two most widely reported floods were in November 1984 and February 1990.

Computer-based (DRAINS) hydrologic models and (TUFLOW) hydraulic models have been developed. While substantial efforts have been made to compile as best a picture as possible of several relatively recent floods (i.e. November 1984 and February 1990), the resultant rainfall and water level data sets were found to provide only very general information about the floods. As a consequence, while the models generally reproduce the observed flood regimes, formal calibration against those events was not possible. The modelling confirmed that the November 1984 event was worse than the February 1990 event and significant number of properties in natural depressions experienced overland flow inundation. Additionally, some properties located adjacent to open creek channels experienced substantial depths of water.

Design flood event modelling followed and this report presents the results of modelling the 20 year average recurrence interval (ARI) flood, the 100 year ARI flood and the Probable Maximum flood (PMF).

The detailed DRAINS and TUFLOW models provide a sound platform for the further flood modelling tasks that will be undertaken during preparation of the Floodplain Risk Management Study and Plan.