Title	Floodplain Management Study Spring Street Drain, Muddy Creek and Scarborough Ponds - Volume 2

Abstract

APPENDICES

- APPENDIX A STUDY BRIEF
- APPENDIX B REVIEW OF MUDDY CREEK FLOOD STUDIES
- APPENDIX C ADDITIONAL FLOOD MODELLING, MUDDY CREEK CATCHMENT
- APPENDIX D ADDITIONAL FLOOD MODELLING, SPRING ST DRAIN CATCHMENT
- APPENDIX E LOCAL STORMWATER FLOOD MODELLING
- APPENDIX F ADOPTED 'DESIGN' FLOOD LEVELS
- APPENDIX G FLOOD DAMAGES ESTIMATE
- APPENDIX H ANALYSIS OF SELECTED OPTIONS, MUDDY CREEK CATCHMENT
- APPENDIX I ANALYSIS OF SELECTED OPTIONS, SPRING ST DRAIN CATCHMENT
- APPENDIX J COMMUNITY CONSULTATION
- APPENDIX K SOCIAL AND ECONOMIC EVALUATION

Catchment Description

Spring Street Drain

The Spring Street Drain has a total catchment area of approximately 3.5 km2. The upper reaches of the catchment are in the suburbs of Rockdale and Bexley and are principally residential. It flows through a pipe network towards the Illawarra Railway Line. The railway line is raised above the natural ground level for a considerable distance either side of the main pipe network under the line which may restrict surface flows from the western side. Immediately east of the railway line the catchment comprises a Commercial area along Princes Highway and incorporates most-of the Rockdale City Centre.

The pipe conduit network combines into an open concrete trapezoidal section at Short Street, Banksia. The section downstream is through a low level residential area built fairly close to the channel. As the channel continues past West Botany Street it flows through an open park area with some adjacent wetland areas. It eventually drains into the Cooks river at the confluence of the Cooks River with Muddy Creek.

Muddy Creek

The catchment area of Muddy Creek is about 5.6km2, its catchment area is heavily urbanised with a mixture of residential, commercial and industrial development, and it drains into the Cooks River near its entrance to Botany Bay. The residential development is mainly low density with some patches of medium to high density residential area consistent with urban consolidation.

Muddy Creek consists of a formed concrete channel from the Cooks River upstream to Frys Reserve. There are a number of side channels, both open and piped, that laterally feed the trunk flows into the creek. Upstream of Frys Reserve the trunk drainage system divides into a number of drainage systems combining open concrete channels with piped sections. The section of Muddy Creek downstream of the Bestic Street bridge has been widened and dredged to form part of the lower Cooks River estuary. The tailwater level for Muddy Creek is controlled by the water level in the Cooks River.

Scarborough Ponds has a catchment area of about 4 km2 and a stream length of about 3.4 km. There are three main ponds or wetlands, from England Street to President Avenue, from President Avenue to Barton Street, and downstream of Barton Street. The day-to-day water levels of each pond are controlled at the downstream end by weirs at President Avenue, Barton Street and the outlet structure at Florence Street. The Florence Street outlet structure connects the ponds to Botany Bay, allowing the tide to penetrate into the downstream ponds.

The Florence Street culvert consists of triple 1350 mm diameter pipes. Development within the catchment is predominantly low to medium density residential development with localised commercial and industrial development. The areas adjacent to the ponds have been landscaped into open spaces suitable for passive recreational activities.

Some residential development on the eastern side of the ponds comes very close to the ponds.

Scarborough Ponds

The existing culvert under the railway line at Frys Reserve produces a throttling of the flows and causes Frys Reserve to act as an on-line retarding basin. The adjacent Warialda Street is expected to be inundated in about a 20% AEP flood. Sydney Water has recently constructed a new bypass culvert under the railway line to alleviate the hazard of floodwater through the Hegarty Street underpass. The flood study examined flood behaviour for the original and now existing culvert conditions under the railway line at Frys Reserve.

There are a large number of road and pedestrian bridges over Muddy Creek that may impact on the flood behaviour. The major bridge crossings are at the Princes Highway, Bay Street and Bestic Street. In addition a sewer line crosses over Muddy Creek upstream of the Princes Highway. This sewer line would act as a major impediment to flood flows, ponding water against the concrete structure with no bypass arrangement. Some of the properties adjacent to the creek have boundary fences located close to the Muddy Creek channel and these would impact on flood flows by restricting the spread of water onto the floodplains.

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Scarborough Ponds

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Resource locator

Spring Street Drain, Muddy Creek & Scarborough Ponds - Floodplain Management Study Vol 2	Name: Spring Street Drain, Muddy Creek & Scarborough Ponds - Floodplain Management Study Vol 2 Protocol: WWW:DOWNLOAD-1.0-http--download Function: download

Unique resource identifier

Code	5726648a-2e7b-458a-836e-77c017157946

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/5726648a-2e7b-458a-836e-77c017157946
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	151.109486
East bounding longitude	151.168897
North bounding latitude	-33.978498
South bounding latitude	-33.937642
NSW Place Name	Rockdale
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	Bayside Council
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Responsible party role	pointOfContact
Limitations on public access	

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