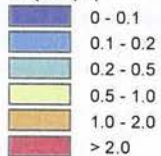




Legend

Depth (m)



Study Area

JACOBS

SHEET 1 of 1

A3
GDA 1994 MGA Zone 56

TITLE 50% AEP Flood Depth -
Concept Design

PROJECT Concord West Precinct Masterplan
Flood Study

CLIENT City of Canada Bay

DRAWN

PROJECT #

MAP #

REV. VER.

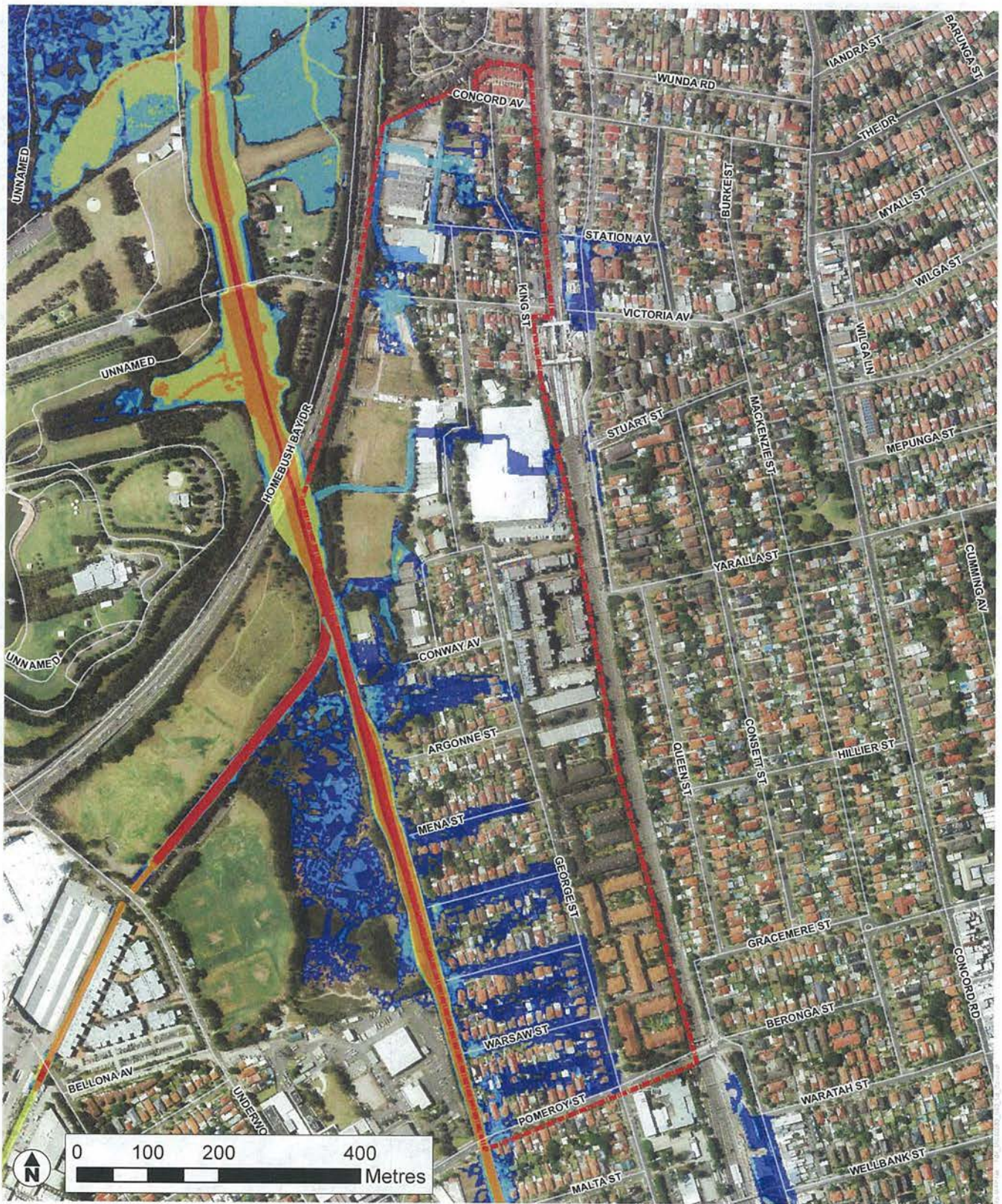
LC

DATE

10/9/2019

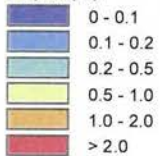
MAP F-3

1 1



Legend

Depth (m)



Study Area

JACOBS

SHEET 1 of 1

A3
GDA 1994 MGA Zone 56

TITLE 20% AEP Flood Depth -
Concept Design

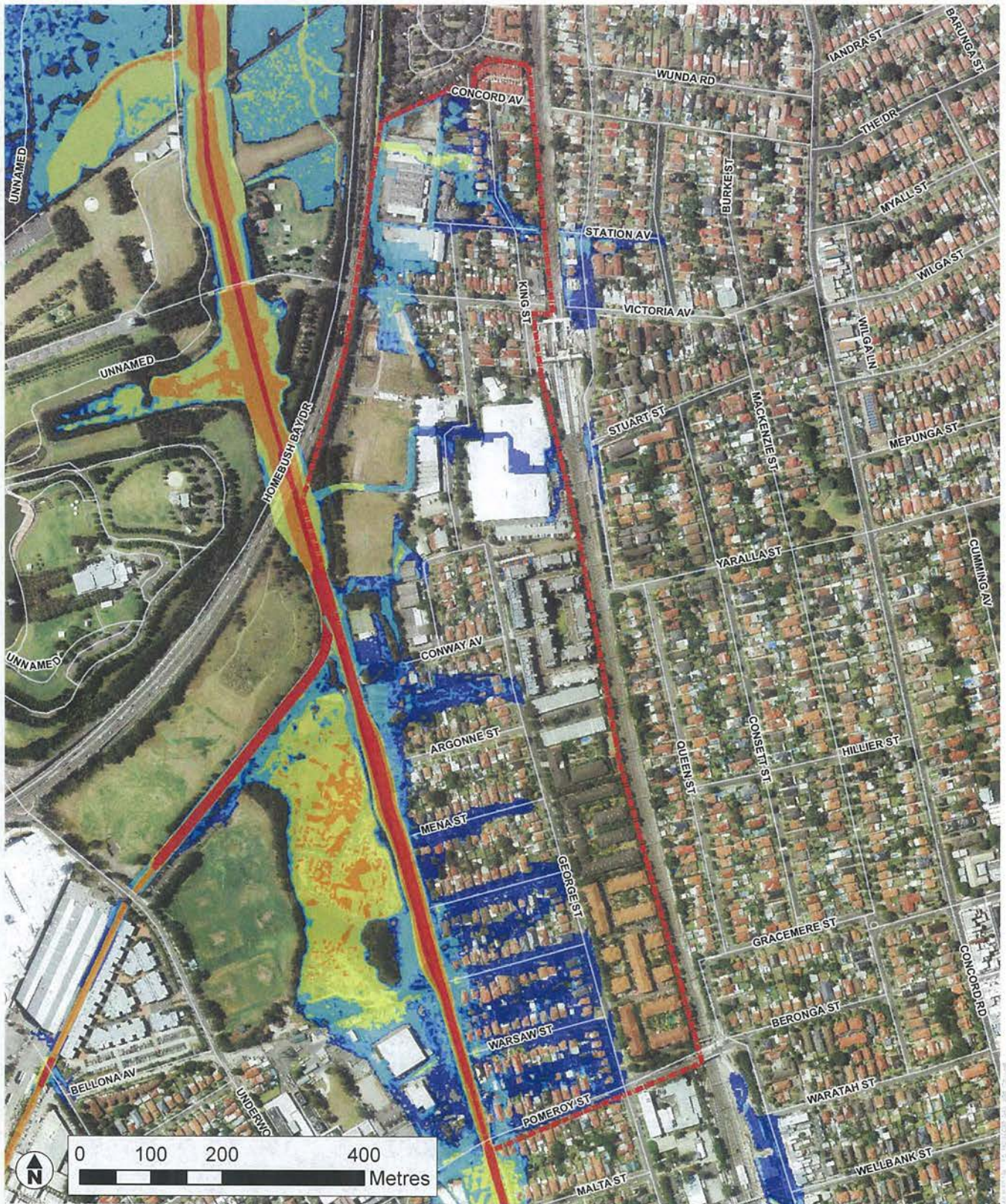
PROJECT Concord West Precinct Masterplan
Flood Study

CLIENT City of Canada Bay

DRAWN PROJECT # MAP # REV VER

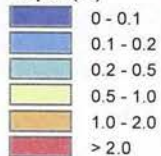
LG IA09890 MAP F-4 1 1

CHECK DATE 7/03/2015



Legend

Depth (m)



Study Area

JACOBS

SHEET 1 of 1

A3
GDA 1994 MGA Zone 56

TITLE 5% AEP Flood Depth -
Concept Design

PROJECT Concord West Precinct Masterplan
Flood Study

CLIENT City of Canada Bay

DRAWN PROJECT # MAP # REV VER

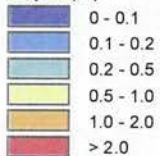
LC AD46800 MAP F-5 1 1

CHECK DATE 7/5/2015



Legend

Depth (m)



Study Area

JACOBS

SHEET 1 of 1

A3
GDA 1994 MGA Zone 58

TITLE 1% AEP Flood Depth -
Concept Design

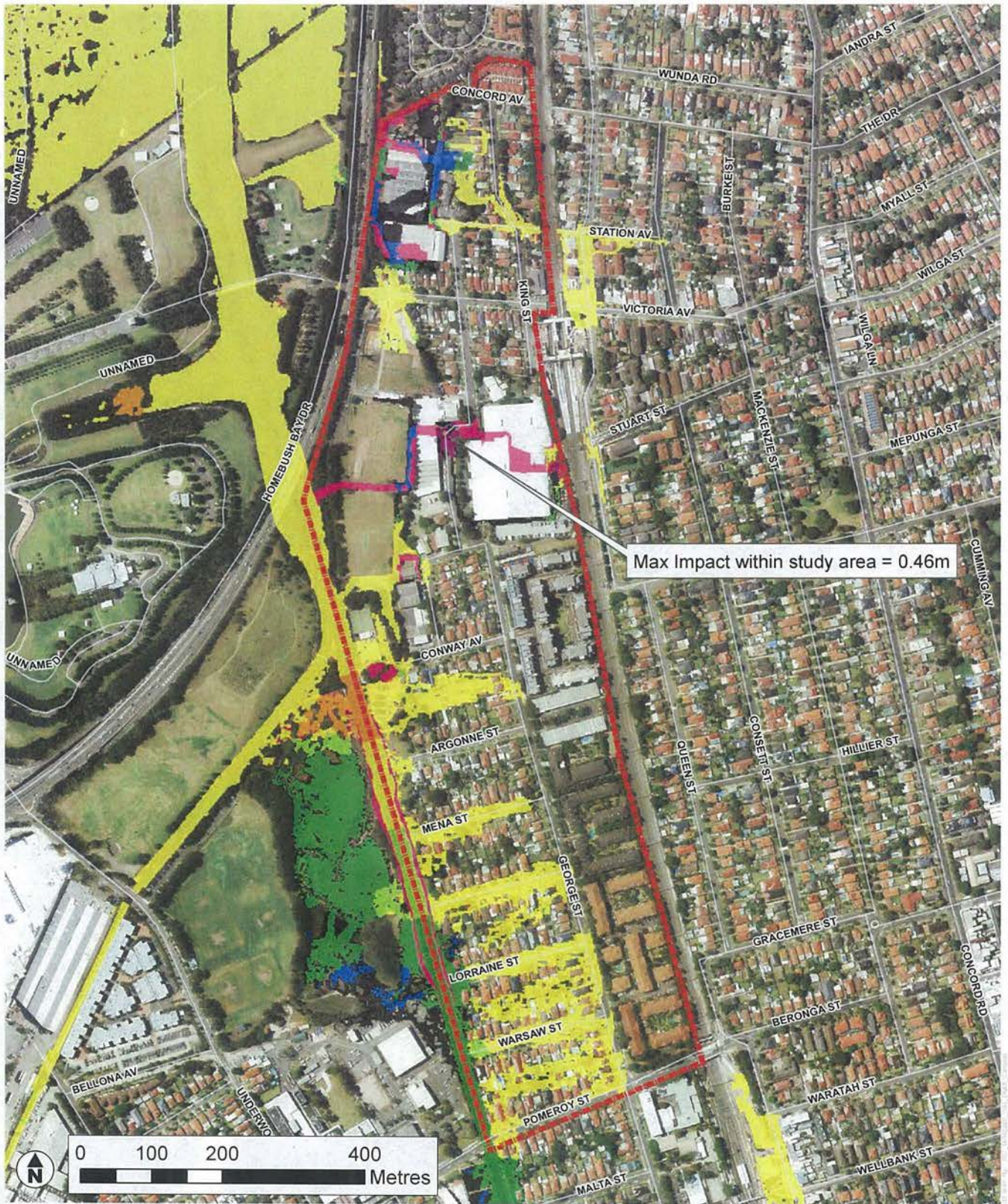
PROJECT Concord West Precinct Masterplan
Flood Study

CLIENT City of Canada Bay

DRAWN PROJECT # MAP # REV VER

LC JAG16859 MAP F-6 1 1

CHECK DATE
LC 7/5/2015



Legend

 < -0.1	 Previously Flooded
 -0.1 - -0.06	 Newly Flooded
 -0.05 - -0.02	 Study Area
 -0.01 - 0.01	
 0.02 - 0.05	
 0.06 - 0.1	
 > 0.1	

JACOBS

SHEET	1 of 1	A3
		GDA 1994 MGA Zone 56
TITLE	Change in 50% AEP Flood Level - Concept Design	
PROJECT	Concord West Precinct Masterplan Flood Study	
CLIENT	City of Canada Bay	
DRAWN	PROJECT #	MAP #
LC	10240000	MAP F-7
CHECK	DATE	REV
LC	15/07/2016	1 1



Legend

 < -0.1	 Previously Flooded
 -0.1 - -0.06	 Newly Flooded
 -0.05 - -0.02	 Study Area
 -0.01 - 0.01	
 0.02 - 0.05	
 0.06 - 0.1	
 > 0.1	

JACOBS

SHEET	1 of 1	A3
		GDA 1994 MGA Zone 56
TITLE	Change in 20% AEP Flood Level - Concept Design	
PROJECT	Concord West Precinct Masterplan Flood Study	
CLIENT	City of Canada Bay	
DRAWN	PROJECT #	WAP #
LC	WAP6600	MAP F-8
CHECK	DATE	REV VER
LC	15/07/2015	1 1



Legend

	< -0.1		Previously Flooded
	-0.1 - -0.06		Newly Flooded
	-0.05 - -0.02		Study Area
	-0.01 - 0.01		
	0.02 - 0.05		
	0.06 - 0.1		
	> 0.1		

JACOBS

SHEET	1 of 1	GDA 1994 MGA Zone 56
TITLE	Change in 5% AEP Flood Level - Concept Design	
PROJECT	Concord West Precinct Masterplan Flood Study	
CLIENT	City of Canada Bay	
DRAWN	PROJECT #	MAP #
LC	1034860	MAP F-9
CHECK	DATE	REV
LC	15/07/2015	1 1

A3



Legend

	< -0.1		Previously Flooded
	-0.1 - -0.06		Newly Flooded
	-0.05 - -0.02		Study Area
	-0.01 - 0.01		
	0.02 - 0.05		
	0.06 - 0.1		
	> 0.1		

JACOBS

SHEET	1 of 1	A3
		GDA 1994 MGA Zone 56
TITLE	Change in 1% AEP Flood Level - Concept Design	
PROJECT	Concord West Precinct Masterplan Flood Study	
CLIENT	City of Canada Bay	
DRAWN	PROJECT #	MAP #
LC	JAC6800	MAP F-10
CHECK	DATE	REV
LC	15/07/2015	1 1



Legend

Flood Hazard Categories

- Low Hazard
- High Hazard
- Study Area

JACOBS

A3

SHEET 1 of 1 GDA 1994 MGA Zone 56

TITLE 50% AEP Flood Hazard - Concept Design

PROJECT Concord West Precinct Masterplan Flood Study

CLIENT City of Canada Bay

DRAWN PROJECT # MAP # REV VER

LG JAC46900 MAP F-11 1 1

CHECK DATE 7/05/2015



Legend

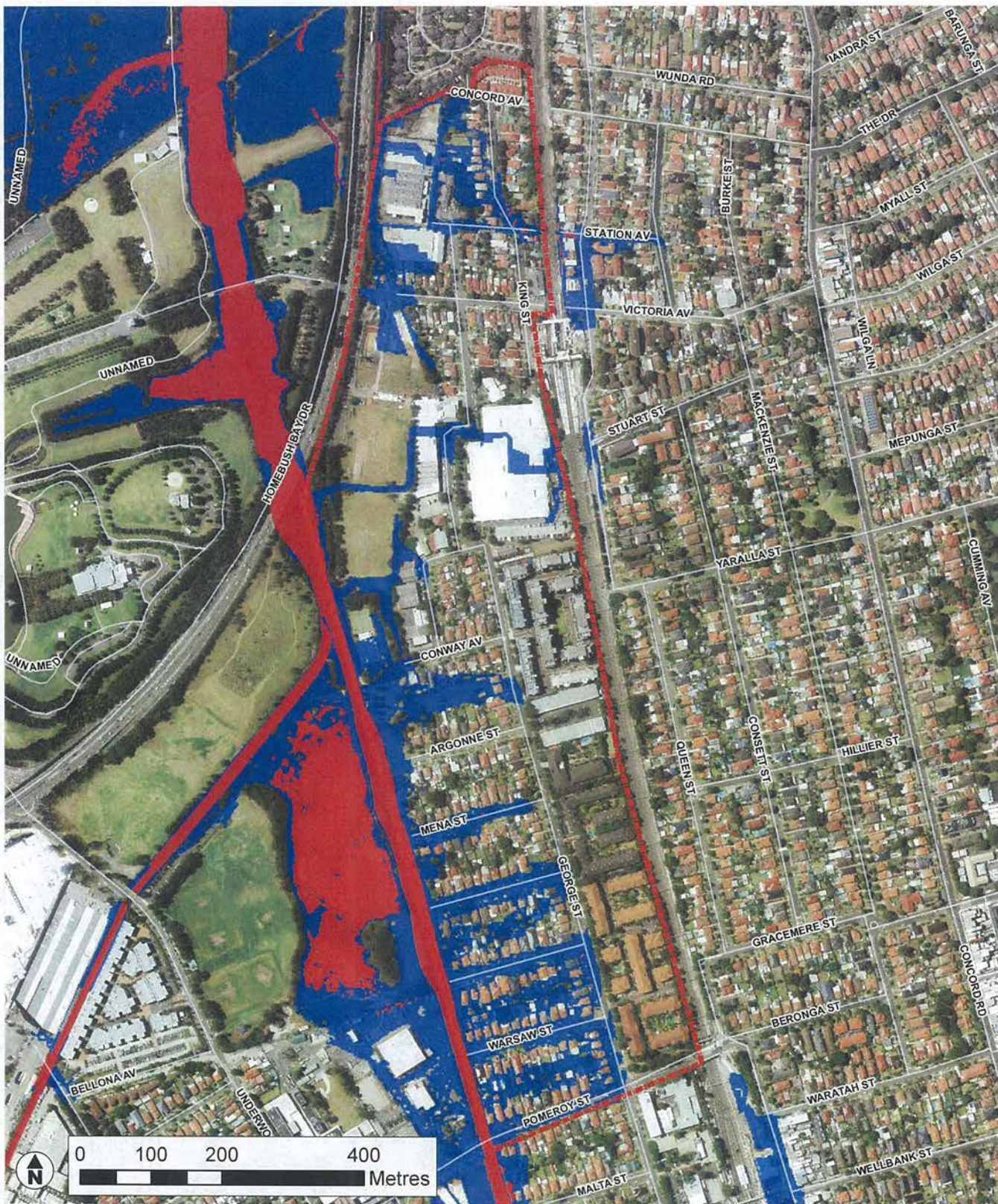
Flood Hazard Categories

- Low Hazard
- High Hazard
- Study Area

JACOBS

SHEET	1 of 1	GDA 1994 MGA Zone 58
TITLE	20% AEP Flood Hazard - Concept Design	
PROJECT	Concord West Precinct Masterplan Flood Study	
CLIENT	City of Canada Bay	
DRAWN	PROJECT #	MAP #
LC	10246000	MAP F-12
CHECK	DATE	REV VER
LC	7/5/2015	1 1

A3



Legend

Flood Hazard Categories

- Low Hazard
- High Hazard
- Study Area

JACOBS

SHEET	1 of 1	A3
		GDA 1994 MGA Zone 56
TITLE	5% AEP Flood Hazard - Concept Design	
PROJECT	Concord West Precinct Masterplan Flood Study	
CLIENT	City of Canada Bay	
DRAWN	PROJECT #	MAP #
LC	1045800	MAP F-13
CHECK	DATE	REV VER
LC	7/05/2015	1 1



Legend

Flood Hazard Categories

- Low Hazard
- High Hazard
- Study Area

JACOBS

A3

SHEET 1 of 1 GDA 1994 MGA Zone 55

TITLE 1% AEP Flood Hazard - Concept Design

PROJECT Concord West Precinct Masterplan Flood Study

CLIENT City of Canada Bay

DRAWN PROJECT # MAP # REV VER

LC 1018800 MAP F-14 1 1

CHECK DATE 7/05/2015

Appendix G. Cost Estimates

Table G1 Cost Estimates for Site 1

Cost Items	Location	Direct Costs	Indirect Costs				Total Costs per line item
			Contractor Design Costs (% of Direct Costs)	Contractor Indirect Costs (% of Direct Costs)	Contractor Margin (% of (Direct Costs+Indirect Costs))	Risk Contingency (% of (Direct Costs+Indirect Costs))	
			5.0%	20.0%	15.0%	20.0%	
Fill required	Site	\$ 44,692	\$ 2,235	\$ 8,938	\$ 8,380	\$ 11,173	\$ 75,418
Excavation required and disposal of contam	Site	\$ 44,637	\$ 2,232	\$ 8,927	\$ 8,369	\$ 11,159	\$ 75,325
Road works to connect buildings	Site	\$ 105,886	\$ 5,294	\$ 21,177	\$ 19,854	\$ 26,472	\$ 178,683
Bridge construction	Site	\$ 510,000	\$ 25,500	\$ 102,000	\$ 95,625	\$ 127,500	\$ 860,625
Landscaping (assume 1 shrub/sqm + channel turf)	Site	\$ 43,852	\$ 2,193	\$ 8,770	\$ 8,222	\$ 10,963	\$ 74,001
Tree removal		\$ 6,400	\$ 320	\$ 1,280	\$ 1,200	\$ 1,600	\$ 10,800
Total works on site cost		\$ 749,067	\$ 37,453	\$ 149,813	\$ 140,450	\$ 187,267	\$ 1,264,051
Total works on public land cost		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Using 2015 Rawlinsons							
Total		\$749,067	\$ 37,453	\$ 149,813	\$ 140,450	\$ 187,267	\$ 1,264,051

Table G2 Cost Estimates for Site 2

Cost Items	Location	Direct Costs	Indirect Costs				Total Costs per line item
			Contractor Design Costs (% of Direct Costs)	Contractor Indirect Costs (% of Direct Costs)	Contractor Margin (% of (Direct Costs+Indirect Costs))	Risk Contingency (% of (Direct Costs+Indirect Costs))	
			5.0%	20.0%	15.0%	20.0%	
Fill required	Site	\$ 17,963	\$ 898	\$ 3,593	\$ 3,368	\$ 4,491	\$ 30,313
Excavation required and disposal of contam	Site	\$ 17,325	\$ 866	\$ 3,465	\$ 3,248	\$ 4,331	\$ 29,236
Road works to connect buildings	Site	\$ 11,318	\$ 566	\$ 2,264	\$ 2,122	\$ 2,830	\$ 19,100
Bridge construction	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Landscaping (assume 1 shrub/sqm + channel turf)	Site	\$ 8,124	\$ 406	\$ 1,625	\$ 1,523	\$ 2,031	\$ 13,709
Tree removal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total works on site cost		\$ 54,731	\$ 2,737	\$ 10,946	\$ 10,262	\$ 13,683	\$ 92,358
Total works on public land cost		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Using 2015 Rawlinsons							
Total		\$ 54,731	\$ 2,737	\$ 10,946	\$ 10,262	\$ 13,683	\$ 92,358

Table G3 Cost Estimates for George Street Regrading

Cost Items	Location	Direct Costs	Indirect Costs				Total Costs per line item
			Contractor Design Costs (% of Direct Costs)	Contractor Indirect Costs (% of Direct Costs)	Contractor Margin (% of (Direct Costs+Indirect Costs))	Risk Contingency (% of (Direct Costs+Indirect Costs))	
			5.0%	20.0%	15.0%	20.0%	
Fill required to regrade site	Site	\$ 38,507	\$ 1,925	\$ 7,701	\$ 7,220	\$ 9,627	\$ 64,980
Excavation and disposal of contam. soil	Public	\$ 158,086	\$ 7,904	\$ 31,617	\$ 29,641	\$ 39,522	\$ 266,771
Road works (kerbing and pedestrian path)	Public	\$ 136,243	\$ 6,812	\$ 27,249	\$ 25,545	\$ 34,061	\$ 229,909
Culverts + pits	Public	\$ 117,995	\$ 5,900	\$ 23,599	\$ 22,124	\$ 29,499	\$ 199,117
Landscaping	Public	\$ 19,405	\$ 970	\$ 3,881	\$ 3,639	\$ 4,851	\$ 32,747
Fill required to regrade road	Public	\$ 46,913	\$ 2,346	\$ 9,383	\$ 8,796	\$ 11,728	\$ 79,166
Demolish Existing block and irrigation tank	Public	\$ 41,363	\$ 2,068	\$ 8,273	\$ 7,756	\$ 10,341	\$ 69,800
Reinstate Amenities Block and Irrigation Tank	Public	\$ 387,525	\$ 19,376	\$ 77,505	\$ 72,661	\$ 96,881	\$ 653,948
Bridge Construction	Public	\$ 272,000	\$ 13,600	\$ 54,400	\$ 51,000	\$ 68,000	\$ 459,000
Tree Removal (assume 40 trees)	Public	\$ 6,400	\$ 320	\$ 1,280	\$ 1,200	\$ 1,600	\$ 10,800
Total works on site cost		\$38,507	\$1,925	\$7,701	\$7,220	\$9,627	\$64,980
Total works on public land cost		\$1,185,930	\$59,297	\$237,186	\$222,362	\$296,483	\$2,001,257
Using 2015 Rawlinsons							
Total		\$1,224,437	\$61,222	\$244,887	\$229,582	\$306,109	\$2,066,237