



PENRITH CITY COUNCIL

**CRANEBROOK OVERLAND FLOW
FLOOD STUDY**

OCTOBER 2022

DRAFT FOR PUBLIC EXHIBITION

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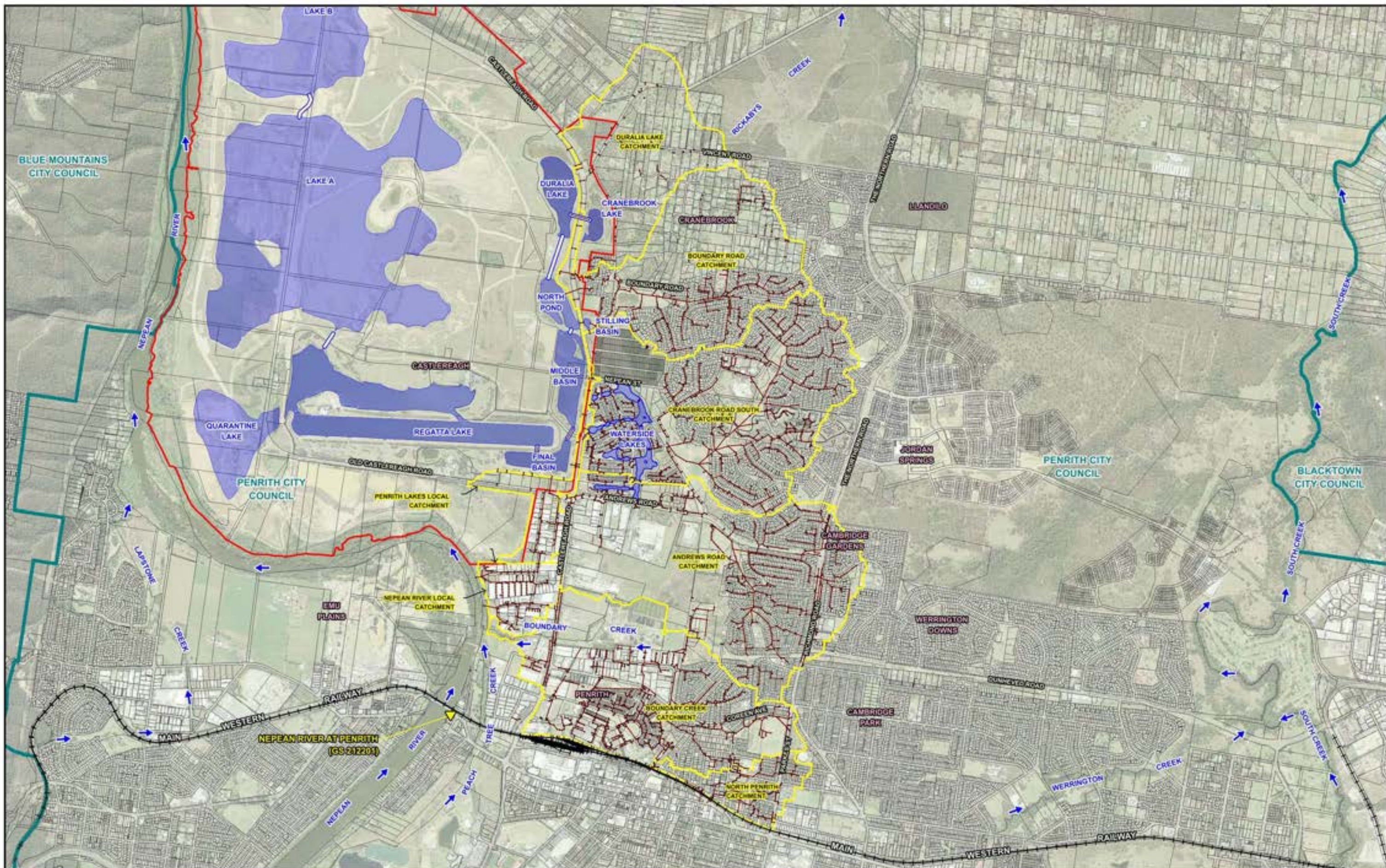
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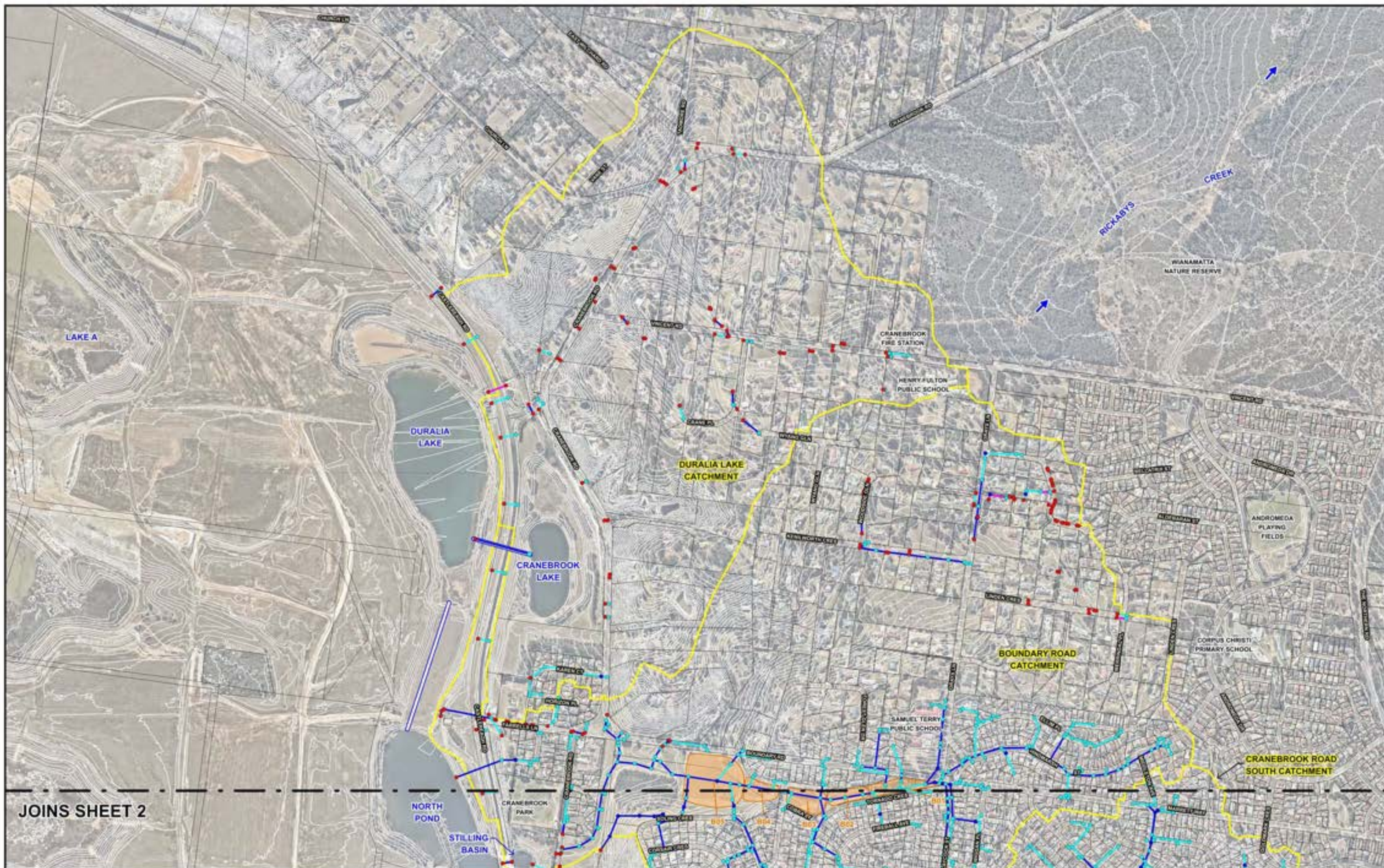
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JOINS SHEET 2

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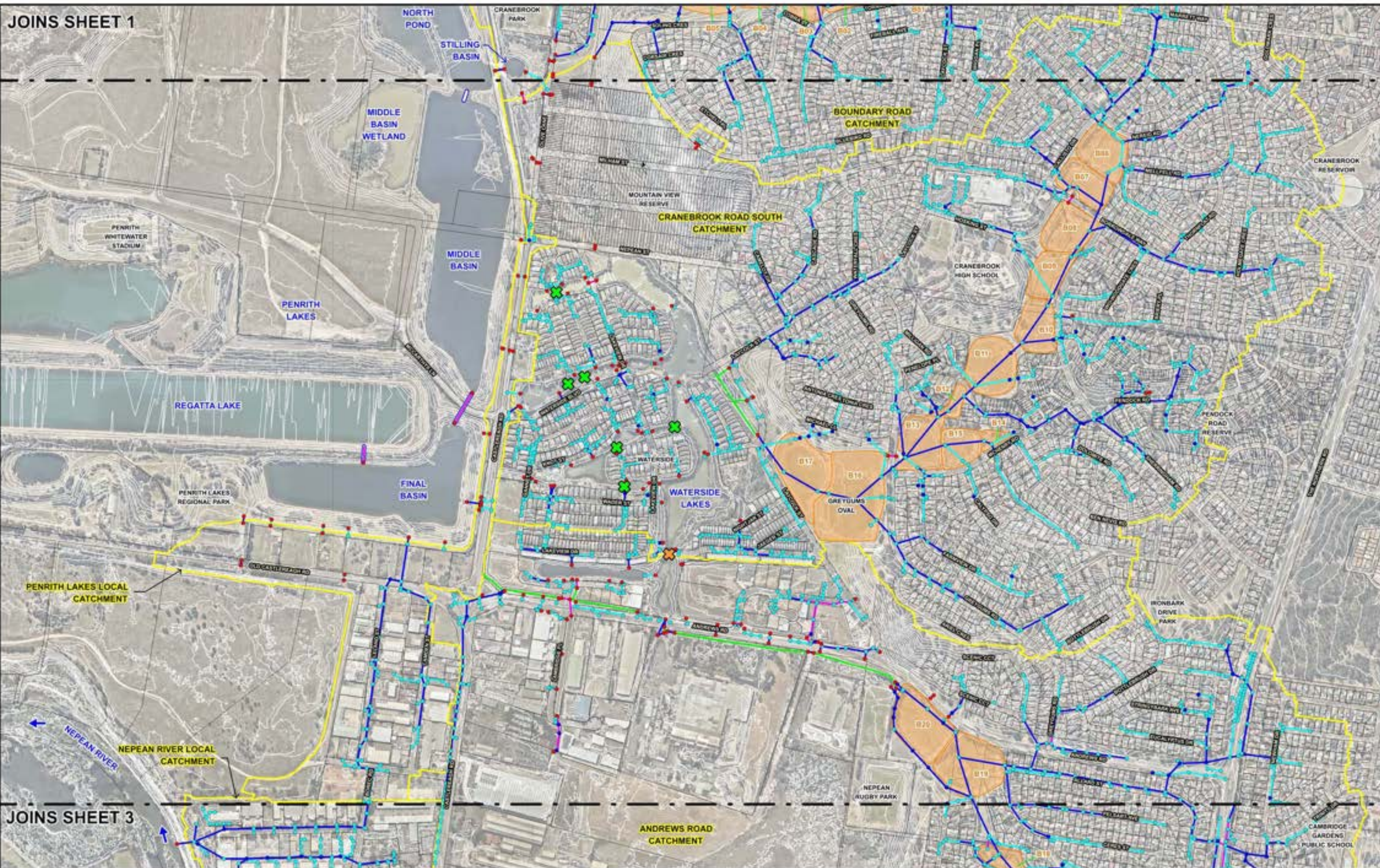
LEGEND		
●	Inlet Pit	— Study Catchments
●	Junction Pit	— Lined/Unlined Channel
■	Headwall	 Detention Basin and Identifier
—	Pipe < 450 mm Diameter	
—	Pipe ≥ 450 mm Diameter	
—	Box Culvert	
—	Penrith Lakes Outlet Structures	

CRANEBROOK OVERLAND FLOW FLOOD STUDY

Figure 2.2
(Sheet 1 of 3)

EXISTING STORMWATER DRAINAGE SYSTEM





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JOINS SHEET 3



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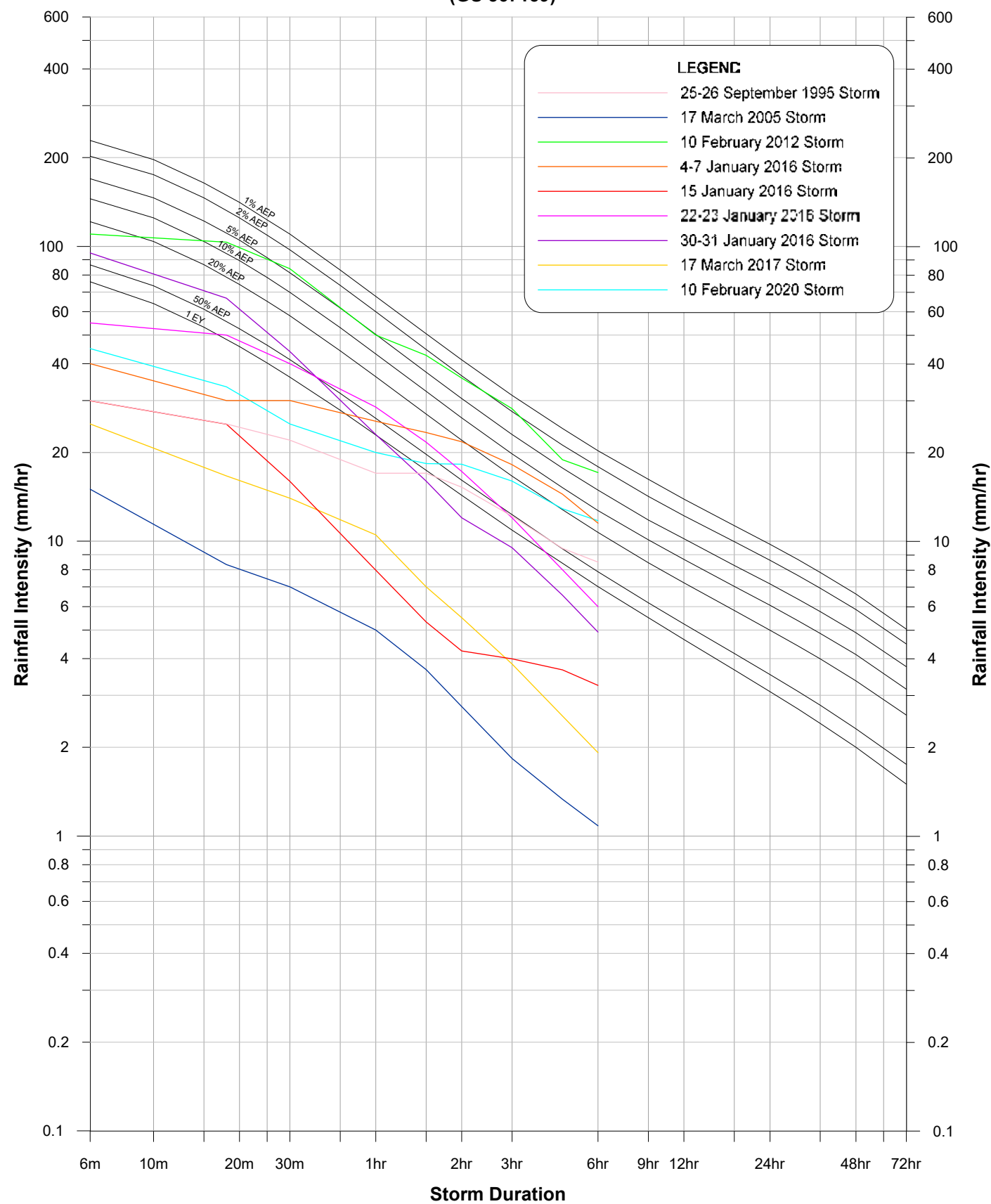
LEGEND					
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	Junction Pit		Pipe ≥ 450 mm Diameter		Lined/Unlined Channel
	Headwall		Box Culvert		Detention Basin and Identifier
	Bridge		Penrith Lakes Outlet Structures		
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CRANEBROOK OVERLAND FLOW FLOOD STUDY

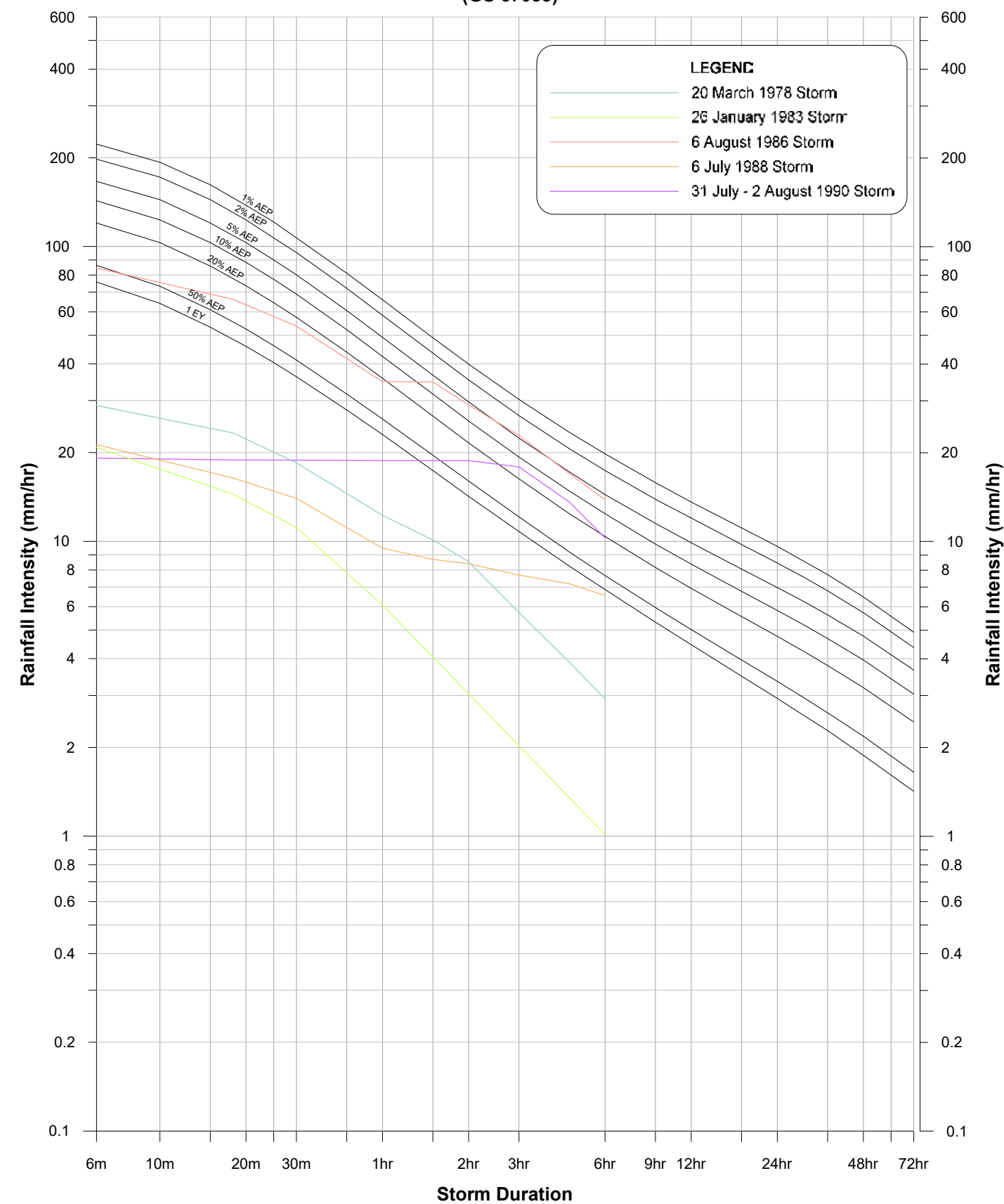
Figure 2.2
(Sheet 2 of 3)

EXISTING STORMWATER DRAINAGE SYSTEM

CRANEBROOK RESERVOIR (GS 567159)



RICHMOND RAAF (GS 67033)

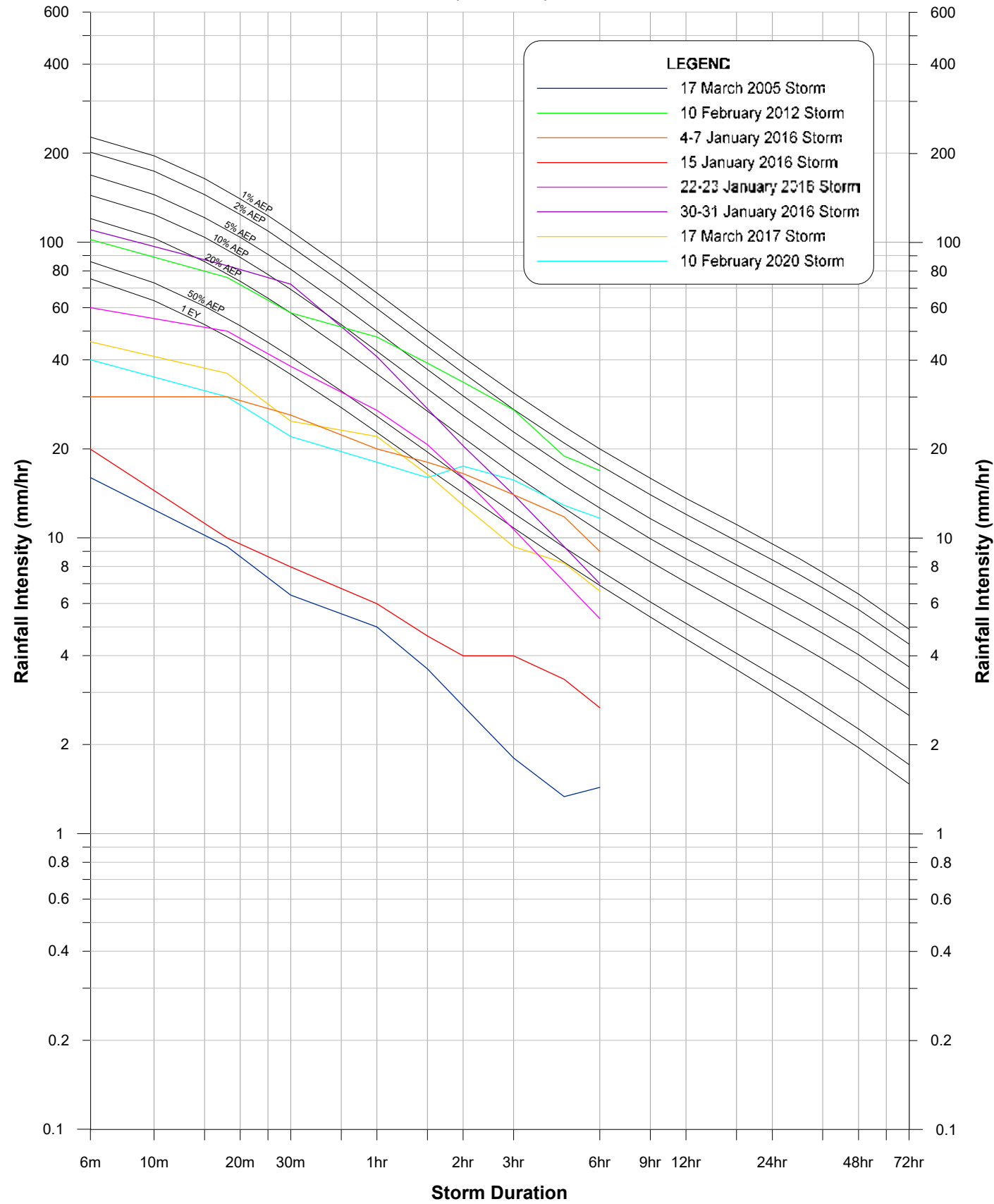


CRANEBROOK OVERLAND FLOW FLOOD STUDY

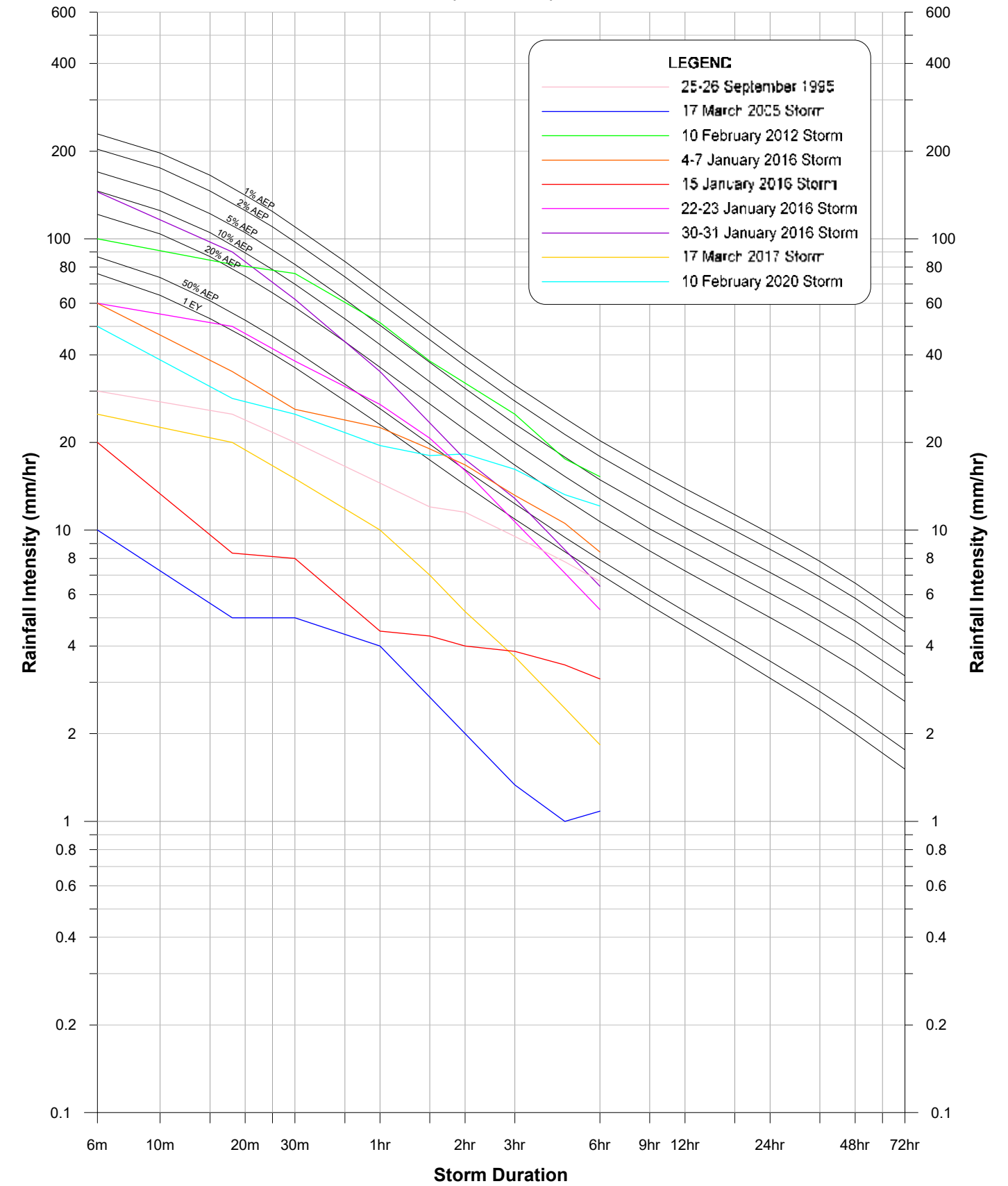
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(Sheet 1 of 2)

INTENSITY-FREQUENCY-DURATION CURVES
AND HISTORIC RAINFALL

**PENRITH LAKES AWS
(GS 67113)**



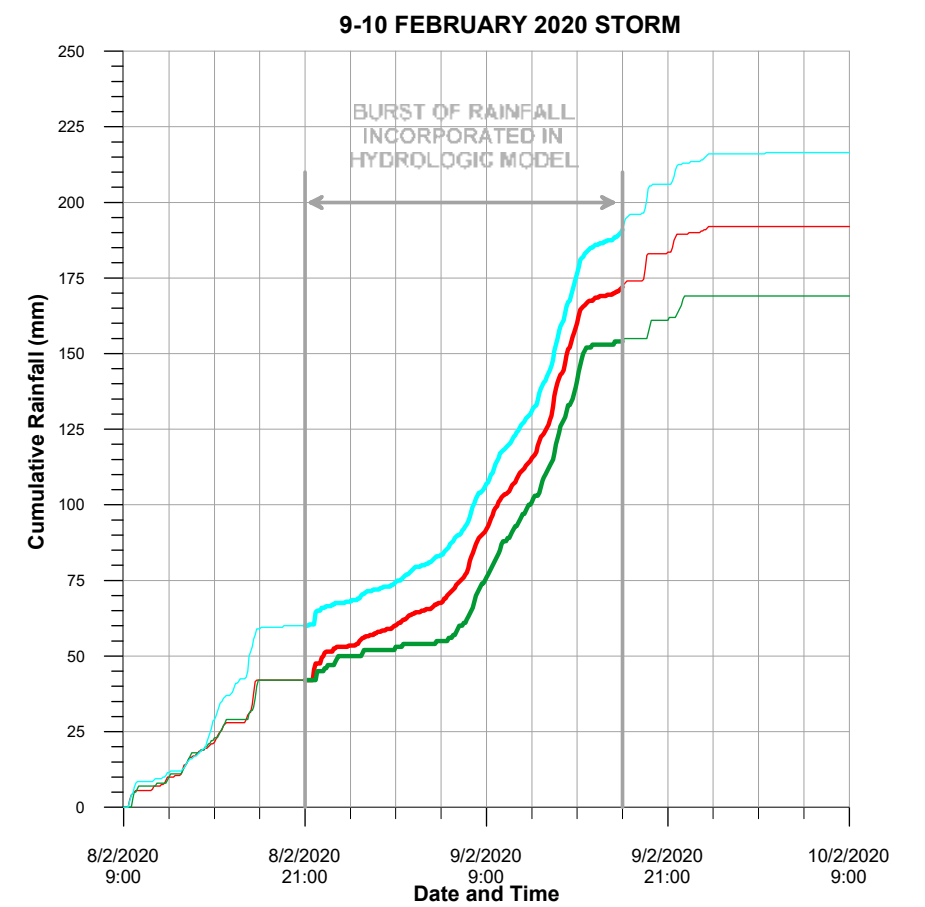
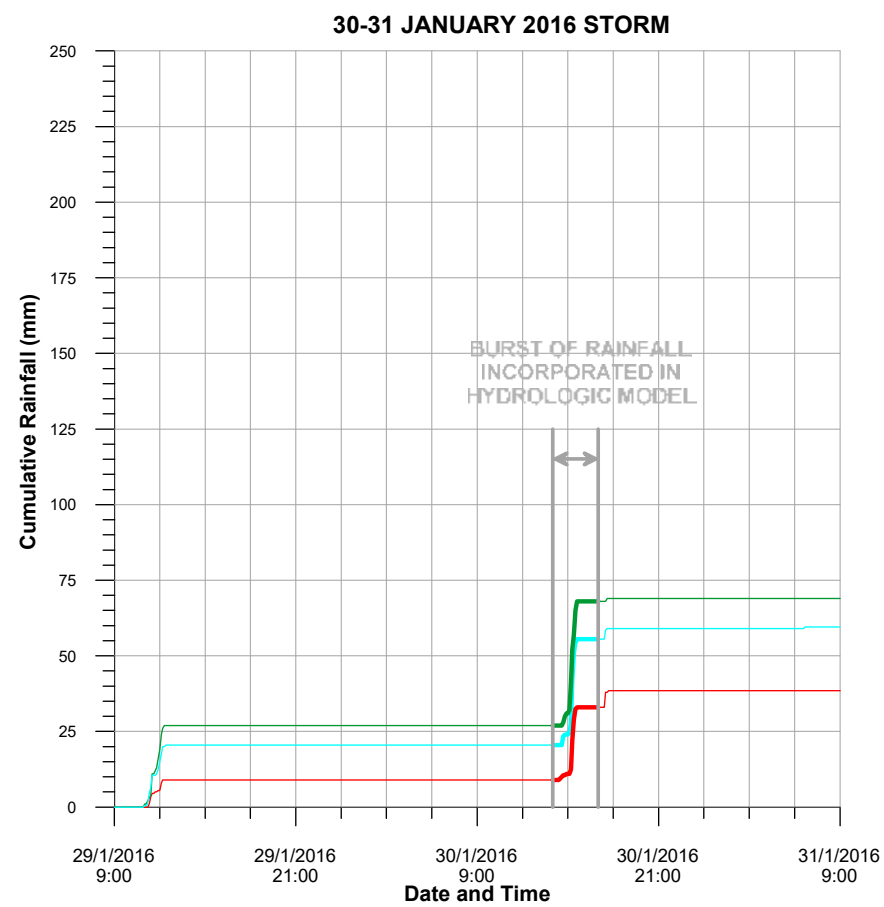
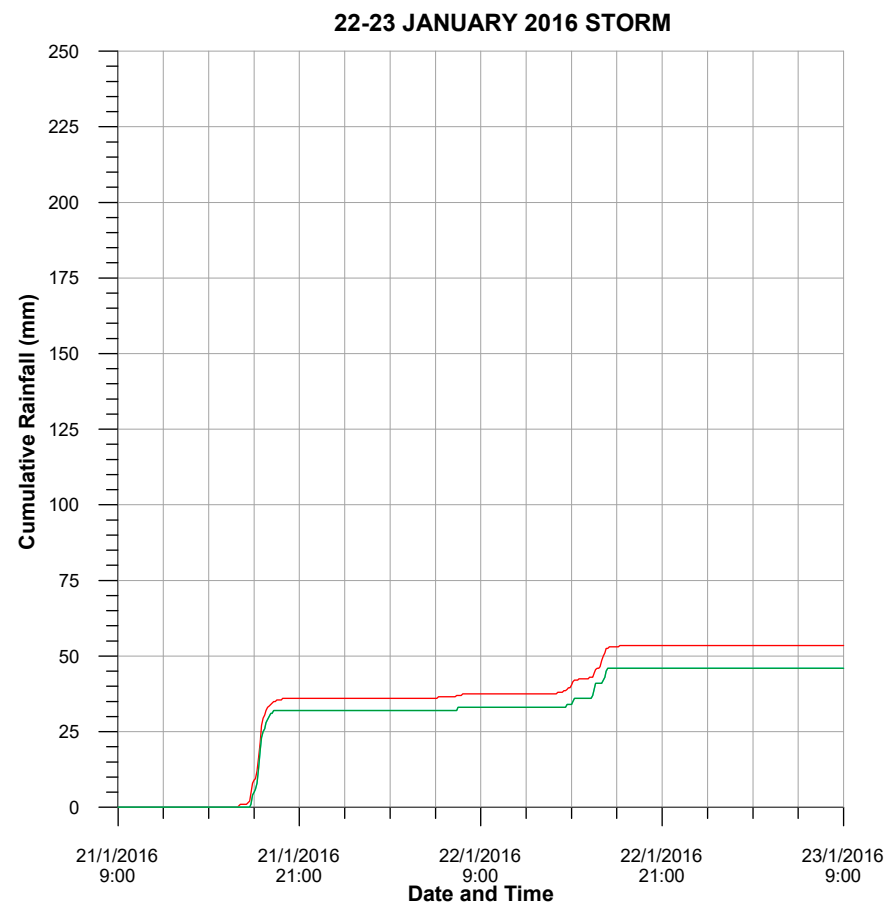
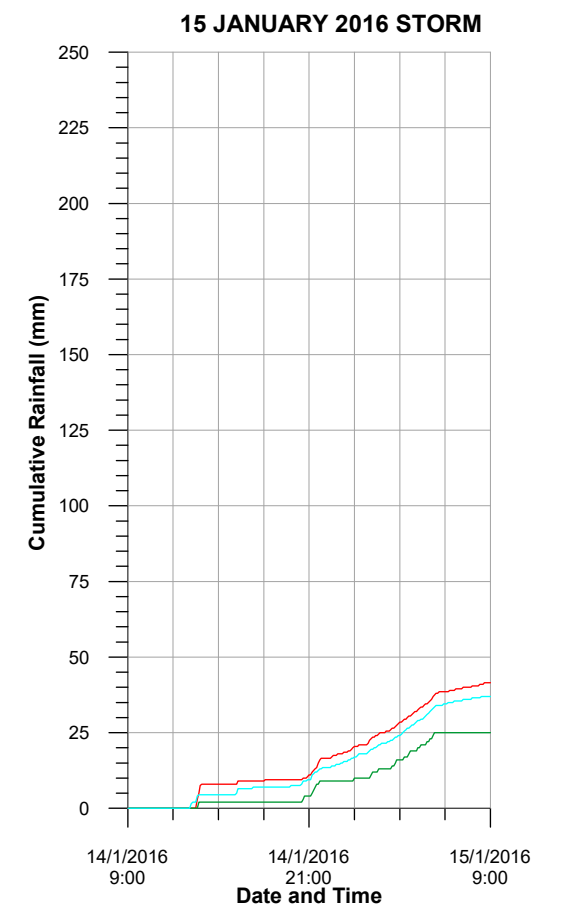
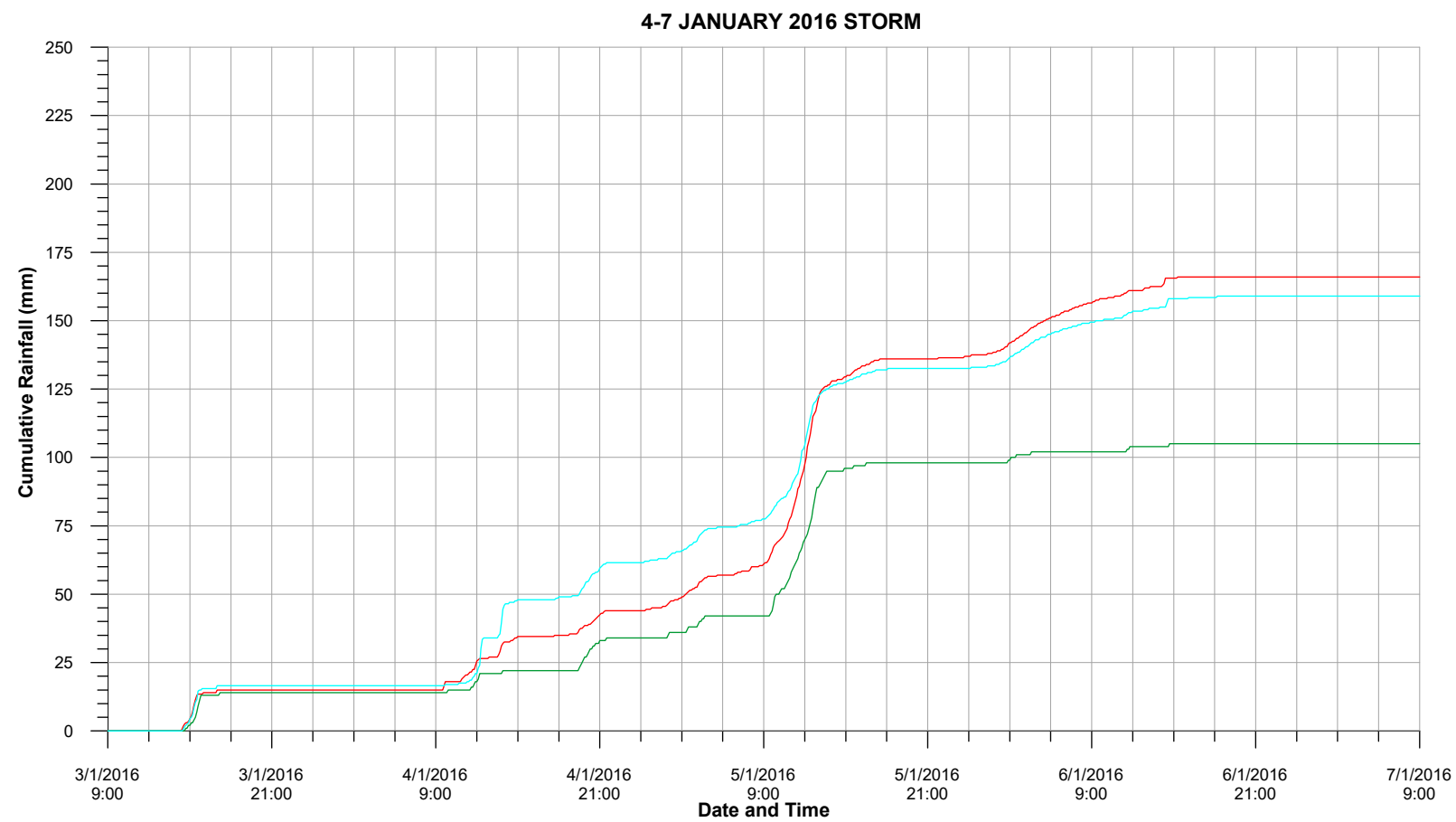
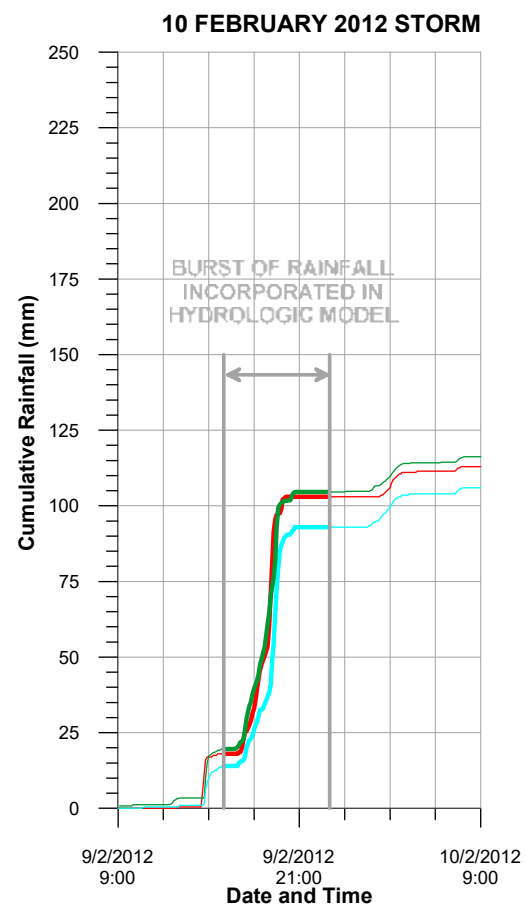
**PENRITH WRP
(GS 567107)**



**CRANEBROOK OVERLAND FLOW
FLOOD STUDY**

Figure 2.3
(Sheet 2 of 2)

INTENSITY-FREQUENCY-DURATION CURVES
AND HISTORIC RAINFALL



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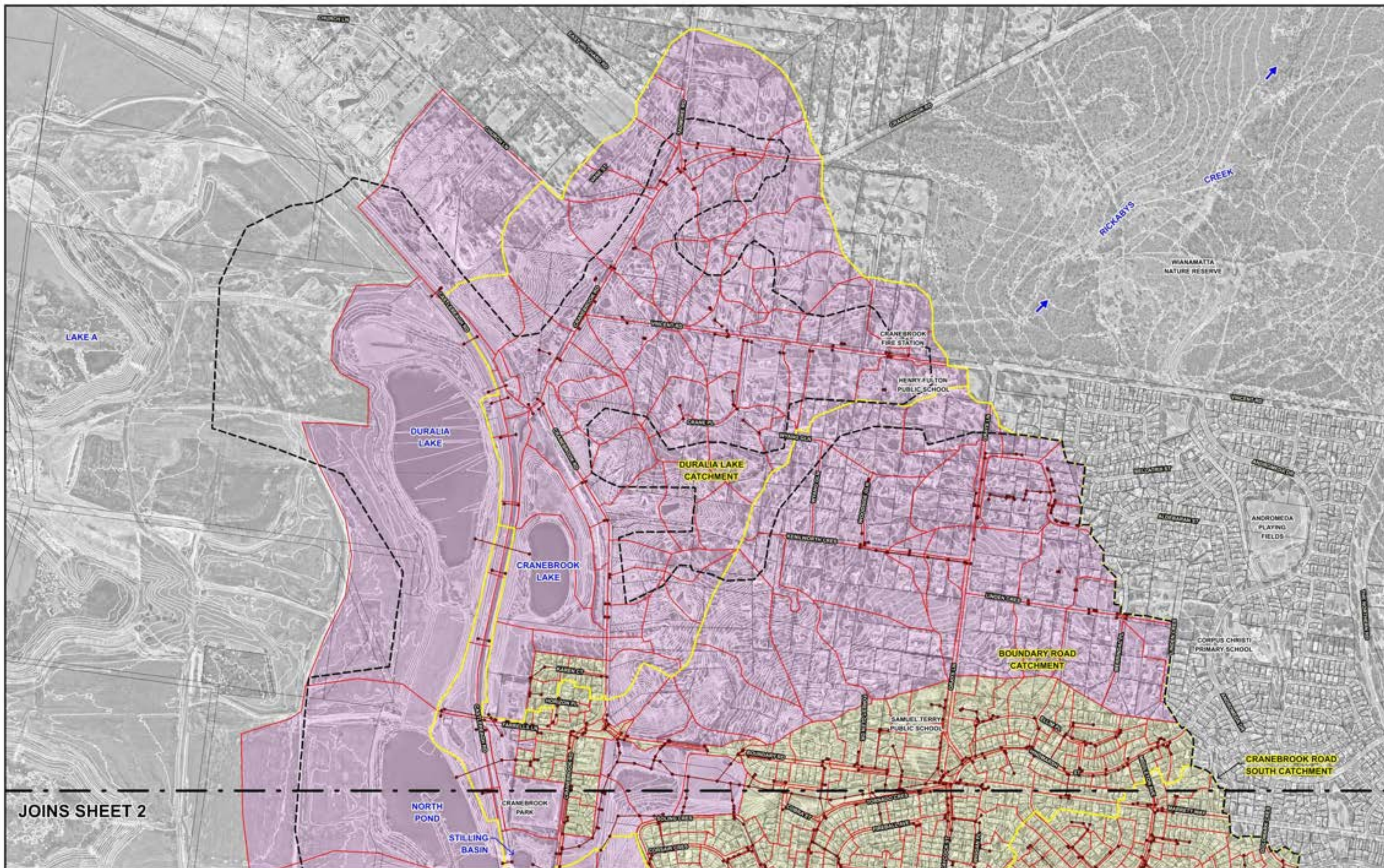
- Cranebrook Reservoir (GS 567159)
- Penrith Lakes (GS 67113)
- Penrith WRP (GS 567107)

CRANEBROOK OVERLAND FLOW FLOOD STUDY

Figure 2.4

CUMULATIVE RAINFALL
HISTORIC STORM EVENTS





JOINS SHEET 2

Scale: 1:10,000

- Study Catchments
- Modelled Stormwater Drainage System
- Sub-Catchment Boundary
- RAFTS Modelled Sub-Catchment
- IL-CL Modelled Sub-Catchment

LEGEND

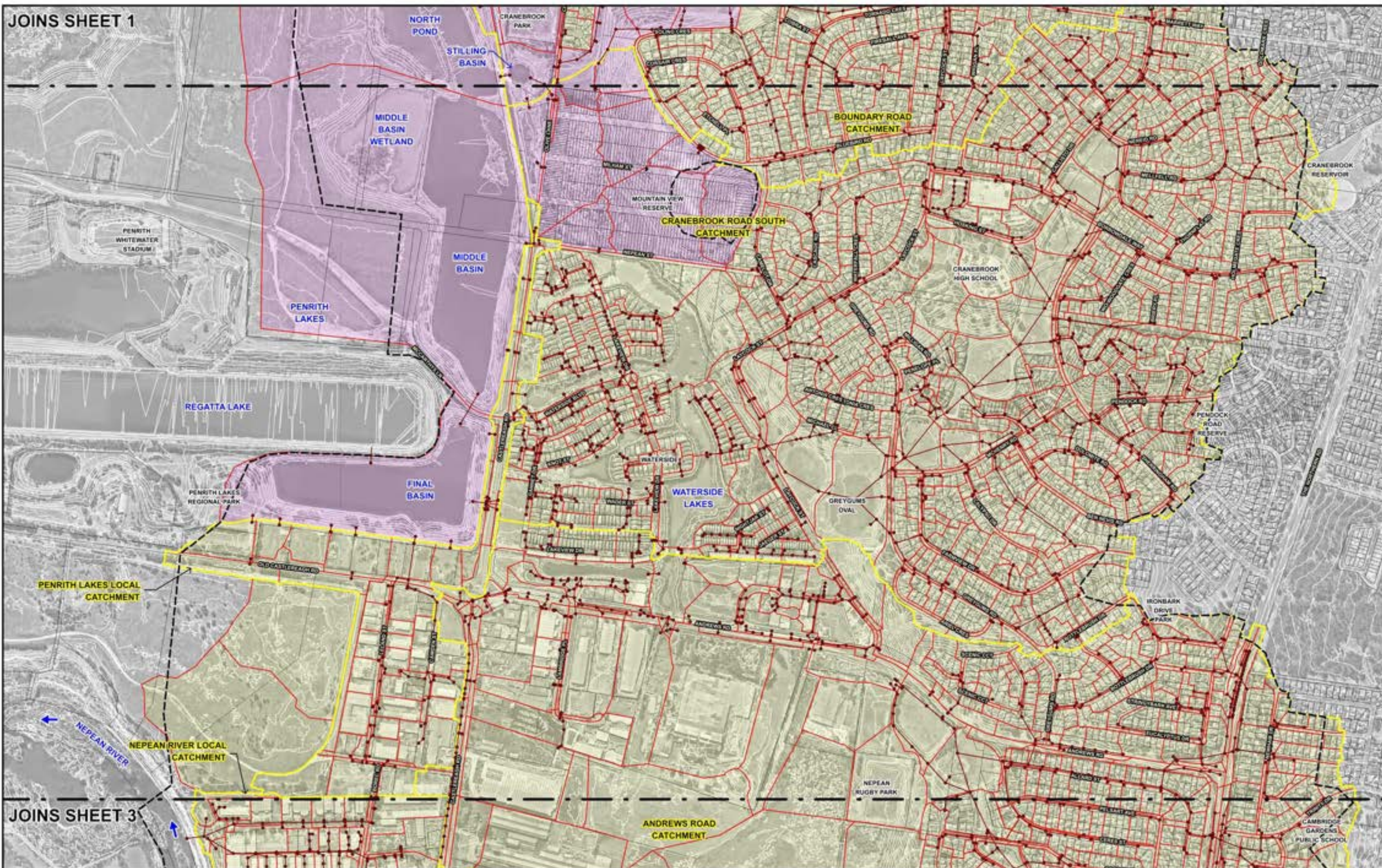
- Two-Dimensional Model Boundary

CRANEBROOK OVERLAND FLOW
FLOOD STUDY

Figure 3.1
(Sheet 1 of 3)

HYDROLOGIC MODEL LAYOUT

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JOINS SHEET 3



Lvall & Associates

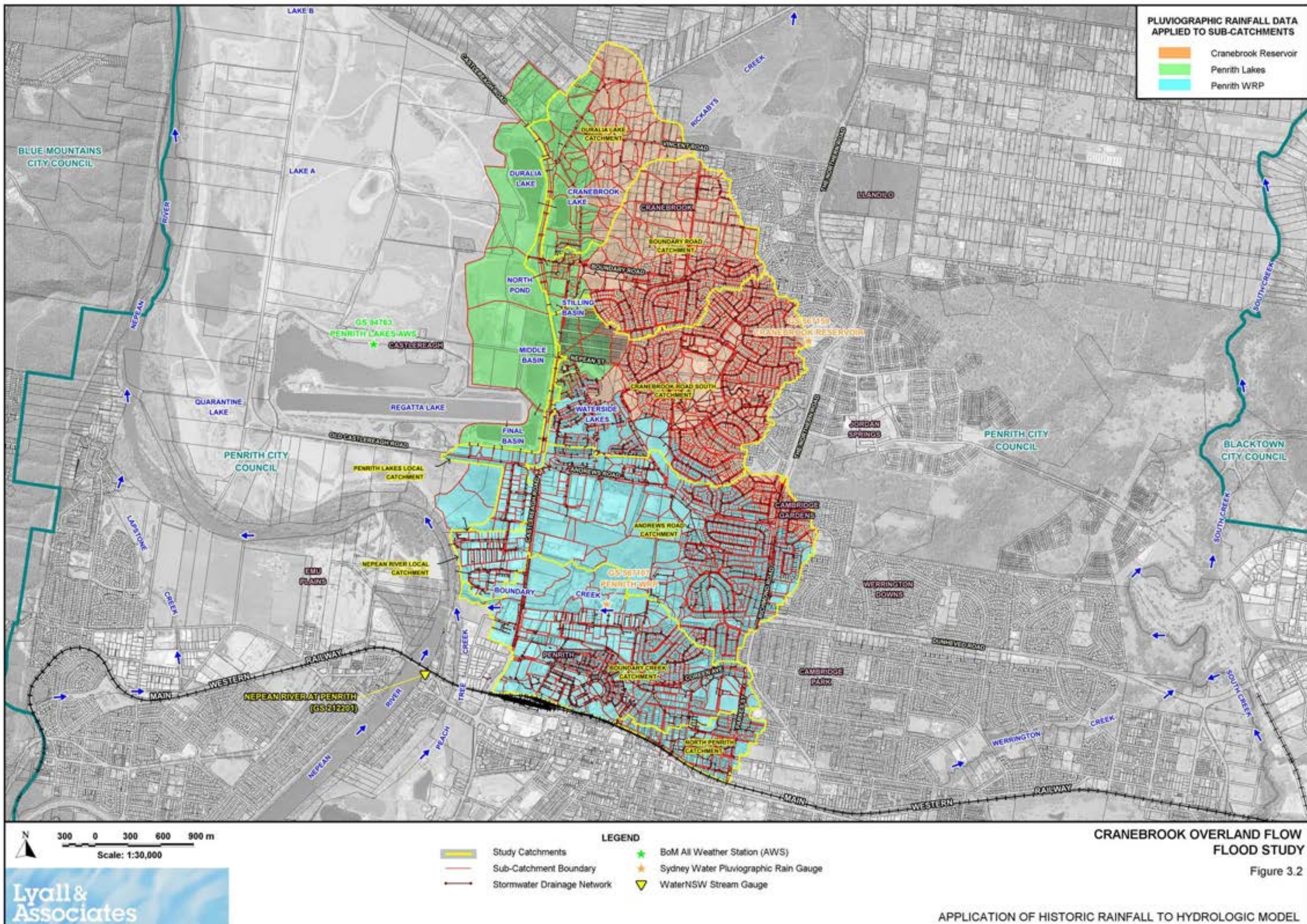
- LEGEND**
- Study Catchments
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 - Sub-Catchment Boundary
 - RAFTS Modelled Sub-Catchment
 - IL-CL Modelled Sub-Catchment
 - Two-Dimensional Model Boundary

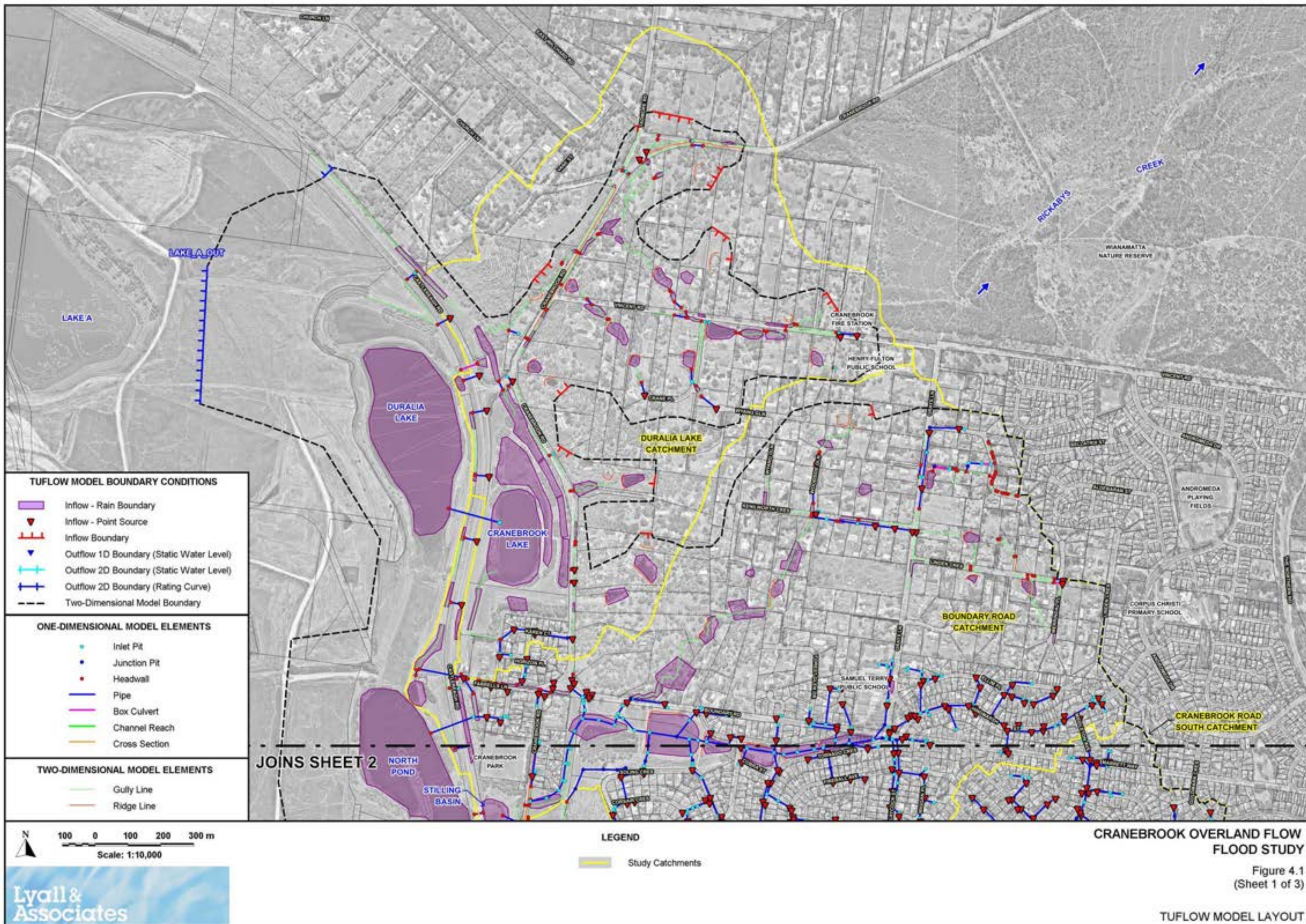
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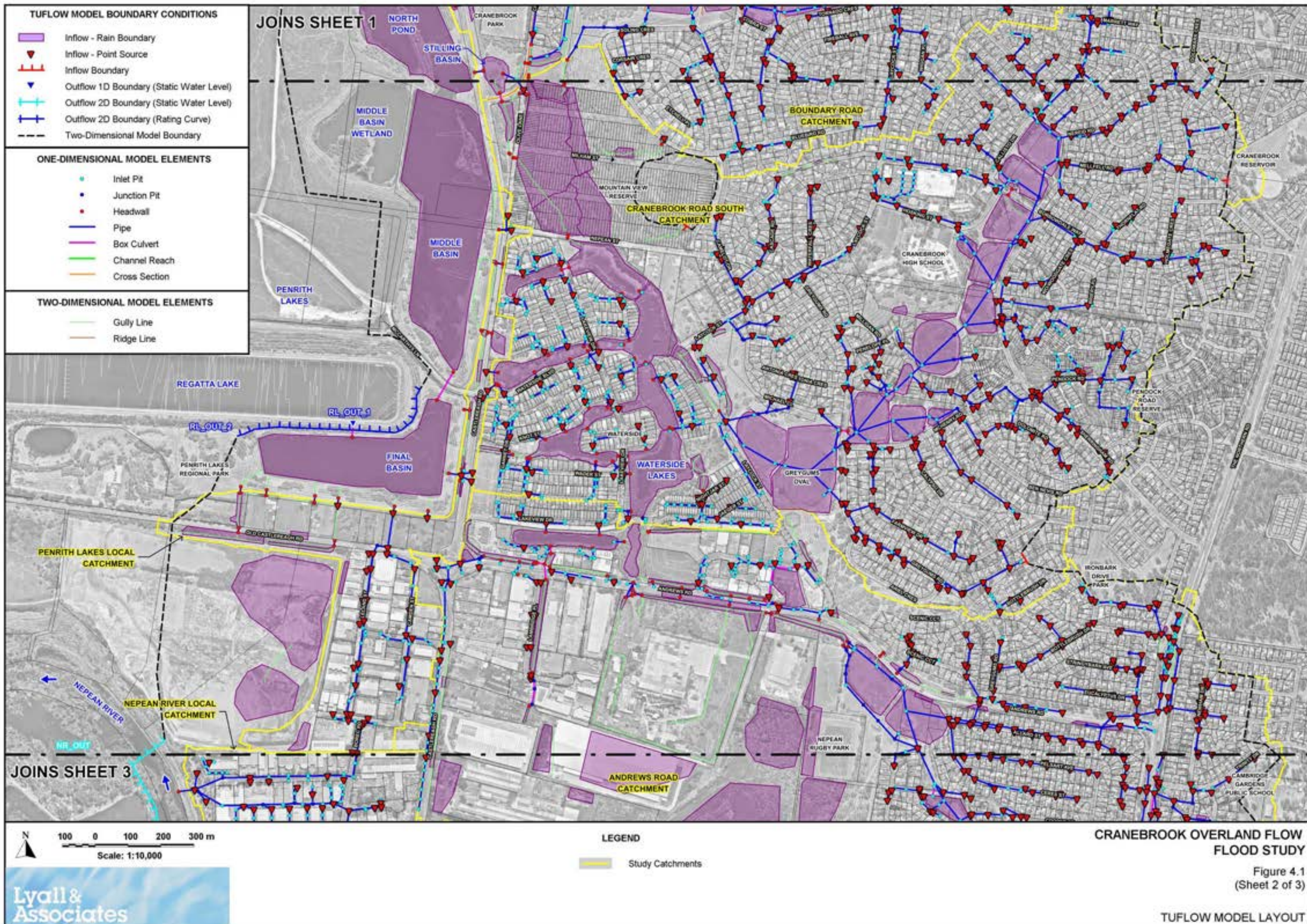
Figure 3.1
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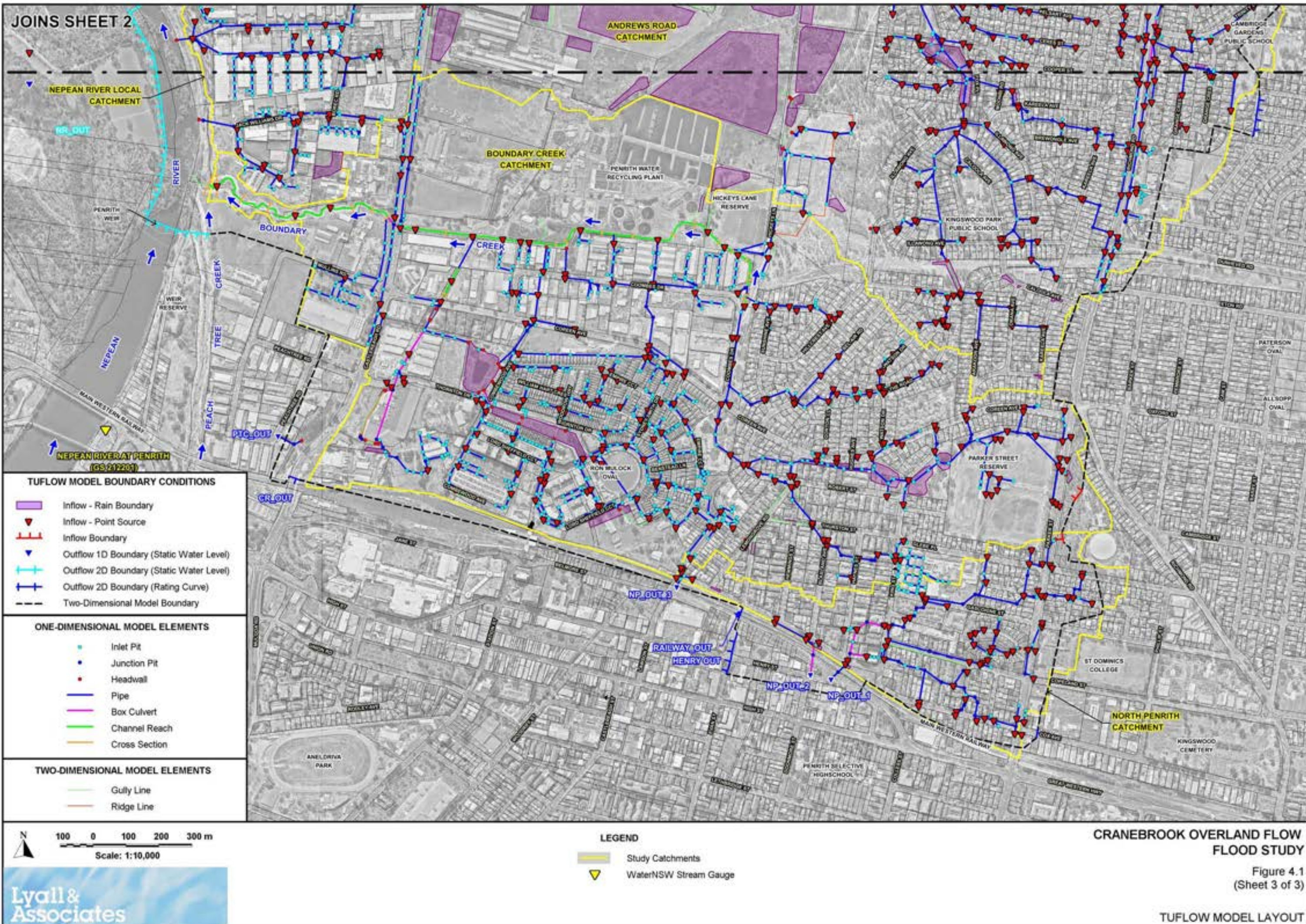
HYDROLOGIC MODEL LAYOUT

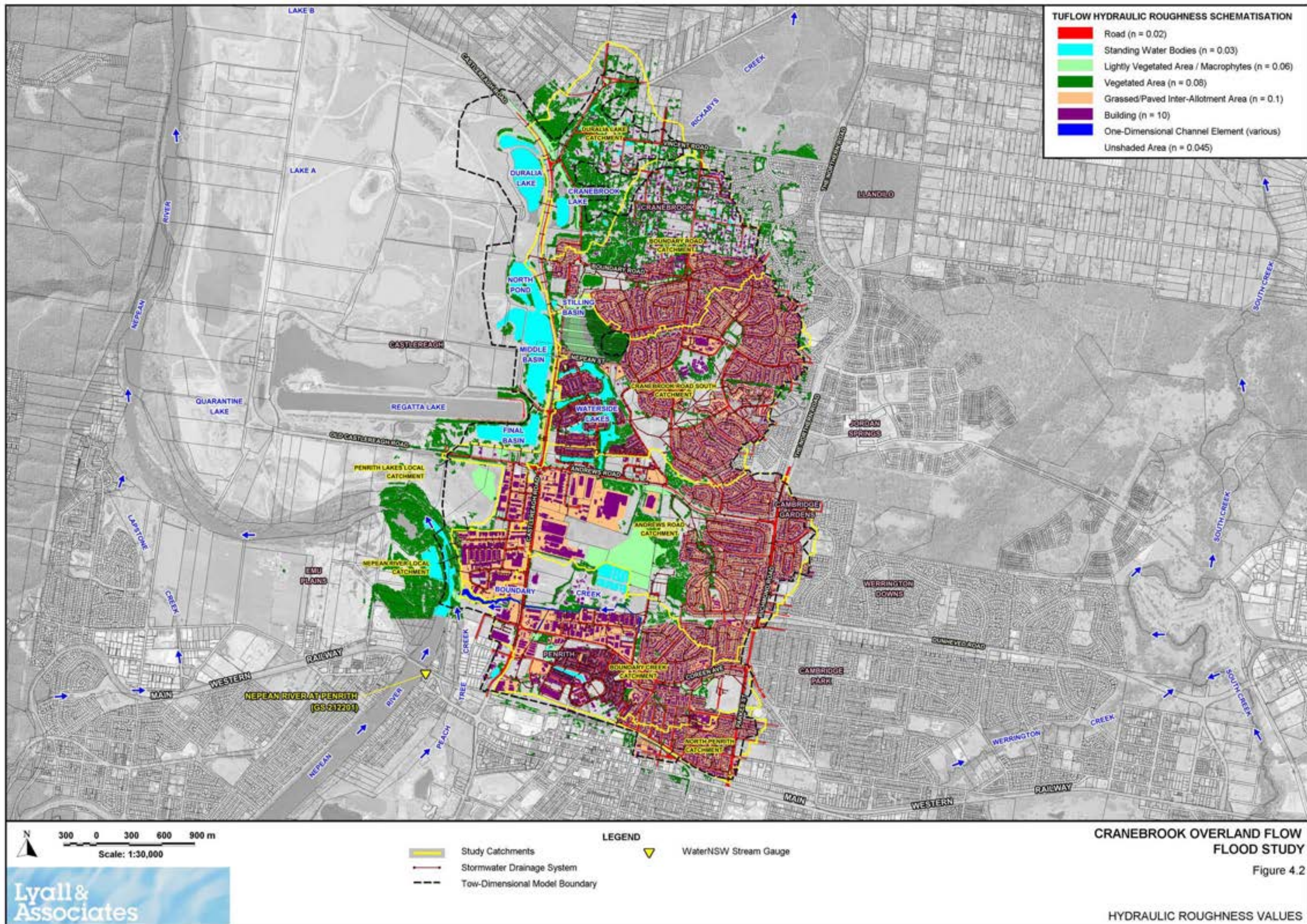


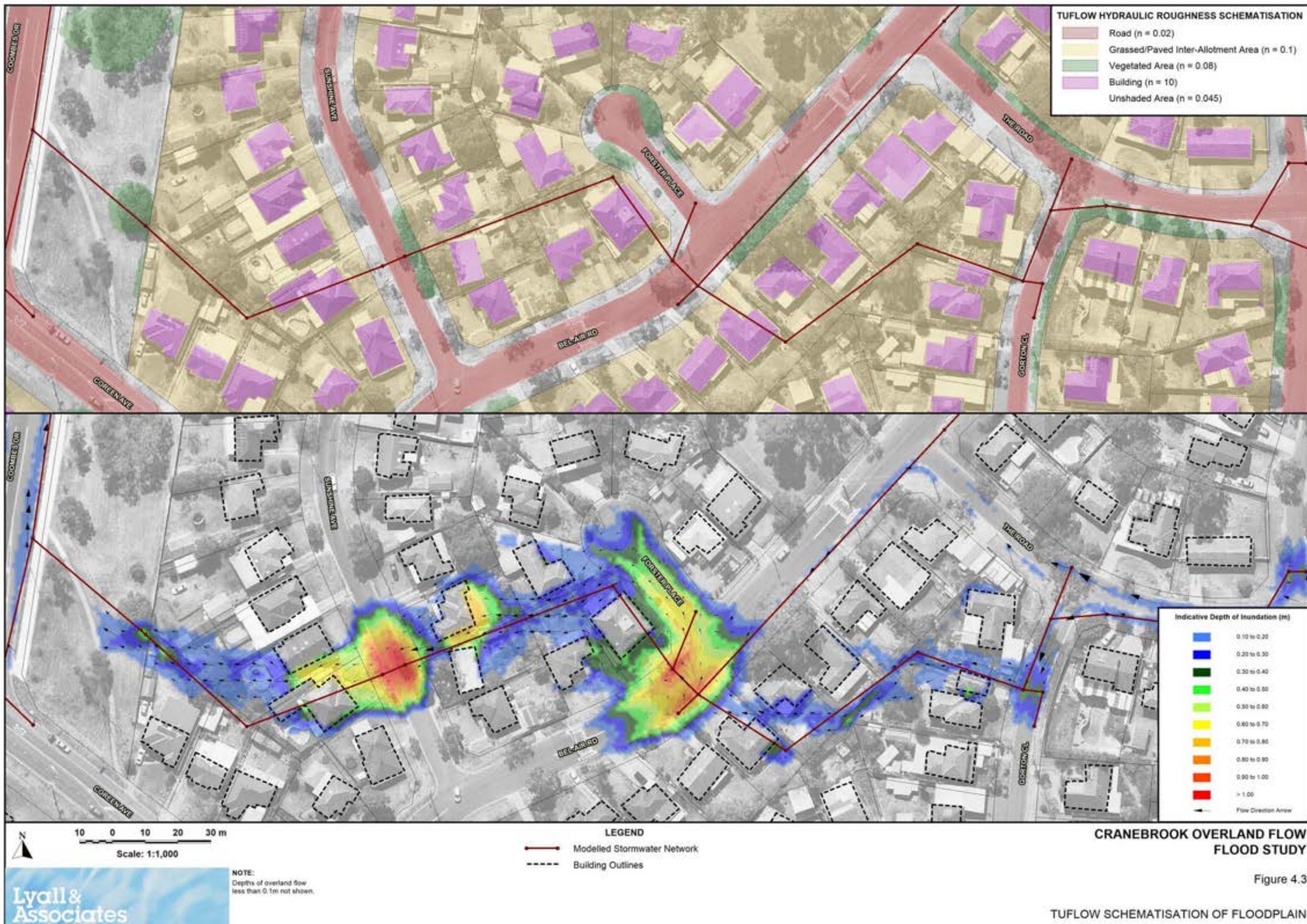


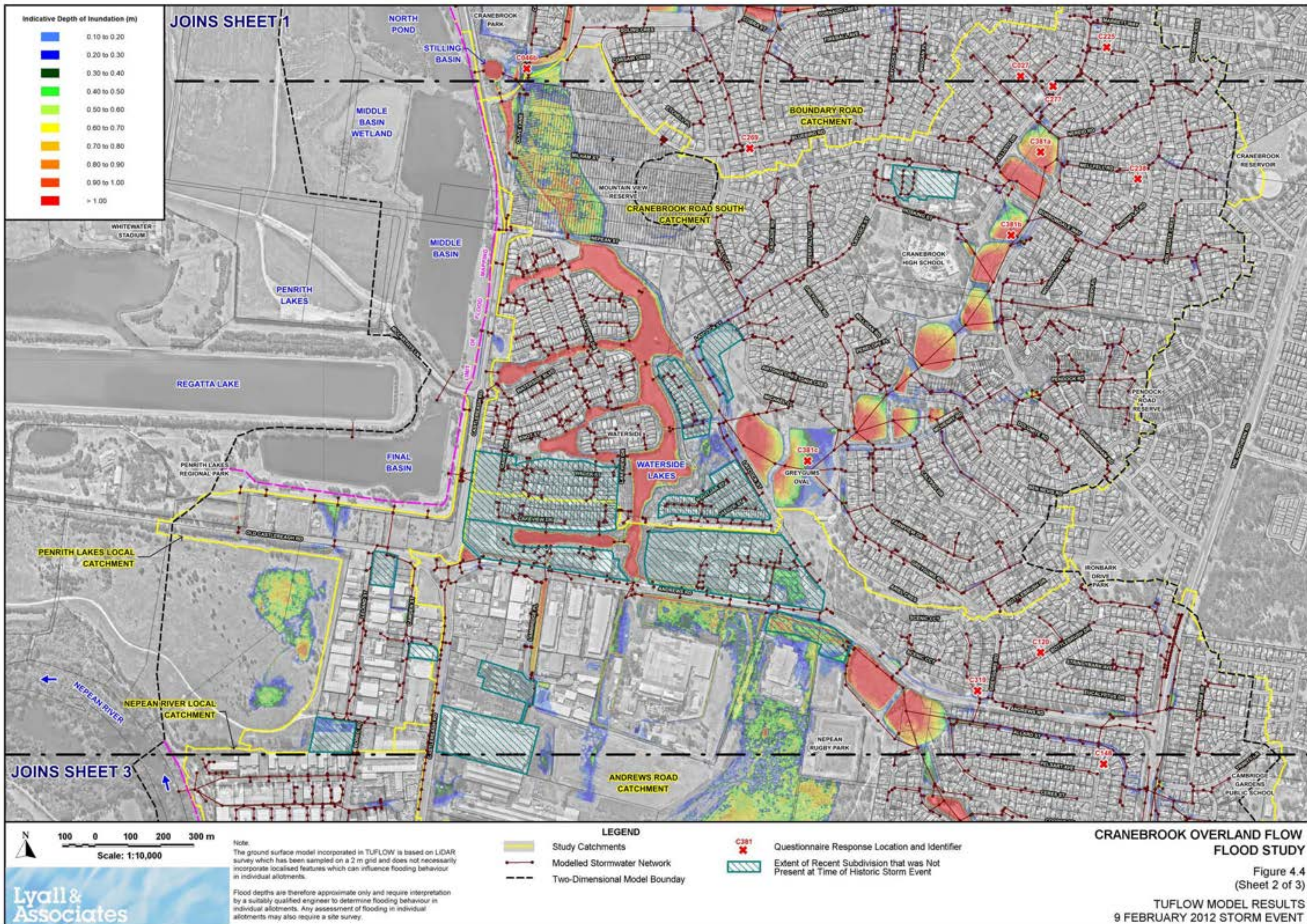


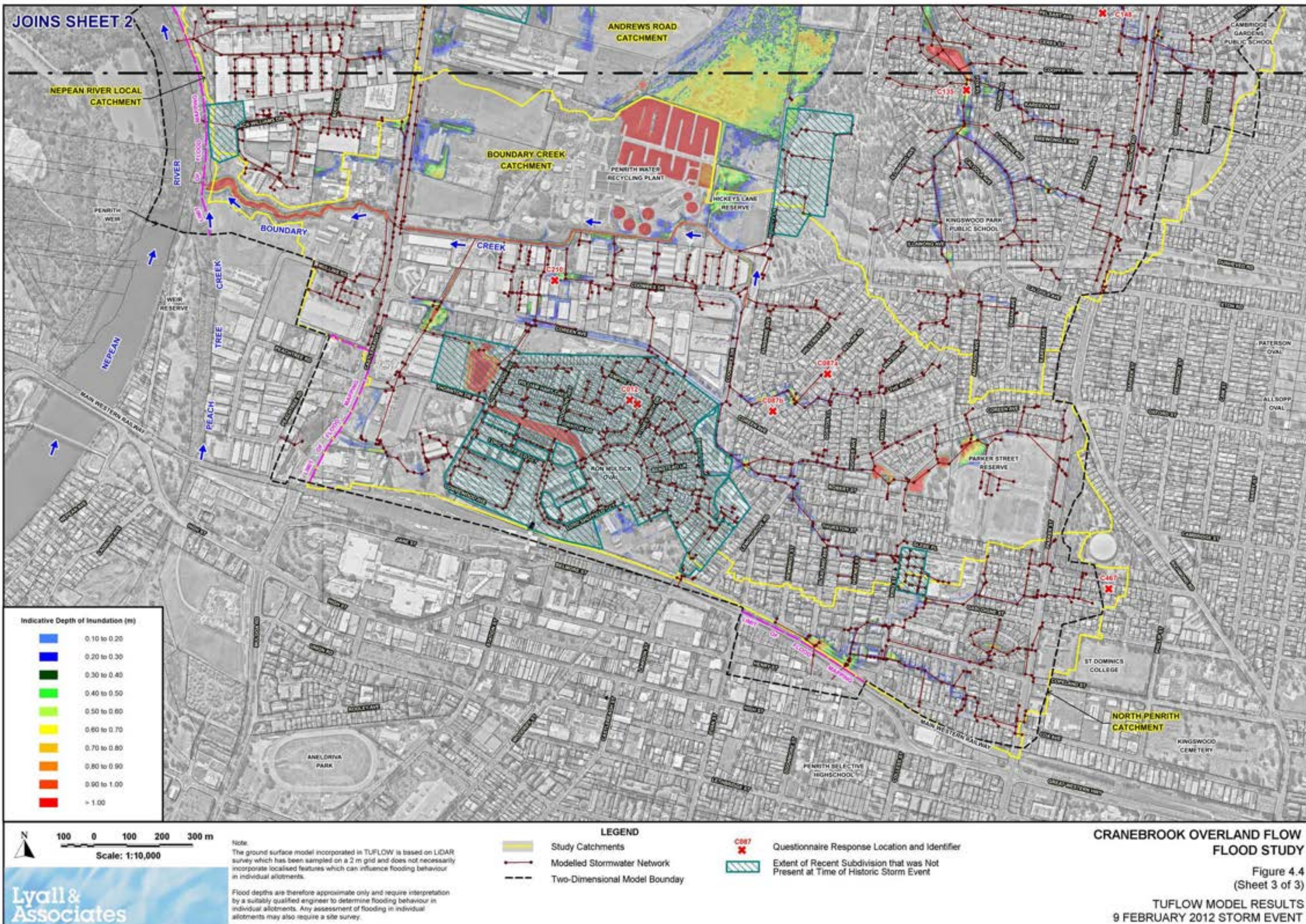


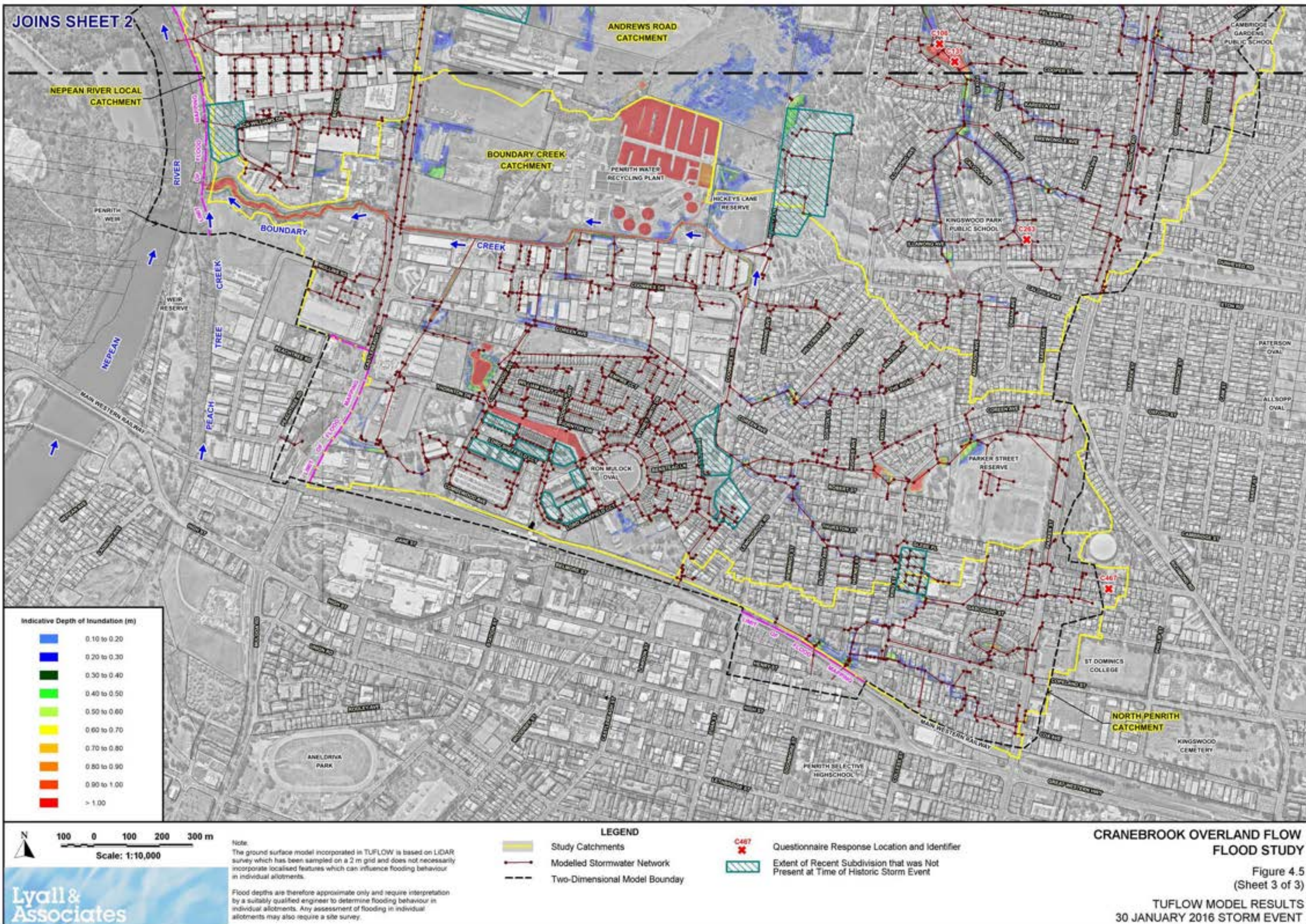


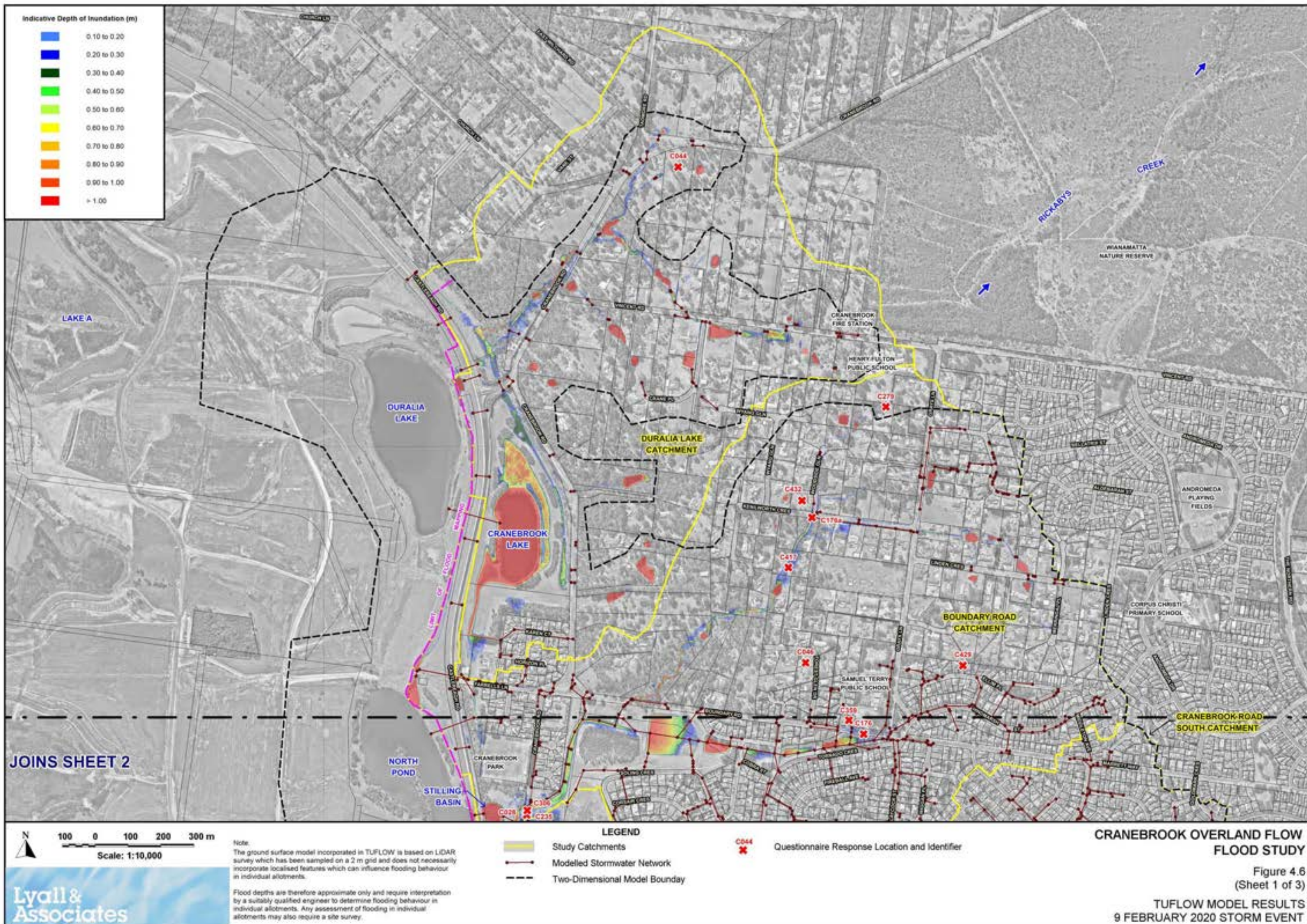


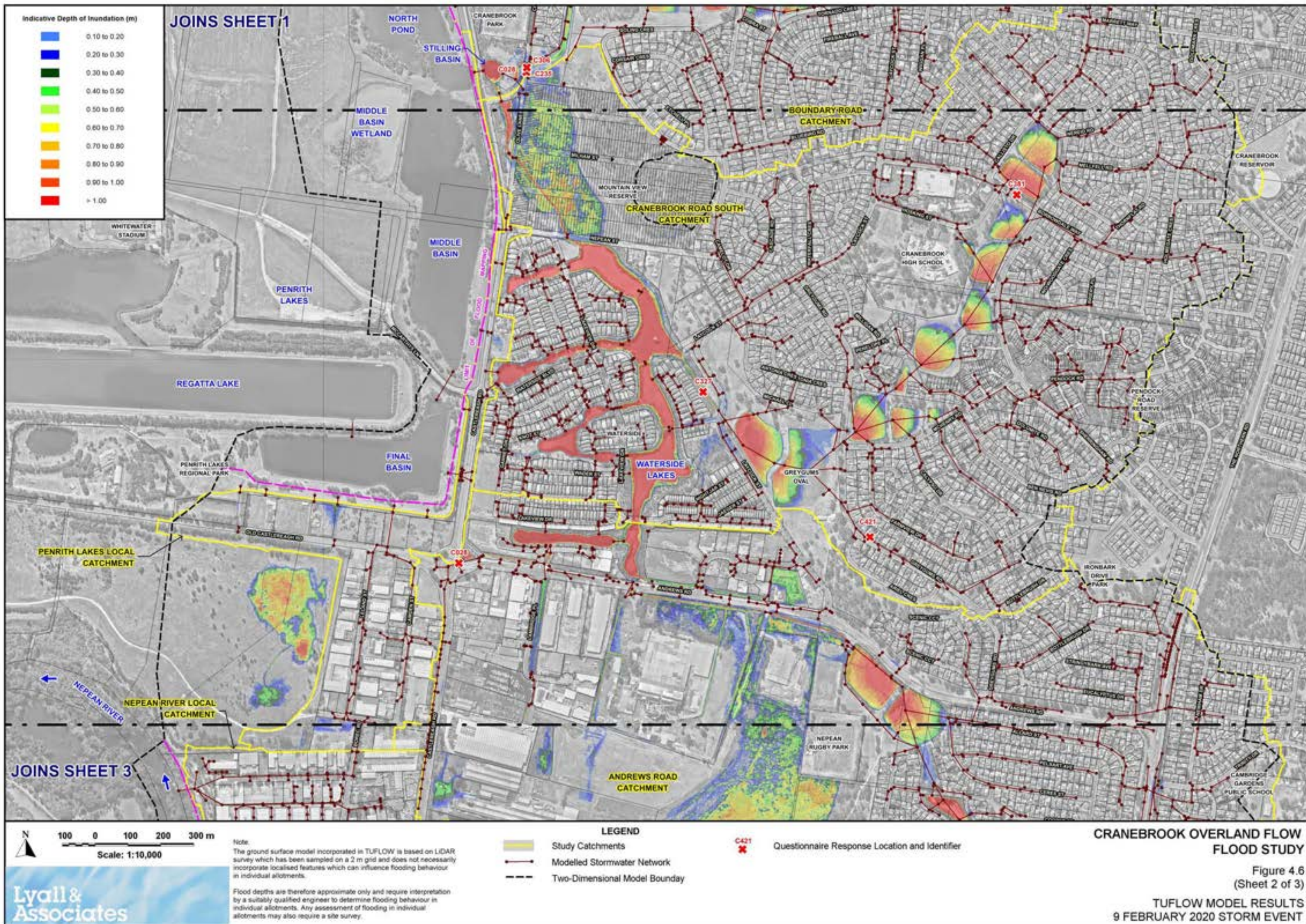


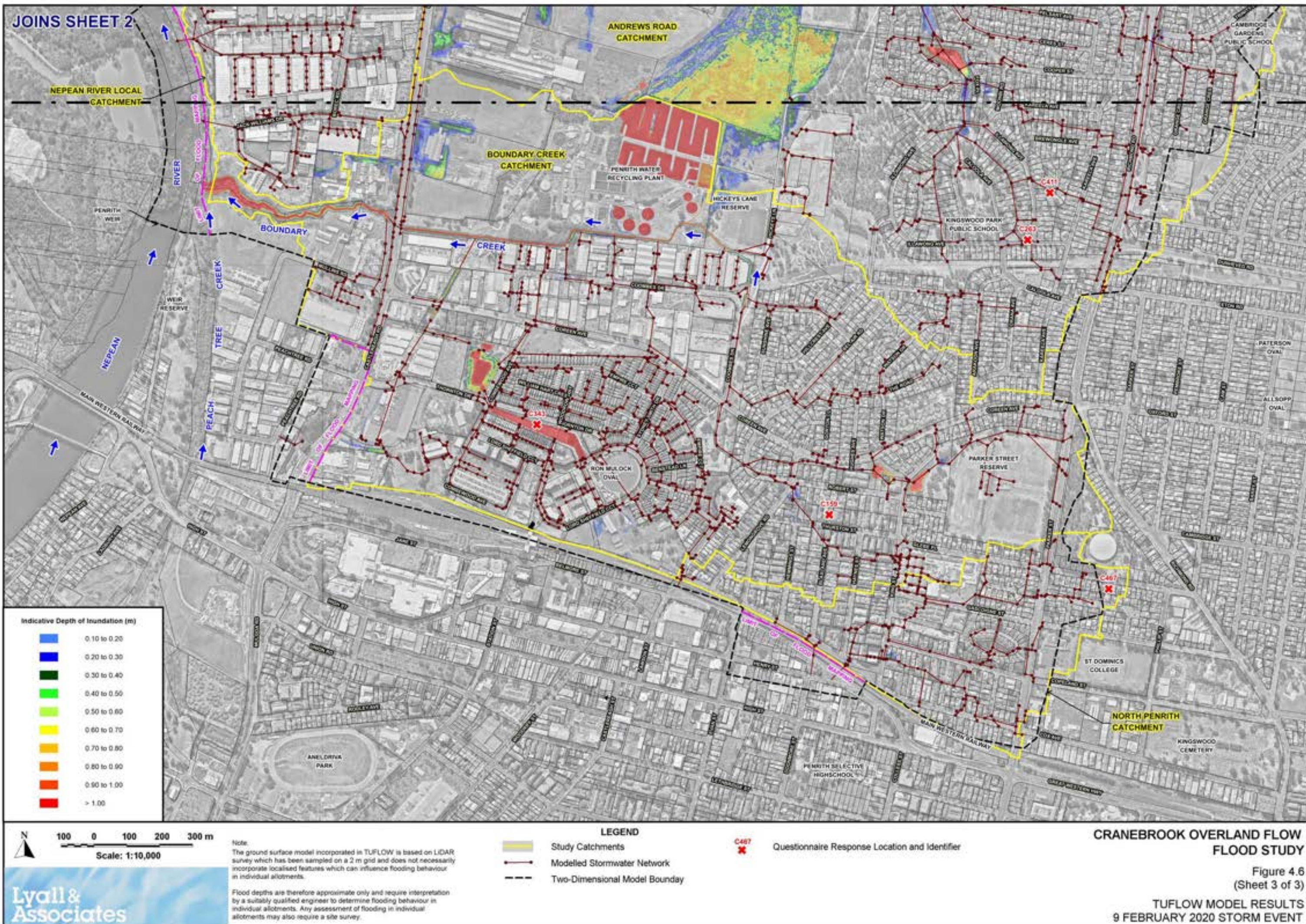


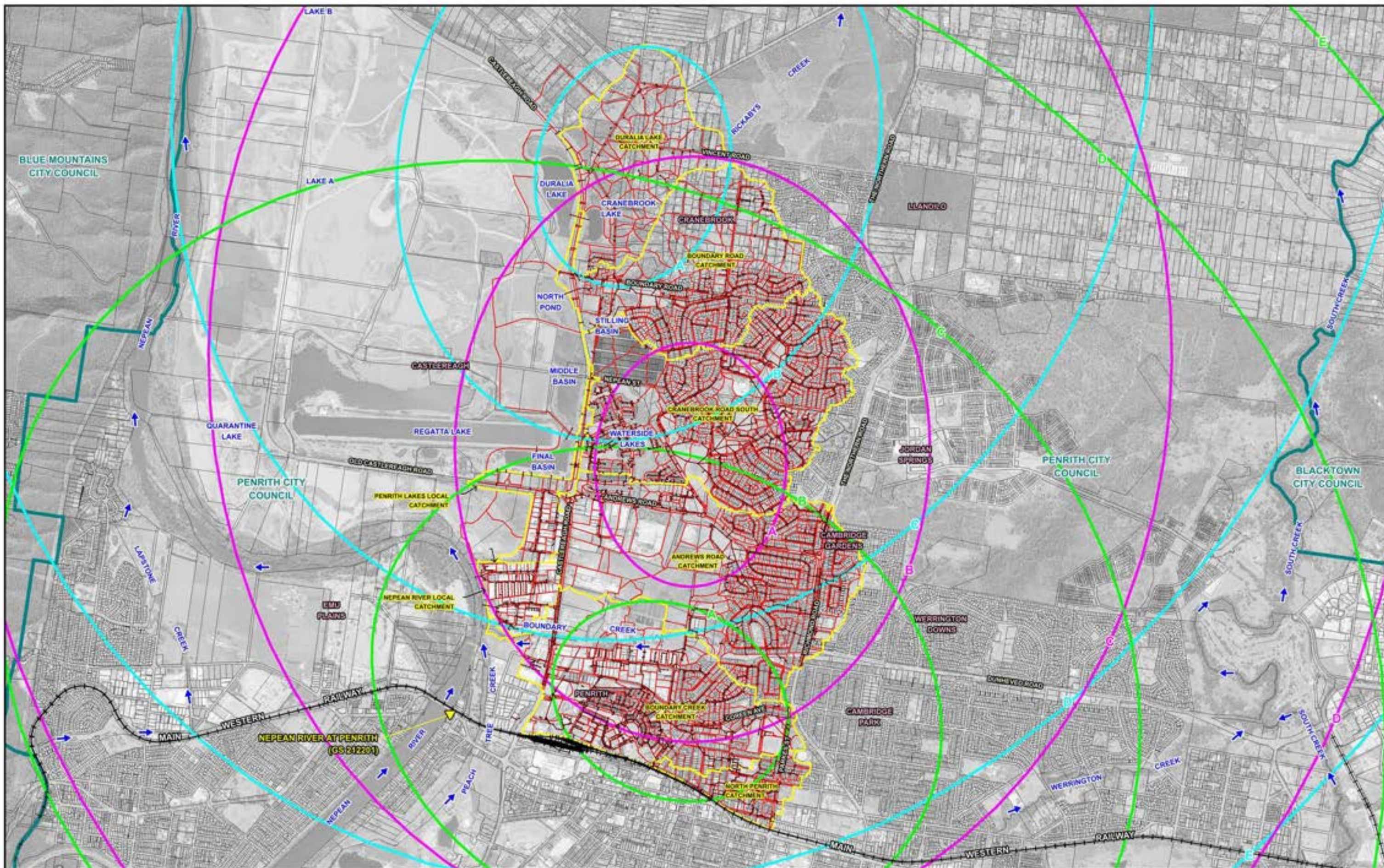












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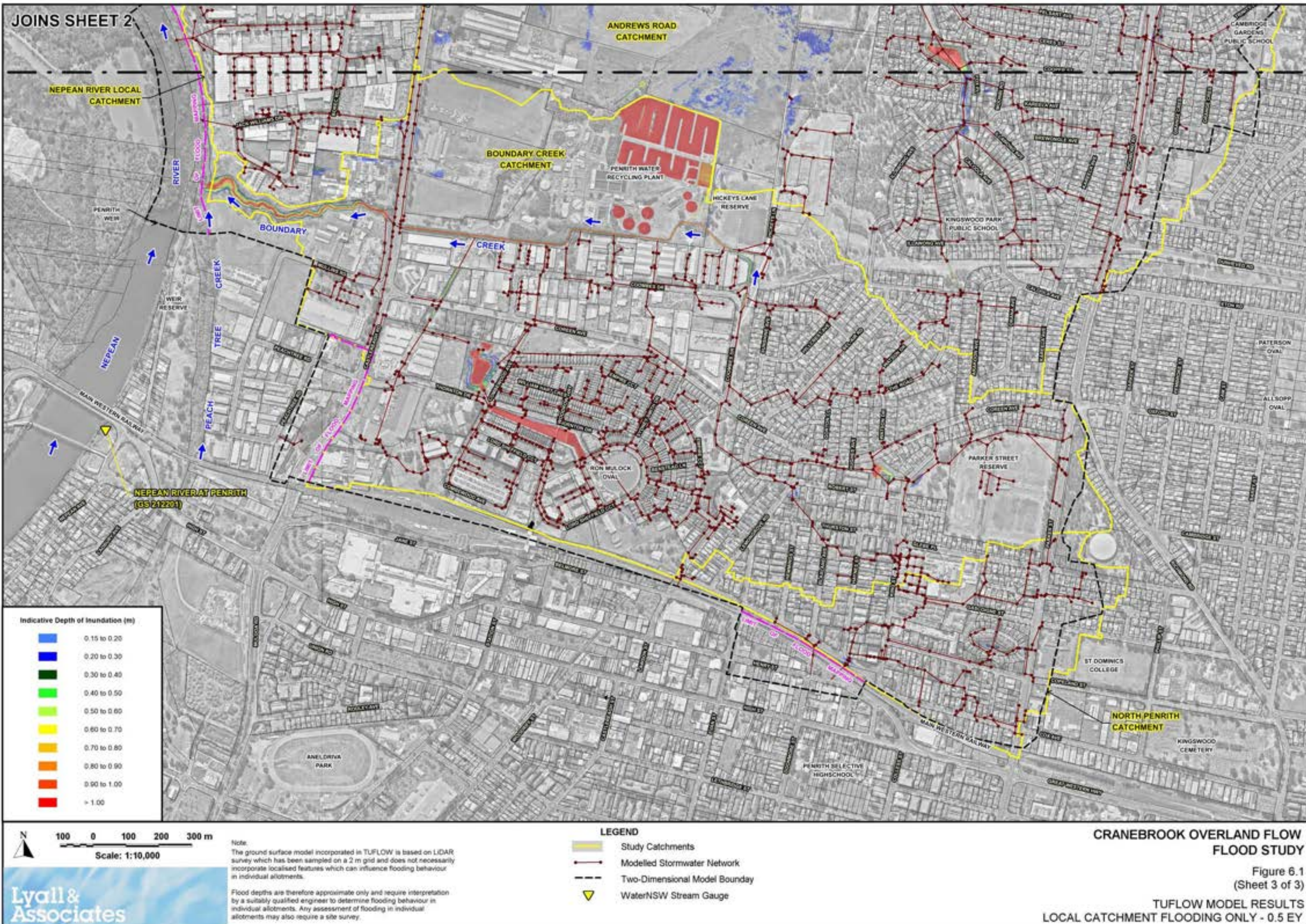
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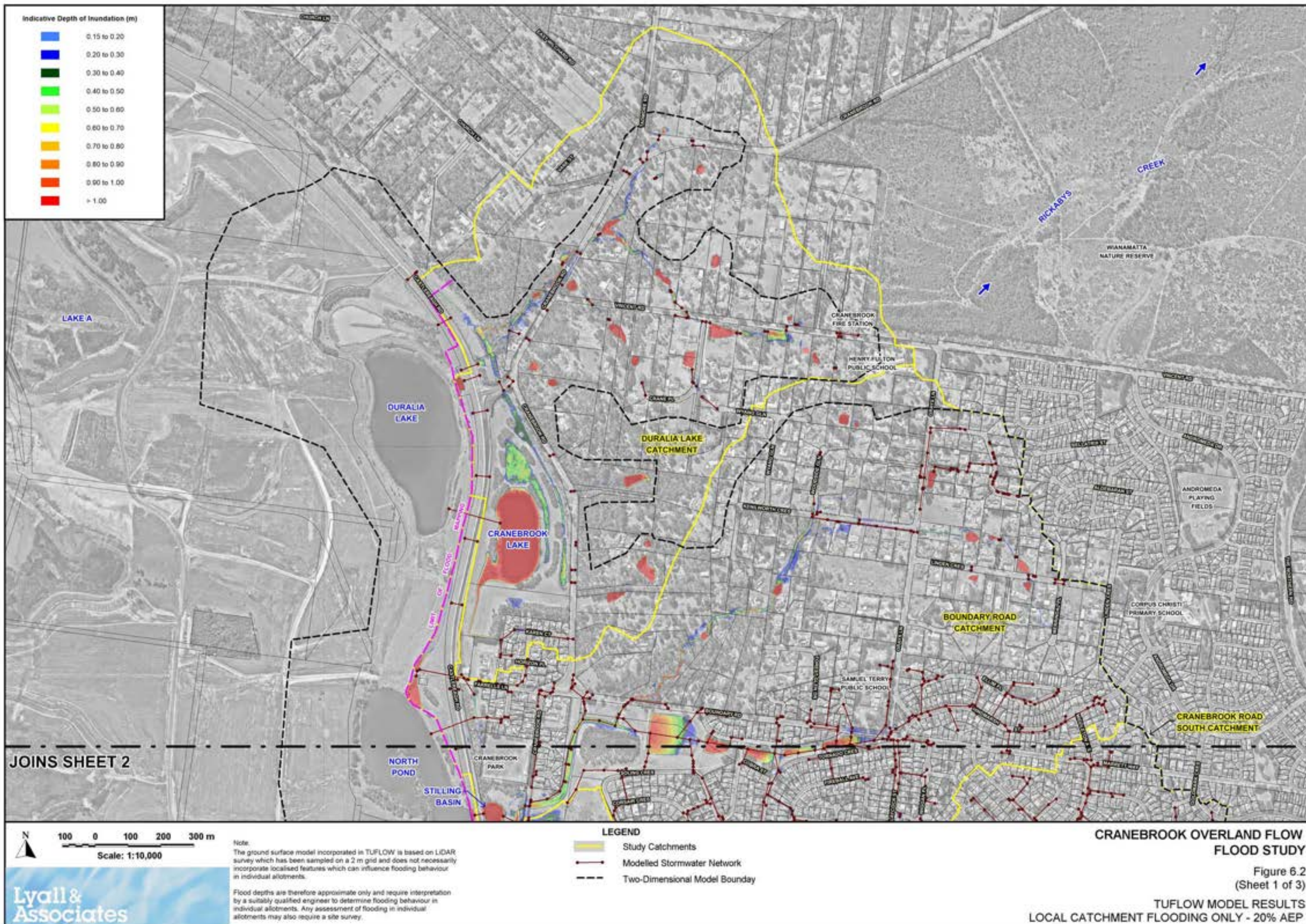
- LEGEND**
- Study Catchments
 - Sub-Catchment Boundary
 - Stormwater Drainage Network
 - WaterNSW Stream Gauge
 - PMP Ellipse Alignment 1
 - PMP Ellipse Alignment 2
 - PMP Ellipse Alignment 3

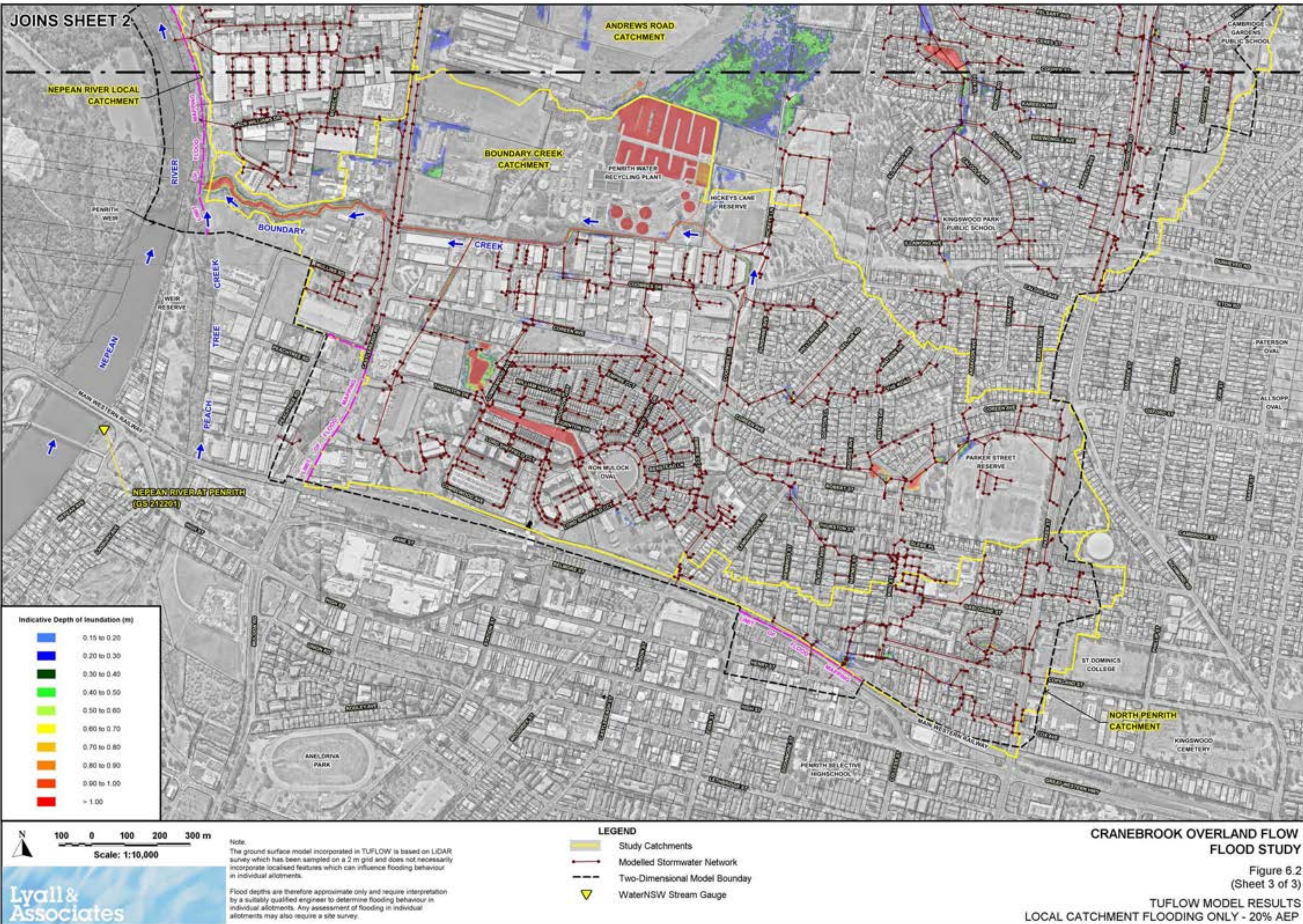
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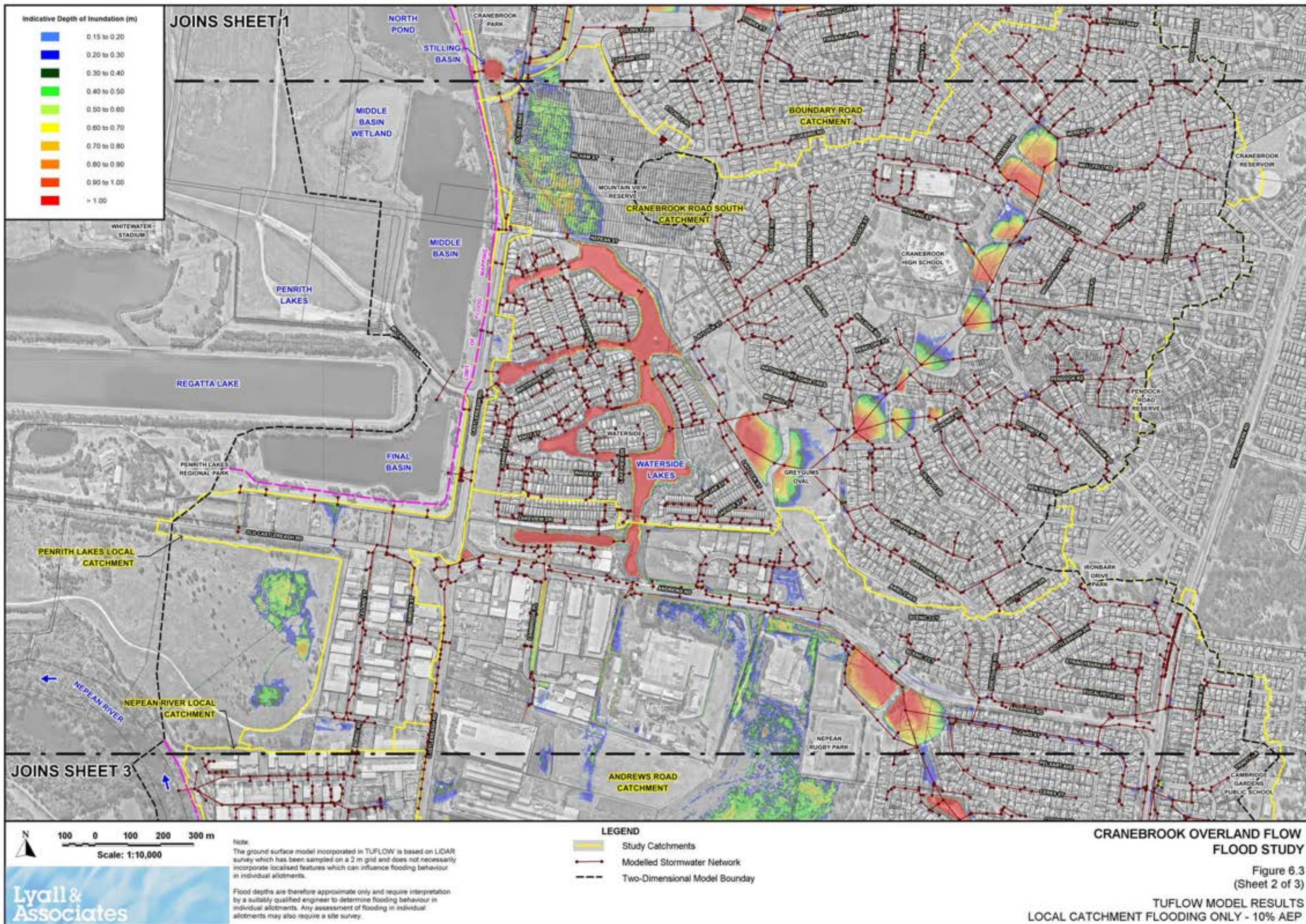
Figure 5.1

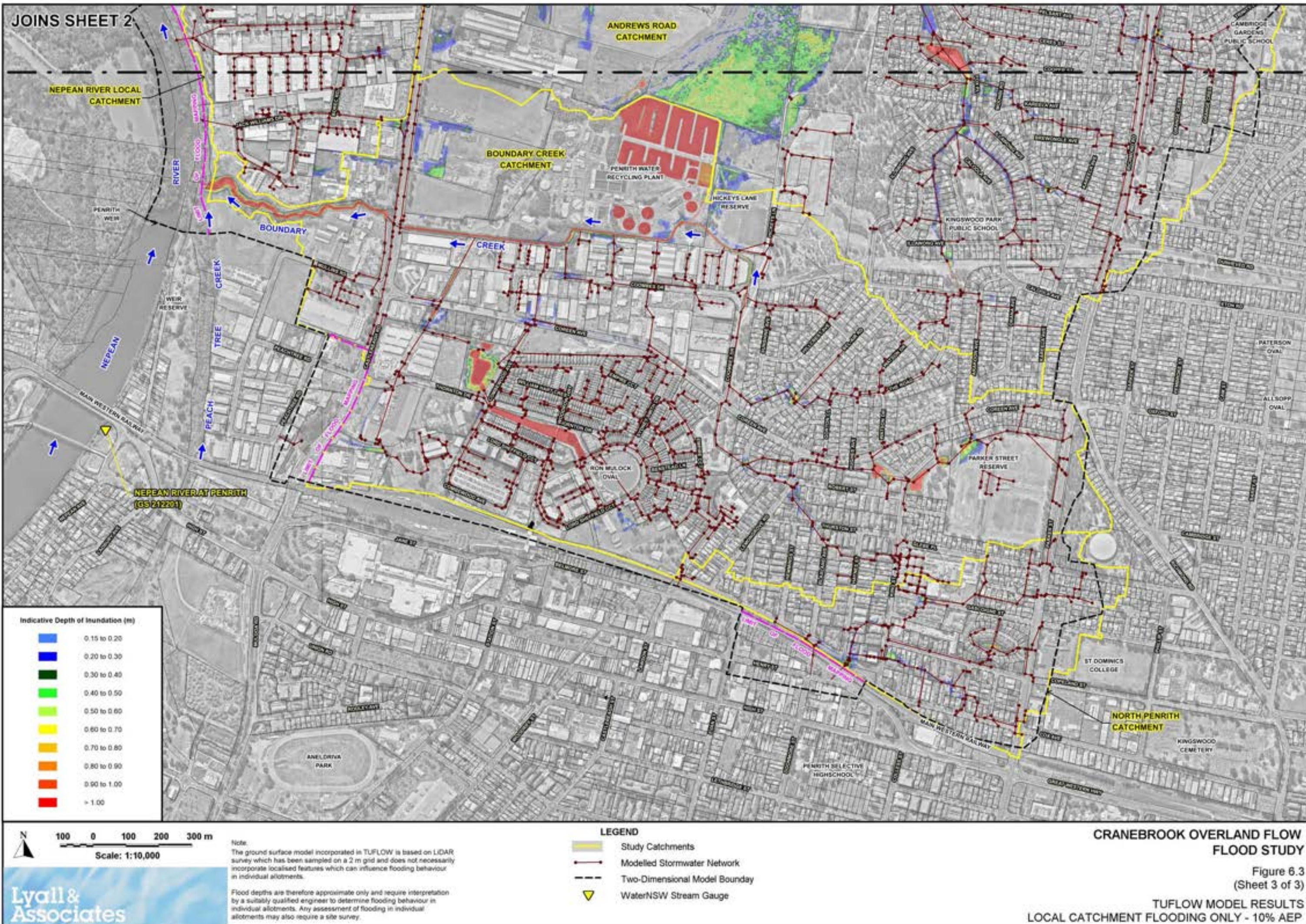
EXTENT OF PMP ELLIPSES

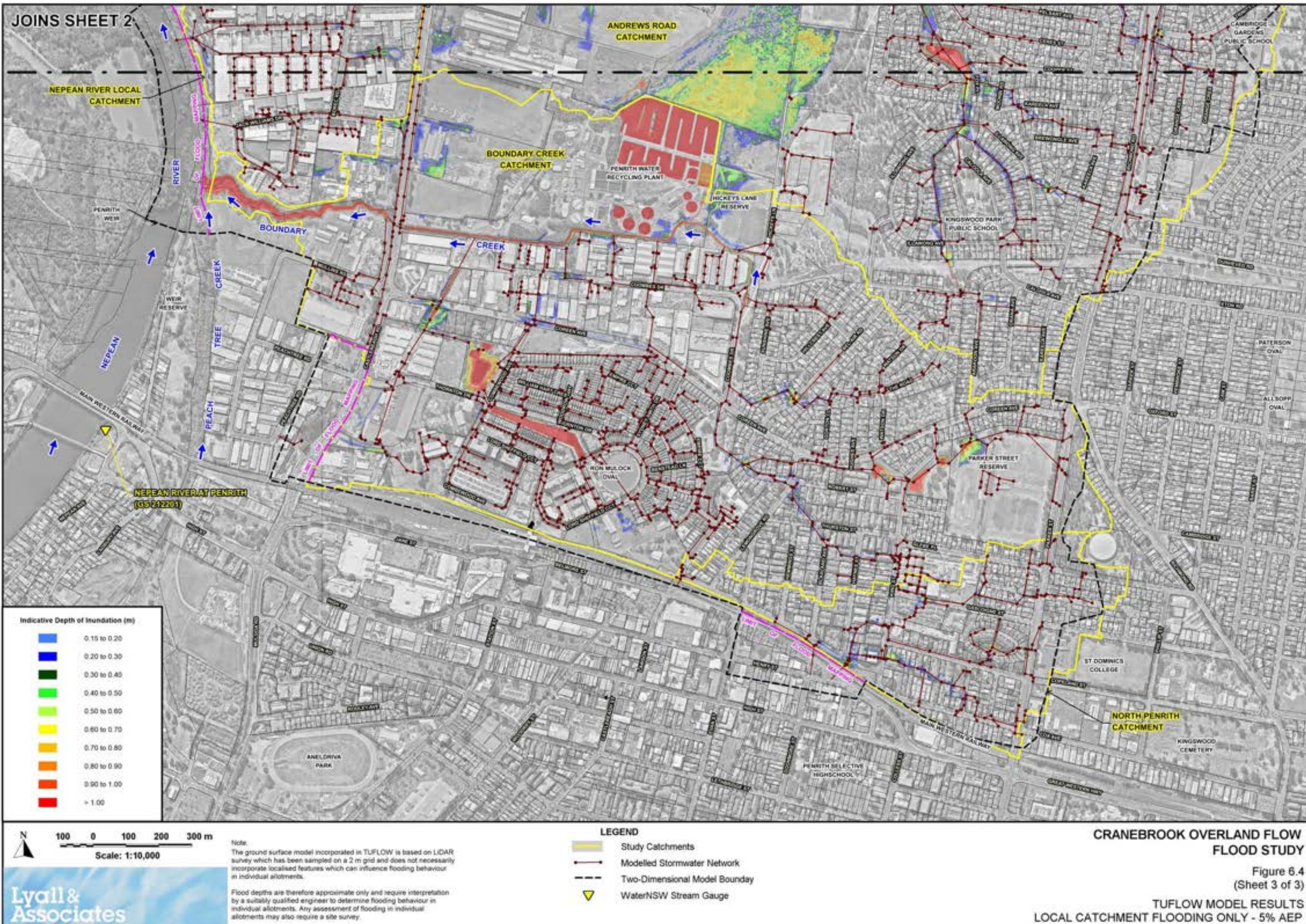


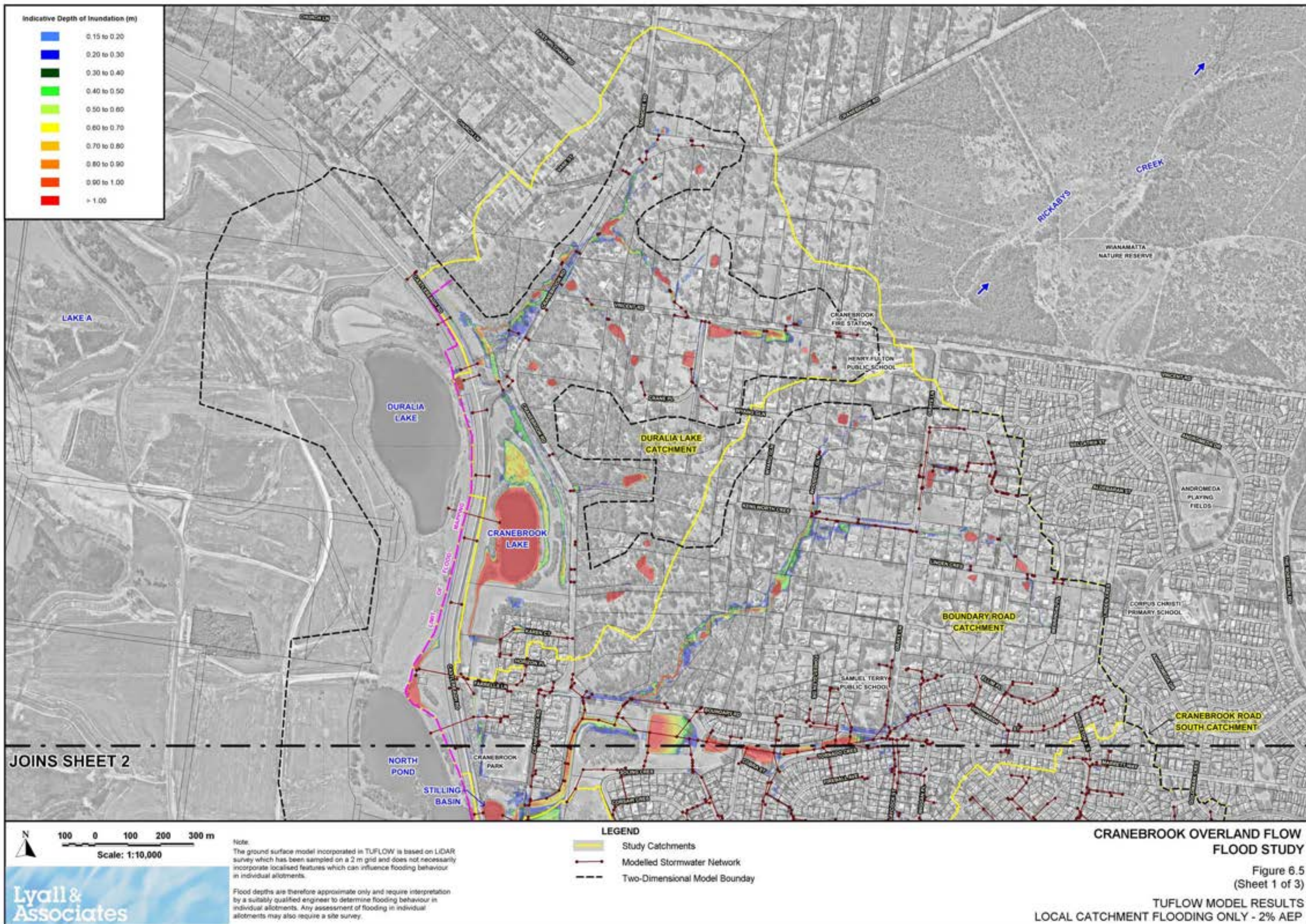


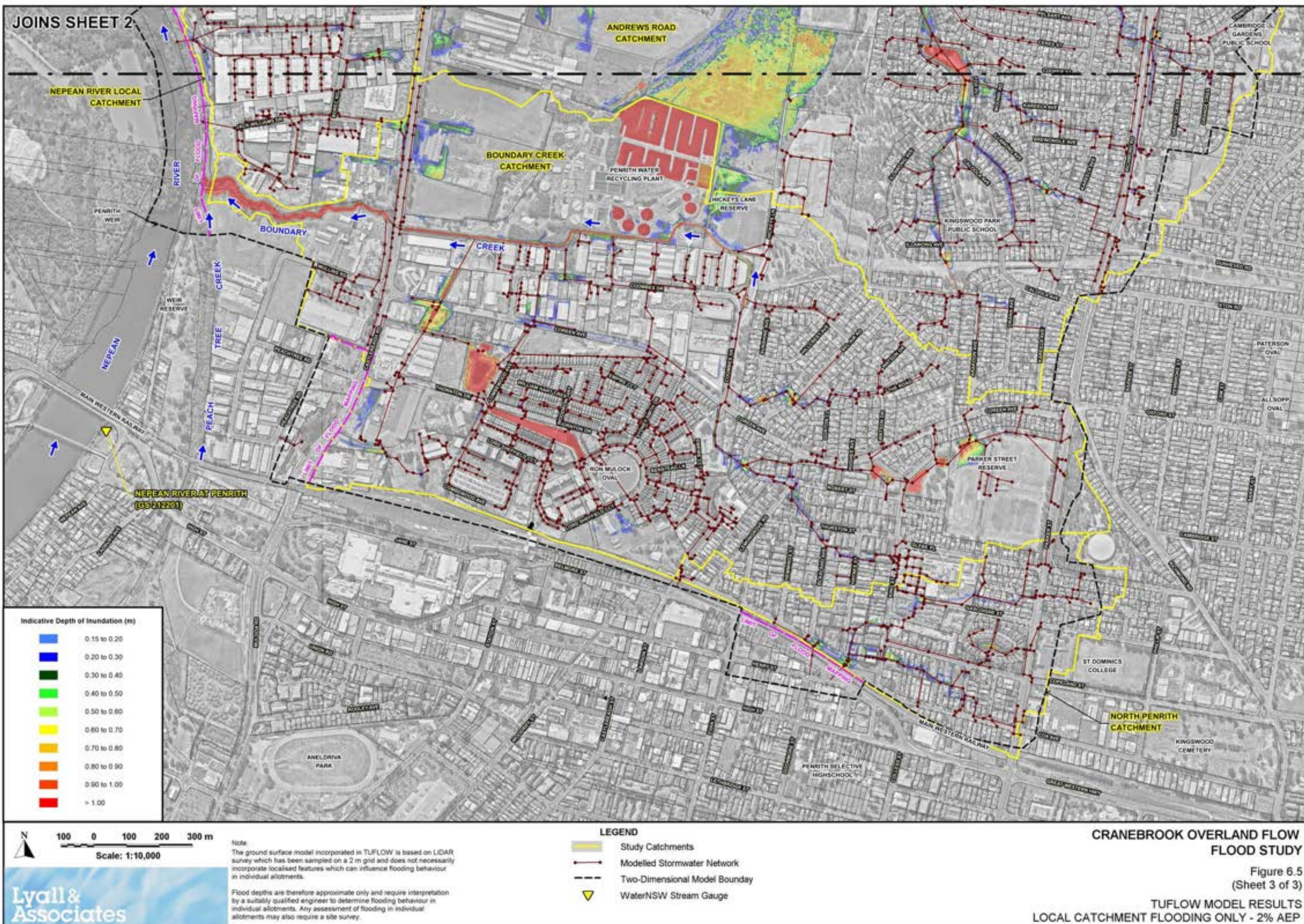


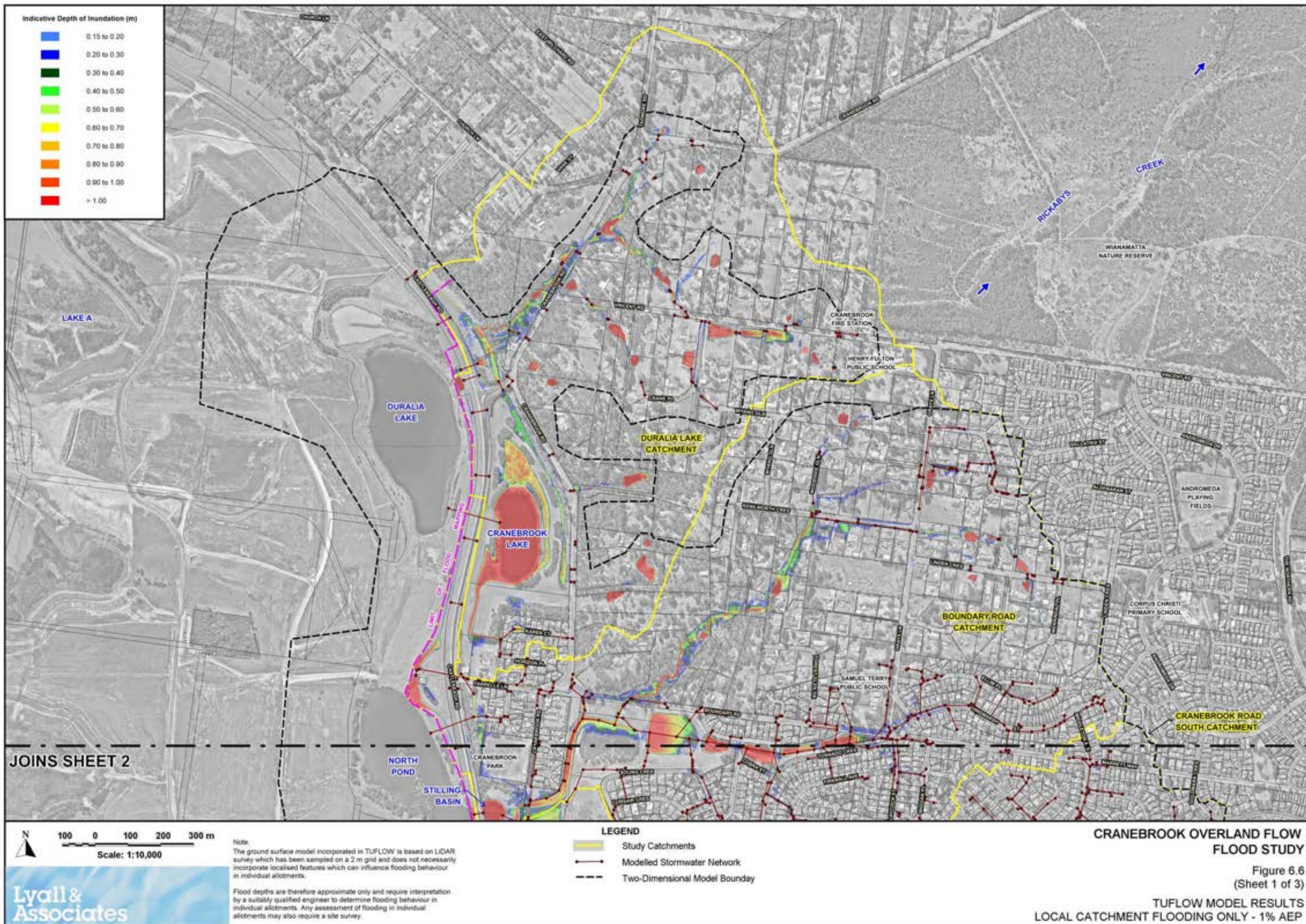


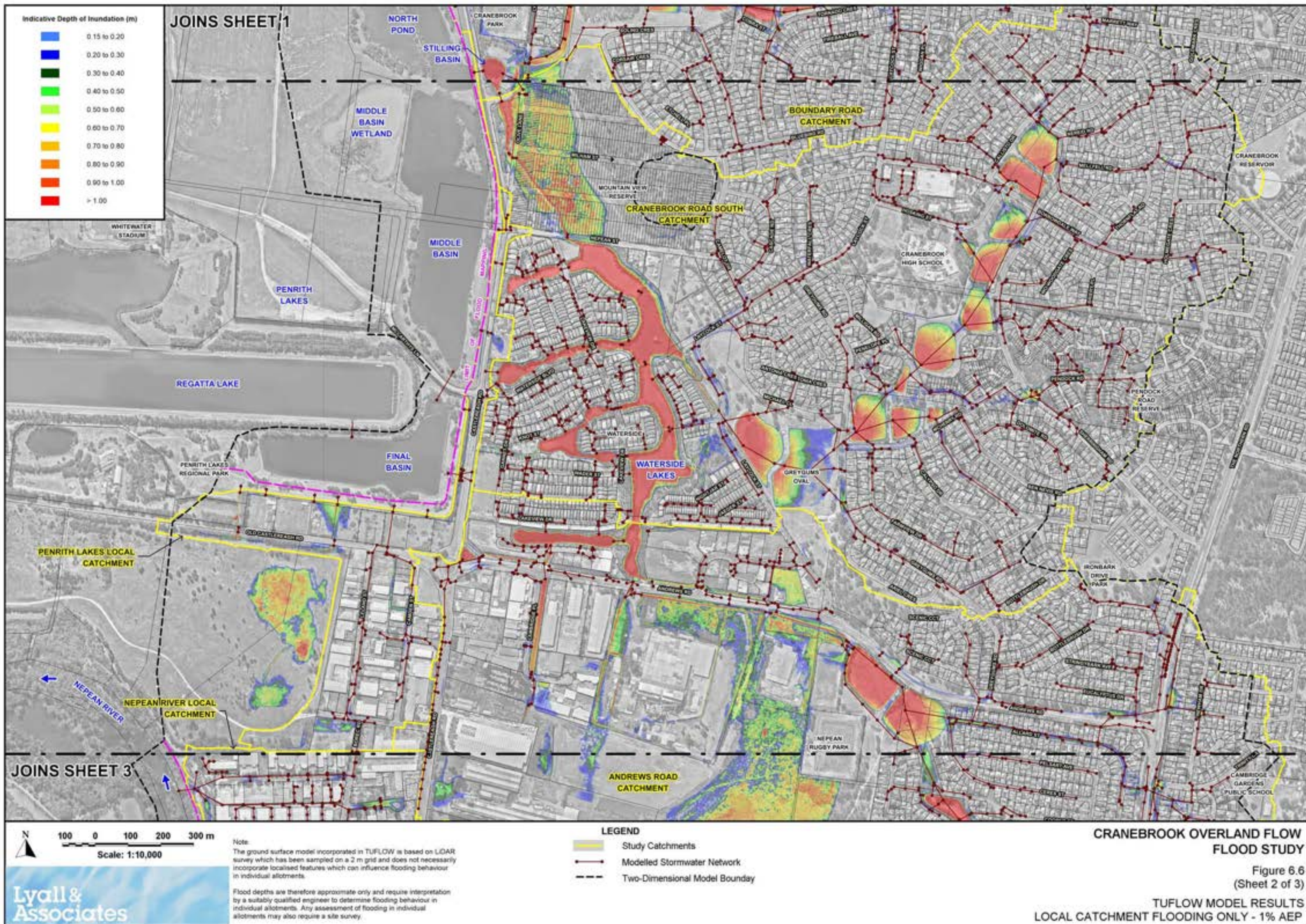


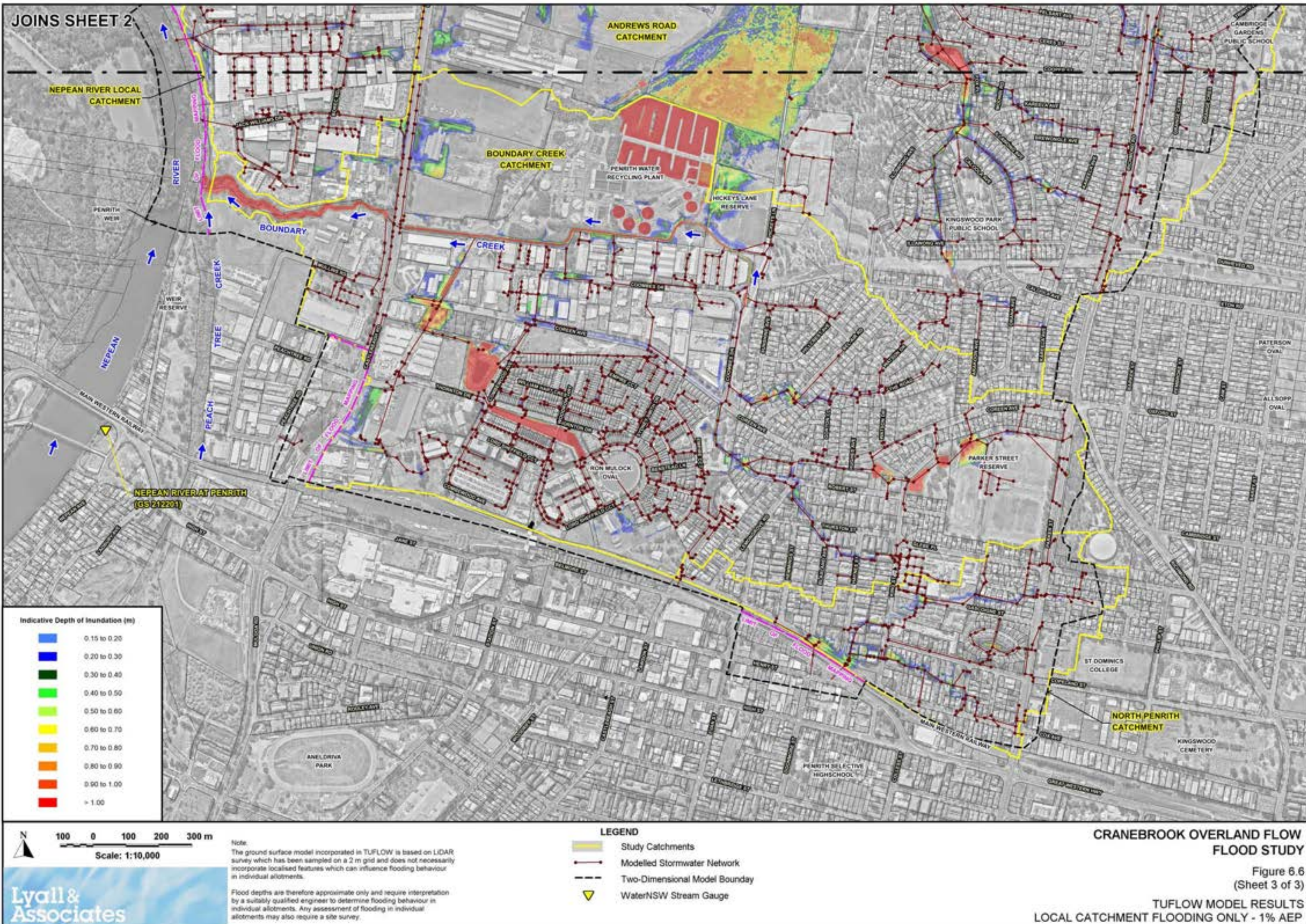


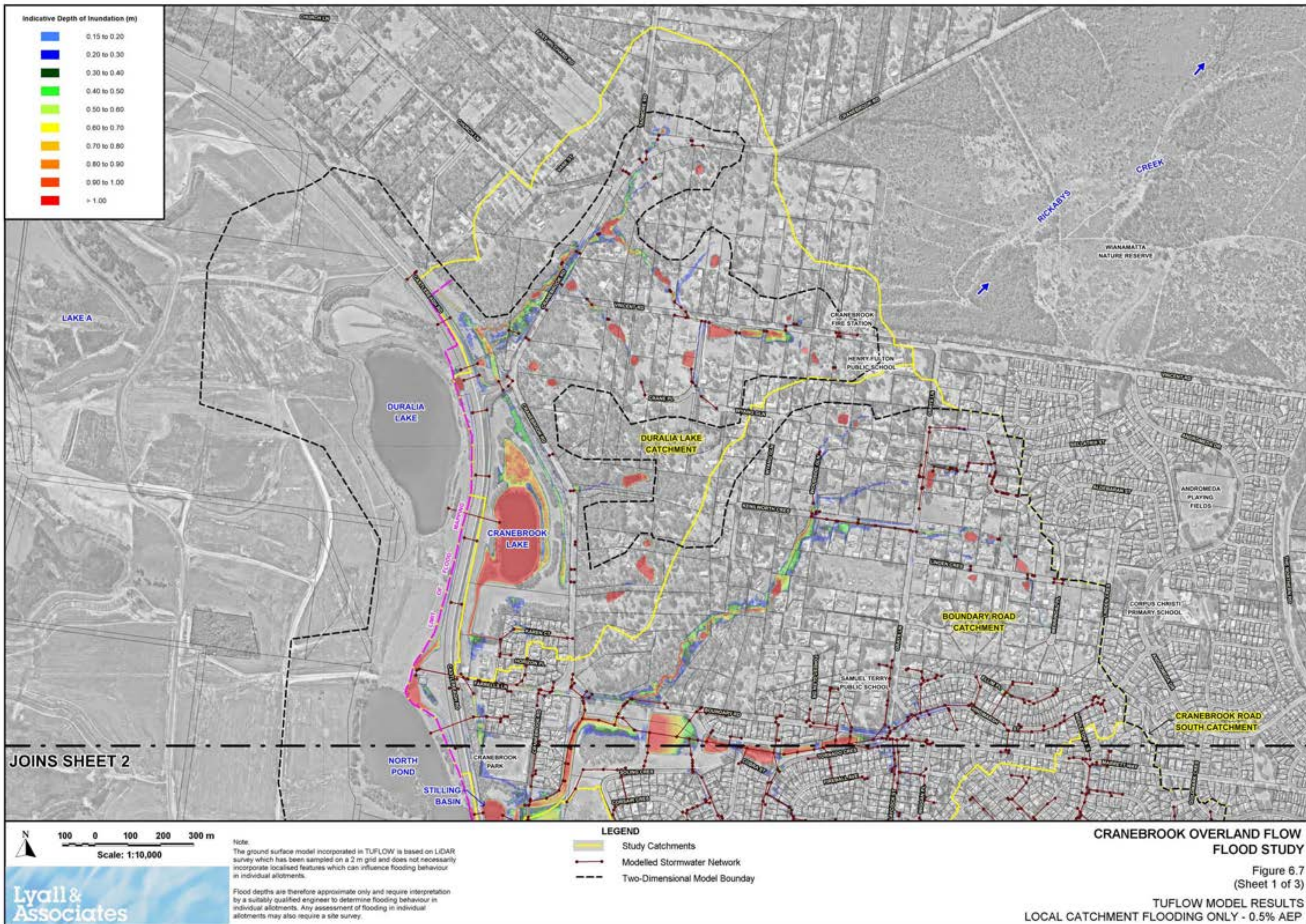


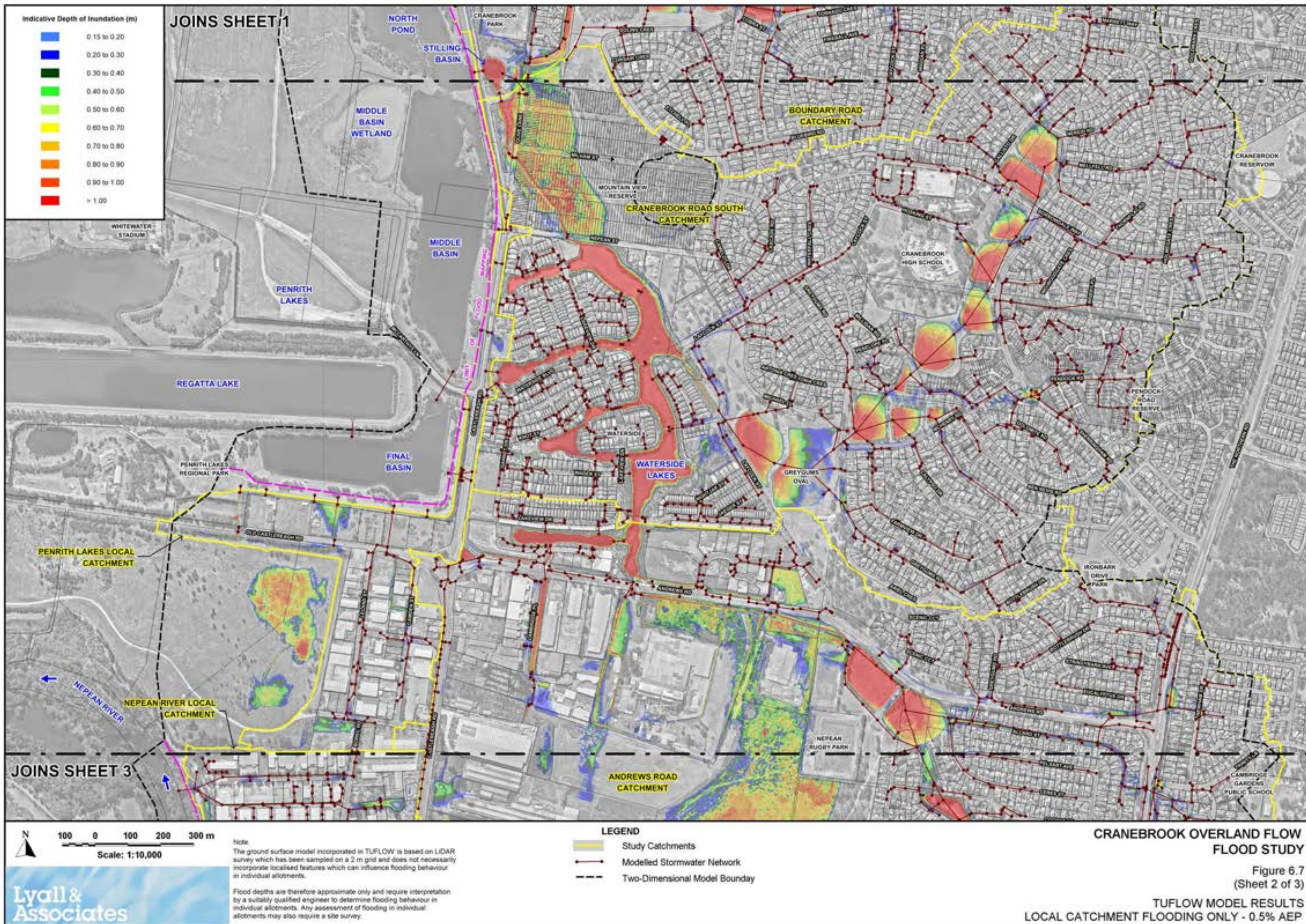












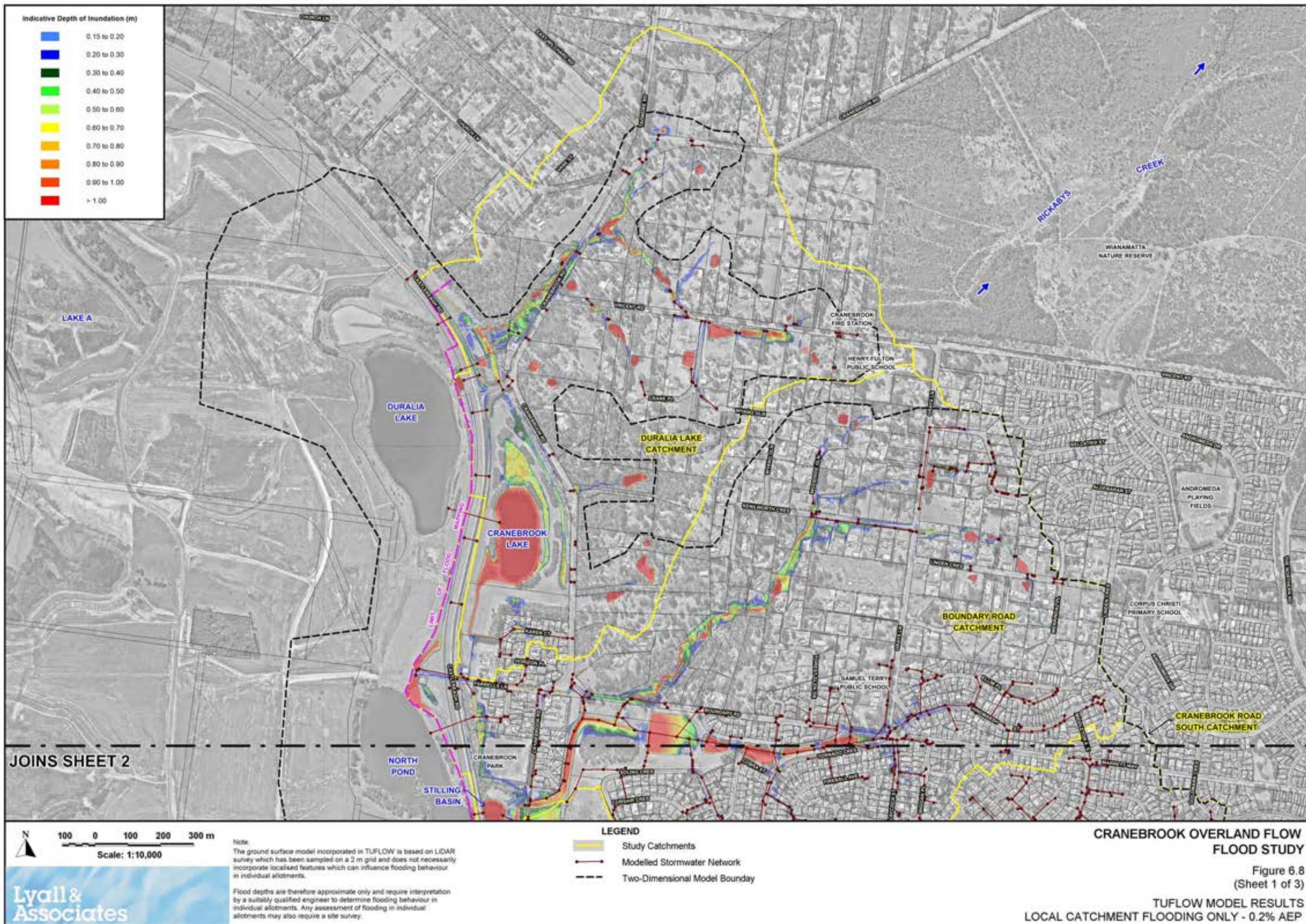
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Note:
The ground surface model incorporated in TUFLOW is based on LIDAR survey which has been sampled on a 2 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.
Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.

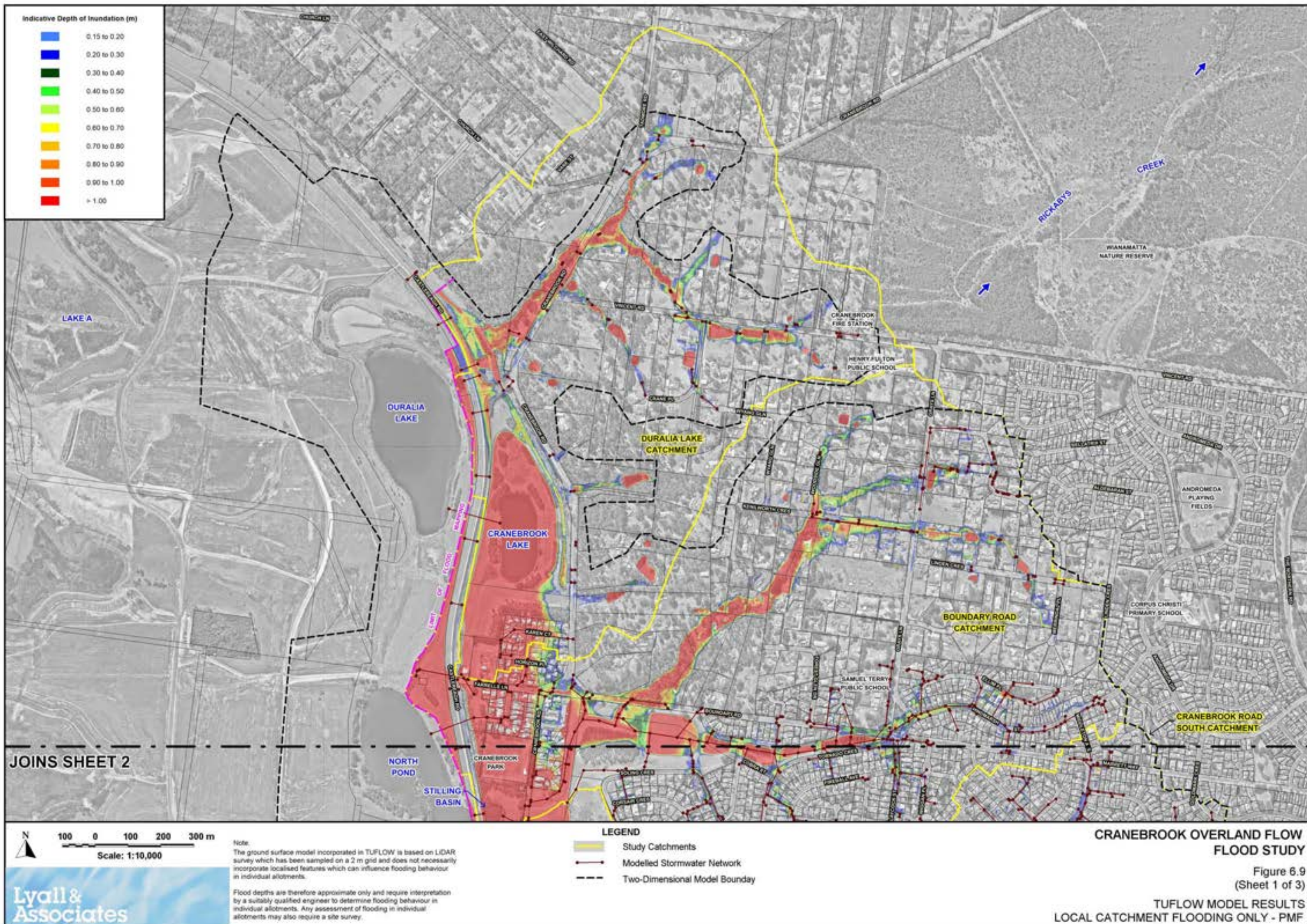


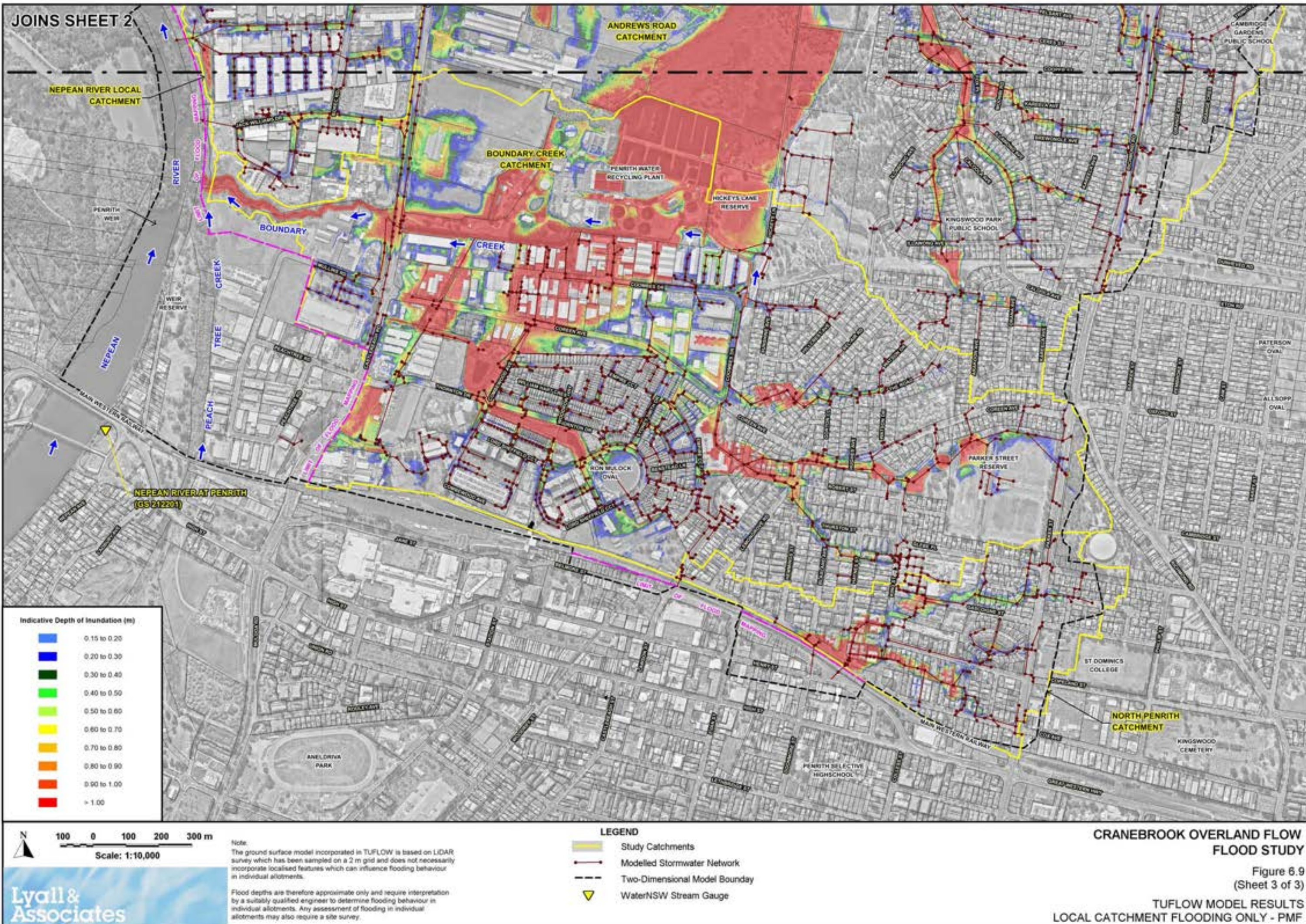
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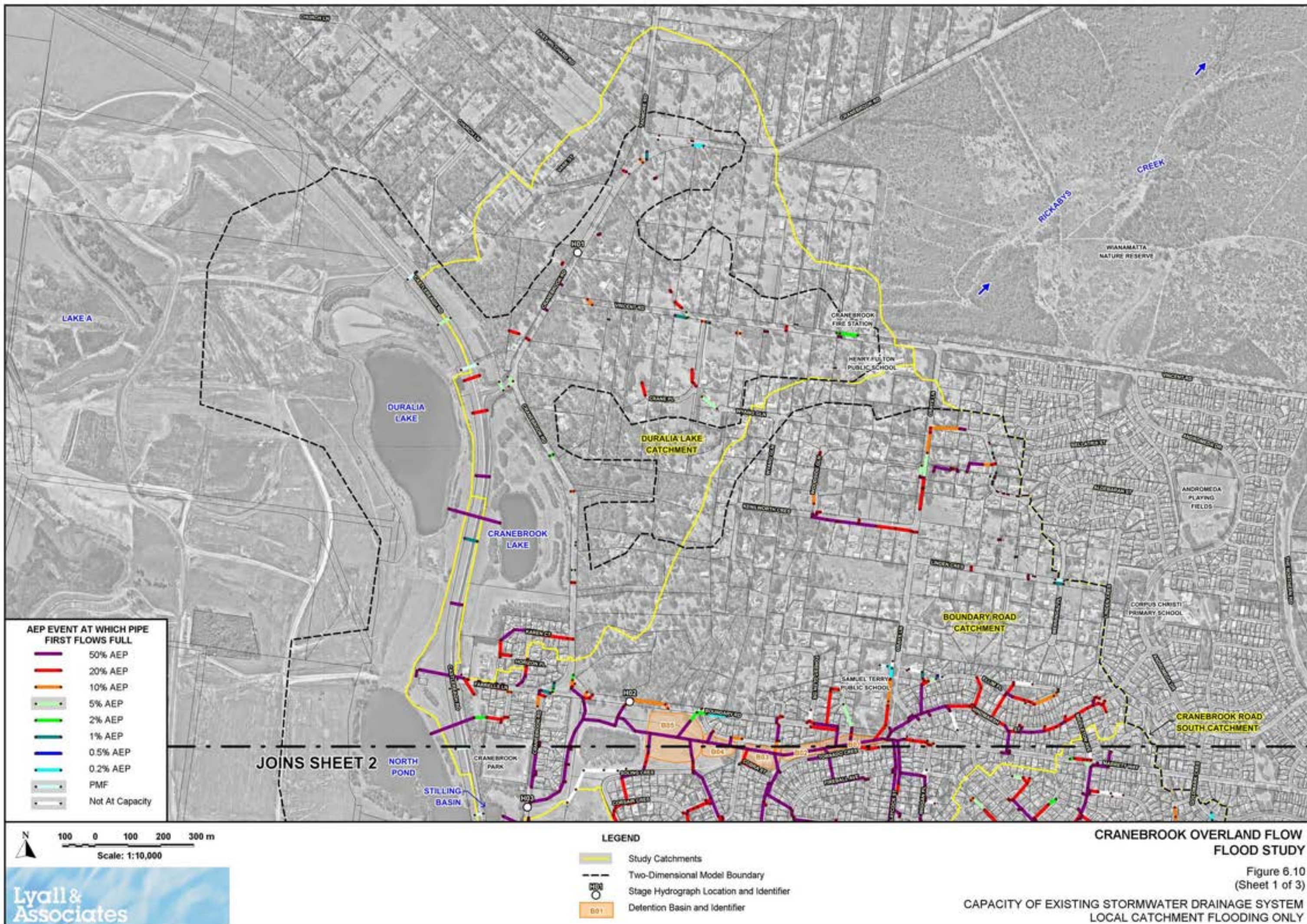


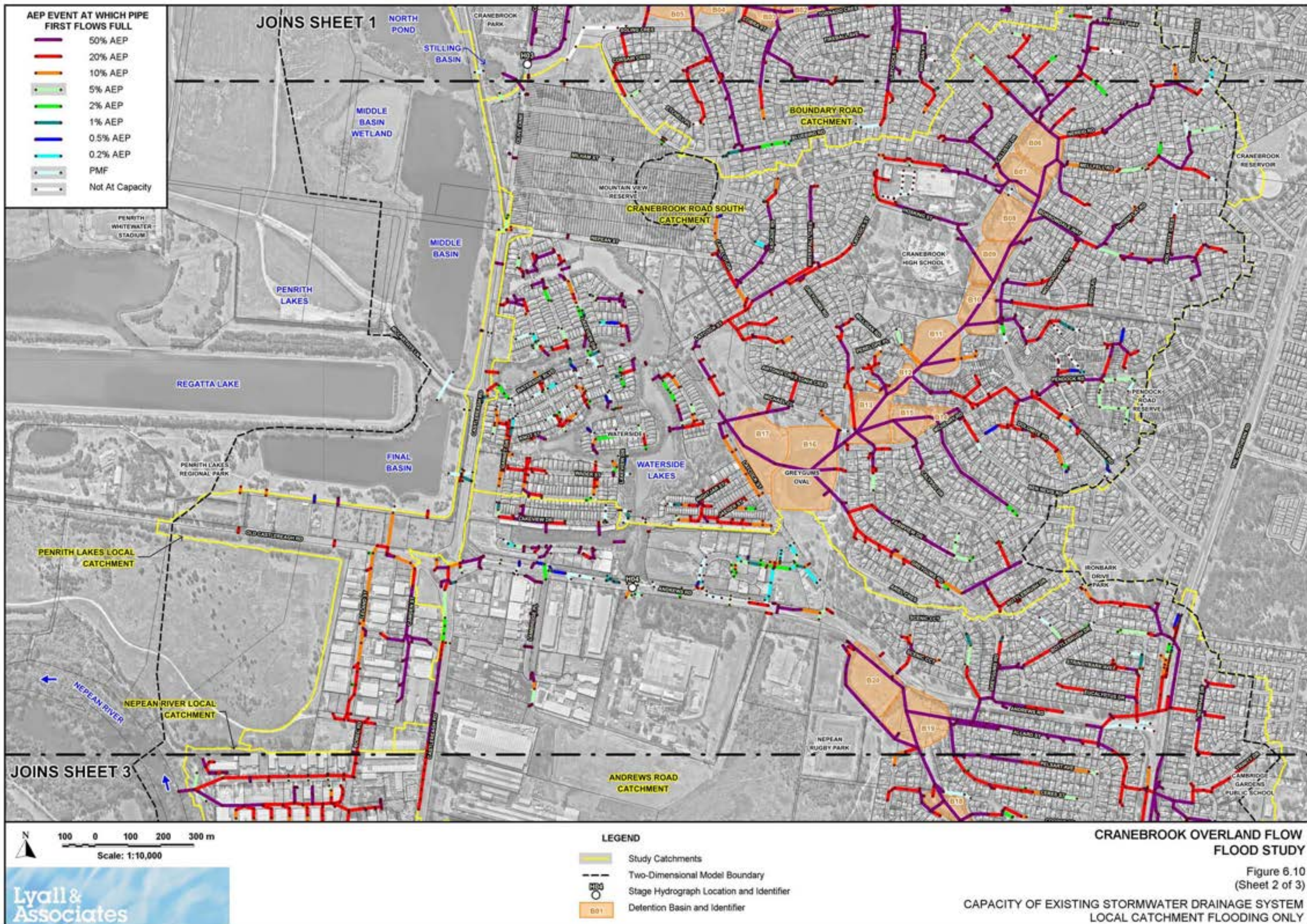
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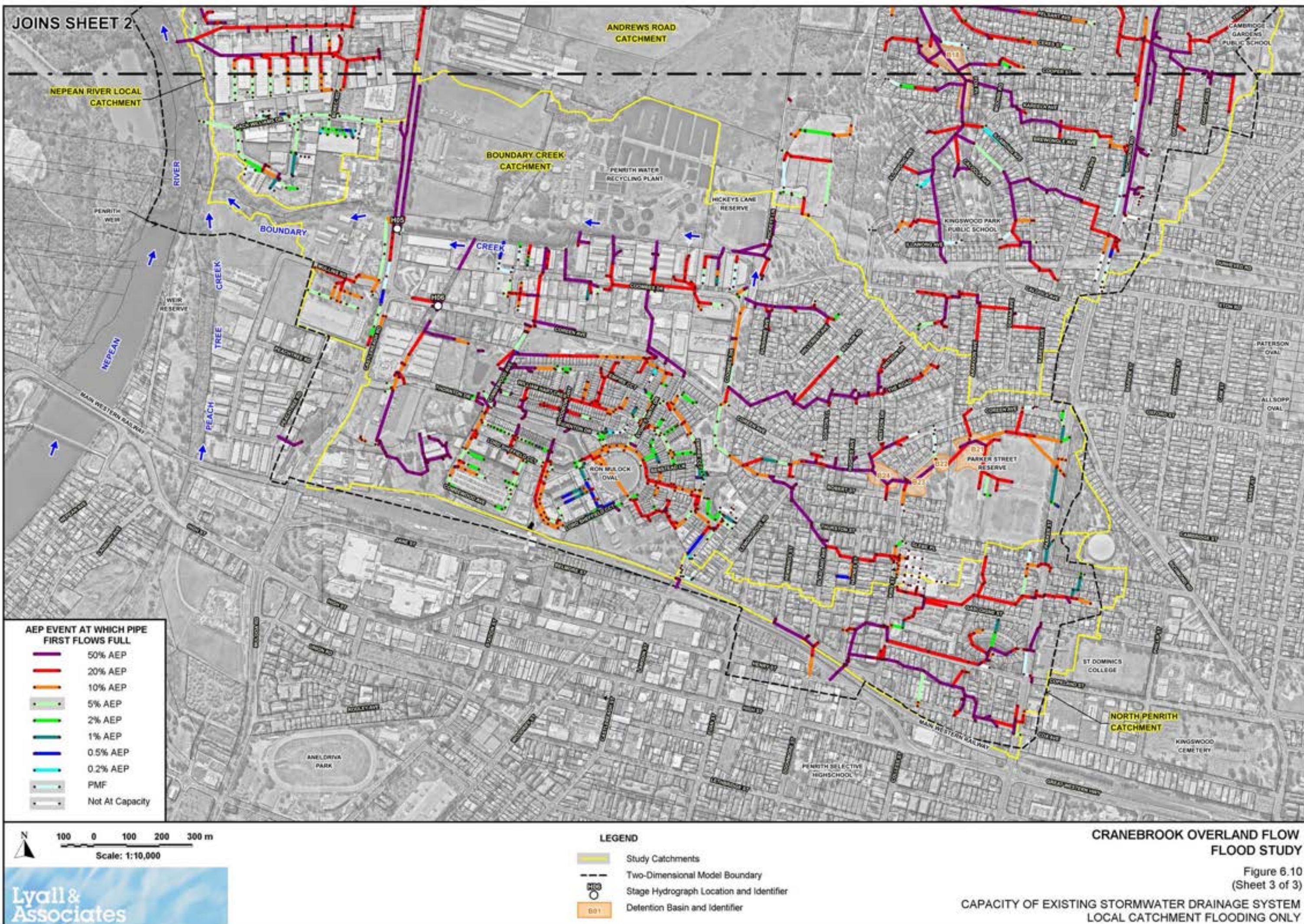
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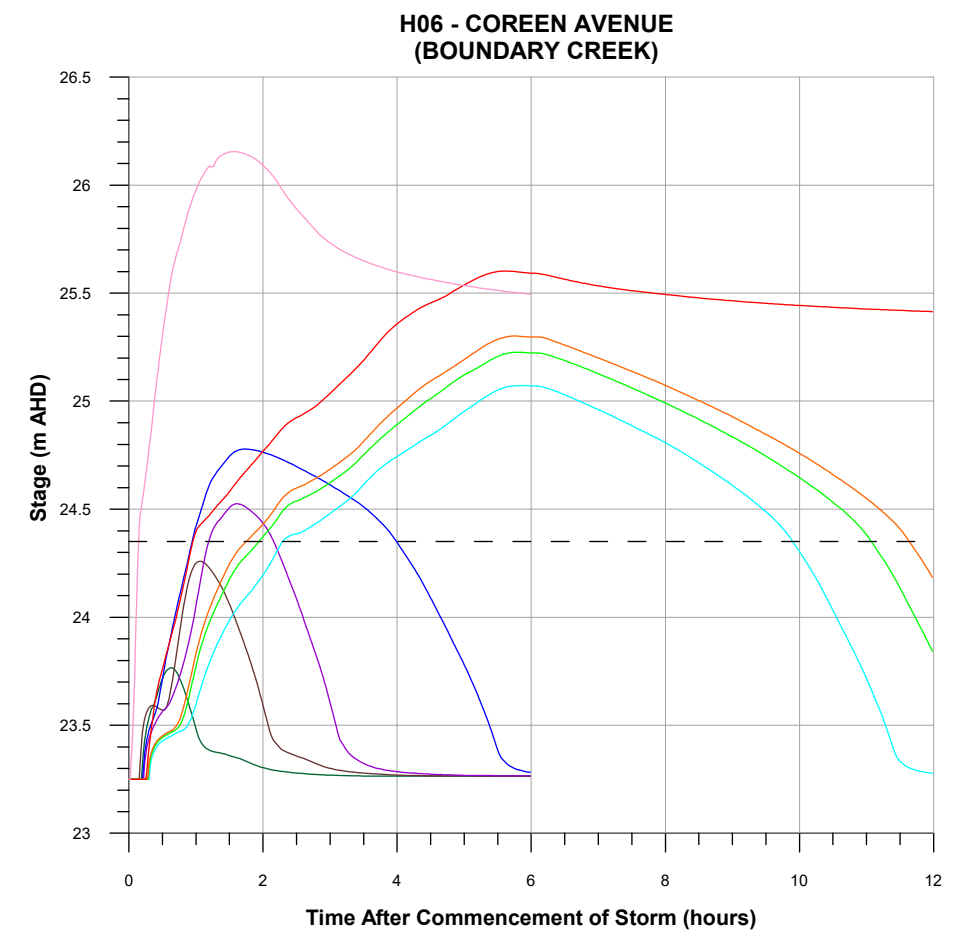
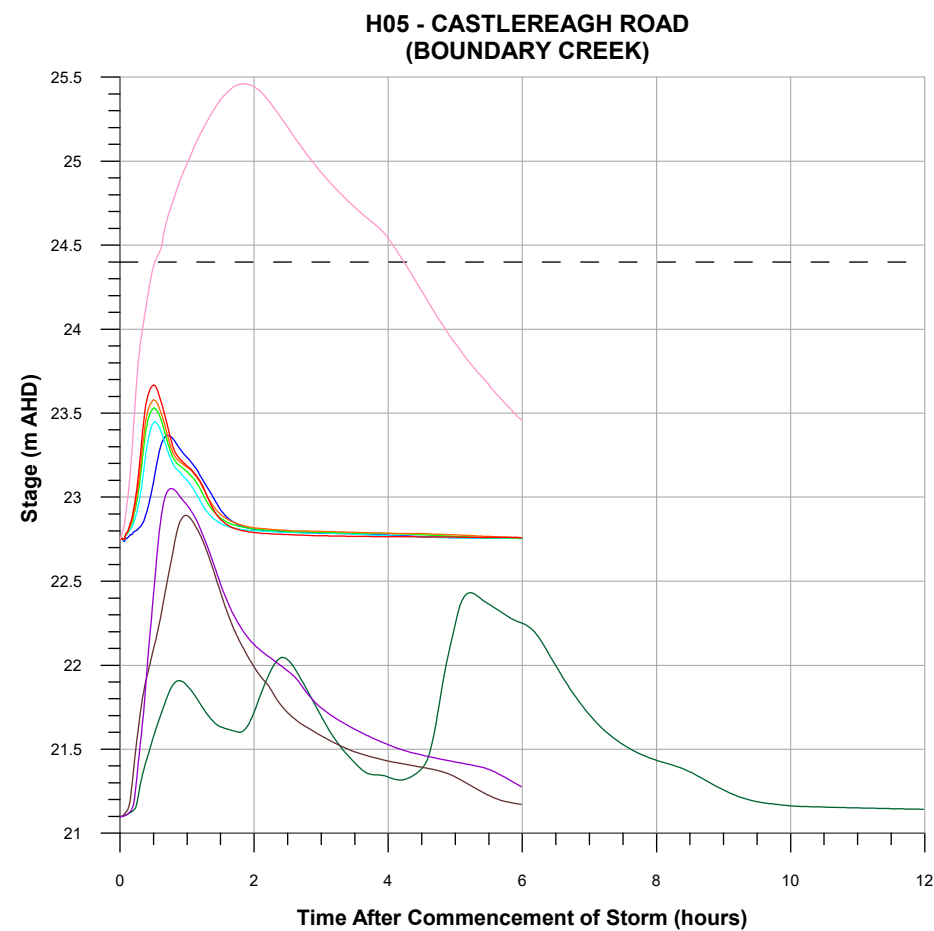
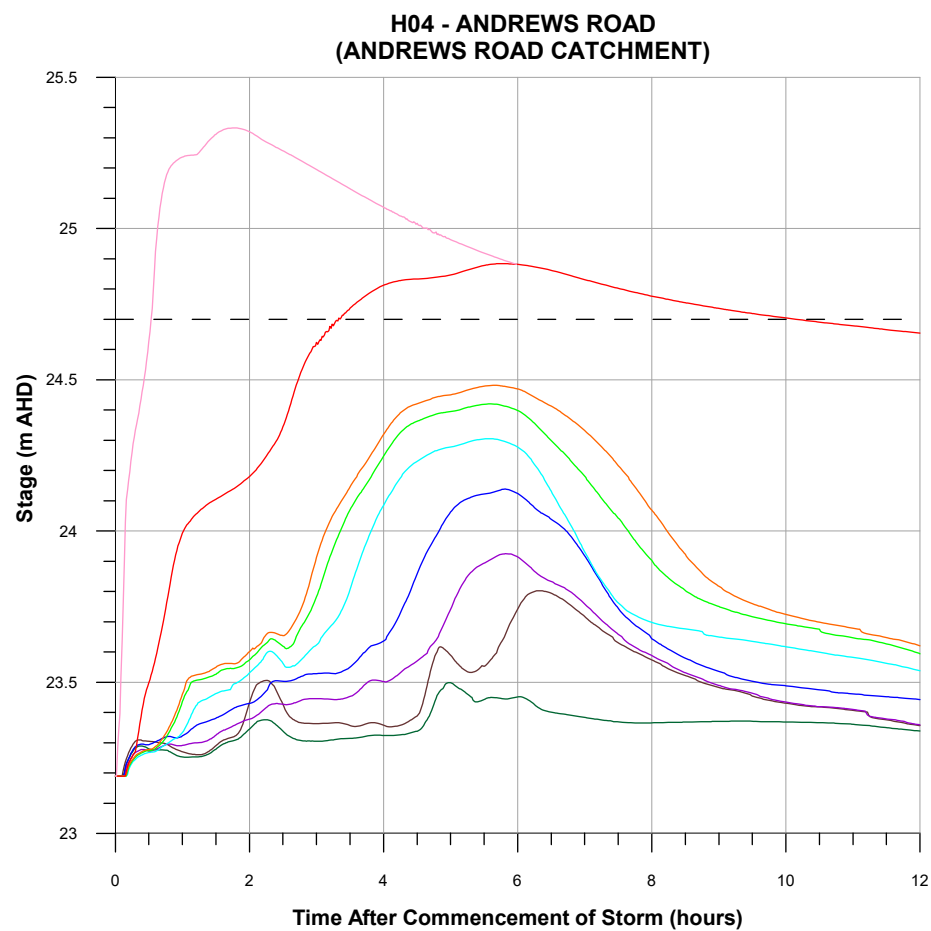
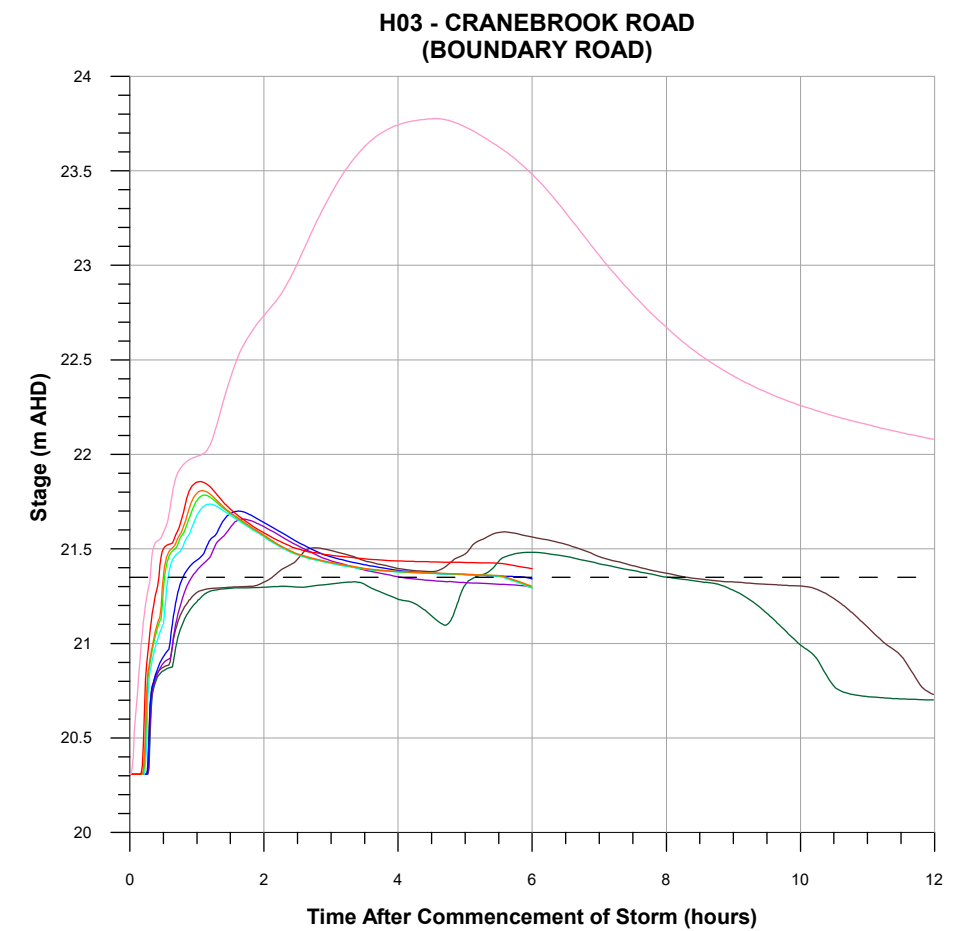
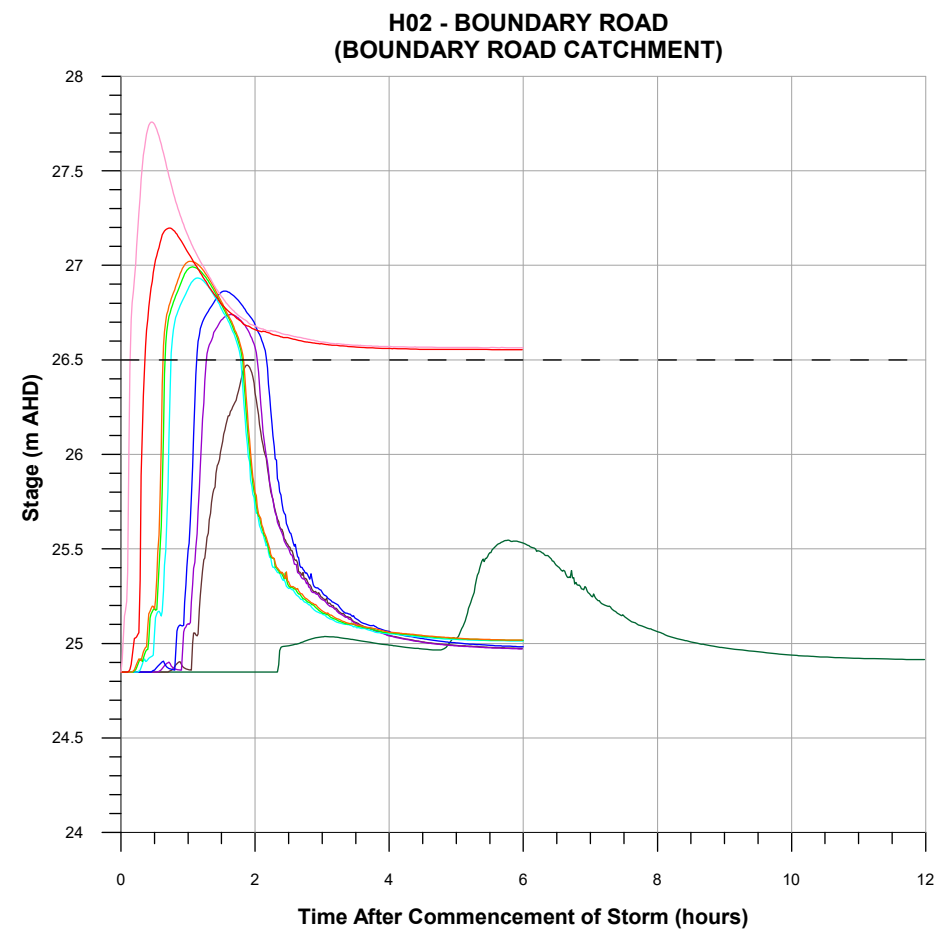
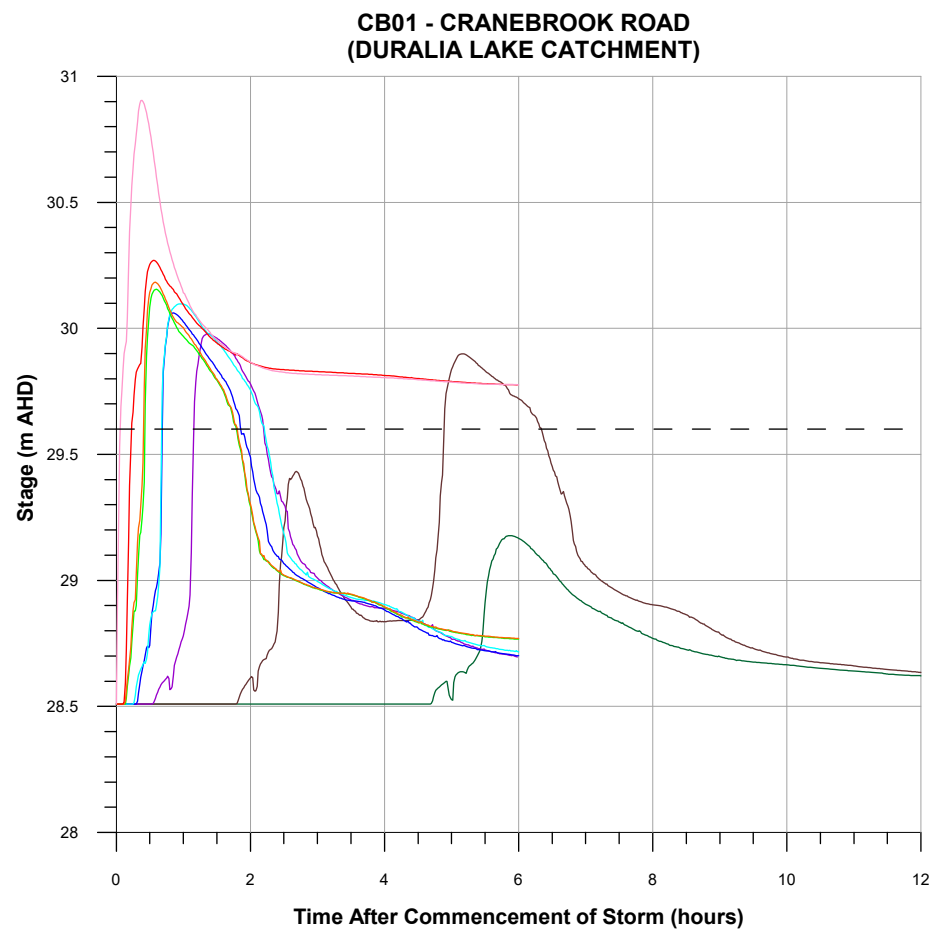




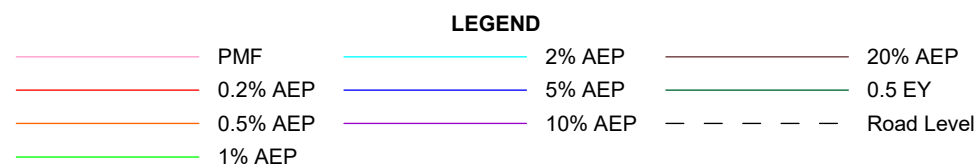






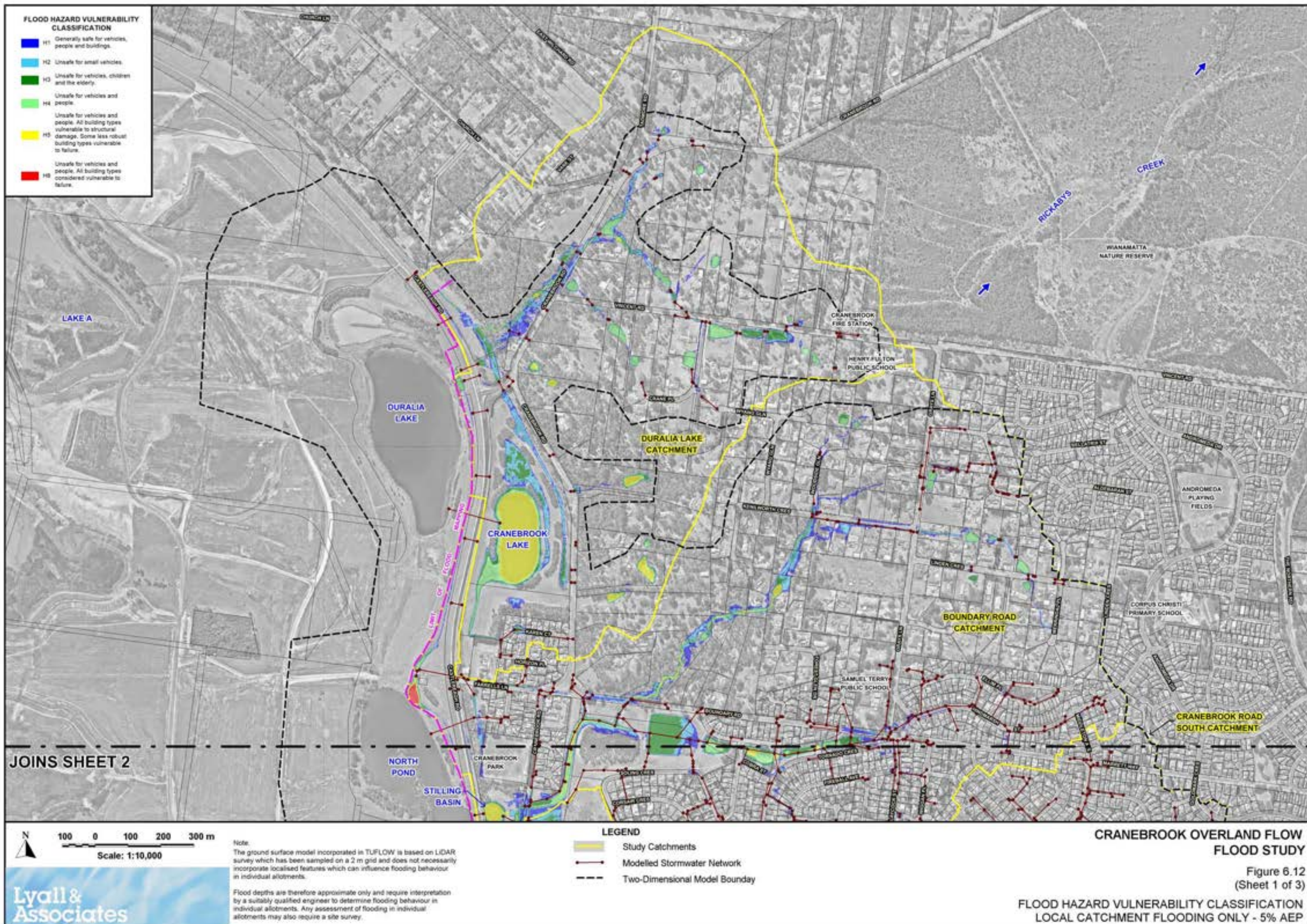


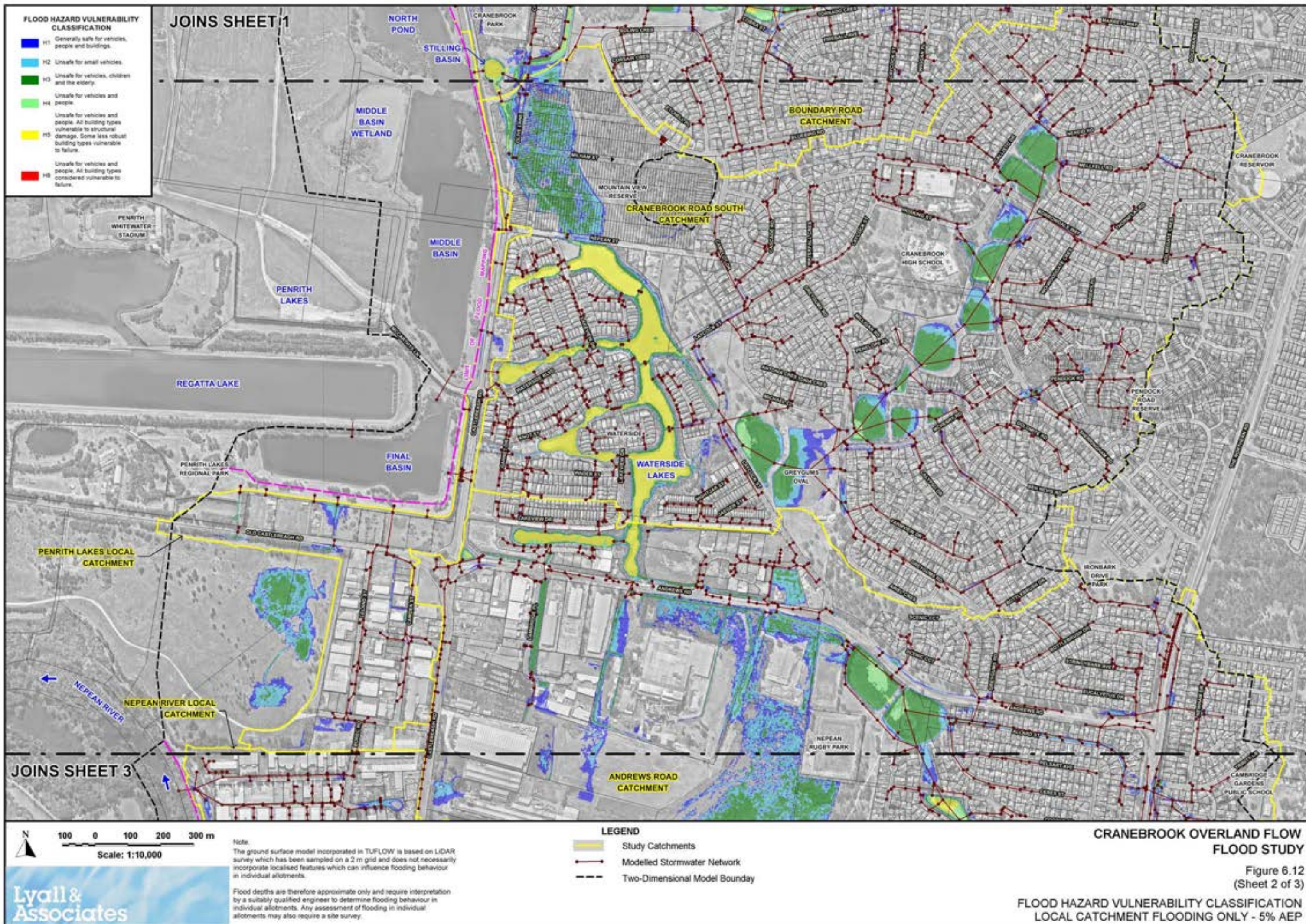
NOTE:
Refer **Figure 6.10** (3 Sheets)
for location of stage hydrographs.

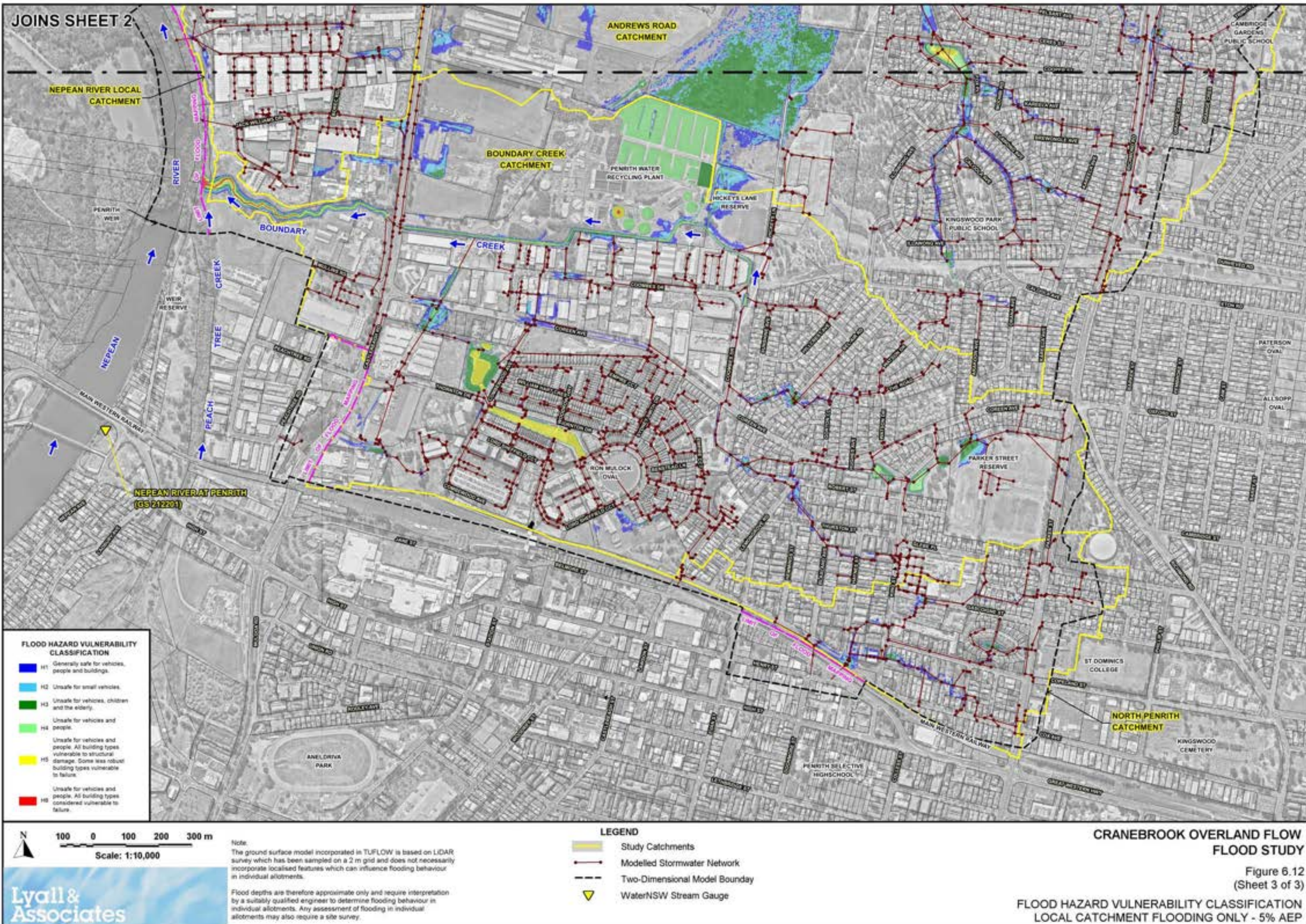


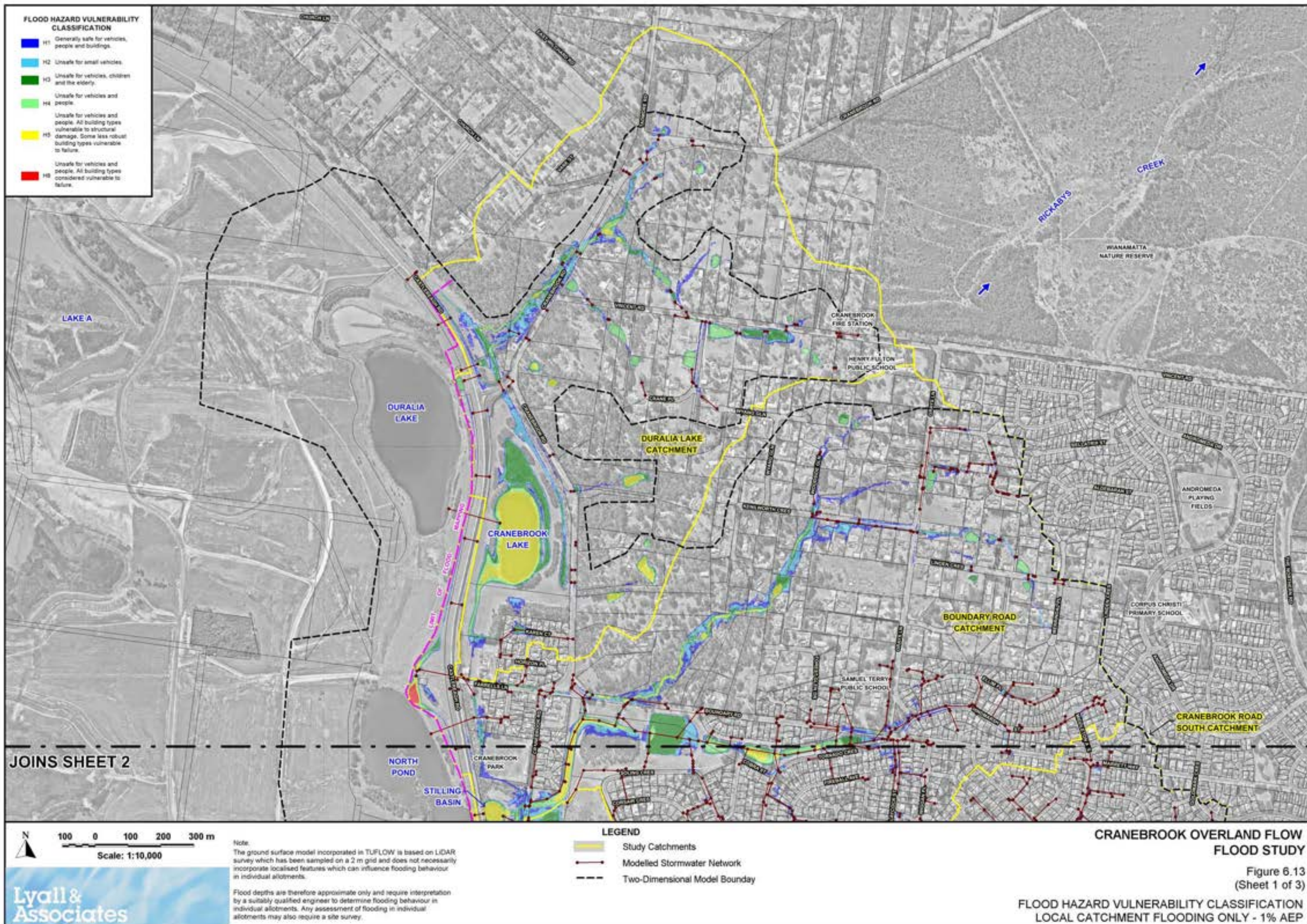
**CRANEBROOK OVERLAND FLOW
FLOOD STUDY**

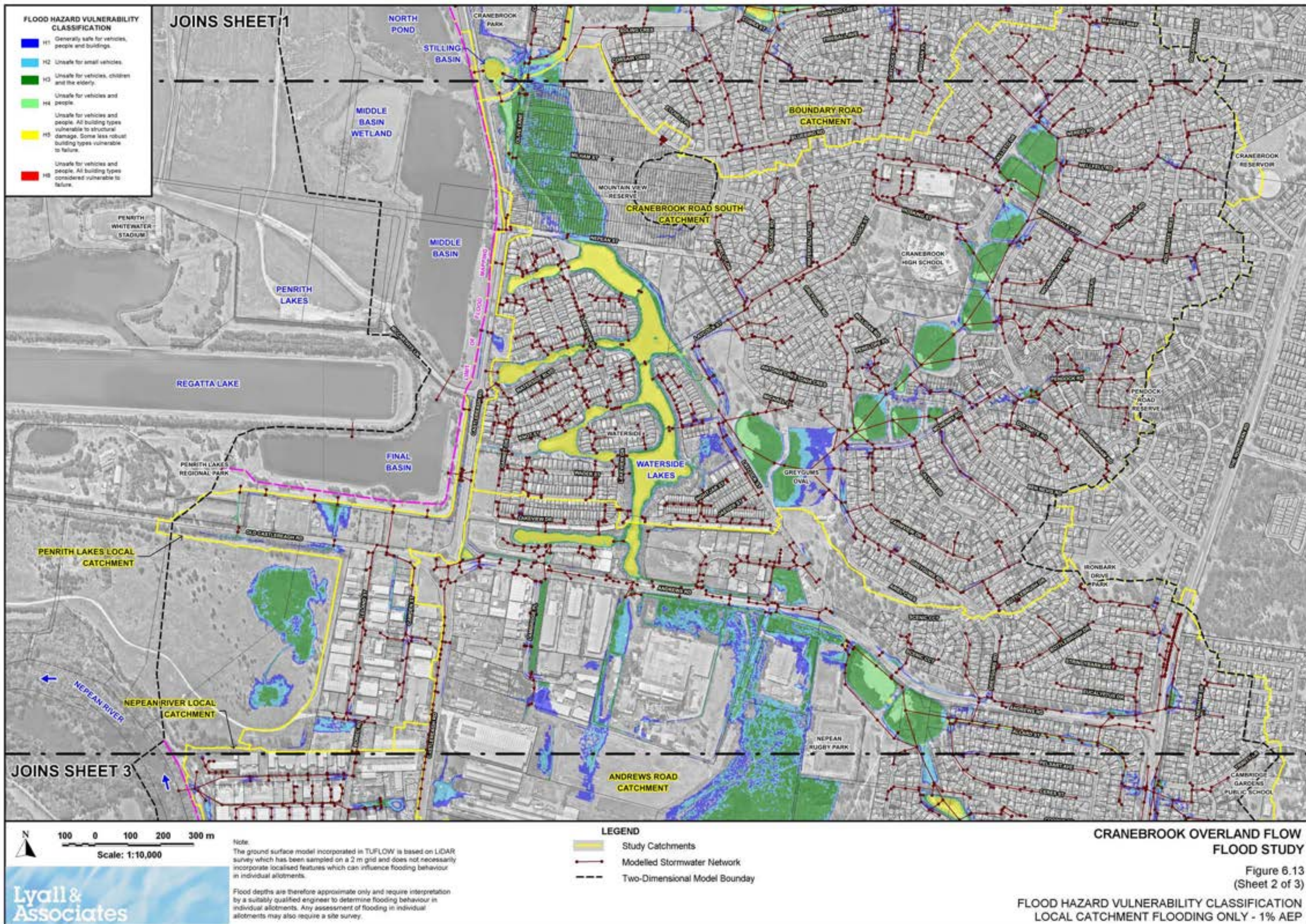
Figure 6.11
DESIGN STAGE HYDROGRAPHS

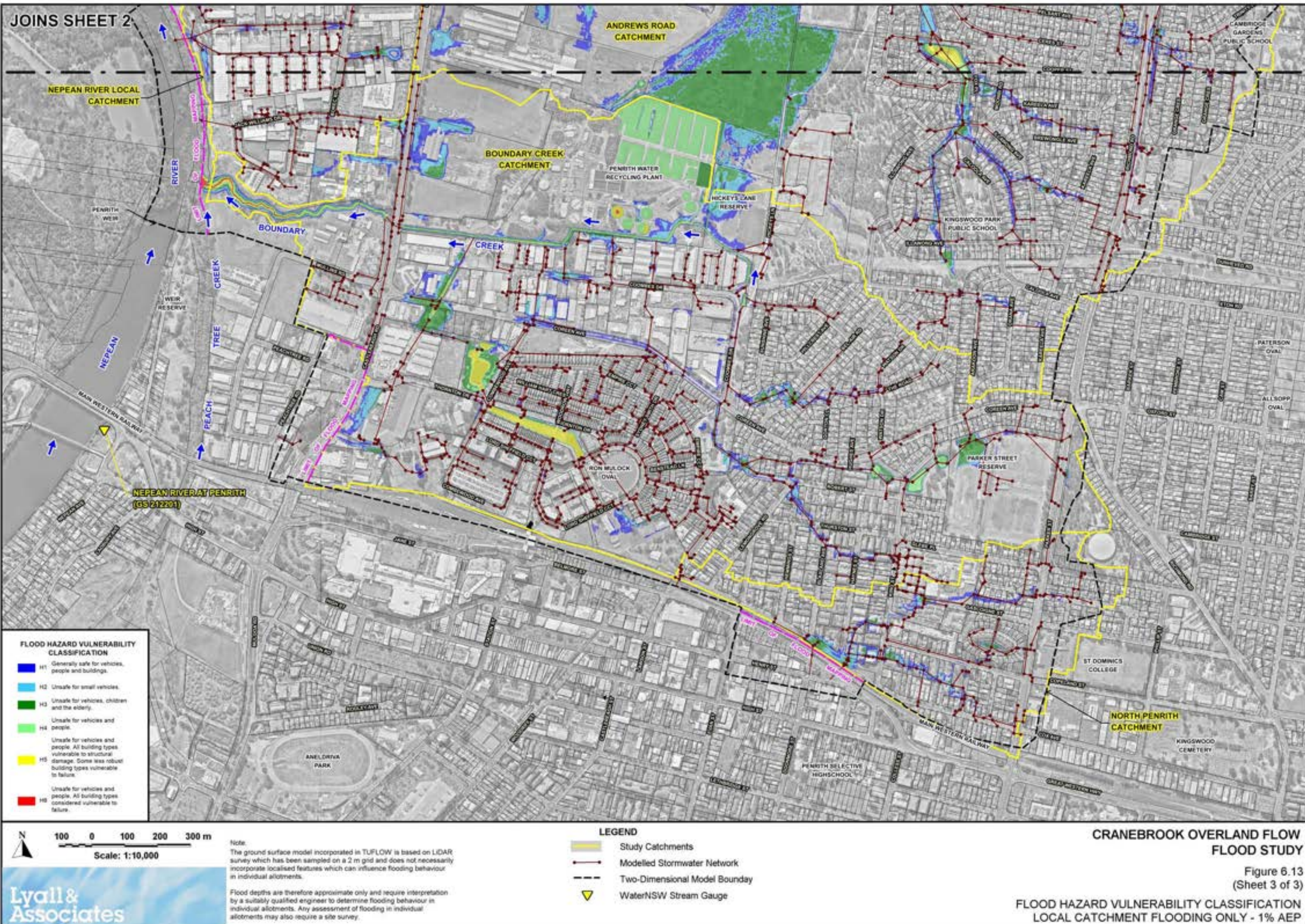


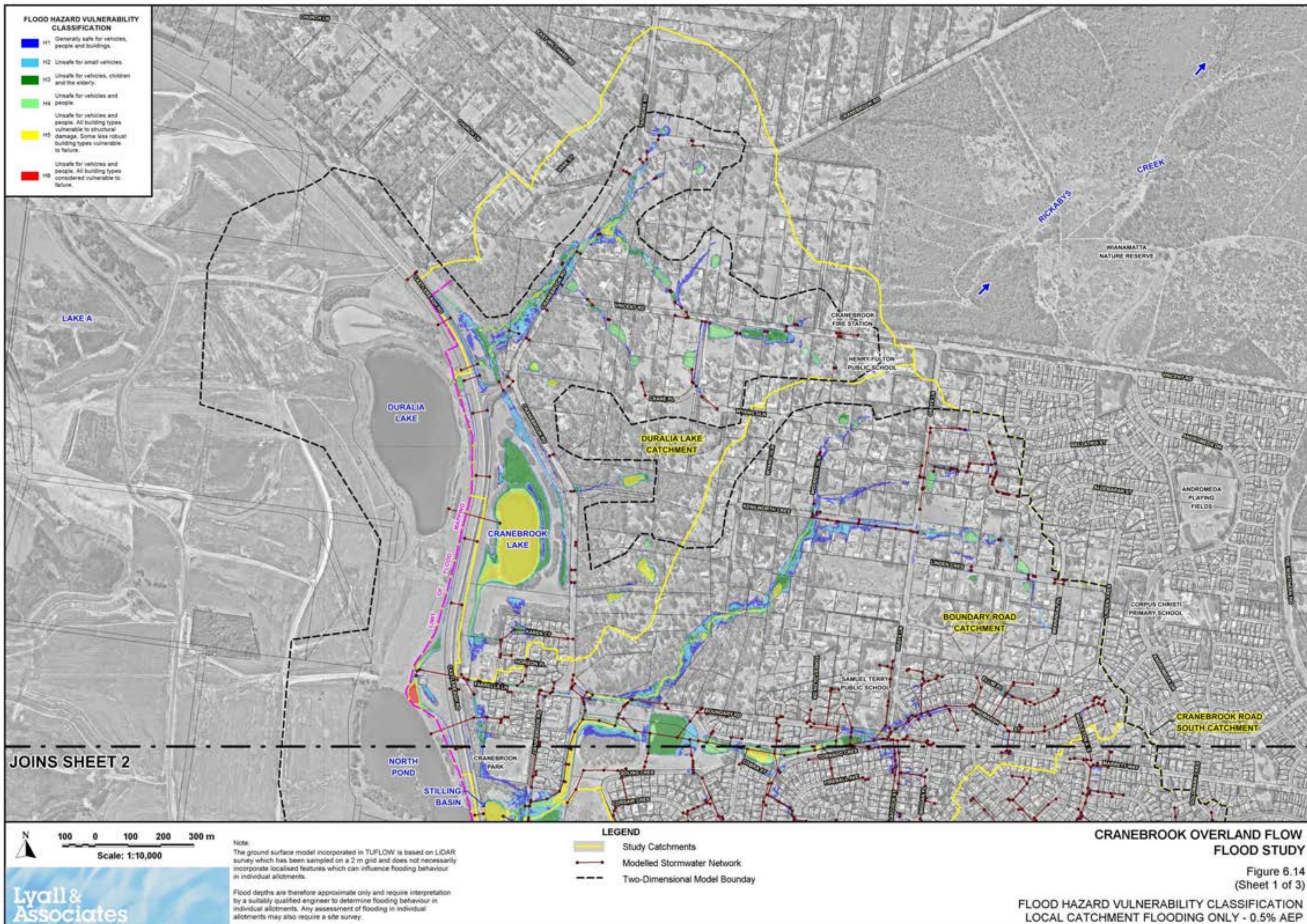


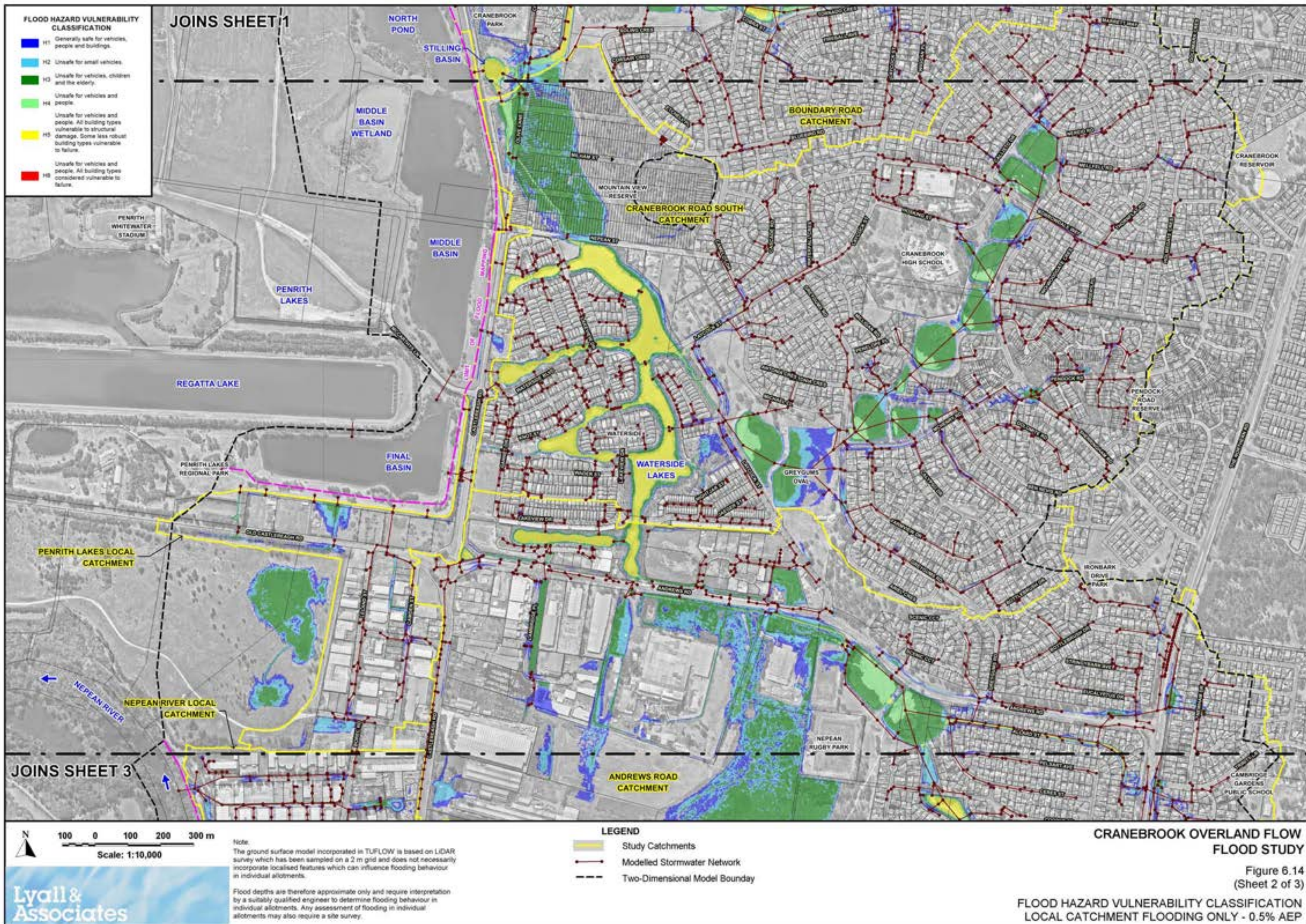


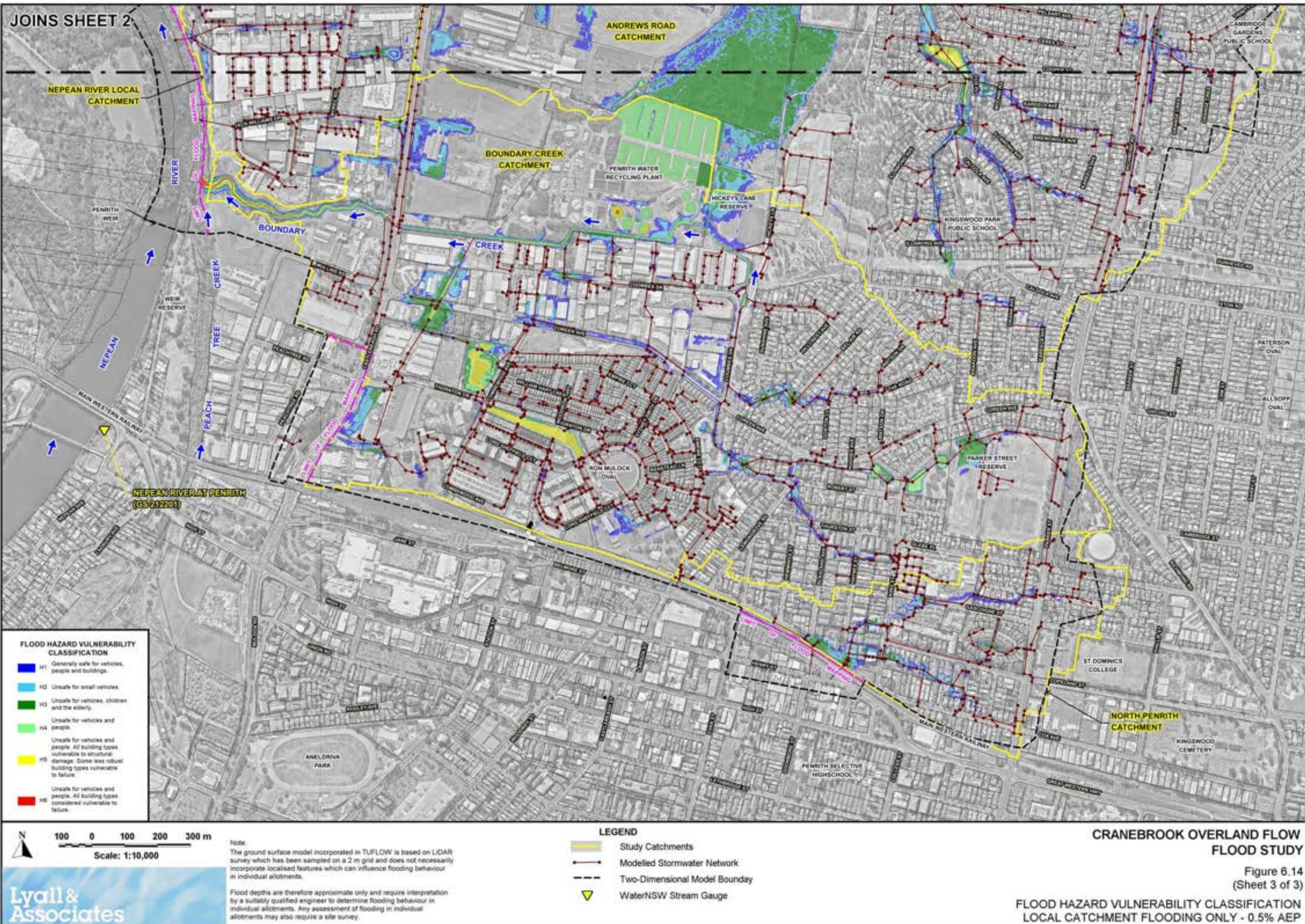


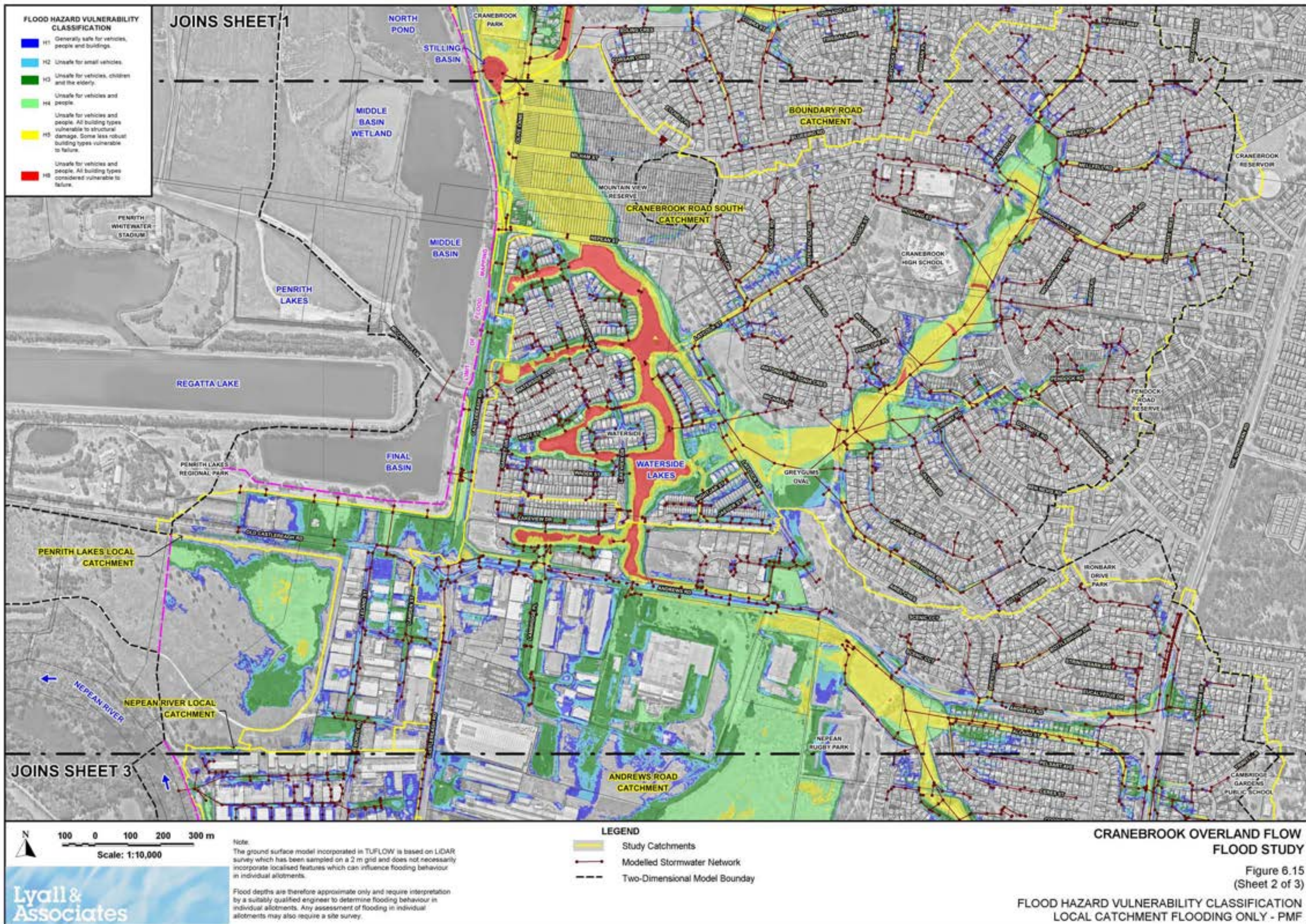


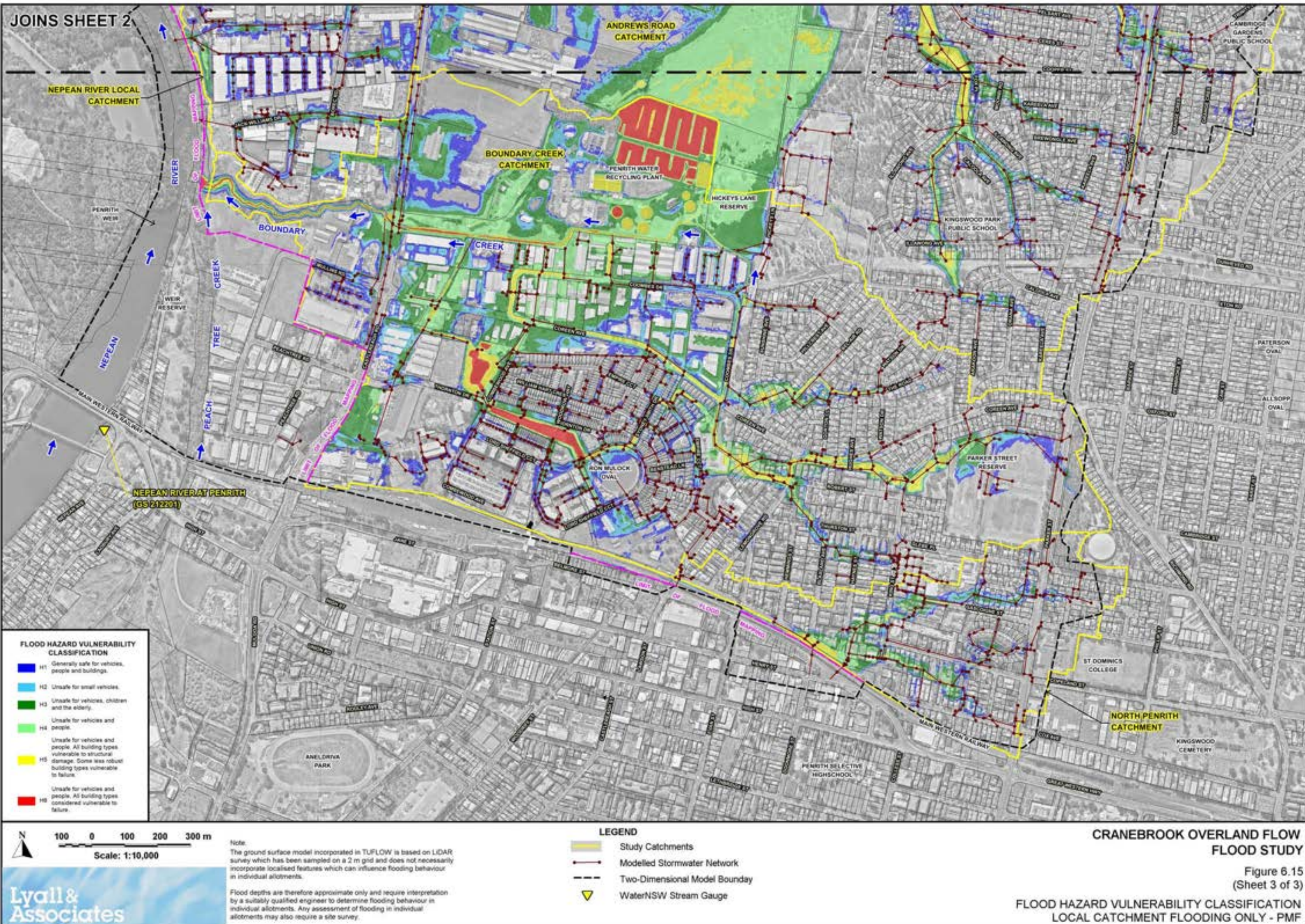














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Lyall & Associates

Note:
The ground surface model incorporated in TUFLOW is based on LIDAR survey which has been sampled on a 2 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.
Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.

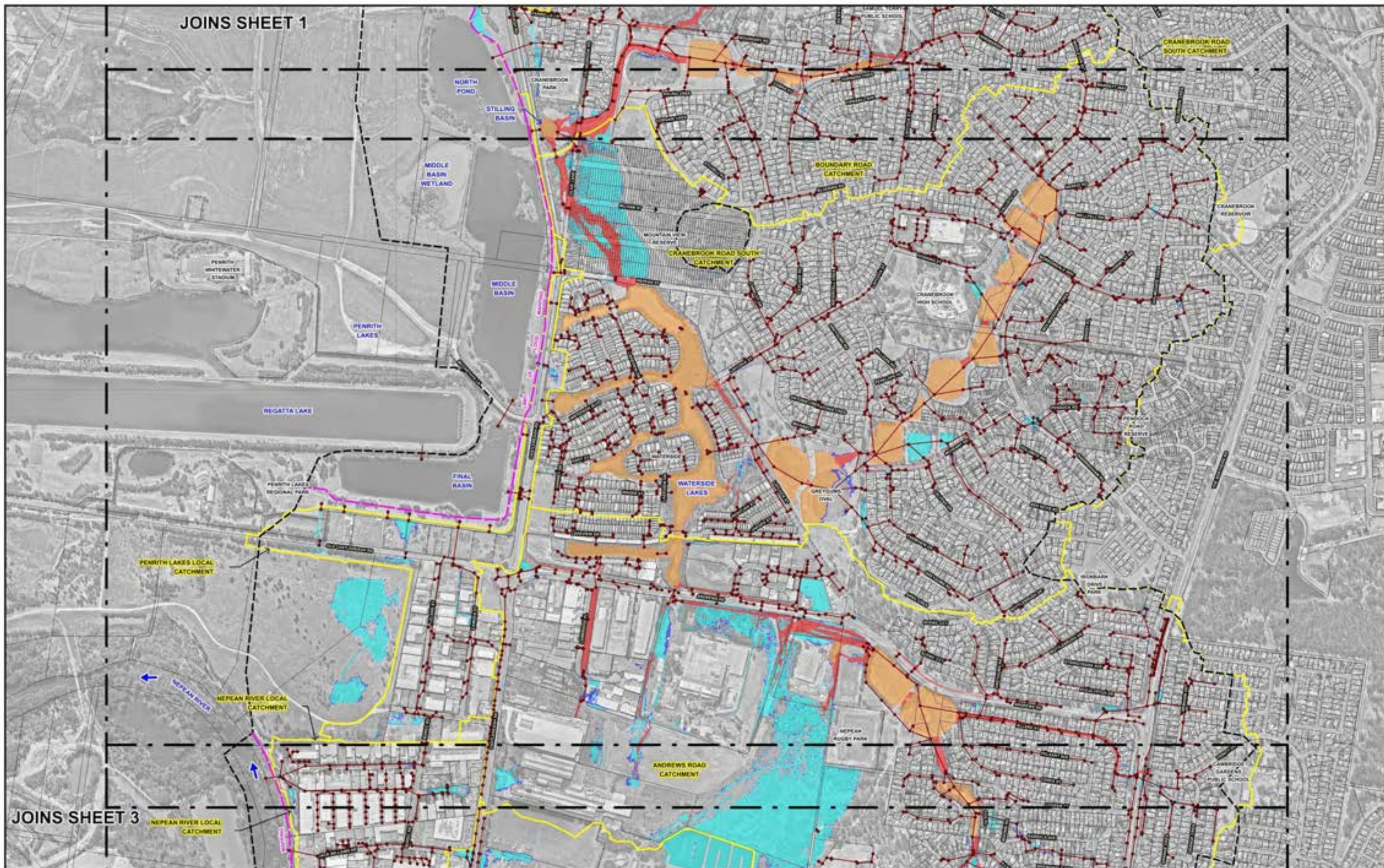
LEGEND

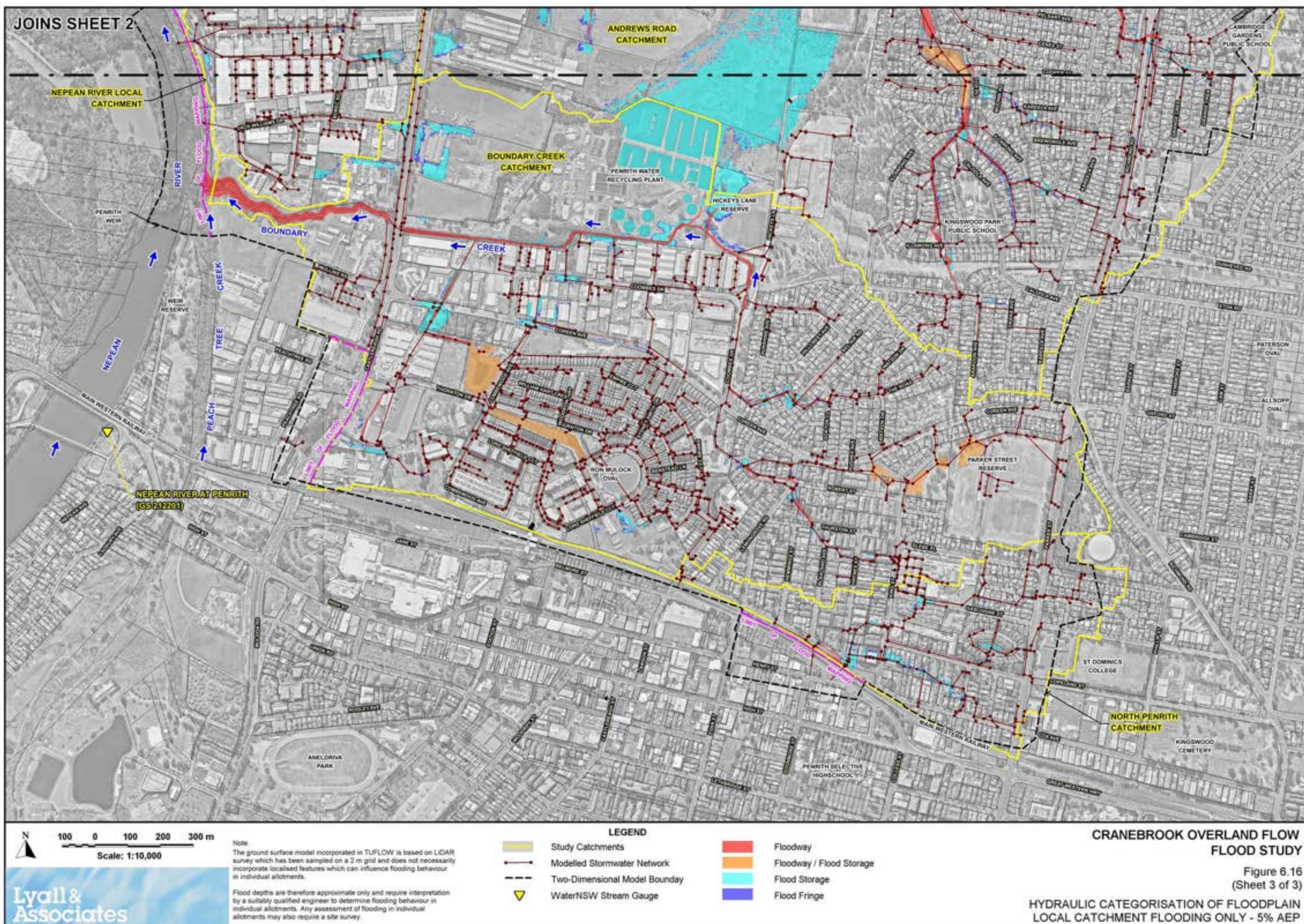
- Study Catchments
- Modelled Stormwater Network
- Two-Dimensional Model Boundary
- Floodway
- Floodway / Flood Storage
- Flood Storage
- Flood Fringe

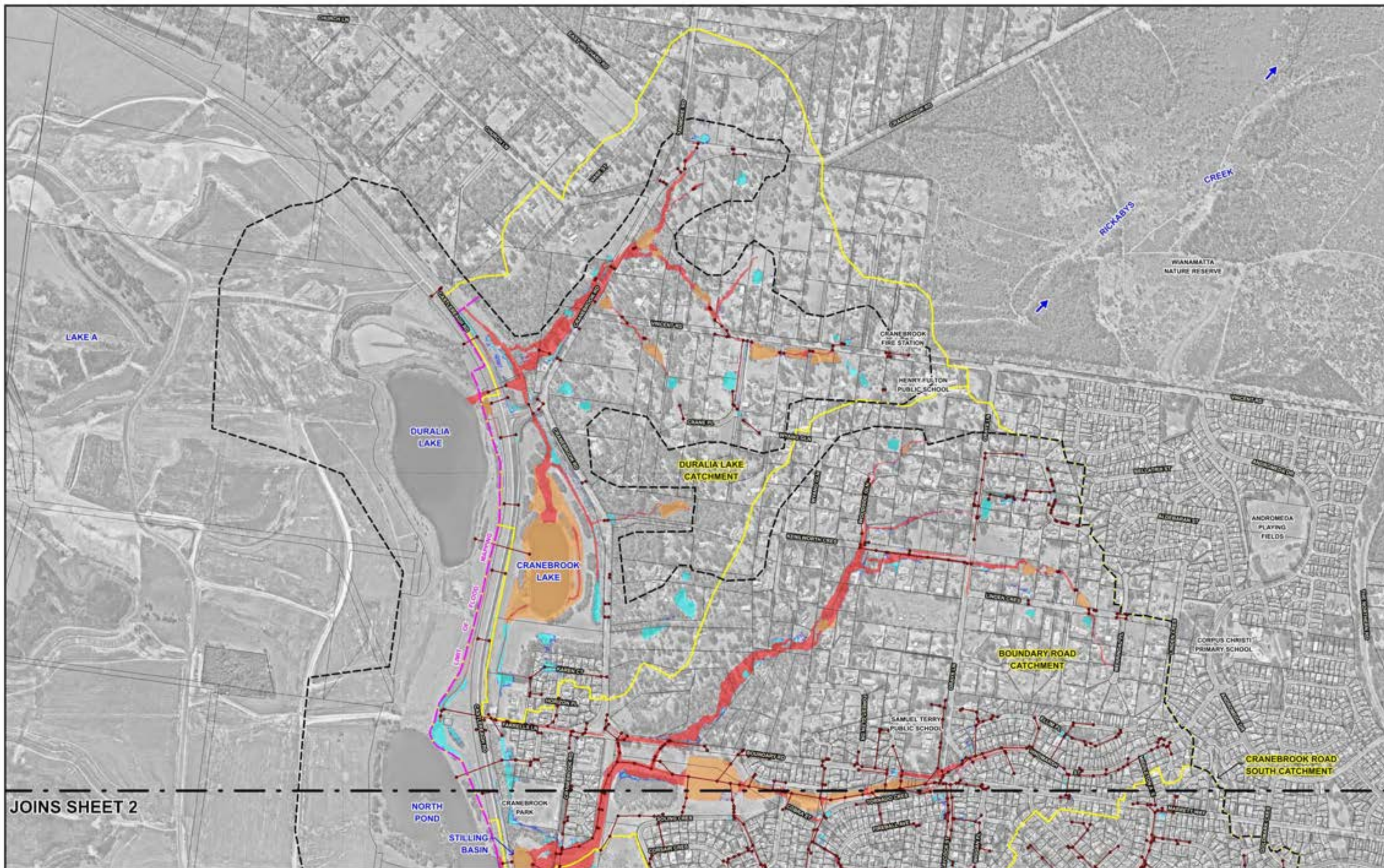
CRANEBROOK OVERLAND FLOW FLOOD STUDY

Figure 6.16
(Sheet 1 of 3)

HYDRAULIC CATEGORISATION OF FLOODPLAIN
LOCAL CATCHMENT FLOODING ONLY - 5% AEP







JOINS SHEET 2

Scale: 1:10,000

Lyall & Associates

Note:
The ground surface model incorporated in TUFLOW is based on LIDAR survey which has been sampled on a 2 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.
Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.

LEGEND

- Study Catchments
- Modelled Stormwater Network
- Two-Dimensional Model Boundary

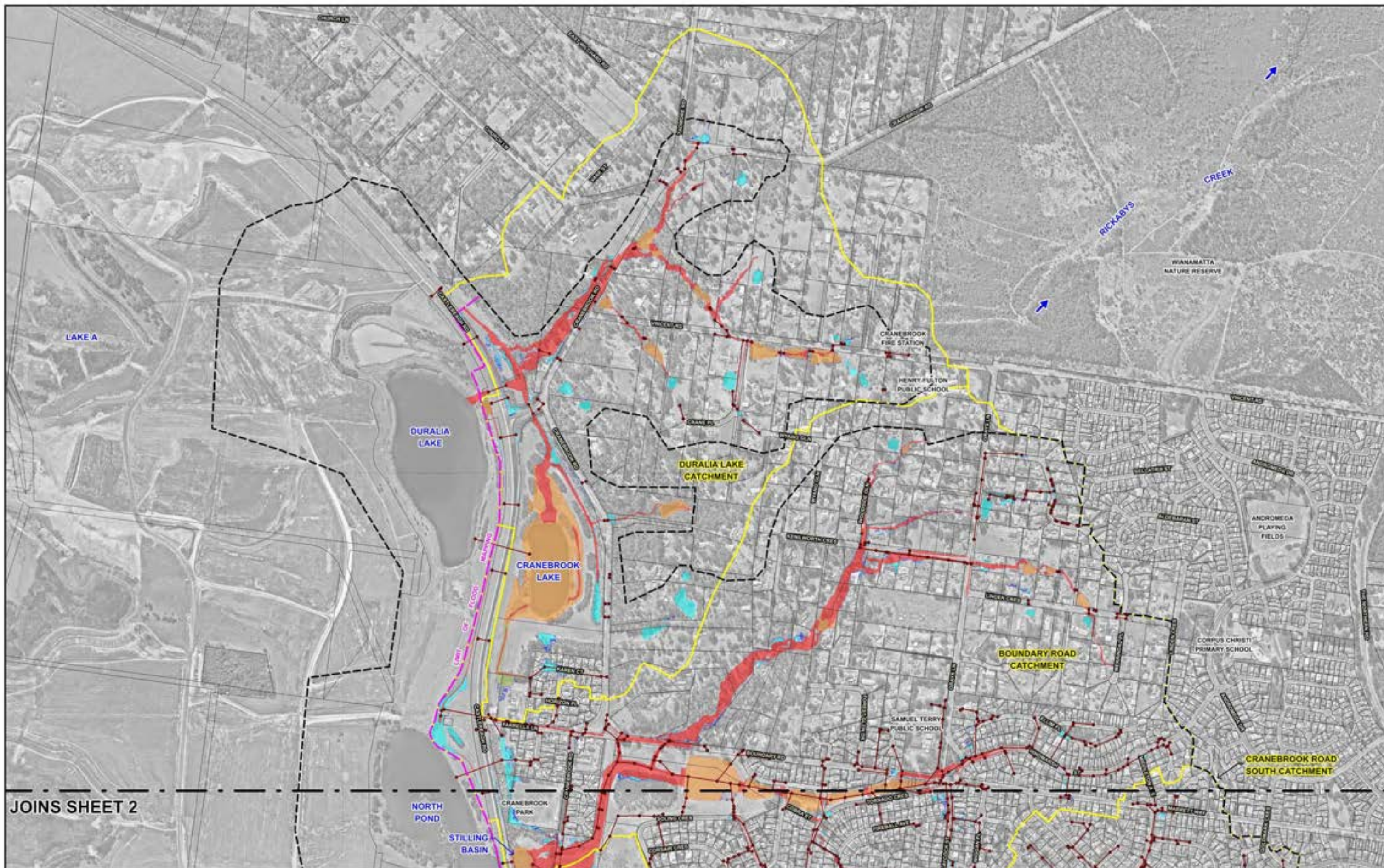
- Floodway
- Floodway / Flood Storage
- Flood Storage
- Flood Fringe

CRANEBROOK OVERLAND FLOW FLOOD STUDY

Figure 6.17
(Sheet 1 of 3)

HYDRAULIC CATEGORISATION OF FLOODPLAIN
LOCAL CATCHMENT FLOODING ONLY - 1% AEP





JOINS SHEET 2

Scale: 1:10,000

Lycall & Associates

Note:
The ground surface model incorporated in TUFLOW is based on LIDAR survey which has been sampled on a 2 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.
Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.

LEGEND

- Study Catchments
- Modelled Stormwater Network
- Two-Dimensional Model Boundary

- Floodway
- Floodway / Flood Storage
- Flood Storage
- Flood Fringe

CRANEBROOK OVERLAND FLOW FLOOD STUDY

Figure 6.18
(Sheet 1 of 3)

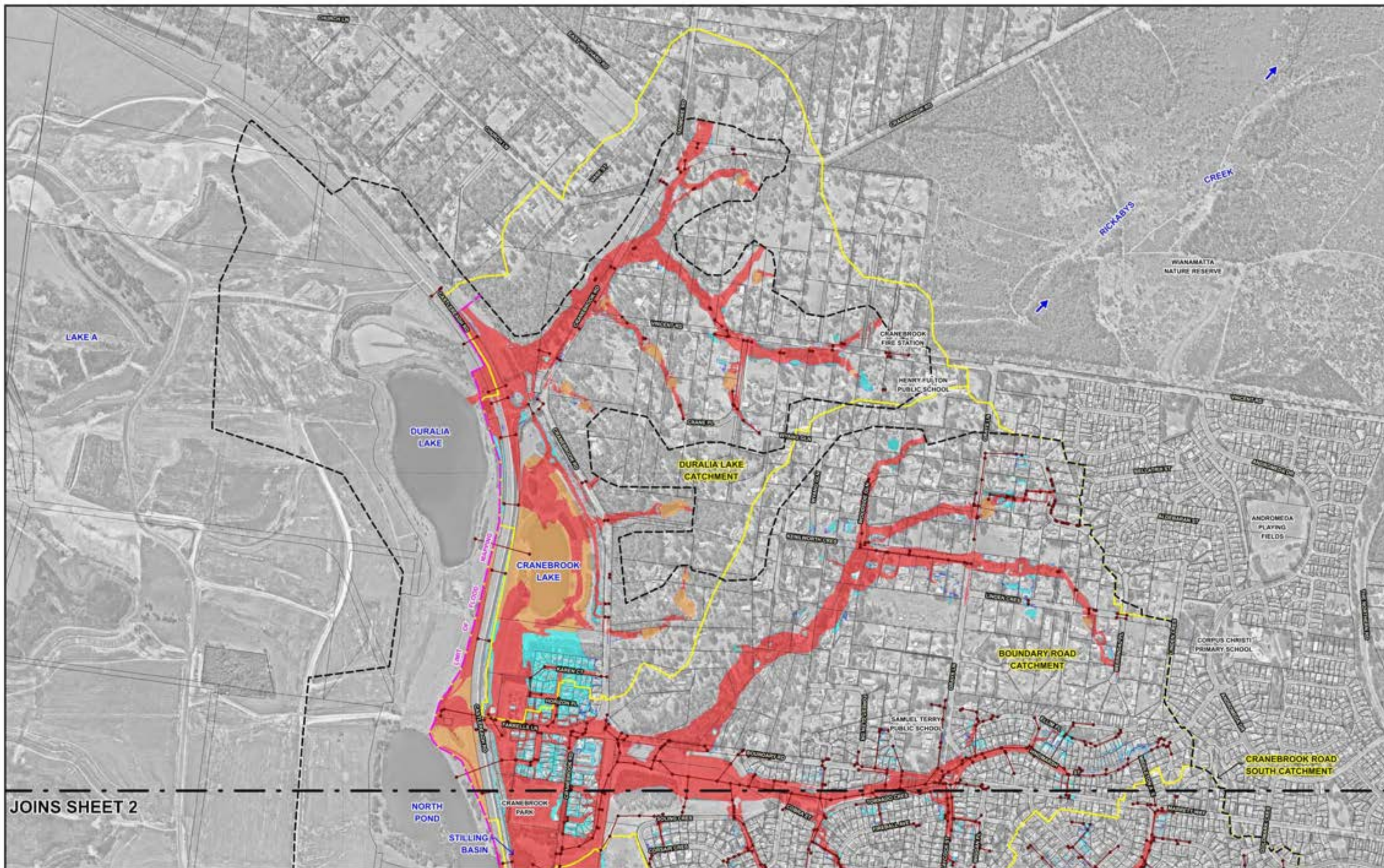
HYDRAULIC CATEGORISATION OF FLOODPLAIN
LOCAL CATCHMENT FLOODING ONLY - 0.5% AEP





Note:
The ground surface model incorporated in TUFLOW is based on LIDAR survey which has been sampled on a 2 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.

Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.



JOINS SHEET 2

Scale: 1:10,000

Lycall & Associates

Note:
The ground surface model incorporated in TUFLOW is based on LIDAR survey which has been sampled on a 2 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.

Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.

LEGEND

- Study Catchments
- Modelled Stormwater Network
- Two-Dimensional Model Boundary

- Floodway
- Floodway / Flood Storage
- Flood Storage
- Flood Fringe

CRANEBROOK OVERLAND FLOW FLOOD STUDY

Figure 6.19
(Sheet 1 of 3)

HYDRAULIC CATEGORISATION OF FLOODPLAIN
LOCAL CATCHMENT FLOODING ONLY - PMF

