

FIGURE 29  
TAYLOR STREET HOTSPOT  
1% AEP EVENT

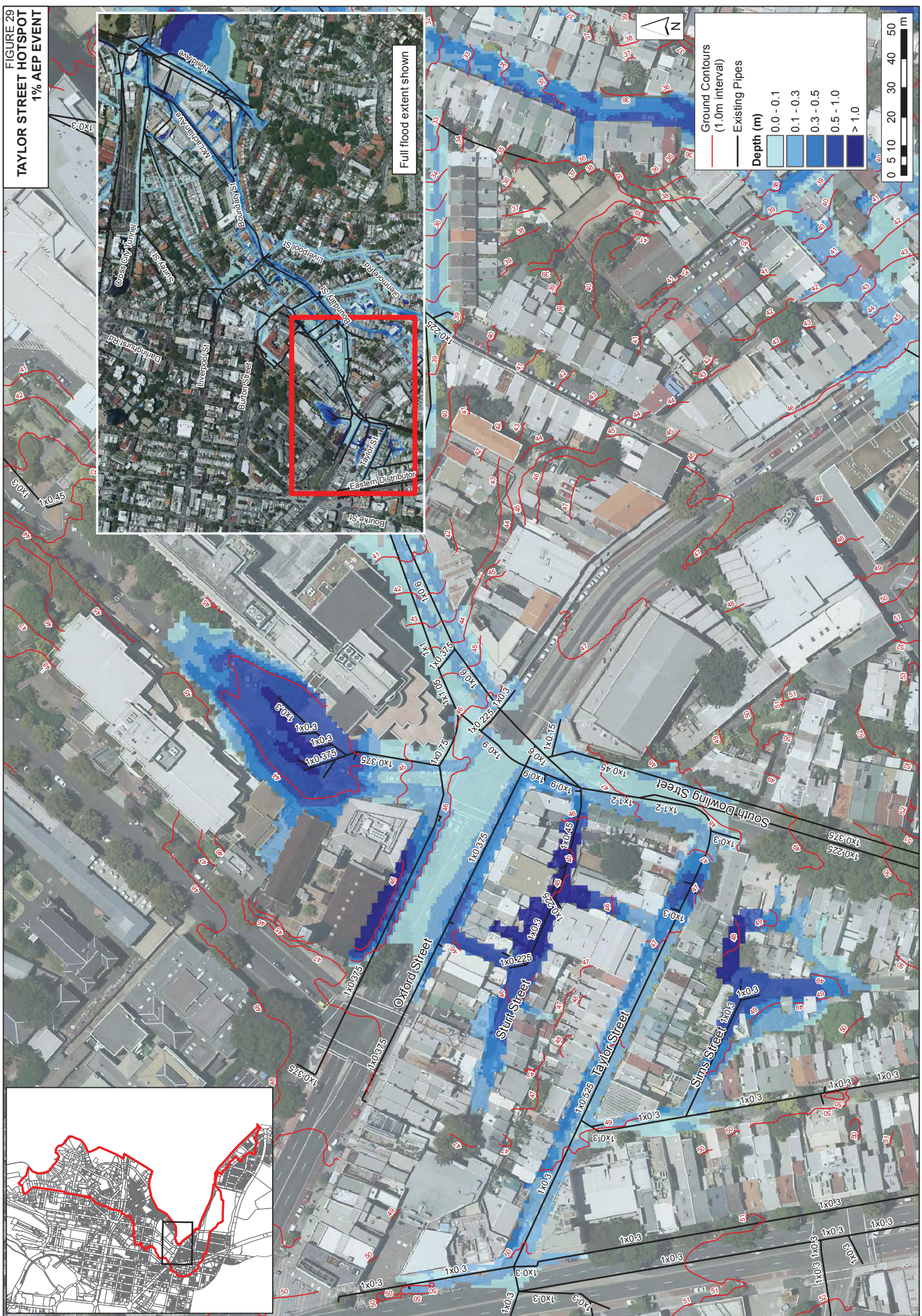


FIGURE 30  
**OPTION FM - RB03**  
**5% AEP EVENT FLOOD IMPACT**



Impact (m)	Color
-1.6 -- -1.0	Red
-1.0 -- -0.5	Orange
-0.5 -- -0.2	Yellow
-0.2 -- -0.1	Light Green
-0.1 -- -0.05	White
-0.05 -- -0.01	Light Blue
Minimal Impact	White
0.01 - 0.05	Medium Blue
0.05 - 0.1	Dark Blue
0.1 - 0.2	Black
0.2 - 0.36	Green
No Longer Flooded	Black
Above Floor Levelin	Black
5% AEP	Green

Event Severity	Color
Upgraded Pipes	Black
Event First Flooded Above Floor Level	Red
PMF Event	Purple
0.2% AEP Event	Orange
1% AEP Event	Yellow
2% AEP Event	Light Green
5% AEP Event	White
10% AEP Event	Light Blue
20% AEP Event	Medium Blue
50% AEP Event	Dark Blue
Not Flooded	Black
No Longer Flooded	Black
Above Floor Levelin	Black
5% AEP	Green

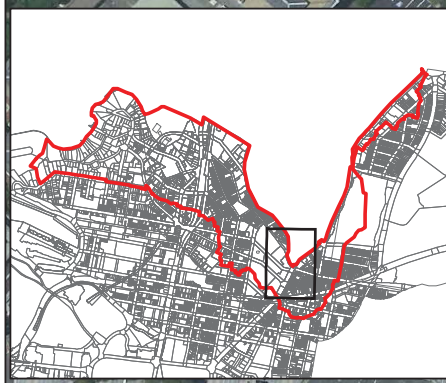
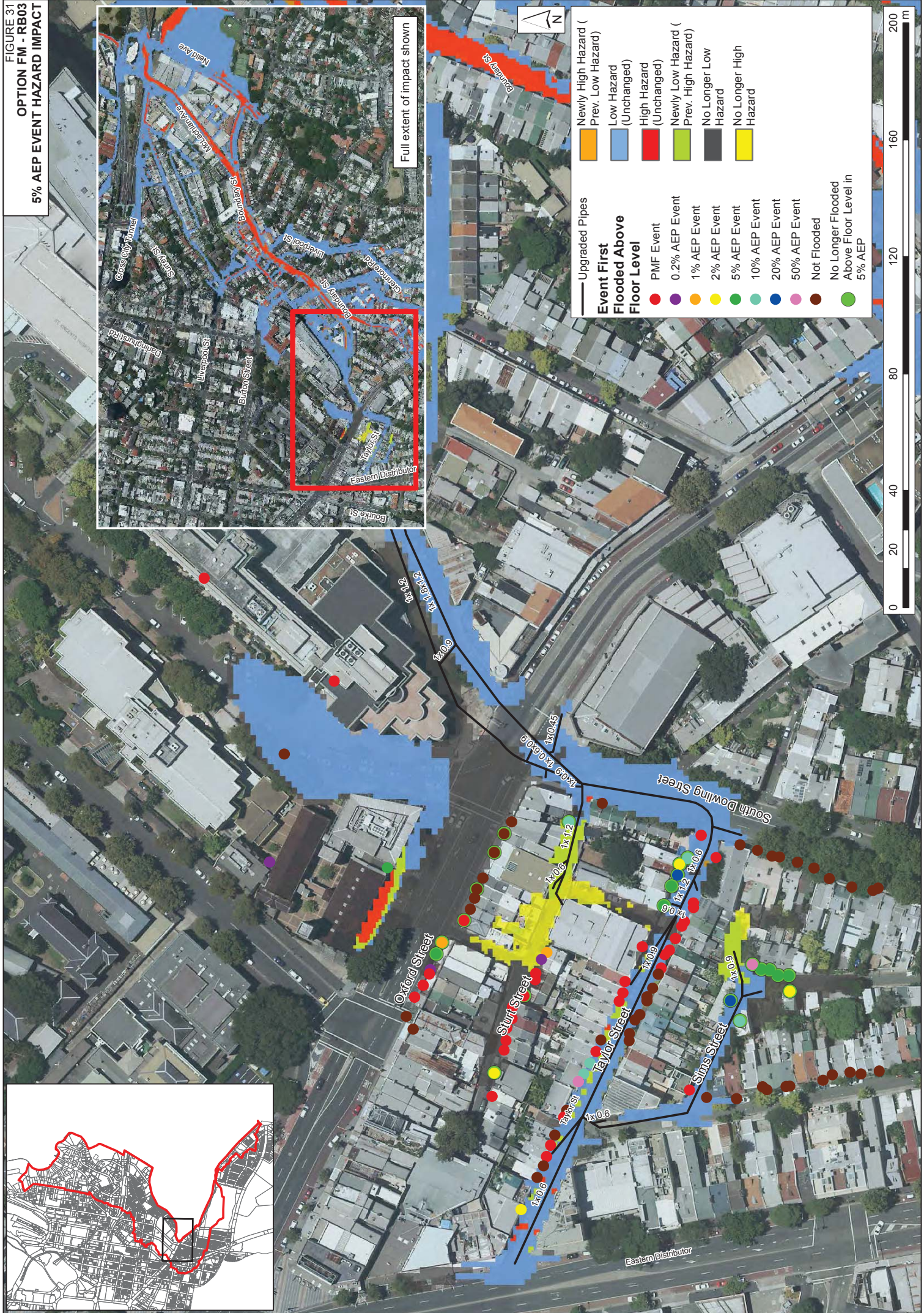


FIGURE 31  
**OPTION FM - RB03**  
**5% AEP EVENT HAZARD IMPACT**



Full extent of impact shown

	Upgraded Pipes		Newly High Hazard (Prev. Low Hazard)
	Event First Flooded Above Floor Level		Low Hazard (Unchanged)
	PMF Event		High Hazard (Unchanged)
	0.2% AEP Event		Newly Low Hazard (Prev. High Hazard)
	1% AEP Event		No Longer Low Hazard
	2% AEP Event		No Longer High Hazard
	5% AEP Event		No Longer High Hazard
	10% AEP Event		
	20% AEP Event		
	50% AEP Event		
	Not Flooded		
	No Longer Flooded Above Floor Level in 5% AEP		

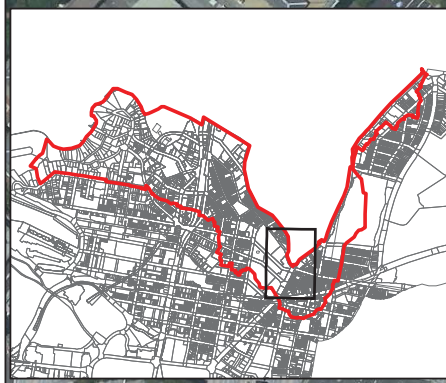




FIGURE 33  
 OPTION FM - RB04  
 10% AEP EVENT HAZARD IMPACT

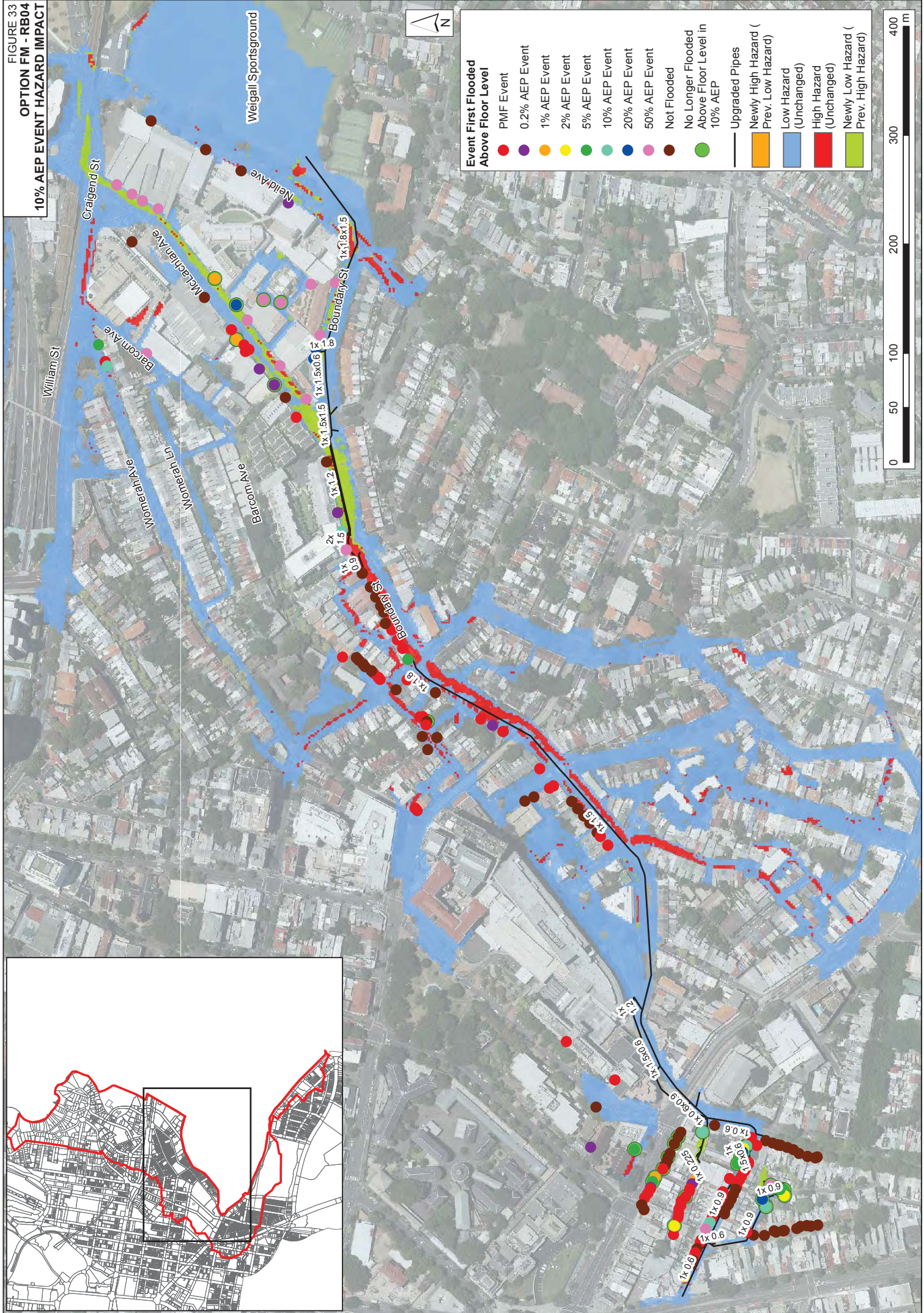
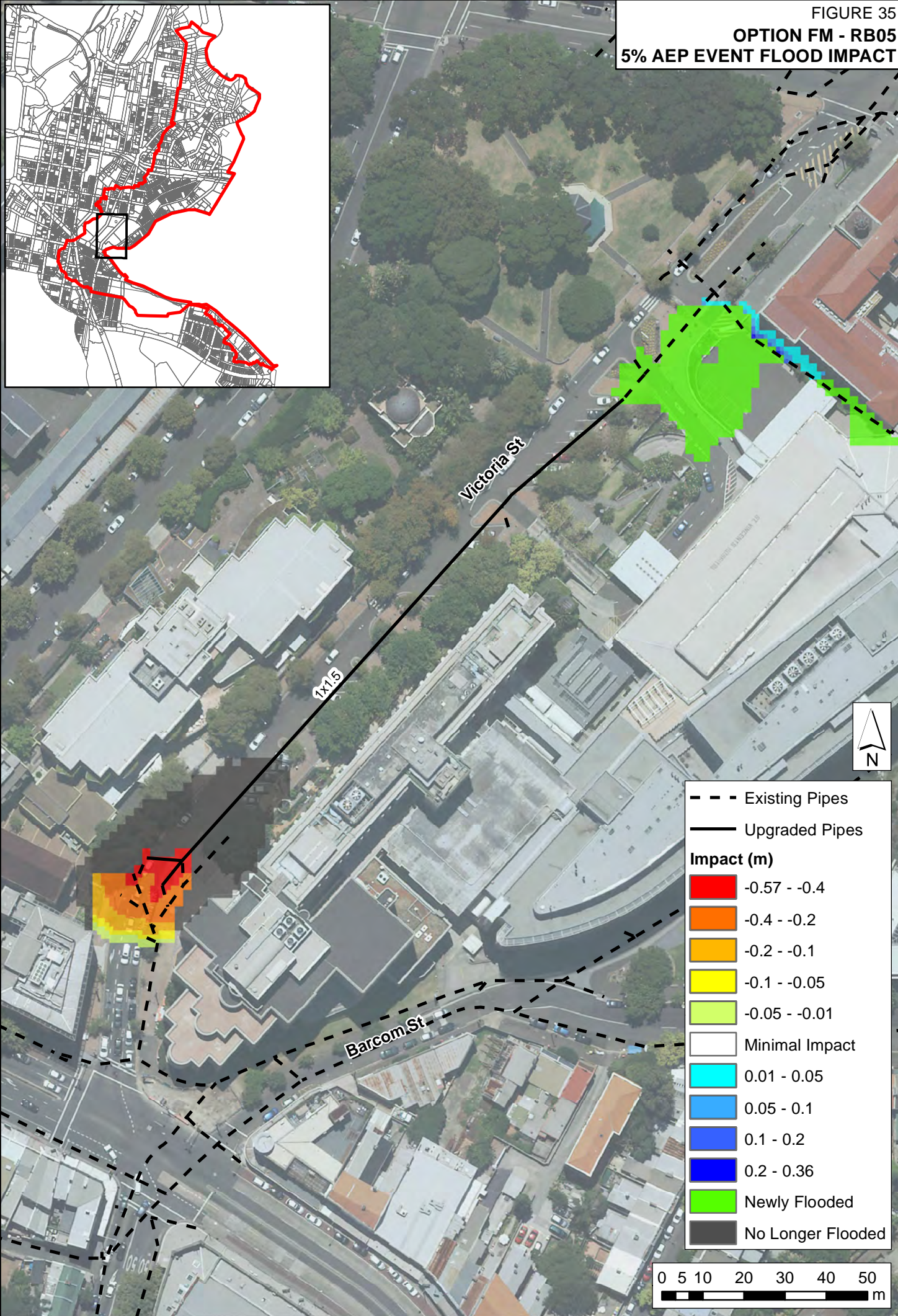
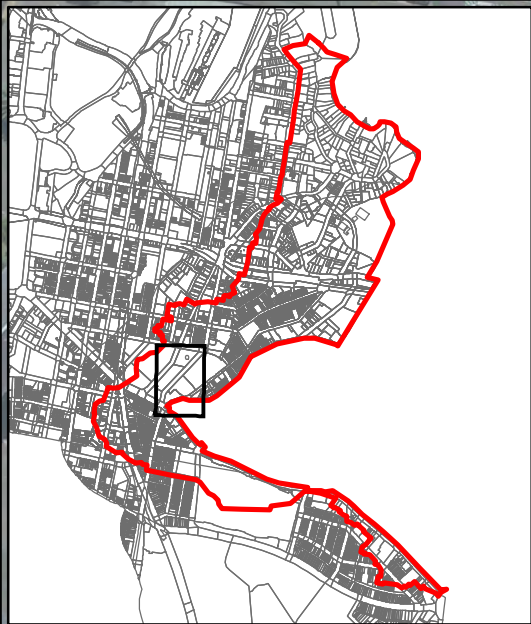




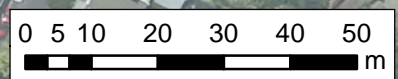
FIGURE 35  
**OPTION FM - RB05**  
**5% AEP EVENT FLOOD IMPACT**



- - - Existing Pipes  
 ——— Upgraded Pipes

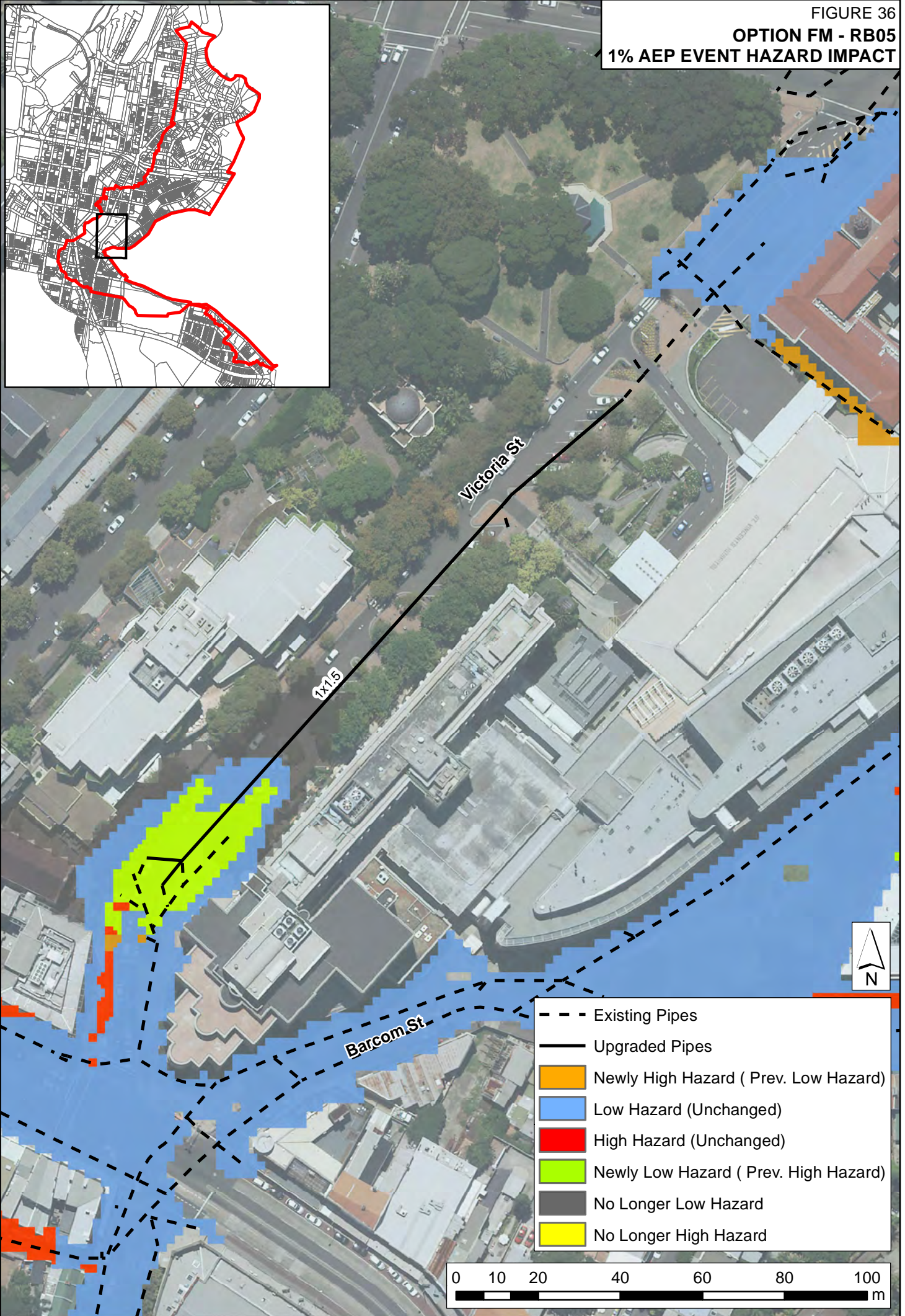
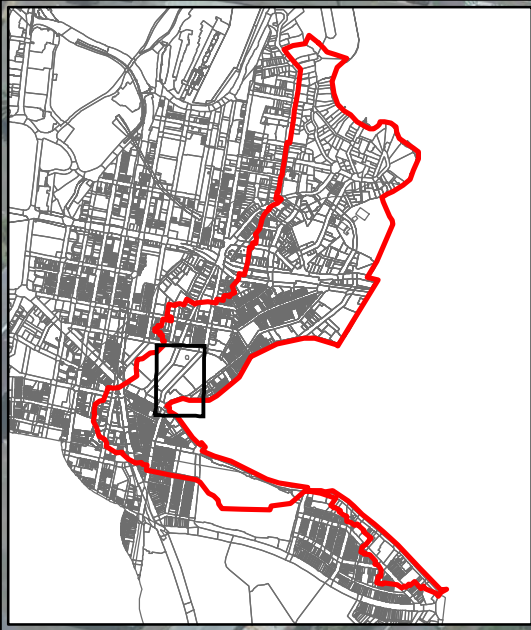
**Impact (m)**

Red	-0.57 - -0.4
Orange	-0.4 - -0.2
Yellow	-0.2 - -0.1
Light Green	-0.1 - -0.05
White	-0.05 - -0.01
White	Minimal Impact
Cyan	0.01 - 0.05
Blue	0.05 - 0.1
Dark Blue	0.1 - 0.2
Blue	0.2 - 0.36
Bright Green	Newly Flooded
Grey	No Longer Flooded

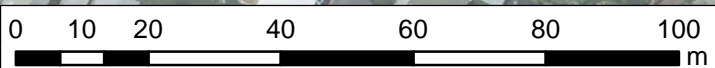


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FIGURE 36  
**OPTION FM - RB05**  
**1% AEP EVENT HAZARD IMPACT**



- - - Existing Pipes
- Upgraded Pipes
- Orange Newly High Hazard ( Prev. Low Hazard)
- Blue Low Hazard (Unchanged)
- Red High Hazard (Unchanged)
- Green Newly Low Hazard ( Prev. High Hazard)
- Grey No Longer Low Hazard
- Yellow No Longer High Hazard



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## APPENDIX A: GLOSSARY

Taken from the Floodplain Development Manual (April 2005 edition)

<b>acid sulfate soils</b>	Are sediments which contain sulfidic mineral pyrite which may become extremely acid following disturbance or drainage as sulfur compounds react when exposed to oxygen to form sulfuric acid. More detailed explanation and definition can be found in the NSW Government Acid Sulfate Soil Manual published by Acid Sulfate Soil Management Advisory Committee.
<b>Annual Exceedance Probability (AEP)</b>	The chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 500 m <sup>3</sup> /s has an AEP of 5%, it means that there is a 5% chance (that is one-in-20 chance) of a 500 m <sup>3</sup> /s or larger event occurring in any one year (see ARI).
<b>Australian Height Datum (AHD)</b>	A common national surface level datum approximately corresponding to mean sea level.
<b>Average Annual Damage (AAD)</b>	Depending on its size (or severity), each flood will cause a different amount of flood damage to a flood prone area. AAD is the average damage per year that would occur in a nominated development situation from flooding over a very long period of time.
<b>Average Recurrence Interval (ARI)</b>	The long term average number of years between the occurrence of a flood as big as, or larger than, the selected event. For example, floods with a discharge as great as, or greater than, the 20 year ARI flood event will occur on average once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event.
<b>caravan and moveable home parks</b>	Caravans and moveable dwellings are being increasingly used for long-term and permanent accommodation purposes. Standards relating to their siting, design, construction and management can be found in the Regulations under the LG Act.
<b>catchment</b>	The land area draining through the main stream, as well as tributary streams, to a particular site. It always relates to an area above a specific location.
<b>consent authority</b>	The Council, government agency or person having the function to determine a development application for land use under the EP&A Act. The consent authority is most often the Council, however legislation or an EPI may specify a Minister or public authority (other than a Council), or the Director General of DIPNR, as having the function to determine an application.
<b>development</b>	Is defined in Part 4 of the Environmental Planning and Assessment Act (EP&A Act).  <b>infill development:</b> refers to the development of vacant blocks of land that are generally surrounded by developed properties and is permissible under the current zoning of the land. Conditions such as minimum floor levels may be imposed on infill development.  <b>new development:</b> refers to development of a completely different nature to that associated with the former land use. For example, the urban subdivision of an area previously used for rural purposes. New developments involve rezoning and typically require major extensions of existing urban services, such as roads, water supply, sewerage and electric power.

**redevelopment:** refers to rebuilding in an area. For example, as urban areas age, it may become necessary to demolish and reconstruct buildings on a relatively large scale. Redevelopment generally does not require either rezoning or major extensions to urban services.

<b>disaster plan (DISPLAN)</b>	A step by step sequence of previously agreed roles, responsibilities, functions, actions and management arrangements for the conduct of a single or series of connected emergency operations, with the object of ensuring the coordinated response by all agencies having responsibilities and functions in emergencies.
<b>discharge</b>	The rate of flow of water measured in terms of volume per unit time, for example, cubic metres per second (m <sup>3</sup> /s). Discharge is different from the speed or velocity of flow, which is a measure of how fast the water is moving for example, metres per second (m/s).
<b>ecologically sustainable development (ESD)</b>	Using, conserving and enhancing natural resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be maintained or increased. A more detailed definition is included in the Local Government Act 1993. The use of sustainability and sustainable in this manual relate to ESD.
<b>effective warning time</b>	The time available after receiving advice of an impending flood and before the floodwaters prevent appropriate flood response actions being undertaken. The effective warning time is typically used to move farm equipment, move stock, raise furniture, evacuate people and transport their possessions.
<b>emergency management</b>	A range of measures to manage risks to communities and the environment. In the flood context it may include measures to prevent, prepare for, respond to and recover from flooding.
<b>flash flooding</b>	Flooding which is sudden and unexpected. It is often caused by sudden local or nearby heavy rainfall. Often defined as flooding which peaks within six hours of the causative rain.
<b>flood</b>	Relatively high stream flow which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with major drainage before entering a watercourse, and/or coastal inundation resulting from super-elevated sea levels and/or waves overtopping coastline defences excluding tsunamis.
<b>flood awareness</b>	Flood awareness is an appreciation of the likely effects of flooding and a knowledge of the relevant flood warning, response and evacuation procedures.
<b>flood education</b>	Flood education seeks to provide information to raise awareness of the flood problem so as to enable individuals to understand how to manage themselves and their property in response to flood warnings and in a flood event. It invokes a state of flood readiness.
<b>flood fringe areas</b>	The remaining area of flood prone land after floodway and flood storage areas have been defined.
<b>flood liable land</b>	Is synonymous with flood prone land (i.e. land susceptible to flooding by the probable maximum flood (PMF) event). Note that the term flood liable land covers the whole of the floodplain, not just that part below the flood planning level

(see flood planning area).

<b>flood mitigation standard</b>	The average recurrence interval of the flood, selected as part of the floodplain risk management process that forms the basis for physical works to modify the impacts of flooding.
<b>floodplain</b>	Area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land.
<b>floodplain risk management options</b>	The measures that might be feasible for the management of a particular area of the floodplain. Preparation of a floodplain risk management plan requires a detailed evaluation of floodplain risk management options.
<b>floodplain risk management plan</b>	A management plan developed in accordance with the principles and guidelines in this manual. Usually includes both written and diagrammatic information describing how particular areas of flood prone land are to be used and managed to achieve defined objectives.
<b>flood plan (local)</b>	A sub-plan of a disaster plan that deals specifically with flooding. They can exist at State, Division and local levels. Local flood plans are prepared under the leadership of the State Emergency Service.
<b>flood planning area</b>	The area of land below the flood planning level and thus subject to flood related development controls. The concept of flood planning area generally supersedes the ■flood liable land■ concept in the 1986 Manual.
<b>Flood Planning Levels (FPLs)</b>	FPLs are the combinations of flood levels (derived from significant historical flood events or floods of specific AEPs) and freeboards selected for floodplain risk management purposes, as determined in management studies and incorporated in management plans. FPLs supersede the ■standard flood event■ in the 1986 manual.
<b>flood proofing</b>	A combination of measures incorporated in the design, construction and alteration of individual buildings or structures subject to flooding, to reduce or eliminate flood damages.
<b>flood prone land</b>	Is land susceptible to flooding by the Probable Maximum Flood (PMF) event. Flood prone land is synonymous with flood liable land.
<b>flood readiness</b>	Flood readiness is an ability to react within the effective warning time.
<b>flood risk</b>	Potential danger to personal safety and potential damage to property resulting from flooding. The degree of risk varies with circumstances across the full range of floods. Flood risk in this manual is divided into 3 types, existing, future and continuing risks. They are described below. <p><b>existing flood risk:</b> the risk a community is exposed to as a result of its location on the floodplain.</p> <p><b>future flood risk:</b> the risk a community may be exposed to as a result of new development on the floodplain.</p> <p><b>continuing flood risk:</b> the risk a community is exposed to after floodplain risk management measures have been implemented. For a town protected by levees, the continuing flood risk is the consequences of the levees being overtopped. For an area without any floodplain risk management measures, the continuing flood risk is simply the existence of its flood exposure.</p>

<b>flood storage areas</b>	Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. The extent and behaviour of flood storage areas may change with flood severity, and loss of flood storage can increase the severity of flood impacts by reducing natural flood attenuation. Hence, it is necessary to investigate a range of flood sizes before defining flood storage areas.
<b>floodway areas</b>	Those areas of the floodplain where a significant discharge of water occurs during floods. They are often aligned with naturally defined channels. Floodways are areas that, even if only partially blocked, would cause a significant redistribution of flood flows, or a significant increase in flood levels.
<b>freeboard</b>	Freeboard provides reasonable certainty that the risk exposure selected in deciding on a particular flood chosen as the basis for the FPL is actually provided. It is a factor of safety typically used in relation to the setting of floor levels, levee crest levels, etc. Freeboard is included in the flood planning level.
<b>habitable room</b>	<p><b>in a residential situation:</b> a living or working area, such as a lounge room, dining room, rumpus room, kitchen, bedroom or workroom.</p> <p><b>in an industrial or commercial situation:</b> an area used for offices or to store valuable possessions susceptible to flood damage in the event of a flood.</p>
<b>hazard</b>	A source of potential harm or a situation with a potential to cause loss. In relation to this manual the hazard is flooding which has the potential to cause damage to the community. Definitions of high and low hazard categories are provided in the Manual.
<b>hydraulics</b>	Term given to the study of water flow in waterways; in particular, the evaluation of flow parameters such as water level and velocity.
<b>hydrograph</b>	A graph which shows how the discharge or stage/flood level at any particular location varies with time during a flood.
<b>hydrology</b>	Term given to the study of the rainfall and runoff process; in particular, the evaluation of peak flows, flow volumes and the derivation of hydrographs for a range of floods.
<b>local overland flooding</b>	Inundation by local runoff rather than overbank discharge from a stream, river, estuary, lake or dam.
<b>local drainage</b>	Are smaller scale problems in urban areas. They are outside the definition of major drainage in this glossary.
<b>mainstream flooding</b>	Inundation of normally dry land occurring when water overflows the natural or artificial banks of a stream, river, estuary, lake or dam.
<b>major drainage</b>	<p>Councils have discretion in determining whether urban drainage problems are associated with major or local drainage. For the purpose of this manual major drainage involves:</p> <ul style="list-style-type: none"> <li>■ the floodplains of original watercourses (which may now be piped, channelised or diverted), or sloping areas where overland flows develop along alternative paths once system capacity is exceeded; and/or</li> </ul>

- water depths generally in excess of 0.3 m (in the major system design storm as defined in the current version of Australian Rainfall and Runoff). These conditions may result in danger to personal safety and property damage to both premises and vehicles; and/or
- major overland flow paths through developed areas outside of defined drainage reserves; and/or
- the potential to affect a number of buildings along the major flow path.

**mathematical/computer models**

The mathematical representation of the physical processes involved in runoff generation and stream flow. These models are often run on computers due to the complexity of the mathematical relationships between runoff, stream flow and the distribution of flows across the floodplain.

**merit approach**

The merit approach weighs social, economic, ecological and cultural impacts of land use options for different flood prone areas together with flood damage, hazard and behaviour implications, and environmental protection and well being of the State's rivers and floodplains.

The merit approach operates at two levels. At the strategic level it allows for the consideration of social, economic, ecological, cultural and flooding issues to determine strategies for the management of future flood risk which are formulated into Council plans, policy and EPIs. At a site specific level, it involves consideration of the best way of conditioning development allowable under the floodplain risk management plan, local floodplain risk management policy and EPIs.

**minor, moderate and major flooding**

Both the State Emergency Service and the Bureau of Meteorology use the following definitions in flood warnings to give a general indication of the types of problems expected with a flood:

**minor flooding:** causes inconvenience such as closing of minor roads and the submergence of low level bridges. The lower limit of this class of flooding on the reference gauge is the initial flood level at which landholders and townspeople begin to be flooded.

**moderate flooding:** low-lying areas are inundated requiring removal of stock and/or evacuation of some houses. Main traffic routes may be covered.

**major flooding:** appreciable urban areas are flooded and/or extensive rural areas are flooded. Properties, villages and towns can be isolated.

**modification measures**

Measures that modify either the flood, the property or the response to flooding. Examples are indicated in Table 2.1 with further discussion in the Manual.

**peak discharge**

The maximum discharge occurring during a flood event.

**Probable Maximum Flood (PMF)**

The PMF is the largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation, and where applicable, snow melt, coupled with the worst flood producing catchment conditions. Generally, it is not physically or economically possible to provide complete protection against this event. The PMF defines the extent of flood prone land, that is, the floodplain. The extent, nature and potential consequences of flooding associated with a range of events rarer than the flood used for designing mitigation works and controlling development, up to and including the PMF event

should be addressed in a floodplain risk management study.

**Probable Maximum Precipitation (PMP)**

The PMP is the greatest depth of precipitation for a given duration meteorologically possible over a given size storm area at a particular location at a particular time of the year, with no allowance made for long-term climatic trends (World Meteorological Organisation, 1986). It is the primary input to PMF estimation.

**probability**

A statistical measure of the expected chance of flooding (see AEP).

**risk**

Chance of something happening that will have an impact. It is measured in terms of consequences and likelihood. In the context of the manual it is the likelihood of consequences arising from the interaction of floods, communities and the environment.

**runoff**

The amount of rainfall which actually ends up as streamflow, also known as rainfall excess.

**stage**

Equivalent to water level. Both are measured with reference to a specified datum.

**stage hydrograph**

A graph that shows how the water level at a particular location changes with time during a flood. It must be referenced to a particular datum.

**survey plan**

A plan prepared by a registered surveyor.

**water surface profile**

A graph showing the flood stage at any given location along a watercourse at a particular time.

**wind fetch**

The horizontal distance in the direction of wind over which wind waves are generated.







# Rushcutters Bay Catchment Floodplain Risk Management Study and Plan

June 2014



**The City of Sydney is preparing a Floodplain Risk Management Study and Plan for the Rushcutters Bay catchment area and we would like your help.**

**The study will tell us about the type of flood mitigation solutions feasible for the catchment and help us plan for and manage any flood risks.**

**Good management of flood risks can help reduce damage and improve social and economic opportunities.**



The City of Sydney has engaged WMAwater to assist with the preparation of the Rushcutters Bay Floodplain Risk Management Study and Plan.

The Rushcutters Bay Flood Study was completed by WMAwater in July 2013, giving the City of Sydney a better understanding of the nature of flooding in your area. The next step in the NSW Government Flood Management Process is the preparation of a Floodplain Risk Management Study and Plan. The purpose of this study and plan is to identify and recommend appropriate actions to manage flood risks in the Rushcutters Bay area.

This brochure is an introduction to the Floodplain Risk Management Study and Plan and its objectives.

### Stages of the NSW Government Floodplain Management Process

1. Formation of a Committee – complete
2. Data Collection – complete
3. Flood Study – complete
4. **Floodplain Risk Management Study**
5. **Floodplain Risk Management Plan**
6. Implementation of Plan.

### Study area and flooding issues

The Rushcutters Bay study area includes parts of Rushcutters Bay, Elizabeth Bay, Darlinghurst and Paddington.

Much of the flooding in this catchment occurs due to natural depressions and low points. In the past, flooding has caused property damage and posed a hazard to people and property located near drainage areas. The Floodplain Risk Management Study and Plan currently being undertaken is to manage these flood risks.

### Have your say

We want your comments about previous flood experiences and potential mitigation options.

The local knowledge of residents and business operators, including your personal experiences of flooding is a valuable source of information.

The information you provide in the accompanying questionnaire will help the City of Sydney determine how to manage the floods in your area.

For more information about this project, please contact the City of Sydney or WMAwater via the details provided.

### Floodplain risk management options

The following list of floodplain risk management options are examples of the type of strategies that could be considered to minimise risk and reduce the impact of flooding in the catchment. These options will be investigated in more detail during the preparation of the Management Study and Plan. The general categories of these options are:

#### Flood modification options.

Examples include:

- Construction of detention/retarding basins to reduce the peak flow downstream;
- Upgrading of drainage systems, upgrade of existing pipes or construction of new pipes; and
- Regrading of roads to provide better overland flowpaths.

#### Property modification options and planning control.

Examples include:

- Building and development controls; and
- Flood-proofing measures, such as flood barriers.

#### Response modification options.

Examples include:

- Revision of the Local Disaster Plan;
- Public awareness and education – locality-based flooding information for residents;
- Public awareness and education – flooding information for schools;
- Flood depth markers at major (flood-affected) road crossings;
- Continuation of existing public awareness and education campaigns; and
- Data collection strategies for future floods.

For more information please contact:

WMAwater  
Steve Gray  
Phone 02 9299 2855  
Fax: 02 9262 6208  
[gray@wmawater.com.au](mailto:gray@wmawater.com.au)

City of Sydney  
Shah Alam  
Phone: 02 9288 5925  
[salam@cityofsydney.nsw.gov.au](mailto:salam@cityofsydney.nsw.gov.au)

# Local Resident/Land Owner Survey

The City of Sydney is carrying out a Floodplain Risk Management Study and Plan for the Rushcutters Bay catchment. Please return your completed questionnaire in the reply-paid envelope by 20 July 2014. Or complete the questionnaire online at [www.cityofsydney.nsw.gov.au/floodplain-management](http://www.cityofsydney.nsw.gov.au/floodplain-management).

## 1

Please provide the following details as we may contact you to discuss some of the information you have provided us. This is optional.

Name: .....

Address: .....

Contact phone number:.....

Email: .....

## 2

What is the best way to contact you?

Letter (post)

Email

Phone

## 3

How many people regularly live/work on this property?

.....  
.....  
.....

## 4

How many of the permanent residents/workers are in age group below:

0-4 years

5-14 years

15-64 years

65+ years

## 5

What is the main language spoken at this address?

English

Other (please specify) .....

6

Is your property (please tick)

- Owner occupied       Occupied by a tenant       Business
- Other (please specify) .....

7

What type of structure is your property/business? (please tick)

- Freestanding house.....
- Apartment.....
- Dual occupancy.....
- Industrial.....
- Commercial.....

8

How long have you lived, worked at, and/or owned this property?

Years .....

Months .....

9

Have you ever experienced flooding since living and/or working in the Rushcutters Bay catchment? (please tick relevant boxes)

- Yes, floodwaters entered my house/business
- Yes, floodwaters entered my yard/surrounds of my business
- Yes, the road was flooded and I couldn't get to my car
- Yes, other parts of my neighbourhood were flooded
- No, I haven't experienced flooding

10

Do you have any materials or photos you can provide to evidence the flooding you experienced? If yes, when did this flood occur?

- No
- Yes – the flooding occurred on: .....

As a local resident who may have witnessed flooding/drainage problems, you may have your own ideas about how to reduce flood risks. Which of the following do you prefer (1 = most preferred, 5 = least preferred)?

Proposed option	Preference
Retarding or detention basins (these temporarily hold water and reduce peak flood flows) — Suggested location/other comments:	1 2 3 4 5
Improved flood flow paths — Suggested location/other comments:	1 2 3 4 5
Culvert/bridge enlarging — Suggested location/other comments:	1 2 3 4 5
Pit and pipe upgrades — Suggested location/other comments:	1 2 3 4 5
Levee banks or flood walls — Suggested location/other comments:	1 2 3 4 5
Strategic planning and flood related development controls — Suggested location/other comments:	1 2 3 4 5
Education of the community, providing greater awareness of potential hazards — Suggested location/other comments:	1 2 3 4 5
Flood forecasting, flood warnings, evacuation planning and emergency response measures — Suggested location/other comments:	1 2 3 4 5

Other (please specify any options you think are suitable): .....

.....

.....

.....

If you have any further comments that relate to the Rushcutters Bay Flood Management Study and Plan, please write them in the space below. Feel free to attach additional pages if necessary.

.....

.....

.....

**Glossary**

- Culvert** – a piped drain or covered channel that passes under a road or railroad.
- Levee bank/flood wall** – an embankment or wall, usually constructed from earth or concrete, built along the banks of a watercourse to help prevent overflow of its waters.
- Retarding/detention basin** – depression in the land surface that captures and holds stormwater runoff allowing it to slowly drain out of the basin into the adjoining natural drainage line or creek.

**Privacy notice** The information supplied will be used by the City of Sydney and its consultants to consider flooding matters within the local government area. Personal information will remain confidential, however responses may be accessed by third parties through the Government Information (Public Access) Act 2009.





<b>Table C1: Cost Estimate - Option FM-RB01 - Boundary Street Pipe Upgrade</b>					
<b>Item No.</b>	<b>Description of work</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>RB01</b>
<b>1</b>	<b>General Construction Costs</b>				
1.1	Site establishment, security fencing, facilities and disestablishment	1	item	0	0
1.2	Provision of sediment and erosion control	1	item	0	0
1.3	Construction setout and survey	1	item	0	0
1.4	Work as executed survey and documentation	1	item	0	0
1.5	Geotechnical supervision, testing and certification	1	item	0	0
	<b>SUBTOTAL (Assumed as 15% of works cost)</b>				<b>\$ 594,075</b>
<b>2</b>	<b>Demolition and Clearing</b>				
2.1	Clearing and grubbing	0	sq. m	11	0
2.2	Strip topsoil and stockpile for re-use (assuming 150mm depth)	0	cu. m	27	0
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	65	0
2.4	Pull up and dispose existing road surface	1,504	sq. m	38	56,867
	<b>SUBTOTAL</b>				<b>\$ 56,867</b>
<b>4</b>	<b>Installation of Drainage</b>				
4.1	Supply, excavate, bed, lay, joint, backfill and provide connections 0.45m dia. Pipe	17	lin. m	999	16,683
4.4	Supply, excavate, bed, lay, joint, backfill and provide connections twin 0.9m dia. Pipe	37	lin. m	1,728	64,084
4.5	Supply, excavate, bed, lay, joint, backfill and provide connections 1.2m dia. Pipe	176	lin. m	1,782	313,263
4.6	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m dia. Pipe	40	lin. m	2,430	98,026
4.8	Supply, excavate, bed, lay, joint, backfill and provide connections 1.8m dia. Pipe	12	lin. m	3,564	43,753
4.21	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m x 0.6m culvert	423	lin. m	2,700	1,142,076
4.23	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m x 1.5m culvert	19	lin. m	3,024	58,088
4.24	Supply, excavate, bed, lay, joint, backfill and provide connections 1.8m x 1.2m culvert	28	lin. m	3,456	96,138
4.49	Install new drainage/junction pit (assumed 1 pit per 5m of pipe)	150	each	4,320	648,000
4.51	Adjustment of existing services (nominal allowance) (assumed 30% of drainage installation cost)	1,095,028	item	74,547	1,095,028
	<b>SUBTOTAL</b>				<b>\$ 3,302,464</b>
<b>7</b>	<b>Footpath and Road Surfaces</b>				
7.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	1,504	sq. m	130	194,973
	<b>SUBTOTAL</b>				<b>\$ 194,973</b>
<b>9</b>	<b>Traffic Management</b>				
9.1	Control of traffic during works (nominal allowance) (assumed \$500 per lin.m)	752	lin. m	540	406,195
	<b>SUBTOTAL</b>				<b>\$ 406,195</b>
	<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 4,554,574</b>
<b>11</b>	<b>Contingencies</b>				<b>\$ -</b>
11.1	50% construction cost				<b>\$ 2,277,287</b>
	<b>CONSTRUCTION TOTAL, exc. GST</b>				<b>\$ 6,831,861</b>
	<b>GST</b>				<b>\$ 683,186</b>
	<b>CONSTRUCTION TOTAL, inc. GST</b>				<b>\$ 7,515,047</b>
	<b>CONSTRUCTION TOTAL, rounded</b>				<b>\$ 7,515,000</b>



11	<b>MAINTENANCE</b>				
11.1	<b>Maintenance of mitigation option</b>		item		\$ 7,522

<b>Table C2: Cost Estimate - Option FM-RB02 - Boundary Street to Weigall Sportsground Pipe Upgrade</b>					
<b>Item No.</b>	<b>Description of work</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>RB02</b>
<b>1</b>	<b>General Construction Costs</b>				
1.1	Site establishment, security fencing, facilities and disestablishment	1	item	0	0
1.2	Provision of sediment and erosion control	1	item	0	0
1.3	Construction setout and survey	1	item	0	0
1.4	Work as executed survey and documentation	1	item	0	0
1.5	Geotechnical supervision, testing and certification	1	item	0	0
	<b>SUBTOTAL (Assumed as 15% of works cost)</b>				<b>\$ 440,958</b>
<b>2</b>	<b>Demolition and Clearing</b>				
2.1	Clearing and grubbing	0	sq. m	11	0
2.2	Strip topsoil and stockpile for re-use (assuming 150mm depth)	0	cu. m	27	0
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	65	0
2.4	Pull up and dispose existing road surface	1,067	sq. m	38	40,349
	<b>SUBTOTAL</b>				<b>\$ 40,349</b>
<b>4</b>	<b>Installation of Drainage</b>				
4.1	Supply, excavate, bed, lay, joint, backfill and provide connections 0.45m dia. Pipe	17	lin. m	999	16,683
4.4	Supply, excavate, bed, lay, joint, backfill and provide connections twin 0.9m dia. Pipe	13	lin. m	1,728	21,766
4.5	Supply, excavate, bed, lay, joint, backfill and provide connections 1.2m dia. Pipe	176	lin. m	1,782	313,263
4.6	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m dia. Pipe	40	lin. m	2,430	98,026
4.8	Supply, excavate, bed, lay, joint, backfill and provide connections 1.8m dia. Pipe	12	lin. m	3,564	43,753
4.21	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m x 0.6m culvert	59	lin. m	2,700	158,154
4.23	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m x 1.5m culvert	19	lin. m	3,024	58,088
4.24	Supply, excavate, bed, lay, joint, backfill and provide connections 1.8m x 1.2m culvert	198	lin. m	3,456	685,086
4.49	Install new drainage/junction pit (assumed 1 pit per 5m of pipe)	107	each	4,320	462,240
4.51	Adjustment of existing services (nominal allowance) (assumed 30% of drainage installation cost)	819,935	item	74,547	819,935
	<b>SUBTOTAL</b>				<b>\$ 2,472,821</b>
<b>7</b>	<b>Footpath and Road Surfaces</b>				
7.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	1,067	sq. m	130	138,340
	<b>SUBTOTAL</b>				<b>\$ 138,340</b>
<b>9</b>	<b>Traffic Management</b>				
9.1	Control of traffic during works (nominal allowance) (assumed \$500 per lin.m)	534	lin. m	540	288,209
	<b>SUBTOTAL</b>				<b>\$ 288,209</b>
	<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 3,380,677</b>
<b>11</b>	<b>Contingencies</b>				
11.1	50% construction cost				<b>\$ 1,690,339</b>
	<b>CONSTRUCTION TOTAL, exc. GST</b>				<b>\$ 5,071,016</b>
	<b>GST</b>				<b>\$ 507,102</b>
	<b>CONSTRUCTION TOTAL, inc. GST</b>				<b>\$ 5,578,117</b>
	<b>CONSTRUCTION TOTAL, rounded</b>				<b>\$ 5,578,100</b>

11	<b>MAINTENANCE</b>				
11.1	<b>Maintenance of mitigation option</b>		item		<b>\$ 5,337</b>

<b>Table C3: Cost Estimate - Option FM-RB03 - Taylor,Sims and Sturt Street Pipe Upgrade</b>					
<b>Item No.</b>	<b>Description of work</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>RB03</b>
<b>1</b>	<b>General Construction Costs</b>				
1.1	Site establishment, security fencing, facilities and disestablishment	1	item	0	0
1.2	Provision of sediment and erosion control	1	item	0	0
1.3	Construction setout and survey	1	item	0	0
1.4	Work as executed survey and documentation	1	item	0	0
1.5	Geotechnical supervision, testing and certification	1	item	0	0
	<b>SUBTOTAL (Assumed as 15% of works cost)</b>				<b>\$ 451,525</b>
<b>2</b>	<b>Demolition and Clearing</b>				
2.1	Clearing and grubbing	0	sq. m	11	0
2.2	Strip topsoil and stockpile for re-use (assuming 150mm depth)	0	cu. m	27	0
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	65	0
2.4	Pull up and dispose existing road surface	1,435	sq. m	38	54,243
	<b>SUBTOTAL</b>				<b>\$ 54,243</b>
<b>4</b>	<b>Installation of Drainage</b>				
4.1	Supply, excavate, bed, lay, joint, backfill and provide connections 0.45m dia. Pipe	17	lin. m	999	17,425
4.2	Supply, excavate, bed, lay, joint, backfill and provide connections 0.6m dia. Pipe	172	lin. m	1,053	180,606
4.4	Supply, excavate, bed, lay, joint, backfill and provide connections twin 0.9m dia. Pipe	257	lin. m	1,728	443,649
4.5	Supply, excavate, bed, lay, joint, backfill and provide connections 1.2m dia. Pipe	164	lin. m	1,782	292,233
4.21	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m x 0.6m culvert	10	lin. m	2,700	25,790
4.24	Supply, excavate, bed, lay, joint, backfill and provide connections 1.8m x 1.2m culvert	98	lin. m	3,456	339,585
4.49	Install new drainage/junction pit (assumed 1 pit per 5m of pipe)	144	each	4,320	622,080
4.51	Adjustment of existing services (nominal allowance) (assumed 20% of drainage installation cost)	571,799	item	74,547	571,799
	<b>SUBTOTAL</b>				<b>\$ 2,382,497</b>
<b>7</b>	<b>Footpath and Road Surfaces</b>				
7.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	1,435	sq. m	130	185,977
	<b>SUBTOTAL</b>				<b>\$ 185,977</b>
<b>9</b>	<b>Traffic Management</b>				
9.1	Control of traffic during works (nominal allowance) (assumed \$500 per lin.m)	718	lin. m	540	387,451
	<b>SUBTOTAL</b>				<b>\$ 387,451</b>
	<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 3,461,693</b>
<b>11</b>	<b>Contingencies</b>				
11.1	50% construction cost				\$ 1,730,847
	<b>CONSTRUCTION TOTAL, exc. GST</b>				<b>\$ 5,192,540</b>
	<b>GST</b>				<b>\$ 519,254</b>
	<b>CONSTRUCTION TOTAL, inc. GST</b>				<b>\$ 5,711,794</b>
	<b>CONSTRUCTION TOTAL, rounded</b>				<b>\$ 5,711,800</b>
<b>11</b>	<b>MAINTENANCE</b>				
11.1	Maintenance of mitigation option		item		\$ 7,175

**Table C4: Cost Estimate - Option FM-RB04 - Taylor to Boundary Street Pipe Upgrade**

Item No.	Description of work	Quantity	Unit	Rate	RB04
<b>1</b>	<b>General Construction Costs</b>				
1.1	Site establishment, security fencing, facilities and disestablishment	1	item	0	0
1.2	Provision of sediment and erosion control	1	item	0	0
1.3	Construction setout and survey	1	item	0	0
1.4	Work as executed survey and documentation	1	item	0	0
1.5	certification	1	item	0	0
	<b>SUBTOTAL (Assumed as 15% of works cost)</b>				<b>\$ 1,263,868</b>
<b>2</b>	<b>Demolition and Clearing</b>				
2.1	Clearing and grubbing	0	sq. m	11	0
2.2	Strip topsoil and stockpile for re-use (assuming 150mm depth)	0	cu. m	27	0
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	65	0
2.4	Pull up and dispose existing road surface	3,414	sq. m	38	129,035
	<b>SUBTOTAL</b>				<b>\$ 129,035</b>
<b>4</b>	<b>Installation of Drainage</b>				
4.1	Supply, excavate, bed, lay, joint, backfill and provide connections 0.45m dia. Pipe	34	lin. m	999	34,128
4.2	Supply, excavate, bed, lay, joint, backfill and provide connections 0.6m dia. Pipe	187	lin. m	1,053	196,776
4.4	Supply, excavate, bed, lay, joint, backfill and provide connections twin 0.9m dia. Pipe	343	lin. m	1,728	592,554
4.5	Supply, excavate, bed, lay, joint, backfill and provide connections 1.2m dia. Pipe	284	lin. m	1,782	505,261
4.6	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m dia. Pipe	426	lin. m	2,430	1,034,158
4.8	Supply, excavate, bed, lay, joint, backfill and provide connections 1.8m dia. Pipe	50	lin. m	3,564	177,931
4.21	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m x 0.6m culvert	166	lin. m	2,700	449,244
4.23	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m x 1.5m culvert	19	lin. m	3,024	58,088
4.24	Supply, excavate, bed, lay, joint, backfill and provide connections 1.8m x 1.2m culvert	198	lin. m	3,456	685,086
4.49	Install new drainage/junction pit (assumed 1 pit per 5m of pipe)	341	each	4,320	1,473,120
4.51	Adjustment of existing services (nominal allowance) (assumed 30% of drainage installation cost)	2,298,725	item	74,547	2,298,725
	<b>SUBTOTAL</b>				<b>\$ 6,932,663</b>
<b>7</b>	<b>Footpath and Road Surfaces</b>				
7.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	3,414	sq. m	130	442,406
	<b>SUBTOTAL</b>				<b>\$ 442,406</b>
<b>9</b>	<b>Traffic Management</b>				

9.1	allowance) (assumed \$500 per lin.m)	1,707	lin. m	540	921,680
	<b>SUBTOTAL</b>				<b>\$ 921,680</b>
	<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 9,689,652</b>
11	<b>Contingencies</b>				<b>\$ -</b>
11.1	50% construction cost				<b>\$ 4,844,826</b>
	<b>CONSTRUCTION TOTAL, exc. GST</b>				<b>\$ 14,534,478</b>
	<b>GST</b>				<b>\$ 1,453,448</b>
	<b>CONSTRUCTION TOTAL, inc. GST</b>				<b>\$ 15,987,926</b>
	<b>CONSTRUCTION TOTAL, rounded</b>				<b>\$ 15,987,900</b>
11	<b>MAINTENANCE</b>				
11.1	Maintenance of mitigation option		item		<b>\$ 17,068</b>

<b>Table C5: Cost Estimate - Option FM-RB05 - Victoria Street Pipe Upgrade</b>					
<b>Item No.</b>	<b>Description of work</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>RB05</b>
<b>1</b>	<b>General Construction Costs</b>				
1.1	Site establishment, security fencing, facilities and disestablishment	1	item	0	0
1.2	Provision of sediment and erosion control	1	item	0	0
1.3	Construction setout and survey	1	item	0	0
1.4	Work as executed survey and documentation	1	item	0	0
1.5	Geotechnical supervision, testing and certification	1	item	0	0
	<b>SUBTOTAL (Assumed as 15% of works cost)</b>				<b>\$ 93,139</b>
<b>2</b>	<b>Demolition and Clearing</b>				
2.1	Clearing and grubbing	0	sq. m	11	0
2.2	Strip topsoil and stockpile for re-use (assuming 150mm depth)	0	cu. m	27	0
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	65	0
2.4	Pull up and dispose existing road surface	342	sq. m	38	12,928
	<b>SUBTOTAL</b>				<b>\$ 12,928</b>
<b>4</b>	<b>Installation of Drainage</b>				
4.6	Supply, excavate, bed, lay, joint, backfill and provide connections 1.5m dia. Pipe	171	lin. m	2,430	415,530
4.49	Install new drainage/junction pit (assumed 1 pit per 50m of pipe)	3	each	4,320	12,960
4.51	Adjustment of existing services (nominal allowance) (assumed 10% of drainage installation cost)	47,134	item	74,547	47,134
	<b>SUBTOTAL</b>				<b>\$ 471,339</b>
<b>7</b>	<b>Footpath and Road Surfaces</b>				
7.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	342	sq. m	130	44,323
	<b>SUBTOTAL</b>				<b>\$ 44,323</b>
<b>9</b>	<b>Traffic Management</b>				
9.1	Control of traffic during works (nominal allowance) (assumed \$500 per lin.m)	171	lin. m	540	92,340
	<b>SUBTOTAL</b>				<b>\$ 92,340</b>
	<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 714,069</b>
11	Contingencies				\$ -
11.1	50% construction cost				\$ 357,035
	<b>CONSTRUCTION TOTAL, exc. GST</b>				<b>\$ 1,071,104</b>
	<b>GST</b>				<b>\$ 107,110</b>
	<b>CONSTRUCTION TOTAL, inc. GST</b>				<b>\$ 1,178,214</b>
	<b>CONSTRUCTION TOTAL, rounded</b>				<b>\$ 1,178,200</b>
<b>11</b>	<b>MAINTENANCE</b>				
11.1	Maintenance of mitigation option		item		\$ 11,710





**Table D1: Residential Tangible Damages - Option FM - RB01**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	138	87	\$ 4,751,800	\$ 34,400
<b>1%</b>	100	24	\$ 1,418,900	\$ 14,200
<b>2%</b>	92	23	\$ 1,344,300	\$ 14,600
<b>5%</b>	90	20	\$ 1,165,700	\$ 13,000
<b>10%</b>	81	10	\$ 784,400	\$ 9,700
<b>20%</b>	79	5	\$ 565,900	\$ 7,200
<b>50%</b>	65	3	\$ 342,500	\$ 5,300
<b>Average Annual Damages (AAD)</b>			<b>\$ 420,500</b>	<b>\$ 3,000</b>

**Table D2: Commercial Tangible Damages - Option FM - RB01**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	61	42	\$ 6,941,900	\$ 113,800
<b>1%</b>	42	21	\$ 3,374,100	\$ 80,300
<b>2%</b>	39	20	\$ 3,088,700	\$ 79,200
<b>5%</b>	36	17	\$ 2,636,000	\$ 73,200
<b>10%</b>	26	10	\$ 1,538,600	\$ 59,200
<b>20%</b>	22	5	\$ 844,600	\$ 38,400
<b>50%</b>	17	3	\$ 538,600	\$ 31,700
<b>Average Annual Damages (AAD)</b>			<b>\$ 735,400</b>	<b>\$ 12,100</b>

**Table D3: Combined Tangible Damages - Option FM - RB01**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	199	129	\$ 11,693,700	\$ 58,800
<b>1%</b>	142	45	\$ 4,793,000	\$ 33,800
<b>2%</b>	131	43	\$ 4,433,100	\$ 33,800
<b>5%</b>	126	37	\$ 3,801,700	\$ 30,200
<b>10%</b>	107	20	\$ 2,323,000	\$ 21,700
<b>20%</b>	101	10	\$ 1,410,600	\$ 14,000
<b>50%</b>	82	6	\$ 881,100	\$ 10,700
<b>Average Annual Damages (AAD)</b>			<b>\$ 1,155,800</b>	<b>\$ 5,800</b>

**Table D1: Residential Tangible Damages - Option FM -RB02**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	138	87	\$ 4,802,100	\$ 34,800
<b>1%</b>	99	25	\$ 1,474,000	\$ 14,900
<b>2%</b>	94	23	\$ 1,347,100	\$ 14,300
<b>5%</b>	89	18	\$ 1,167,200	\$ 13,100
<b>10%</b>	82	10	\$ 786,500	\$ 9,600
<b>20%</b>	80	5	\$ 565,800	\$ 7,100
<b>50%</b>	65	3	\$ 335,100	\$ 5,200
<b>Average Annual Damages (AAD)</b>			<b>\$ 418,500</b>	<b>\$ 3,000</b>

**Table D2: Commercial Tangible Damages - Option FM -RB02**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	61	42	\$ 6,950,300	\$ 113,900
<b>1%</b>	41	21	\$ 3,381,400	\$ 82,500
<b>2%</b>	39	20	\$ 3,110,500	\$ 79,800
<b>5%</b>	36	17	\$ 2,638,600	\$ 73,300
<b>10%</b>	27	9	\$ 1,425,000	\$ 52,800
<b>20%</b>	23	6	\$ 976,100	\$ 42,400
<b>50%</b>	16	3	\$ 520,700	\$ 32,500
<b>Average Annual Damages (AAD)</b>			<b>\$ 746,700</b>	<b>\$ 12,200</b>

**Table D3: Combined Tangible Damages - Option FM -RB02**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	199	129	\$ 11,752,400	\$ 59,100
<b>1%</b>	140	46	\$ 4,855,400	\$ 34,700
<b>2%</b>	133	43	\$ 4,457,600	\$ 33,500
<b>5%</b>	125	35	\$ 3,805,800	\$ 30,400
<b>10%</b>	109	19	\$ 2,211,400	\$ 20,300
<b>20%</b>	103	11	\$ 1,541,900	\$ 15,000
<b>50%</b>	81	6	\$ 855,800	\$ 10,600
<b>Average Annual Damages (AAD)</b>			<b>\$ 1,165,200</b>	<b>\$ 5,900</b>

**Table D1: Residential Tangible Damages - Option FM - RB03**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	130	76	\$ 4,287,700	\$ 33,000
<b>1%</b>	72	12	\$ 778,000	\$ 10,800
<b>2%</b>	69	9	\$ 632,800	\$ 9,200
<b>5%</b>	65	9	\$ 612,300	\$ 9,400
<b>10%</b>	62	7	\$ 495,900	\$ 8,000
<b>20%</b>	58	5	\$ 362,700	\$ 6,300
<b>50%</b>	54	5	\$ 319,300	\$ 5,900
<b>Average Annual Damages (AAD)</b>			<b>\$ 303,800</b>	<b>\$ 2,300</b>

**Table D2: Commercial Tangible Damages - Option FM - RB03**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	62	39	\$ 6,598,400	\$ 106,400
<b>1%</b>	37	23	\$ 3,672,300	\$ 99,300
<b>2%</b>	34	20	\$ 3,213,700	\$ 94,500
<b>5%</b>	33	17	\$ 2,774,800	\$ 84,100
<b>10%</b>	28	13	\$ 2,181,700	\$ 77,900
<b>20%</b>	27	12	\$ 1,954,300	\$ 72,400
<b>50%</b>	23	11	\$ 1,739,700	\$ 75,600
<b>Average Annual Damages (AAD)</b>			<b>\$ 1,495,300</b>	<b>\$ 24,100</b>

**Table D3: Combined Tangible Damages - Option FM - RB03**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	192	115	\$ 10,886,100	\$ 56,700
<b>1%</b>	109	35	\$ 4,450,200	\$ 40,800
<b>2%</b>	103	29	\$ 3,846,500	\$ 37,300
<b>5%</b>	98	26	\$ 3,387,100	\$ 34,600
<b>10%</b>	90	20	\$ 2,677,600	\$ 29,800
<b>20%</b>	85	17	\$ 2,317,000	\$ 27,300
<b>50%</b>	77	16	\$ 2,059,000	\$ 26,700
<b>Average Annual Damages (AAD)</b>			<b>\$ 1,799,100</b>	<b>\$ 9,400</b>

**Table D1: Residential Tangible Damages - Option FM - RB04**

Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	128	75	\$ 4,210,900	\$ 32,900
<b>1%</b>	71	10	\$ 657,200	\$ 9,300
<b>2%</b>	67	10	\$ 636,500	\$ 9,500
<b>5%</b>	65	5	\$ 491,100	\$ 7,600
<b>10%</b>	60	3	\$ 372,000	\$ 6,200
<b>20%</b>	57	2	\$ 284,100	\$ 5,000
<b>50%</b>	50	2	\$ 229,400	\$ 4,600
<b>Average Annual Damages (AAD)</b>			<b>\$ 236,500</b>	<b>\$ 1,800</b>

**Table D2: Commercial Tangible Damages - Option FM - RB04**

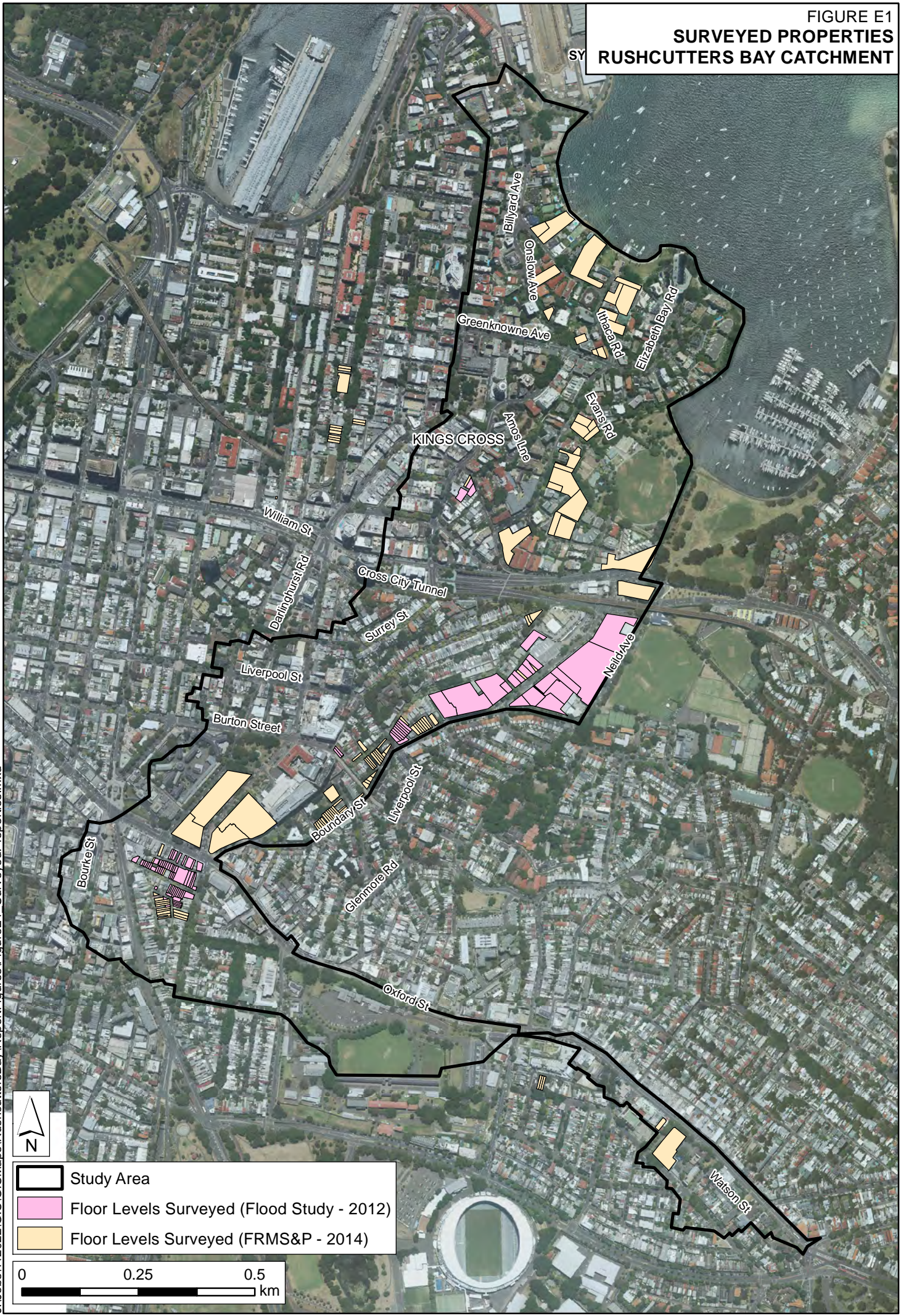
Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	61	39	\$ 6,504,600	\$ 106,600
<b>1%</b>	32	19	\$ 3,011,200	\$ 94,100
<b>2%</b>	31	18	\$ 2,774,200	\$ 89,500
<b>5%</b>	28	15	\$ 2,313,200	\$ 82,600
<b>10%</b>	22	9	\$ 1,409,500	\$ 64,100
<b>20%</b>	22	6	\$ 973,300	\$ 44,200
<b>50%</b>	16	4	\$ 655,100	\$ 40,900
<b>Average Annual Damages (AAD)</b>			<b>\$ 773,000</b>	<b>\$ 12,700</b>

**Table D3: Combined Tangible Damages - Option FM - RB04**

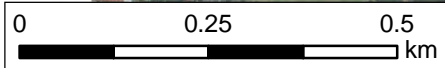
Event	No. Properties Affected (Flooded below floor)	No. Properties Flooded Above Floor Level	Total Damages for Event	Ave. Damage Per Flood Affected Property
<b>PMF</b>	189	114	\$ 10,715,500	\$ 56,700
<b>1%</b>	103	29	\$ 3,668,300	\$ 35,600
<b>2%</b>	98	28	\$ 3,410,600	\$ 34,800
<b>5%</b>	93	20	\$ 2,804,300	\$ 30,200
<b>10%</b>	82	12	\$ 1,781,600	\$ 21,700
<b>20%</b>	79	8	\$ 1,257,400	\$ 15,900
<b>50%</b>	66	6	\$ 884,500	\$ 13,400
<b>Average Annual Damages (AAD)</b>			<b>\$ 1,009,500</b>	<b>\$ 5,300</b>



FIGURE E1  
**SURVEYED PROPERTIES**  
**RUSHCUTTERS BAY CATCHMENT**



- Study Area
- Floor Levels Surveyed (Flood Study - 2012)
- Floor Levels Surveyed (FRMS&P - 2014)



J:\Jobs\112022\GIS\GISMaps\RushcuttersBay\Report\Figures\FigureE1 - Surveyed Properties.mxd

Floor Level Survey (undertaken in 2012 as part of Rushcutters Bay Flood Study)

FID	PROPER	Street Number	Street Name	Suburb	Unit Number	Land Use, Comm (C), Indust (I), Public (P), Resid (R), School (S), Vacant (V)	Premises Size (S,M,L)	Stores	Do people live on ground floor? (Y/N)	Floor Construction: Slab (1) or Pier (2)	Wall Construction: Brick, Stone, Rendered Fibro (3), W'board (4), Clad (5)	Condition: (Poor=1, Ave=2, Good=3)	Garden: (Poor=1, Ave=2, Good=3)	Nothing	Basement Parking Level	Lowest Habitable/Office Floor Level	Natural Surface Level (Front)	Weir Level	Courtyard Level (Front)	Entry Level from Street (where different to lowest floor level)	Name & Nature of Business	Photo Reference
26444		43	Boundary Street	DARLINGHURST NSW 2010	N/A	R	S	2	Y	2	1	2	2	6249812	N/A	19.56	18.56	N/A	N/A	N/A	N/A	43 Boundary Street, Darlinghurst.jpg
26441		170	Barcom Avenue	DARLINGHURST NSW 2010	N/A	R	S	2	Y	2	1	2	2	6249824	N/A	20.46	21.94	N/A	20.1	N/A	N/A	170 Barcom Avenue, Darlinghurst.jpg
26440		168	Barcom Avenue	DARLINGHURST NSW 2010	N/A	R	S	2	Y	2	1	2	2	6249829	N/A	19.96	21.79	N/A	20.3	20.26	N/A	168 Barcom Avenue, Darlinghurst.jpg
26439		166	Barcom Avenue	DARLINGHURST NSW 2010	N/A	R	S	2	Y	2	1	2	2	6249830	N/A	20.26	21.79	N/A	20.1	N/A	N/A	166 Barcom Avenue, Darlinghurst.jpg
26438		164	Barcom Avenue	DARLINGHURST NSW 2010	N/A	R	S	2	Y	2	1	2	2	6249835	N/A	20.13	21.62	N/A	20	N/A	N/A	164 Barcom Avenue, Darlinghurst.jpg
26437		162	Barcom Avenue	DARLINGHURST NSW 2010	N/A	R	S	2	Y	2	1	2	2	6249837	N/A	20.13	21.62	N/A	20	N/A	N/A	162 Barcom Avenue, Darlinghurst.jpg
30901		18-28	Neild Avenue	DARLINGHURST NSW 2010	N/A	C	S	1	N	1	1	3	2	6249854	N/A	7.3	6.38	N/A	N/A	N/A	N/A	20 Neild Avenue, Darlinghurst.jpg
30177		19A-19B	Boundary Street	DARLINGHURST NSW 2010	Shop 1	C	M	6	N	1	1	3	N/A	6249854	N/A	12.18	13.11	N/A	N/A	13.29	N/A	19A-19B Boundary Street, Darlinghurst - A.jpg
30177		19A-19B	Boundary Street	DARLINGHURST NSW 2010						1	1	3	N/A	6249849	12.3	13.63	13.44	14	N/A	N/A	N/A	19A-19B Boundary Street, Darlinghurst - B.jpg
30666		5-11	Boundary Street	DARLINGHURST NSW 2010	N/A	R/C	L	4	N	1	1	3	N/A	6249873	4.74	7.74	7.7	7.7	N/A	N/A	N/A	5-11 Boundary Street, Darlinghurst - A.jpg
30666		5-11	Boundary Street	DARLINGHURST NSW 2010	N/A	R/C	L	4	N	1	1	3	N/A	6249859	N/A	7.14	7.14	N/A	N/A	N/A	N/A	5-11 Boundary Street, Darlinghurst - B.jpg
30666		5-11	Boundary Street	DARLINGHURST NSW 2010	N/A	R/C	L	4	N	1	1	3	N/A	6249880	N/A	7.74	N/A	N/A	N/A	N/A	N/A	5-11 Boundary Street, Darlinghurst - C.jpg
4795		84-90	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	M	6	N	1	1	3	N/A	6249880	N/A	9.65	9.53	N/A	N/A	N/A	N/A	84-90 McLachlan Avenue, Darlinghurst - A.jpg
4795		84-90	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	M	6	N	1	1	3	N/A	6249879	7	9.65	N/A	N/A	N/A	N/A	N/A	84-90 McLachlan Avenue, Darlinghurst - B.jpg
30175		15-19	Boundary Street	DARLINGHURST NSW 2010	Shop 1	R/C	L	6	N	1	1	3	N/A	6249858	N/A	12.15	12.67	N/A	N/A	12.77	N/A	15-19 Boundary Street, Darlinghurst - A.jpg
30175		15-19	Boundary Street	DARLINGHURST NSW 2010	Shop 8	R/C	L	6	N	1	1	3	N/A	6249869	N/A	12.09	11.14	N/A	N/A	N/A	N/A	15-19 Boundary Street, Darlinghurst - B.jpg
4688		80-82	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	C	M	3	N	1	1	3	N/A	6249906	N/A	8.76	8.89	8.9	N/A	N/A	N/A	80-82 McLachlan Avenue, Darlinghurst - A.jpg
4688		80-82	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	C	M	3	N	1	1	3	N/A	6249877	7.86	N/A	N/A	8.3	N/A	N/A	N/A	80-82 McLachlan Avenue, Darlinghurst - B.jpg
30664		74-76	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R	L	7	N	1	1	3	N/A	6249907	8.13	10.8	7.93	N/A	N/A	N/A	N/A	74-76 McLachlan Avenue, Darlinghurst.jpg
2904		87-97	McLachlan Avenue	DARLINGHURST NSW 2010	Not kind	R	L	4	Y	1	1	3	3	6249895	N/A	10.35	9.94	N/A	10.2	N/A	N/A	87-97 McLachlan Avenue, Darlinghurst.jpg
4636		83-85	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	C	M	3	N	1	1	3	N/A	6249908	9.84	14.04	9.82	N/A	N/A	N/A	N/A	83-85 McLachlan Avenue, Darlinghurst.jpg
1051		66-72	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	M	3	N	1	1	3	N/A	6249936	N/A	8.13	8.12	8.2	N/A	N/A	N/A	66-72 McLachlan Avenue, Darlinghurst - A.jpg
1051		66-72	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	M	3	N	1	1	3	N/A	6249925	8.12	N/A	N/A	N/A	N/A	N/A	N/A	66-72 McLachlan Avenue, Darlinghurst - B.jpg
4456		77-79	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	C	M	2	N	1	1	2	N/A	6249915	N/A	9.43	9.42	N/A	N/A	N/A	N/A	77-79 McLachlan Avenue, Darlinghurst.jpg
30667		62-64	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	C	M	2	N	1	1	2	N/A	6249948	N/A	7.91	7.84	N/A	N/A	N/A	N/A	62 McLachlan Avenue, Darlinghurst.jpg
3180		73-75	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	I	M	2	N	1	1	2	N/A	6249929	N/A	9.12	9.02	N/A	N/A	N/A	N/A	73-75 McLachlan Avenue, Darlinghurst.jpg
4340		71	McLachlan Avenue	DARLINGHURST NSW 2010																		
4580		67-69	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	I	M	1	N	1	1	2	N/A	6249942	N/A	8.88	8.74	N/A	N/A	N/A	N/A	65A & 67-69 McLachlan Avenue, Darlinghurst
31562		50	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	L	6	N	1	1	3	3	6249967	N/A	7.53	7.04	N/A	N/A	N/A	N/A	50 McLachlan Avenue, Darlinghurst.jpg
31562		50	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	L	2	N	1	1	3	3	6249977	N/A	5.97	5.27	N/A	N/A	N/A	N/A	10 Neild Avenue, Darlinghurst.jpg
31562		50	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	L	6	N	1	1	3	3	6249948	N/A	5.91	5.46	N/A	N/A	N/A	N/A	12 Neild Avenue, Darlinghurst.jpg
31562		50	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R/C	L	6	N	1	1	3	3	6249897	4.3	6.32	5.84	6.3	N/A	N/A	N/A	Name not known - Household furnisher
4524		65A	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	I	S	1	N	1	1	2	N/A	6249945	N/A	8.86	8.7	N/A	N/A	N/A	N/A	65A & 67-69 McLachlan Avenue, Darlinghurst
4404		61-63	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	R	M	4	N	1	1	3	N/A	6249962	8.6	11.6	8.45	N/A	N/A	N/A	N/A	61-63 McLachlan Avenue, Darlinghurst.jpg
4174		49-59	McLachlan Avenue	DARLINGHURST NSW 2010	N/A	C	M	4	N	1	1	3	N/A	6249981	N/A	8.78	7.86	N/A	N/A	N/A	N/A	49-59 McLachlan Avenue, Darlinghurst.jpg
4117		30-62	Barcom Avenue	DARLINGHURST NSW 2010	N/A	C	M	3	N	1	1	2	N/A	6250031	N/A	10.1	12.9	13	N/A	12.94	N/A	30-62 Barcom Avenue, Darlinghurst.jpg
31557		16-32	McLachlan Avenue	DARLINGHURST NSW 2010	16	I	M	2	N	1	1	2	N/A	6250058	N/A	5.91	5.8	N/A	N/A	N/A	N/A	16-32 McLachlan Avenue, Darlinghurst - A.jpg
31557		16-32	McLachlan Avenue	DARLINGHURST NSW 2010	18	I	M	2	N	1	1	2	N/A	6250045	N/A	5.76	5.74	N/A	N/A	N/A	N/A	16-32 McLachlan Avenue, Darlinghurst - B.jpg
31557		16-32	McLachlan Avenue	DARLINGHURST NSW 2010	20	I	M	2	N	1	1	2	N/A	6250034	N/A	5.82	5.77	N/A	N/A	N/A	N/A	16-32 McLachlan Avenue, Darlinghurst - C.jpg
31557		16-32	McLachlan Avenue	DARLINGHURST NSW 2010	22	I	M	2	N	1	1	2	N/A	6250021	N/A	5.92	5.81	N/A	N/A	N/A	N/A	16-32 McLachlan Avenue, Darlinghurst - D.jpg
3808		6	Neild Avenue	DARLINGHURST NSW 2010	N/A	I	S	2	N	1	1	1	N/A	6250036	N/A	5.07	5.02	N/A	N/A	N/A	N/A	6 Neild Avenue, Darlinghurst.jpg
3141		65	Craigend Street	DARLINGHURST NSW 2010	N/A	C	L	3	N	1	1	3	3	6250055	N/A	7.74	6	N/A	N/A	N/A	N/A	65 Craigend Street, Darlinghurst.jpg
43278		1	Kellett Place	RUSHCUTTERS BAY NSW 2011	N/A	R	M	4	N	1	1	2	N/A	6250334	32.3	35.25	N/A	33	N/A	N/A	N/A	1 Kellett Place, Rushcutters Bay.jpg

Floor Level Survey (undertaken in 2012 as part of Rushcutters Bay Flood Study)

FID_PROPER	Street Number	Street Name	Suburb	Unit Number	Land Use, Comm (C), Indust (I), Public (P), Resid (R), School (S), Vacant (V)	Premises Size (S,M,L)	Stores	Do people live on ground floor: (Y/N)	Floor Construction: Slab (1) or Pier (2)	Wall Construction: Brick, Stone, Rendered (1) Brick Veneer (2), Fibro (3), W'board (4), Clad (5)	Condition: (Poor=1, Ave=2, Good=3)	Garden: (Poor=1, Ave=2, Good=3)	Easting	Nothing	Basement Parking Level	Lowest Habitable/Office Floor Level	Natural Surface Level (Front)	Weir Level	Courtyard Level (Front)	Entry Level from Street (where different to Lowest Floor Level)	Name & Nature of Business	Photo Reference Number	
43280	35 Roslyn Street	RUSHCUTTERS BAY NSW 2011	N/A	N/A	R	M	3 Y	2	2	1	2	1	335873	6250342	N/A	31.45	30.83	N/A	N/A	N/A	N/A	35 Roslyn Street, Rushcutters Bay - A.jpg	
43280	35 Roslyn Street	RUSHCUTTERS BAY NSW 2011	N/A	N/A	R	M	3 Y	2	2	1	2	1	335862	6250334	N/A	31.45	N/A	N/A	N/A	N/A	N/A	35 Roslyn Street, Rushcutters Bay - B.jpg	
43281	33 Roslyn Street	RUSHCUTTERS BAY NSW 2011	N/A	N/A	R	M	2 Y	2	2	1	2	2	335868	6250353	N/A	32.69	32.42	N/A	N/A	N/A	N/A	33 Roslyn Street, Rushcutters Bay - A.jpg	
43281	33 Roslyn Street	RUSHCUTTERS BAY NSW 2011	N/A	N/A	R	M	2 Y	2	2	1	2	2	335859	6250338	N/A	32.69	N/A	N/A	N/A	N/A	N/A	33 Roslyn Street, Rushcutters Bay - B.jpg	
2584	44 Roslyn Gardens	RUSHCUTTERS BAY NSW 2011	N/A	N/A	C	S	4 N	2	2	1	2	2	336067	6250403	N/A	3.53	9.94	10	7	7.2	Michael Reid - Art Gallery	44 Roslyn Gardens, Rushcutters Bay.jpg	
2571	42 Roslyn Gardens	RUSHCUTTERS BAY NSW 2011	N/A	N/A	R	S	4 Y	2	2	1	3	2	336069	6250408	N/A	3.53	9.69	9.9	6.95	7.2	N/A	42 Roslyn Gardens, Rushcutters Bay.jpg	
2559	40 Roslyn Gardens	RUSHCUTTERS BAY NSW 2011	N/A	N/A	R	S	4 Y	2	2	1	2	2	336071	6250415	N/A	3.53	9.69	9.9	6.9	7.2	N/A	40 Roslyn Gardens, Rushcutters Bay.jpg	



Floor Level Survey (undertaken in 2014 as part of Rushcutters Bay Floodplain Risk Management Study)

Parcel Tag as on Council cadastre (LIC TAG)	Photo name	Total number of buildings	Comment	Street Number	Street Name	Sub-Area	Easting (m)	Northing (m)	Indicative Ground Level (mAHD)	RESIDENTIAL BUILDINGS				NON RESIDENTIAL BUILDINGS				
										Number of Storeys	Do people live on the Ground Floor (Y or N)	House Size - Small (S), Medium (M), Large (L) (L)	Floor Construction Pier (P) or Slab (S) Other - describe	Wall Construction Brick stone or rendered (B), Clad (C), Mixed (M)	Type (commercial = C, industrial = I, public = P)	Name and Nature of Use / Business eg. Bob's Nursery, toilet block	Lowest Floor Level (mAHD)	Approximate Floor Area (m2)
176177	Chisolm street /14.JPG	1		14	Chisolm street	Darlinghurst	335185.955	6249473.805	49.61	2	Y	S	S	B				
176179	Chisolm street /18,20.JPG	1		18	Chisolm street	Darlinghurst	335189.603	6249454.754	49.80	2	Y	S	S	B				
176180	Chisolm street /18,20.JPG	1		20	Chisolm street	Darlinghurst	335188.646	6249453.171	49.80	2	Y	S	S	B				
176181	Chisolm street /22,24.JPG	1		22	Chisolm street	Darlinghurst	335189.674	6249446.684	49.89	2	Y	S	S	B				
176182	Chisolm street /22,24.JPG	1		24	Chisolm street	Darlinghurst	335189.897	6249445.376	49.89	2	Y	S	S	B				
176184	Chisolm street /28.JPG	1		28	Chisolm street	Darlinghurst	335191.872	6249434.1	50.13	2	Y	S	S	B				
176185	Chisolm street /30.JPG	1		30	Chisolm street	Darlinghurst	335193.722	6249430.833	50.13	2	Y	S	S	B				
176186	Chisolm street /32.JPG	1		32	Chisolm street	Darlinghurst	335194.636	6249424.828	50.24	2	Y	S	S	B				
176187	Chisolm street /34.JPG	1		34	Chisolm street	Darlinghurst	335194.026	6249421.053	50.34	2	Y	S	S	B				
176188	Chisolm street /36.JPG	1		36	Chisolm street	Darlinghurst	335194.995	6249414.800	50.44	2	Y	S	S	B				
184564	Taylor Street /36.JPG	1		36	Taylor Street	Darlinghurst	335205.660	6249509.996	48.81	2	Y	S	S	B				
183954	South Dowling Street /351	1		351	South Dowling Street	Darlinghurst	335257.908	6249424.111	49.61	2	Y	S	S	B				
183956	South Dowling Street /353.JPG	1		353	South Dowling Street	Darlinghurst	335256.749	6249417.005	49.84	2	Y	S	S	B				
183958	South Dowling Street /355.JPG	1		355	South Dowling Street	Darlinghurst	335257.558	6249415.126	49.93	2	Y	S	S	B				
184389	Sturt Street /11.JPG	1		11	Sturt Street	Darlinghurst	335186.408	6249547.280	46.61	2	Y	S	S	B				
523422	Oxford street /160.JPG	1		160	Oxford street	Darlinghurst	335264.508	6249583.029	46.53		N	S	S	B				
523465	Oxford street /229.JPG	1		229	Oxford street	Darlinghurst	335209.356	6249574.224	46.83	2	N	S	S	B				
523288	Victoria Street /303(2).JPG	1		303	Victoria Street	Darlinghurst	335266.550	6249623.333	43.83	3	N	S	S	B				
523442	Victoria Street /438.JPG	1		438	Victoria Street	Darlinghurst	335328.365	6249601.263	43.75	7	N	L	S	M				
523288	Victoria Street /303.JPG	1	Exit Gate	303	Victoria Street	Darlinghurst	335303.445	6249618.393	43.86		N	L	S	M				
523435	Victoria Street /406.JPG	1		406	Victoria Street	Darlinghurst	335363.509	6249645.702	45.01	7	N	S	S	M				
525010	Boundary Street /49.JPG	1		49	Boundary Street	Darlinghurst	335659.586	6249724.094	23.90	2	Y	S	S	M				
525011	Boundary Street /51.JPG	1		51	Boundary Street	Darlinghurst	335653.846	6249713.496	24.20	2	Y	S	S	B				
525012	Boundary Street /53.JPG	1		53	Boundary Street	Darlinghurst	335648.032	6249703.894	24.63	2	Y	S	S	B				
525014	Boundary Street /55.JPG	1		55	Boundary Street	Darlinghurst	335648.032	6249703.894	24.63	2	Y	S	S	B				
529060	Leichhardt Street /1-7.JPG	1		1-7	Leichhardt Street	Darlinghurst	335584.164	6249683.703	27.62	2	Y	S	S	B				
529079	Leichhardt Street /26.JPG	1		26	Leichhardt Street	Darlinghurst	335613.801	6249670.000	26.51	2	Y	S	S	B				
529065	Leichhardt Street /9.JPG	1		9	Leichhardt Street	Darlinghurst	335587.867	6249675.311	27.25	2	Y	S	S	B				

Floor Level Survey (undertaken in 2014 as part of Rushcutters Bay Floodplain Risk Management Study)

Parcel Tag as on Council cadastral (LUC TAG)	Photo name	Total number of buildings	Comment	Street Number	Street Name	Sub-Area	Easting (m)	Northing (m)	Indicative Ground Level (mAHD)	RESIDENTIAL BUILDINGS					NON RESIDENTIAL BUILDINGS				
										Do people live on the Ground Floor (Y or N)	House Size - Small (S), Medium (M), Large (L) (L)	Floor Construction Pier (P) or Slab (S) Other - describe	Wall Construction Brick stone or rendered (B), Clad (C), Mixed (M)	Type (Commercial = C, Industrial = I, Public = P)	Name and Nature of Use/Business e.g. Bob's Nursery, toilet block	Lowest Floor Level (mAHD)	Approximate Floor Area (m2)	Floor Construction Pier (P) or Slab (S) Other - describe	Wall Construction Brick stone or rendered (B), Clad (C), Mixed (M)
529073	Leighardt Street/17.JPG	1		17	Leighardt Street	Darlinghurst	335596.070	6249661.179	26.89	27.199	2	S	S	B					
529075	Leighardt Street/19.JPG	1		19	Leighardt Street	Darlinghurst	335598.088	6249657.661	26.77	27.193	2	S	S	B					
525016	Boundary Street/65-63.JPG	1		63	Boundary Street	Darlinghurst	335577.382	6249635.298	27.14	27.511	2	S	S	B					
525017	Boundary Street/65-63.JPG	1		65	Boundary Street	Darlinghurst	335577.382	6249635.298	27.14	27.746	2	S	S	B					
525018	Boundary Street/69-67.JPG	1		67	Boundary Street	Darlinghurst	335570.710	6249629.700	27.41	27.829	2	S	S	B					
525019	Boundary Street/69-67.JPG	1		69	Boundary Street	Darlinghurst	335570.710	6249629.700	27.41	27.825	2	S	S	B					
525021	Boundary Street/71-73.JPG	1		71	Boundary Street	Darlinghurst	335563.965	6249624.125	27.72	28.141	2	S	S	B					
525007	Boundary Street/47.JPG	1		47	Boundary Street	Darlinghurst	335683.737	6249765.691	22.39	23.024	2	S	S	B					
525022	Boundary Street/71-73.JPG	1		73	Boundary Street	Darlinghurst	335563.965	6249624.125	27.72	28.142	2	S	S	B					
525025	Boundary Street/79-77.JPG	1		77	Boundary Street	Darlinghurst	335551.759	6249614.274	28.77	29.083	2	S	S	B					
525024	Boundary Street/75.JPG	1		75	Boundary Street	Darlinghurst	335555.456	6249617.364	28.57	29.012	2	S	S	B					
525026	Boundary Street/79-77.JPG	1		79	Boundary Street	Darlinghurst	335551.759	6249614.274	28.77	29.082	2	S	S	B					
525027	Boundary Street/81-83.JPG	1		81	Boundary Street	Darlinghurst	335543.708	6249607.549	29.21	29.434	2	S	S	B					
525028	Boundary Street/81-83.JPG	1		83	Boundary Street	Darlinghurst	335543.708	6249607.549	29.21	29.571	2	S	S	B					
525015	Boundary Street/61.JPG	1		61	Boundary Street	Darlinghurst	335583.970	6249640.726	27.30	27.959	2	S	S	B					
529387	Liverpool Street/475.JPG	1		475	Liverpool Street	Darlinghurst	335695.538	6249791.848	21.57	22.402	2	S	S	B					
525002	Boundary Street/41.JPG	1		41	Boundary Street	Darlinghurst	335757.519	6249813.105	17.90	18.811	2	S	S	B					
525000	Boundary Street/37.JPG	1		37	Boundary Street	Darlinghurst	335763.485	6249816.092	17.46	18.48	2	S	S	B					
525001	Boundary Street/39.JPG	1		39	Boundary Street	Darlinghurst	335763.485	6249816.092	17.46	18.48	2	S	S	B					
524999	Boundary Street/35.JPG	1		35	Boundary Street	Darlinghurst	335771.543	6249820.704	16.93	17.962	2	S	S	B					
524998	Boundary Street/33.JPG	1		33	Boundary Street	Darlinghurst	335771.543	6249820.704	16.93	17.962	2	S	S	B					
524997	Boundary Street/31.JPG	1		31	Boundary Street	Darlinghurst	335780.678	6249823.440	16.25	17.095	2	S	S	B					
524996	Boundary Street/29.JPG	1		29	Boundary Street	Darlinghurst	335780.678	6249823.440	16.25	17.095	2	S	S	B					
524995	Boundary Street/27.JPG	1		27	Boundary Street	Darlinghurst	335793.215	6249833.101	15.06	15.956	2	S	S	B					
529383	Liverpool Street/467.JPG	1		467	Liverpool Street	Darlinghurst	335686.505	6249801.936	21.93	22.767	2	S	S	B					
524340	Barcom Avenue/178-	1		178	Barcom Avenue	Darlinghurst	335661.312	6249780.330	23.61	23.862	2	S	S	B					
524341	Barcom Avenue/178-	1		180	Barcom Avenue	Darlinghurst	335661.562	6249777.447	23.85	23.821	2	S	S	B					
524342	Barcom Avenue/182.JPG	1		182	Barcom Avenue	Darlinghurst	335657.065	6249773.649	24.17	23.821	2	S	S	B					

Floor Level Survey (undertaken in 2014 as part of Rushcutters Bay Floodplain Risk Management Study)

Parcel Tag as on Council cadastre (LIC TAG)	Photo name	Total number of buildings	Comment	Street Number	Street Name	Sub-Area	Easting (m)	Northing (m)	Indicative Ground Level (mAHD)	RESIDENTIAL BUILDINGS					NON RESIDENTIAL BUILDINGS				
										Lowest Habitable Floor Level (mAHD)	Number of Storeys	Do people live on the Ground Floor (Y or N)	House Size - Small (S), Medium (M), Large (L)	Floor Construction Pier (P) or Slab (S) Other - describe	Wall Construction Brick stone or rendered (B), Clad (C), Mixed (M)	Type (commercial = C, industrial = I, public = P)	Name and Nature of Use/Business e.g. Bob's Nursery, toilet block	Lowest Floor Level (mAHD)	Approximate Floor Area (m2)
524313	Barcom Avenue/115.JPG	1		115	Barcom Avenue	Darlinghurst	335643.633	6249777.977	24.07	25.138	2	Y	S	S	B				
532719	West Avenue/27.JPG	1		27	West Avenue	Darlinghurst	335631.313	6249772.807	24.90	25.529	2	Y	S	S	B				
524343	Barcom Avenue/184.JPG	1		184	Barcom Avenue	Darlinghurst	335654.145	6249774.384	23.86	24.192	2	Y	S	S	B				
524344	Barcom Avenue/188.JPG	1		188	Barcom Avenue	Darlinghurst	335642.466	6249764.591	24.38	25.298	2	Y	S	S	B				
524346	Barcom Avenue/188.JPG	1		190	Barcom Avenue	Darlinghurst	335642.466	6249764.591	24.38	25.298	2	Y	S	S	B				
524347	Barcom Avenue/188.JPG	1		192	Barcom Avenue	Darlinghurst	335642.466	6249764.591	24.38	25.298	2	Y	S	S	B				
524589	Bayswater Rd/100.JPG	1		100	Bayswater Rd	Rushcutters Bay	336217.454	6250171.658	6.81	6.308	7	Y	L	S	B				
524611	Bayswater Rd/153-167.JPG	1		153 to 167	Bayswater Rd	Rushcutters Bay	336220.232	6250129.060	6.39	5.609	10	Y	L	S	B				
526321	Clement Place/1-5.JPG	1		1 to 5	Clement Place	Rushcutters Bay	336061.217	6250240.846	8.98	9.53	3	Y	L	S	B				
526330	Clement Place/7.JPG	1		7	Clement Place	Rushcutters Bay	336039.522	6250250.900	12.01	12.27	3	Y	L	S	B				
533292	Queens Avenue/1-7.JPG	1		1 to 7	Queens Avenue	Rushcutters Bay	336106.461	2650321.015	3.20	3.34	4	N	L	S	B				
181991	Oxford street/391.JPG	1		391 to 393	Oxford street	Paddington	336285.821	6248983.517	65.29	65.157	2	Y	S	S	B				139
202342	Oxford street/395.JPG	1		395	Oxford street	Paddington	336295.081	6248961.424	65.11	64.468	1	N	S	S	B				3018
532945	Womerah Ave/8,2-6,10.JPG	1		8	Womerah Ave	Darlinghurst	335983.314	6250067.387	16.915	15.920	3	Y	L	S	B				
532948	Womerah Ave/8,2-6,10.JPG	1		10	Womerah Ave	Darlinghurst	335983.314	6250067.387	16.915	15.920	3	Y	L	S	B				
524327	Barcom Avenue/160.JPG	1		160	Barcom Avenue	Darlinghurst	335716.470	6249851.110	21.396	21.561	2	Y	S	S	B				
532939	Womerah Ave/8,2-6,10.JPG	1		2-6	Womerah Ave	Darlinghurst	336004.380	6250075.129	16.92	16.00	2	Y	S	S	B				
529682	McLachlan Ave/71.JPG	1		71	McLachlan Ave	Darlinghurst	335996.900	6249940.105	8.70	8.85	1	N	S	S	B				179