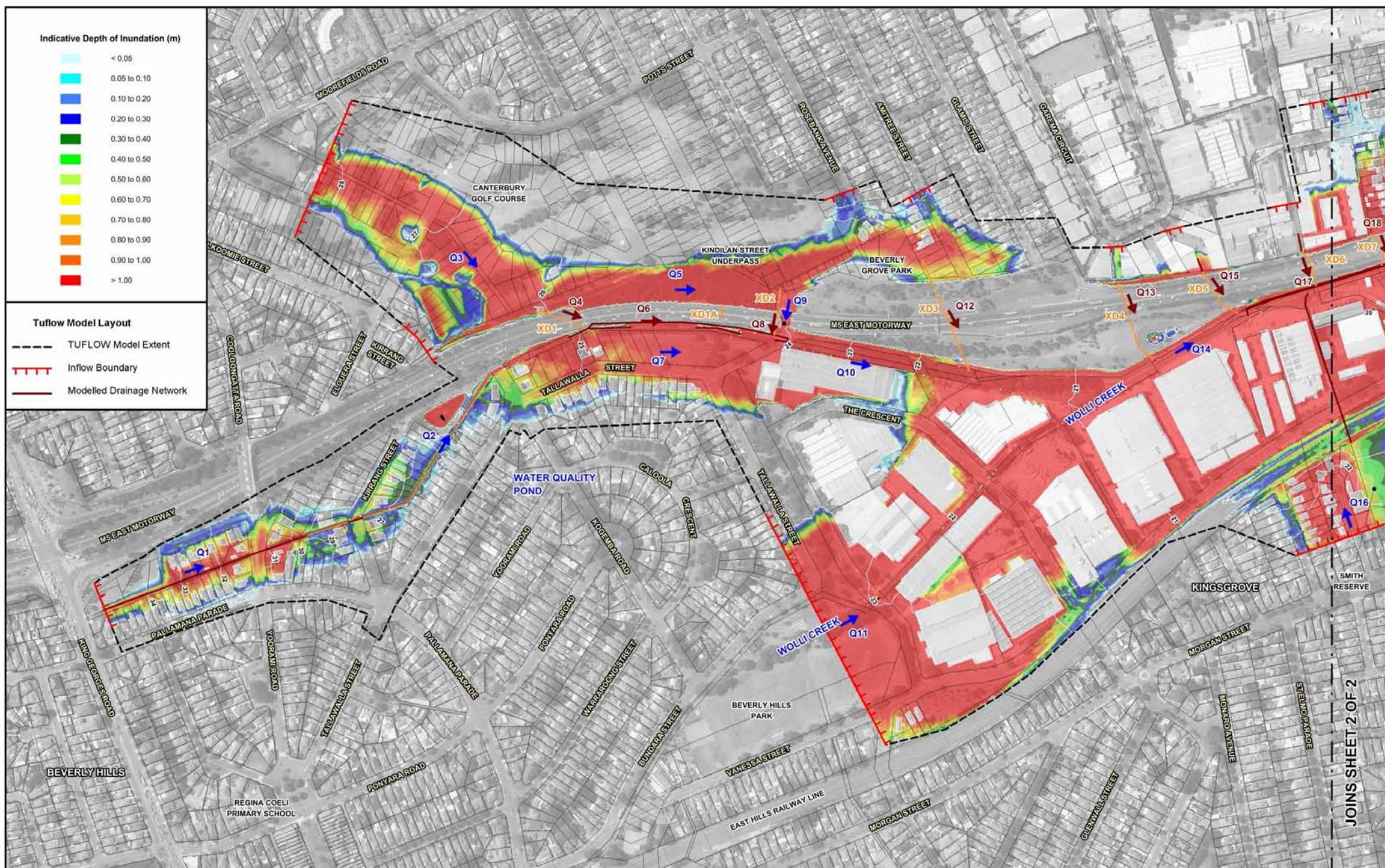
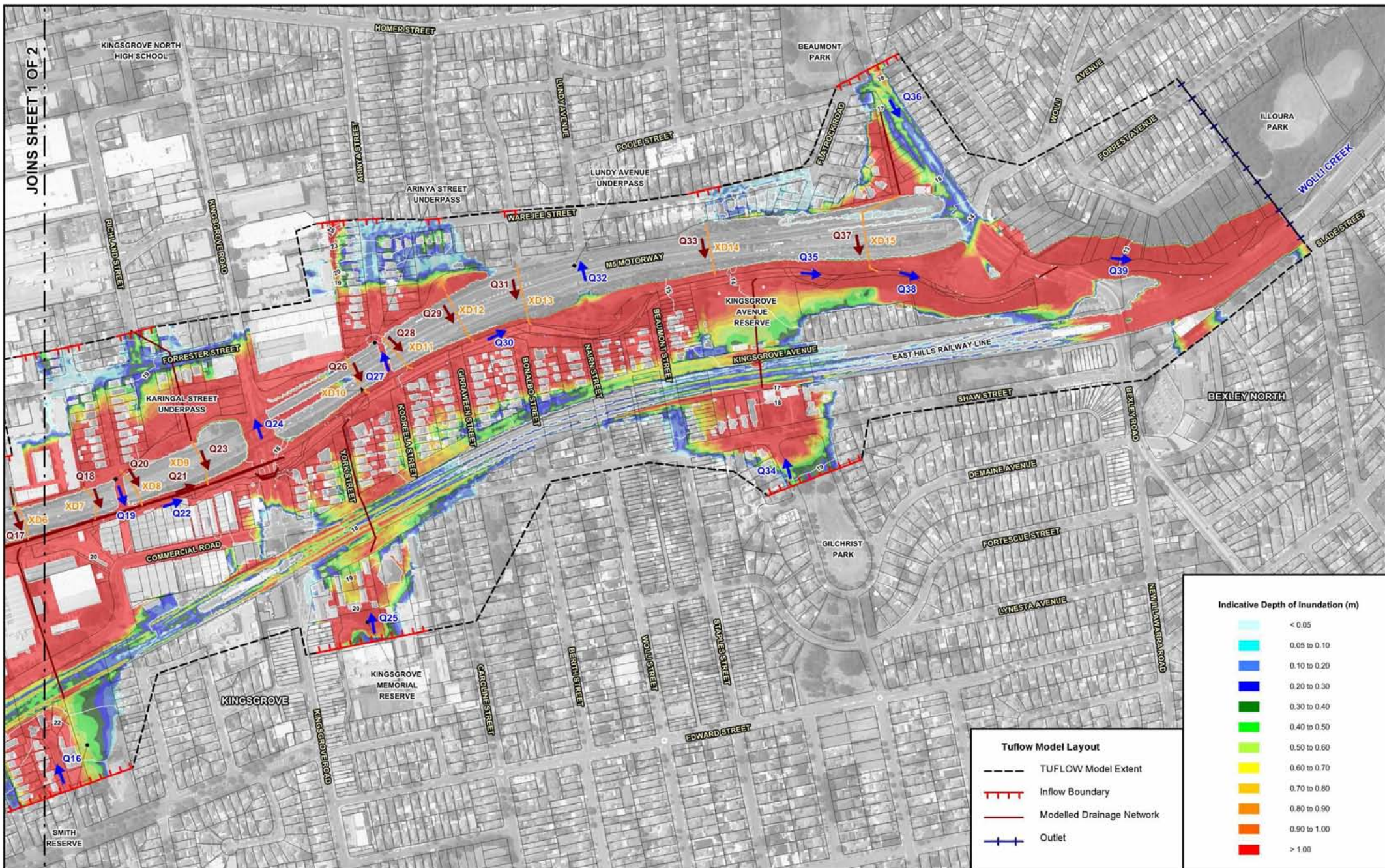


WESTCONNEX NEW M5 EIS
TECHNICAL WORKING PAPER: FLOODING





Figure 4.3
Sheet 2 of 2





FLOODING BEHAVIOUR IN VICINITY OF PROJECT
UPPER WOLLIE CREEK FLOODPLAIN - PRESENT DAY CONDITIONS - 200 YEAR ARI

















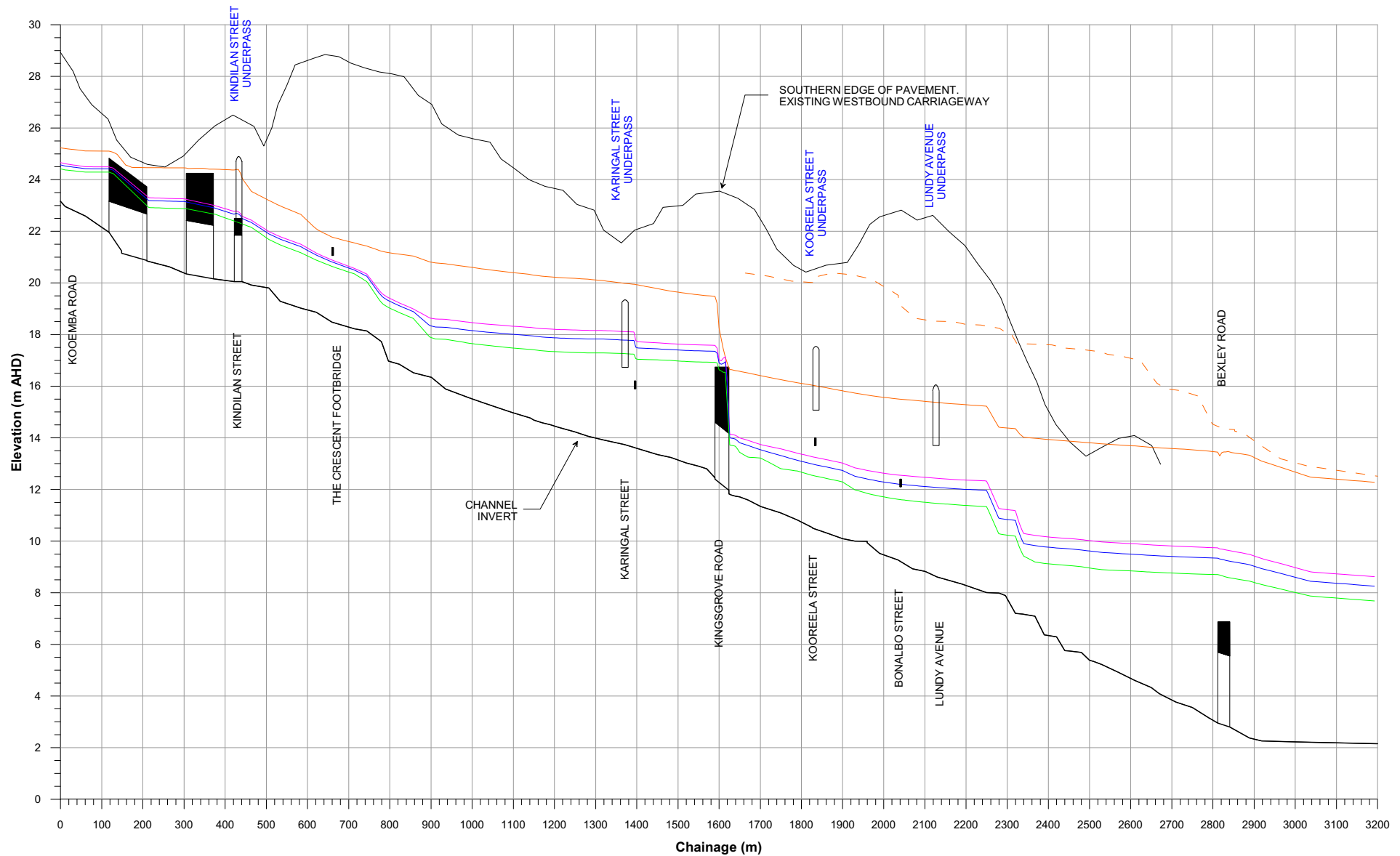
NOTE:
 THE EXTENTS AND DEPTH OF FLOODING SHOWN
 WERE DETERMINED FROM AIRBORNE LASER
 SURVEY DATA AND ARE APPROXIMATE ONLY.
 THE INFORMATION SHOWN ON THIS PLAN
 SHOULD NOT BE USED TO PROVIDE FLOOD
 ADVICE IN INDIVIDUAL ALLOTMENTS.

- LEGEND**
-  Peak Overland/Channel Flow Location and Identifier (Refer Table C1 in Appendix C for Values)
 -  Peak Piped Flow Location and Identifier (Refer Table C1 in Appendix C for Values)
 -  Water Surface Elevation Contour (m AHD)
 -  Existing Transverse Drainage Structure and Identifier

- TufLOW Model Layout**
-  TUFLOW Model Extent
 -  Inflow Boundary
 -  Modelled Drainage Network
 -  Outlet

Indicative Depth of Inundation (m)

	< 0.05
	0.05 to 0.10
	0.10 to 0.20
	0.20 to 0.30
	0.30 to 0.40
	0.40 to 0.50
	0.50 to 0.60
	0.60 to 0.70
	0.70 to 0.80
	0.80 to 0.90
	0.90 to 1.00
	> 1.00



WATER SURFACE PROFILES (1)

- PMF
- - - Upper Envelope of Potential Flooding Downstream of Kingsgrove Road
- 200 Year ARI
- 100 Year ARI
- 20 Year ARI

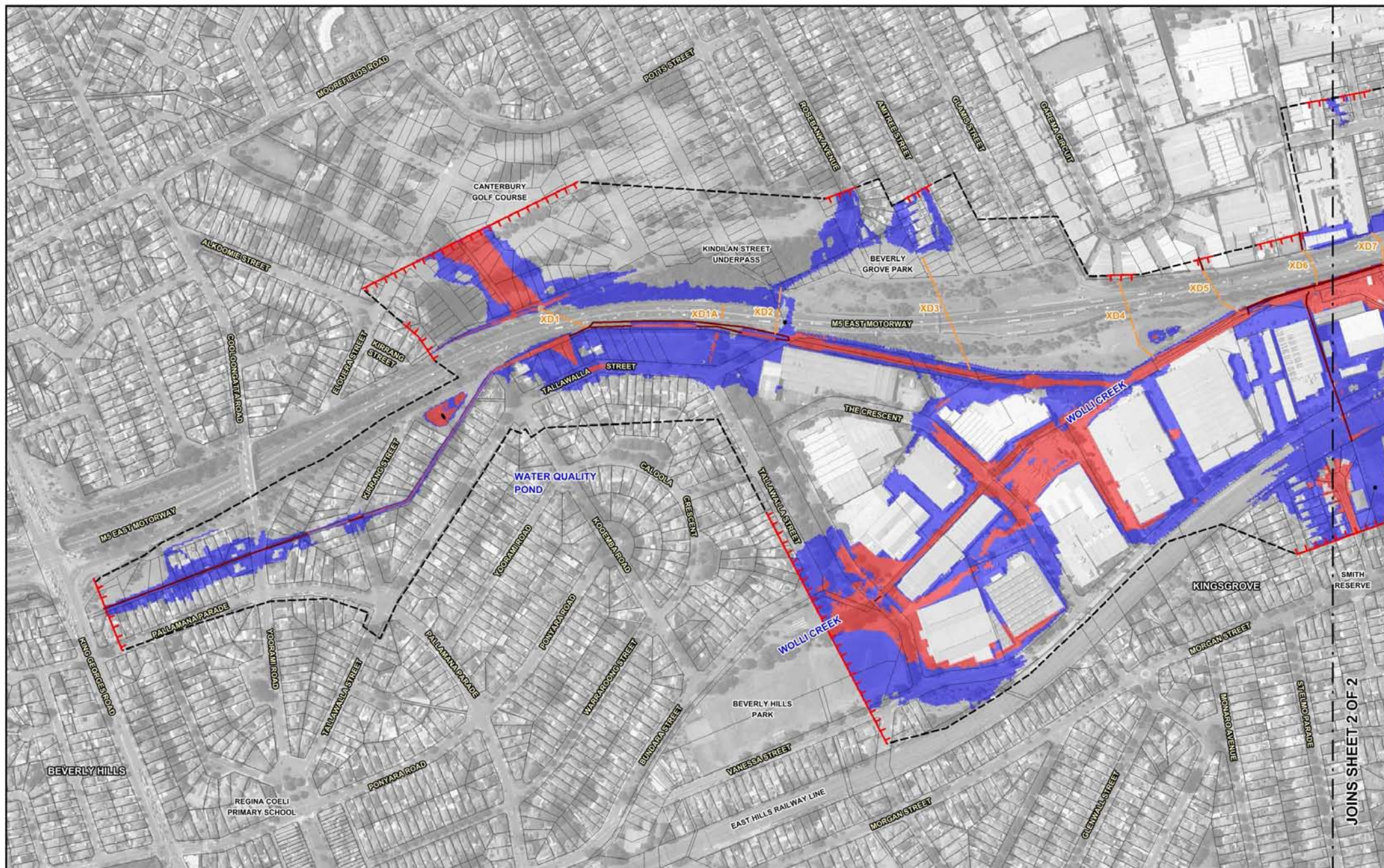
NOTE:

(1) UPPER ENVELOPE OF FLOODING BASED ON HEC-RAS MODEL RESULTS AND REPRESENTS ENERGY GRADE LINE FOR PMF EVENT. ALL OTHER WATER SURFACE PROFILES BASED ON TUFLOW MODEL RESULTS.

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Figure 4.5

DESIGN WATER SURFACE PROFILES
PRESENT DAY CONDITIONS - UPPER WOLLI CREEK



Scale: 1:5,000

0 50 100 150 m

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NOTE:

THE EXTENTS AND DEPTH OF FLOODING SHOWN WERE DETERMINED FROM AIRBORNE LASER SURVEY DATA AND ARE APPROXIMATE ONLY.

THE INFORMATION SHOWN ON THIS PLAN SHOULD NOT BE USED TO PROVIDE FLOOD ADVICE IN INDIVIDUAL ALLOTMENTS.

LEGEND

 TUFLOW Model Extent	 High Provisional Hydraulic Hazard
 Inflow Boundary	 Low Provisional Hydraulic Hazard
 Modelled Drainage Network	(Categories based on Figure L2 of NSW Government's Floodplain Development Manual, 2005)
 XD7 Existing Transverse Drainage Structure and Identifier	

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TECHNICAL WORKING PAPER: FLOODING

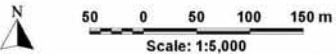
Figure 4.6

Sheet 1 of 2

PROVISIONAL FLOOD HAZARD IN VICINITY OF PROJECT

UPPER WOLLU CREEK FLOODPLAIN - PRESENT DAY CONDITIONS - 100 YEAR ARI

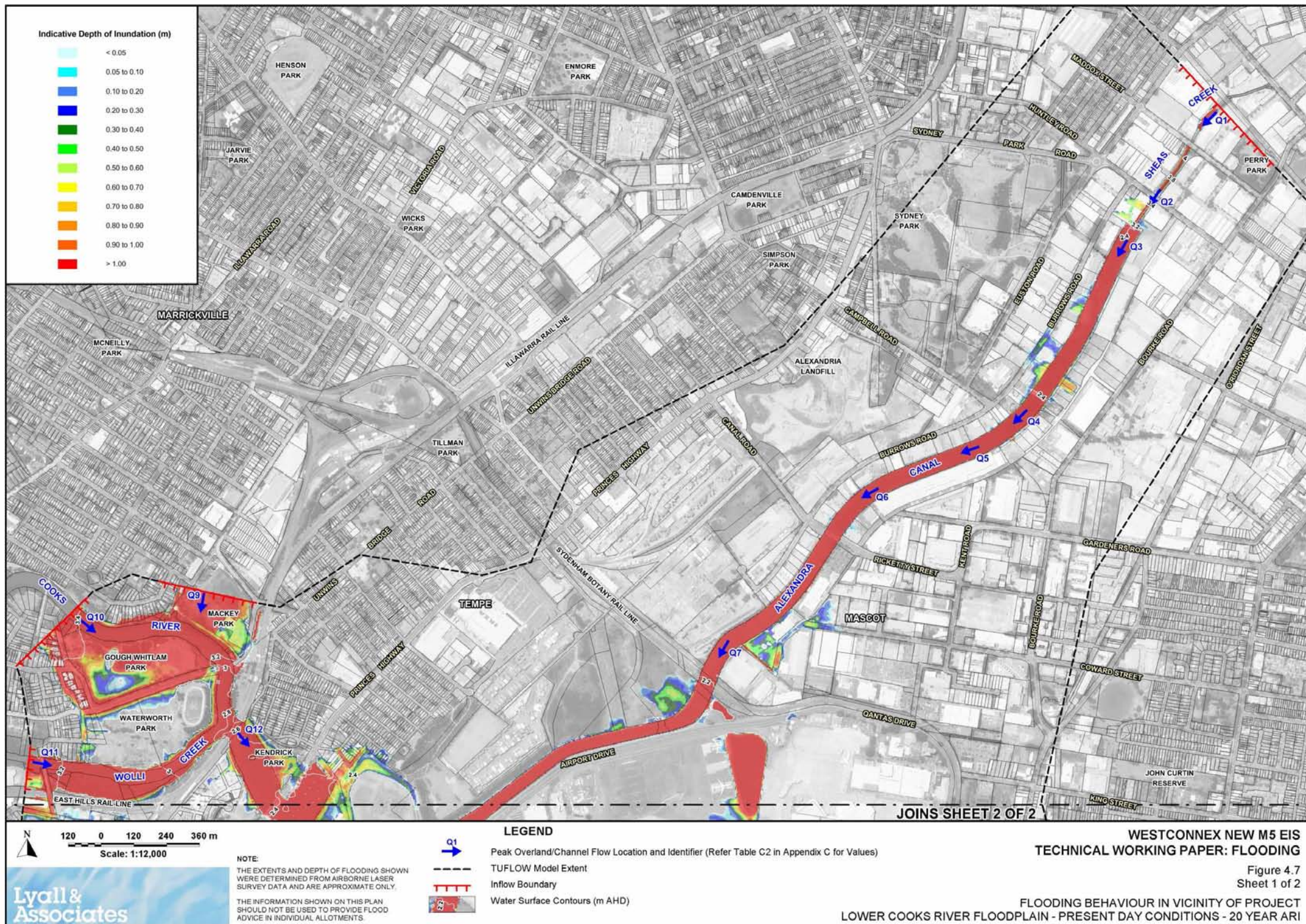
JOINS SHEET 2 OF 2



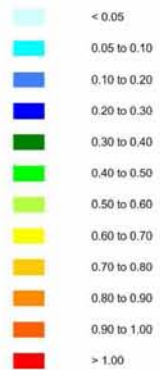
NOTE:
THE EXTENTS AND DEPTH OF FLOODING SHOWN WERE DETERMINED FROM AIRBORNE LASER SURVEY DATA AND ARE APPROXIMATE ONLY.
THE INFORMATION SHOWN ON THIS PLAN SHOULD NOT BE USED TO PROVIDE FLOOD ADVICE IN INDIVIDUAL ALLOTMENTS.

- LEGEND
- TUFLOW Model Extent
 - Inflow Boundary
 - Modelled Drainage Network
 - XD7 Existing Transverse Drainage Structure and Identifier

- High Provisional Hydraulic Hazard
- Low Provisional Hydraulic Hazard
- (Categories based on Figure L2 of NSW Government's Floodplain Development Manual, 2005)
- Outlet



Indicative Depth of Inundation (m)



120 0 120 240 360 m
Scale: 1:12,000

LEGEND



Peak Overland/Channel Flow Location and Identifier (Refer Table C2 in Appendix C for Values)

TUFLOW Model Extent

Inflow Boundary

Water Surface Contours (m AHD)

NOTE:

THE EXTENTS AND DEPTH OF FLOODING SHOWN WERE DETERMINED FROM AIRBORNE LASER SURVEY DATA AND ARE APPROXIMATE ONLY.

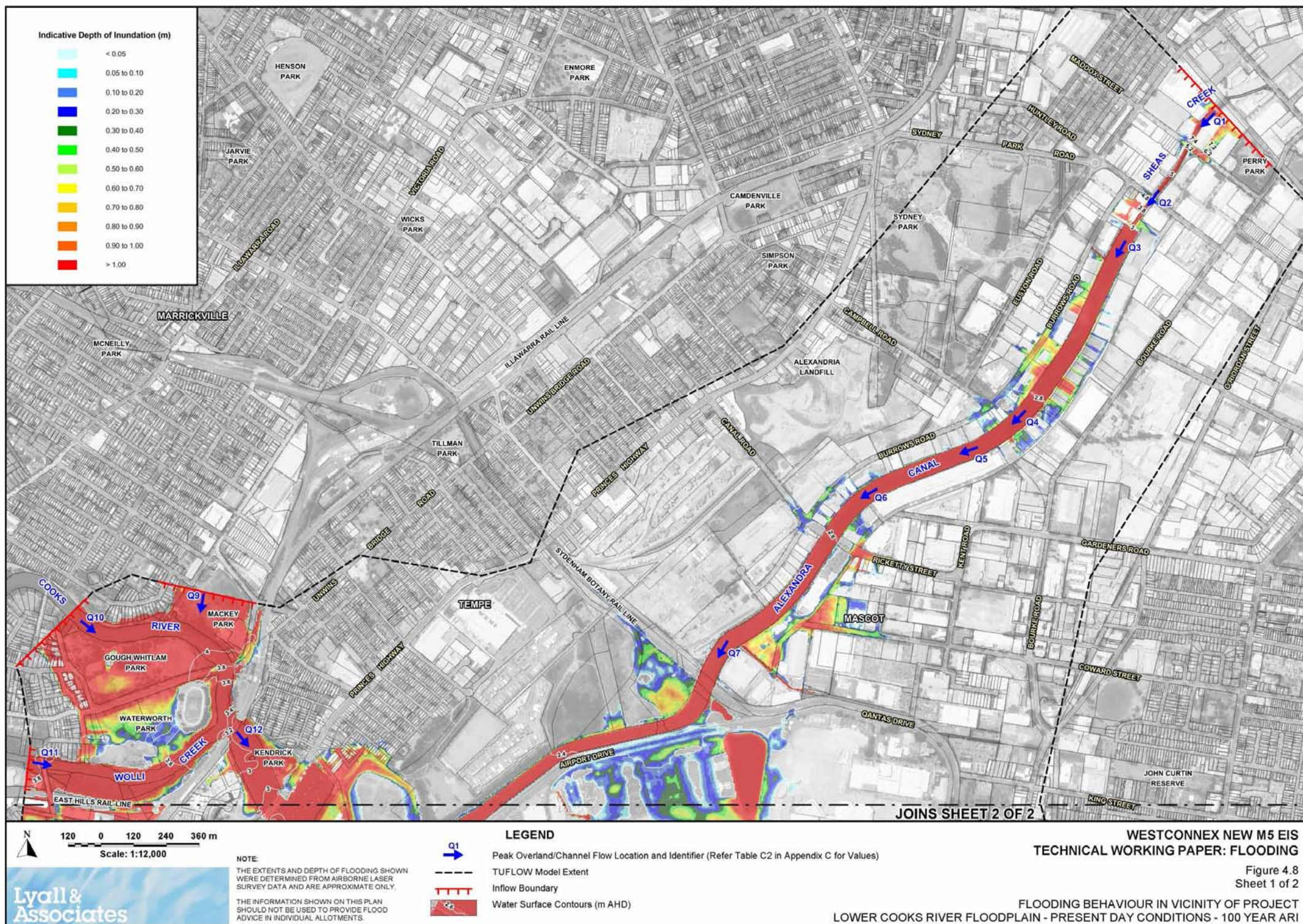
THE INFORMATION SHOWN ON THIS PLAN SHOULD NOT BE USED TO PROVIDE FLOOD ADVICE IN INDIVIDUAL ALLOTMENTS.

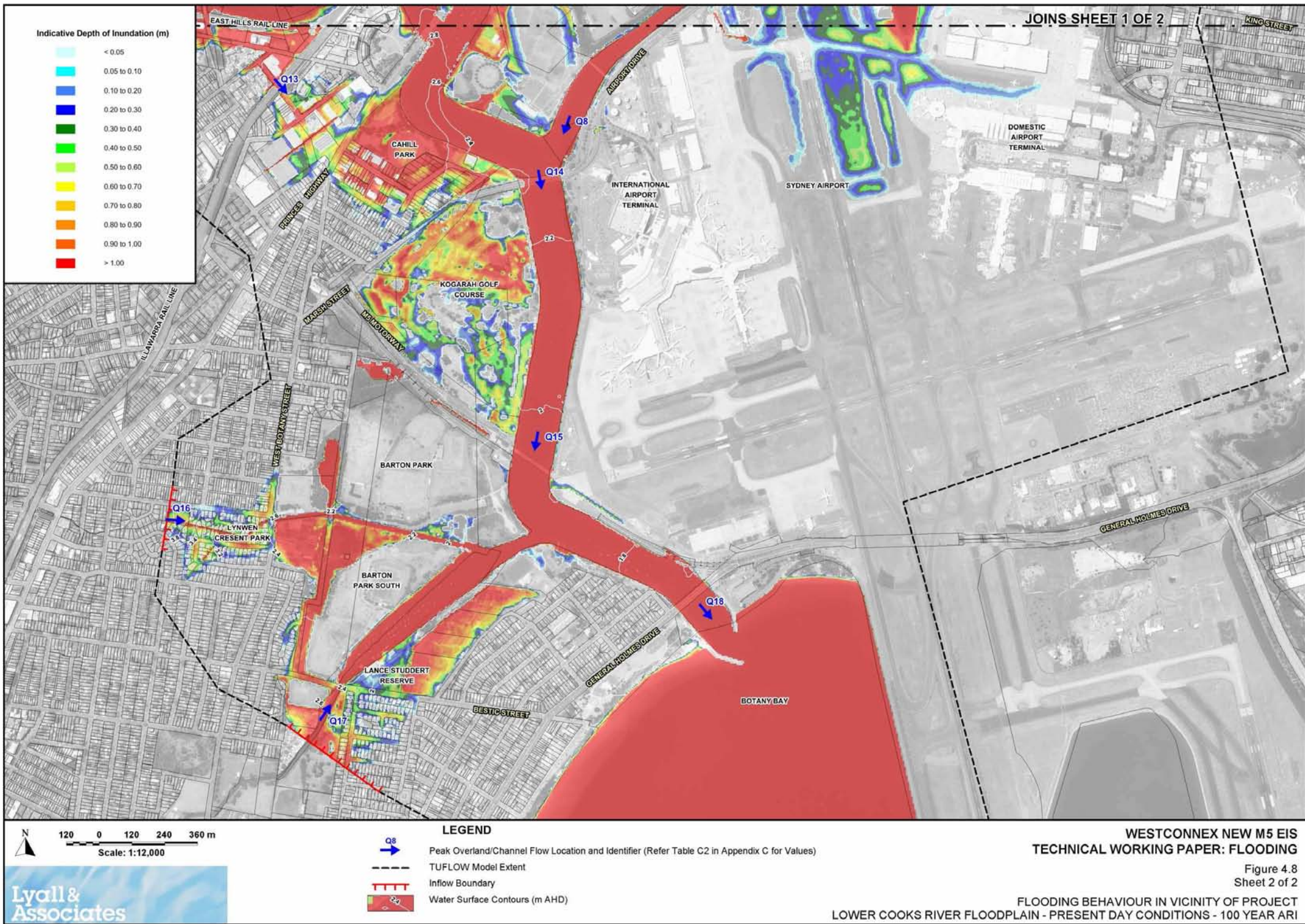
Lyall & Associates

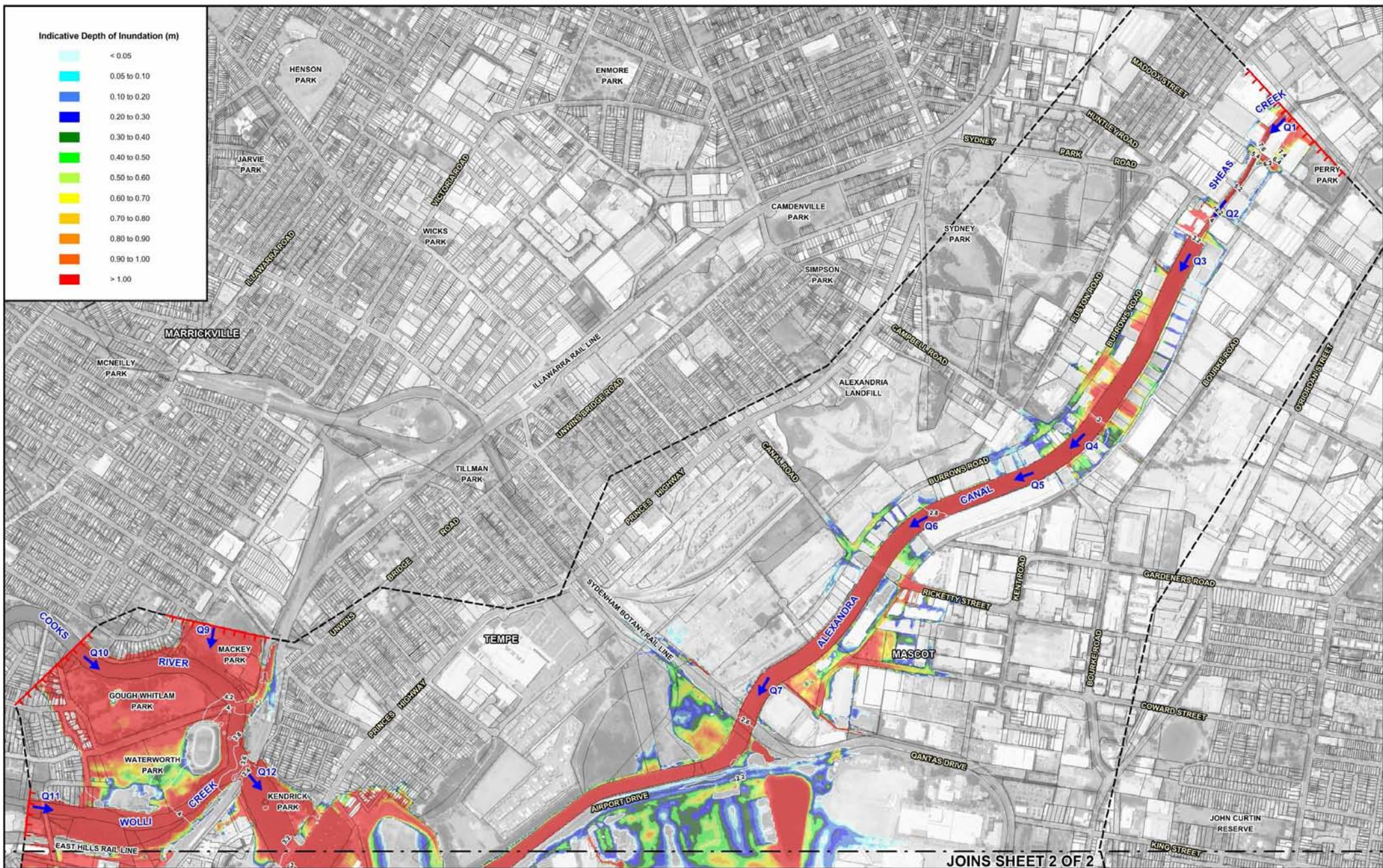
WESTCONNEX NEW M5 EIS
TECHNICAL WORKING PAPER: FLOODING

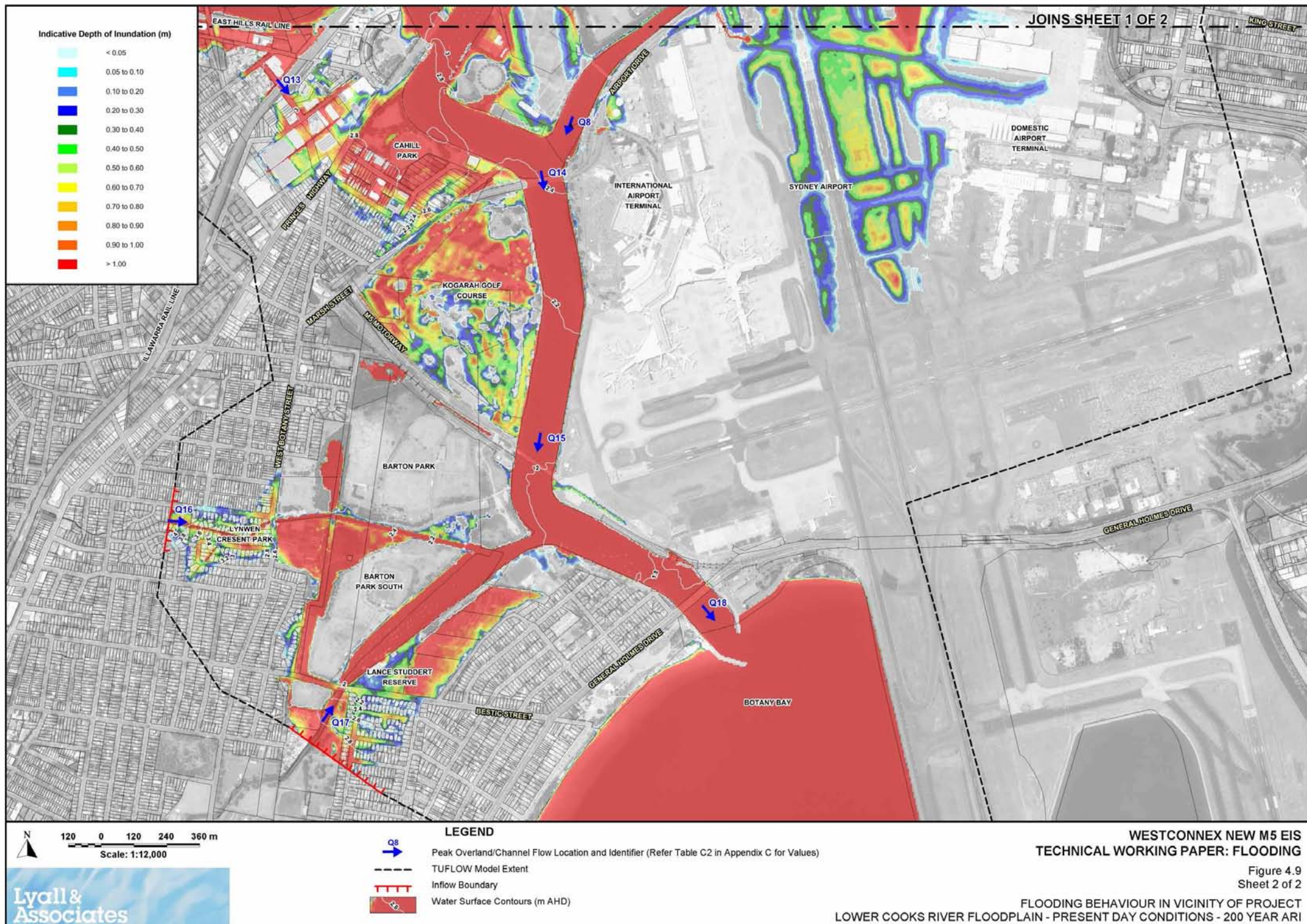
Figure 4.7
Sheet 2 of 2

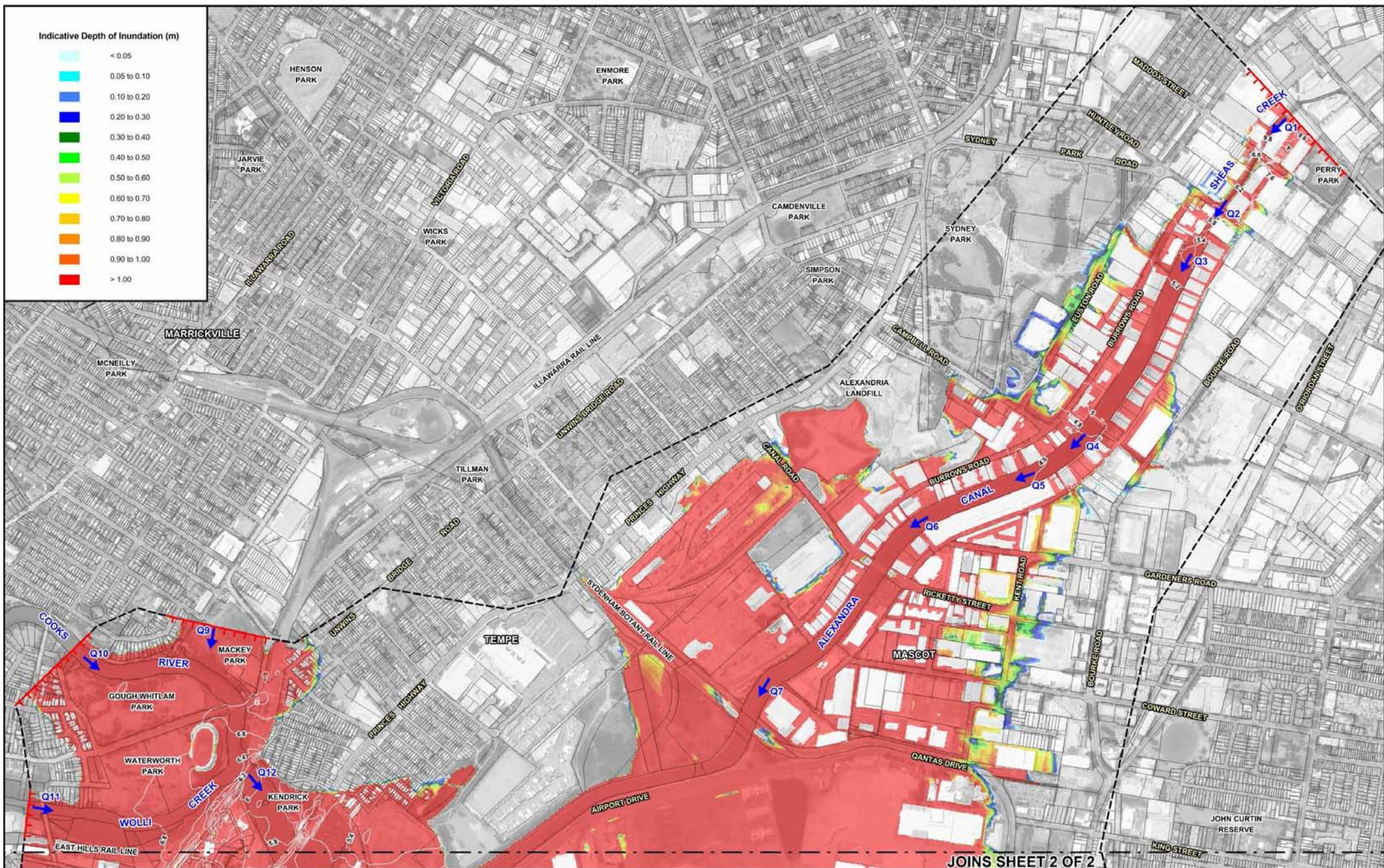
FLOODING BEHAVIOUR IN VICINITY OF PROJECT
LOWER COOKS RIVER FLOODPLAIN - PRESENT DAY CONDITIONS - 20 YEAR ARI

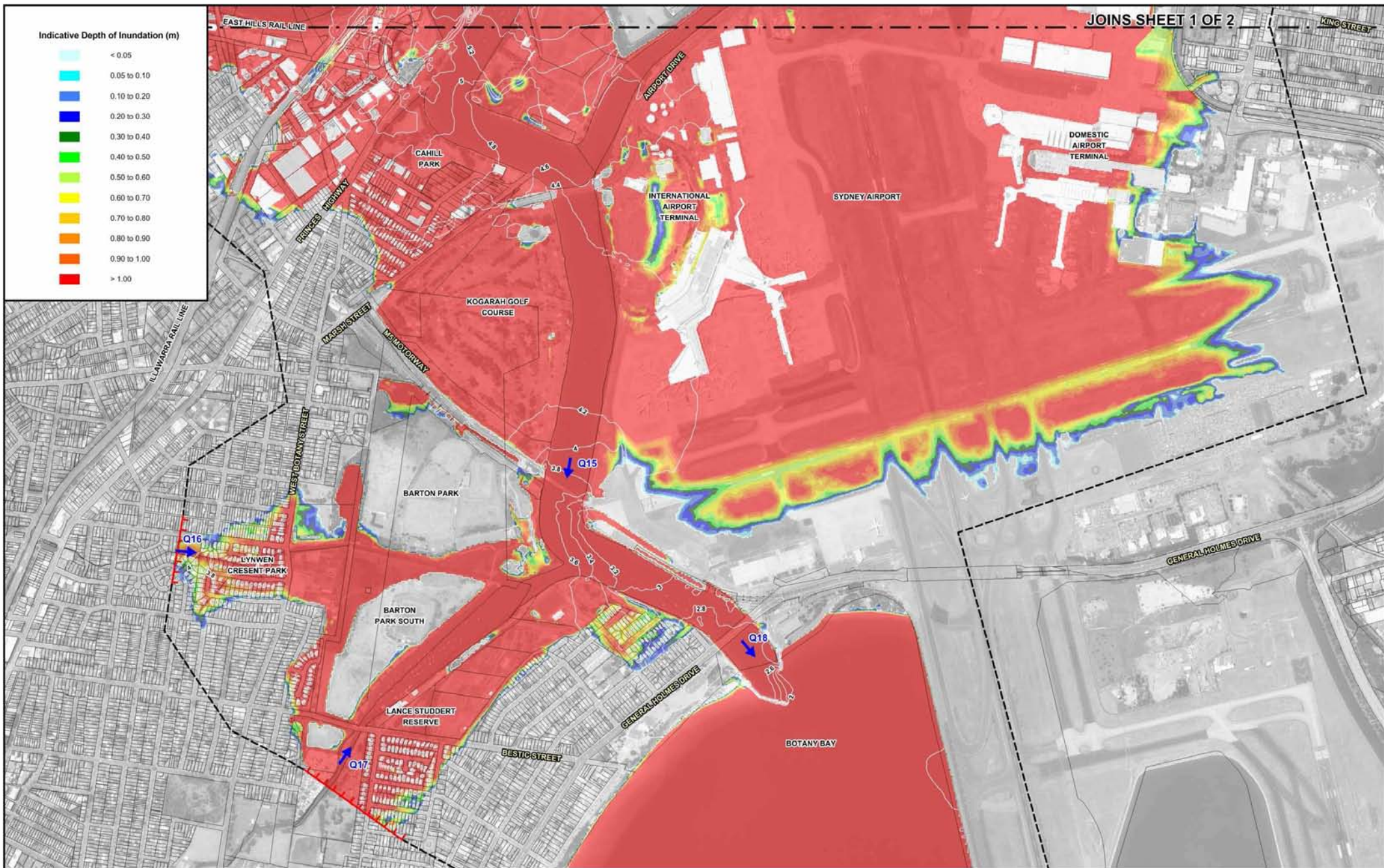




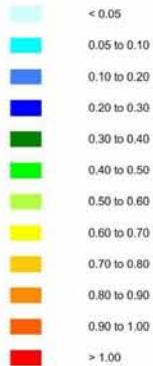








Indicative Depth of Inundation (m)



JOINS SHEET 1 OF 2



120 0 120 240 360 m
Scale: 1:12,000

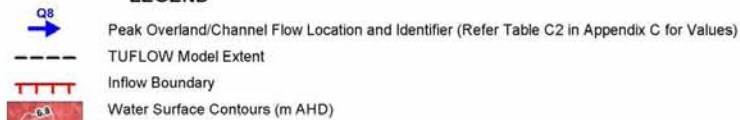
Lycall & Associates

NOTE:

THE EXTENTS AND DEPTH OF FLOODING SHOWN WERE DETERMINED FROM AIRBORNE LASER SURVEY DATA AND ARE APPROXIMATE ONLY.

THE INFORMATION SHOWN ON THIS PLAN SHOULD NOT BE USED TO PROVIDE FLOOD ADVICE IN INDIVIDUAL ALLOTMENTS.

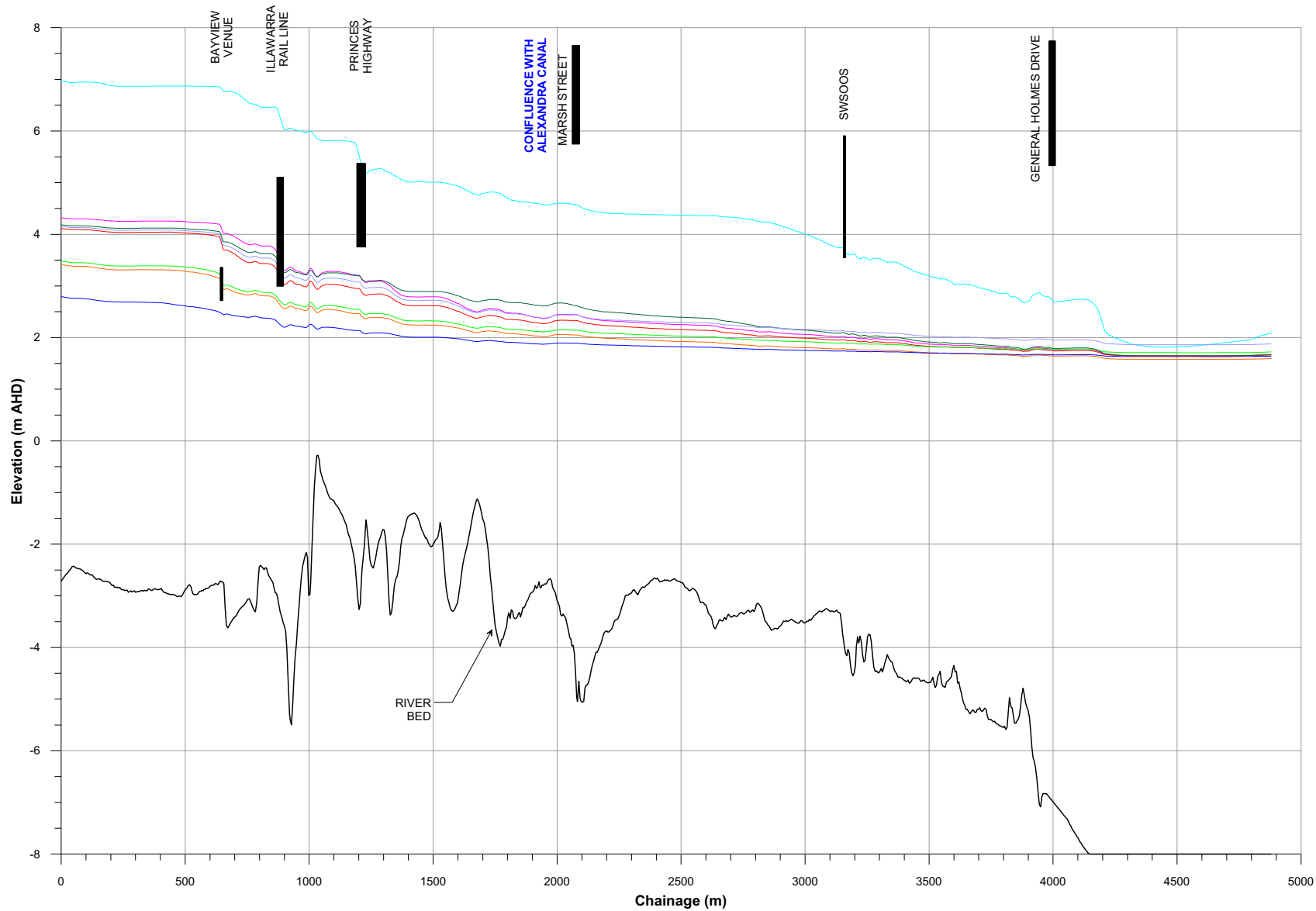
LEGEND



**WESTCONNEX NEW M5 EIS
TECHNICAL WORKING PAPER: FLOODING**

Figure 4.10
Sheet 2 of 2

**FLOODING BEHAVIOUR IN VICINITY OF PROJECT
LOWER COOKS RIVER FLOODPLAIN - PRESENT DAY CONDITIONS - PMF**



LEGEND	
Catchment Flood (ARI)	Ocean Flood (ARI)
20 year ARI	5 year ARI
5 year ARI	20 year ARI
100 year ARI	20 year ARI
20 year ARI	100 year ARI
200 year ARI	20 year ARI
20 year ARI	100 year ARI
CR - PMF	100 year ARI
AC - PMF	20 year ARI
100 year ARI	Extreme

Profiles used to Derive 20 year ARI Flood Envelope

Profiles used to Derive 100 year ARI Flood Envelope

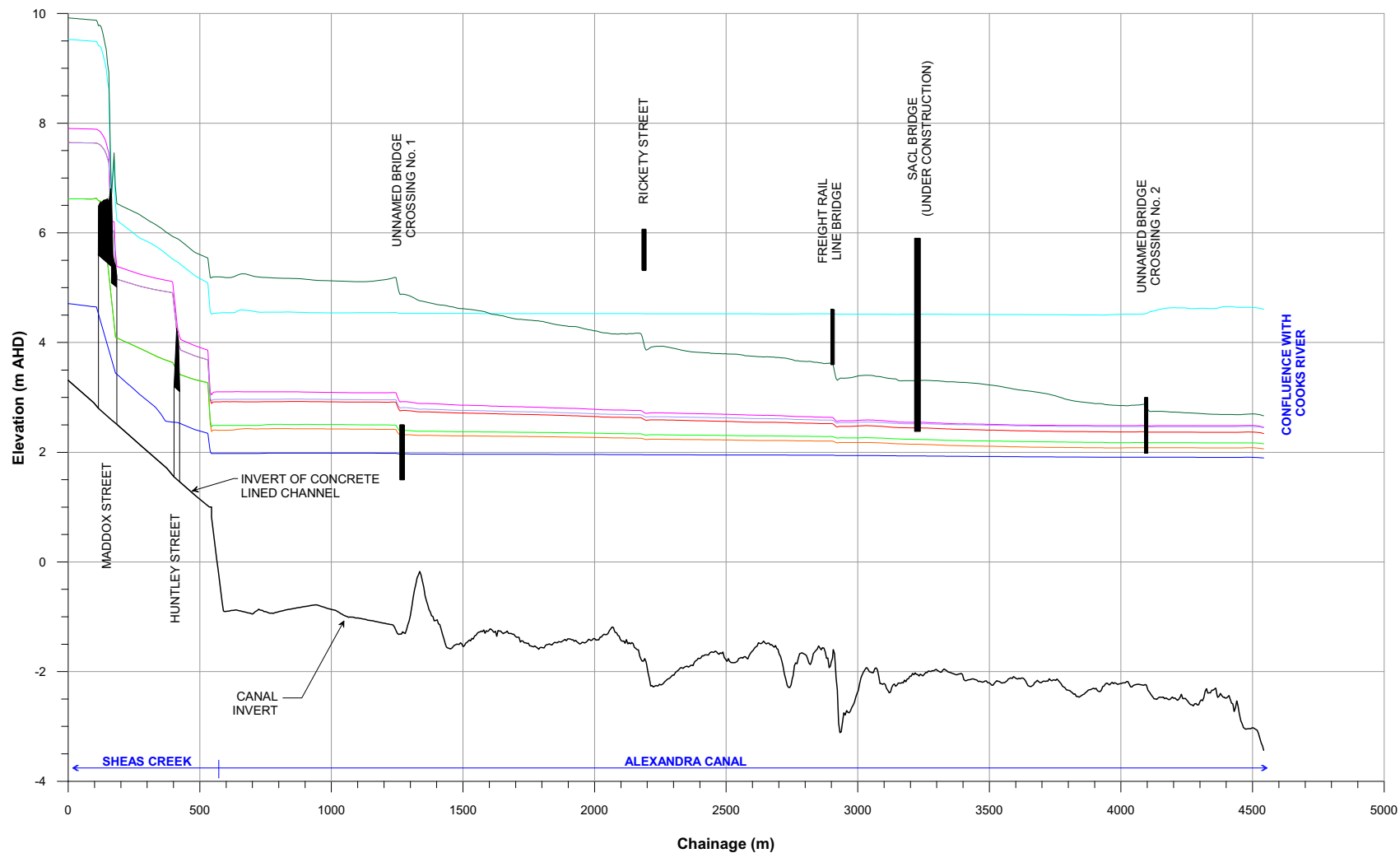
Profiles used to Derive 100 year ARI Flood Envelope

Profiles used to Derive PMF Flood Envelope

WESTCONNEX NEW M5 EIS
TECHNICAL WORKING PAPER: FLOODING

Figure 4.11

DESIGN WATER SURFACE PROFILES
PRESENT DAY CONDITIONS - COOKS RIVER



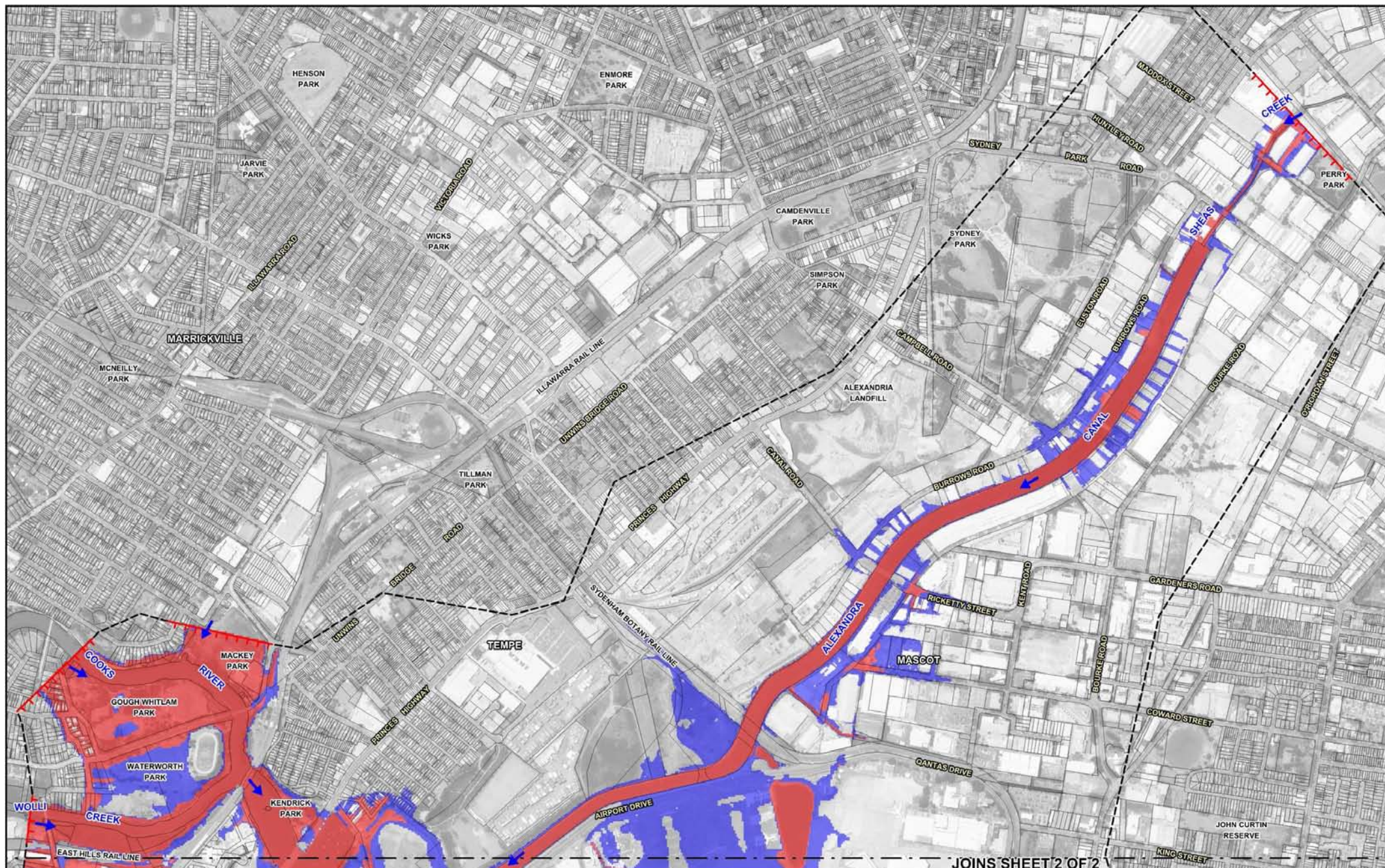
LEGEND	
Catchment Flood (ARI)	Ocean Flood (ARI)
20 year ARI	5 year ARI
5 year ARI	20 year ARI
100 year ARI	20 year ARI
20 year ARI	100 year ARI
200 year ARI	20 year ARI
20 year ARI	100 year ARI
CR - PMF	100 year ARI
AC - PMF	20 year ARI
100 year ARI	Extreme

Profiles used to Derive 20 year ARI Flood Envelope
Profiles used to Derive 100 year ARI Flood Envelope
Profiles used to Derive 100 year ARI Flood Envelope
Profiles used to Derive PMF Flood Envelope

NOTE:
Refer Section B4.4 in Appendix B for details of adopted coincident catchment and ocean flooding conditions.

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Figure 4.12
DESIGN WATER SURFACE PROFILES
PRESENT DAY CONDITIONS - ALEXANDRA CANAL



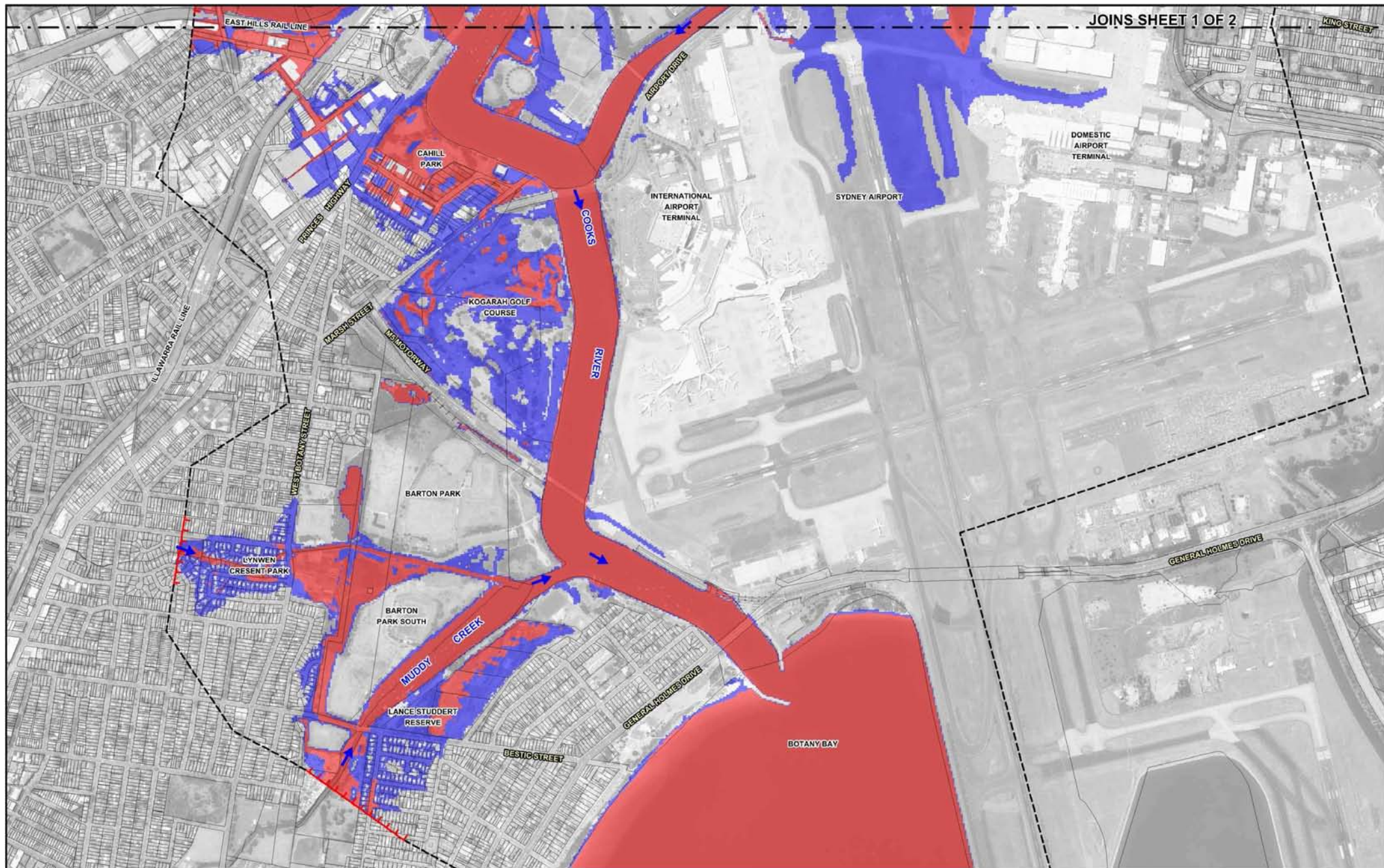
LEGEND

- High Provisional Hydraulic Hazard
 - Low Provisional Hydraulic Hazard
 - TUFLOW Model Extent
 - Inflow Boundary
- (Categories based on Figure L2 of NSW Government's Floodplain Development Manual, 2005)

WESTCONNEX NEW M5 EIS
TECHNICAL WORKING PAPER: FLOODING

Figure 4.13
Sheet 1 of 2

PROVISIONAL FLOOD HAZARD IN VICINITY OF PROJECT
LOWER COOKS RIVER FLOODPLAIN - PRESENT DAY CONDITIONS - 100 YEAR ARI



JOINS SHEET 1 OF 2

KING STREET

DOMESTIC
AIRPORT
TERMINAL

SYDNEY AIRPORT

INTERNATIONAL
AIRPORT
TERMINAL

AIRPORT DRIVE

COOKS
RIVER

KOGARAH GOLF
COURSE

BARTON PARK

M5 MOTORWAY

MARSH STREET

WEST BOTANY STREET

PRINCES HIGHWAY

ILLAWARRA RAIL LINE

EAST HILLS RAIL LINE

LYNKEN
CRESCENT PARK

BARTON
PARK SOUTH

MUDDY
CREEK

LANCE STUDDERT
RESERVE

BESTIC STREET

GENERAL HOLMES DRIVE

BOTANY BAY

GENERAL HOLMES DRIVE

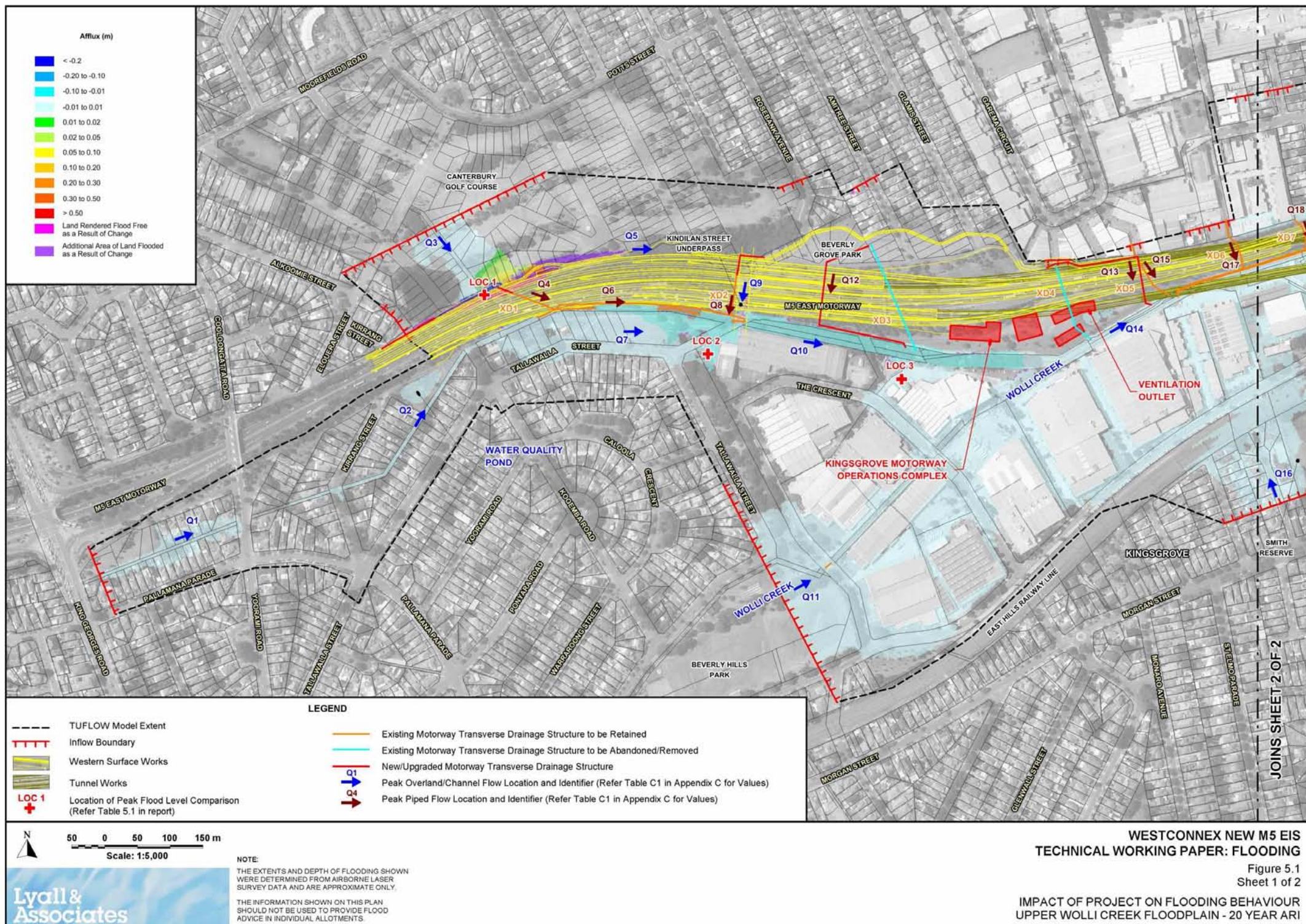
LEGEND

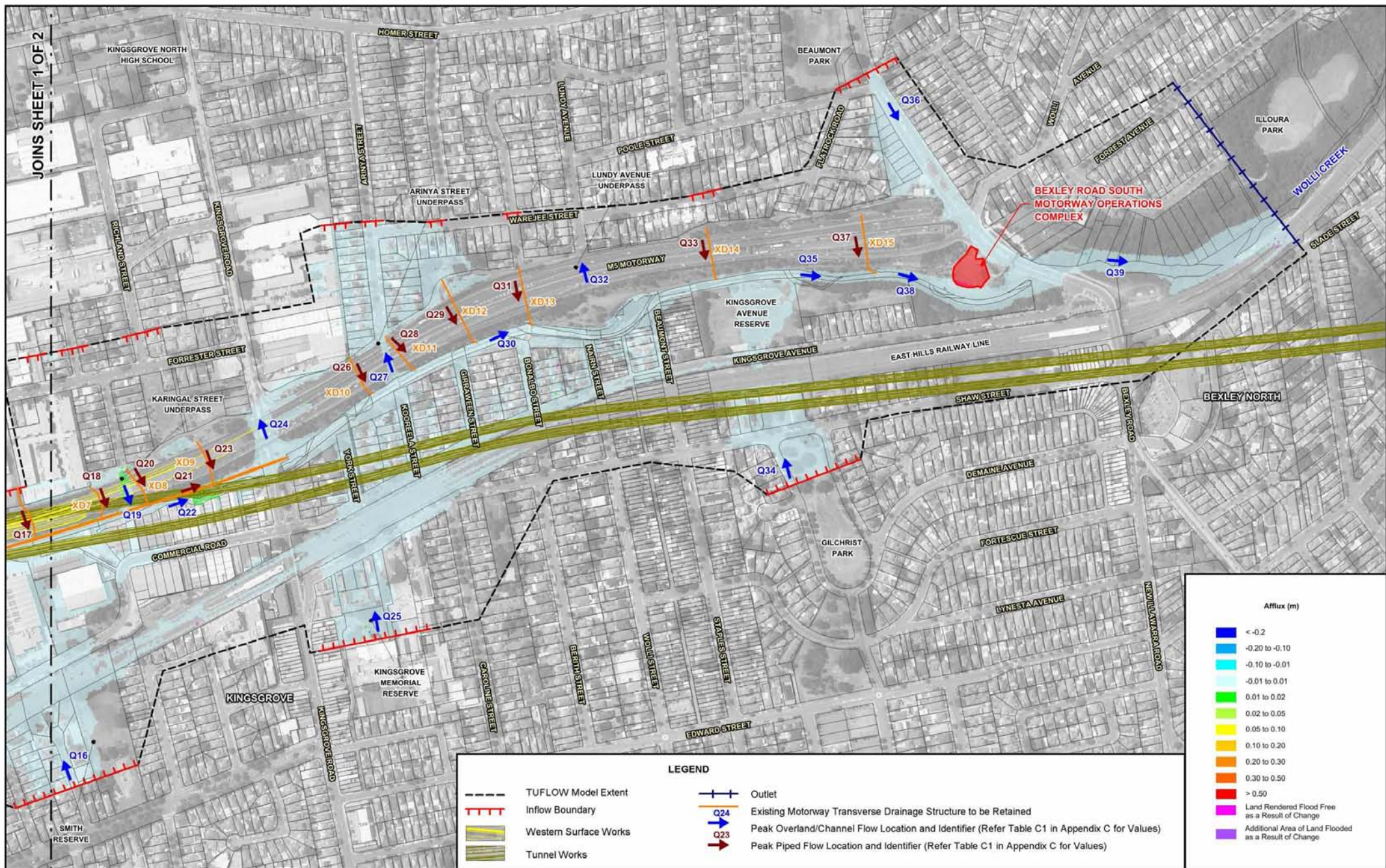
- High Provisional Hydraulic Hazard
 - Low Provisional Hydraulic Hazard
 - TUFLOW Model Extent
 - Inflow Boundary
- (Categories based on Figure L2 of NSW Government's Floodplain Development Manual, 2005)

WESTCONNEX NEW M5 EIS
TECHNICAL WORKING PAPER: FLOODING

Figure 4.13
Sheet 2 of 2

PROVISIONAL FLOOD HAZARD IN VICINITY OF PROJECT
LOWER COOKS RIVER FLOODPLAIN - PRESENT DAY CONDITIONS - 100 YEAR ARI





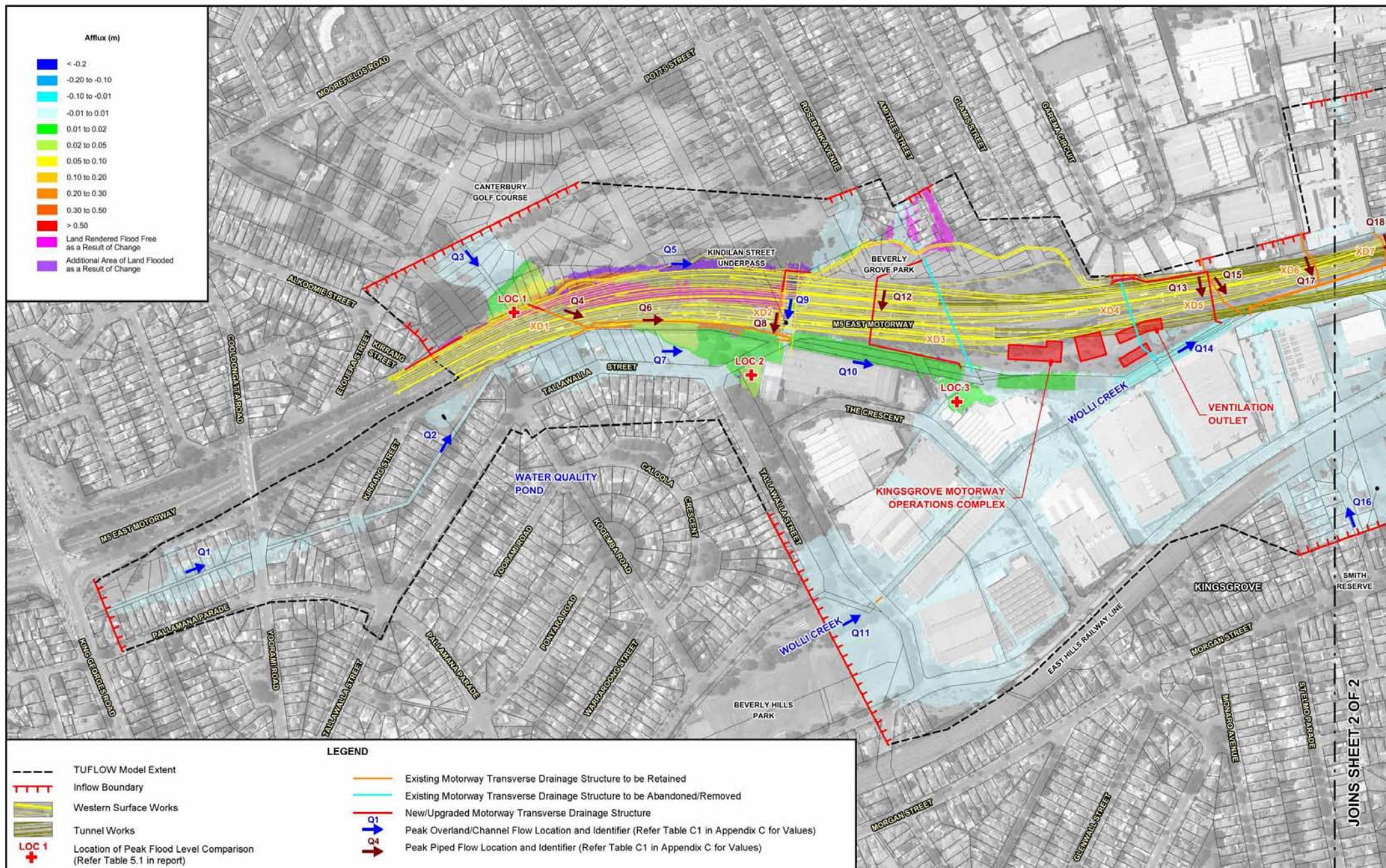
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TECHNICAL WORKING PAPER: FLOODING

Figure 5.1
Sheet 2 of 2

IMPACT OF PROJECT ON FLOODING BEHAVIOUR
UPPER WOLL CREEK FLOODPLAIN - 20 YEAR ARI



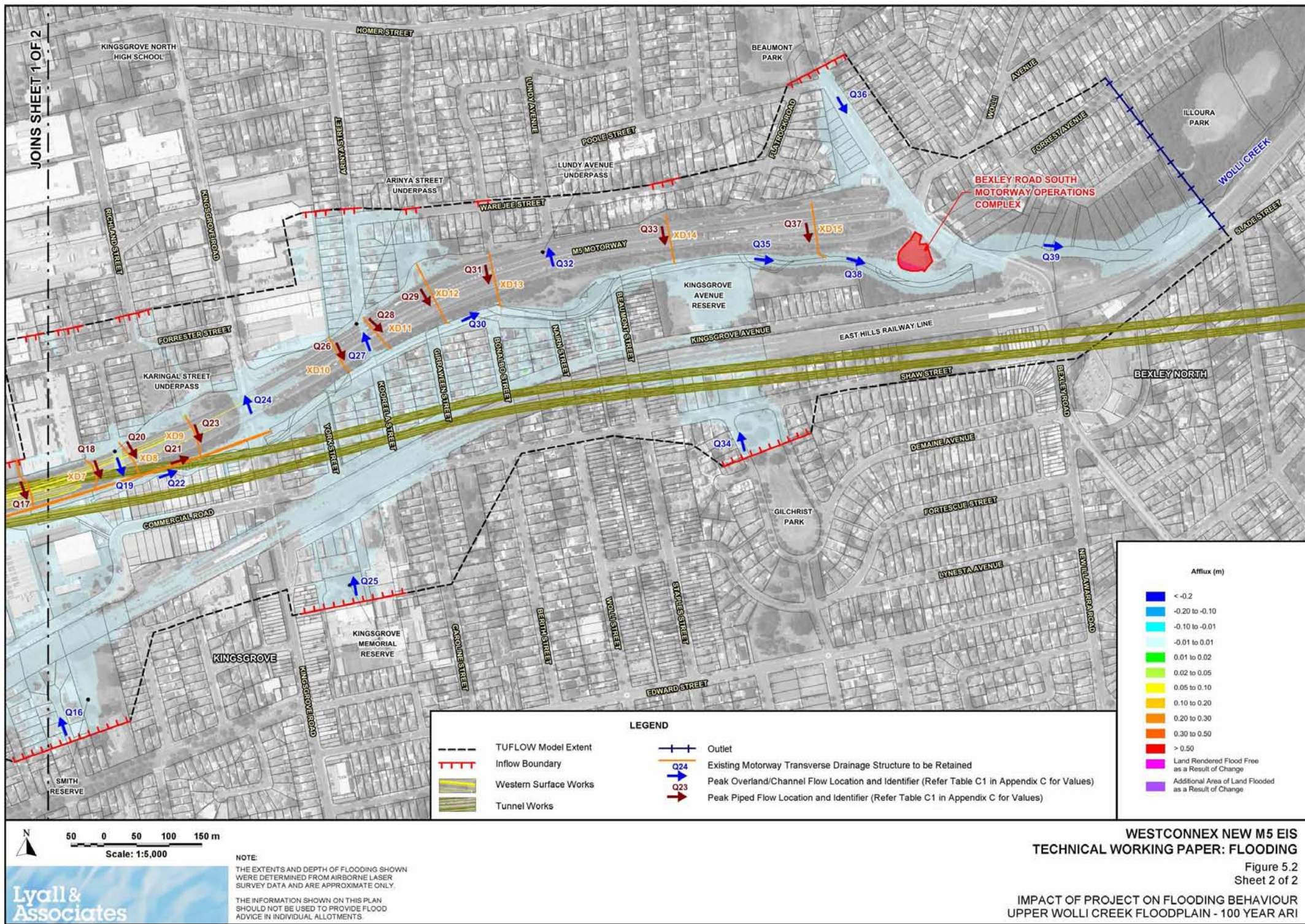
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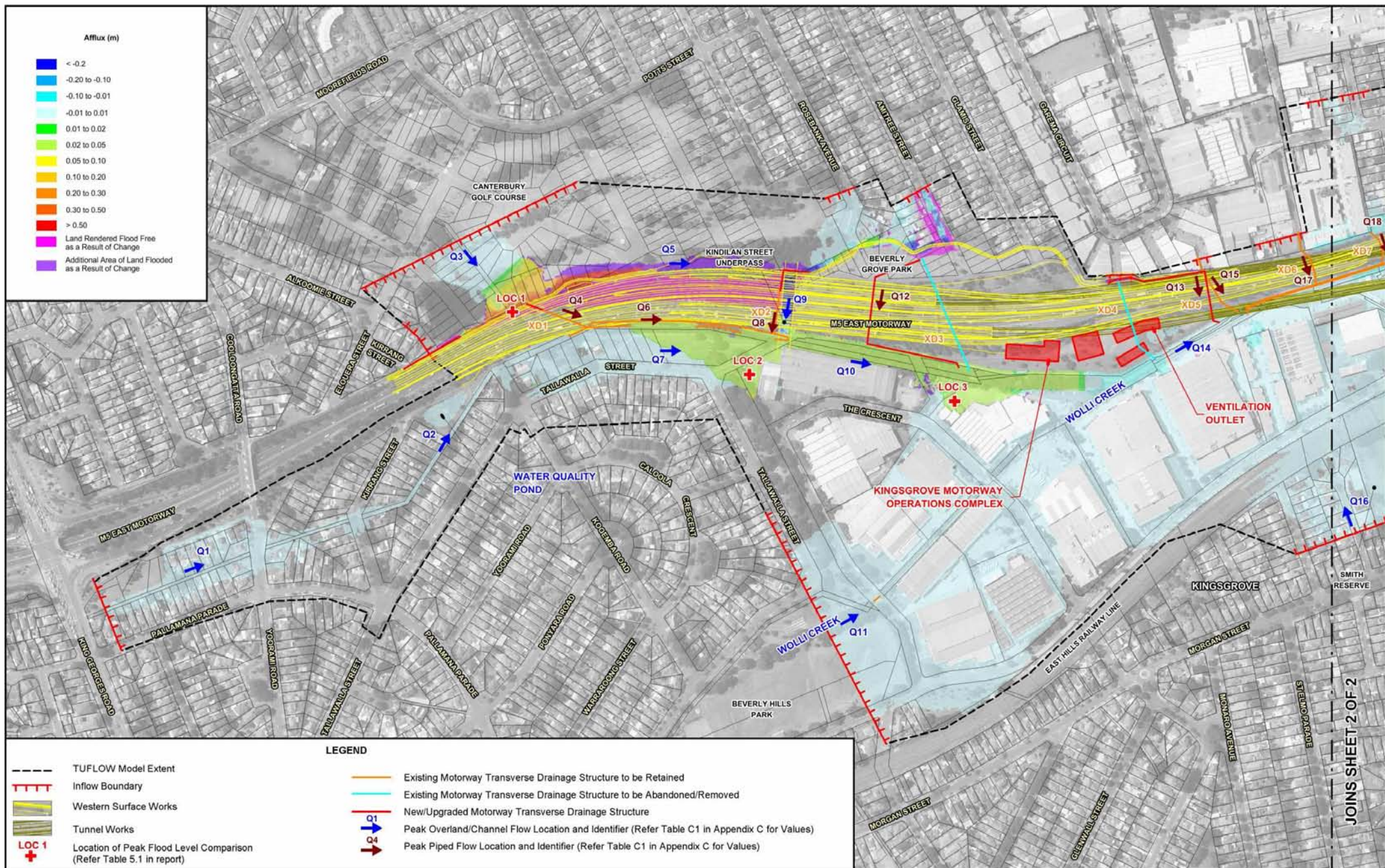
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WESTCONNEX NEW M5 EIS TECHNICAL WORKING PAPER: FLOODING

Figure 5.2
Sheet 1 of 2

IMPACT OF PROJECT ON FLOODING BEHAVIOUR
UPPER WOLLIE CREEK FLOODPLAIN - 100 YEAR ARI





Scale: 1:5,000

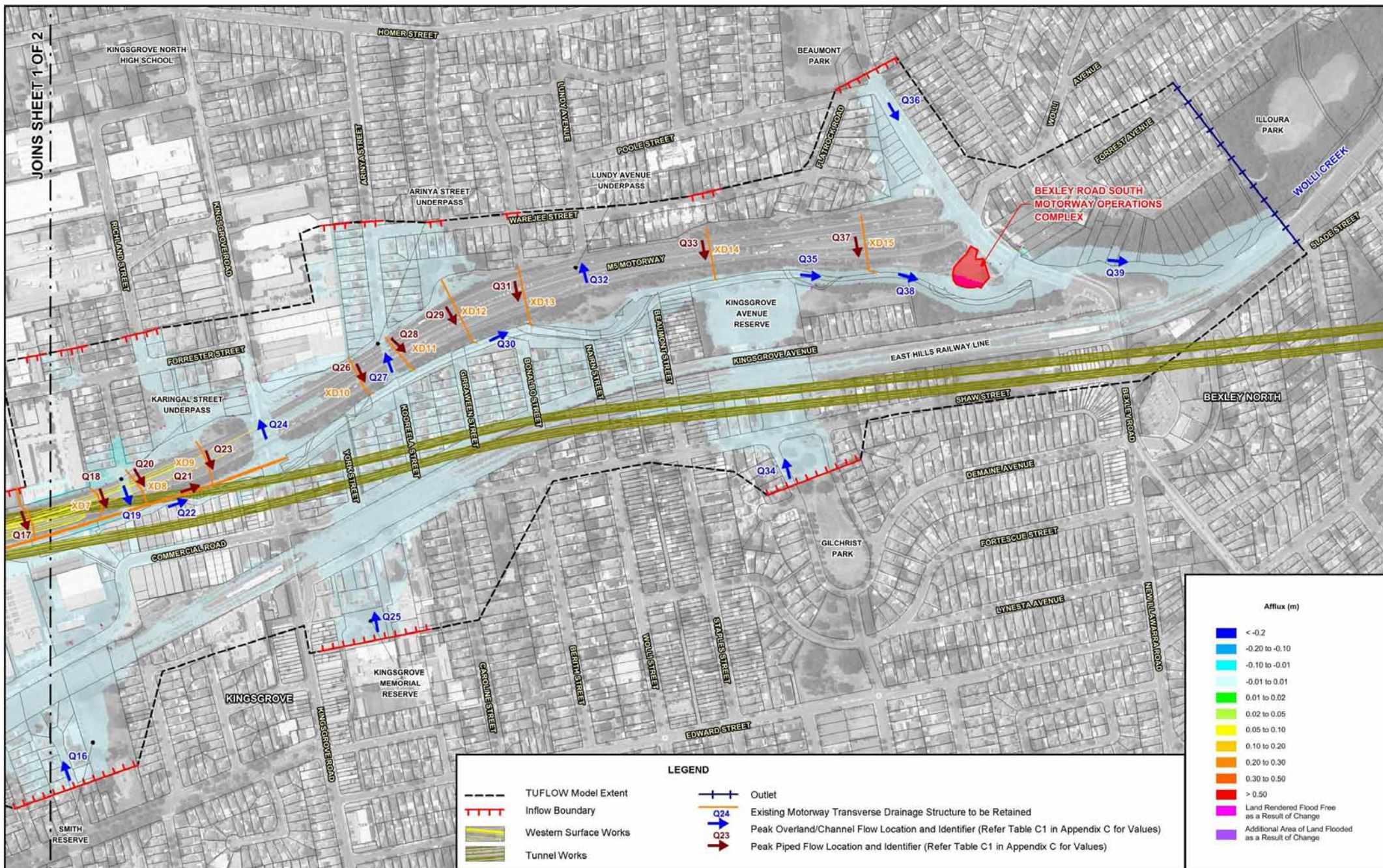
Lyall & Associates

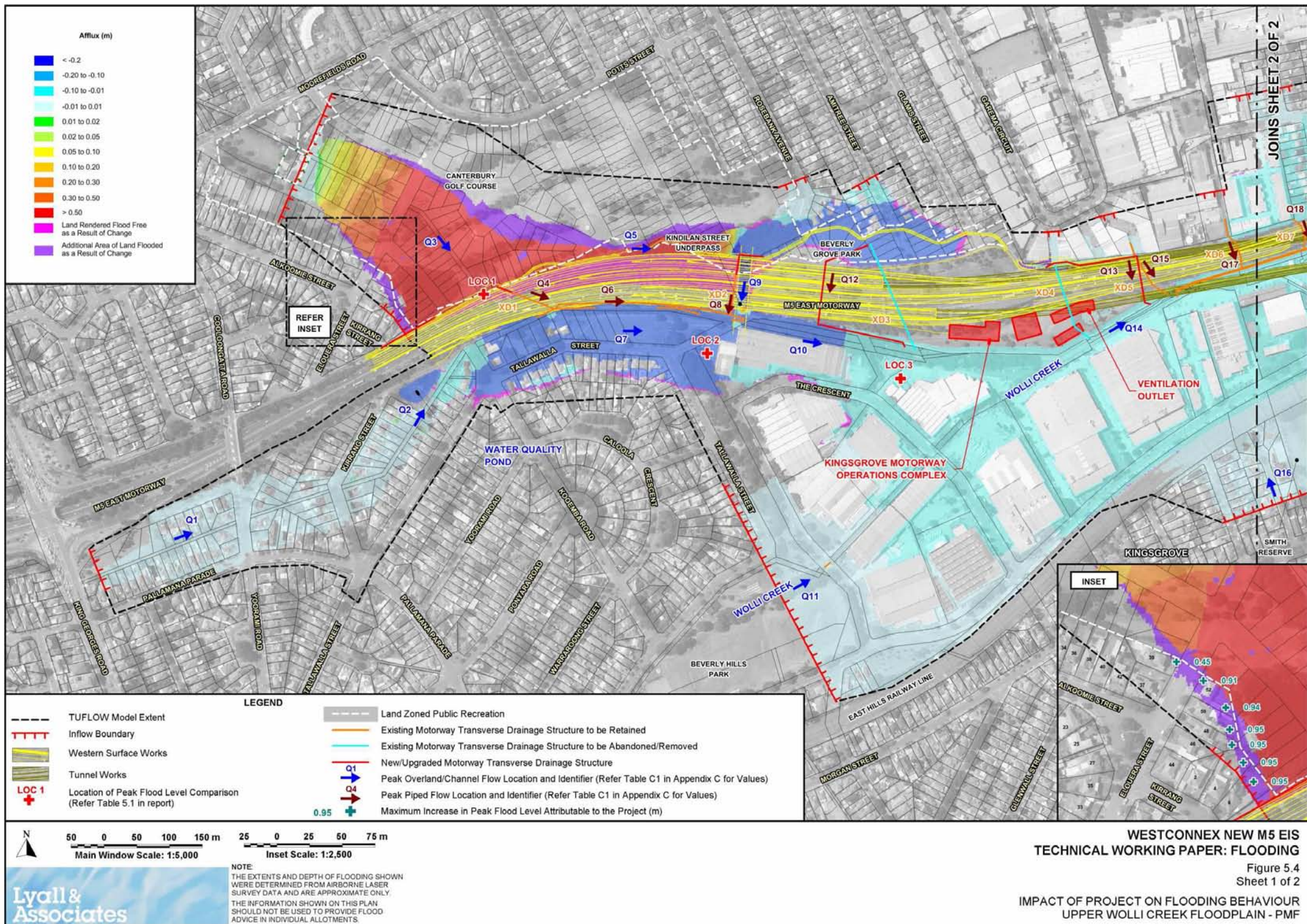
WESTCONNEX NEW M5 EIS TECHNICAL WORKING PAPER: FLOODING

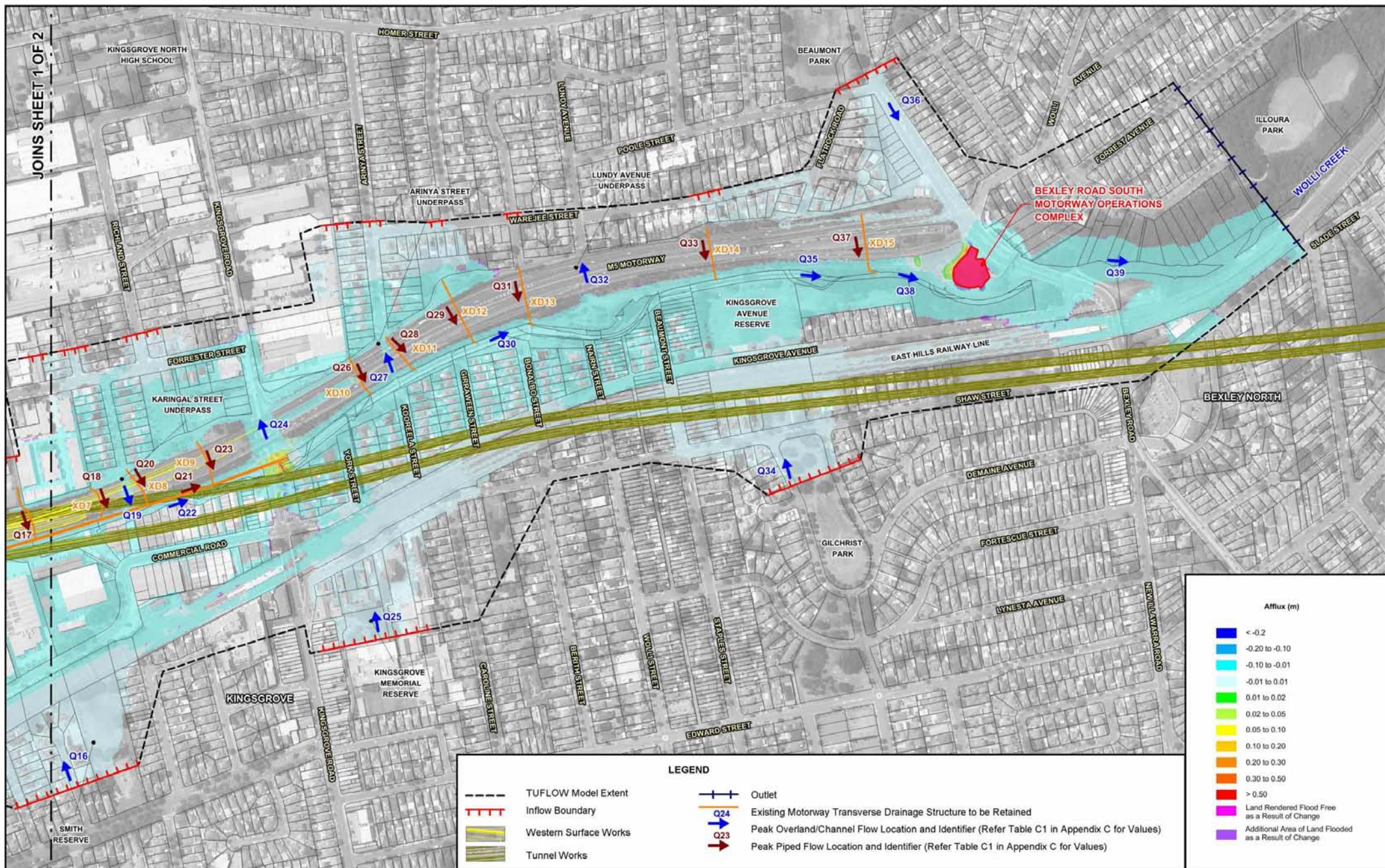
Figure 5.3
Sheet 1 of 2

IMPACT OF PROJECT ON FLOODING BEHAVIOUR
UPPER WOLLI CREEK FLOODPLAIN - 200 YEAR ARI

JOINS SHEET 2 OF 2







Scale: 1:5,000

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TECHNICAL WORKING PAPER: FLOODING

Figure 5.4
Sheet 2 of 2

IMPACT OF PROJECT ON FLOODING BEHAVIOUR
UPPER WOLL CREEK FLOODPLAIN - PMF