College, Orth and Werrington Creeks Catchment Overland Flow Flood Study

Final Report

Volume 2 of 2: Figures

June 2017



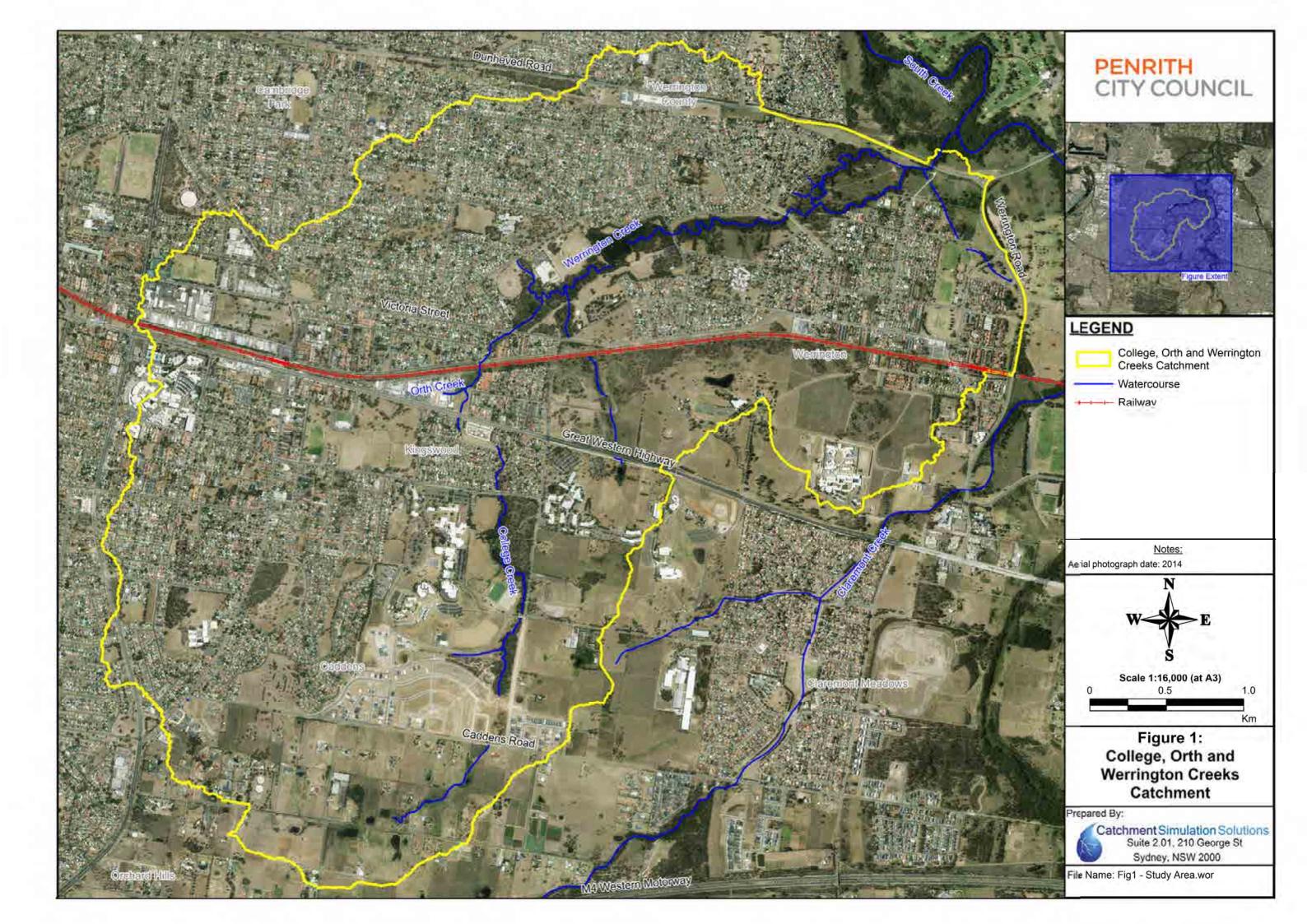


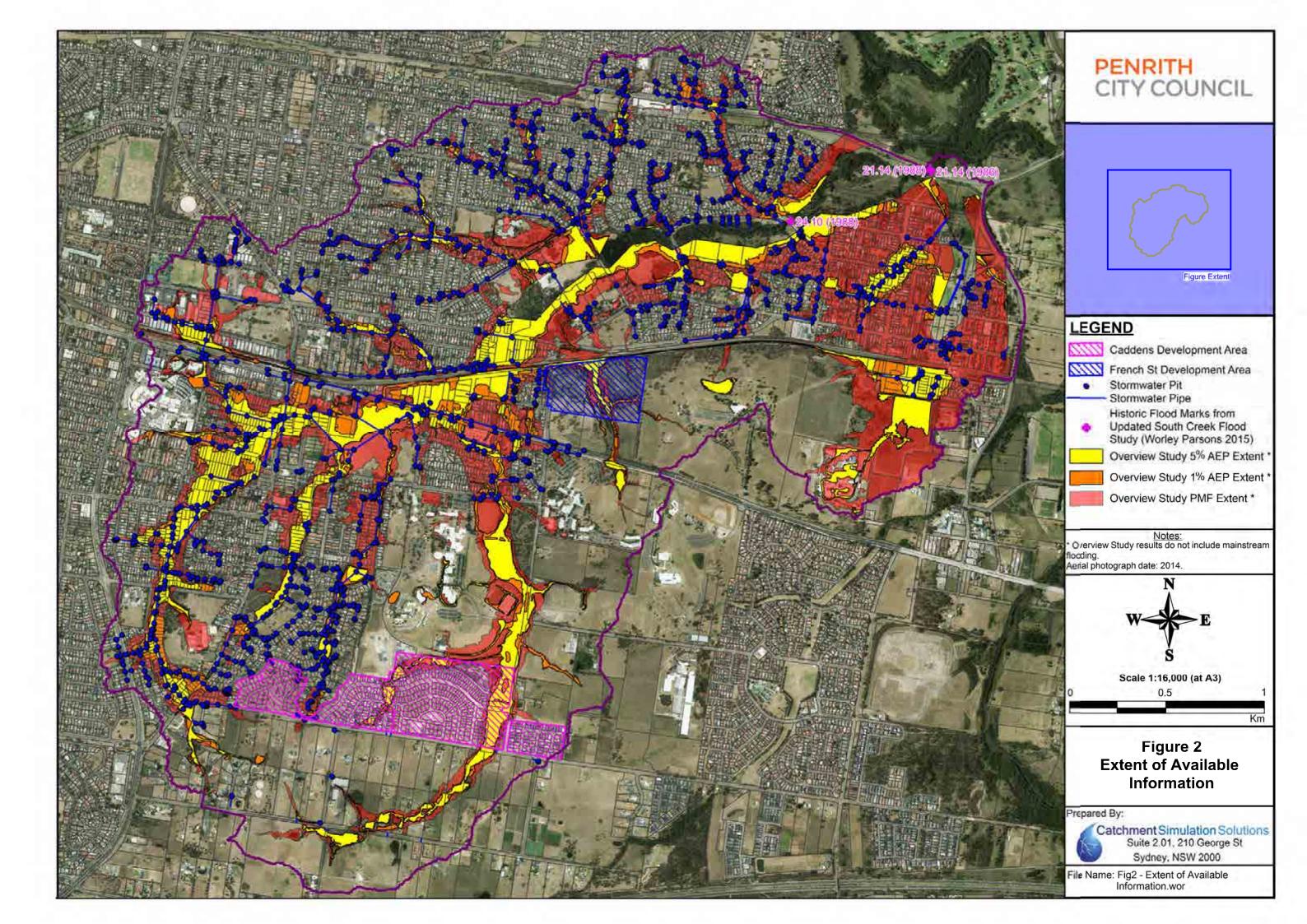
FIGURES

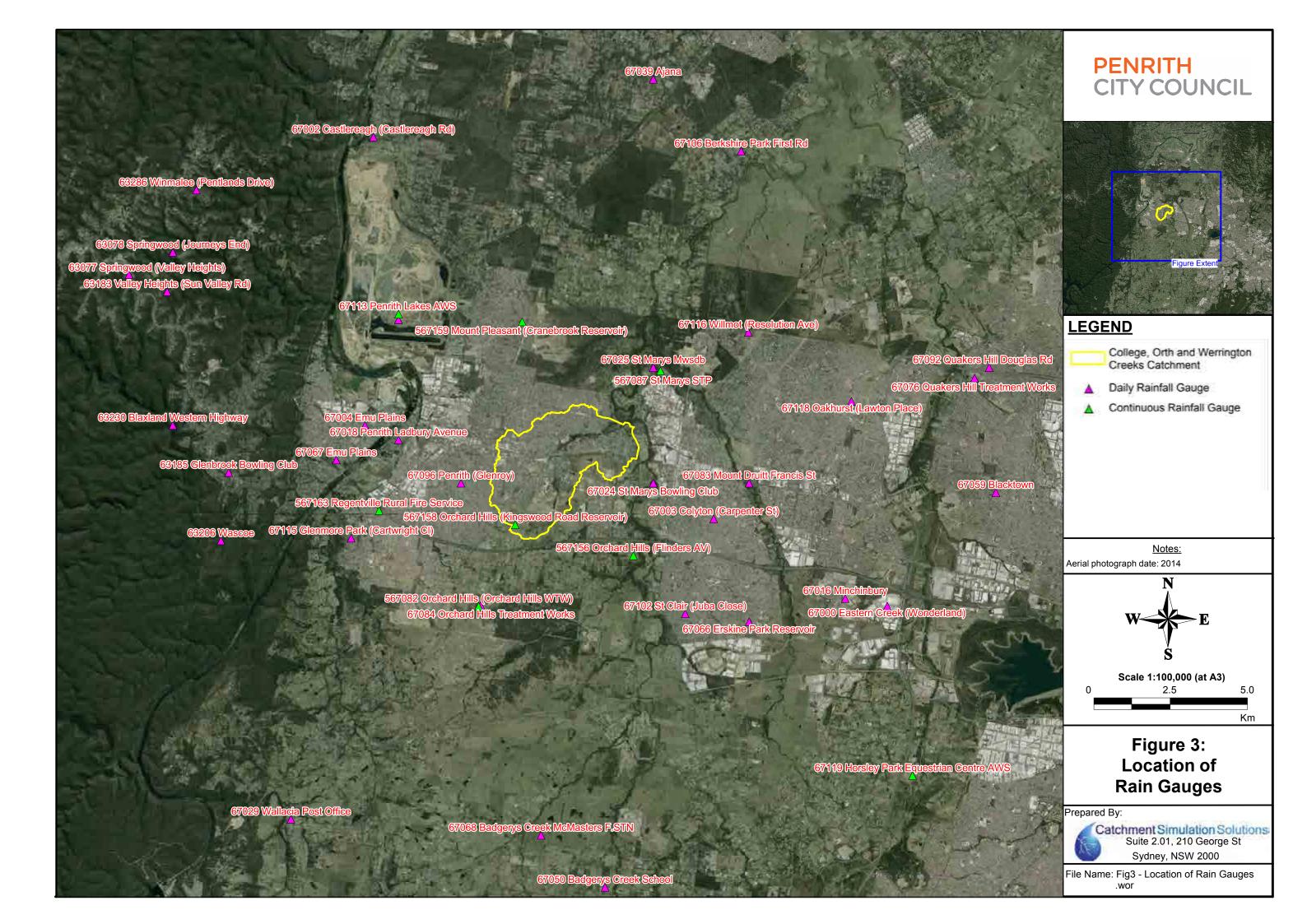
- Figure 1: College, Orth and Werrington Creeks Catchment
- Figure 2: Extent of Available Information
- Figure 3: Location of Rainfall Gauges
- Figure 4: Digital Elevation Model
- Figure 5: Remote Sensing Land Use Map
- Figure 6: Data Collected for the Study
- Figure 7: TUFLOW Model Layout
- Figure 8: Isohyet Map for 2012 Storm
- Figure 9: Simulated Floodwater Depths & Levels for 2012 Flood
- Figure 10: Isohyet Map for 2010 Storm
- Figure 11: Simulated Floodwater Depths & Levels for 2010 Flood
- Figure 12: Isohyet Map for 2011 Storm
- Figure 13: Simulated Floodwater Depths & Levels for 2011 Flood
- Figure 14: Peak Design Floodwater Depths for the 1 in 2 year ARI Flood
- Figure 15: Peak Design Floodwater Depths for the 20% AEP Flood
- Figure 16: Peak Design Floodwater Depths for the 10% AEP Flood
- Figure 17: Peak Design Floodwater Depths for the 5% AEP Flood
- Figure 18: Peak Design Floodwater Depths for the 2% AEP Flood
- Figure 19: Peak Design Floodwater Depths for the 1% AEP Flood
- Figure 20: Peak Design Floodwater Depths for the 0.5% AEP Flood
- Figure 21: Peak Design Floodwater Depths for the 0.2% AEP Flood
- Figure 22: Peak Design Floodwater Depths for the PMF

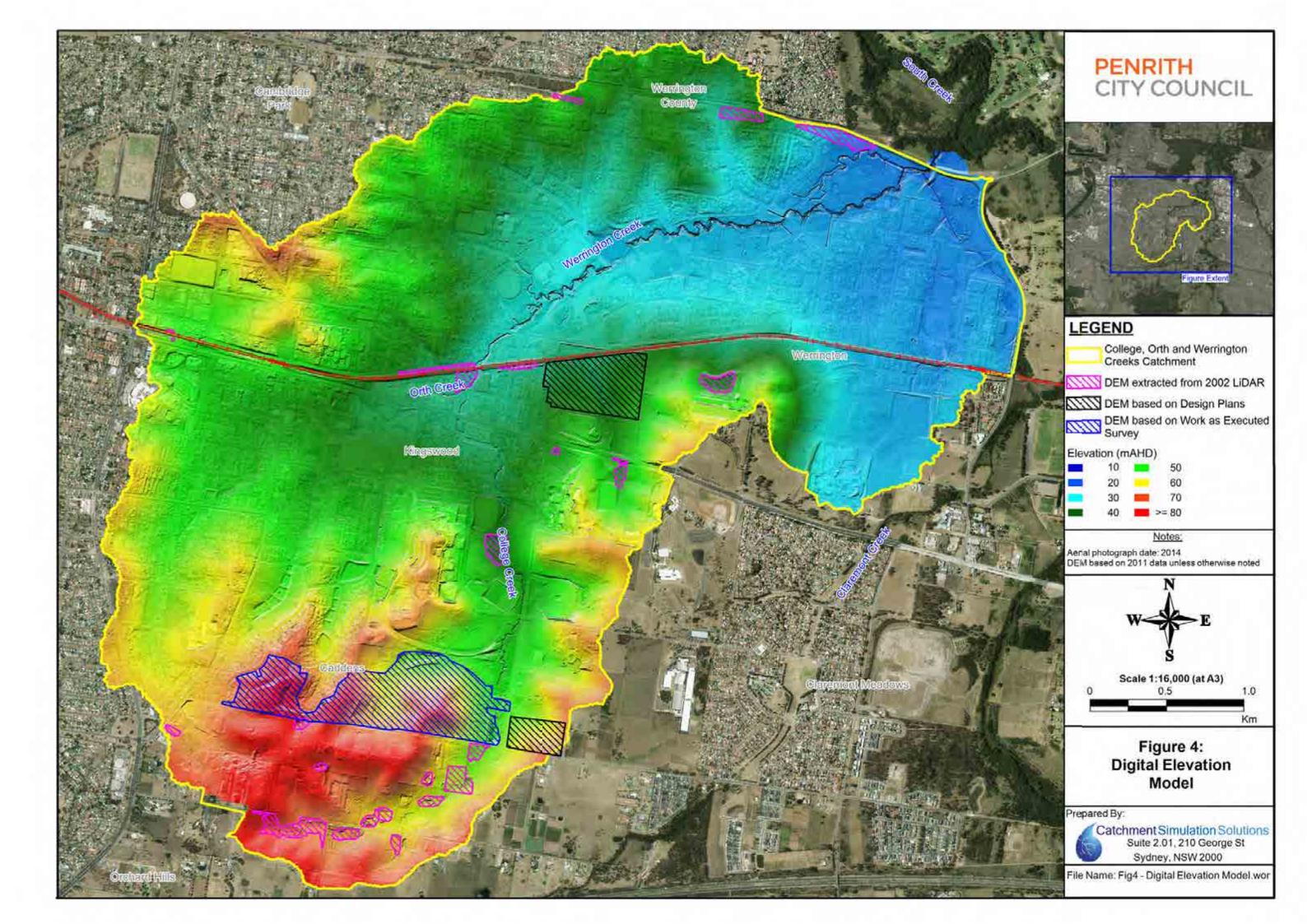
- Figure 23: Peak Design Floodwater Levels for the 1 in 2 year ARI Flood
- Figure 24: Peak Design Floodwater Levels for the 20% AEP Flood
- Figure 25: Peak Design Floodwater Levels for the 10% AEP Flood
- Figure 26: Peak Design Floodwater Levels for the 5% AEP Flood
- Figure 27: Peak Design Floodwater Levels for the 2% AEP Flood
- Figure 28: Peak Design Floodwater Levels for the 1% AEP Flood
- Figure 29: Peak Design Floodwater Levels for the 0.5% AEP Flood
- Figure 30: Peak Design Floodwater Levels for the 0.2% AEP Flood
- Figure 31: Peak Design Floodwater Levels for the PMF
- Figure 32: Peak Design Floodwater Velocities for the 1 in 2 year ARI Flood
- Figure 33: Peak Design Floodwater Velocities for the 20% AEP Flood
- Figure 34: Peak Design Floodwater Velocities for the 10% AEP Flood
- Figure 35: Peak Design Floodwater Velocities for the 5% AEP Flood
- Figure 36: Peak Design Floodwater Velocities for the 2% AEP Flood
- Figure 37: Peak Design Floodwater Velocities for the 1% AEP Flood
- Figure 38: Peak Design Floodwater Velocities for the 0.5% AEP Flood
- Figure 39: Peak Design Floodwater Velocities for the 0.2% AEP Flood
- Figure 40: Peak Design Floodwater Velocities for the PMF
- Figure 41: Design Floodwater Surface Profiles
- Figure 42: Stormwater System Capacity Map
- Figure 43: Provisional Flood Hazard for the 5% AEP Flood
- Figure 44: Provisional Flood Hazard for the 1% AEP Flood
- Figure 45: Provisional Flood Hazard for the PMF
- Figure 46: Emergency Response Precinct Classifications for the 5% AEP Flood

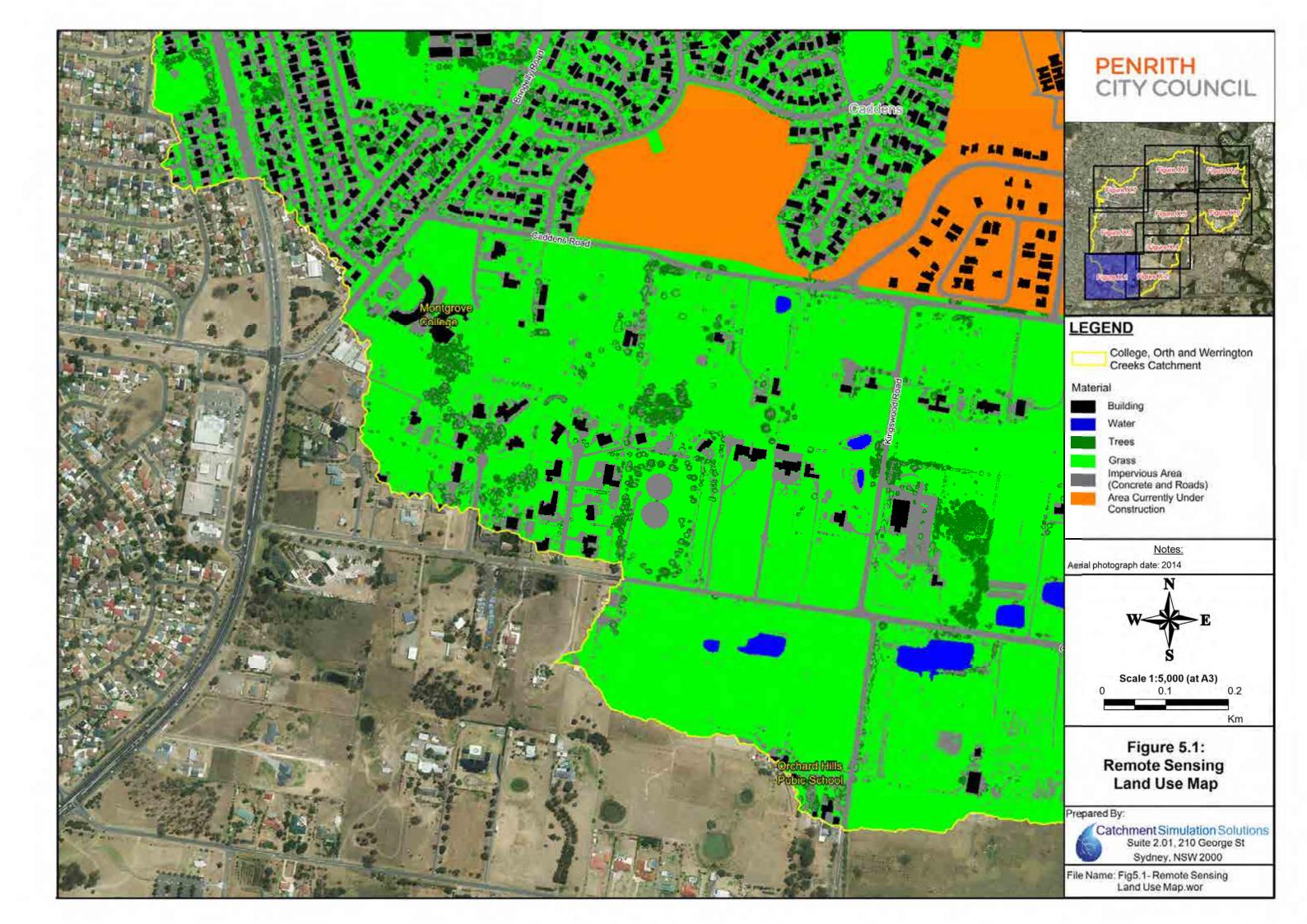
- Figure 47: Emergency Response Precinct Classifications for the 1% AEP Flood
- Figure 48: Emergency Response Precinct Classifications for the PMF
- Figure 49: Preliminary True Flood Hazard for the 5% AEP Flood
- Figure 50: Preliminary True Flood Hazard for the 1% AEP Flood
- Figure 51: Preliminary True Flood Hazard for the PMF
- Figure 52: Hydraulic Categories for the 5% AEP Flood
- Figure 53: Hydraulic Categories for the 1% AEP Flood
- Figure 54: Hydraulic Categories for the PMF
- Figure 55: Flood Planning Area
- Figure 56: Potential Flood Risk Mitigation Options

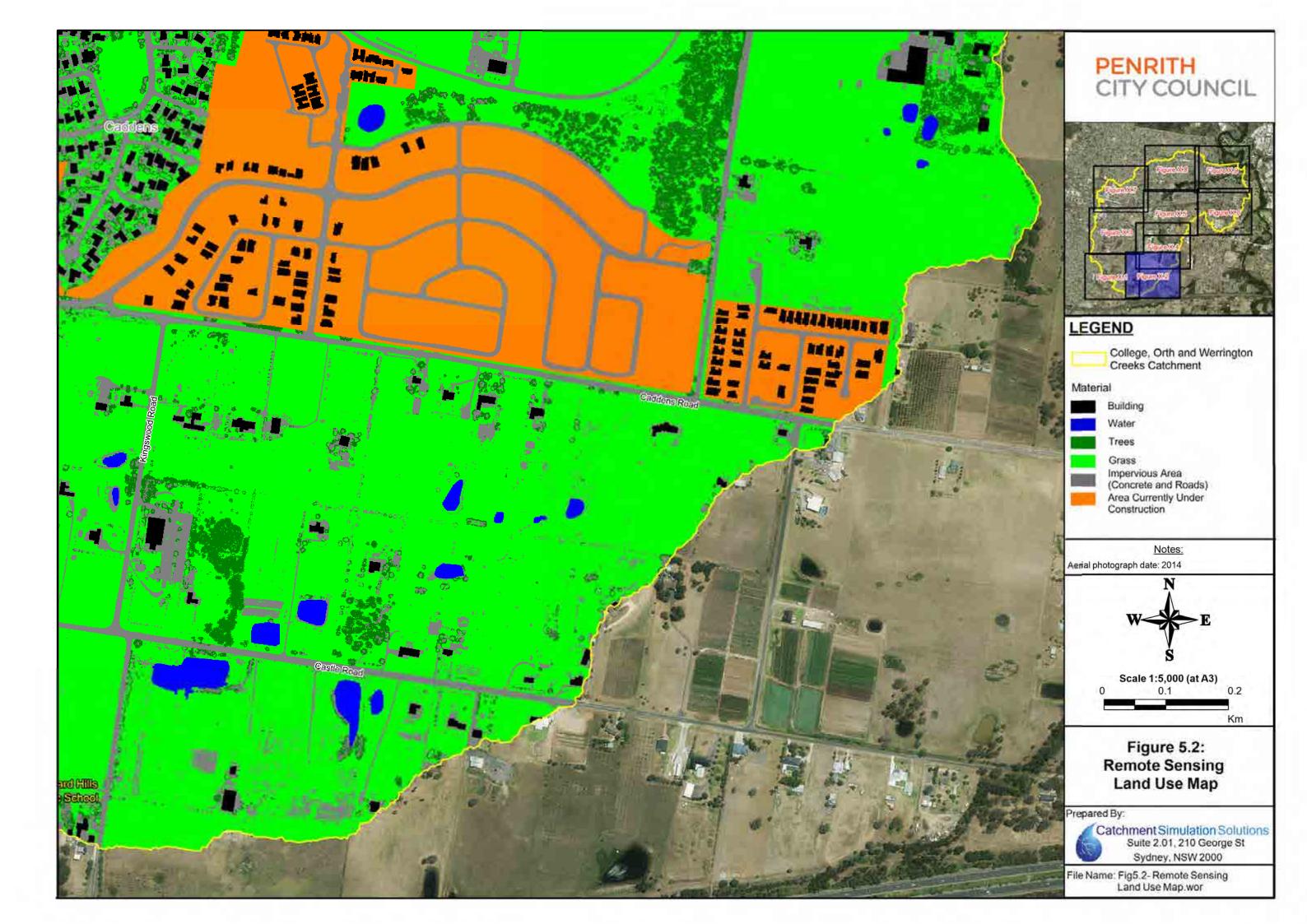


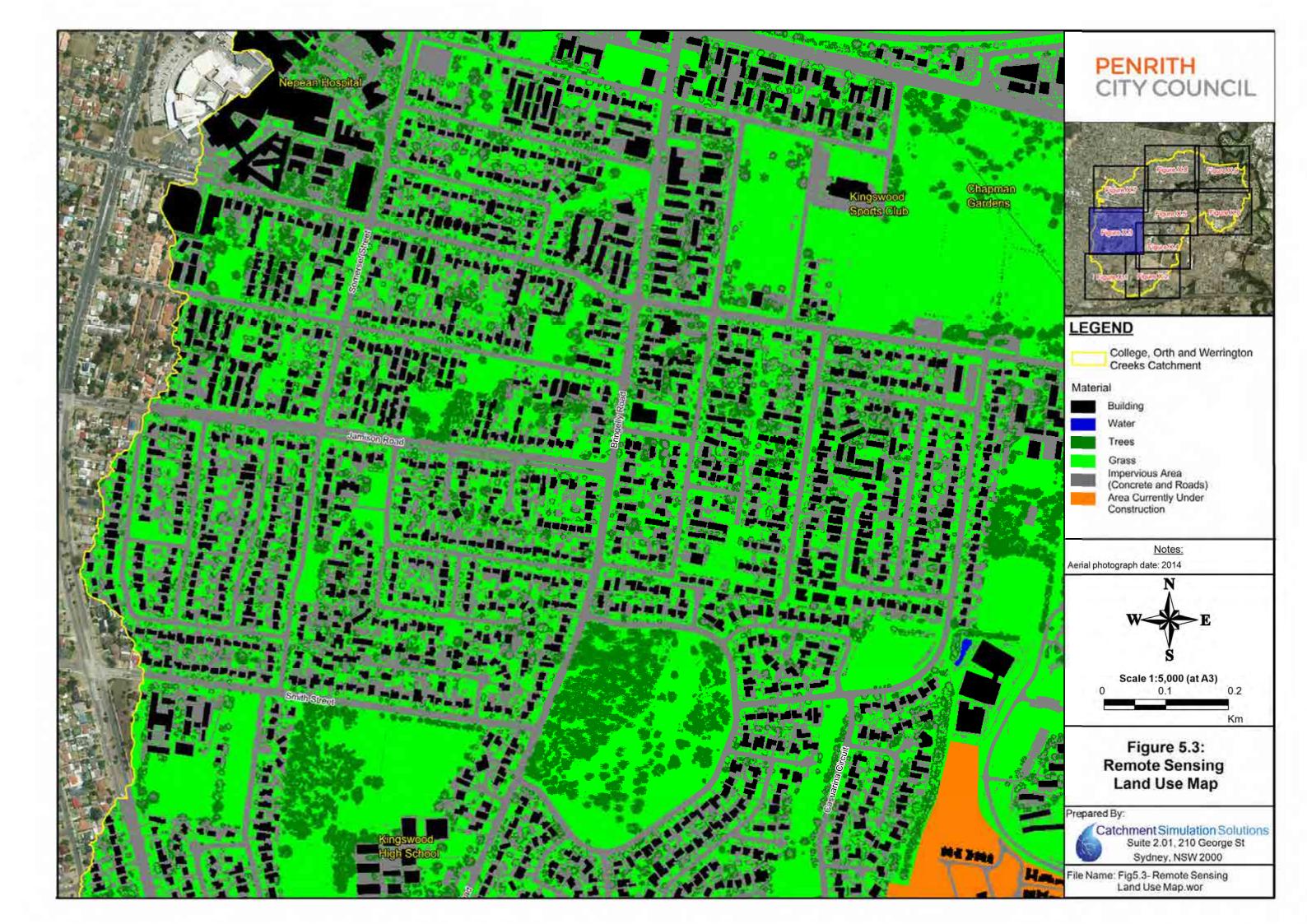


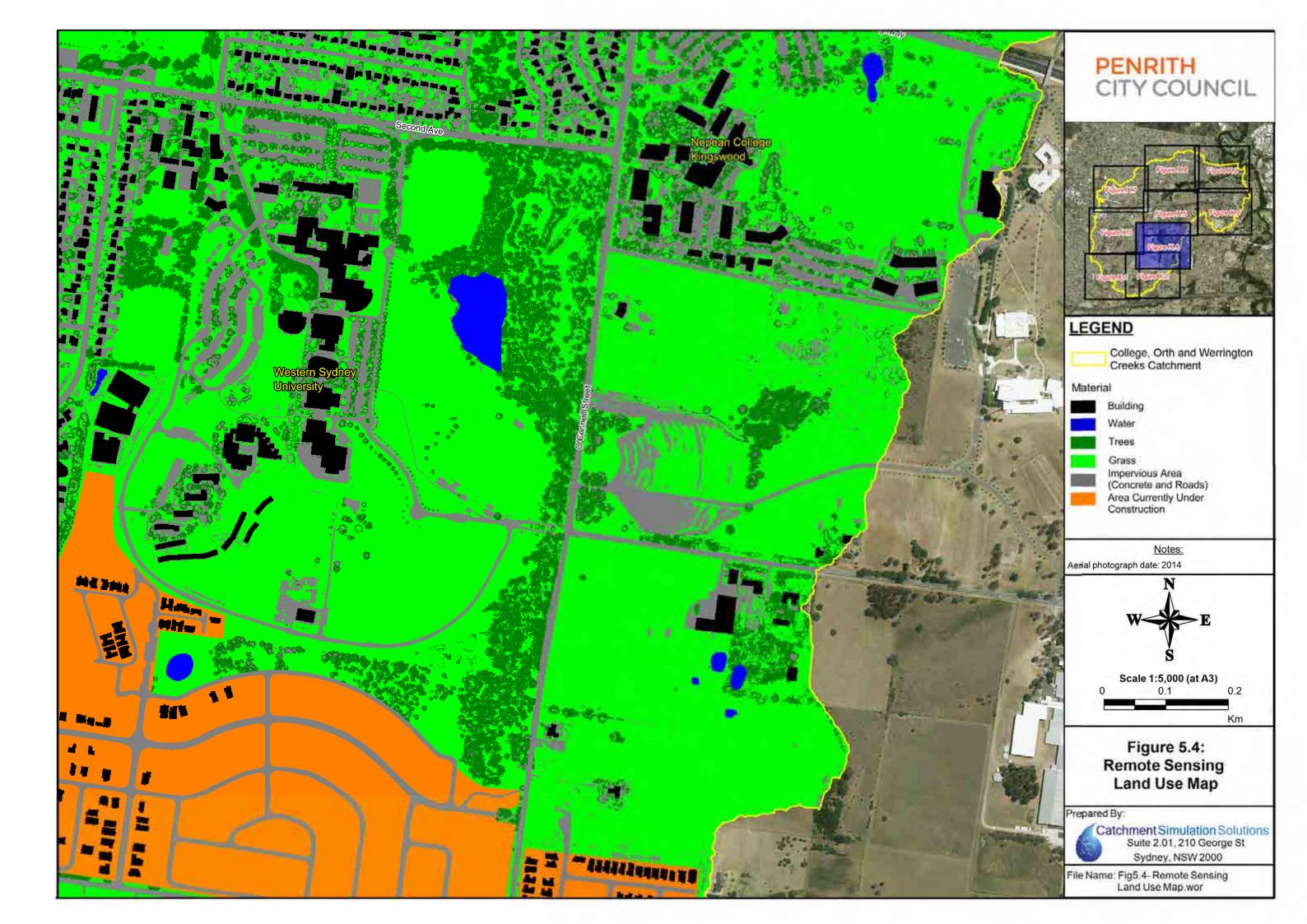


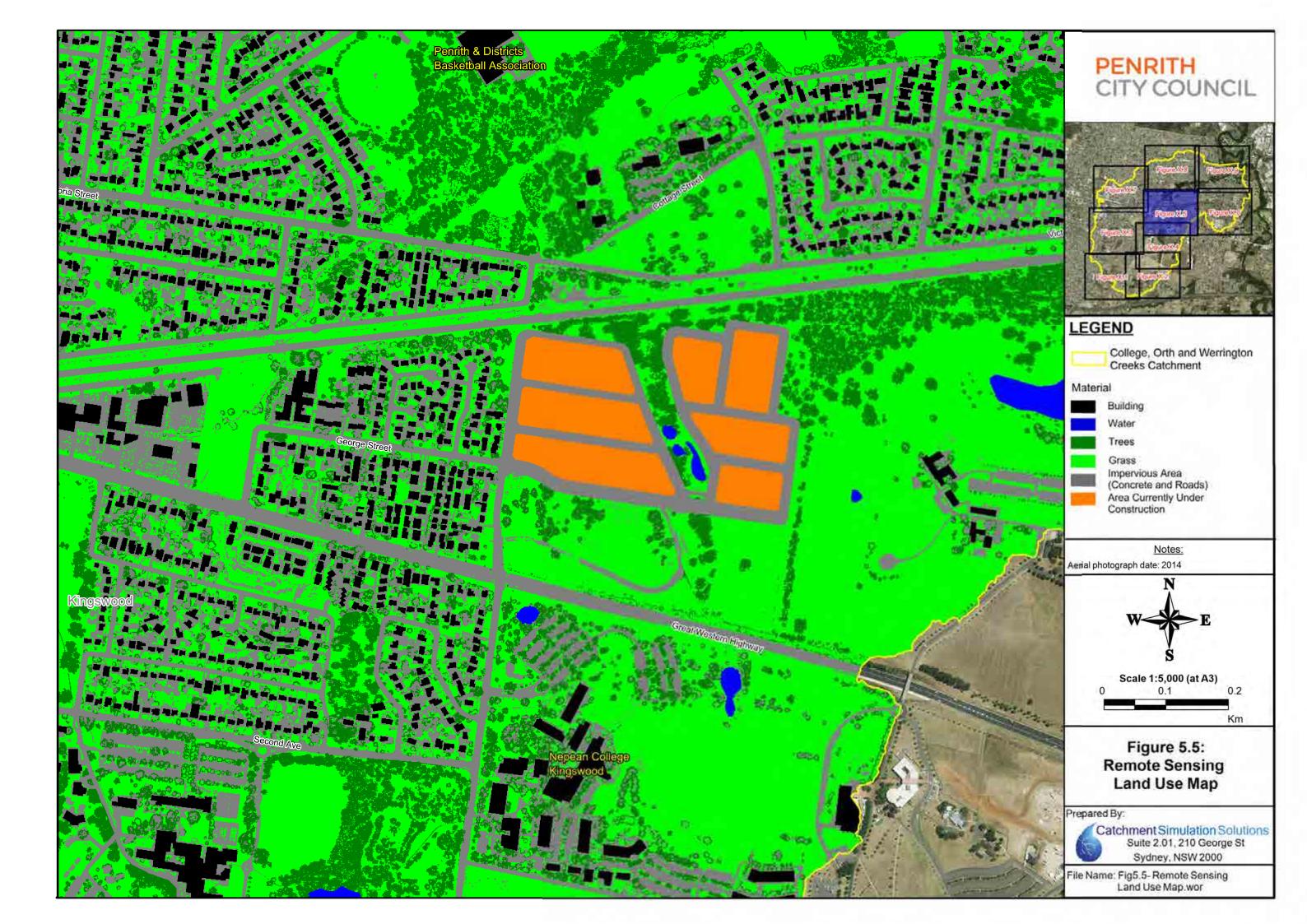


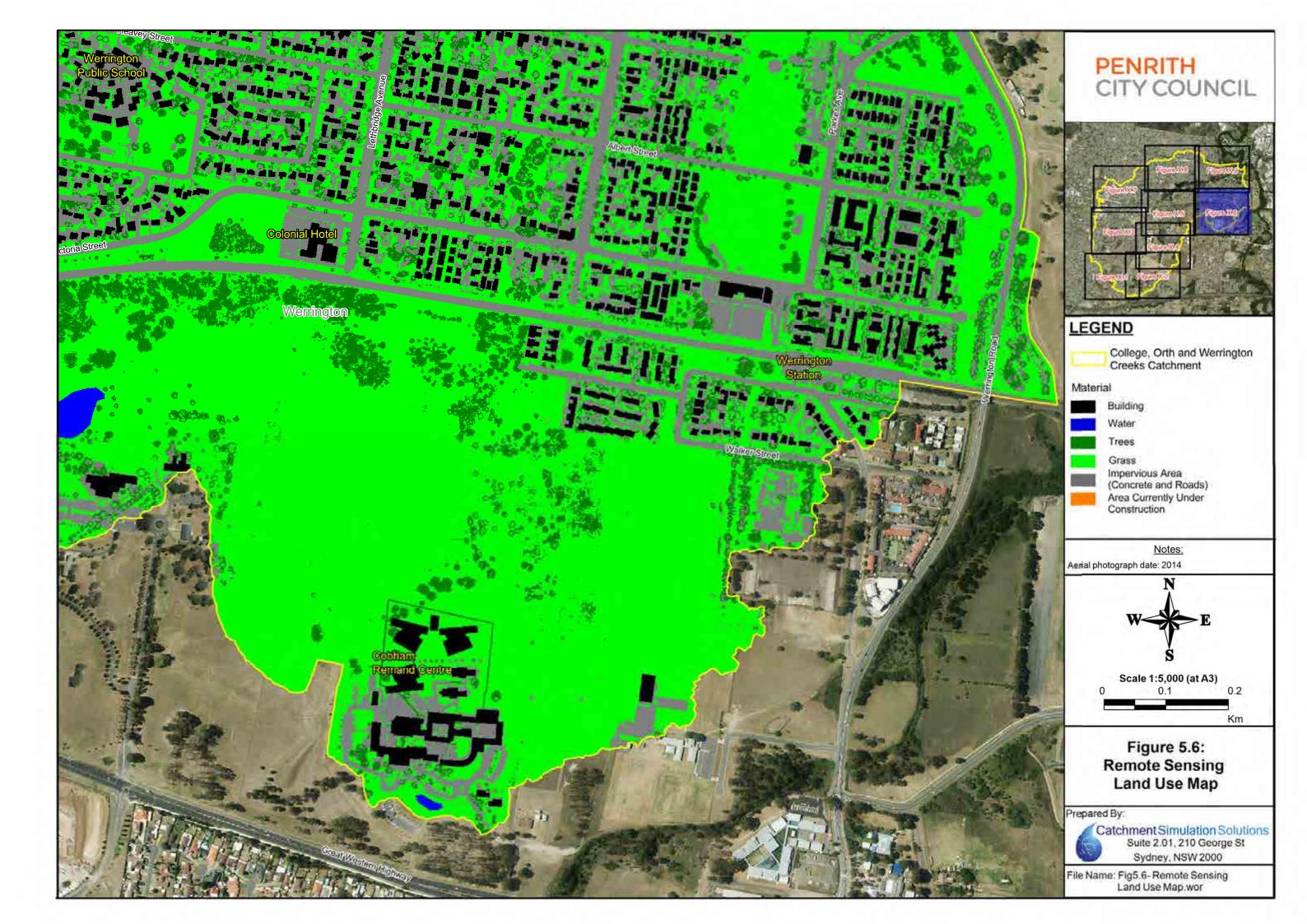


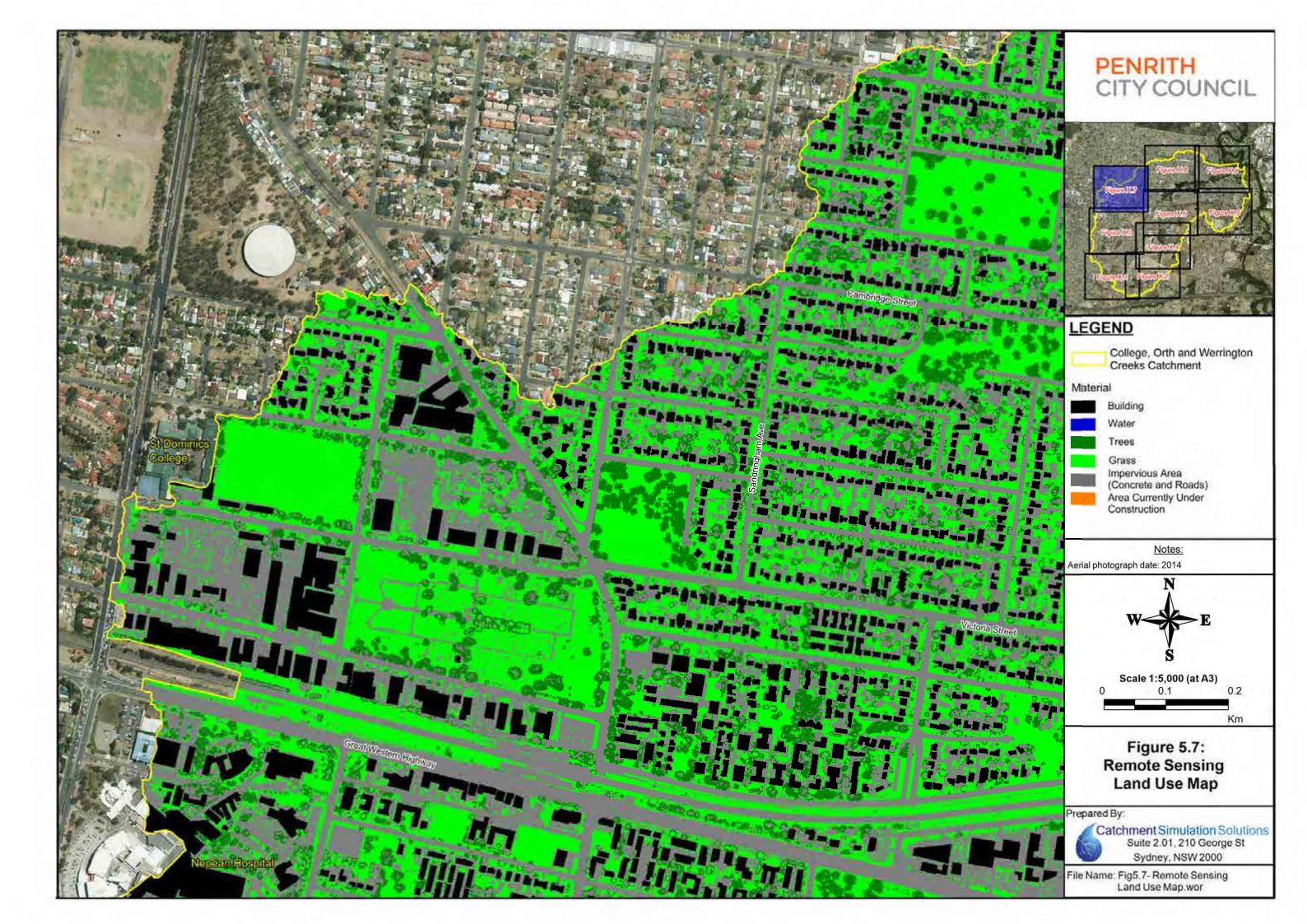


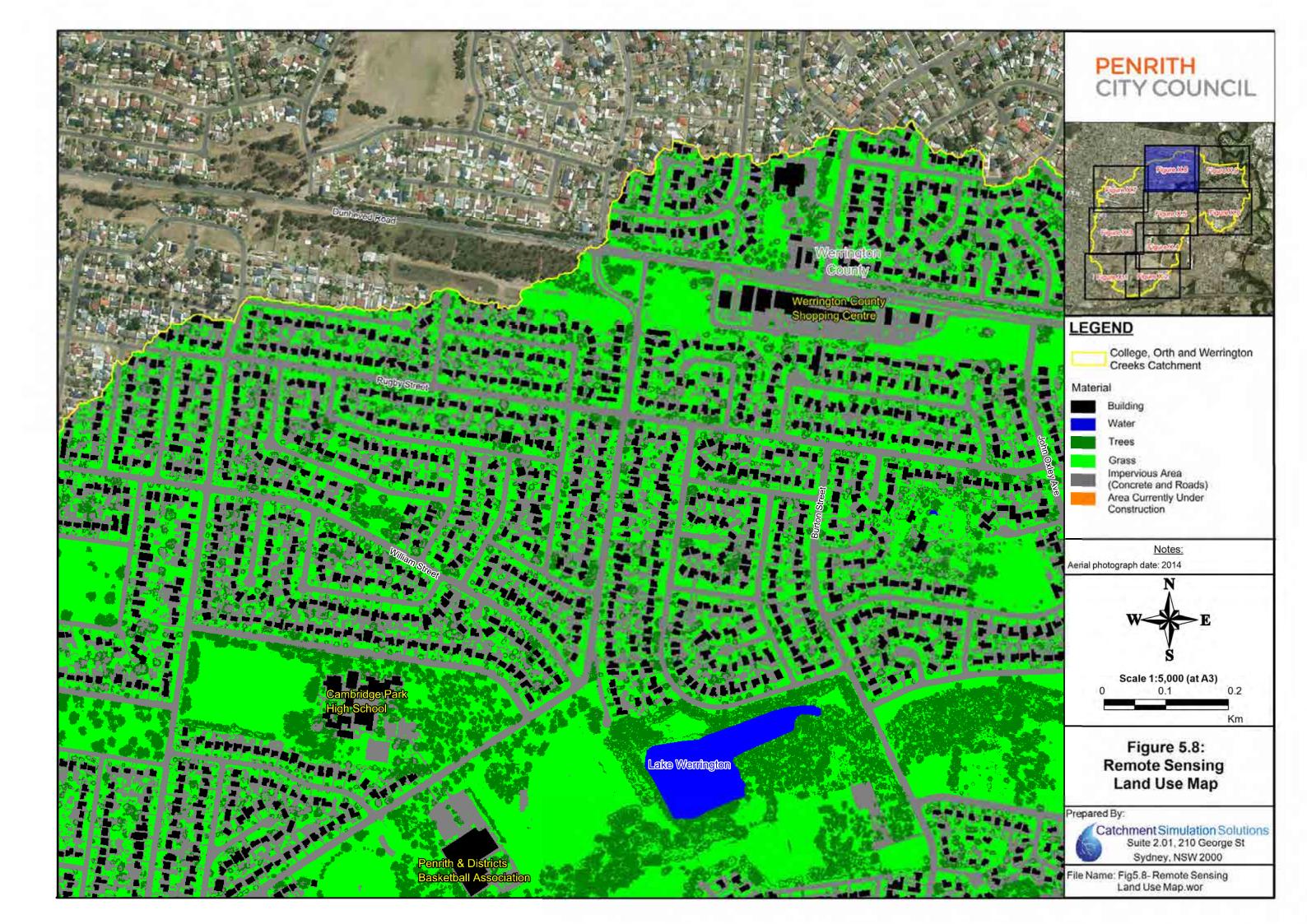


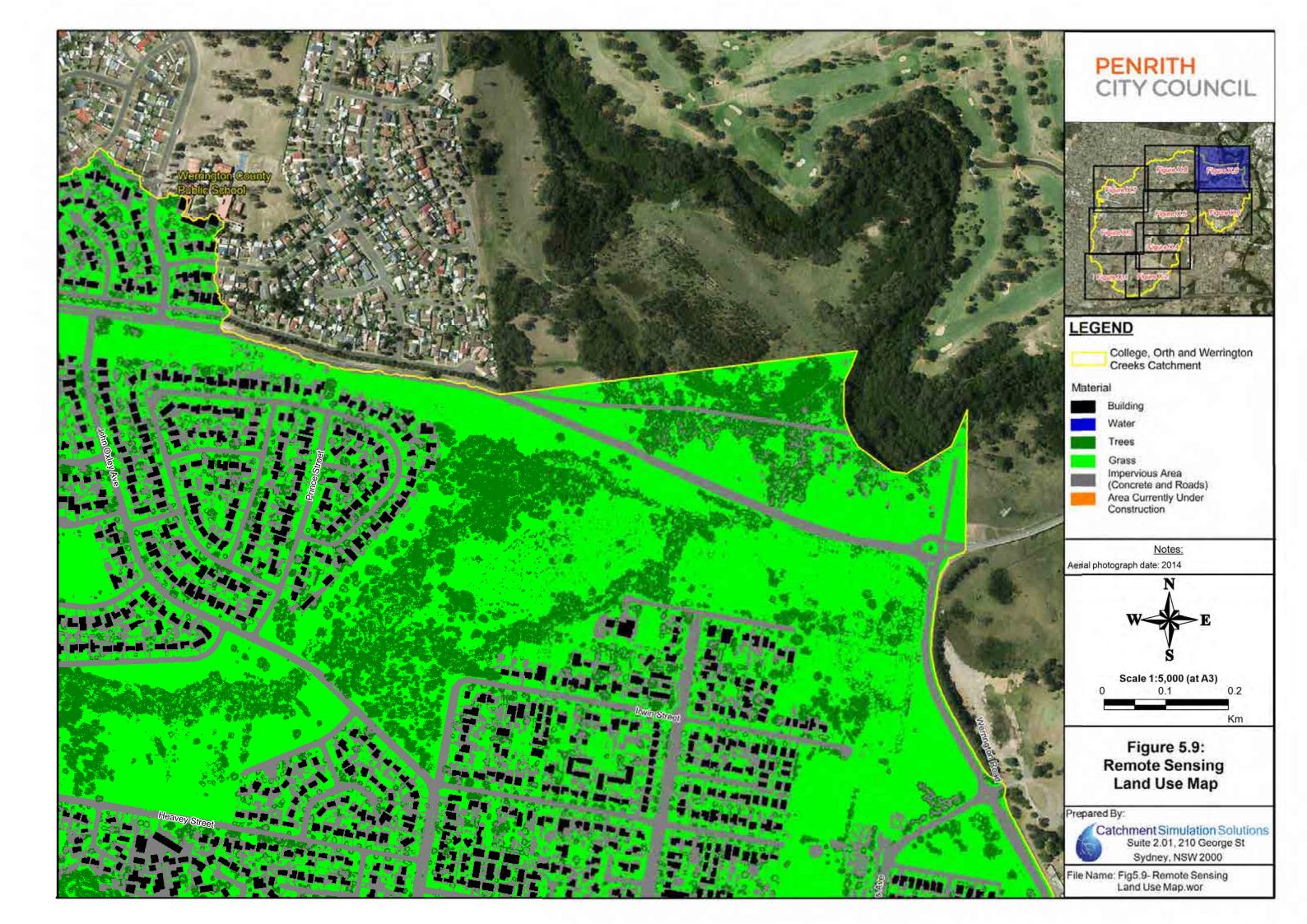


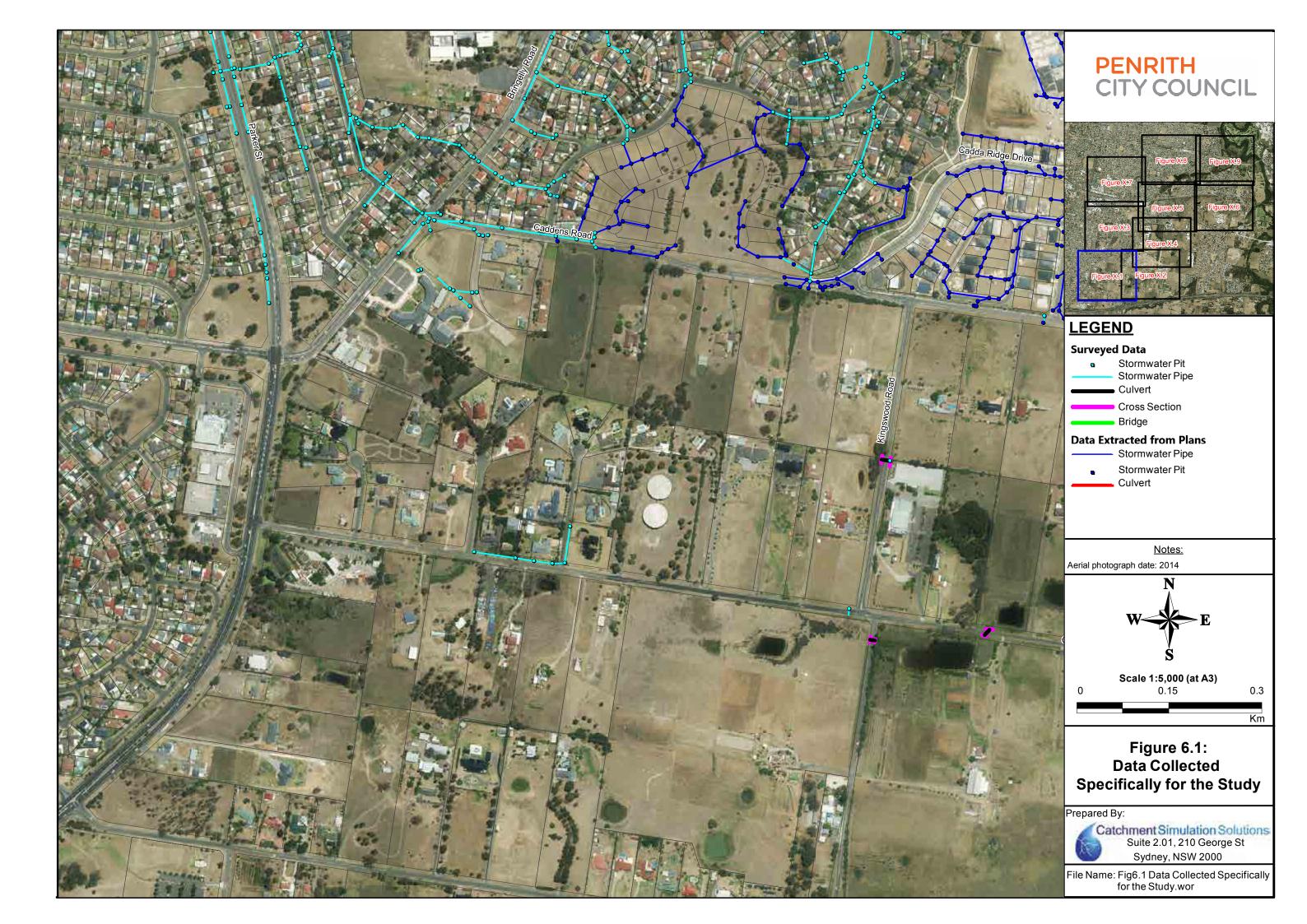


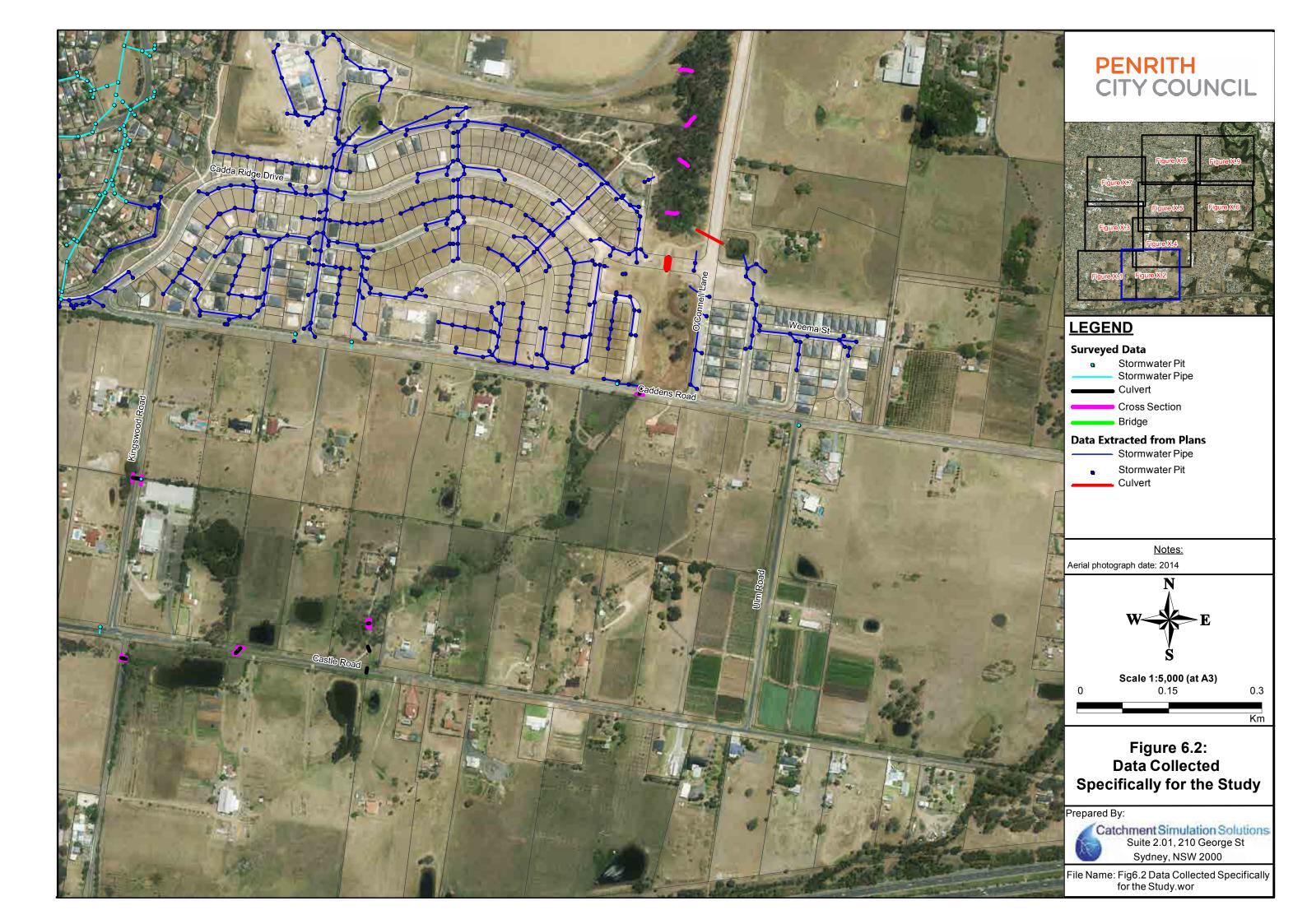


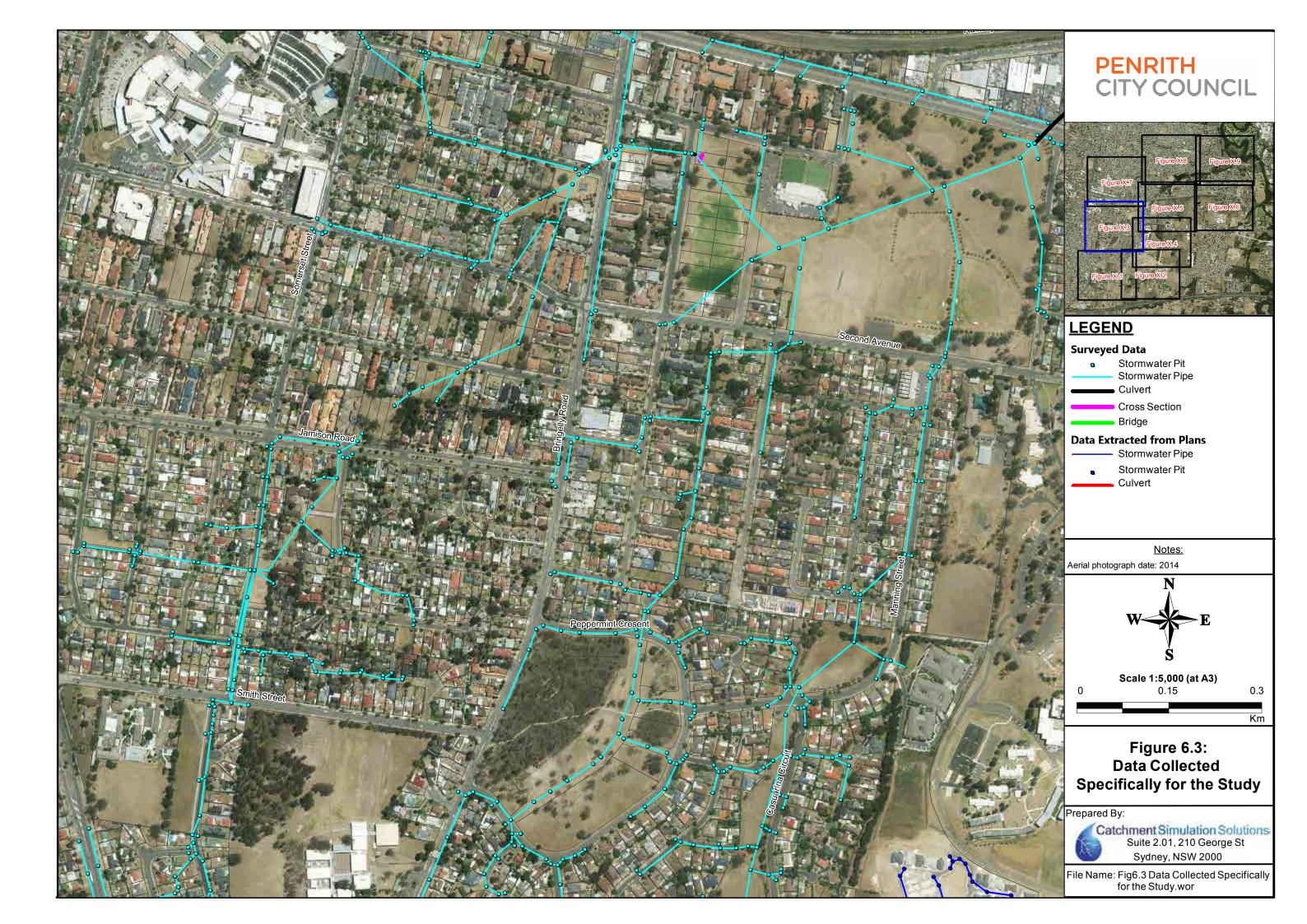


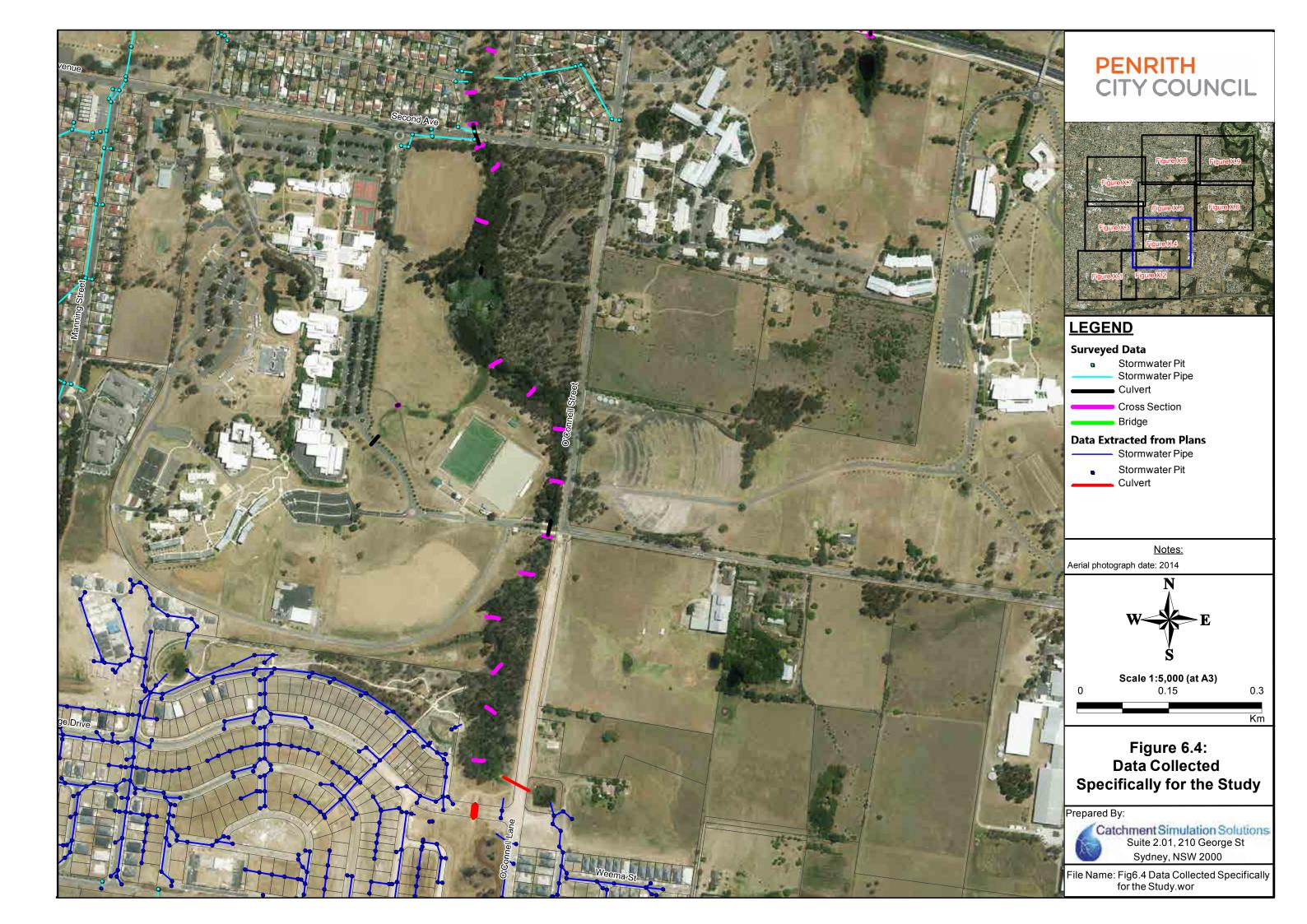


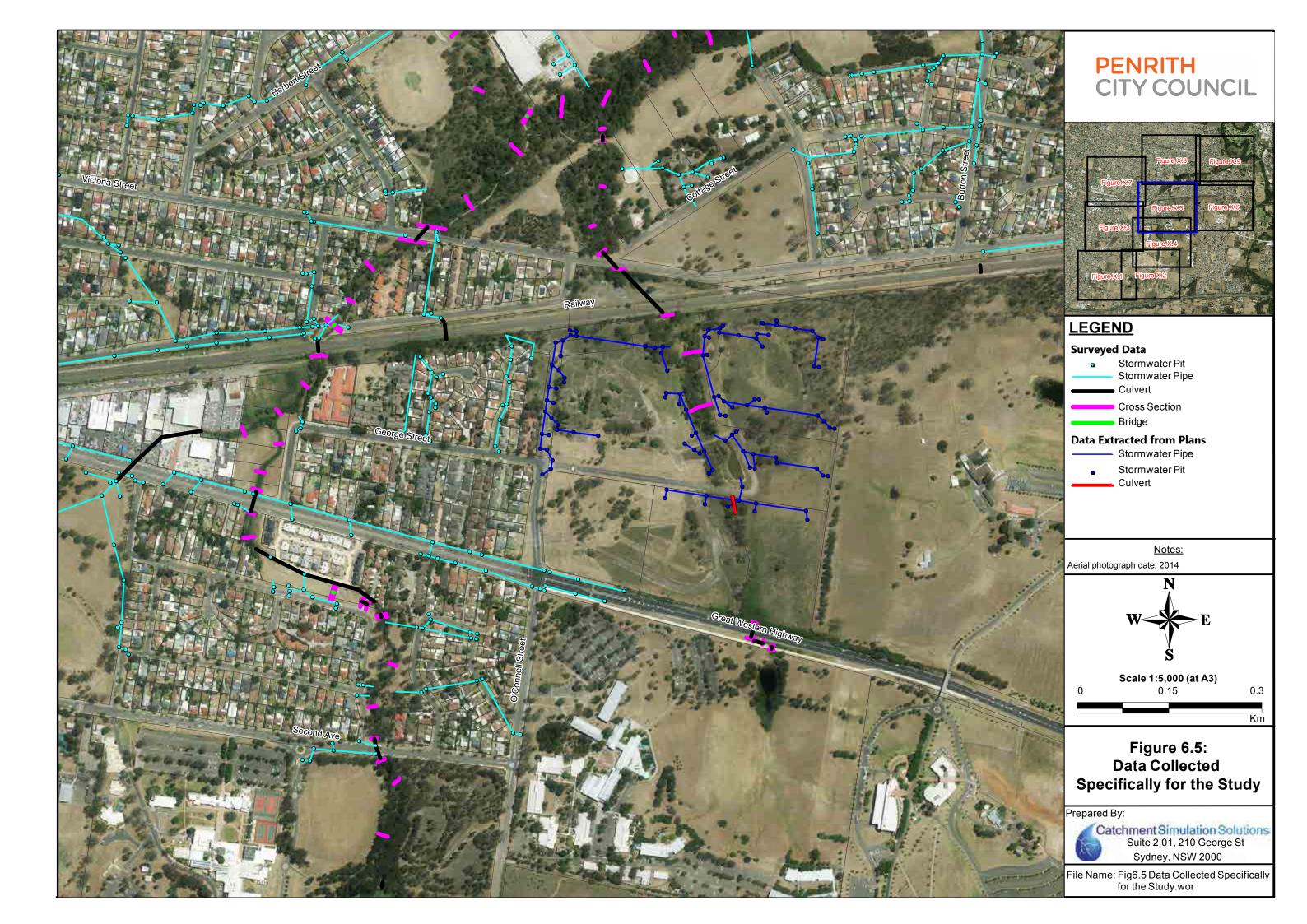


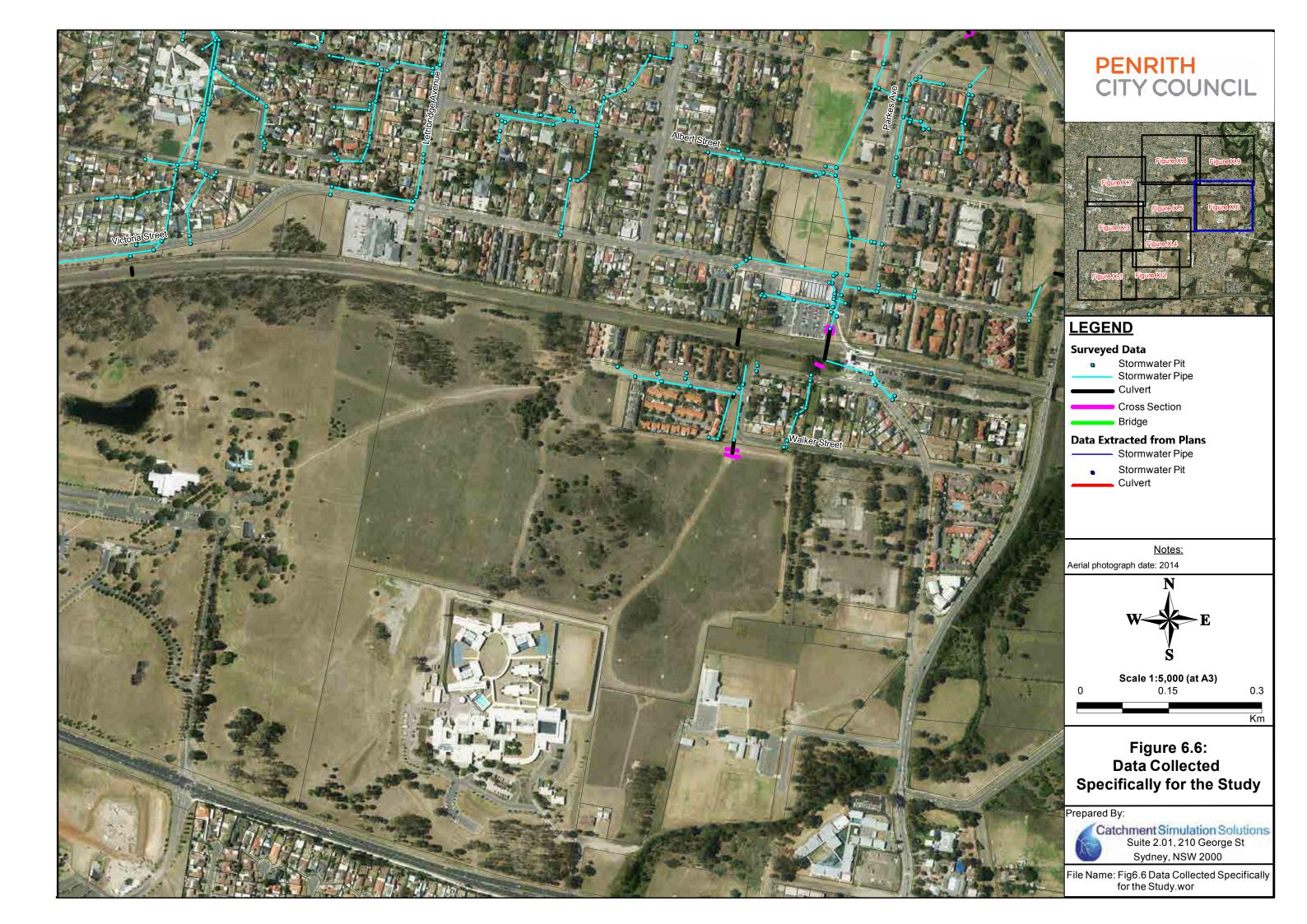


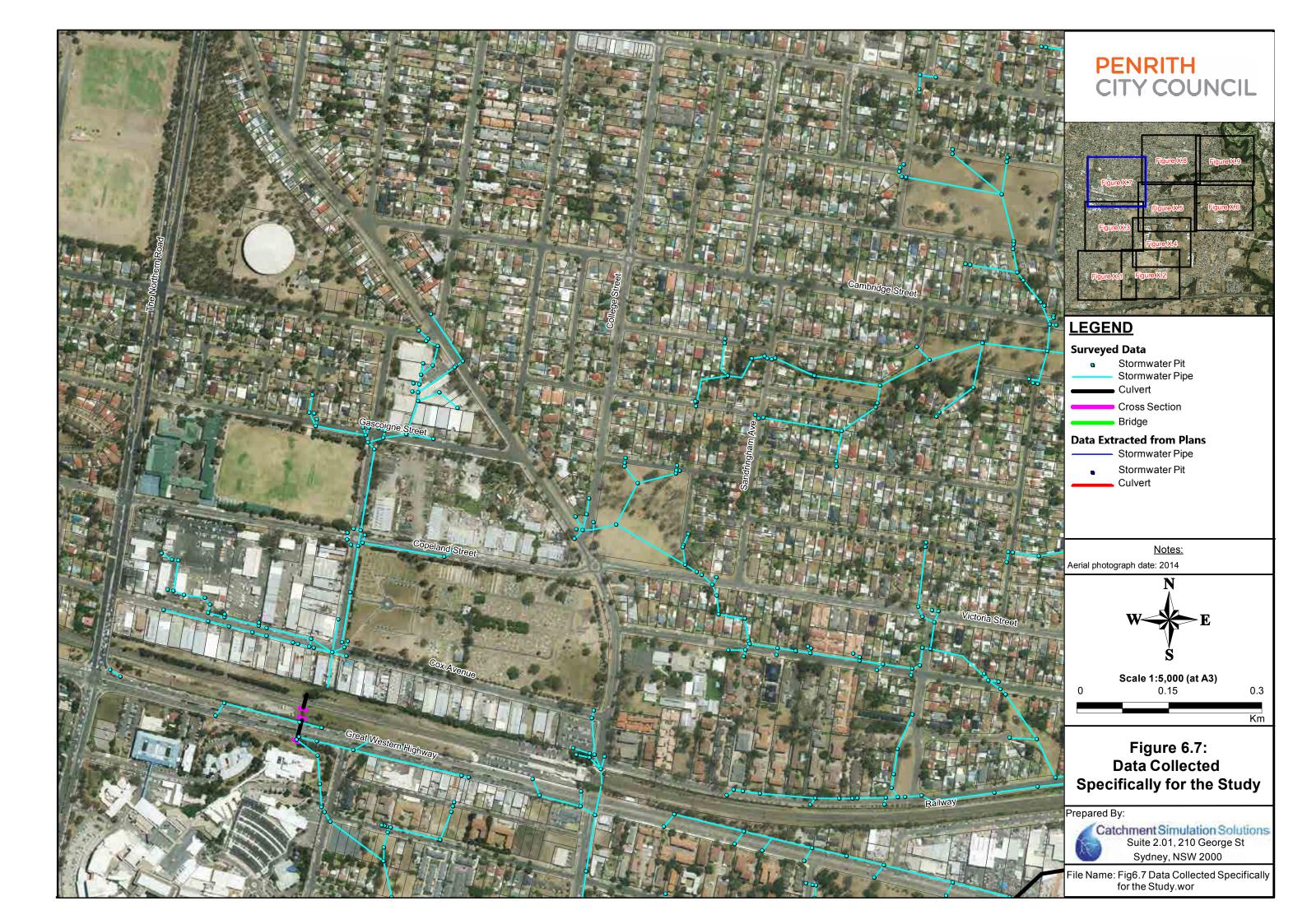




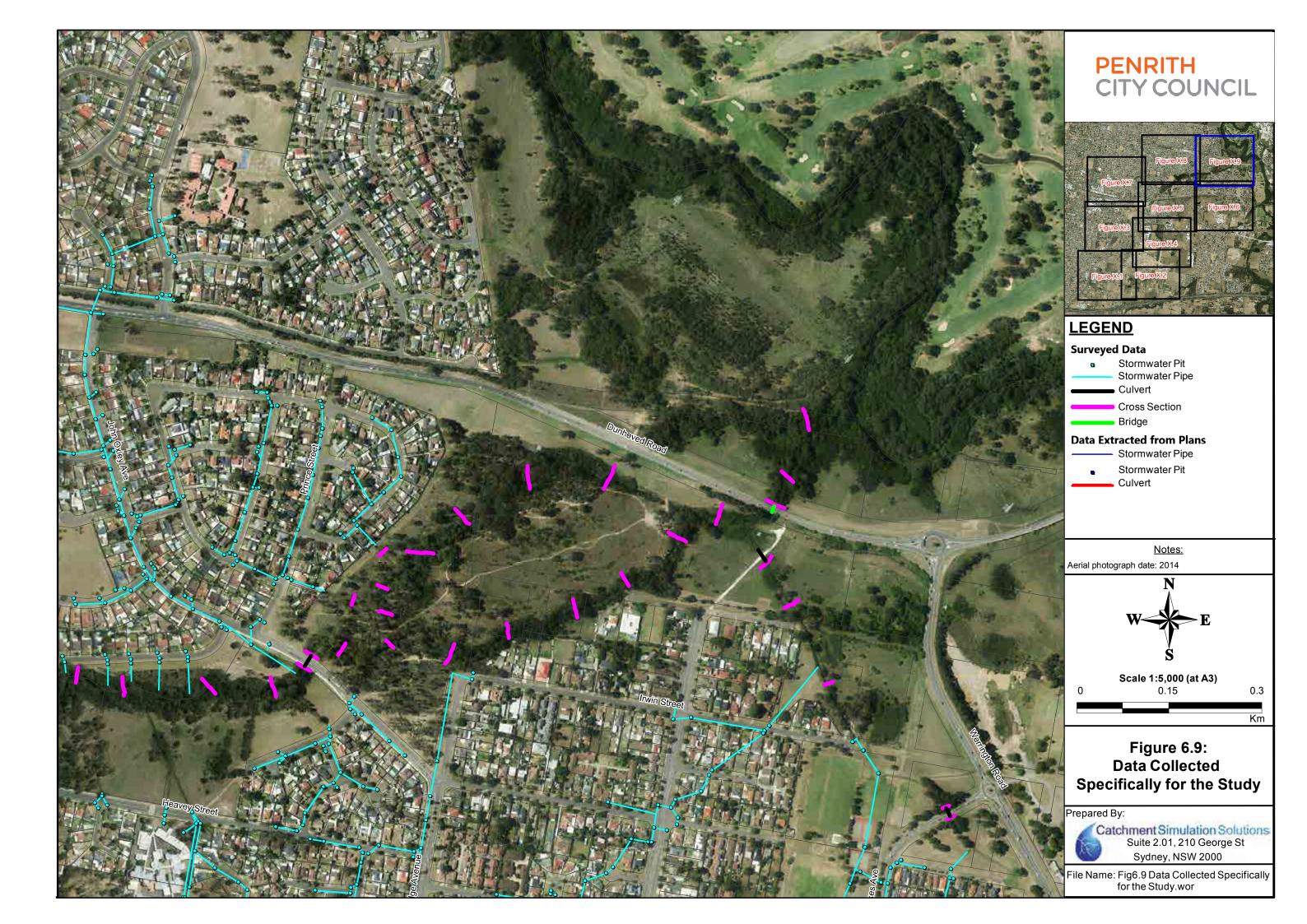


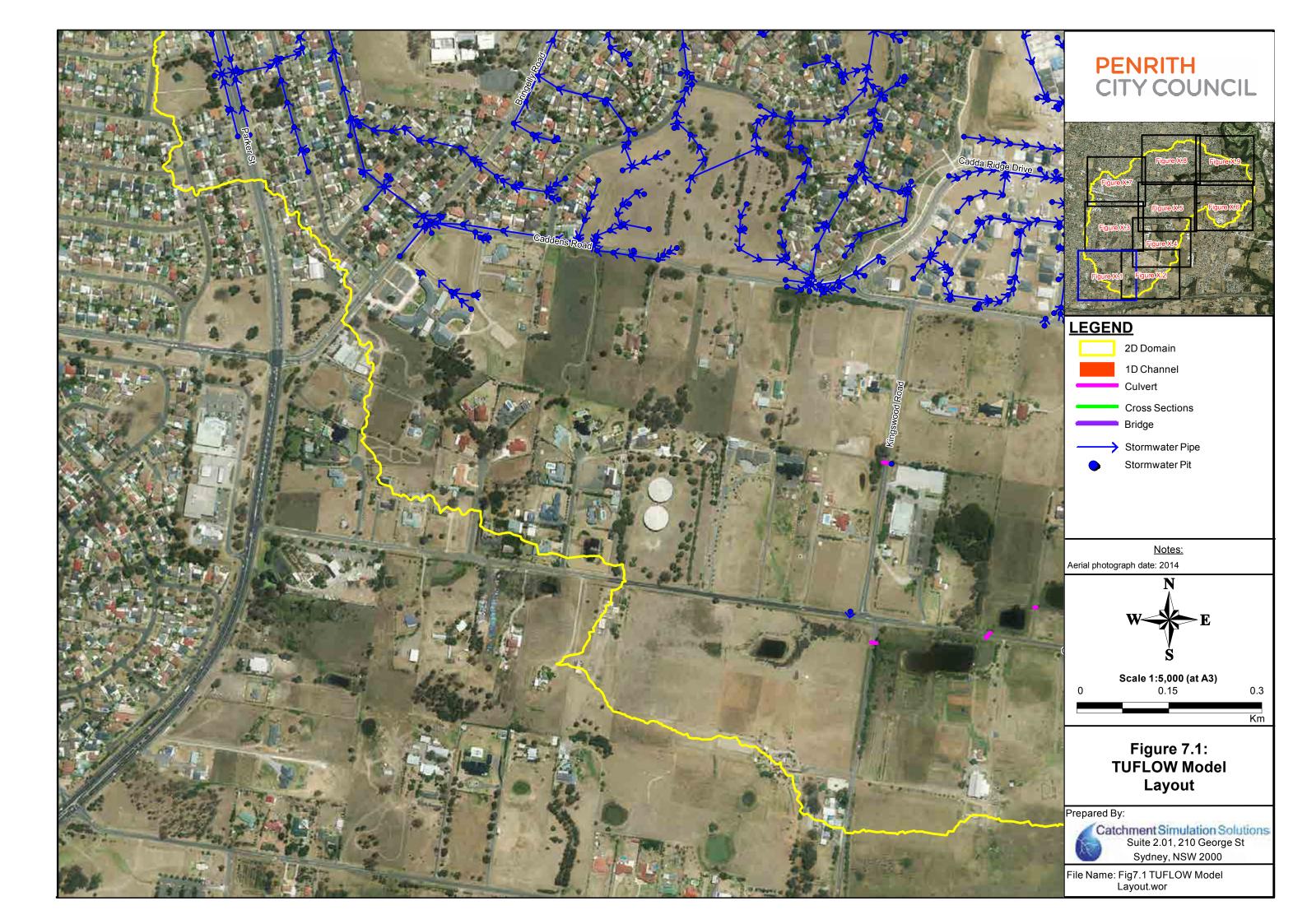


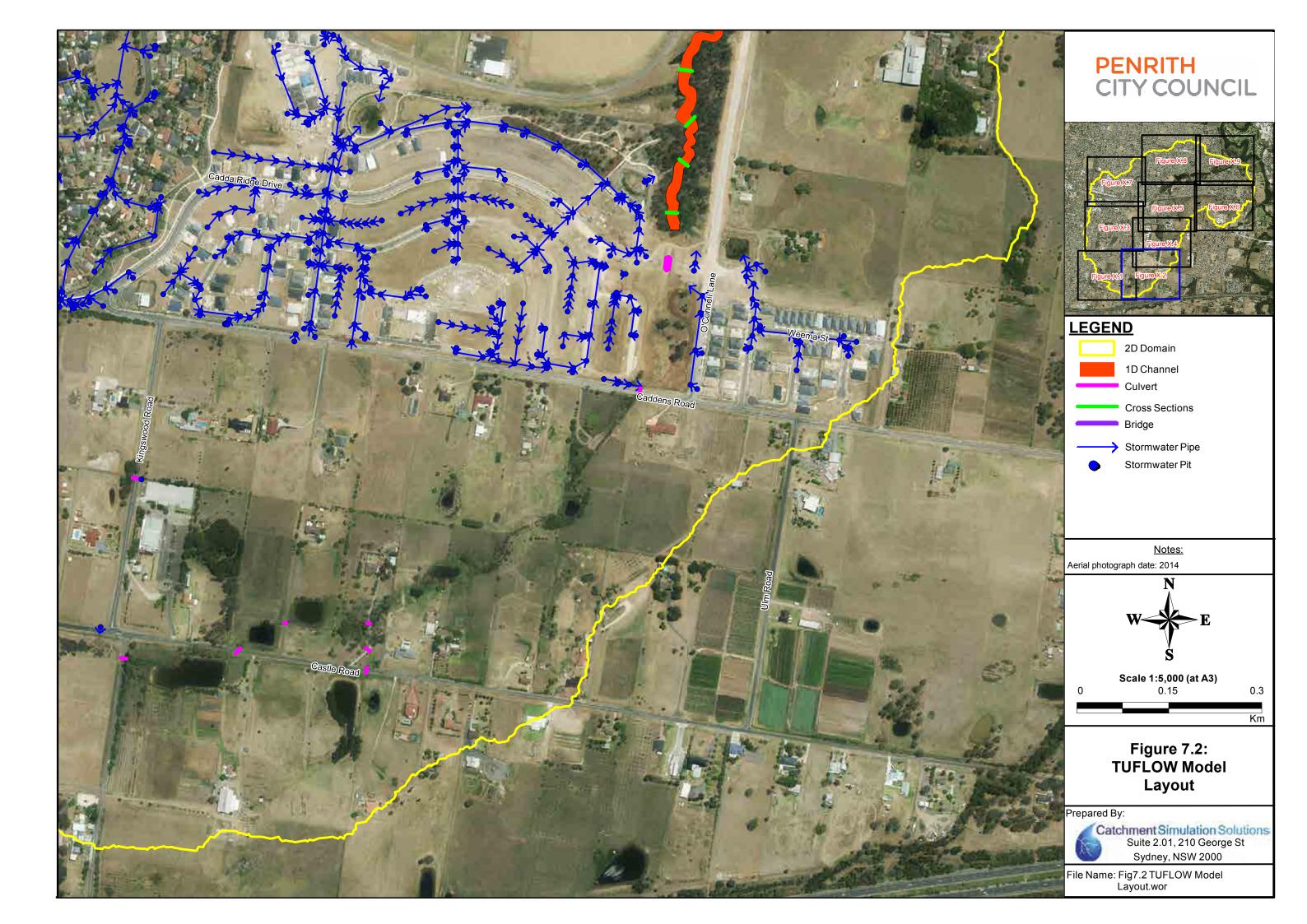


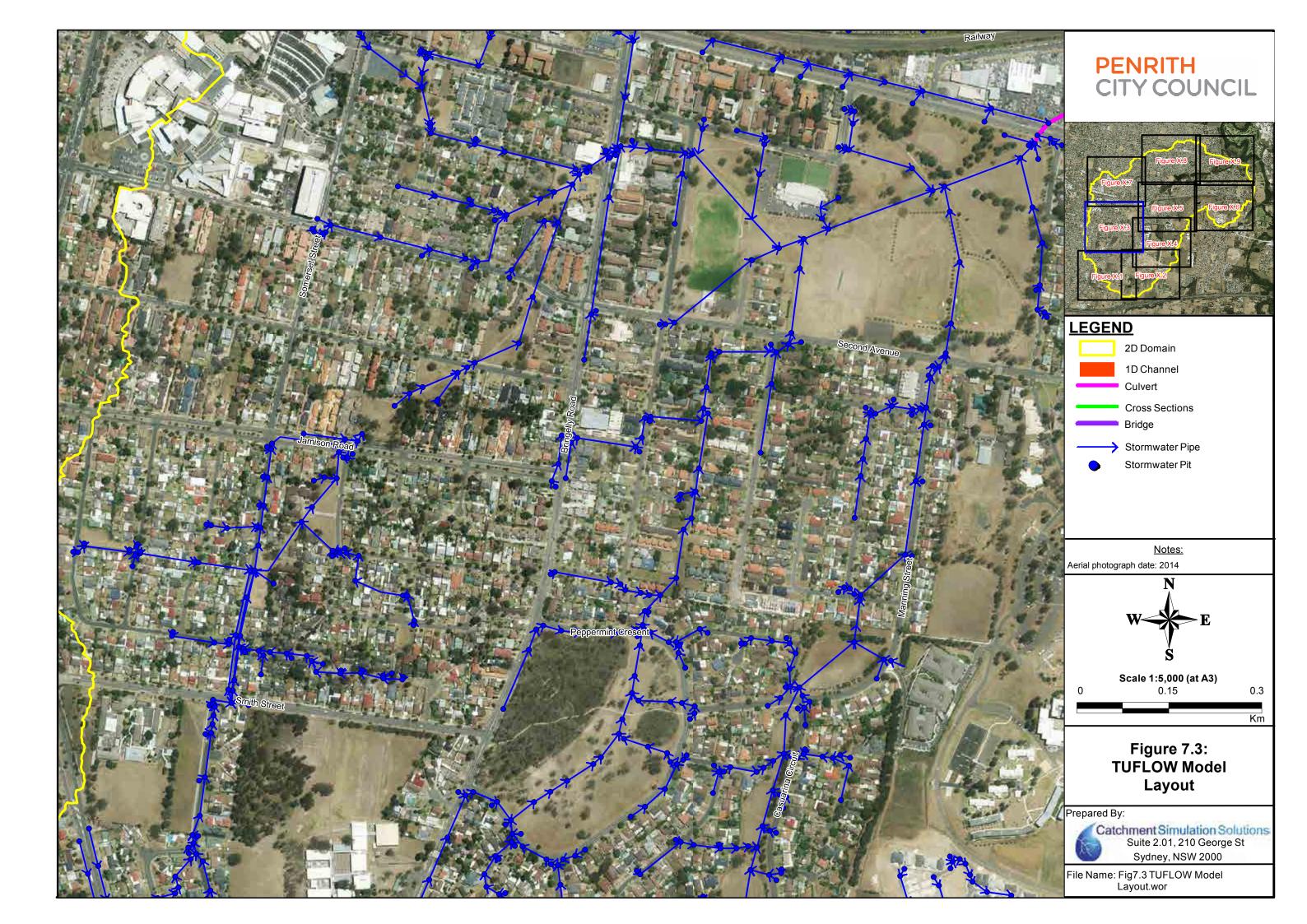


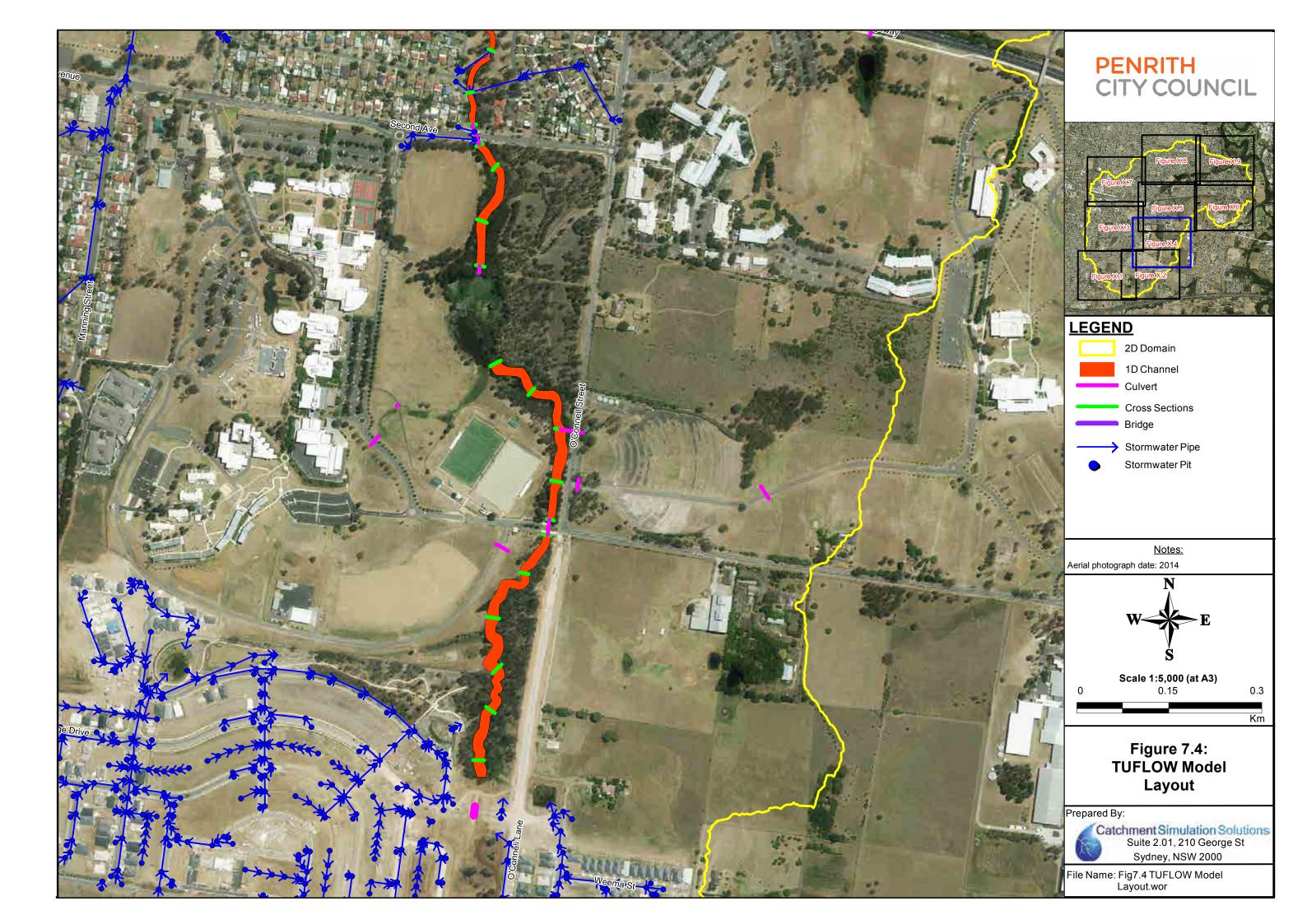


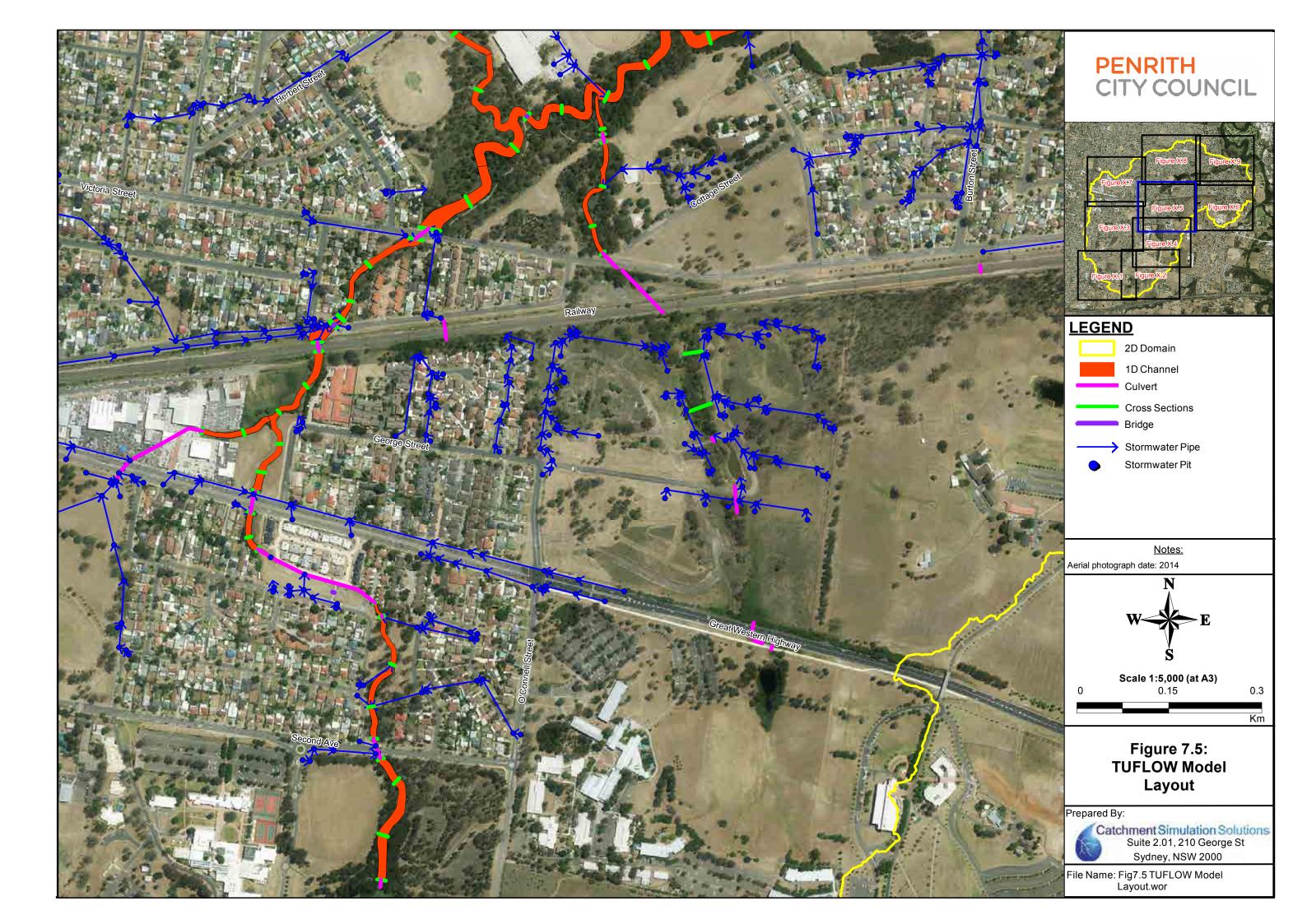


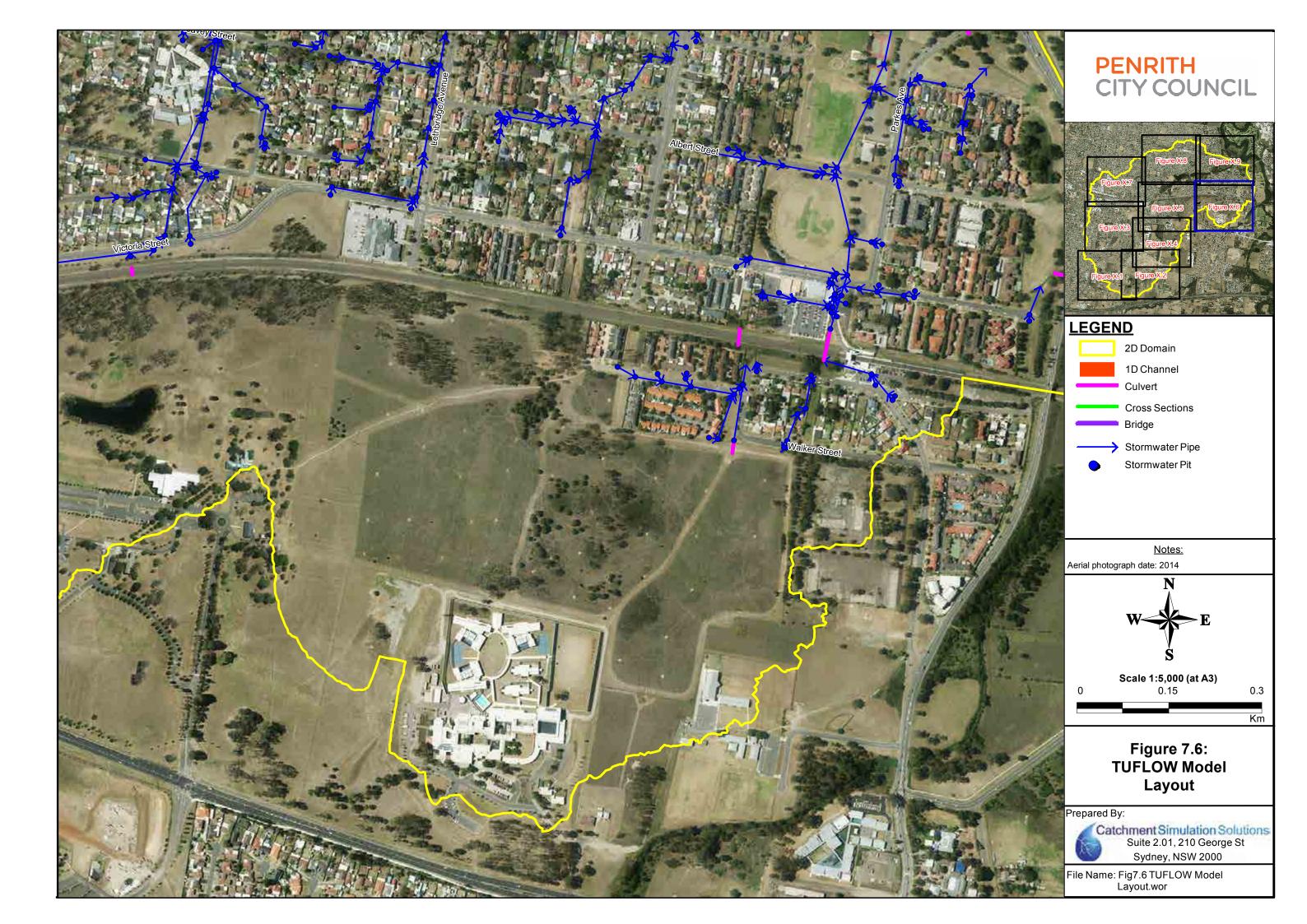


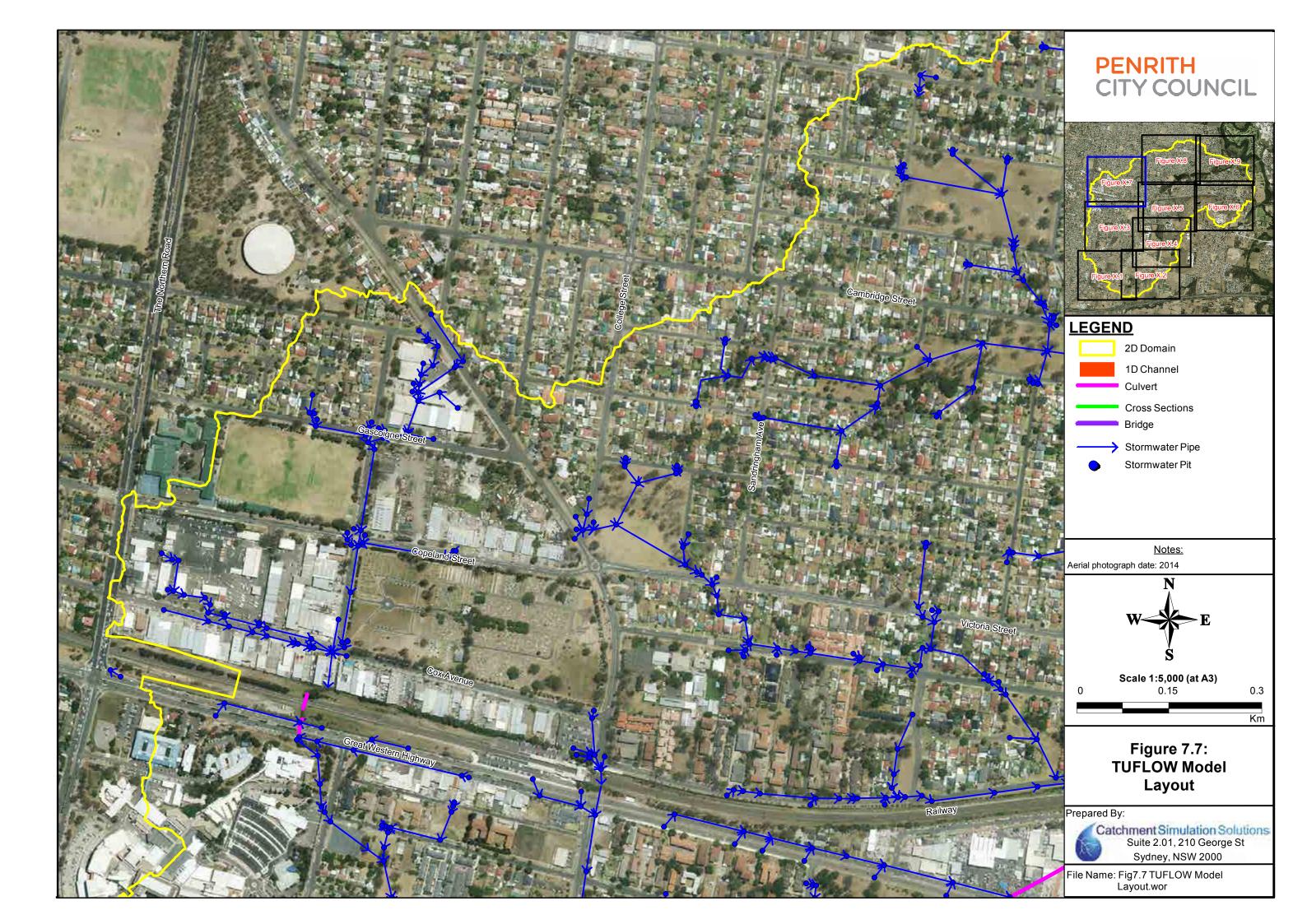


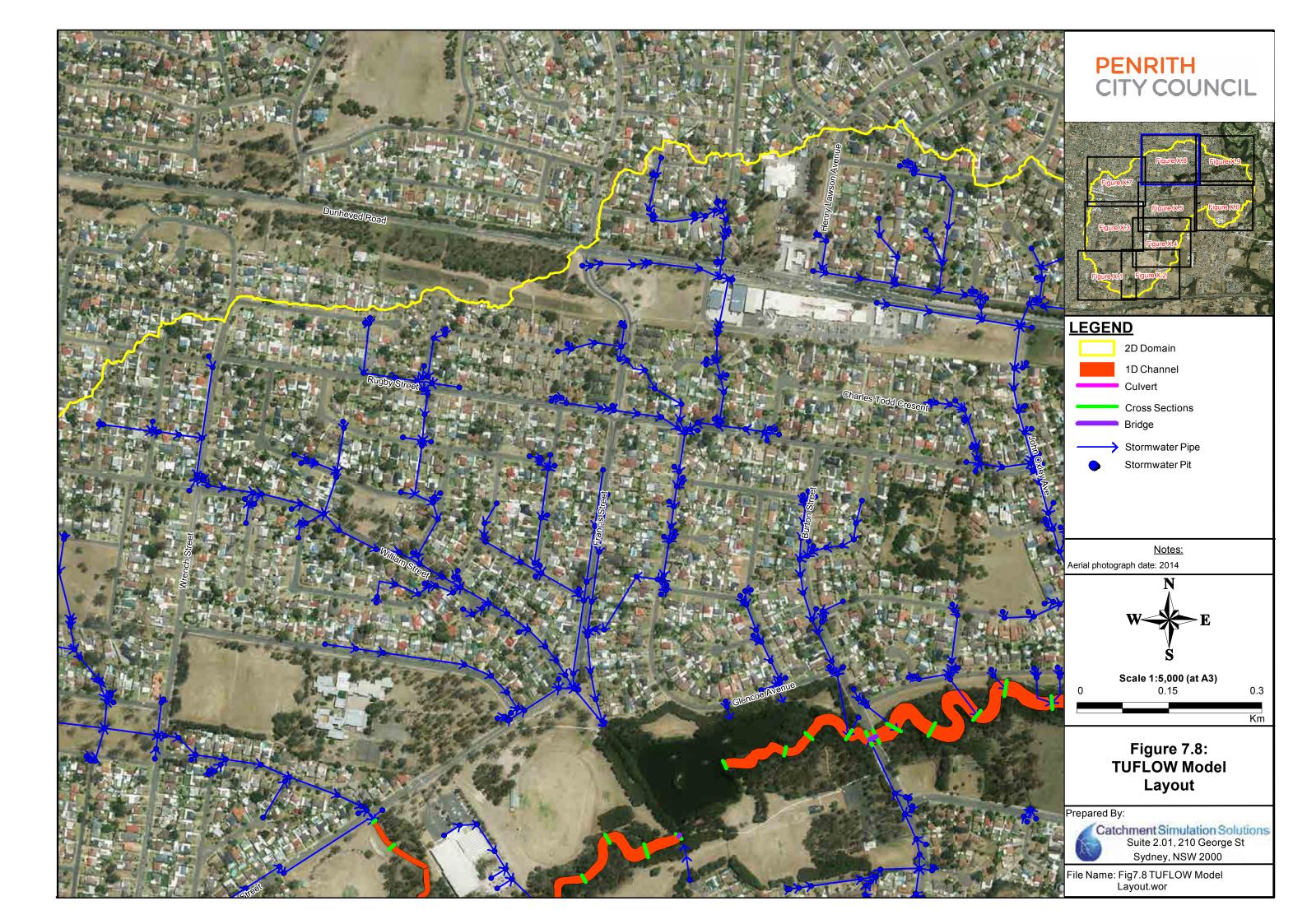


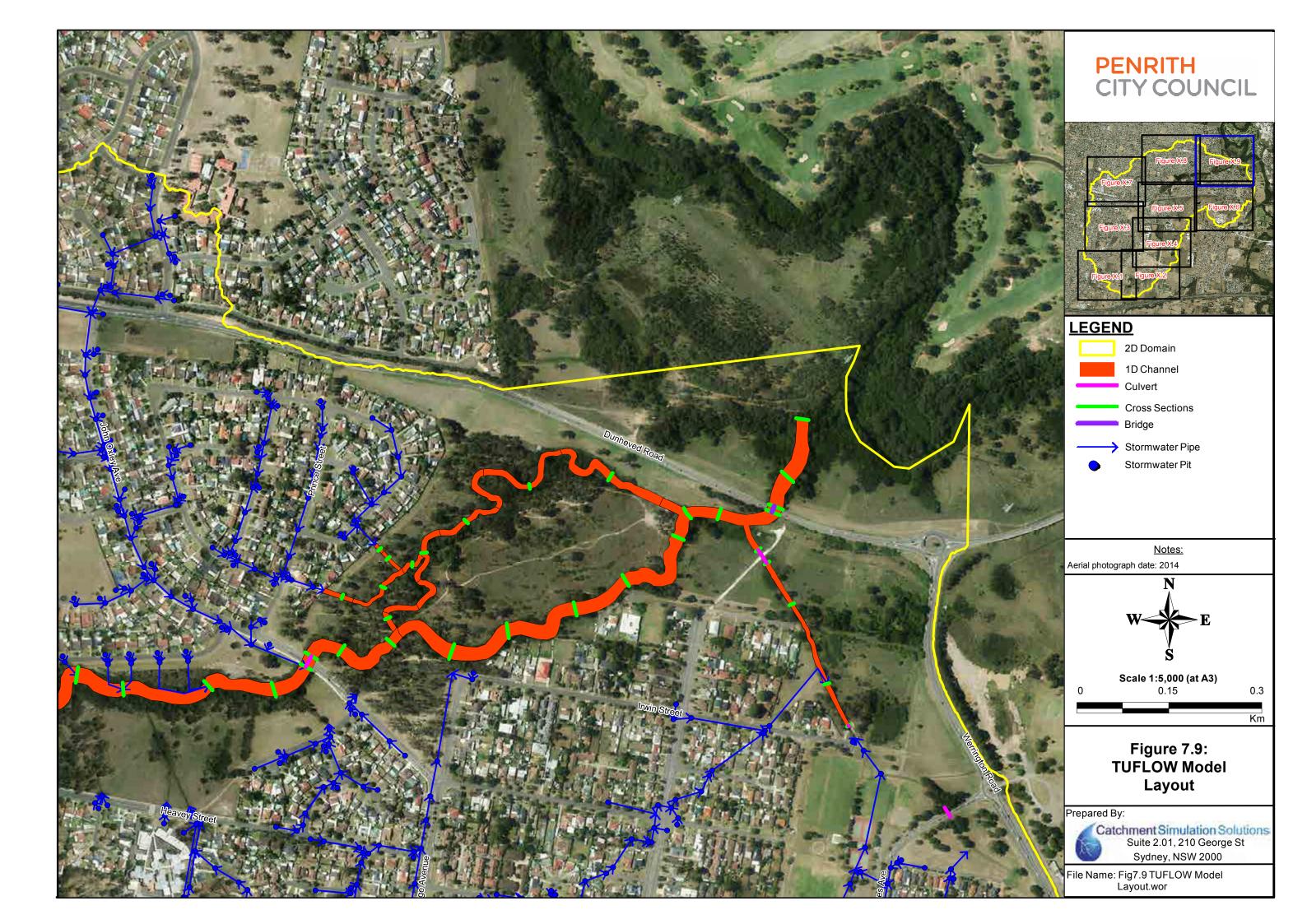


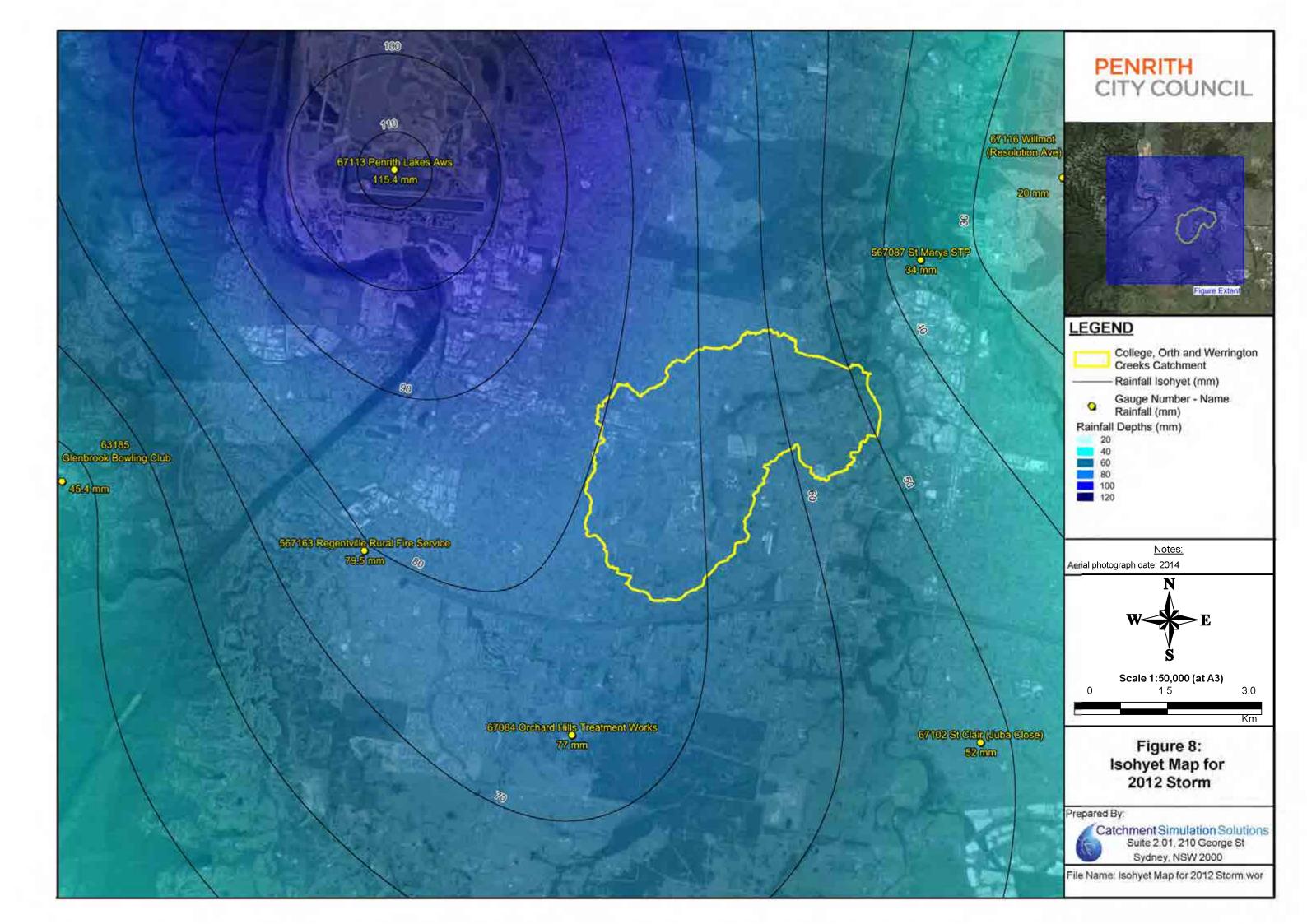


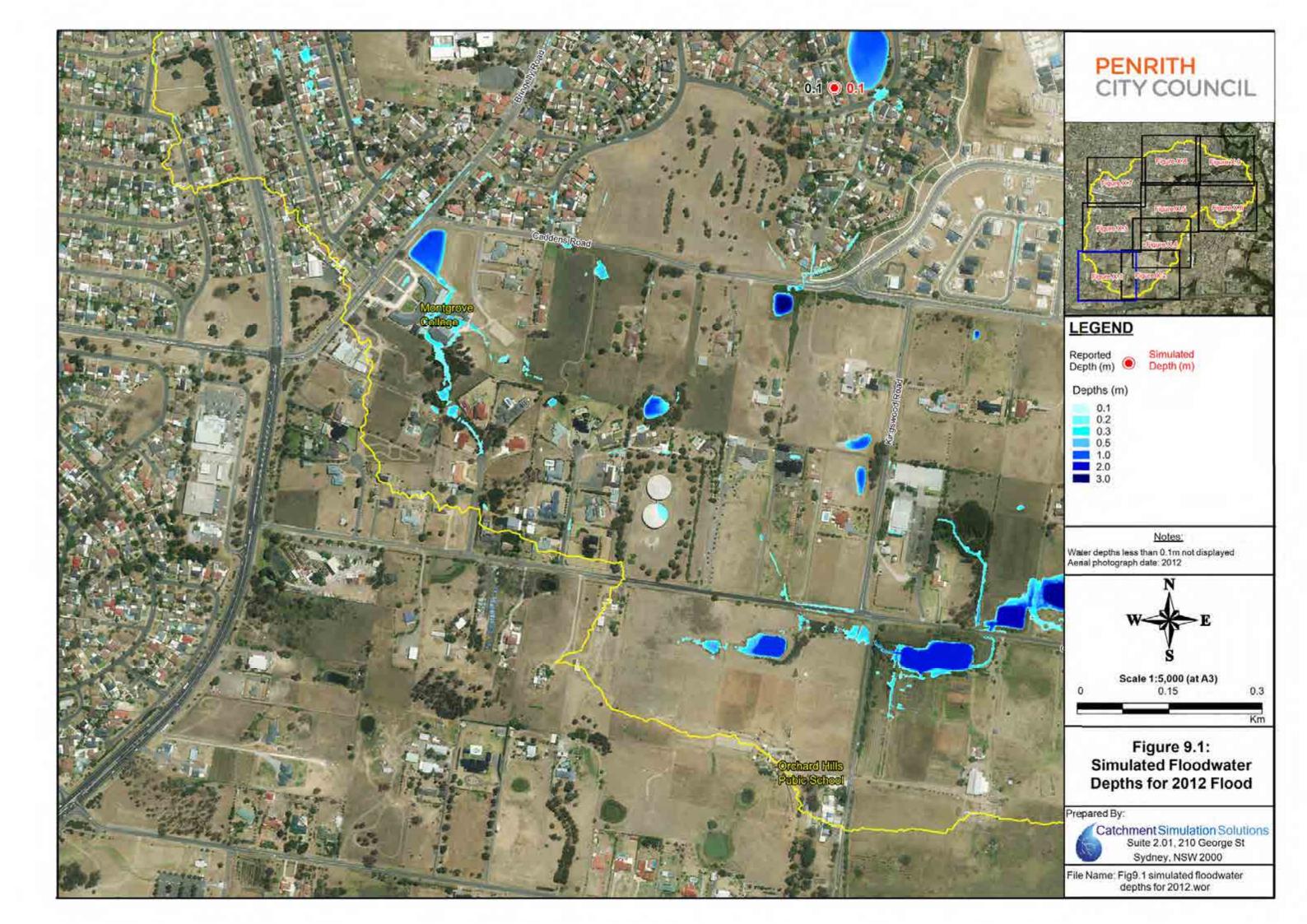


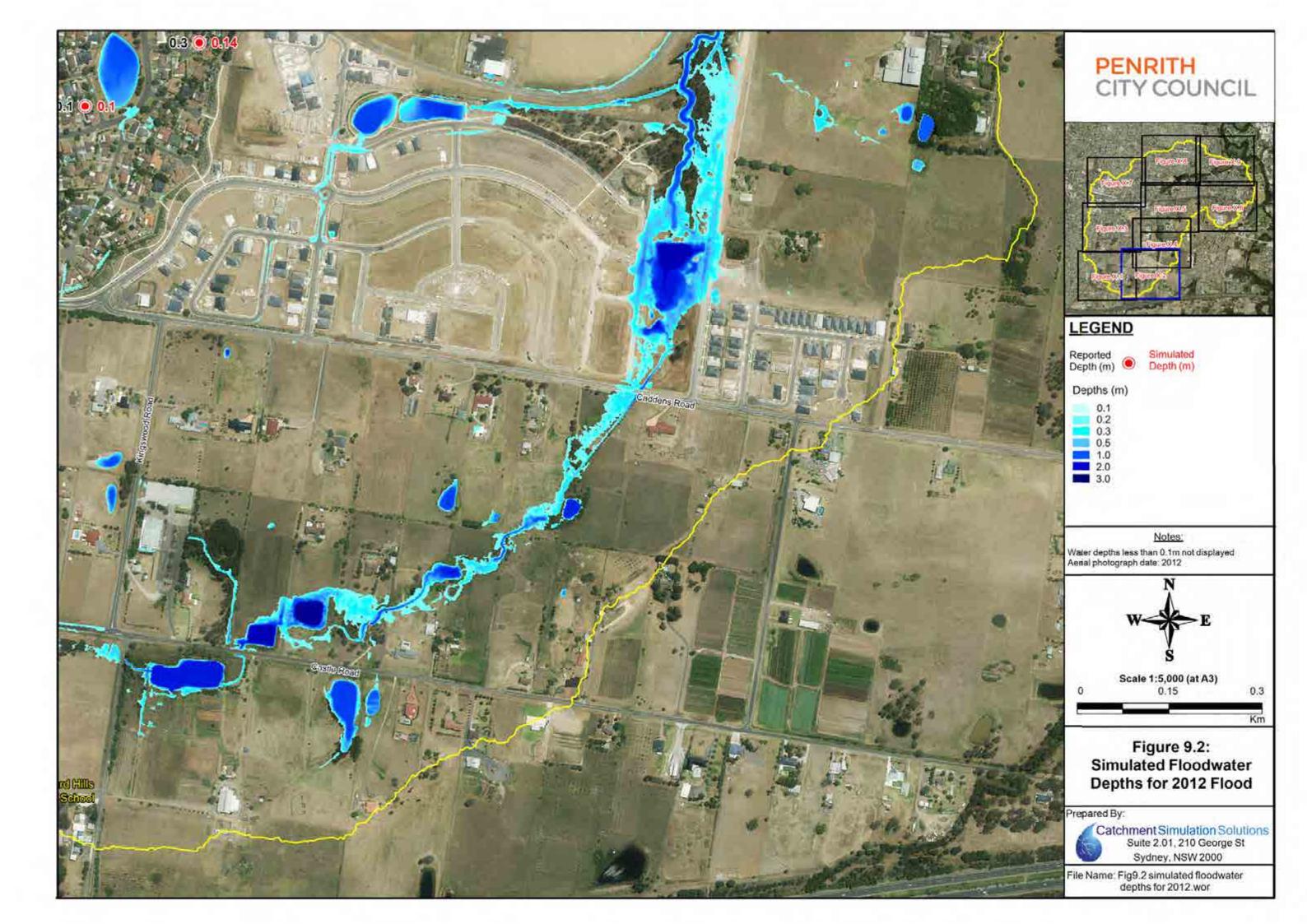


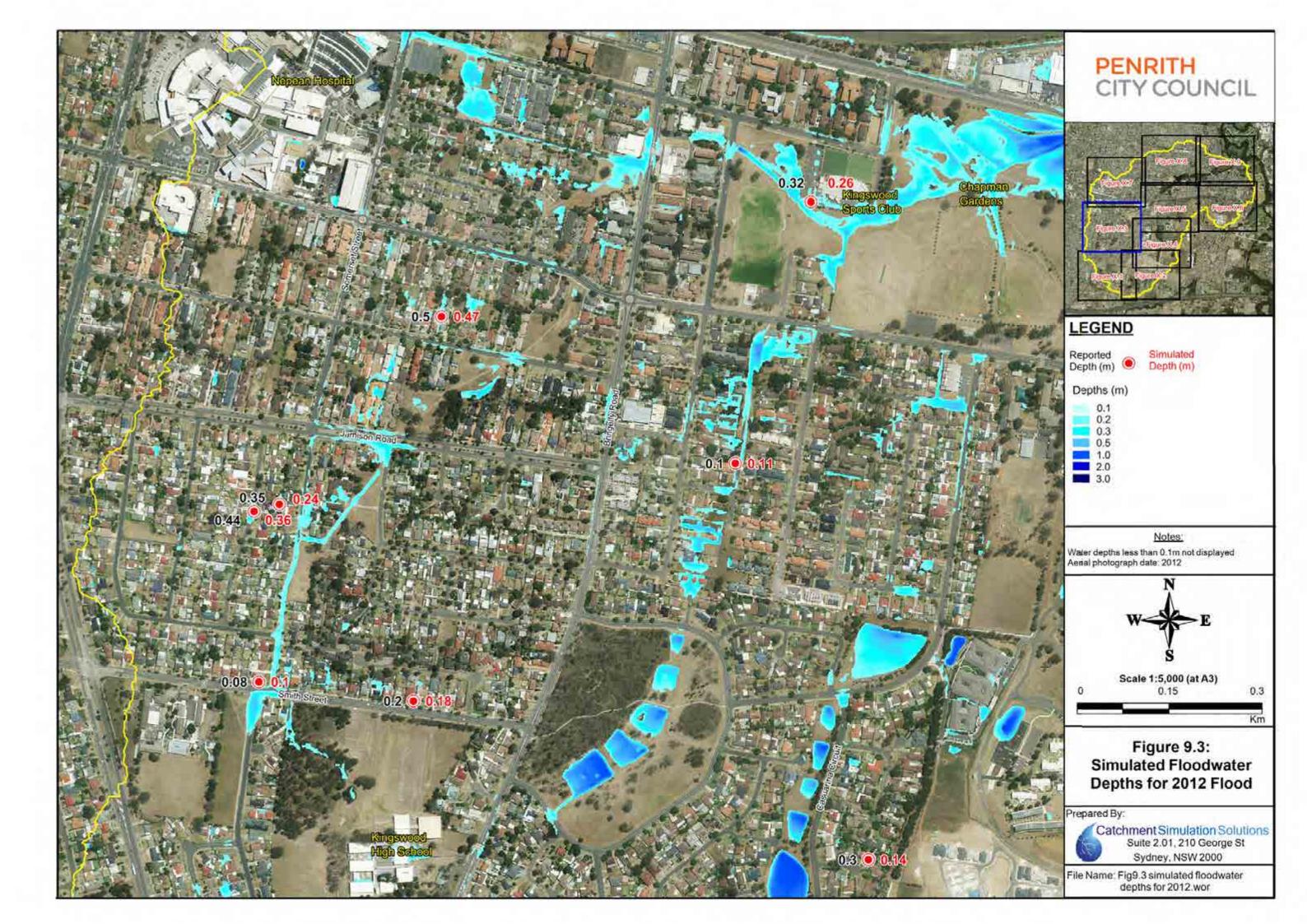


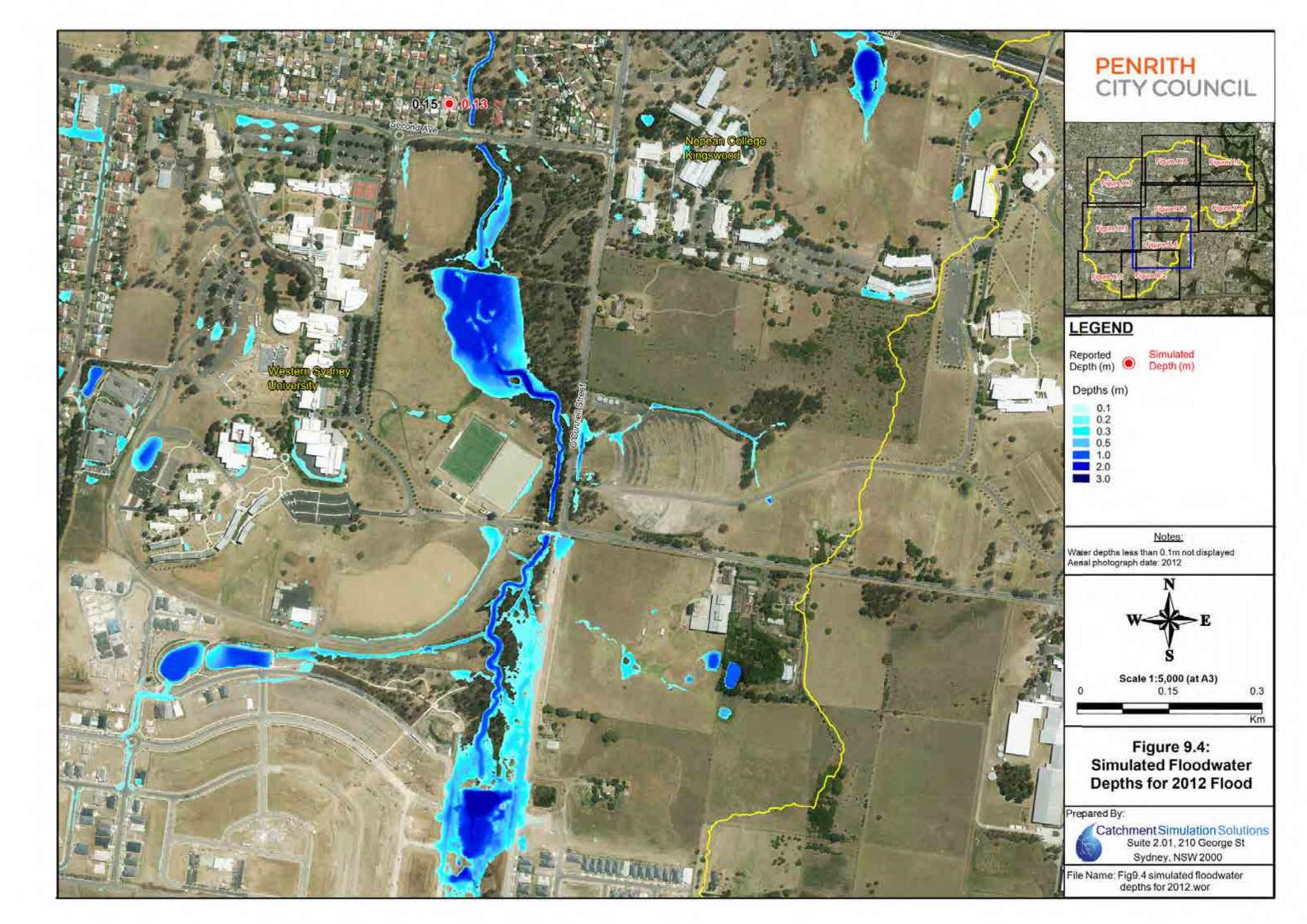


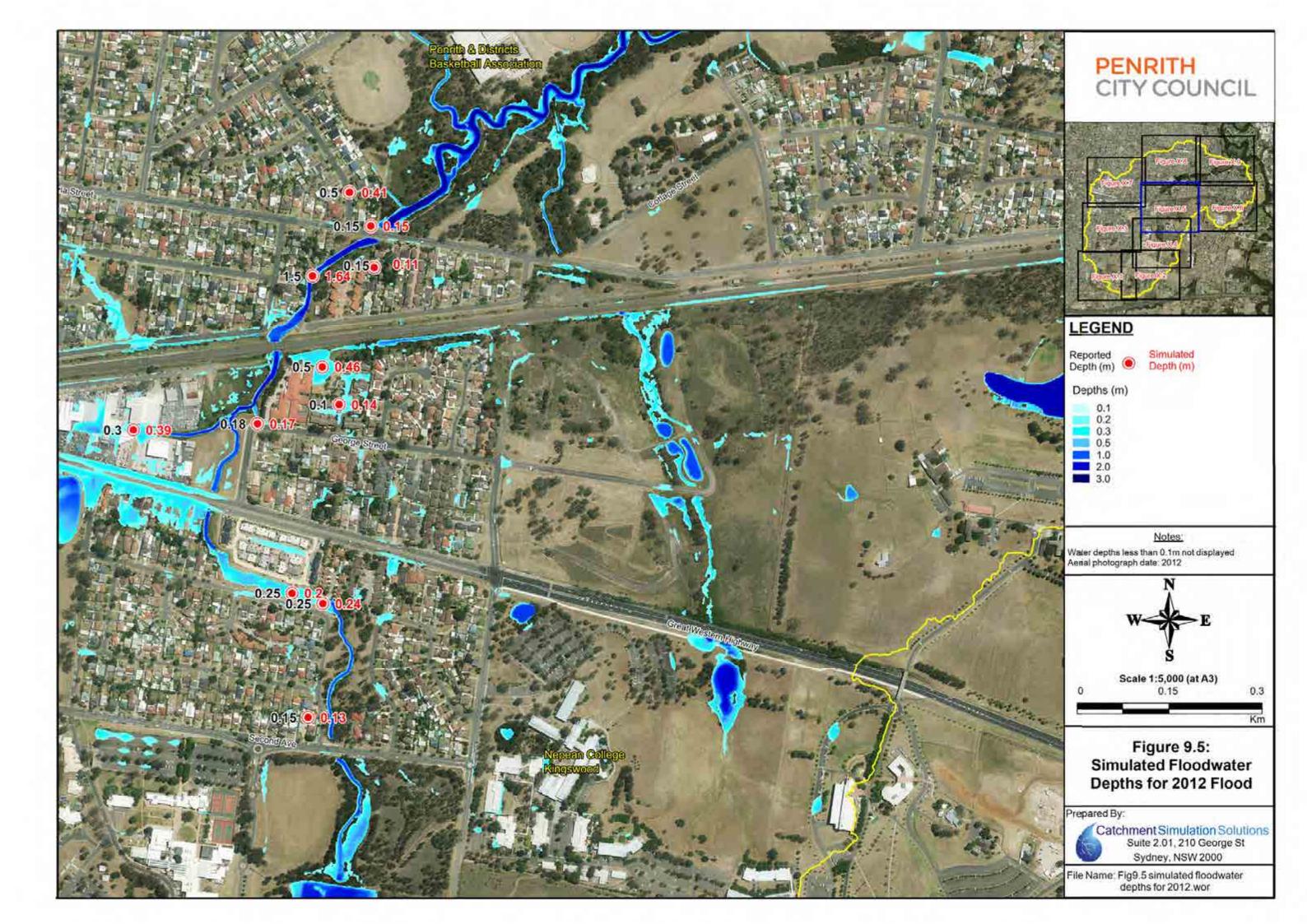


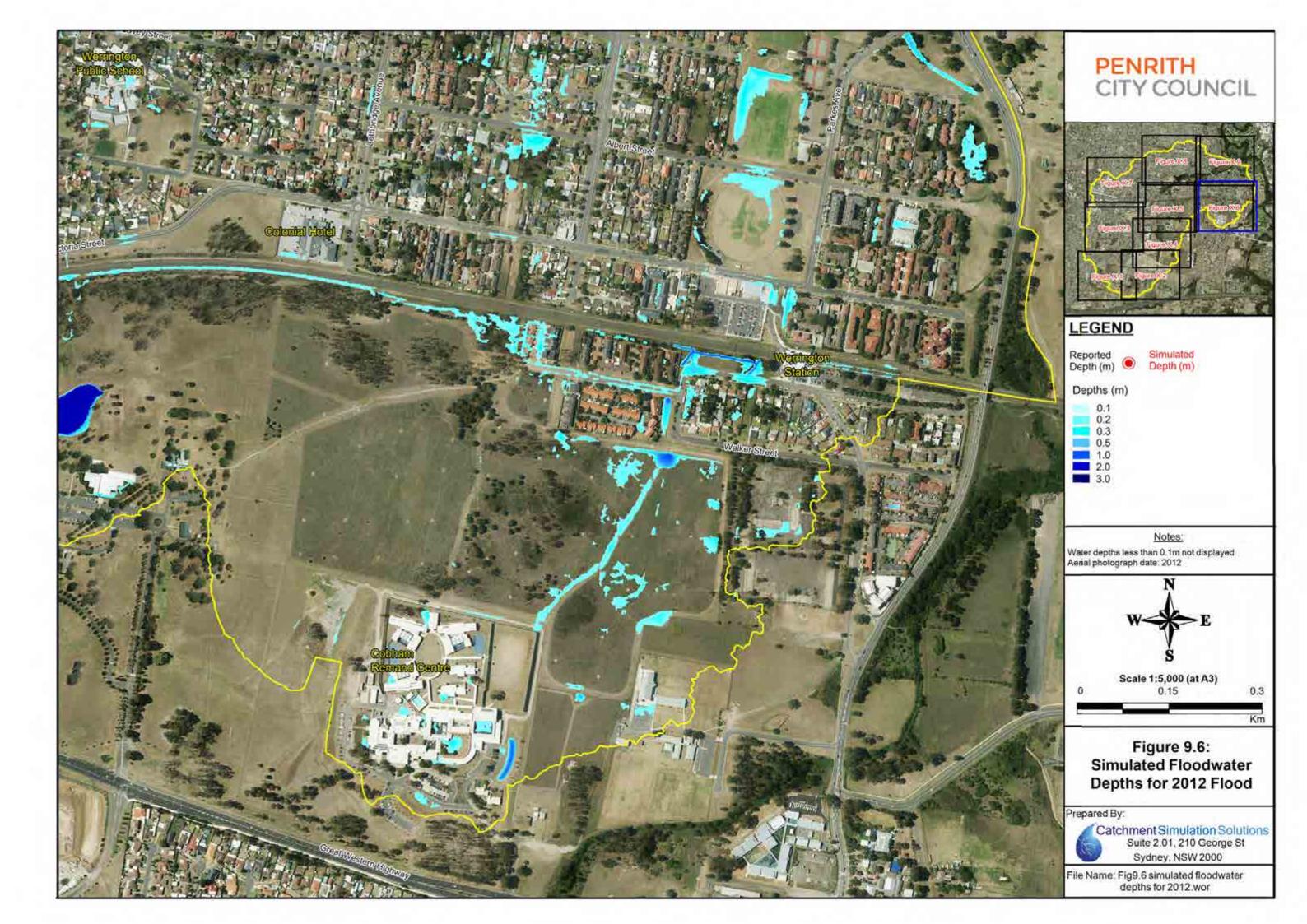


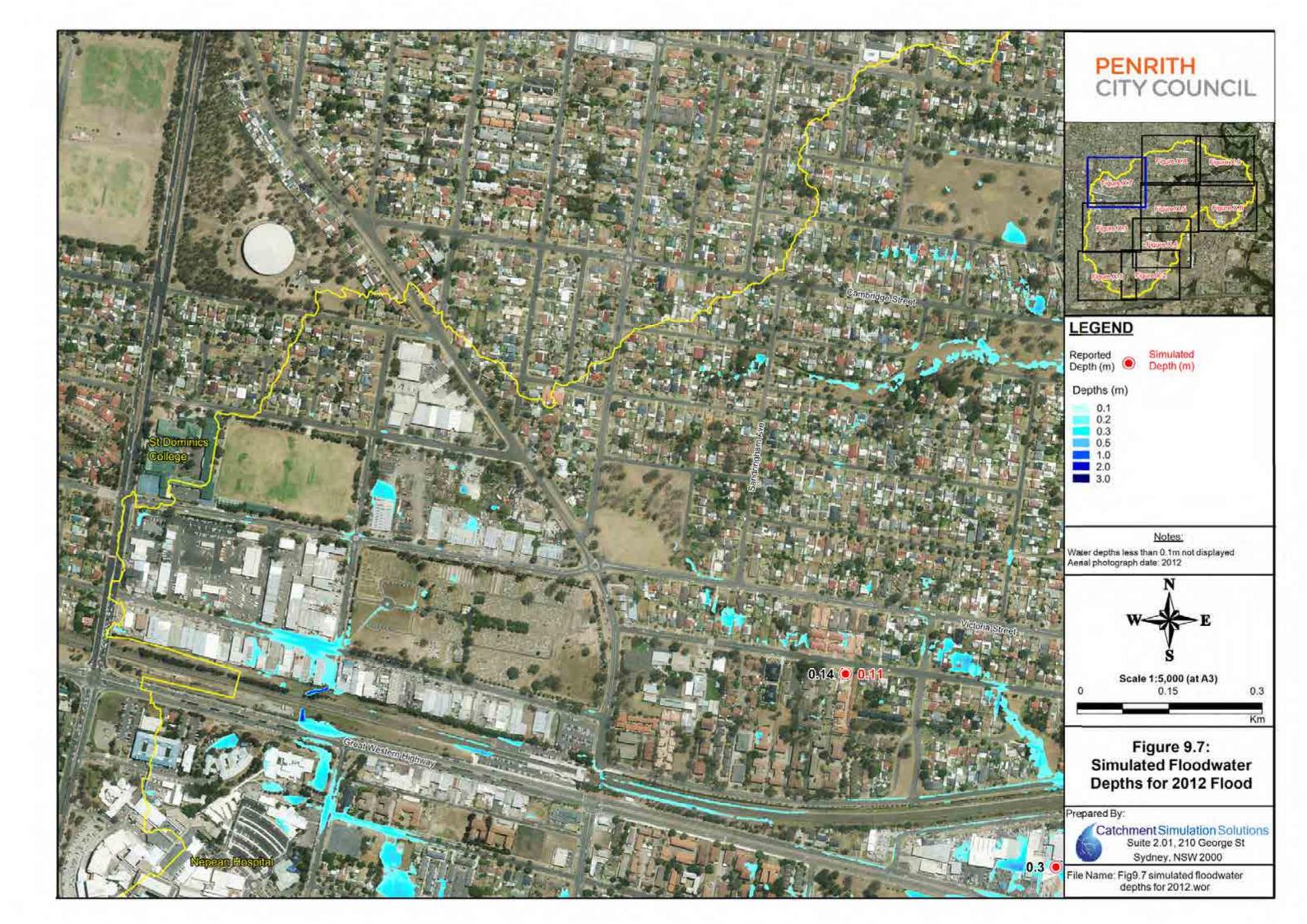


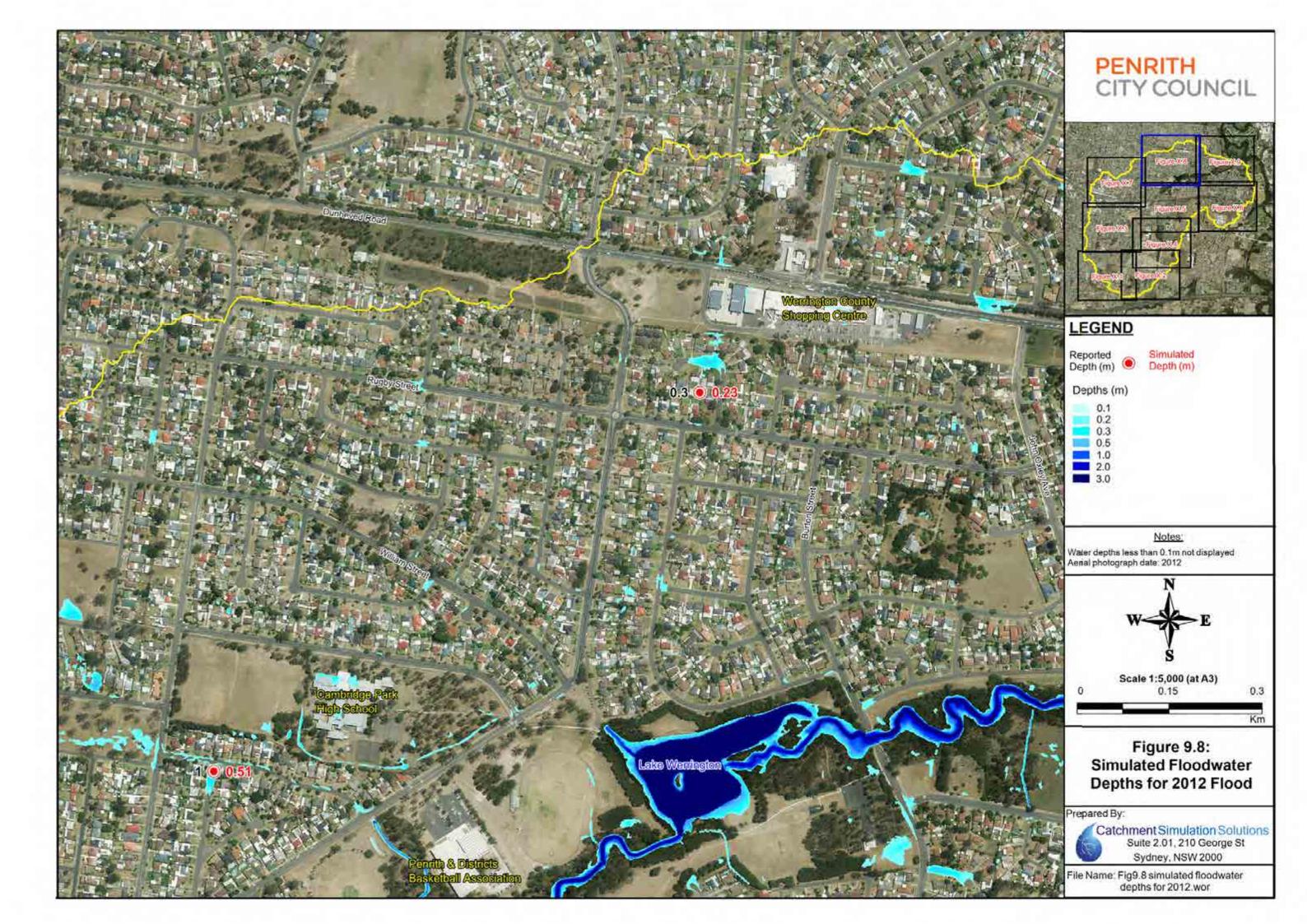


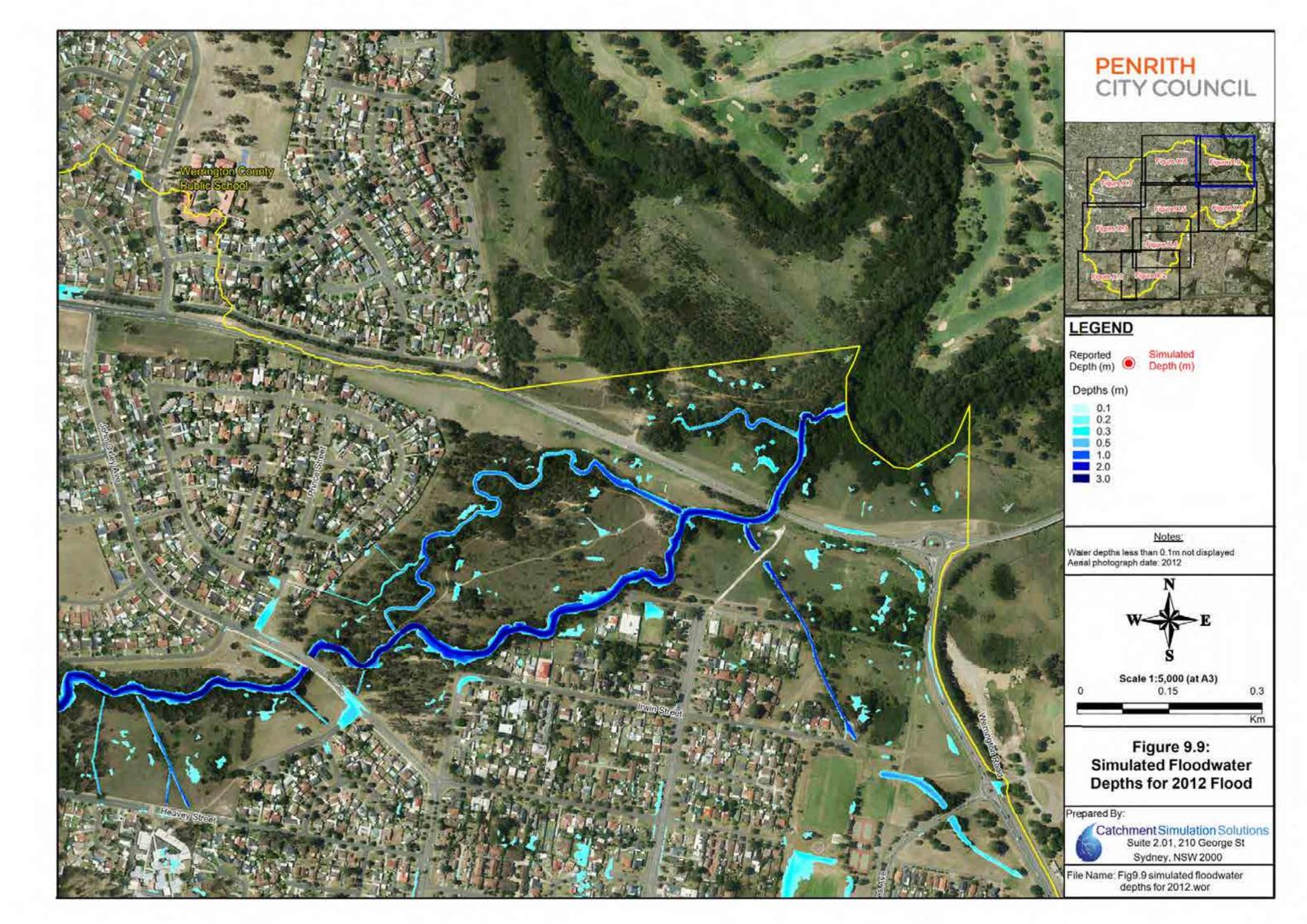


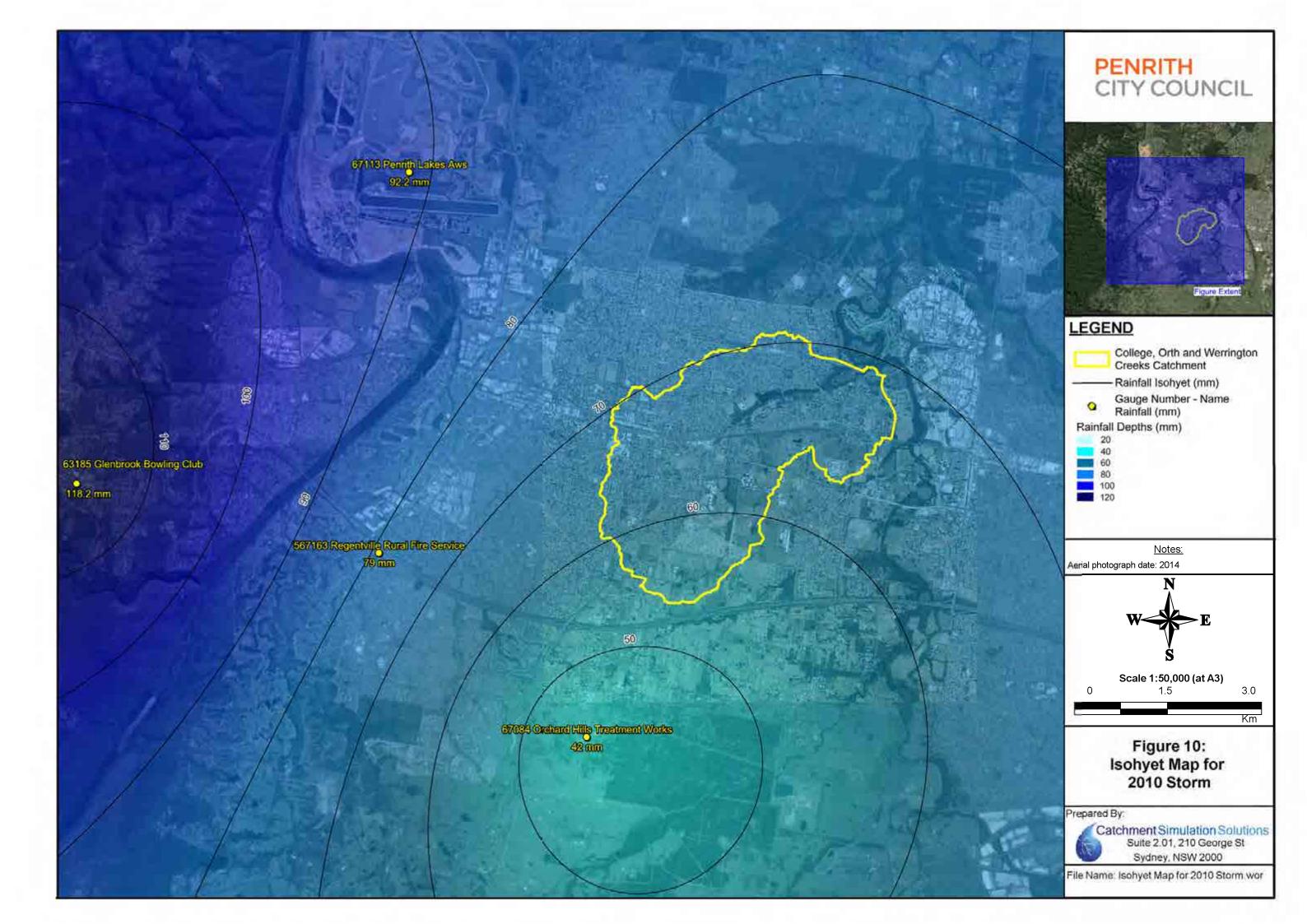


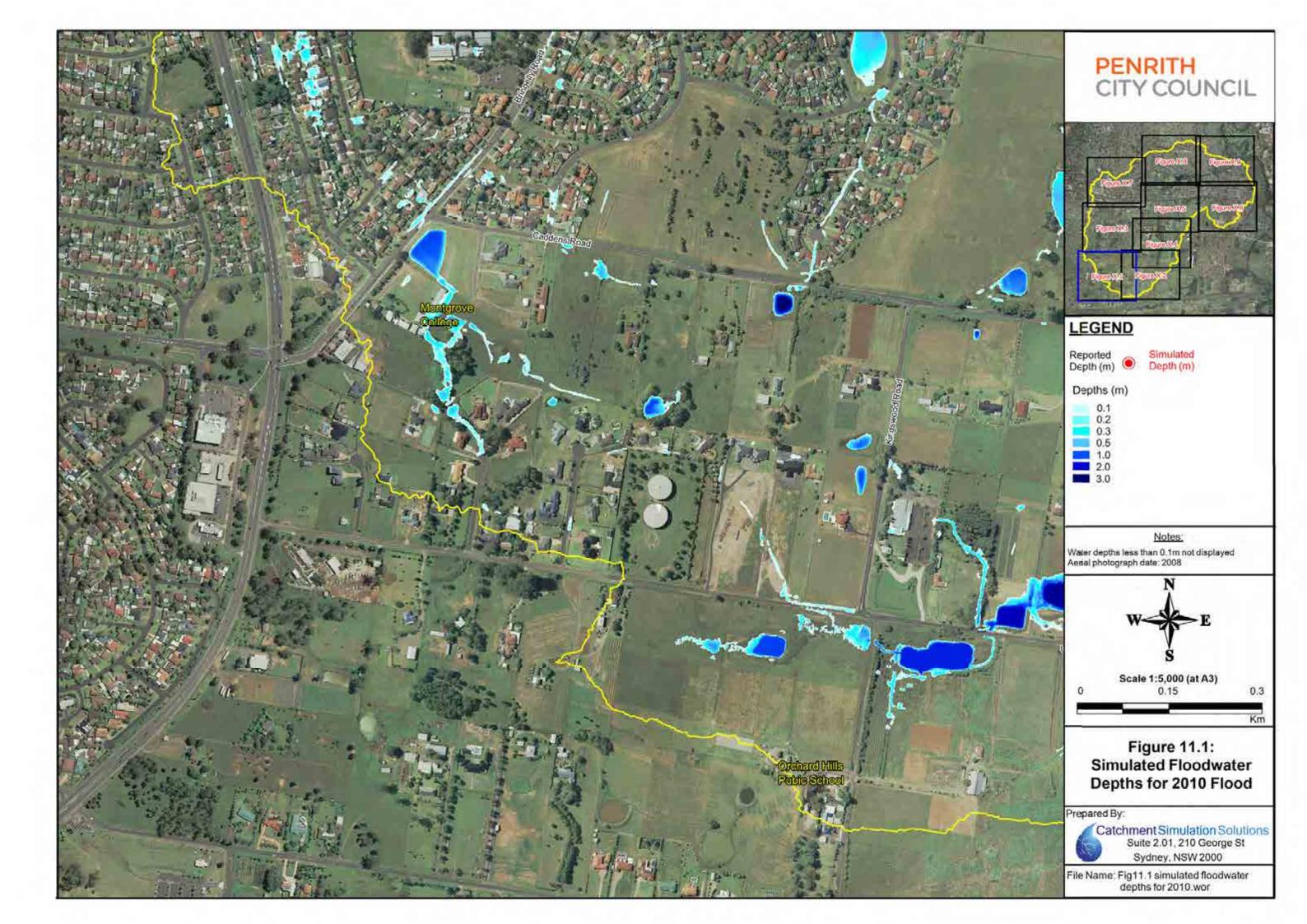


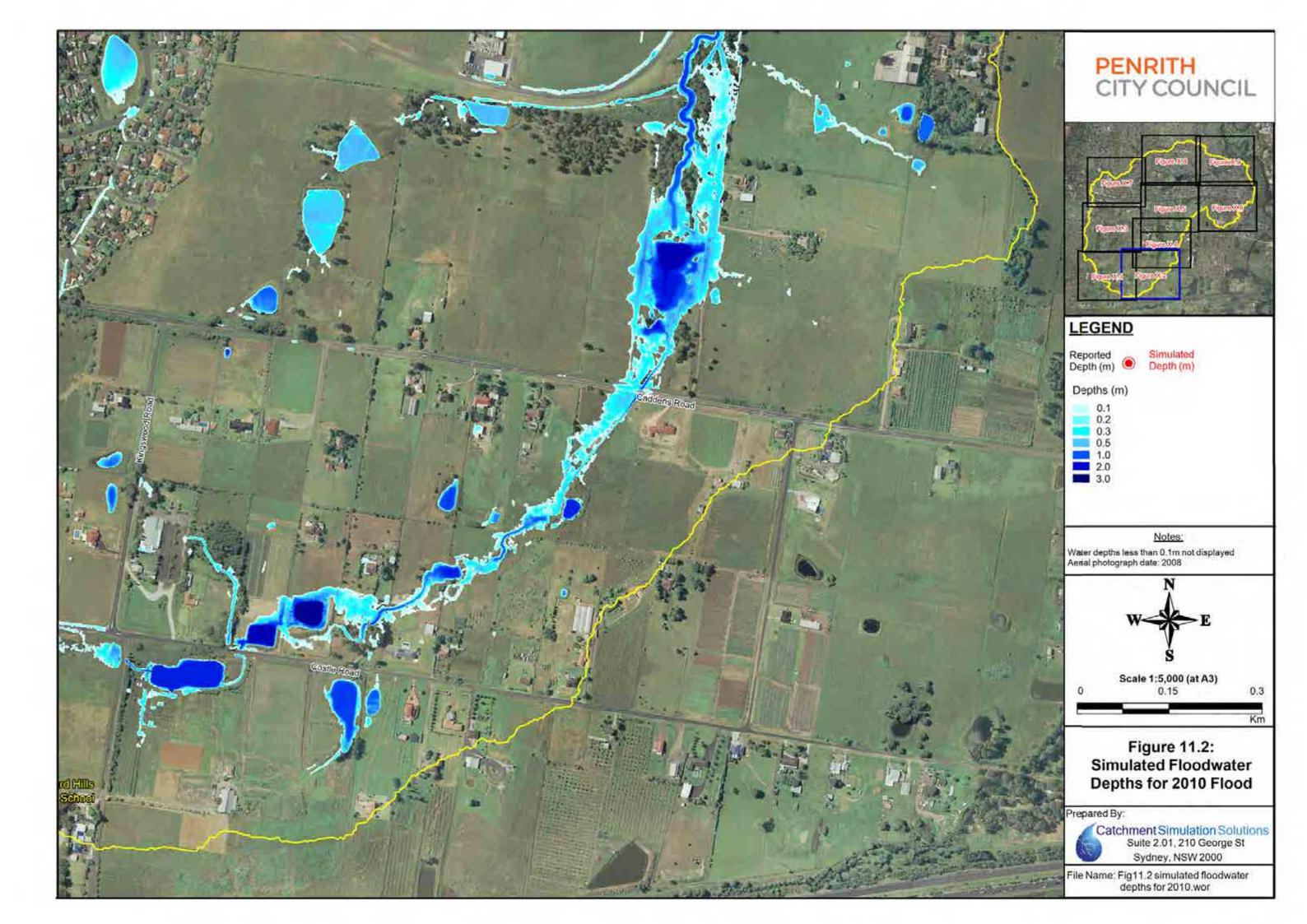


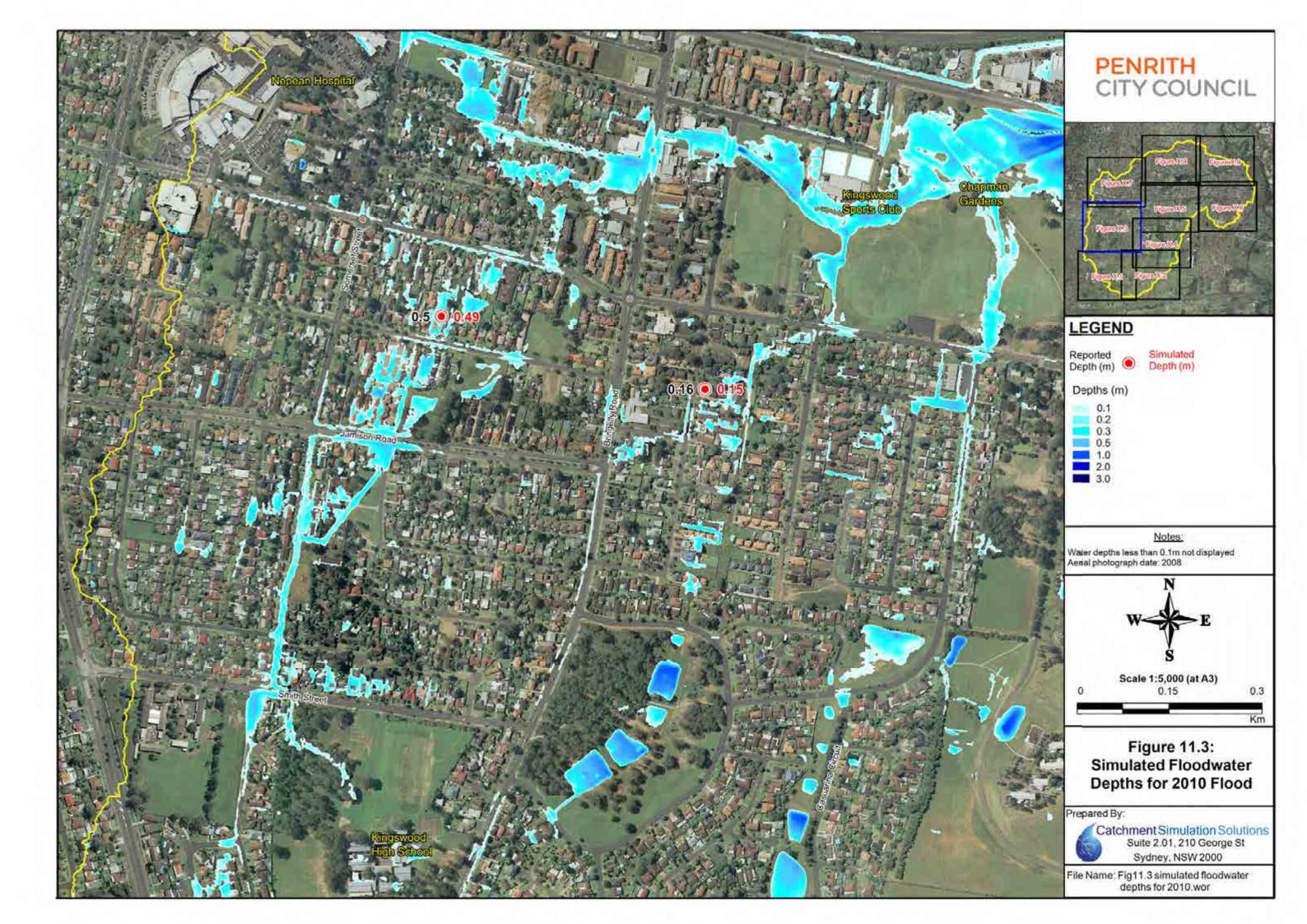


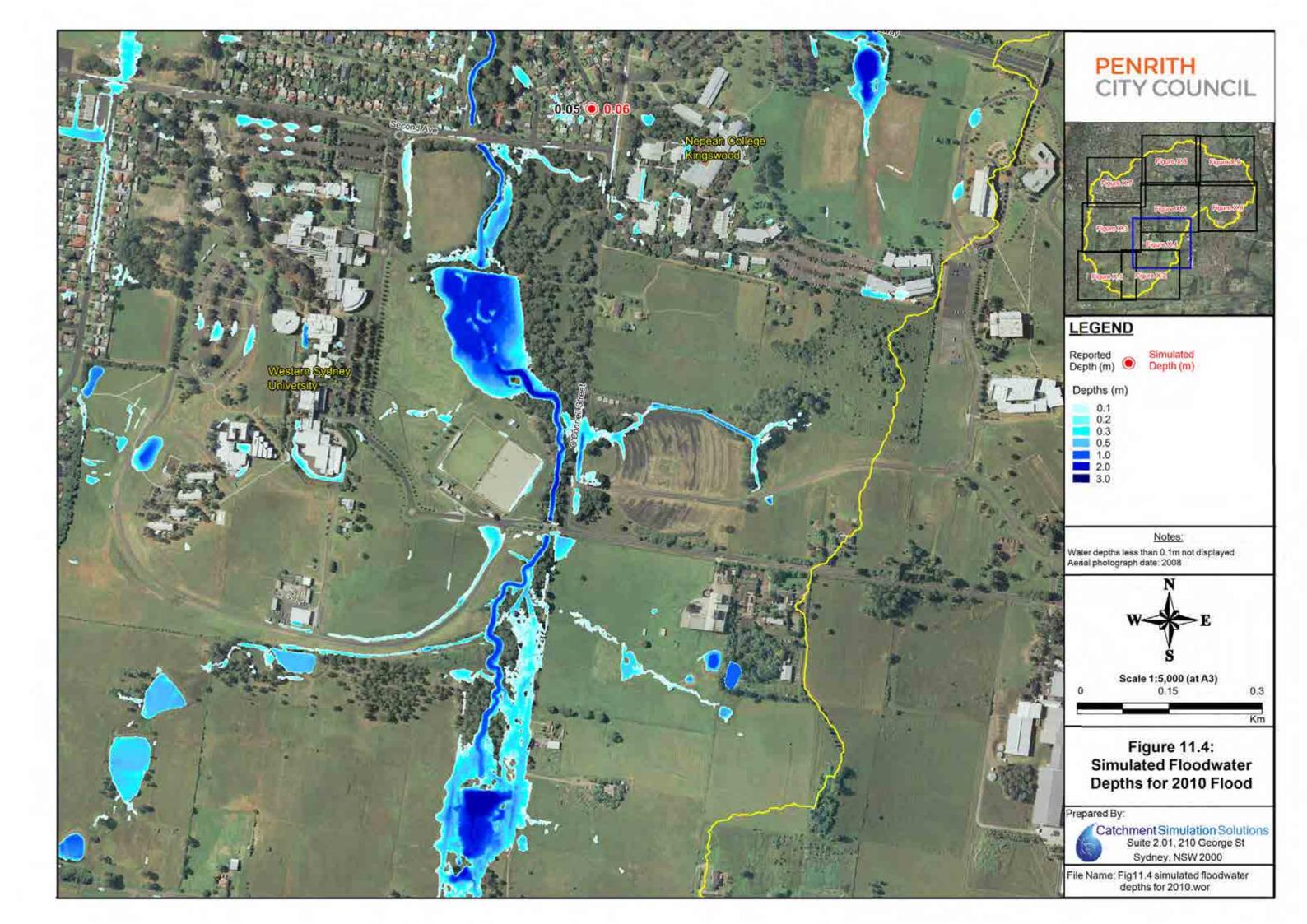


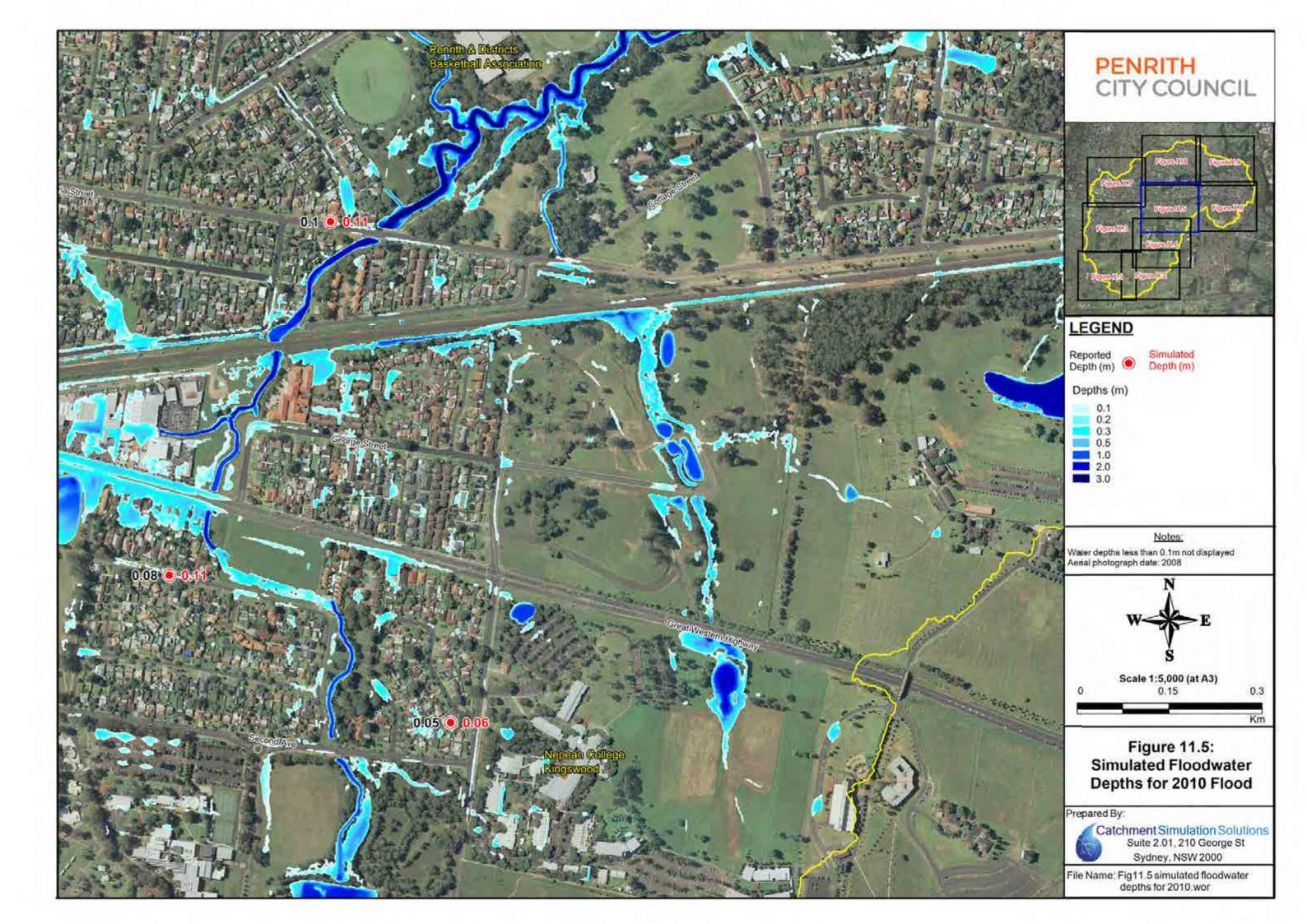


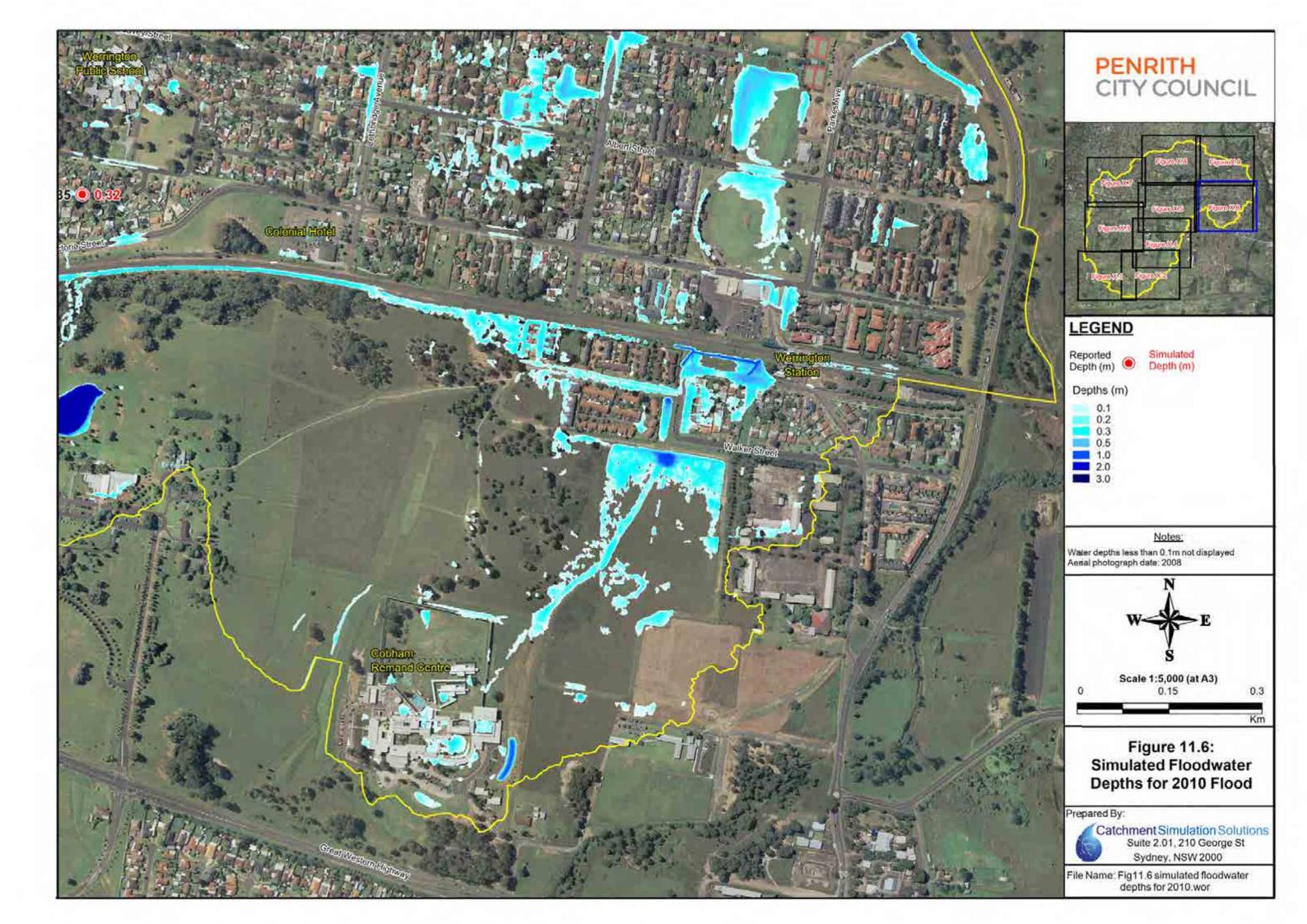


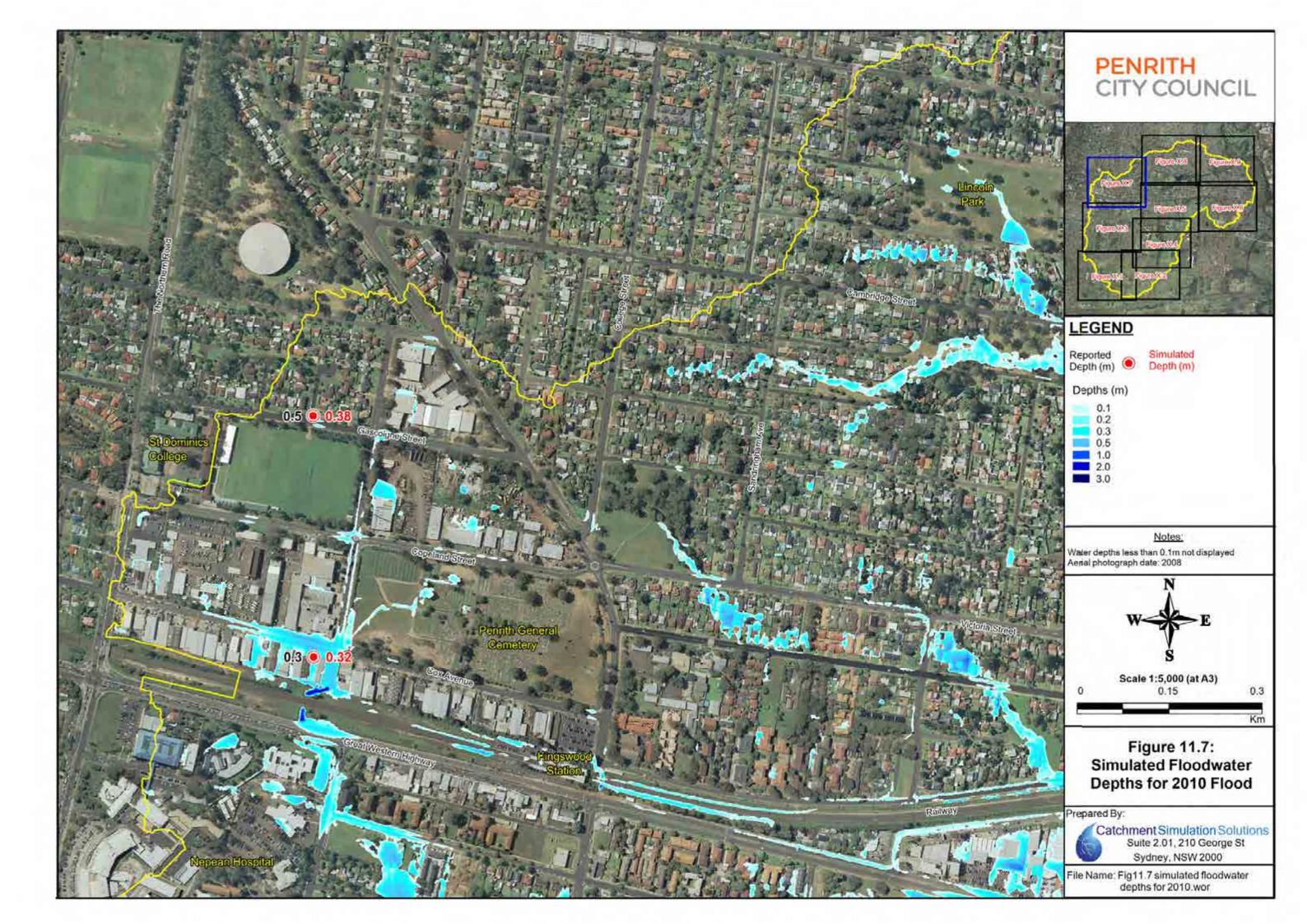


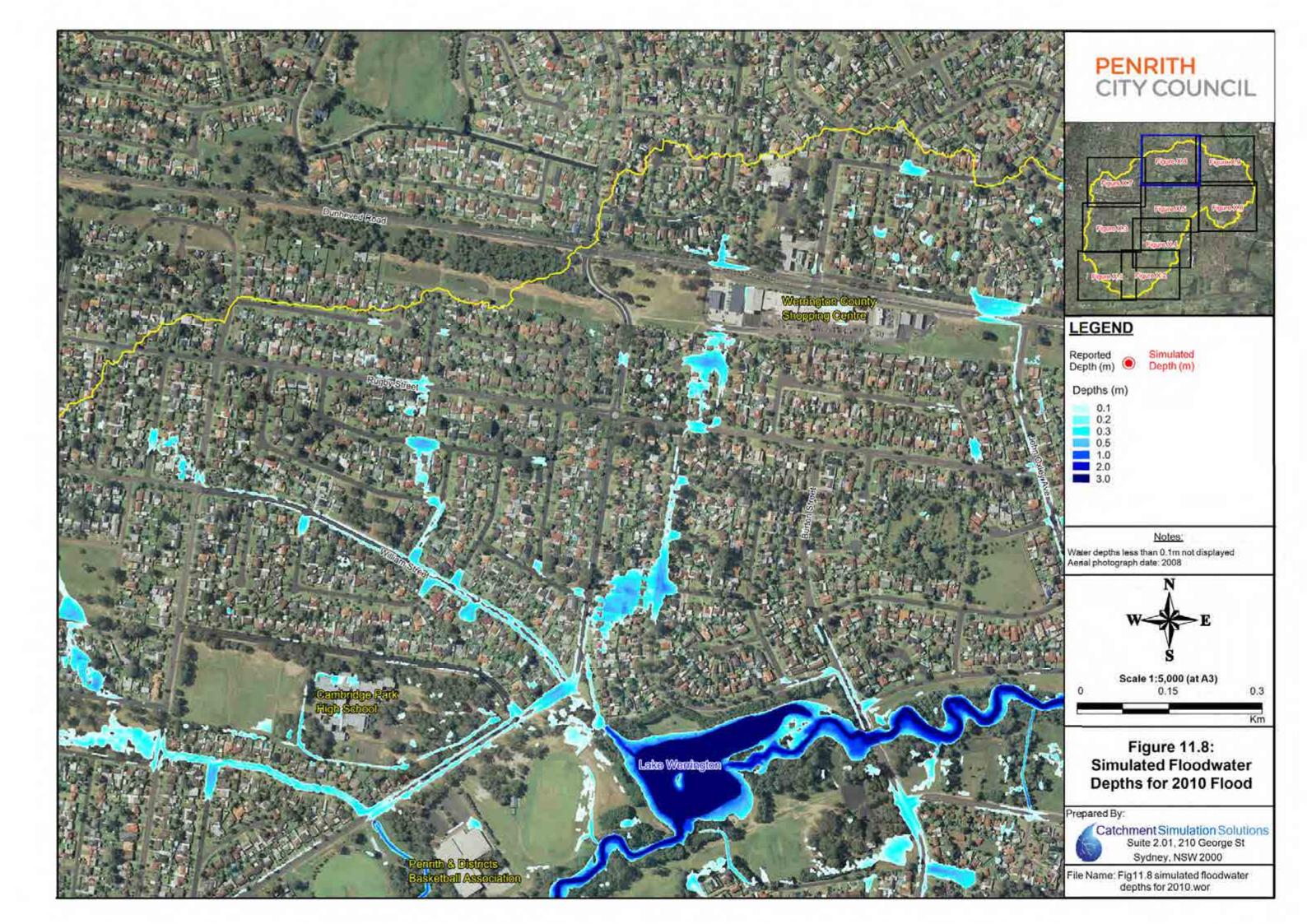


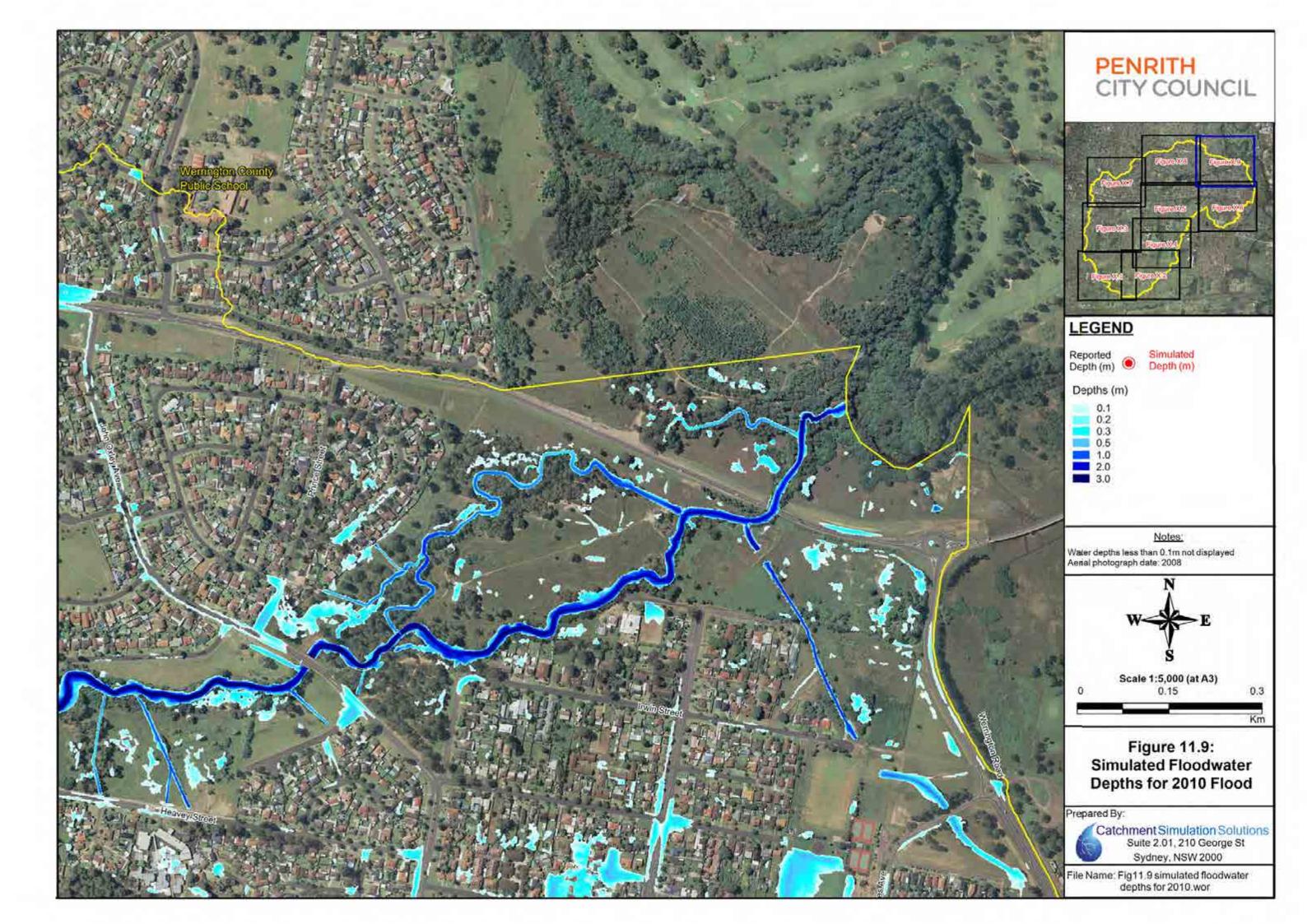


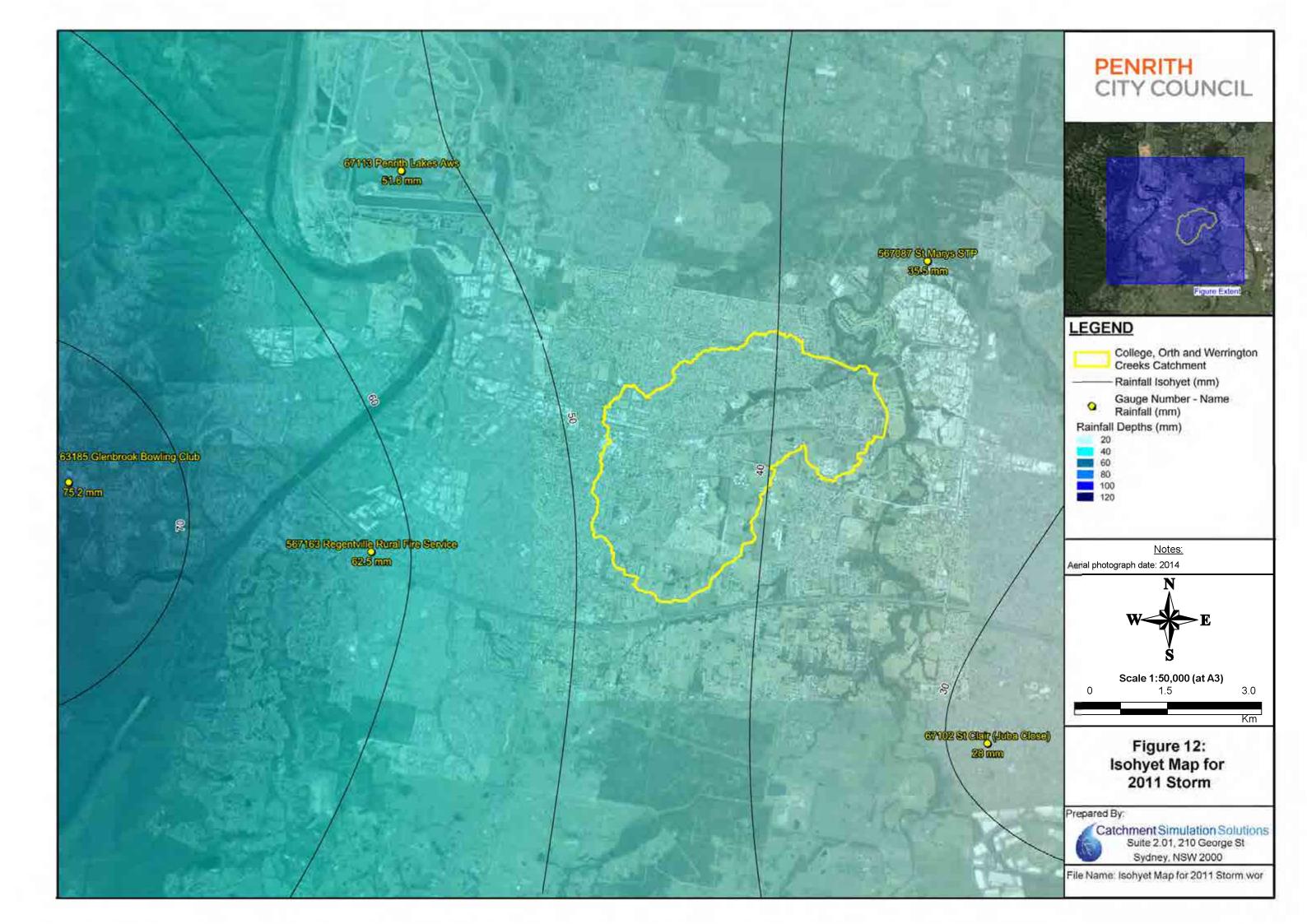


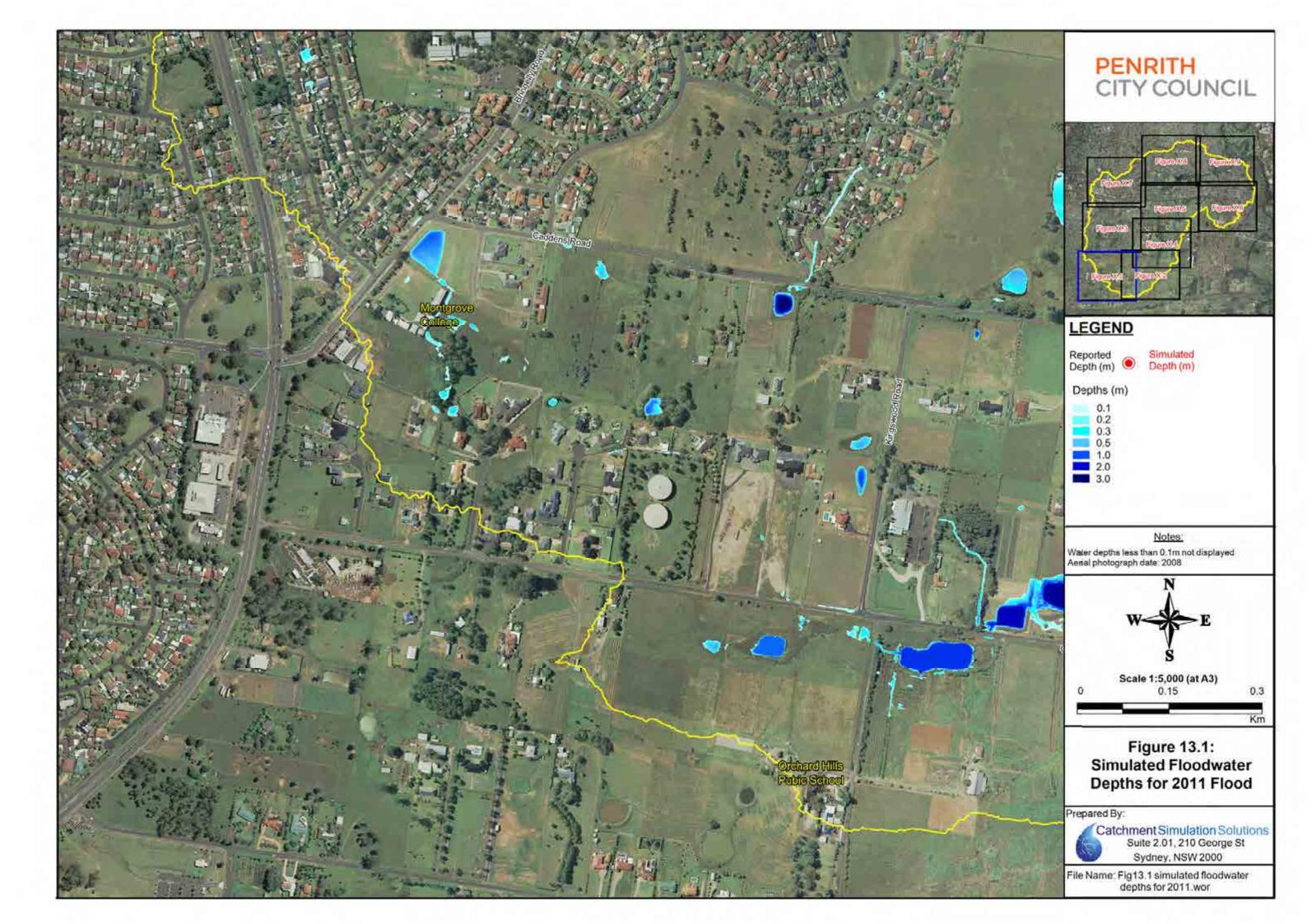


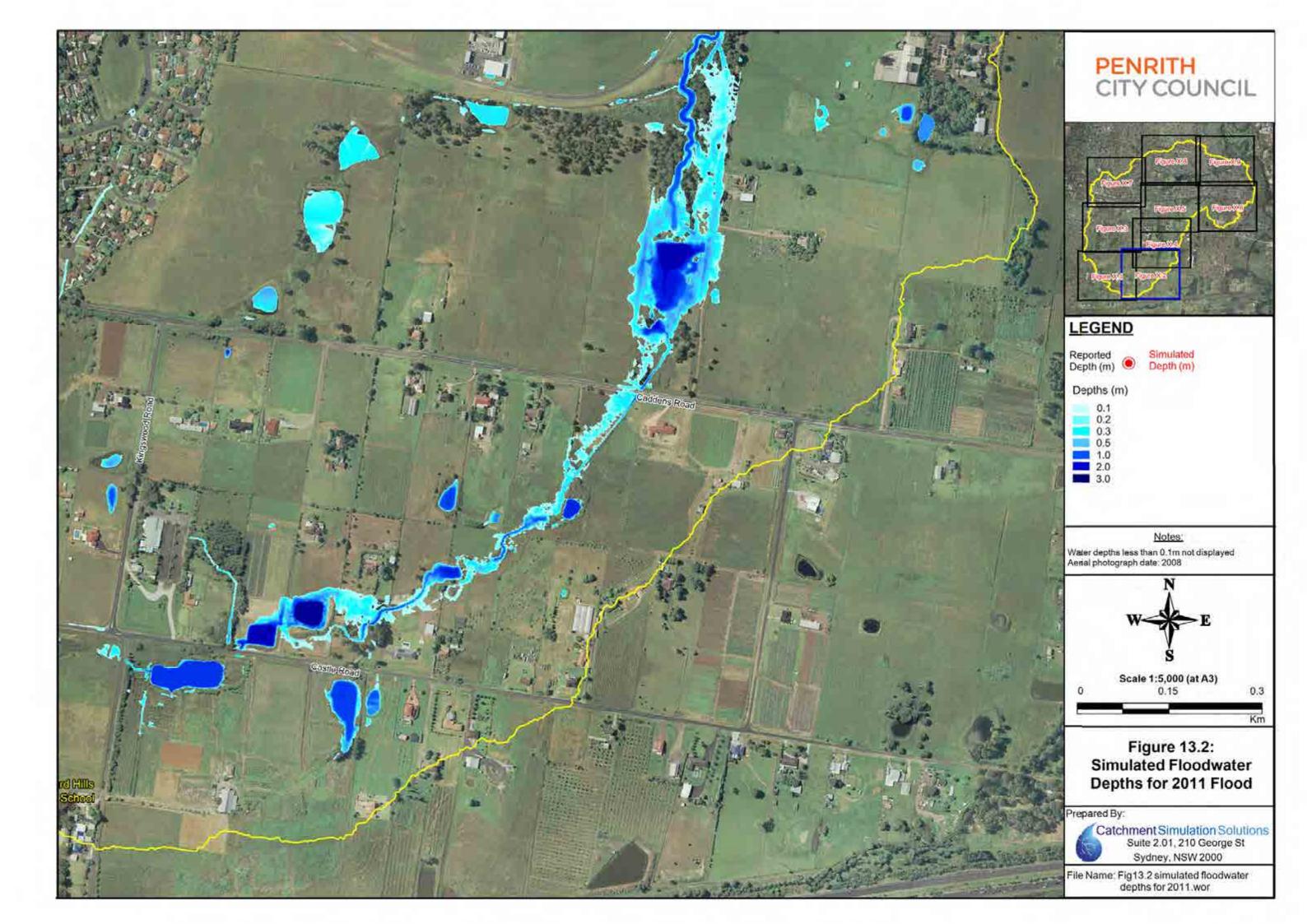


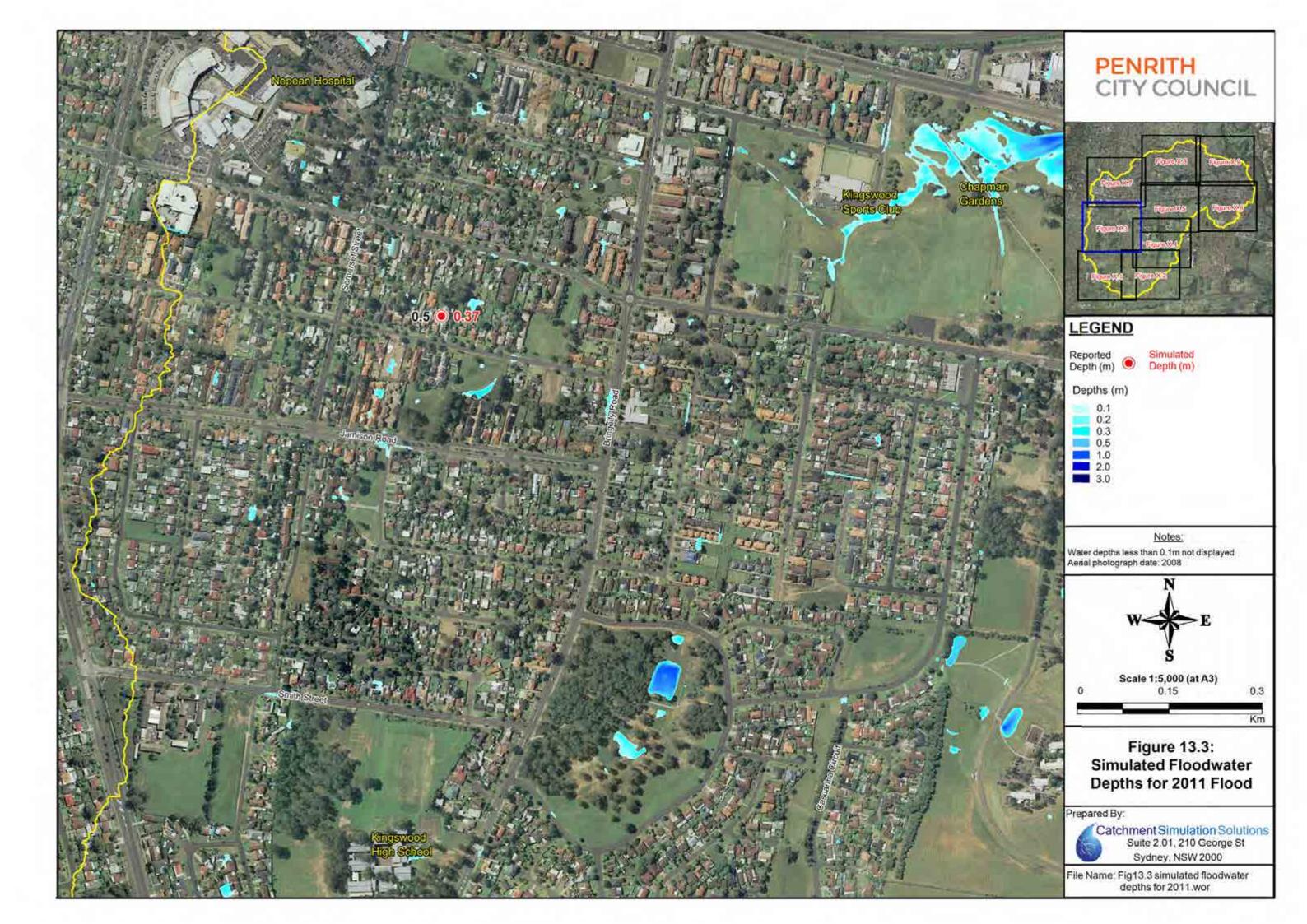


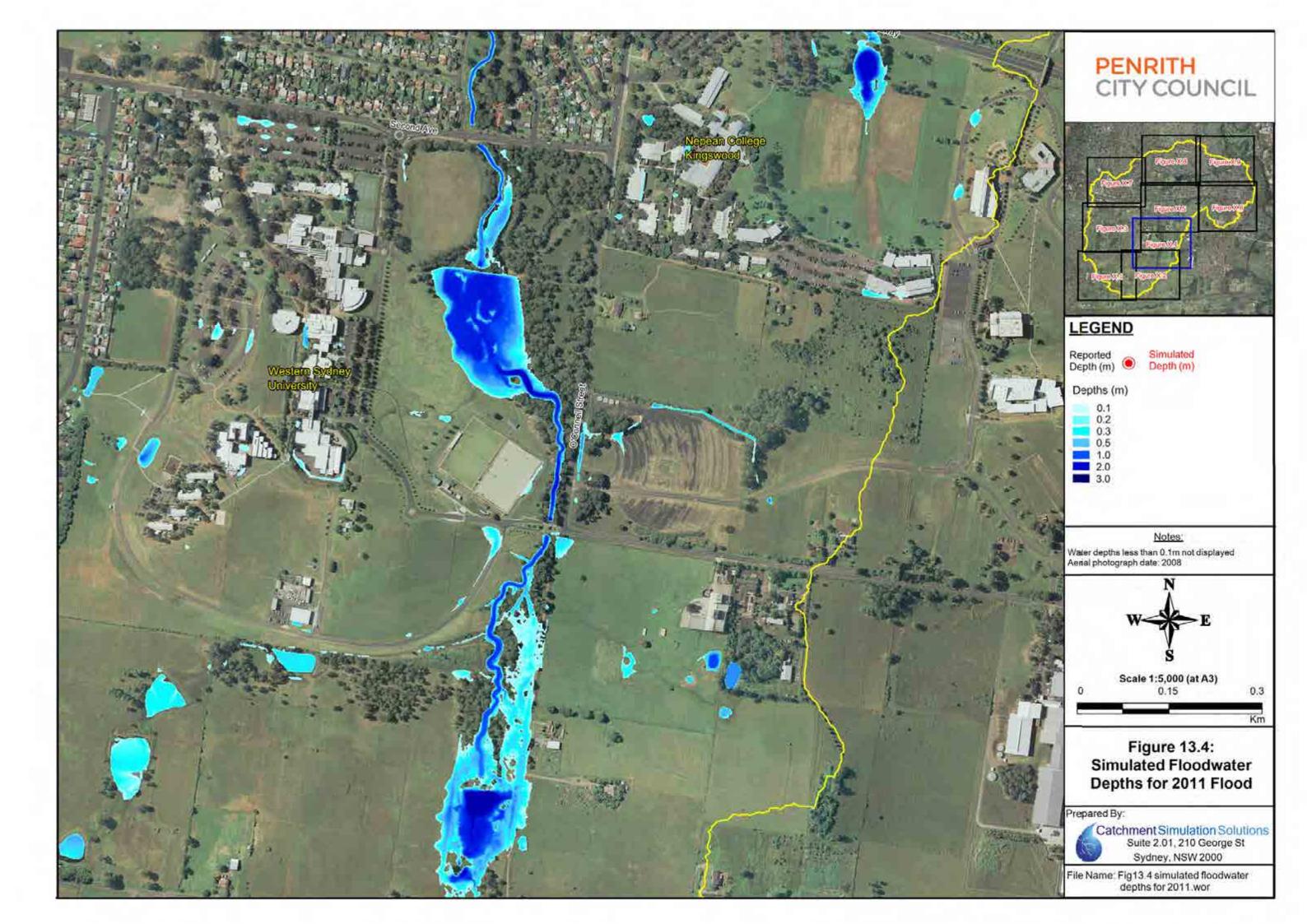


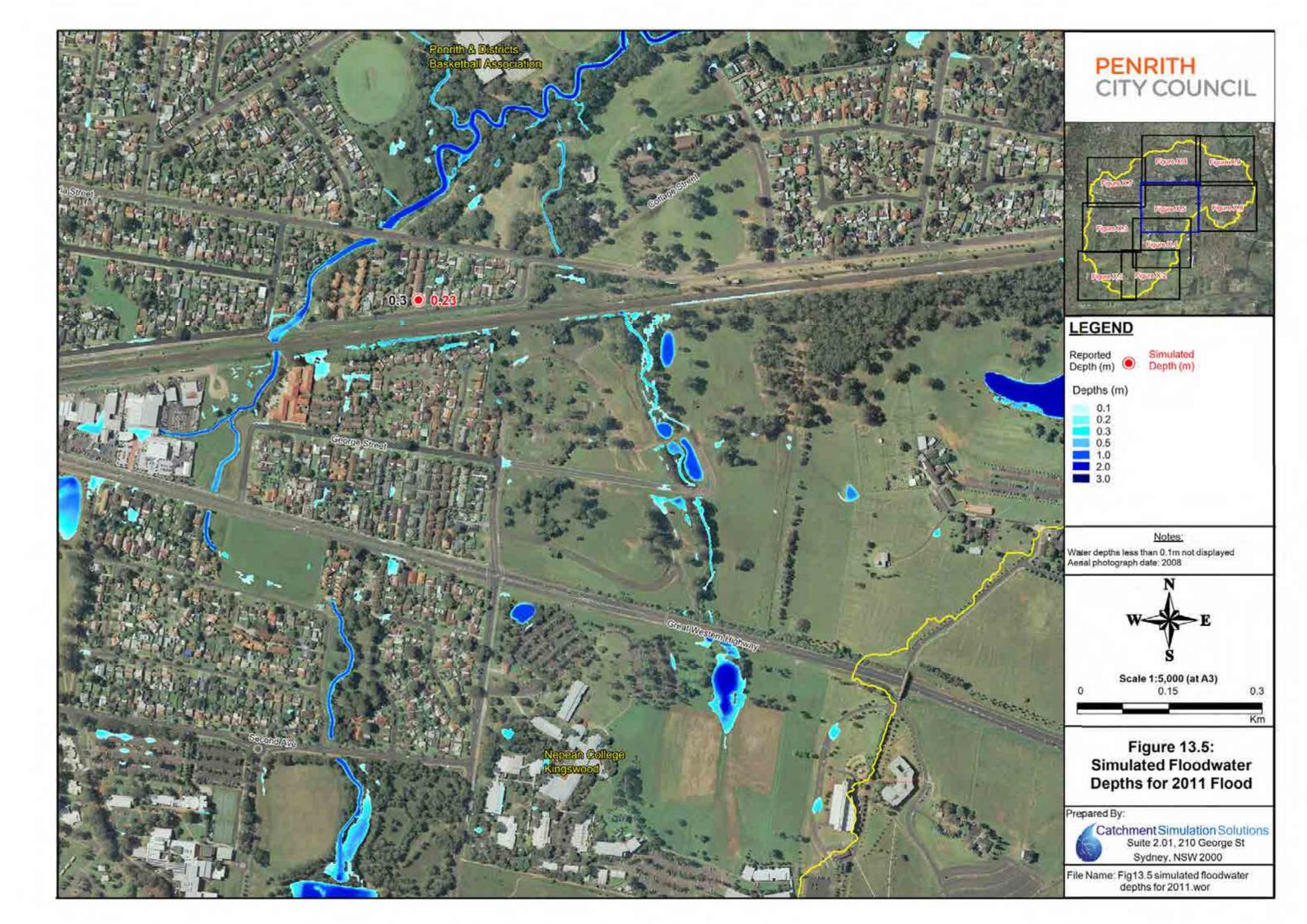


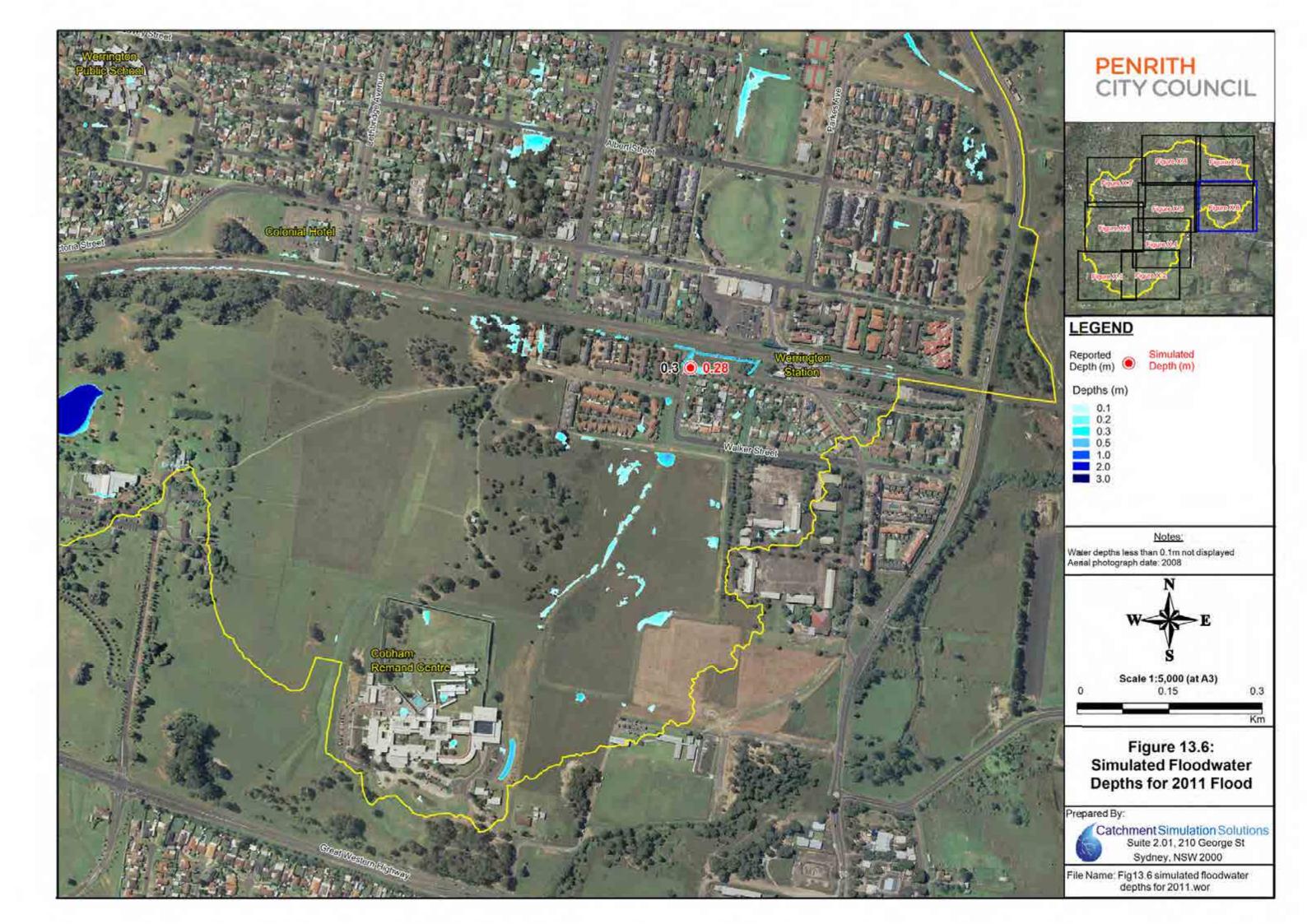


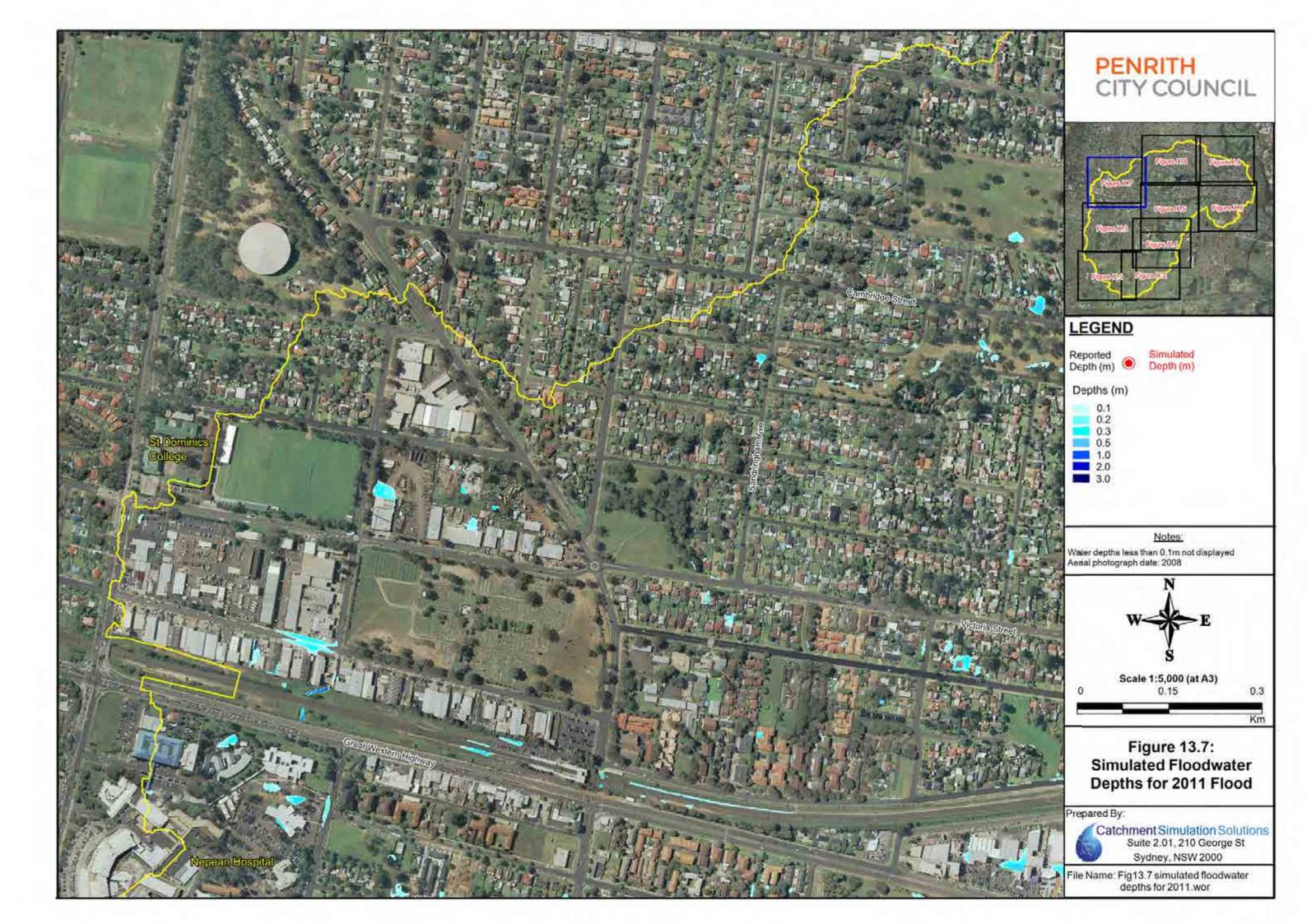




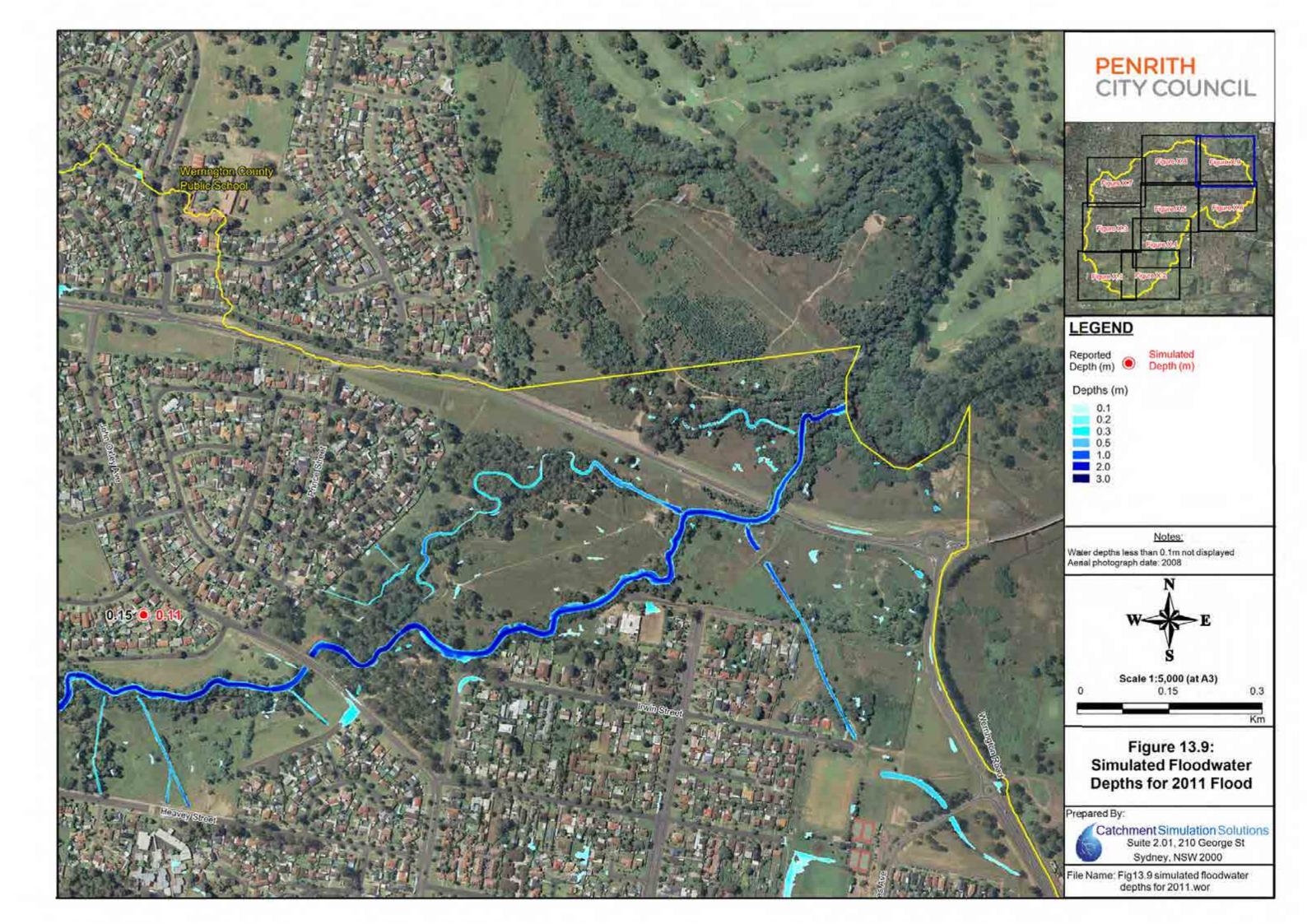


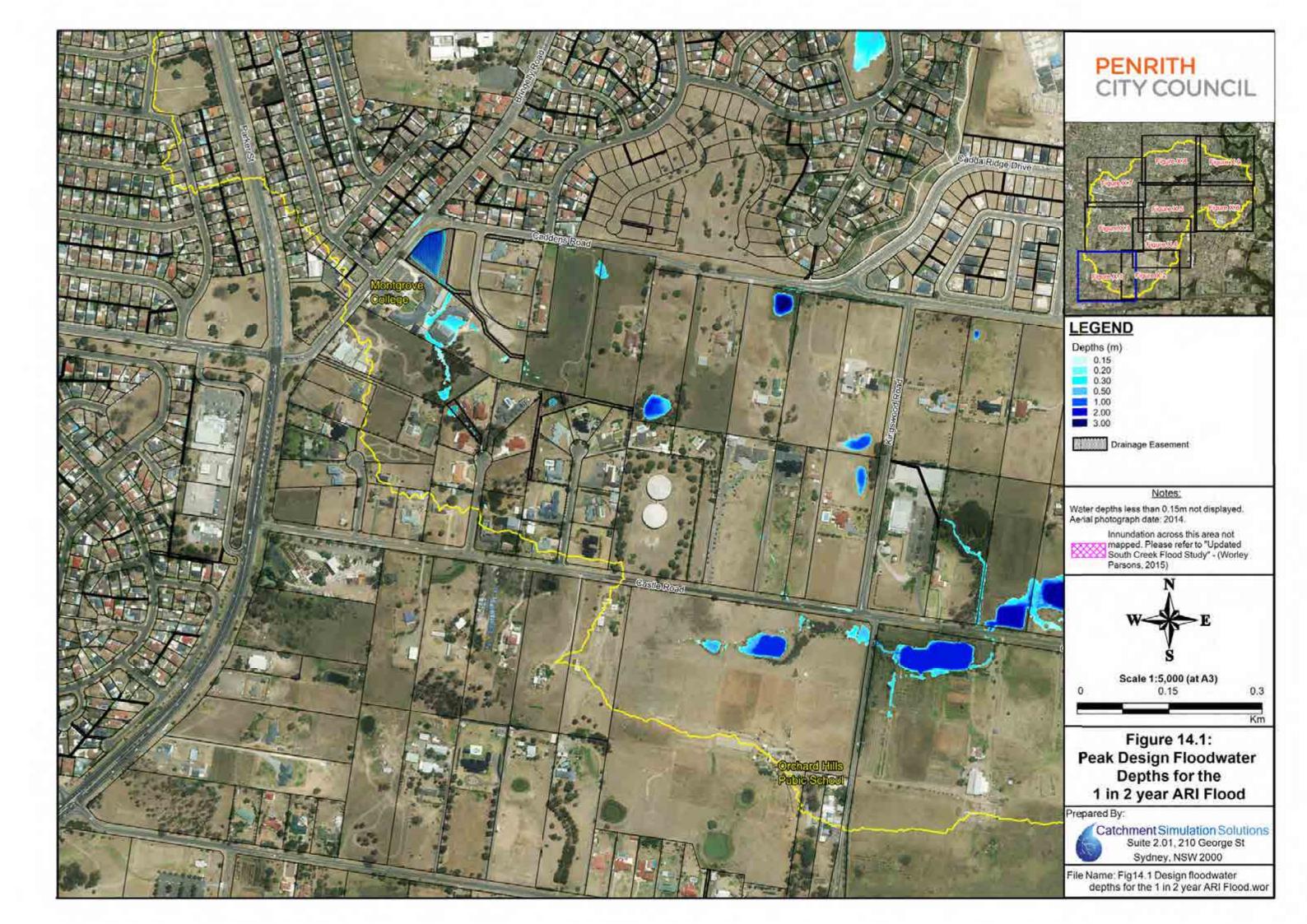


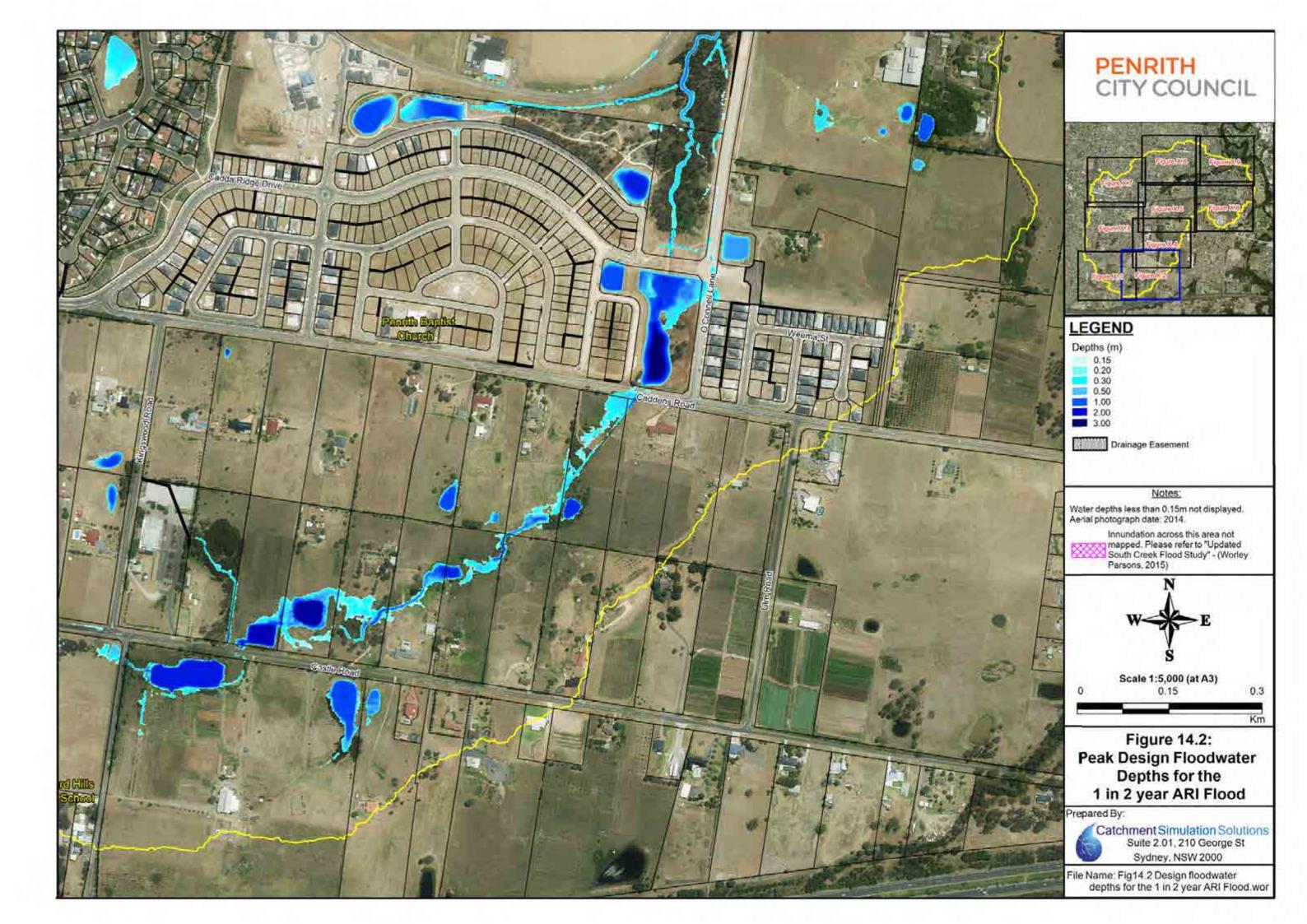


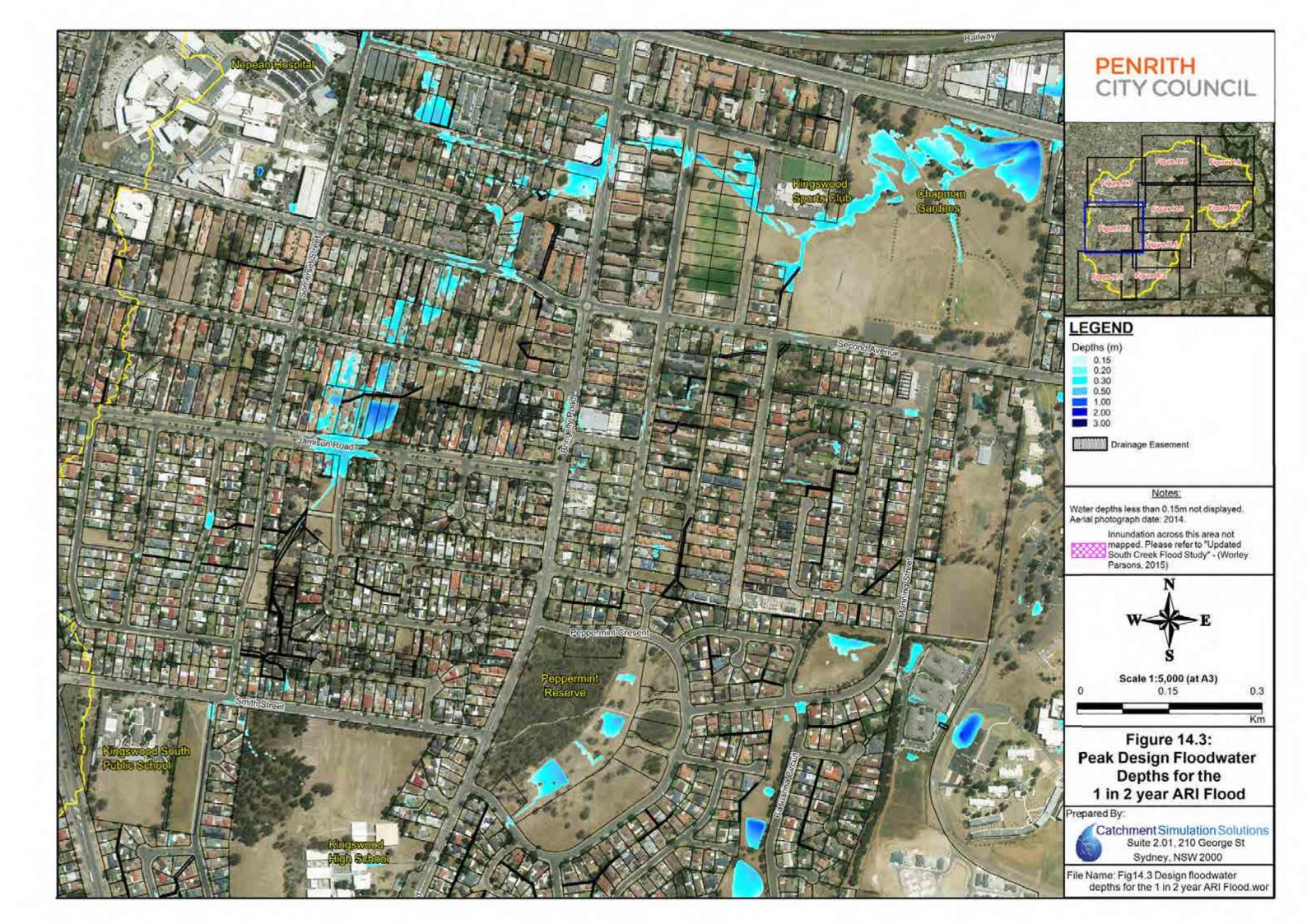


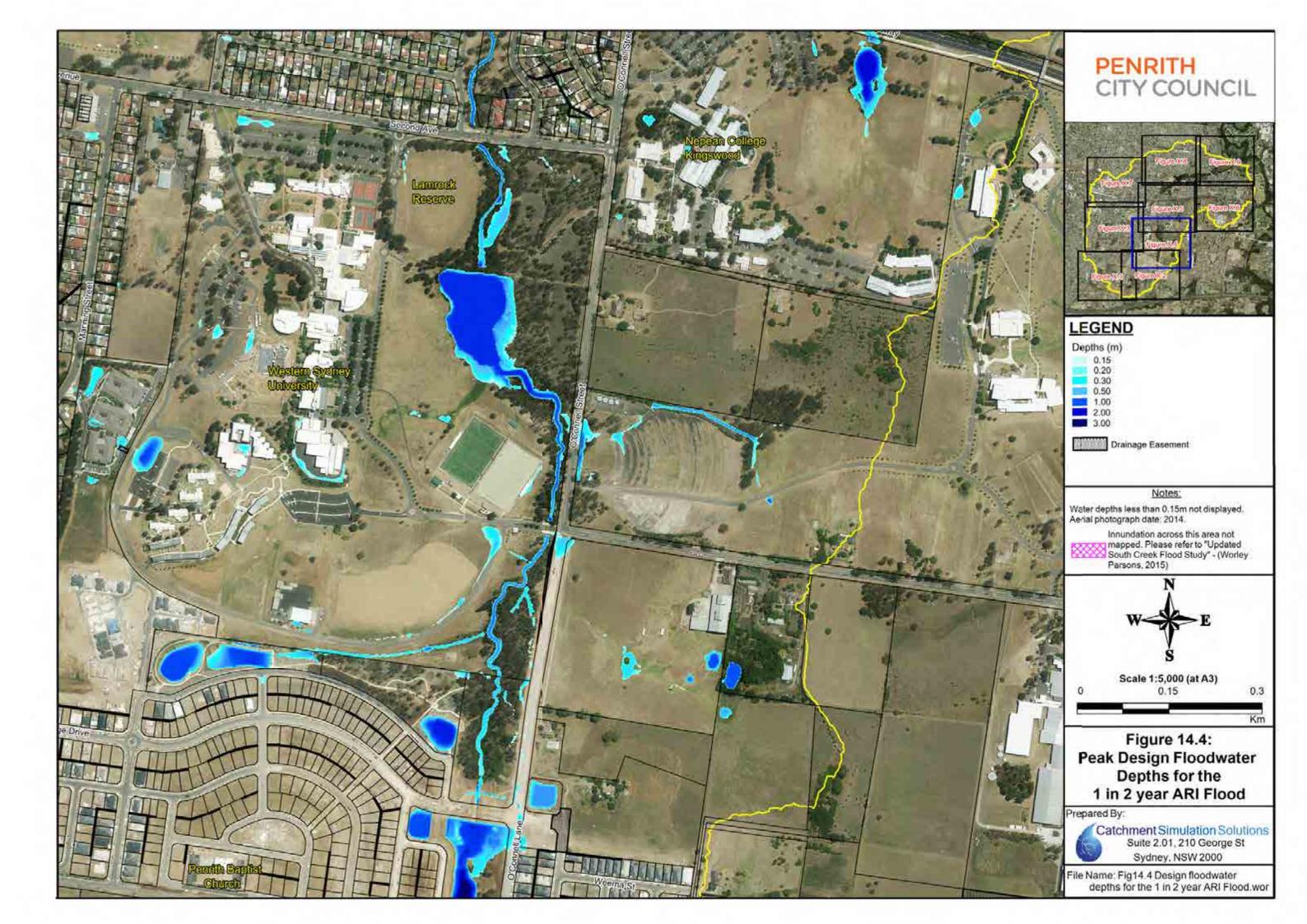


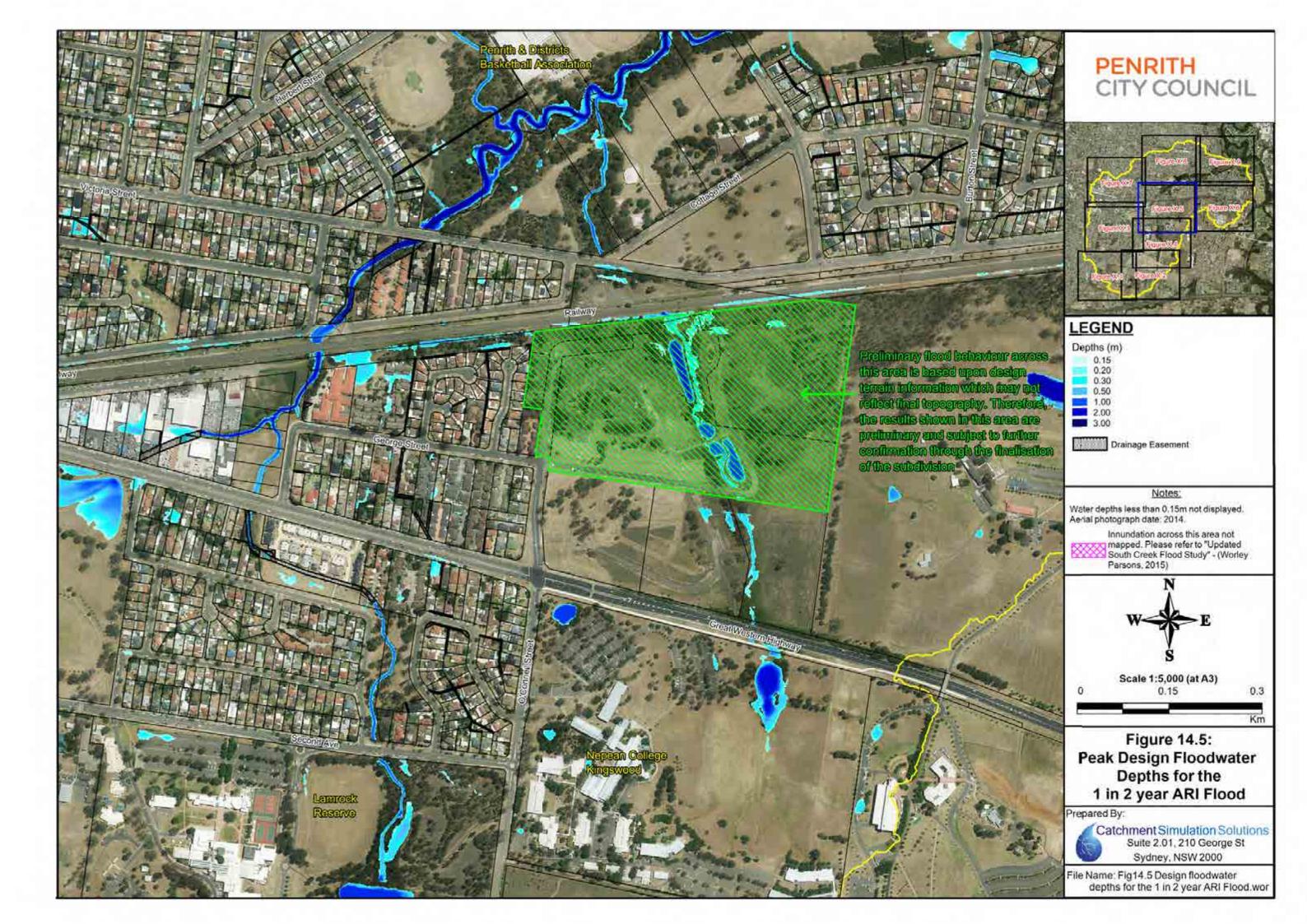


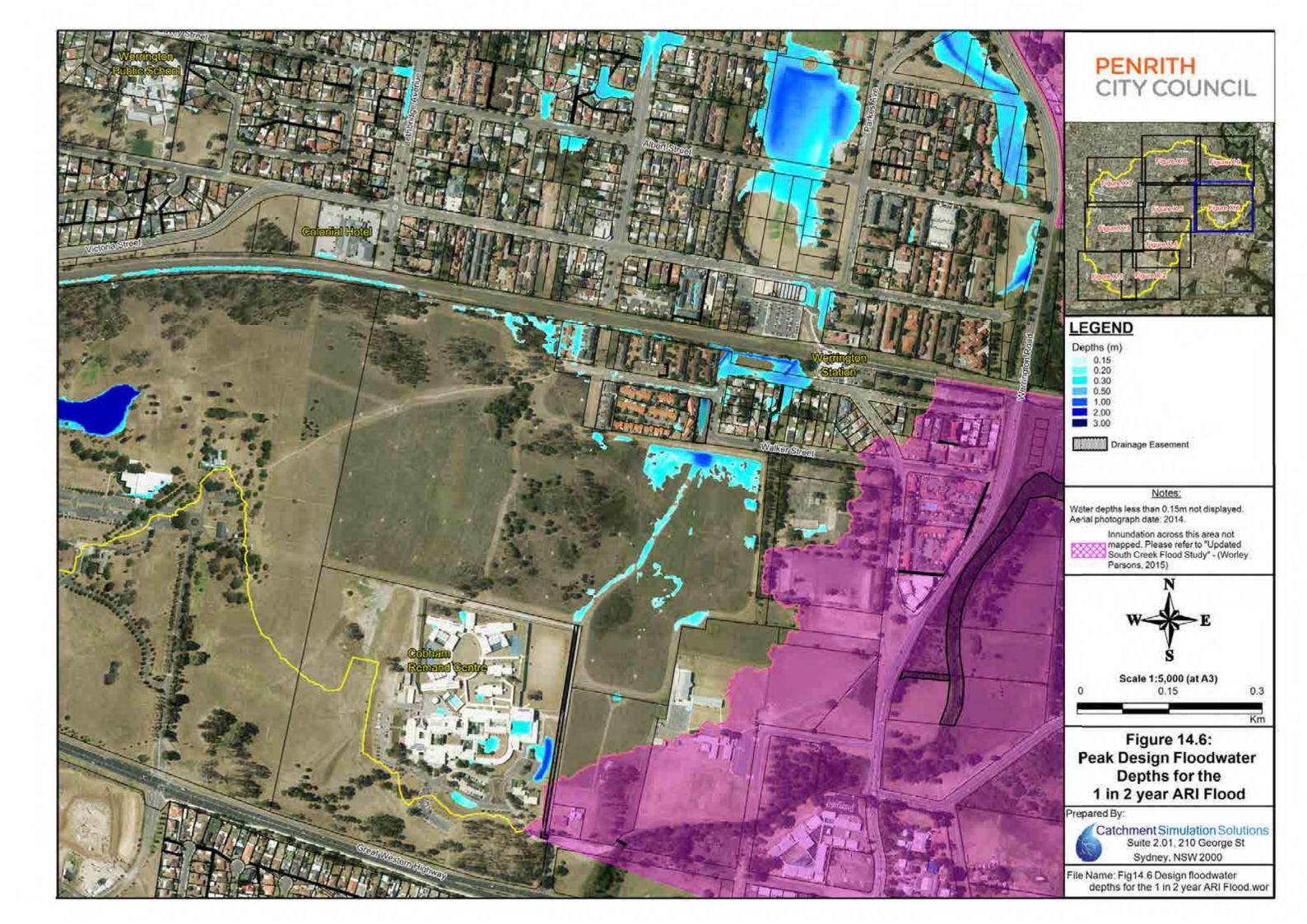






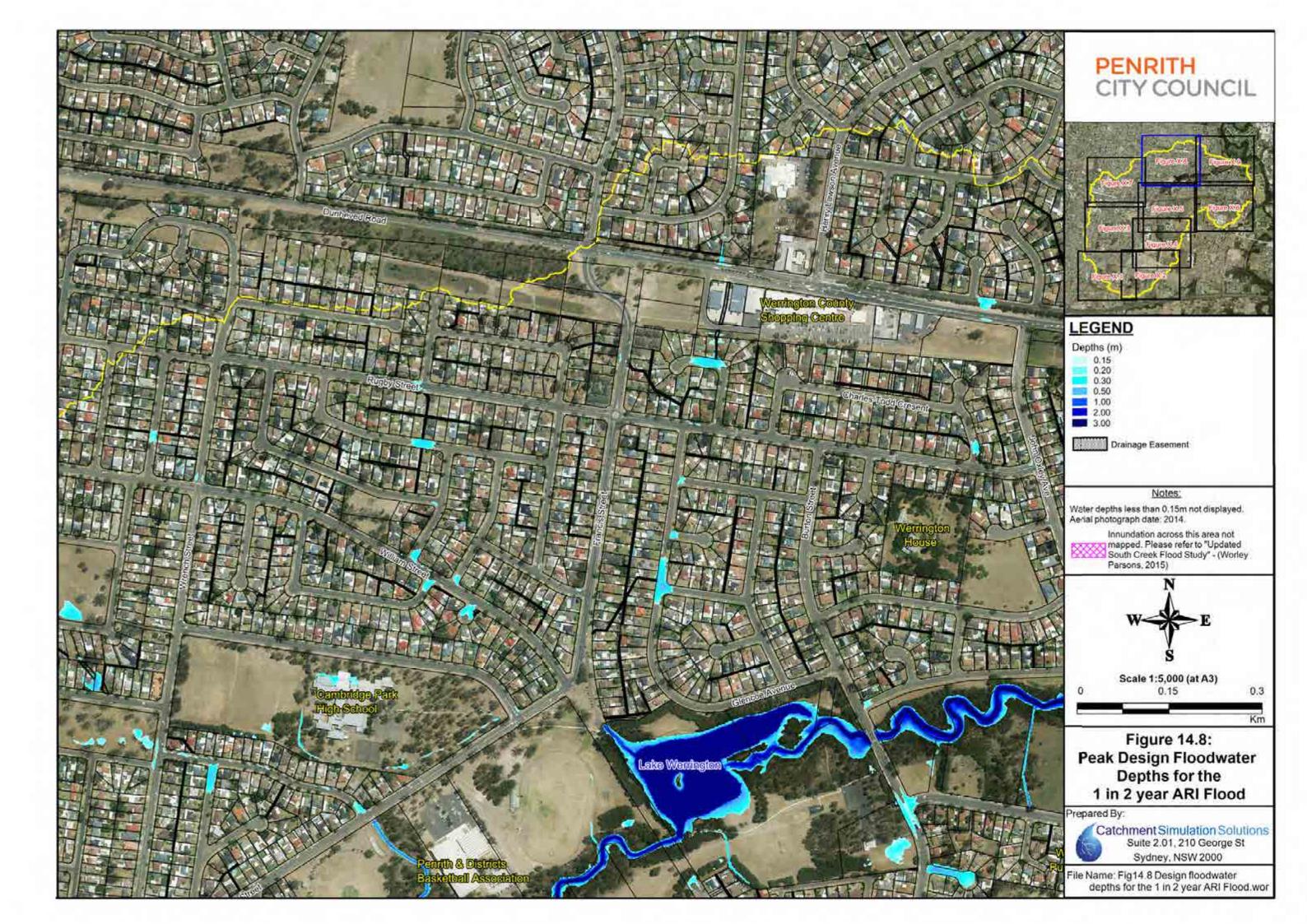


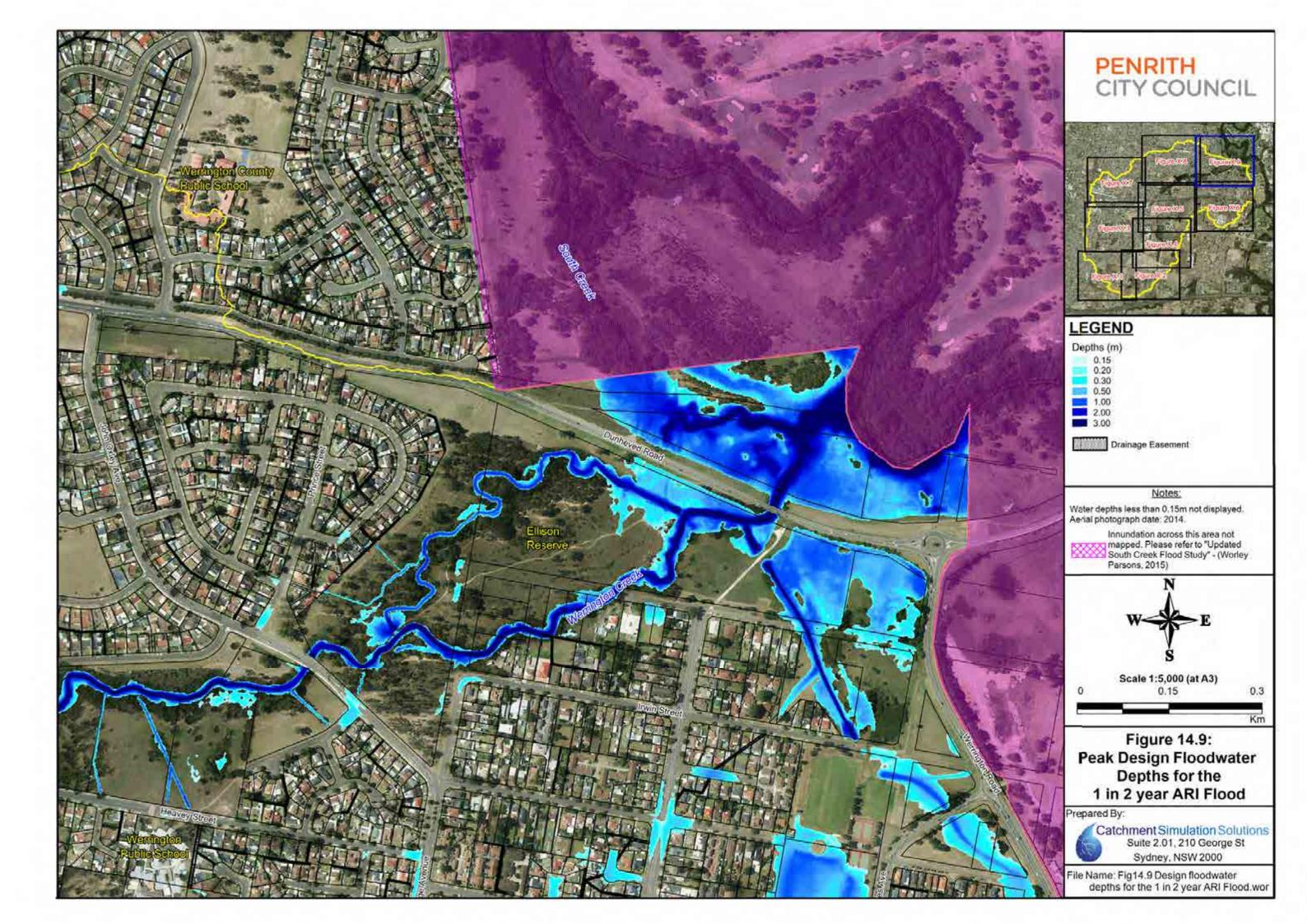


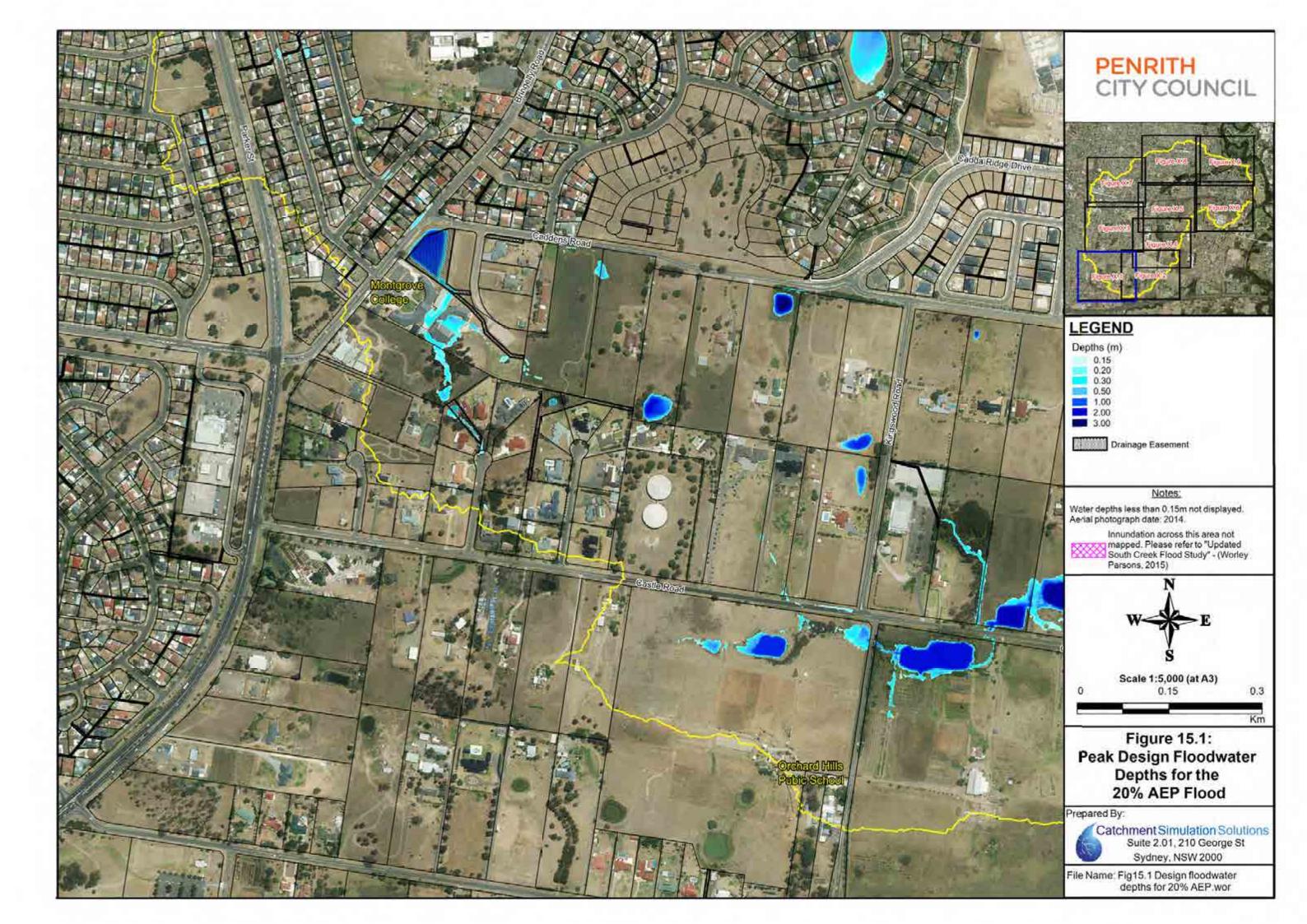


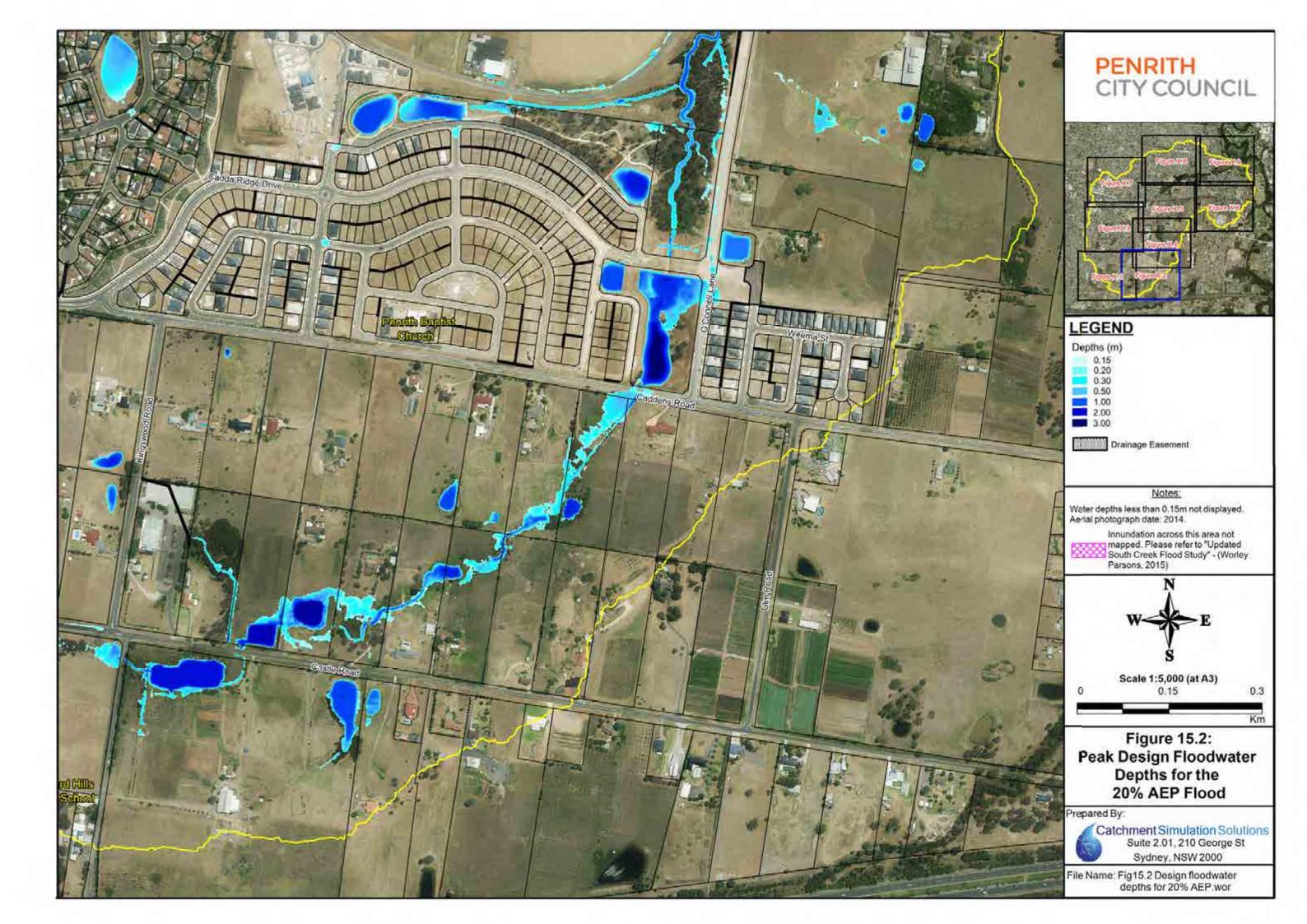


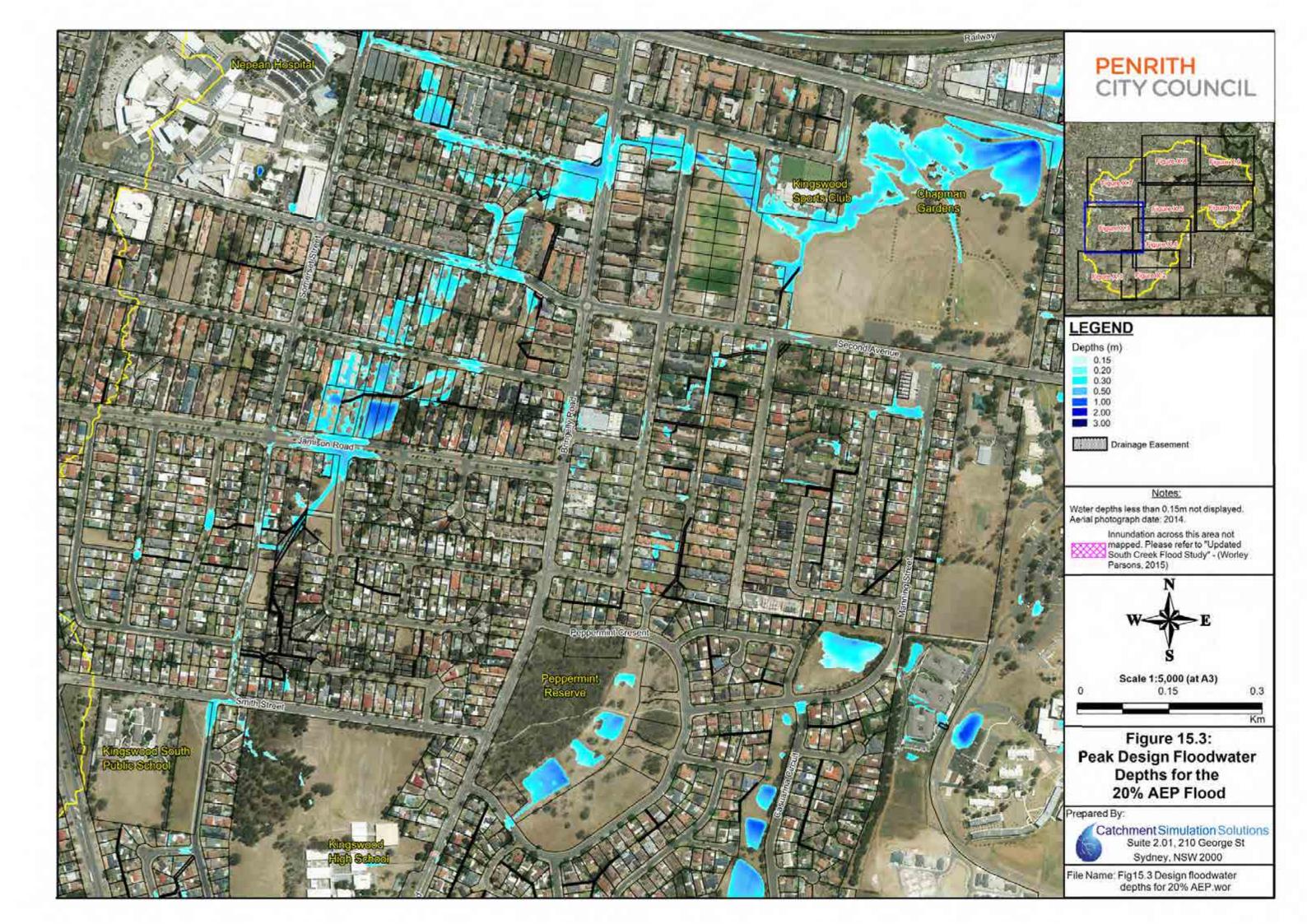


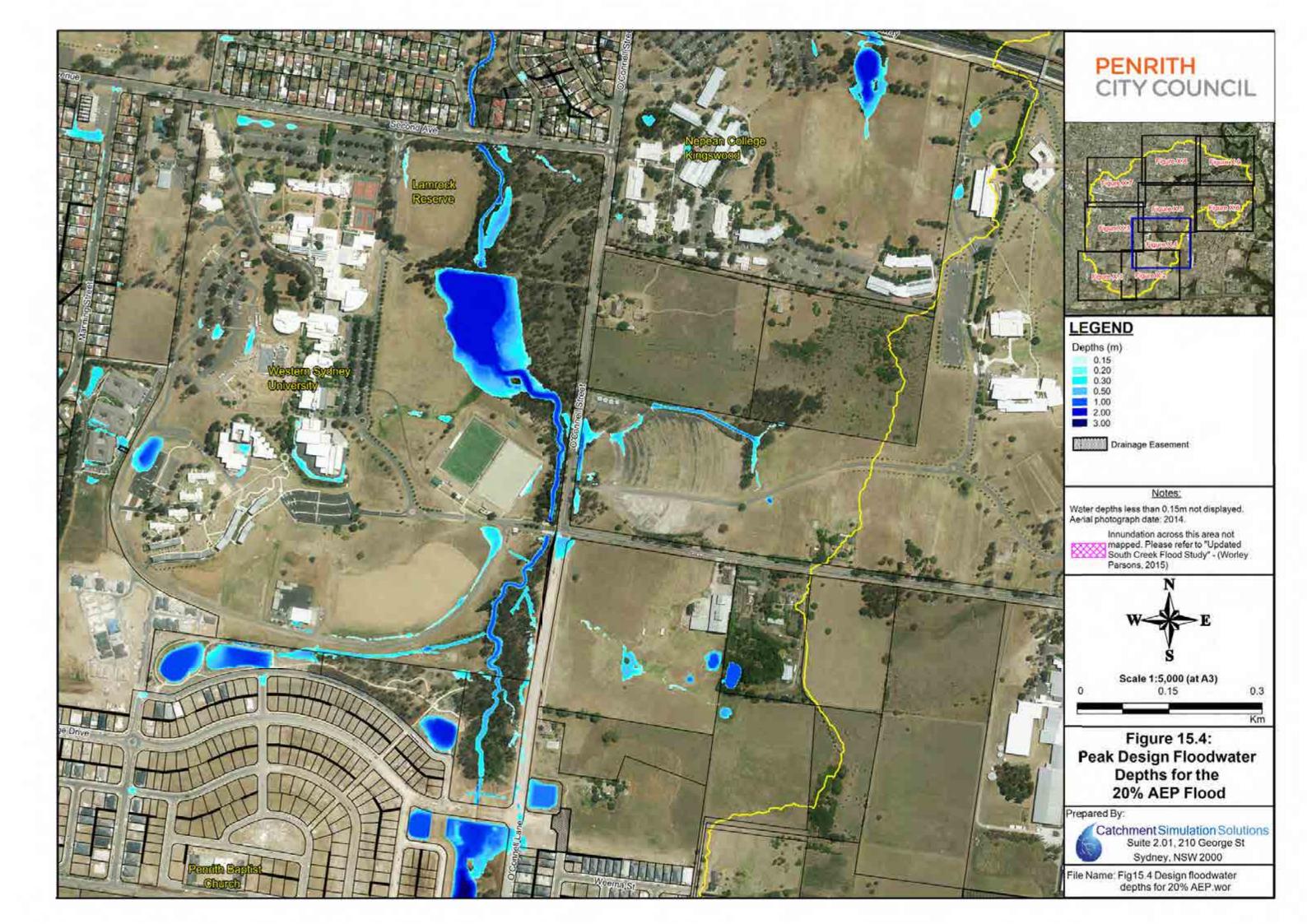


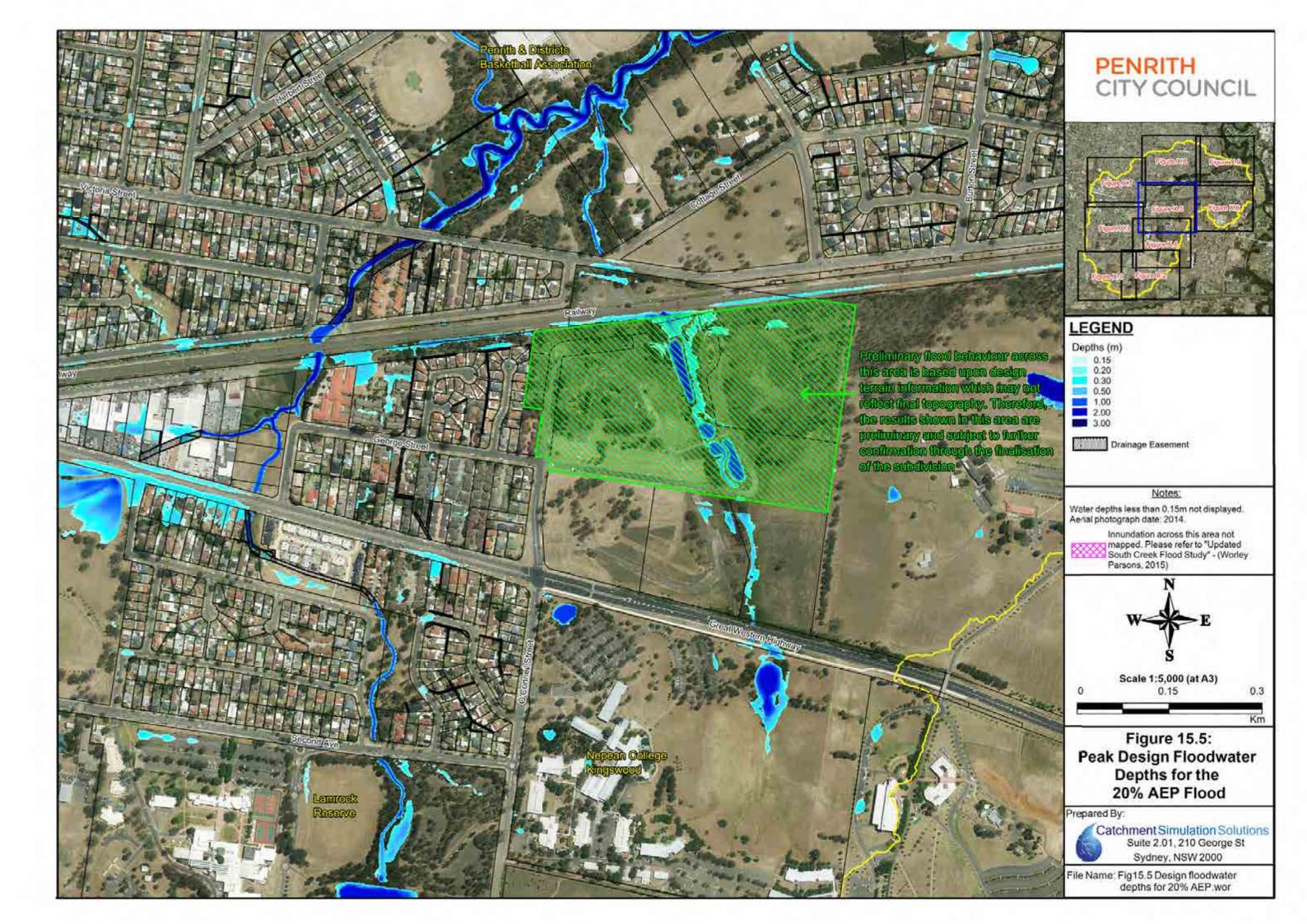


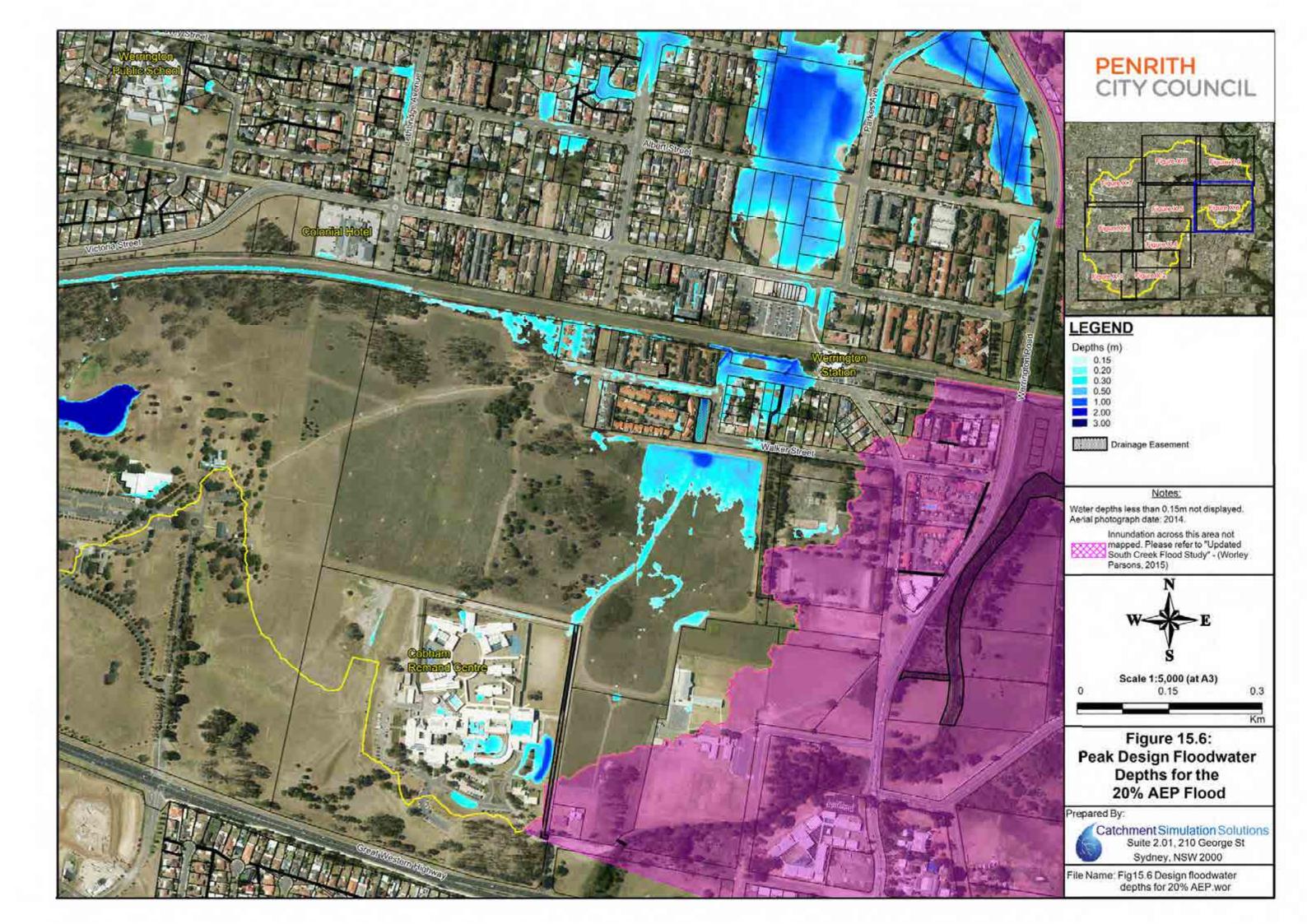




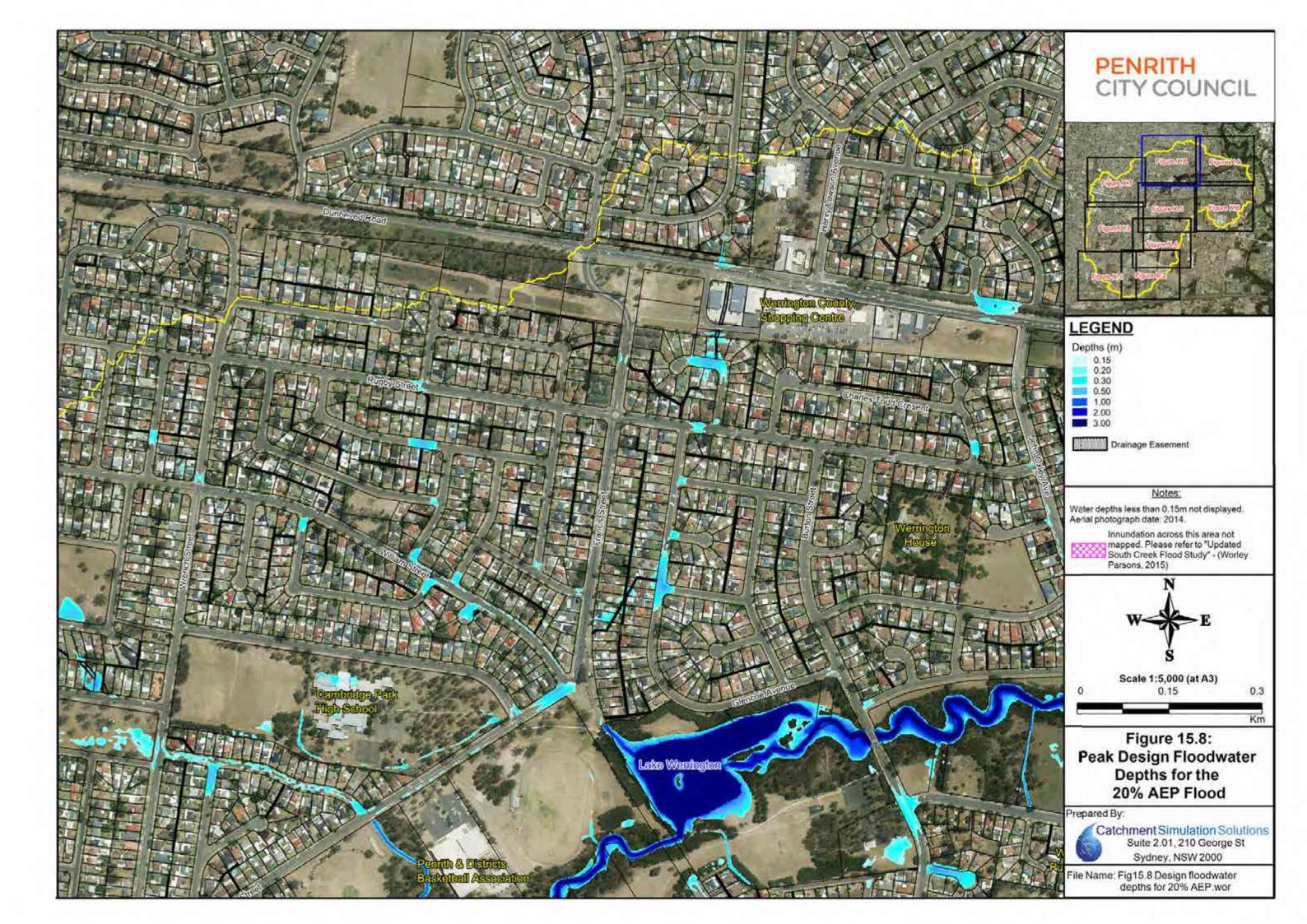


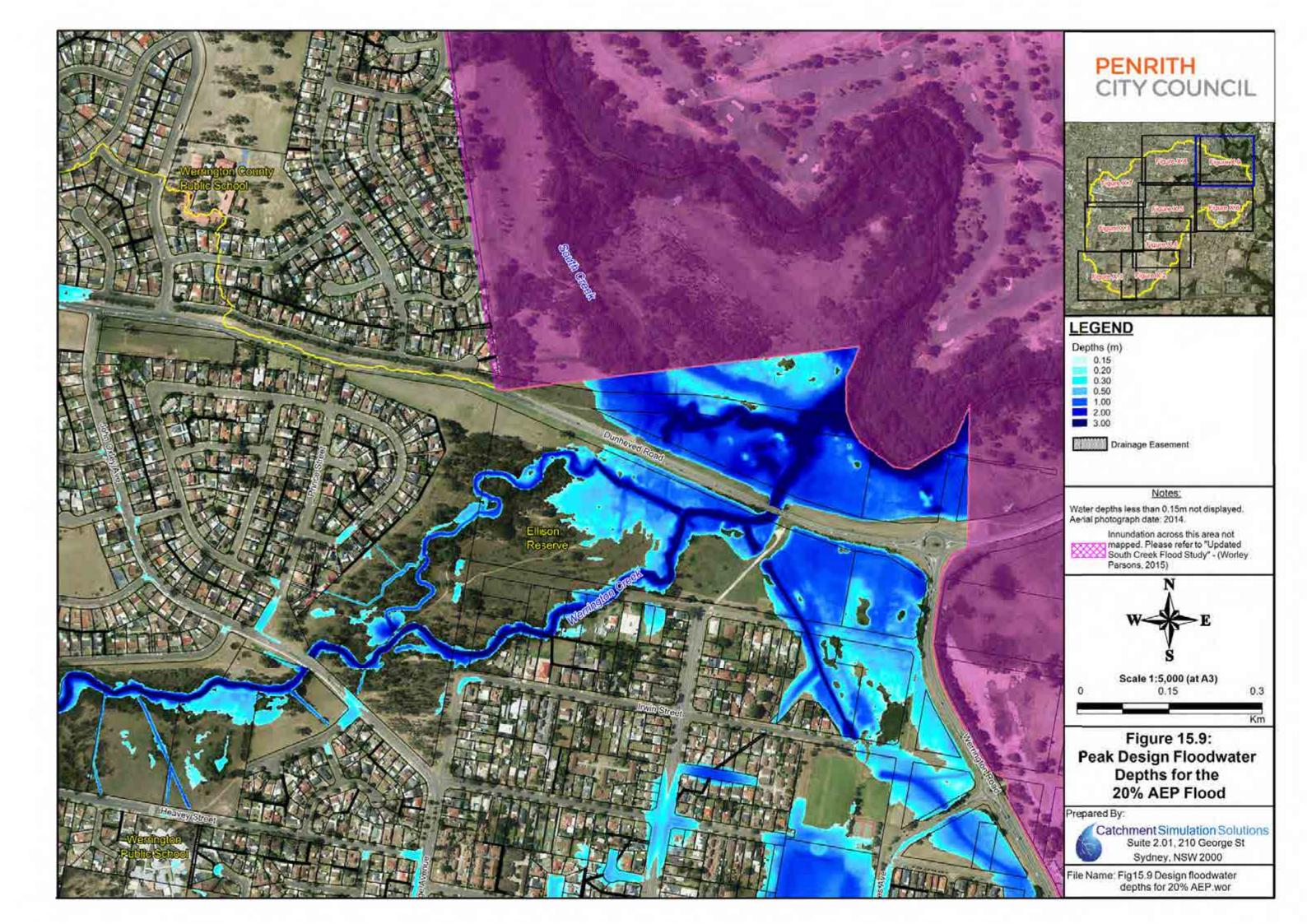


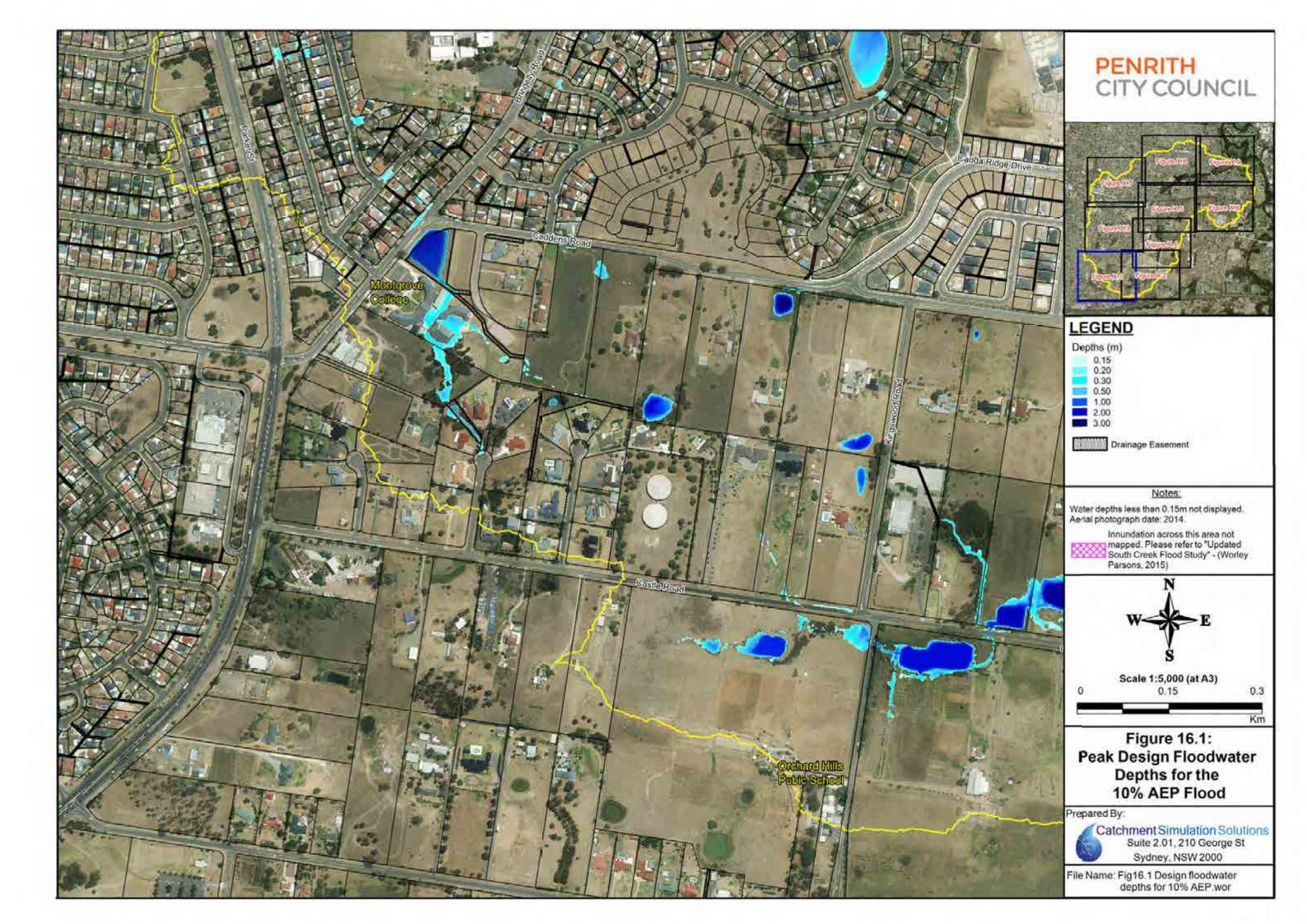


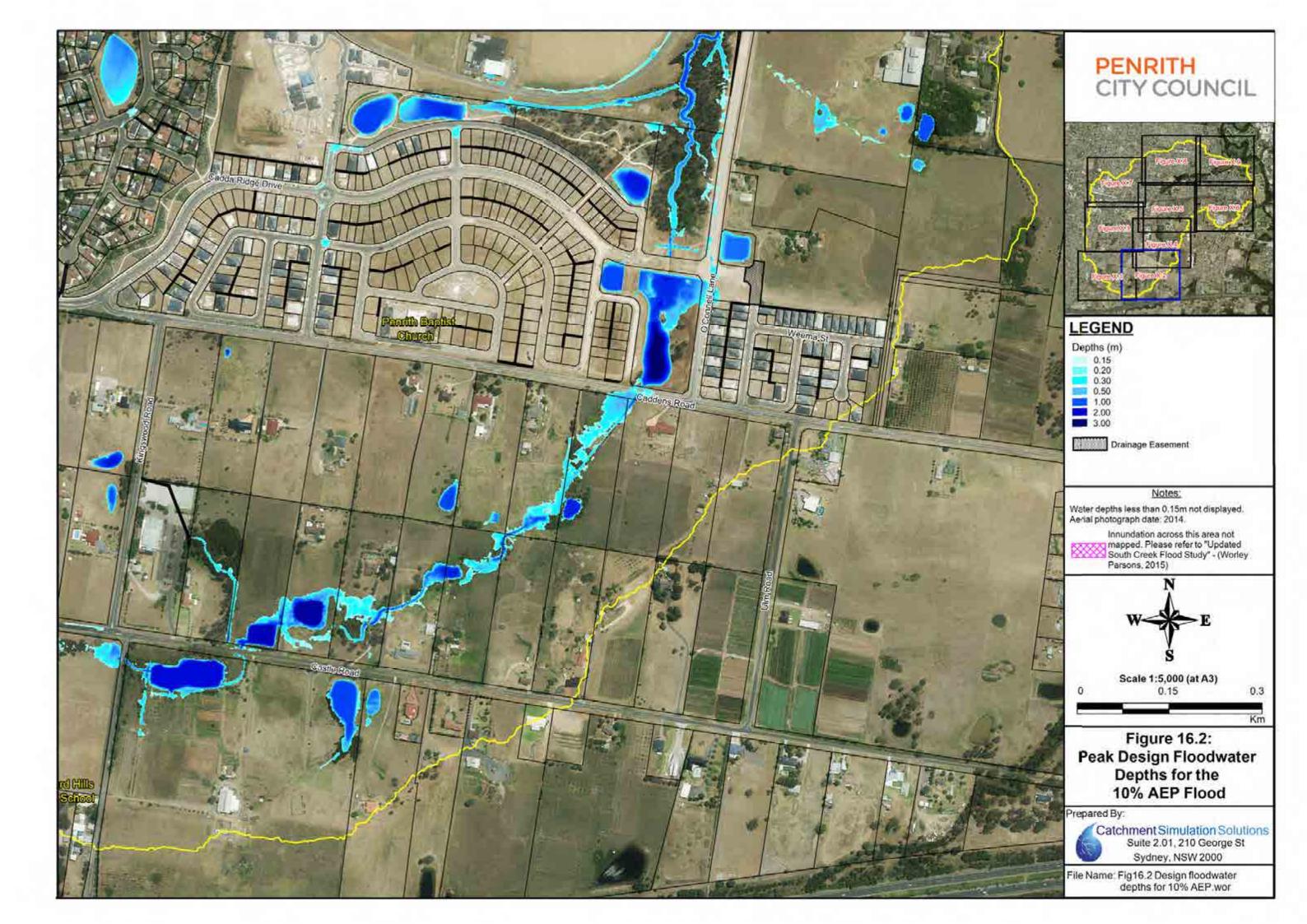


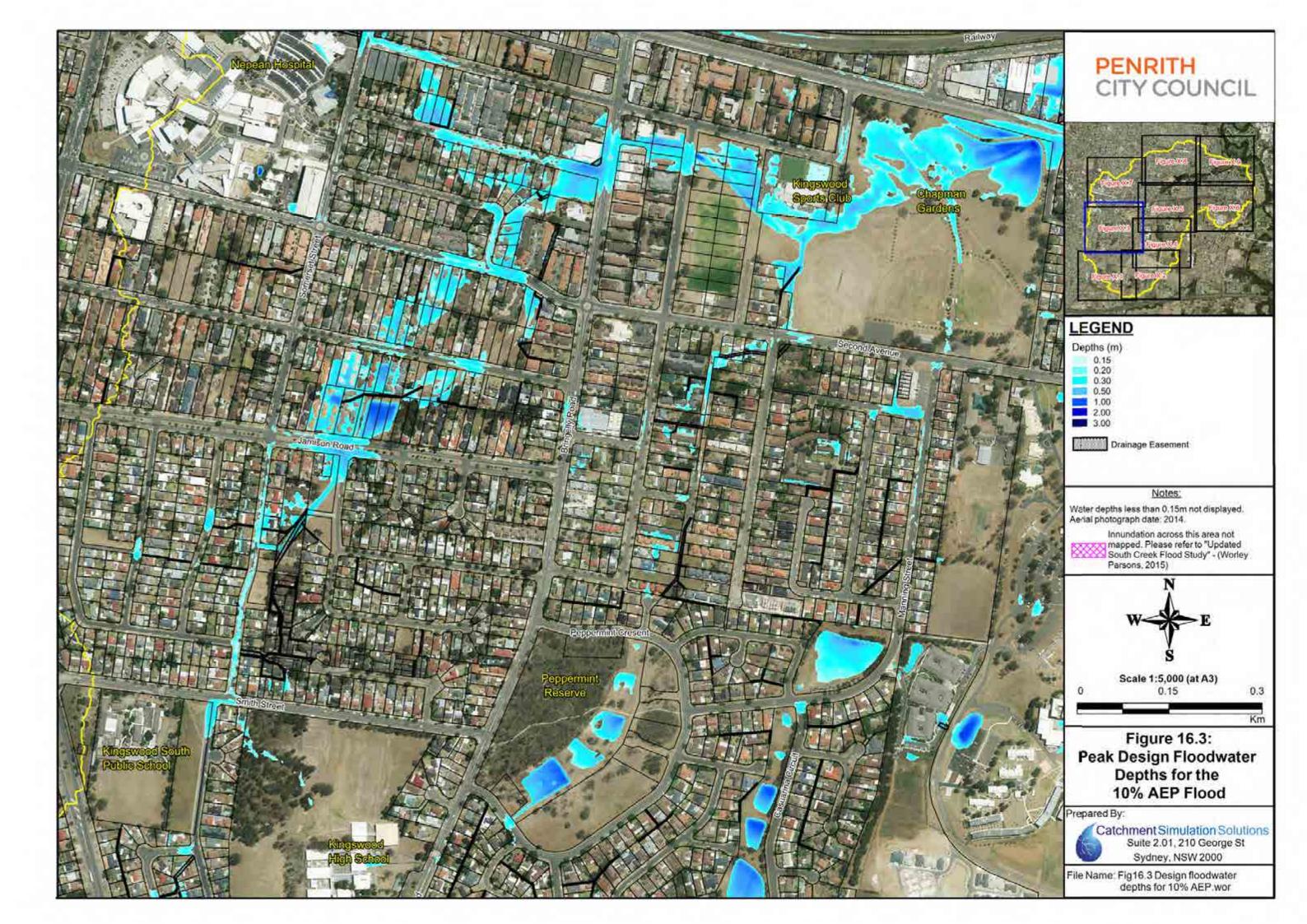


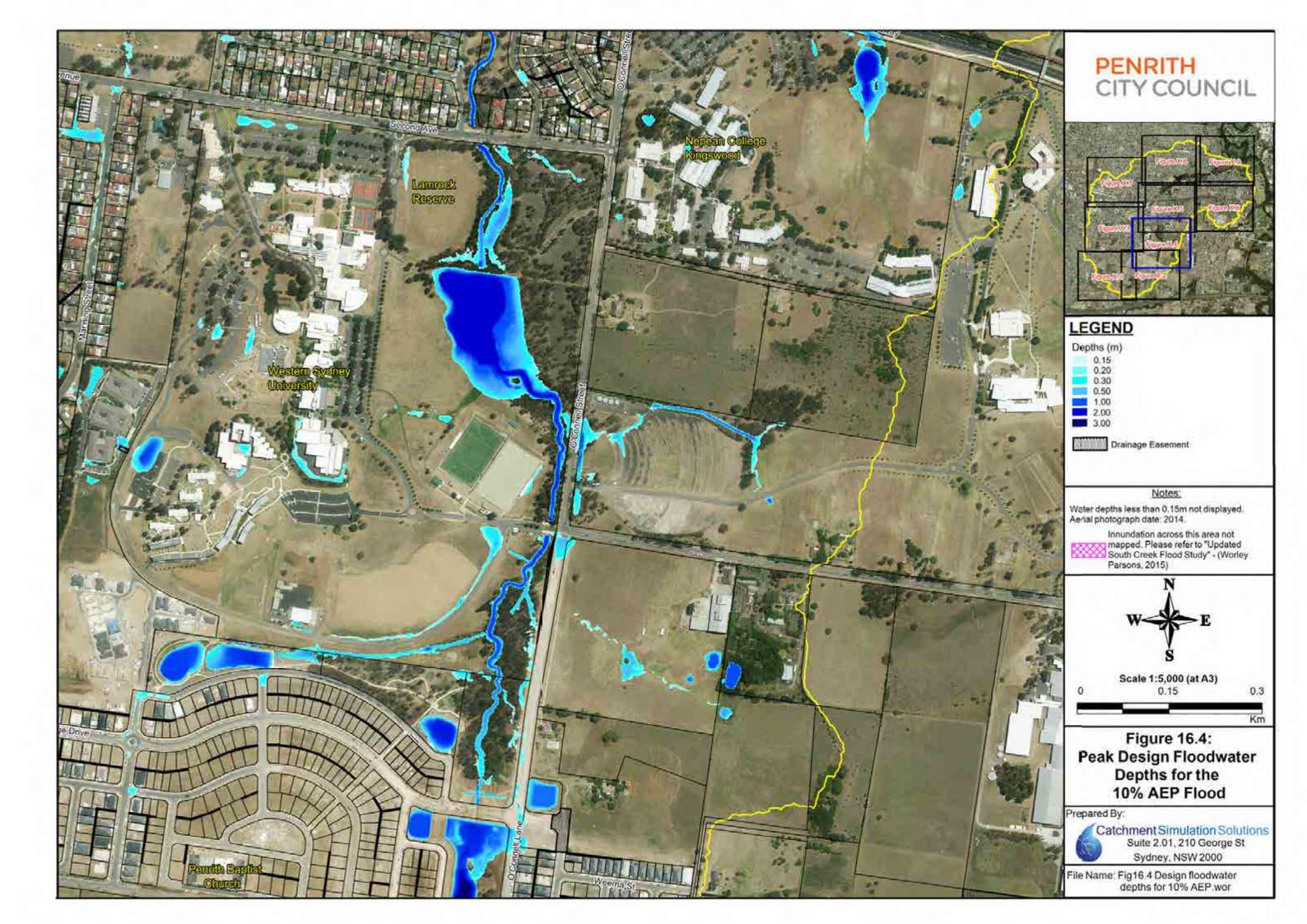


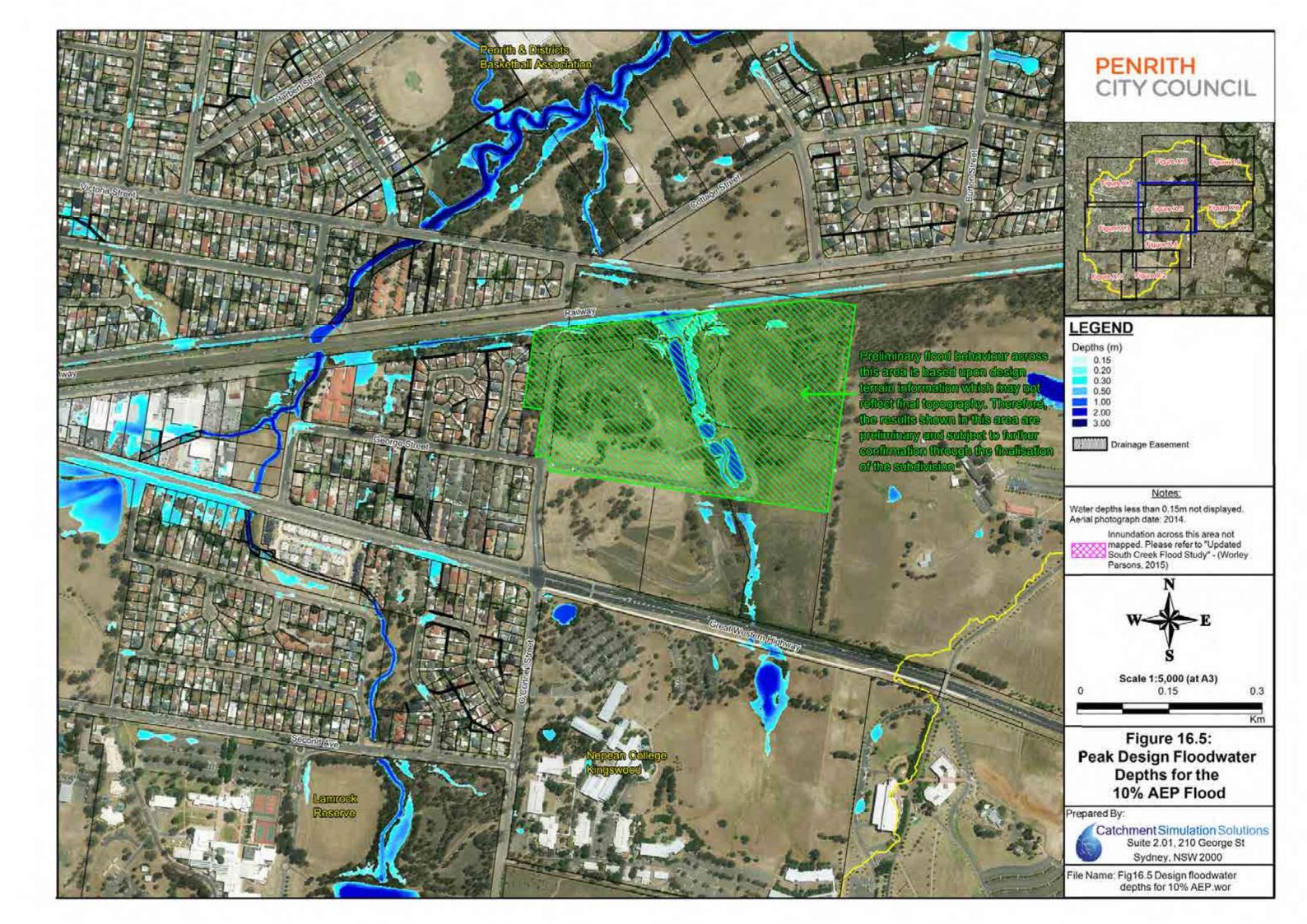


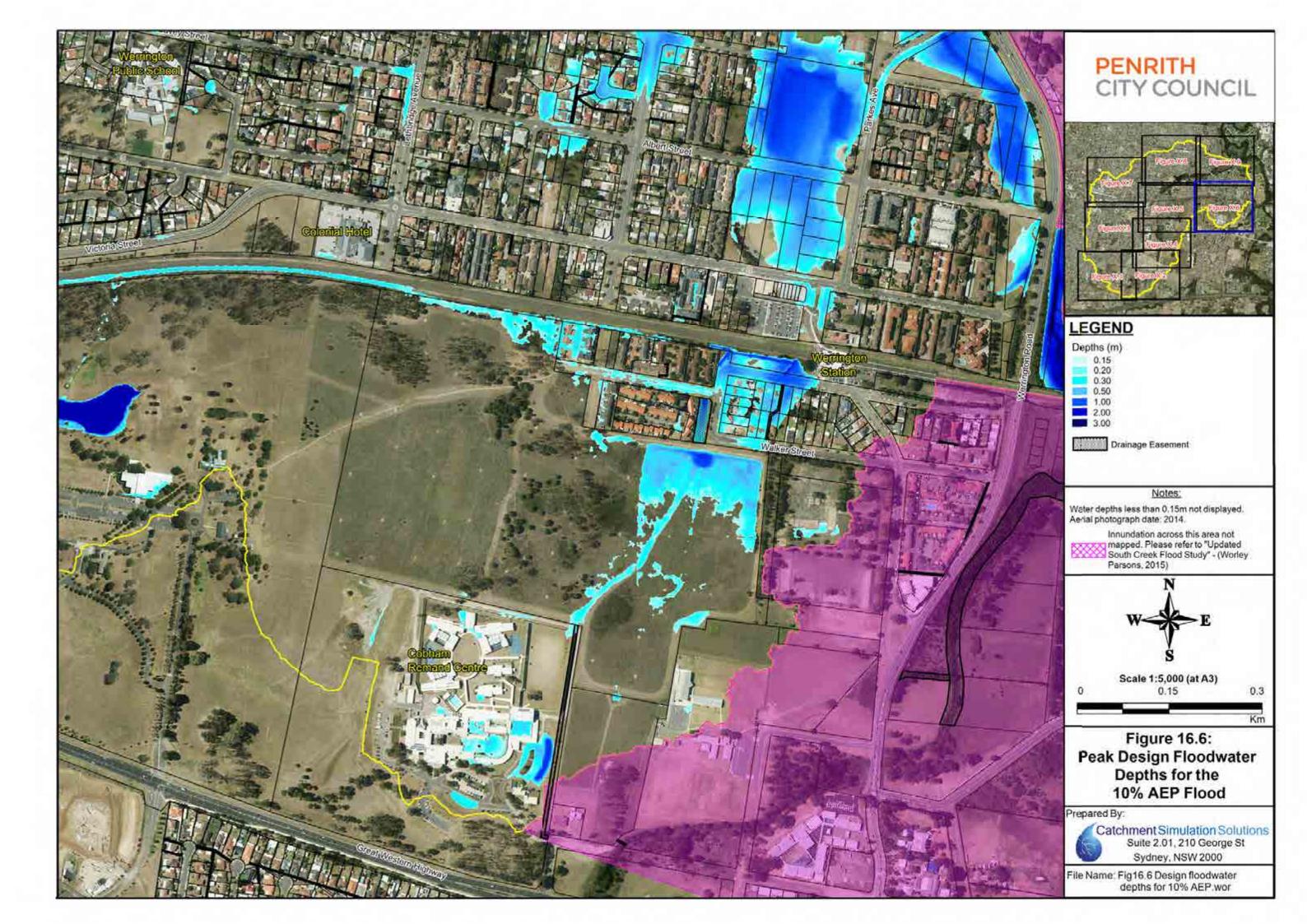




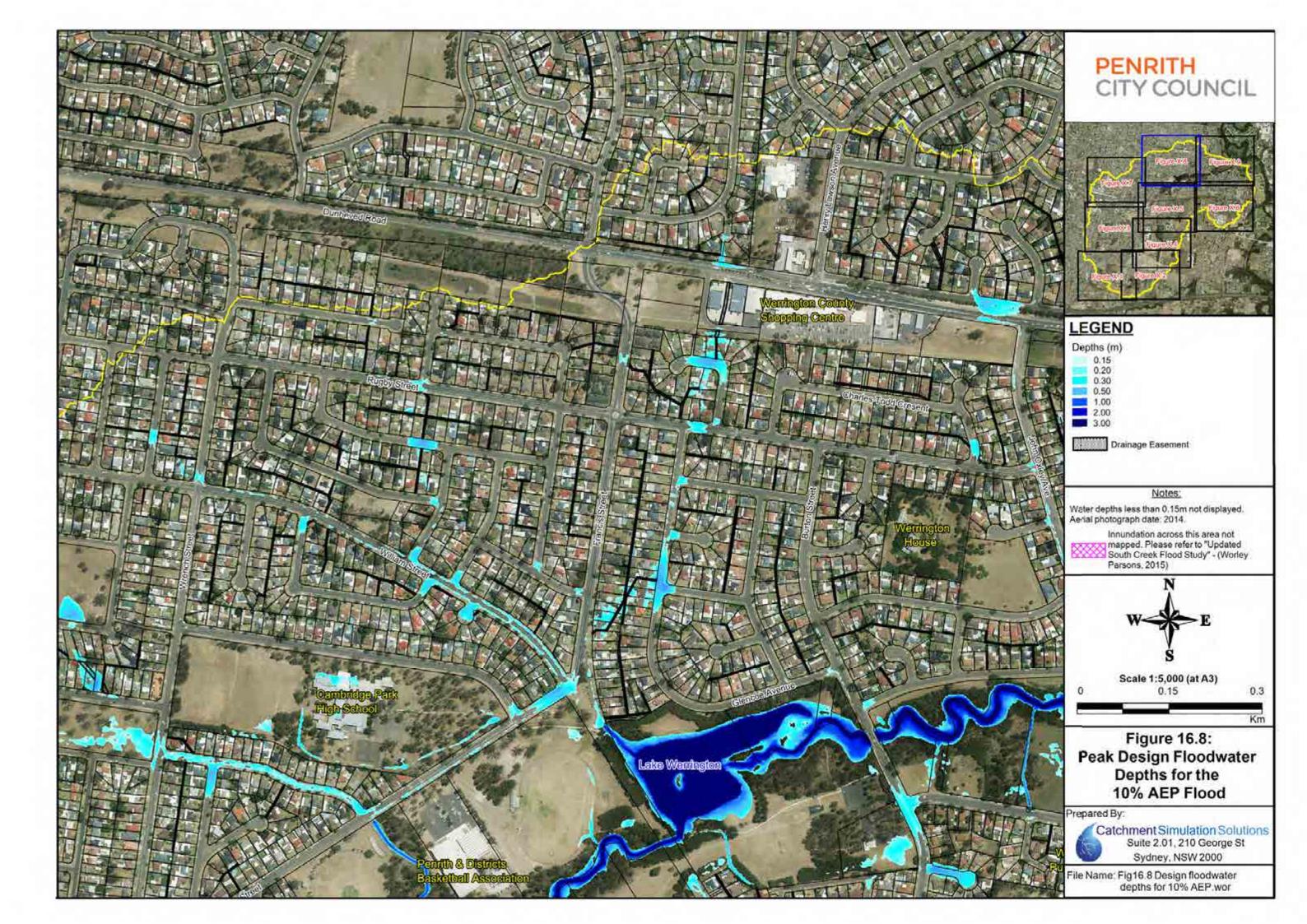


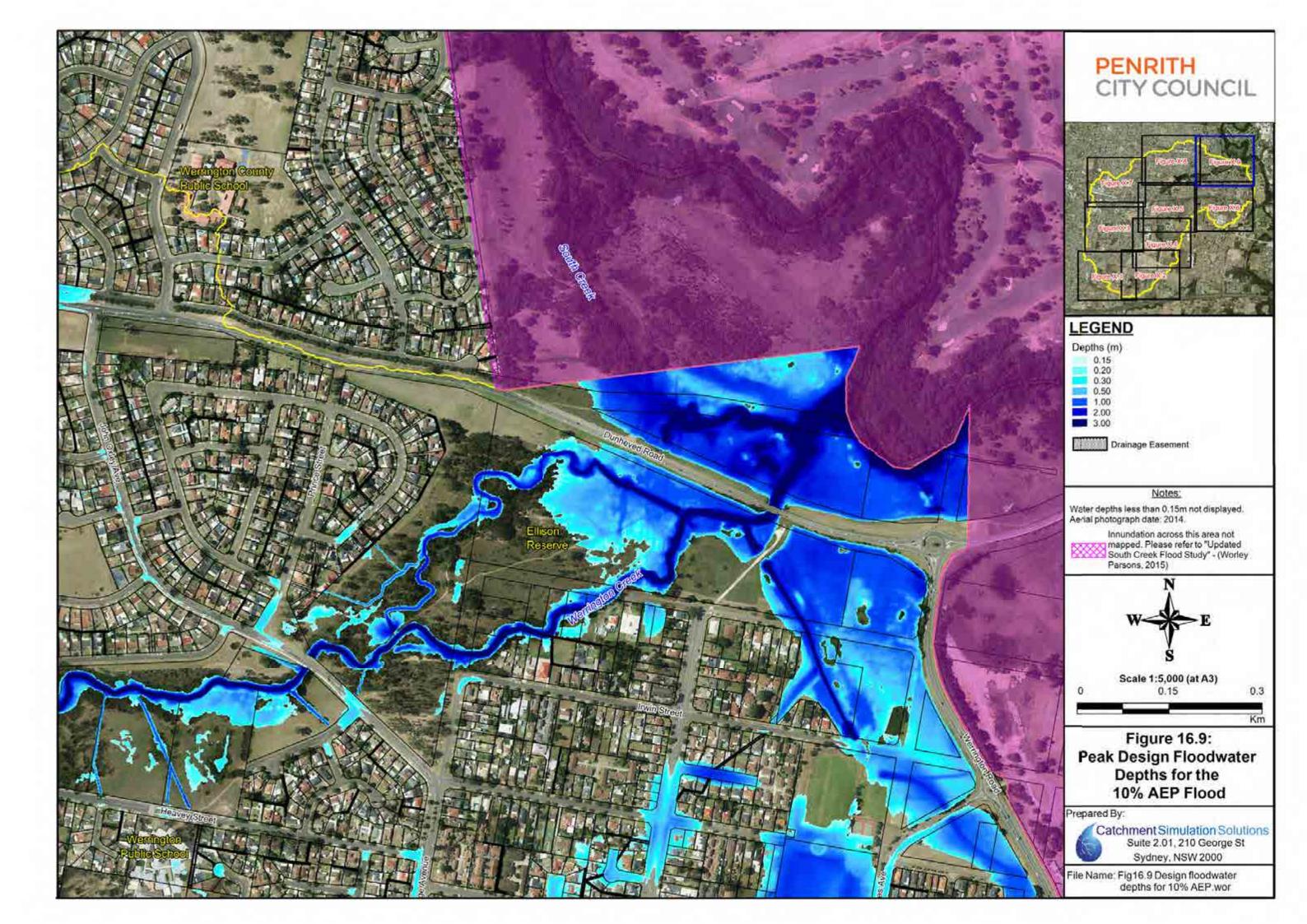


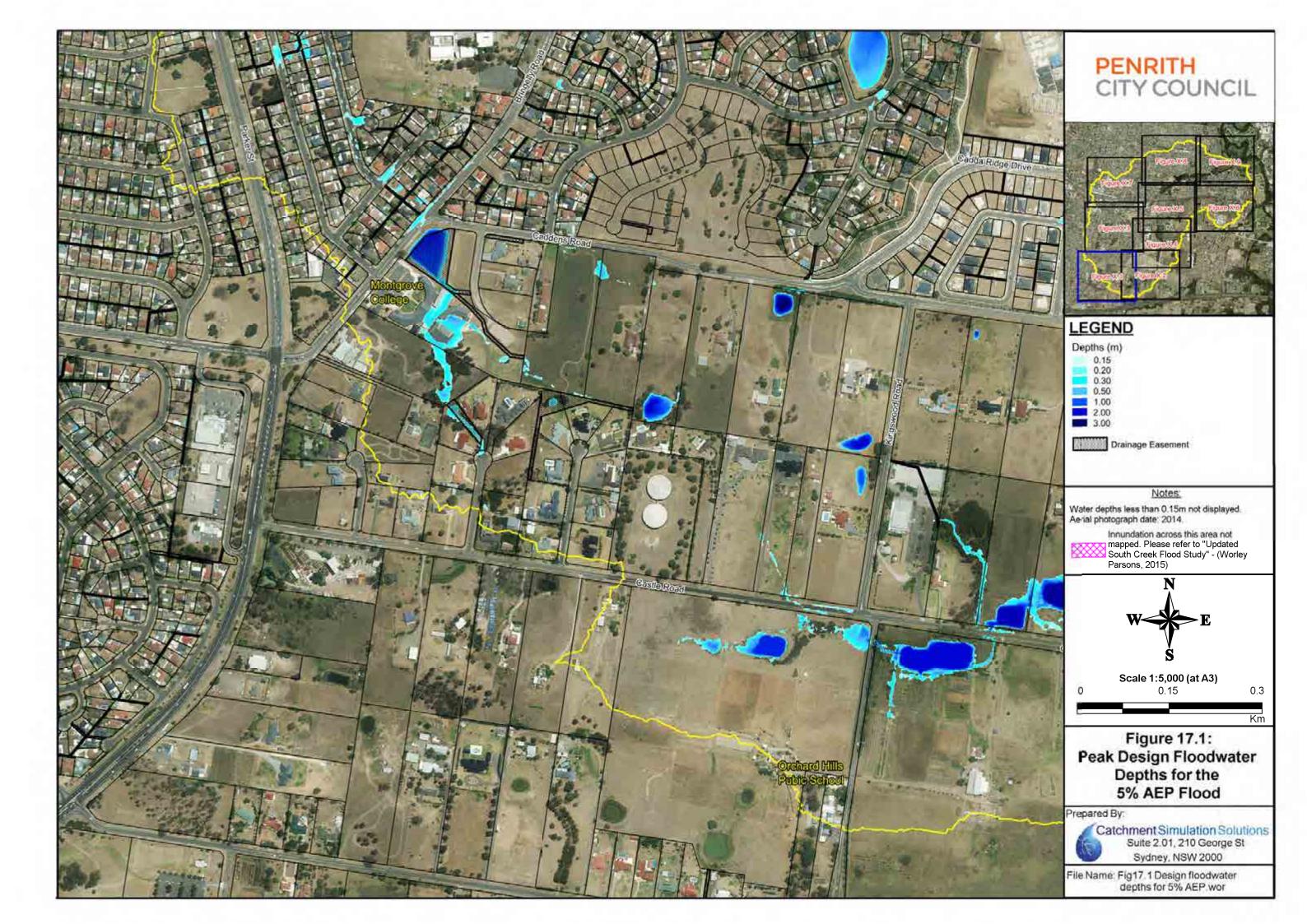


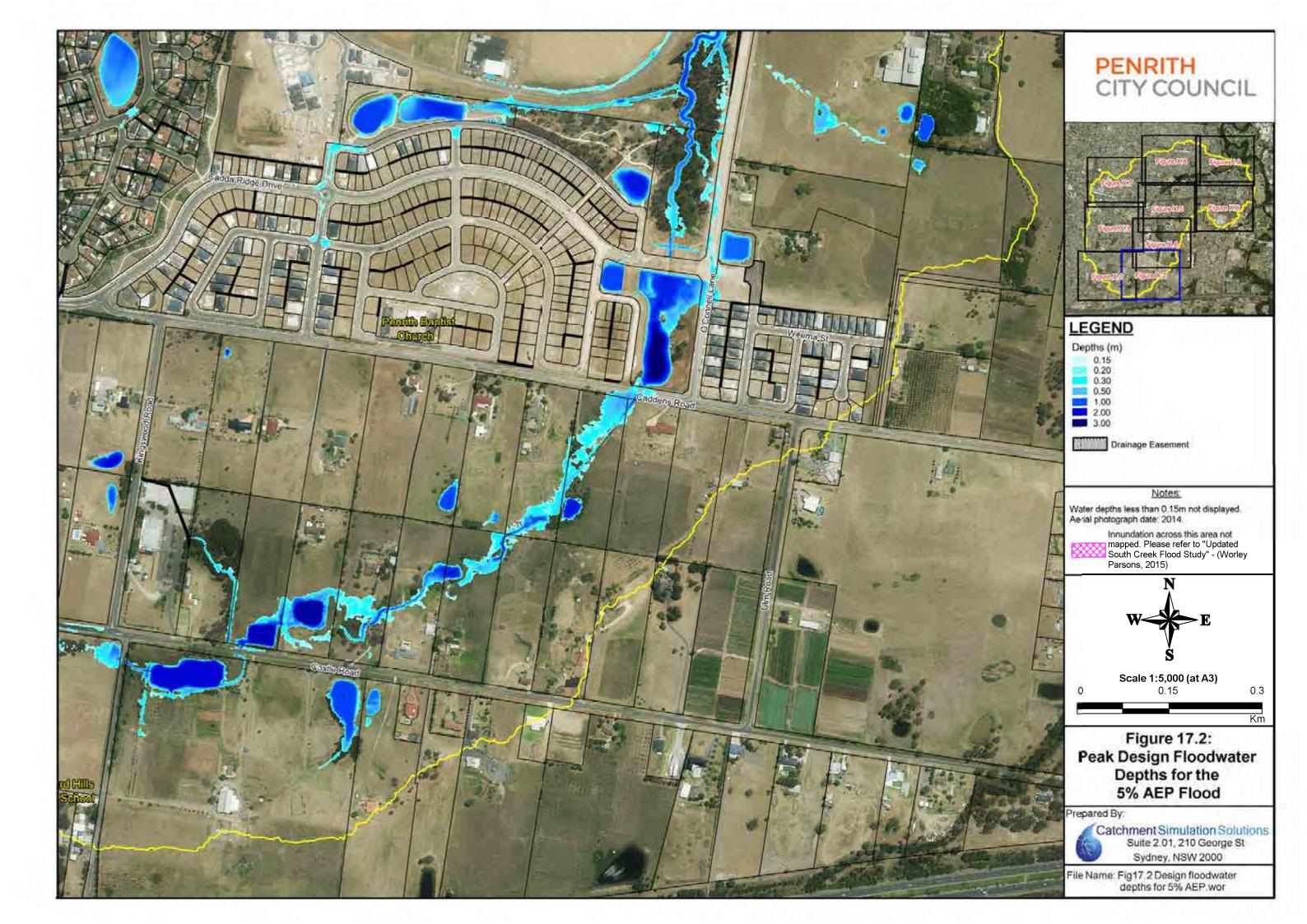


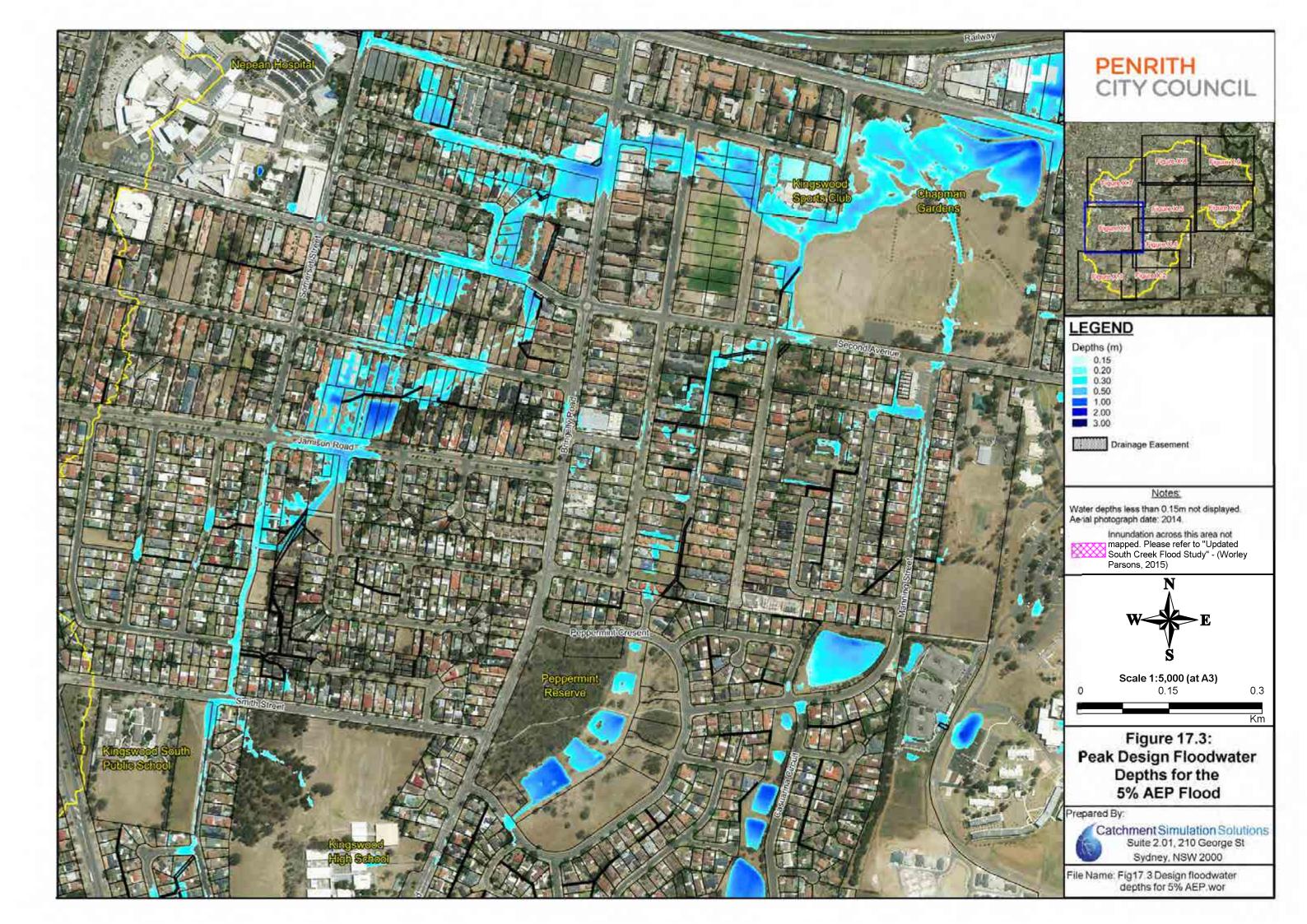


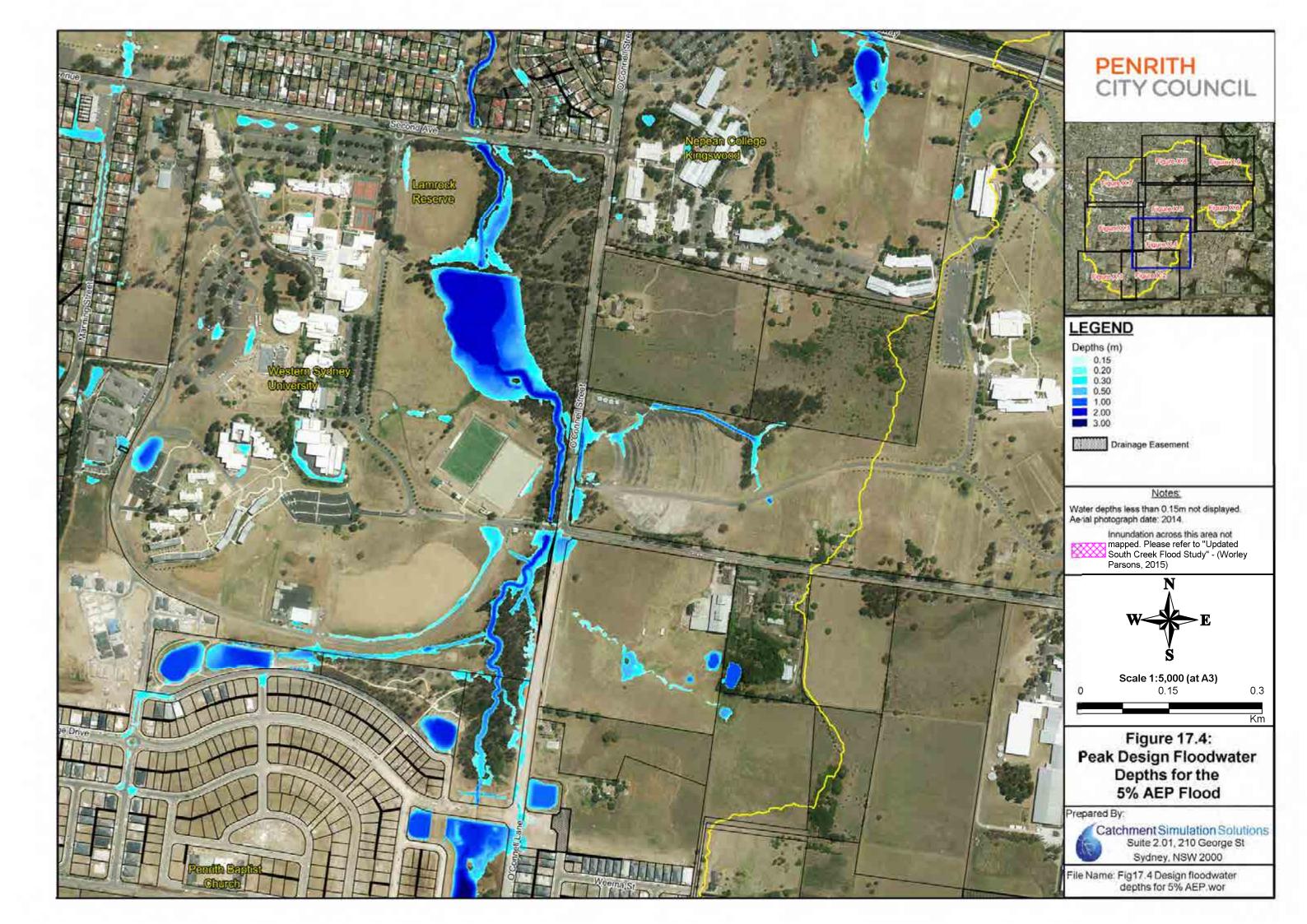


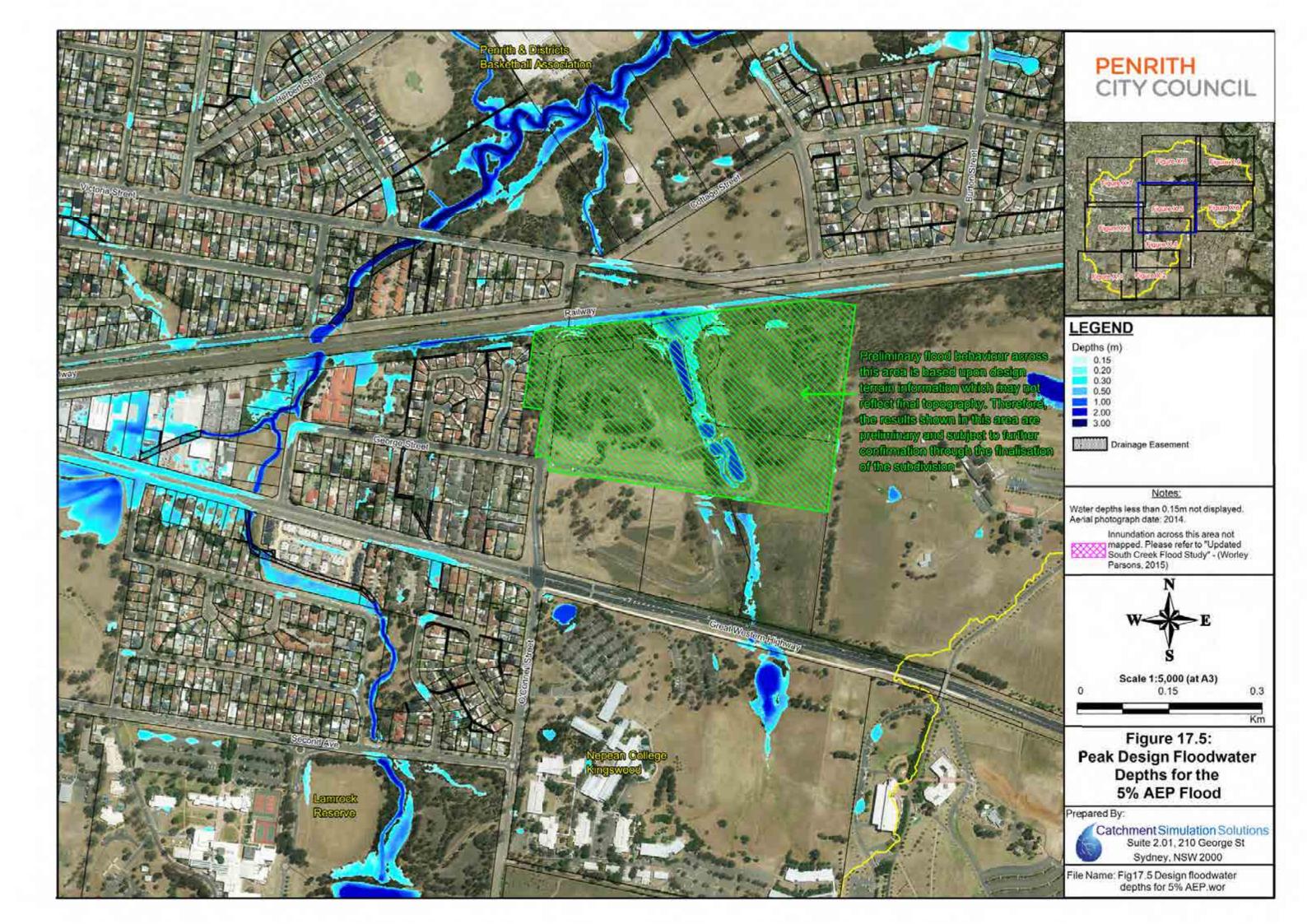


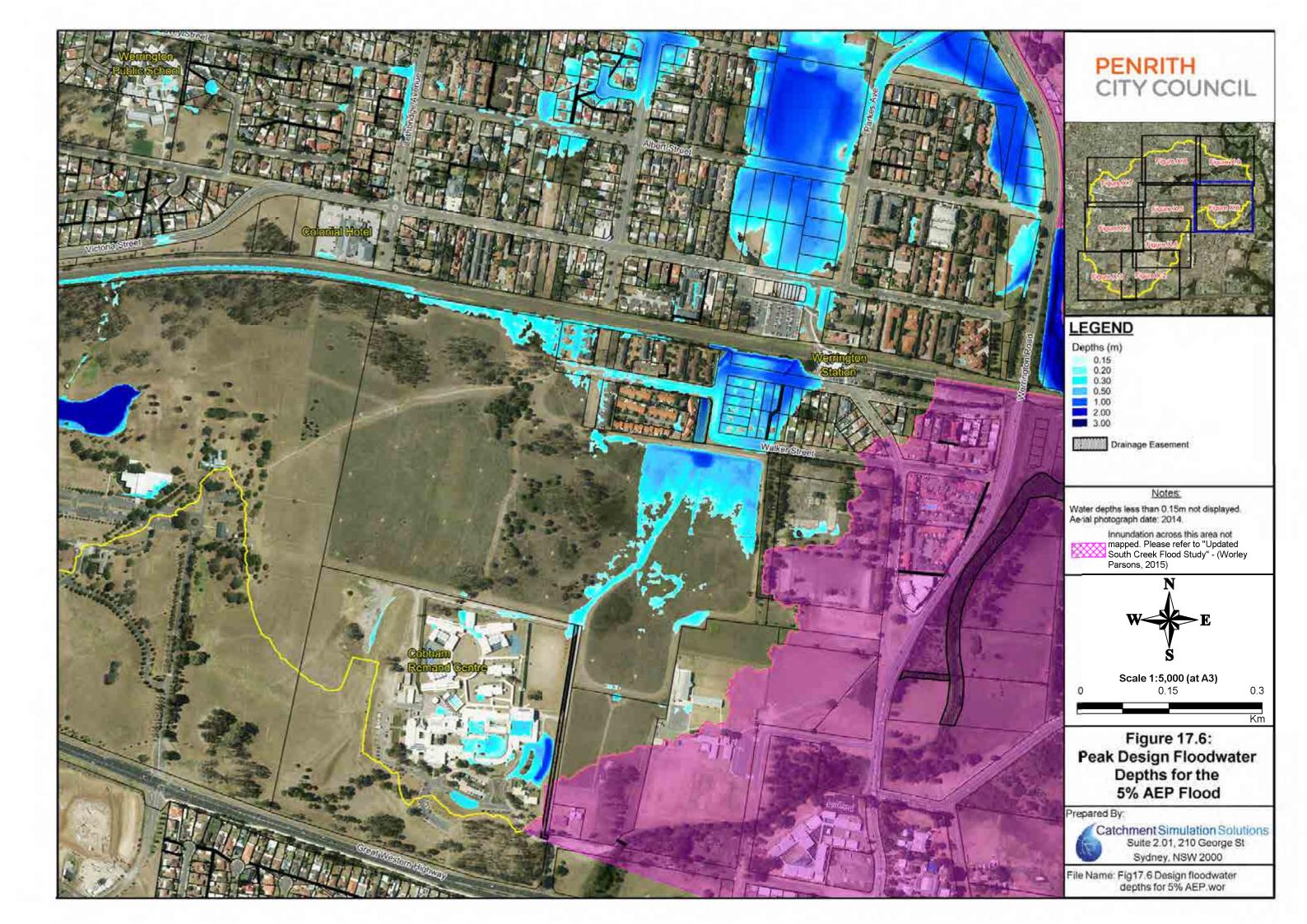




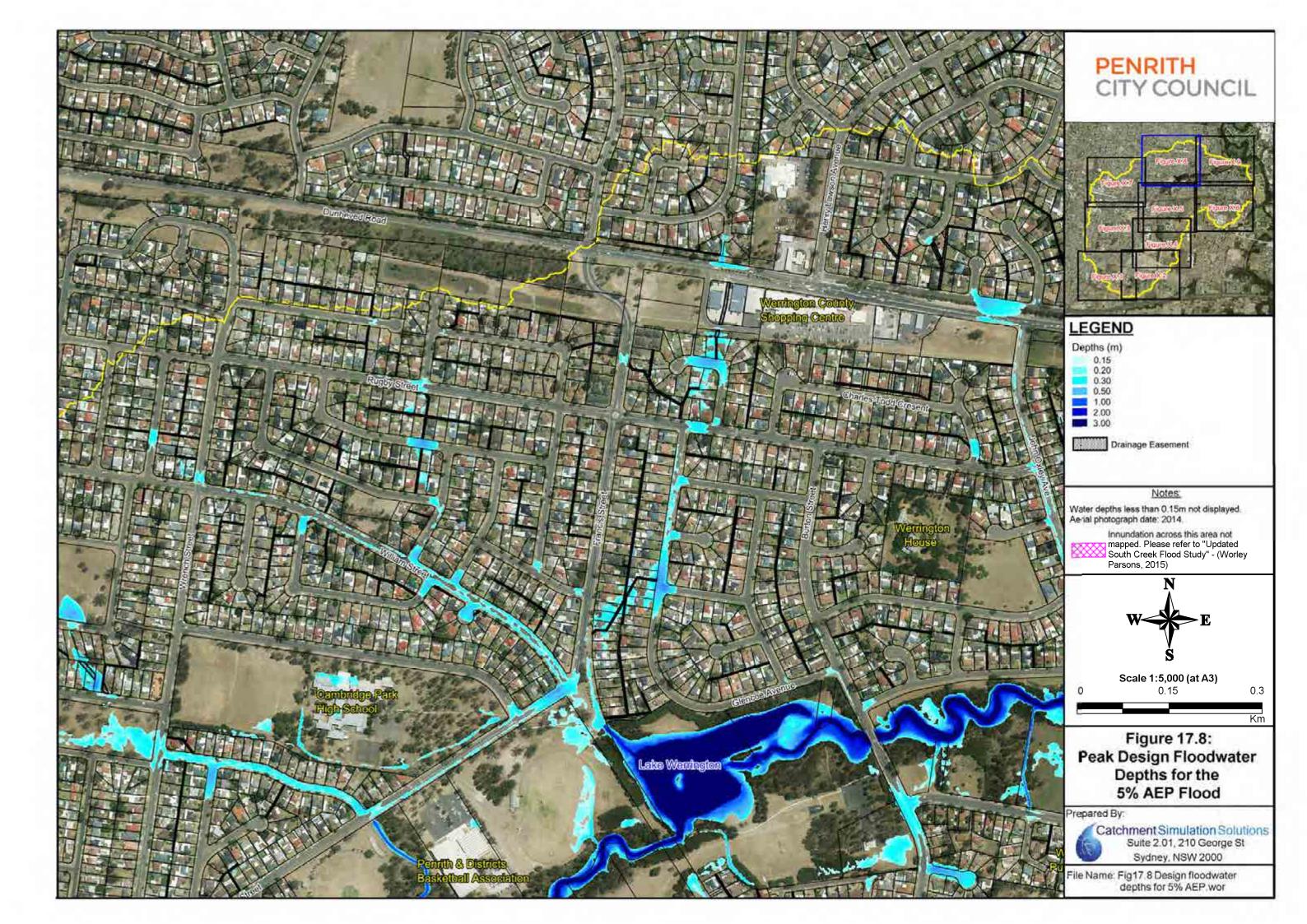


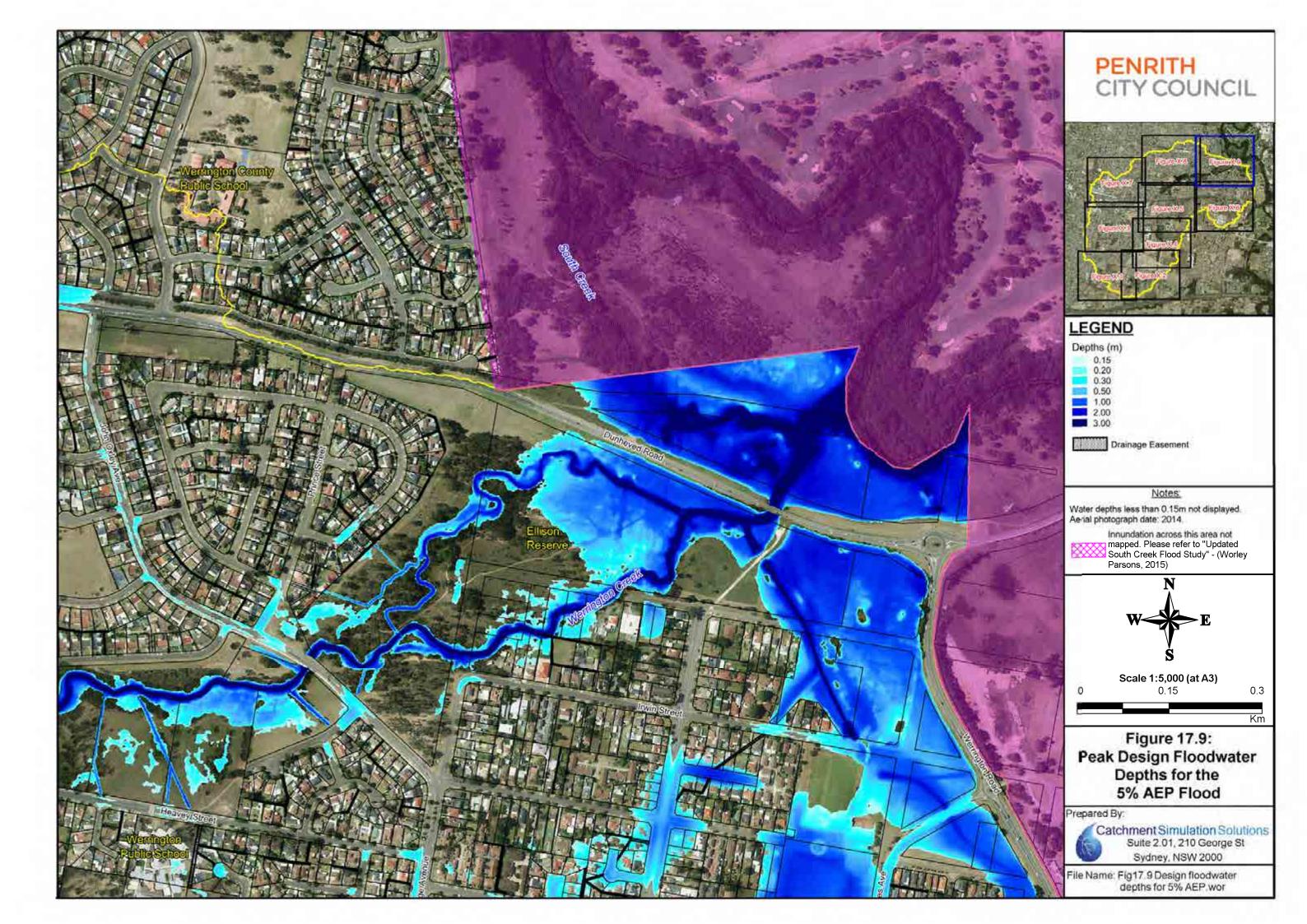


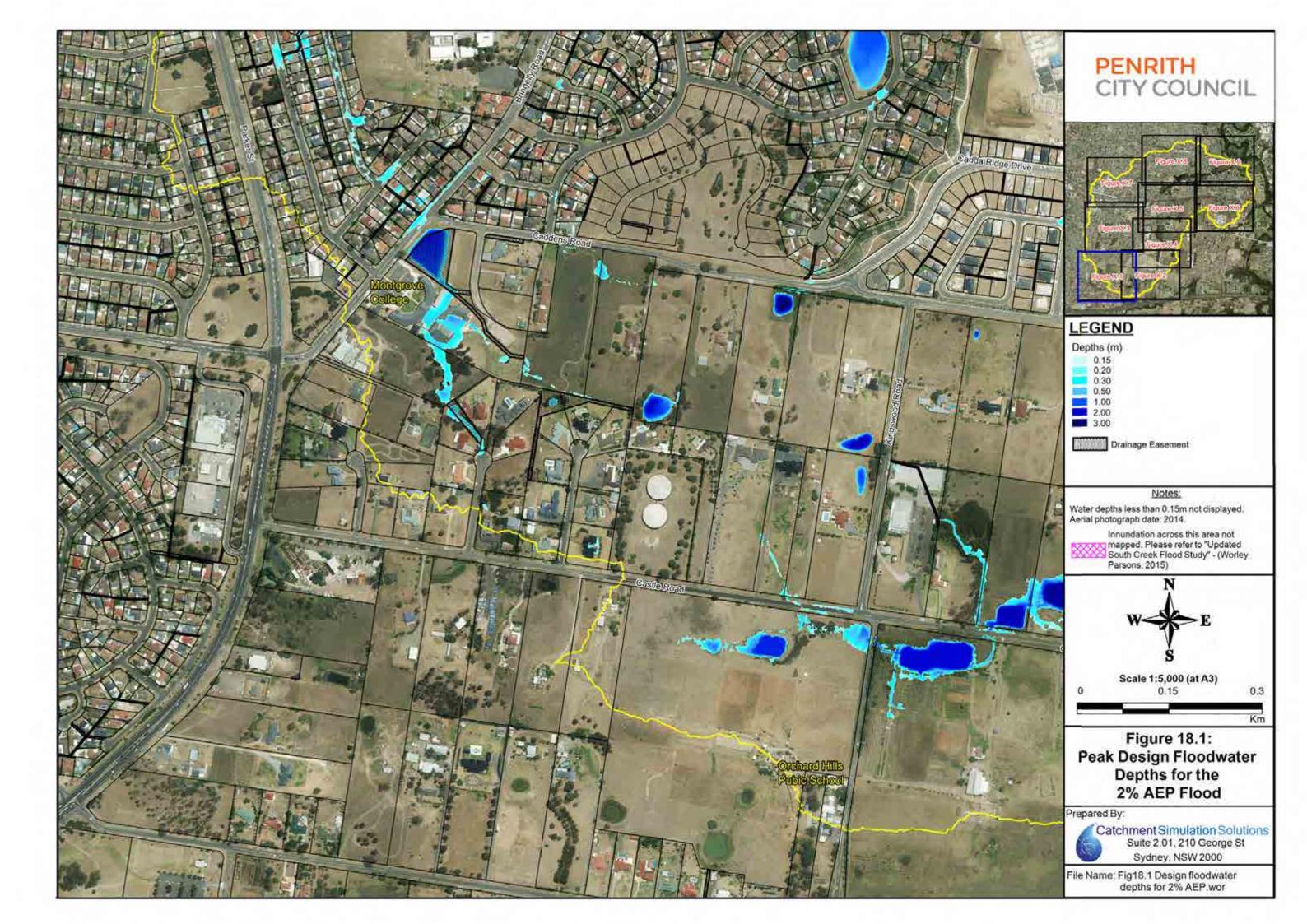


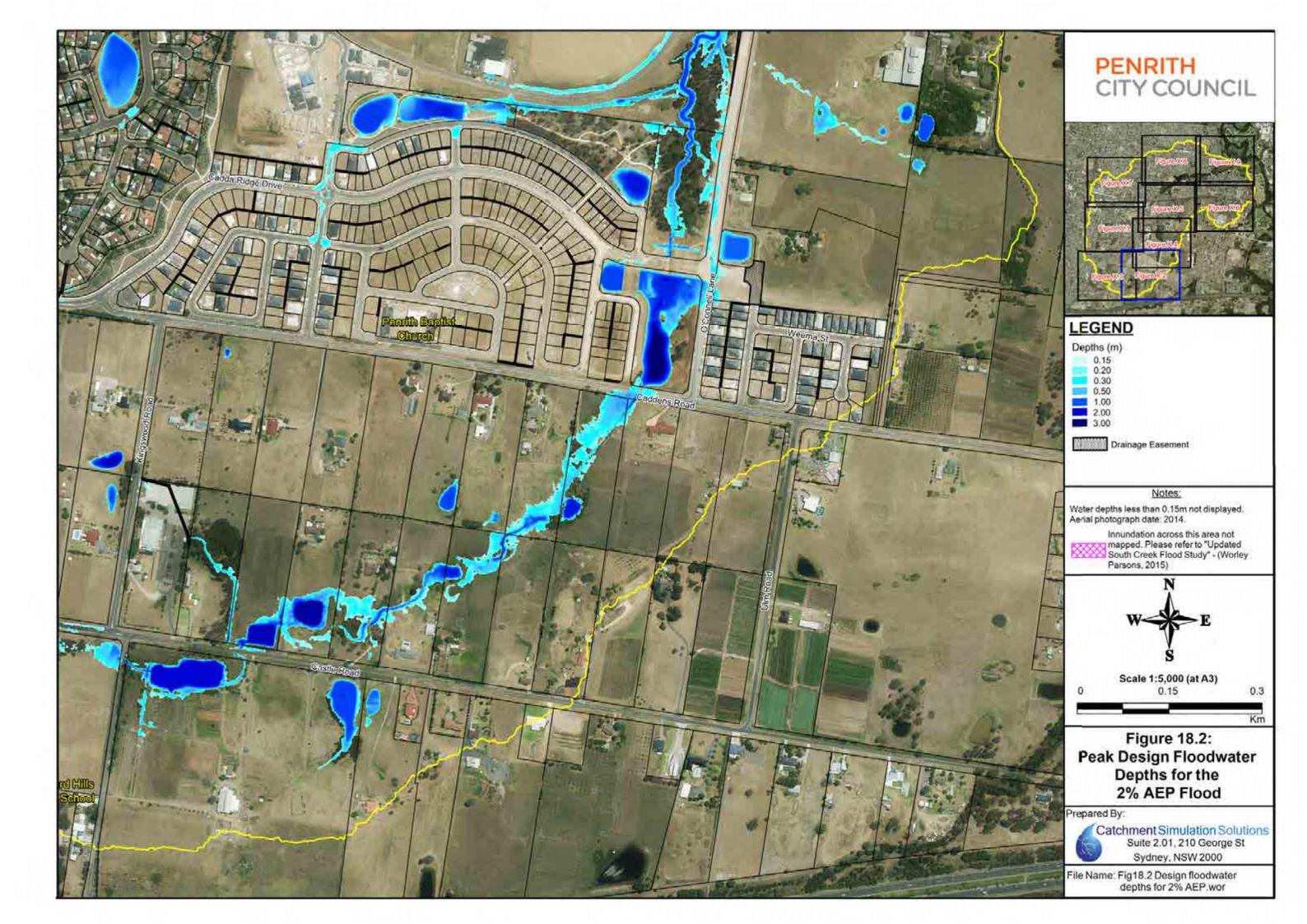


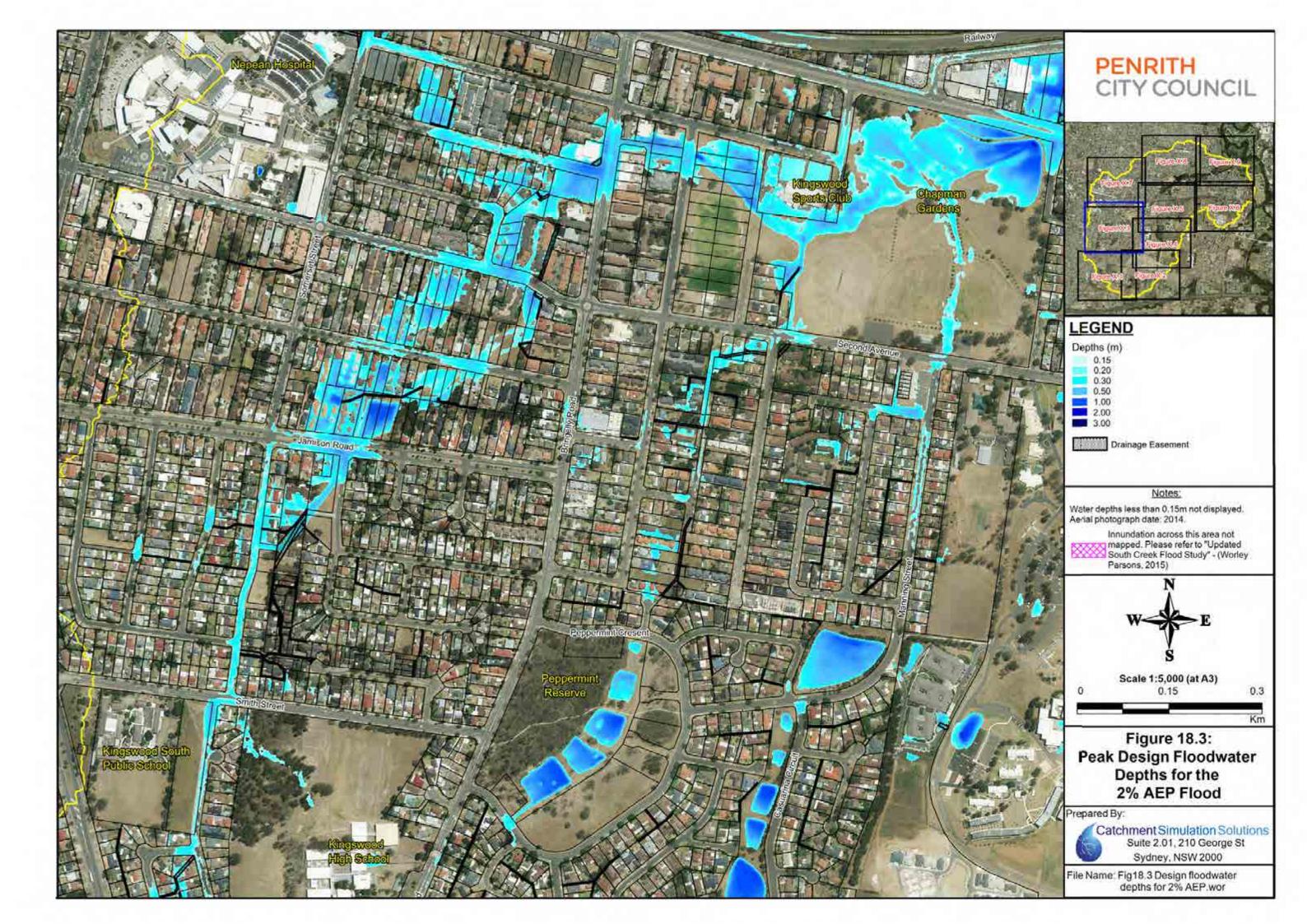


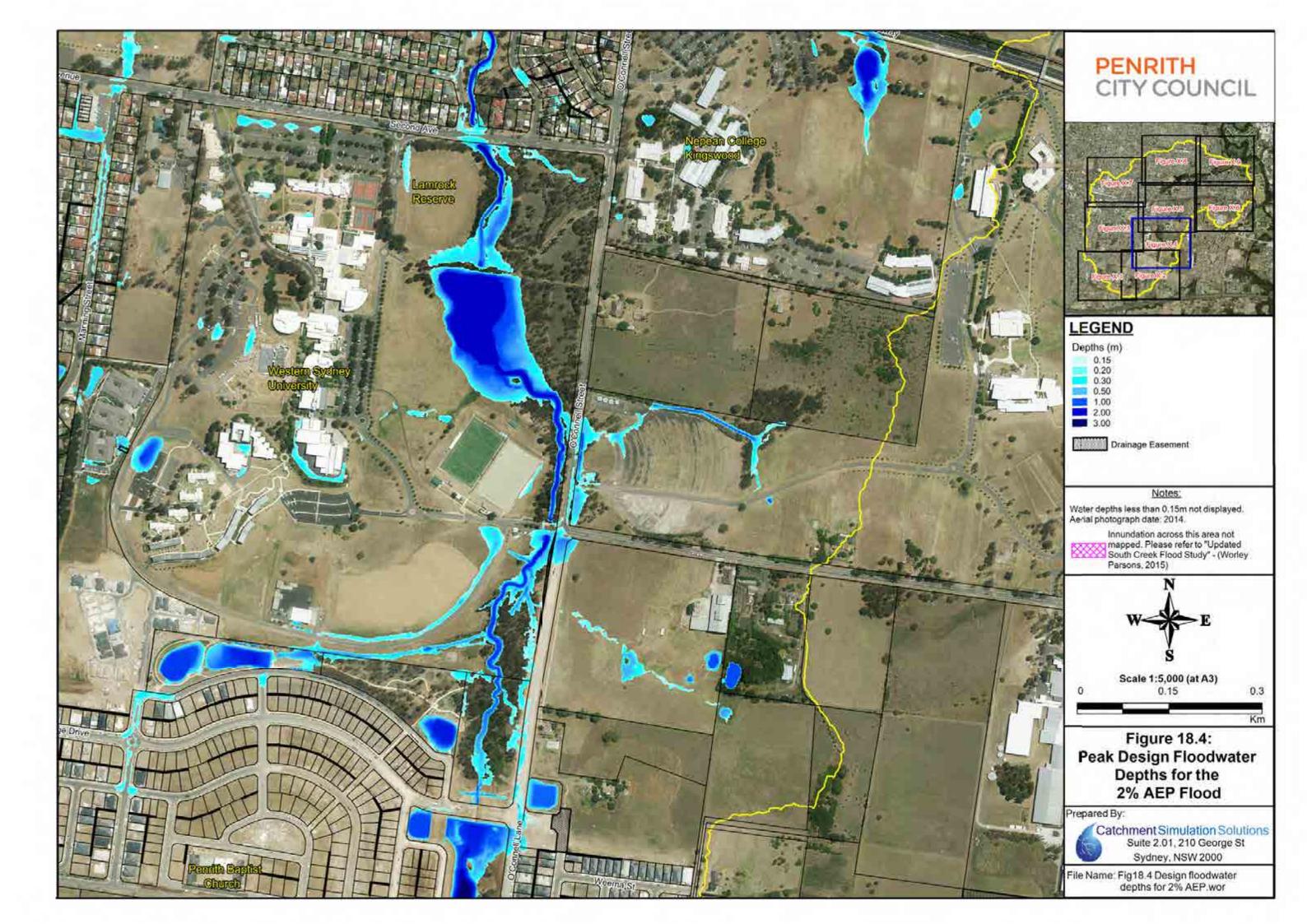


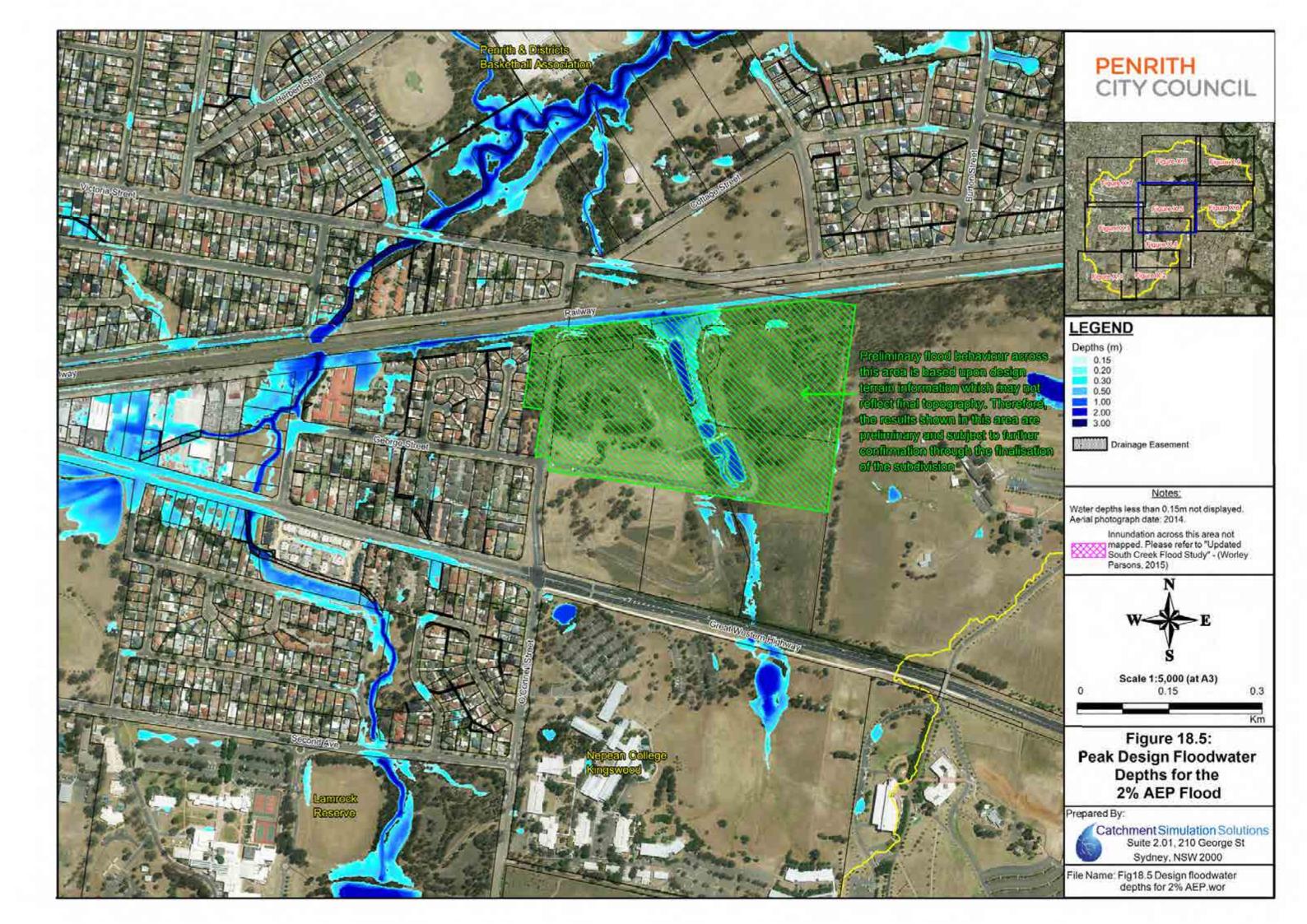


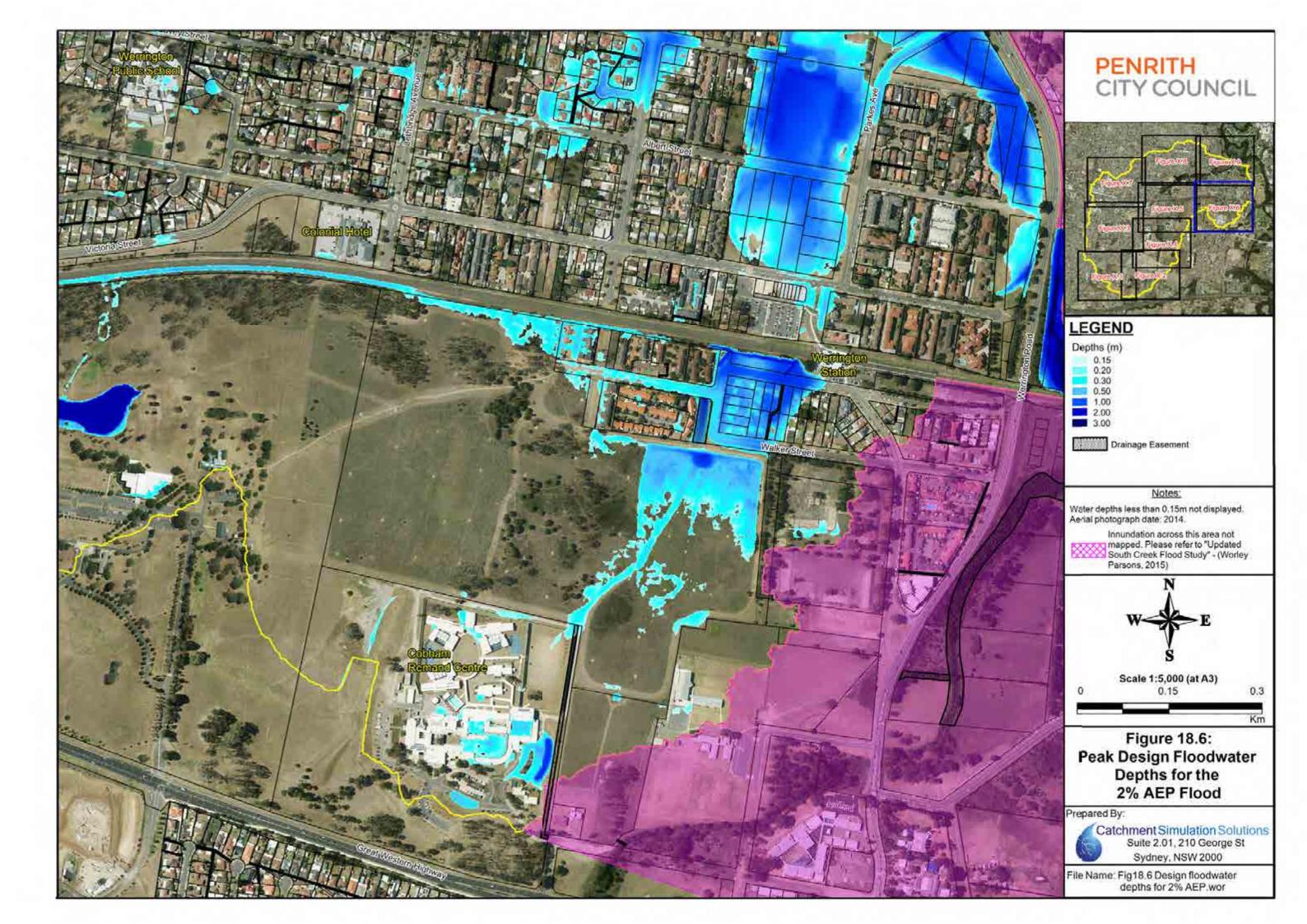


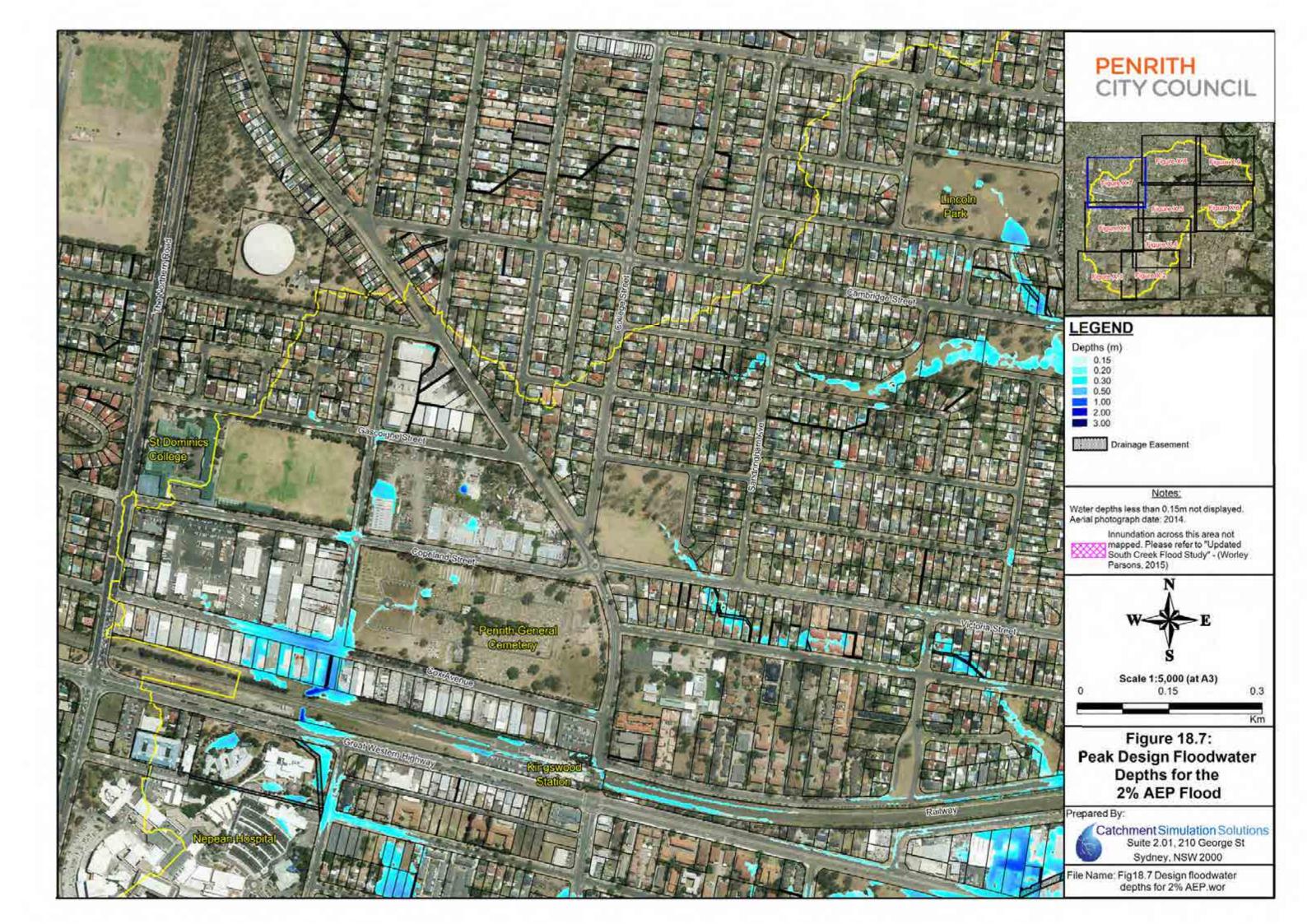


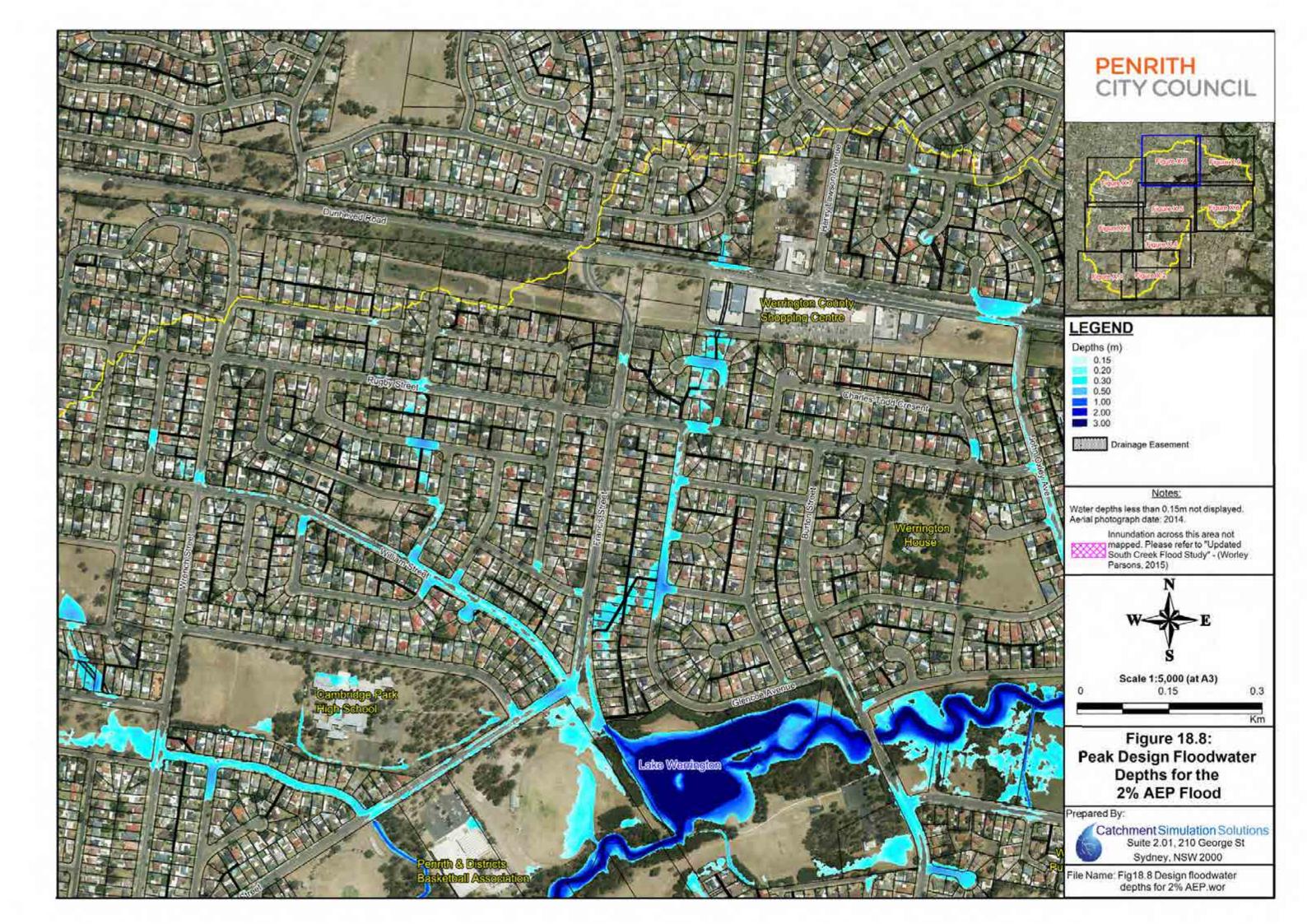


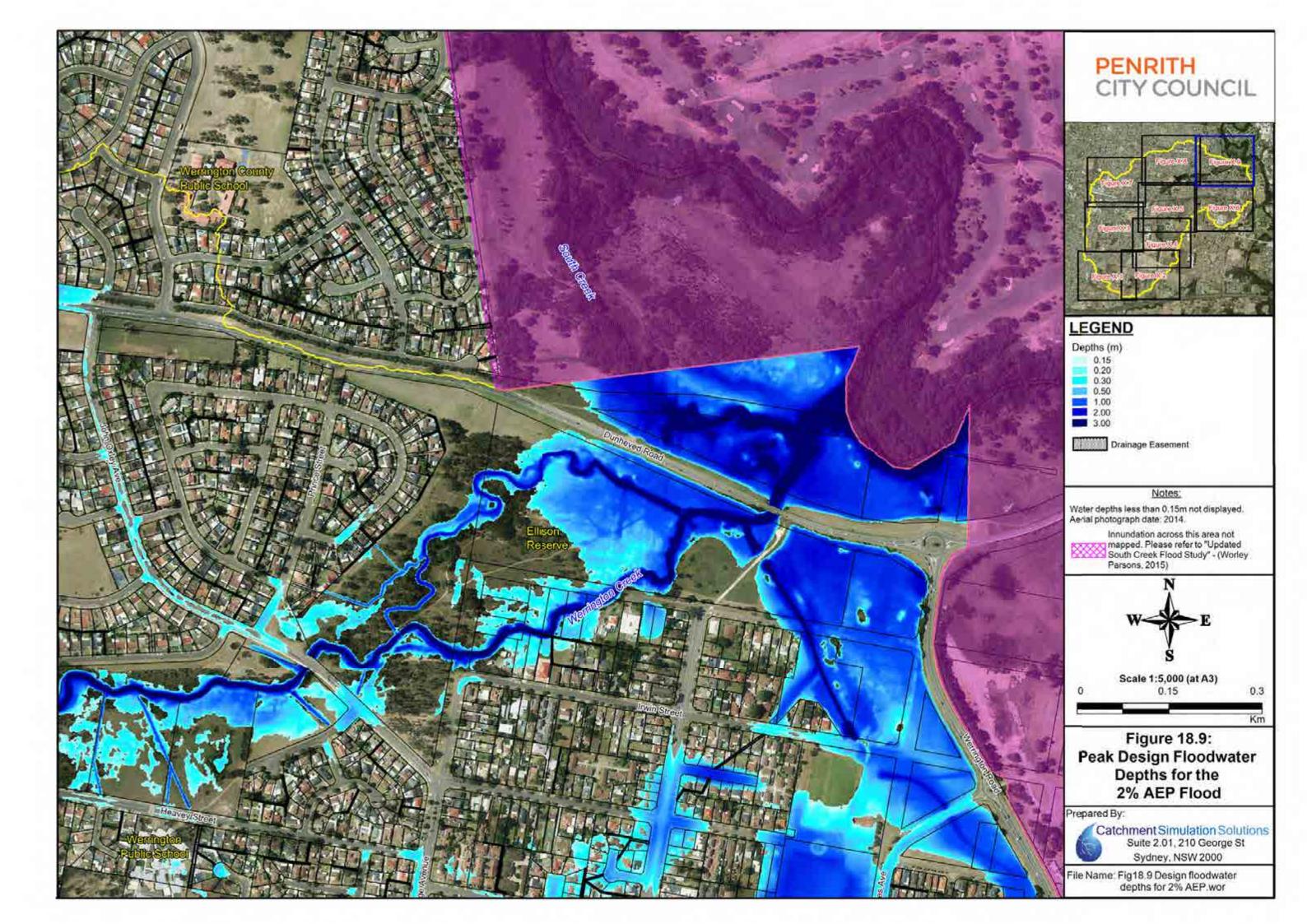


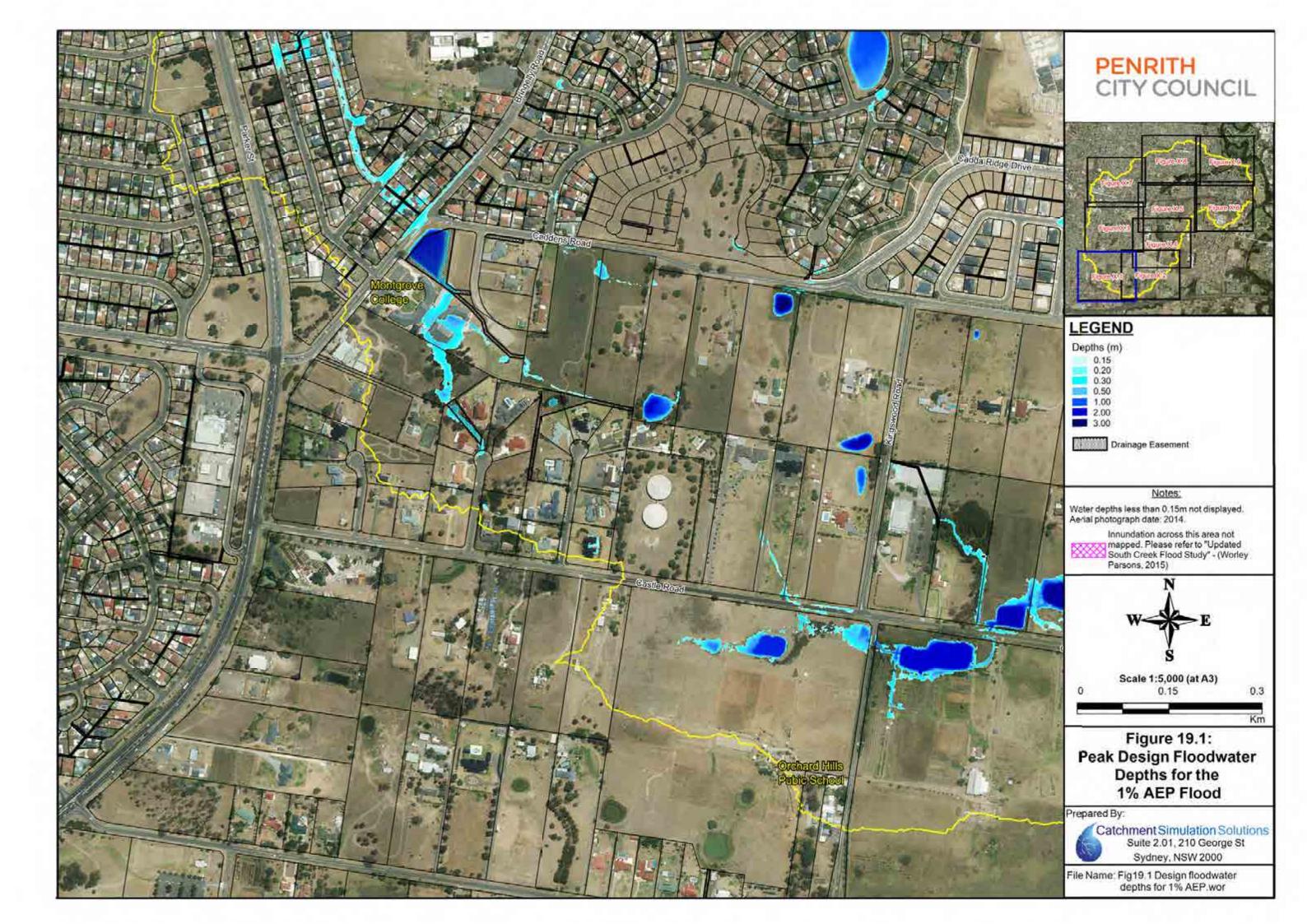


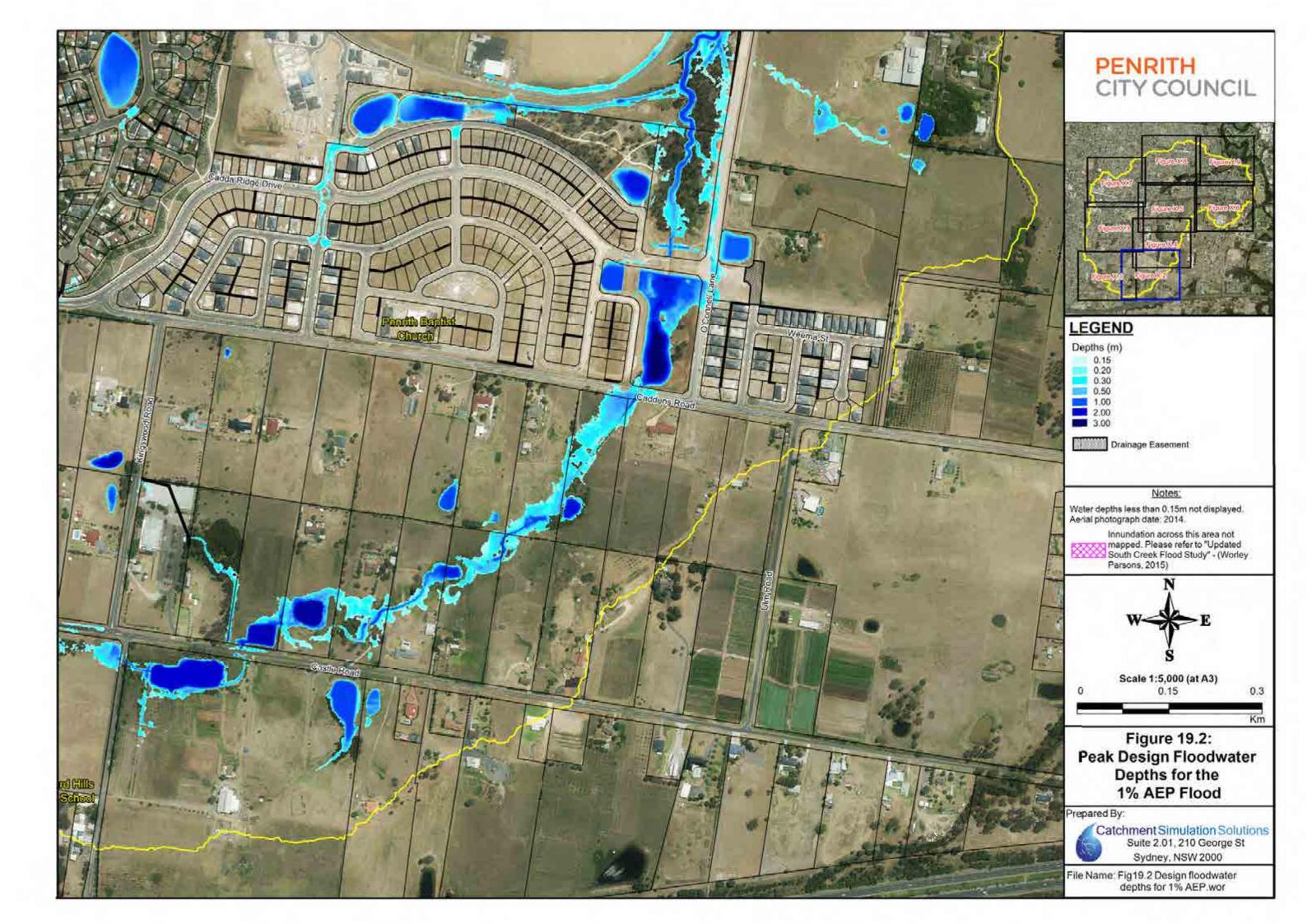


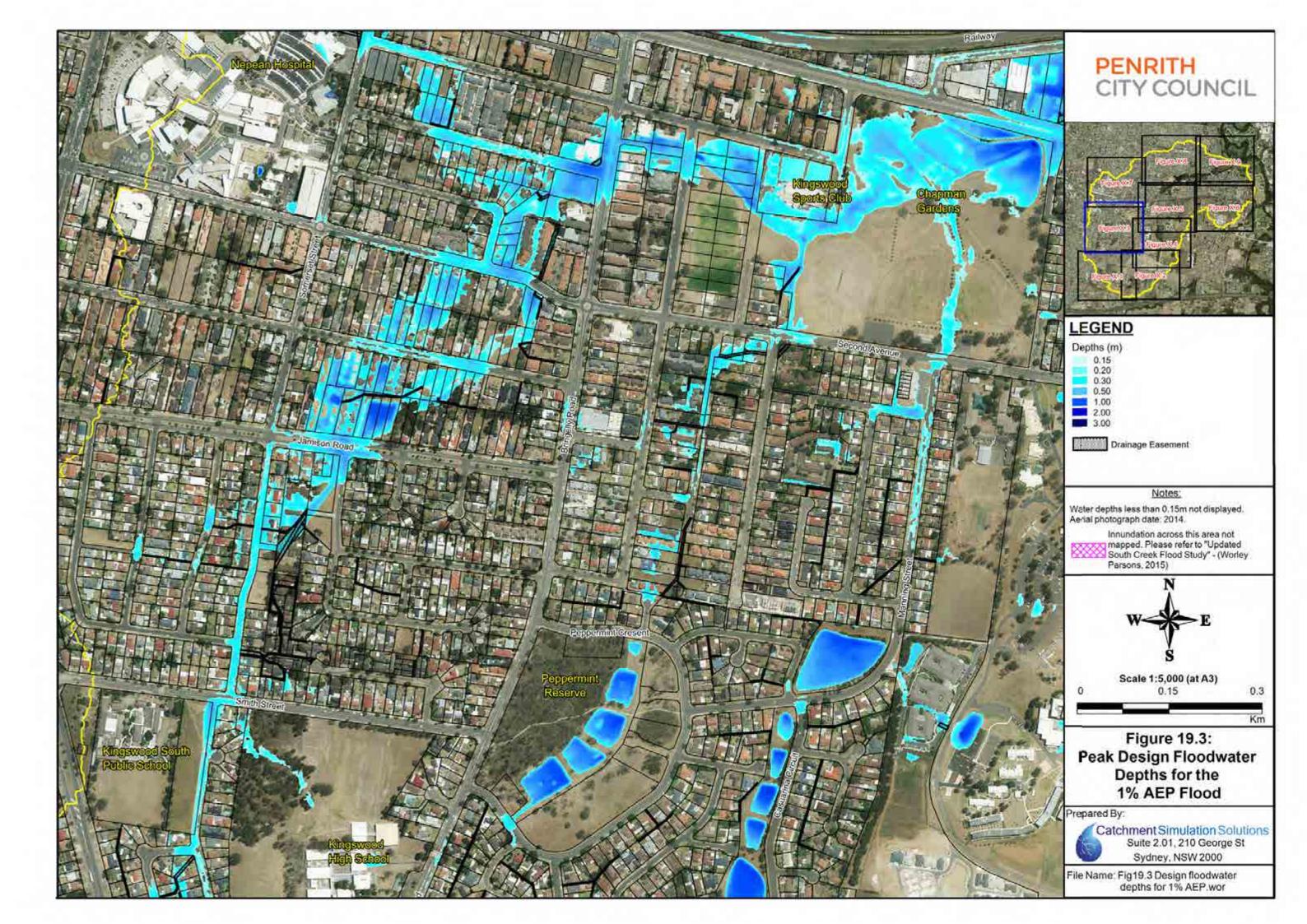


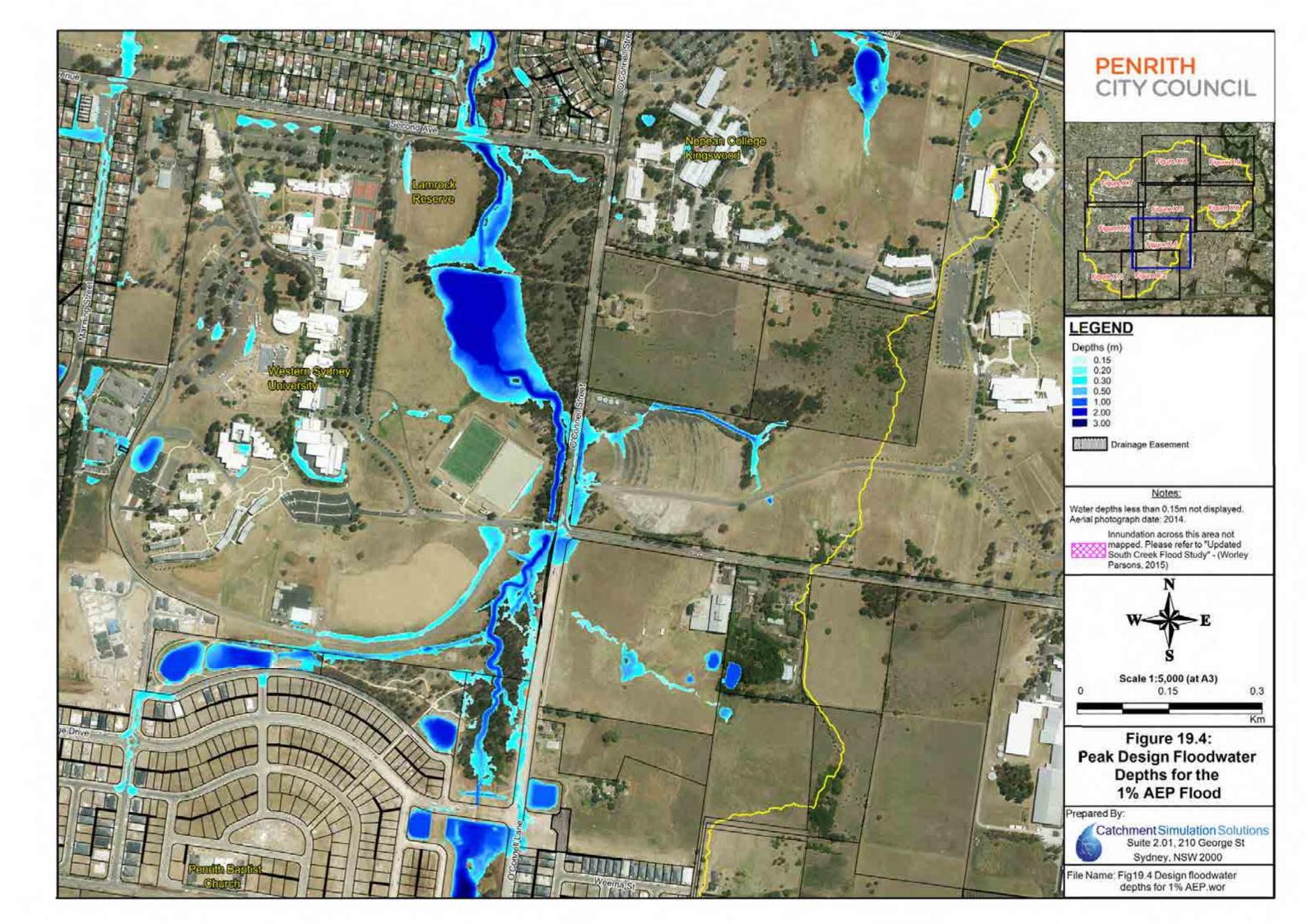


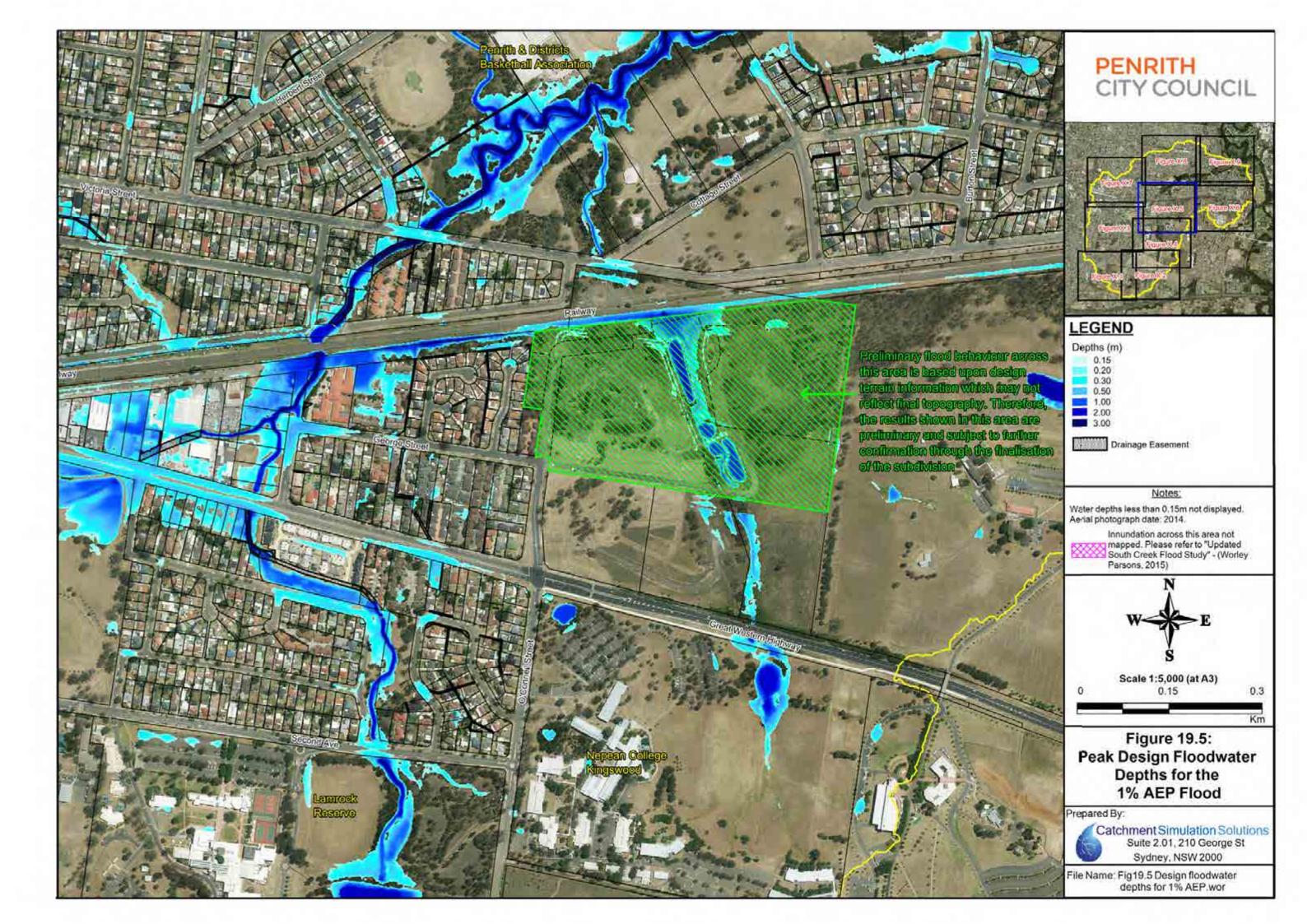


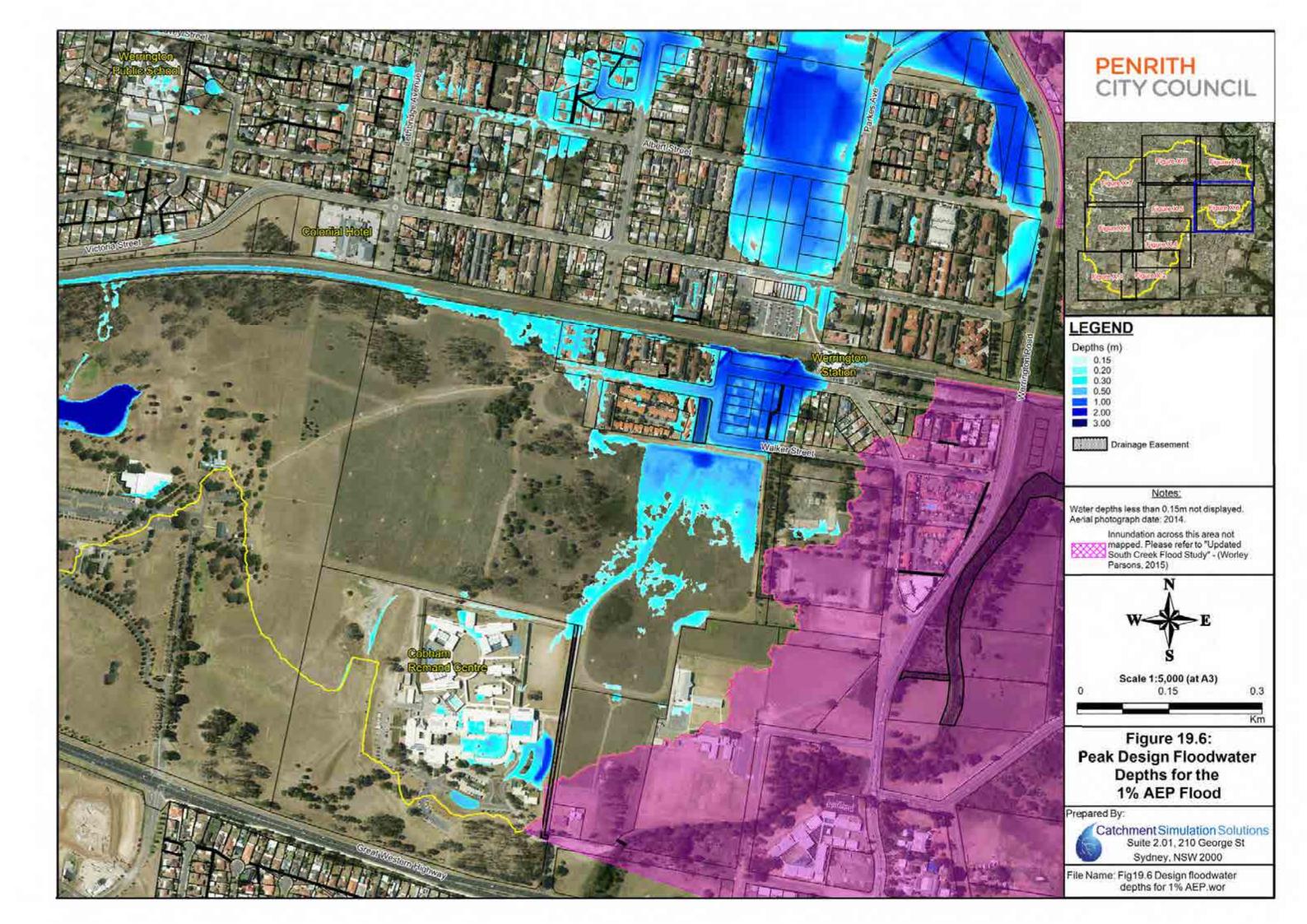


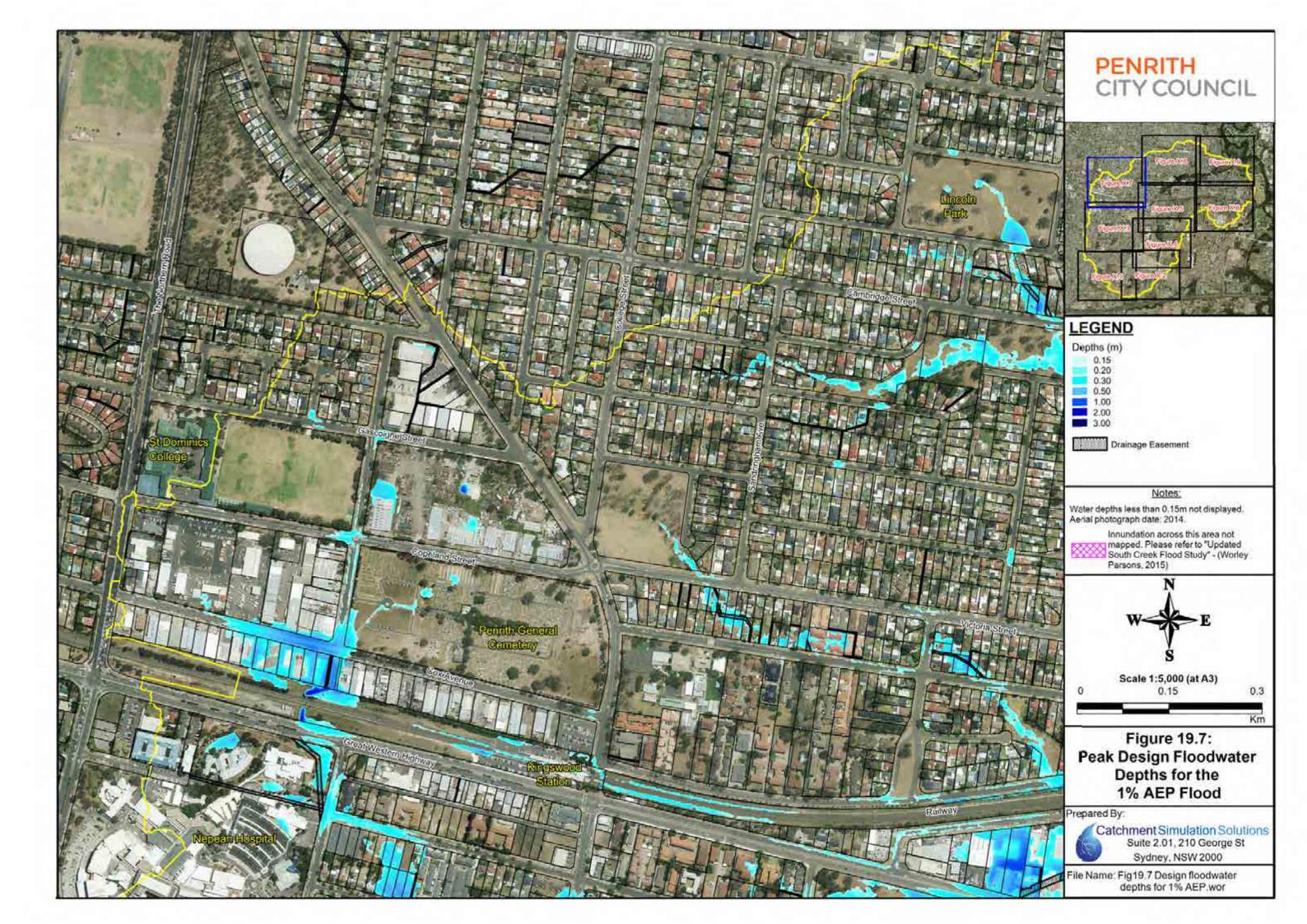


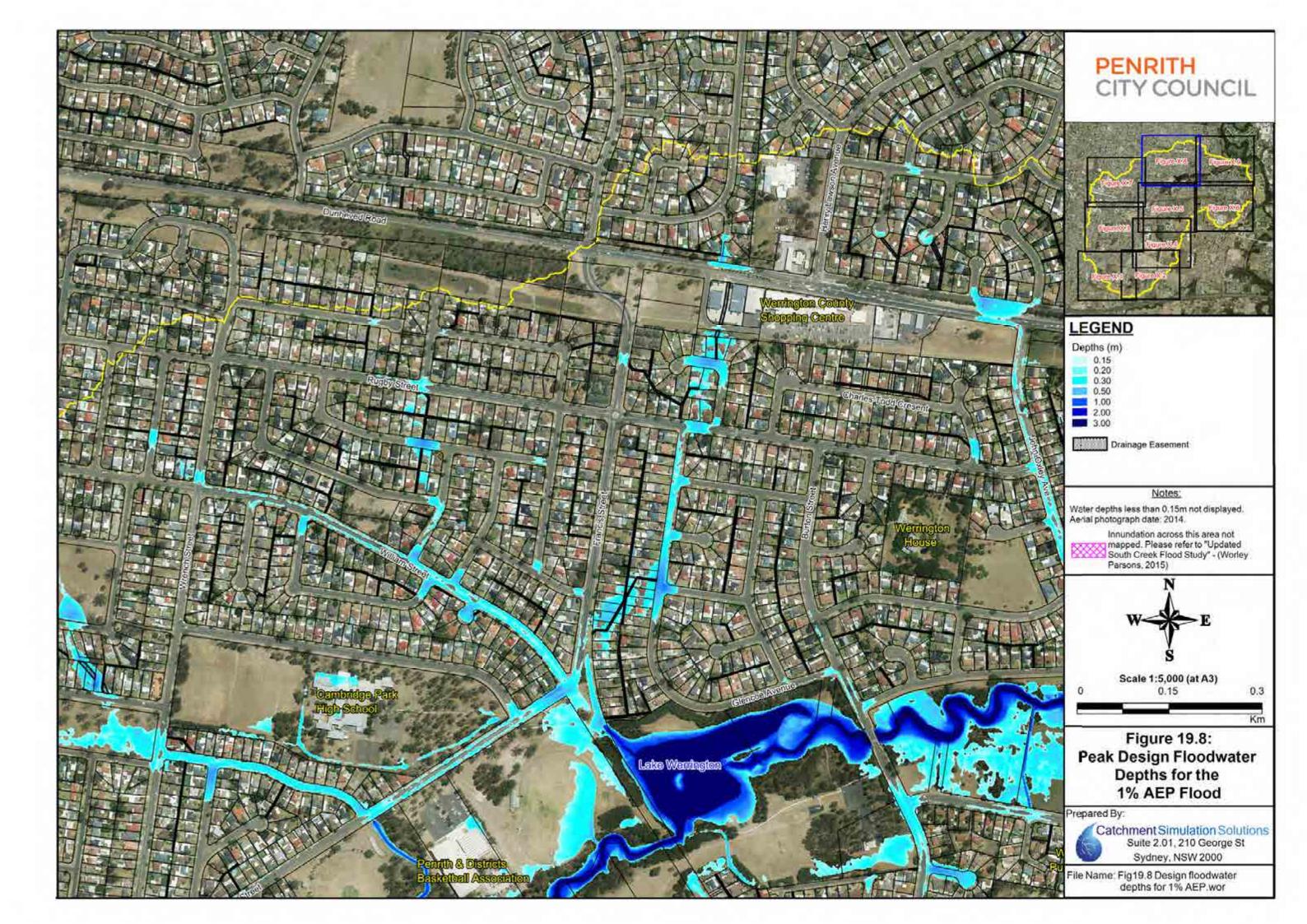


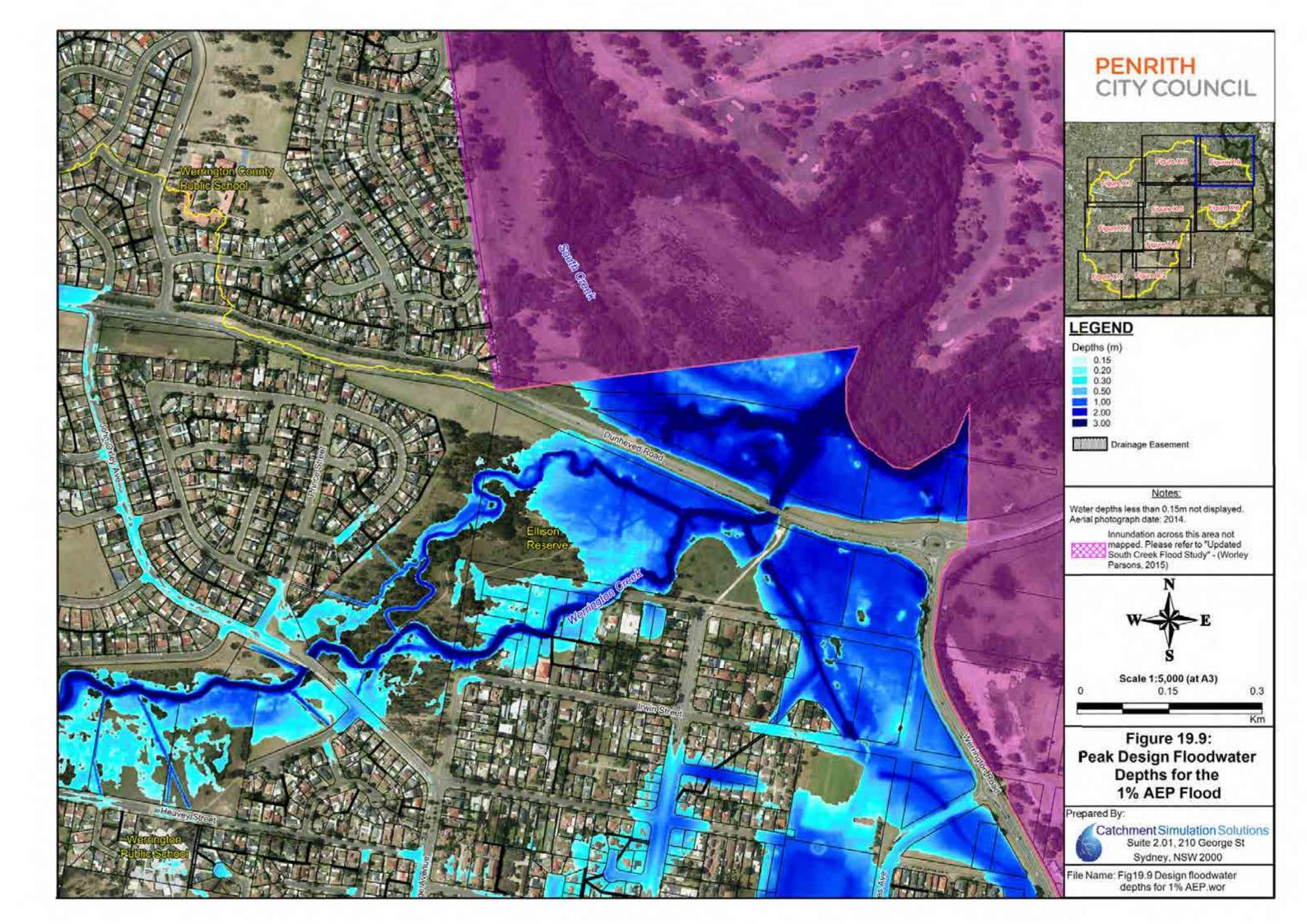


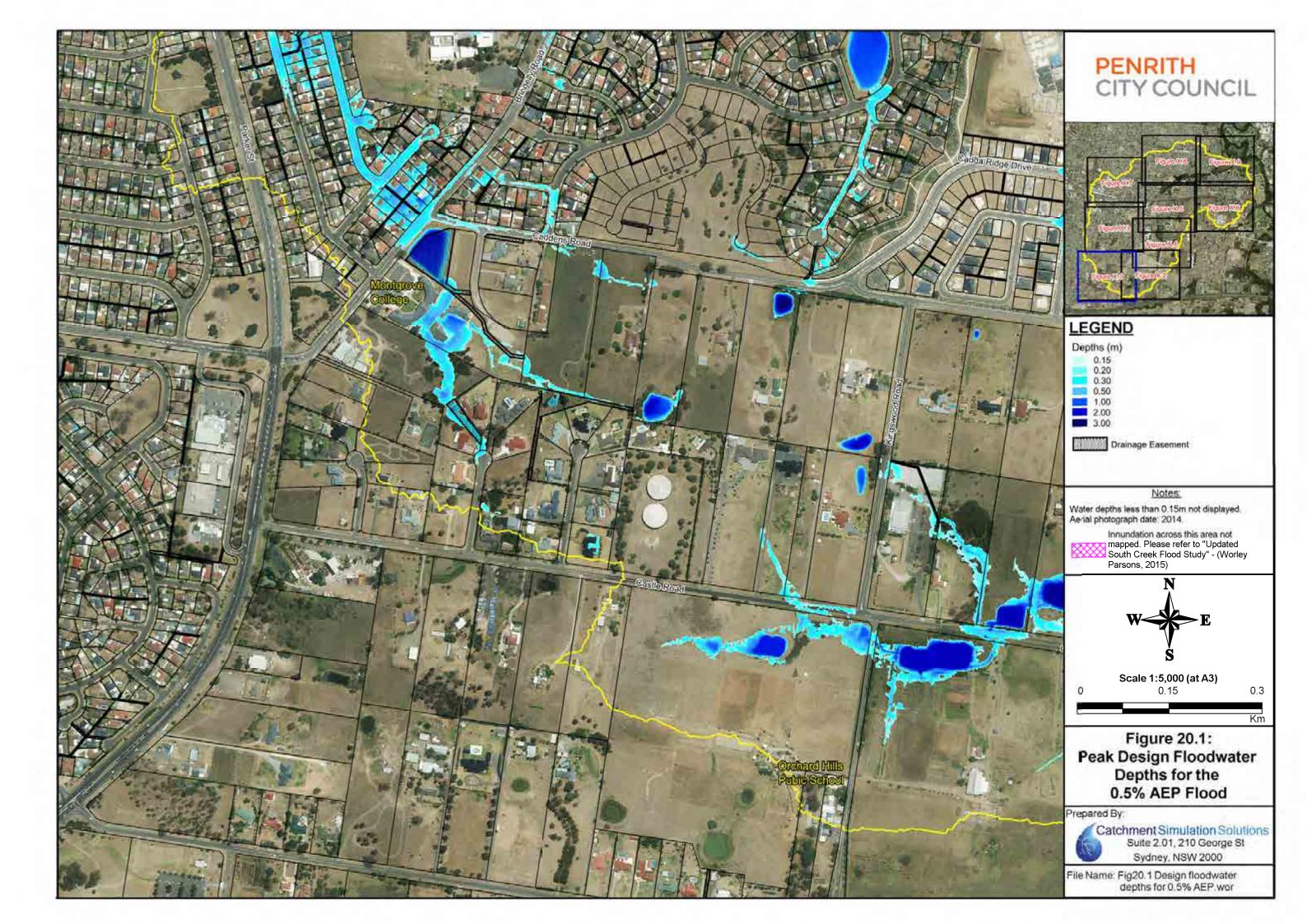


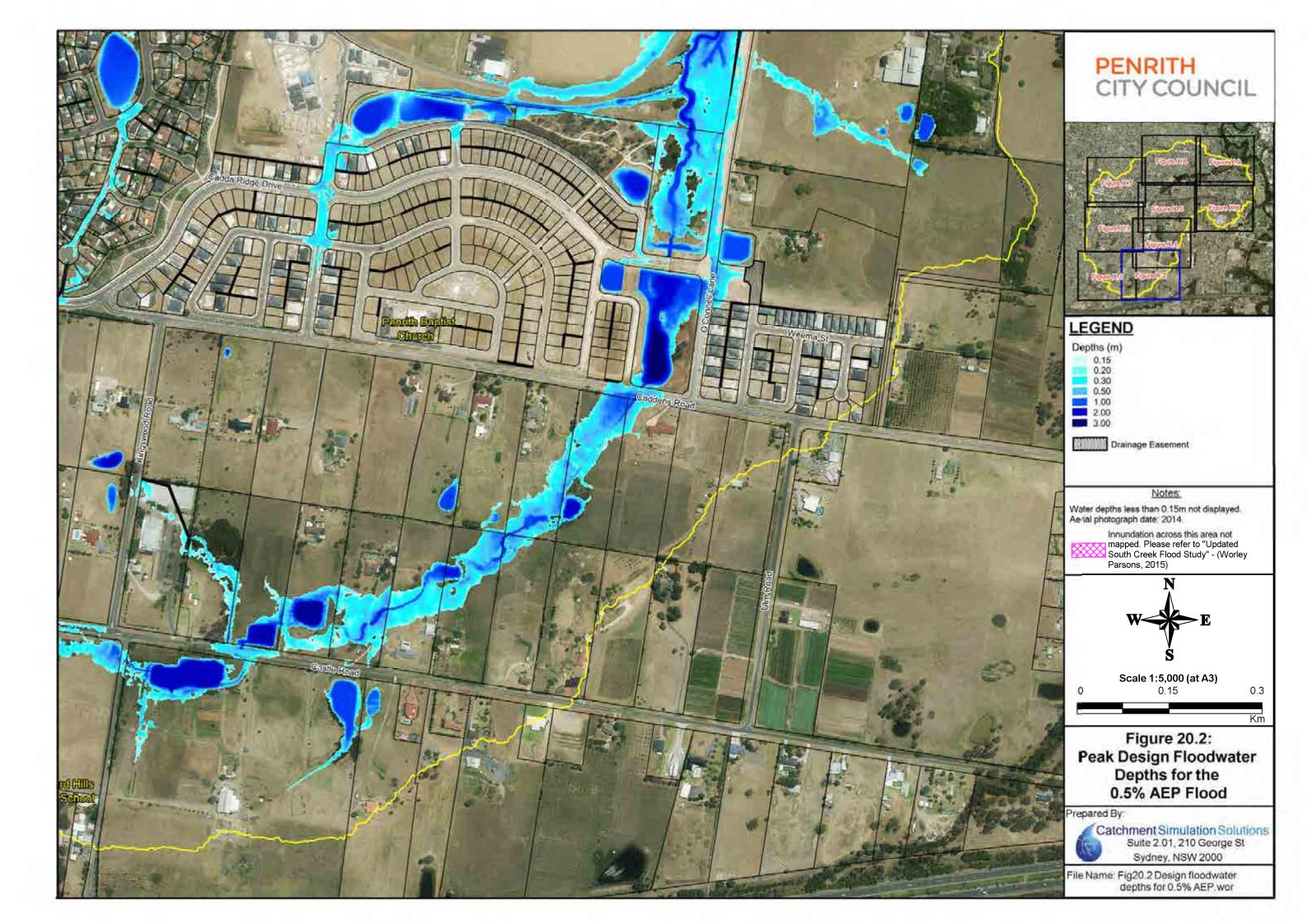


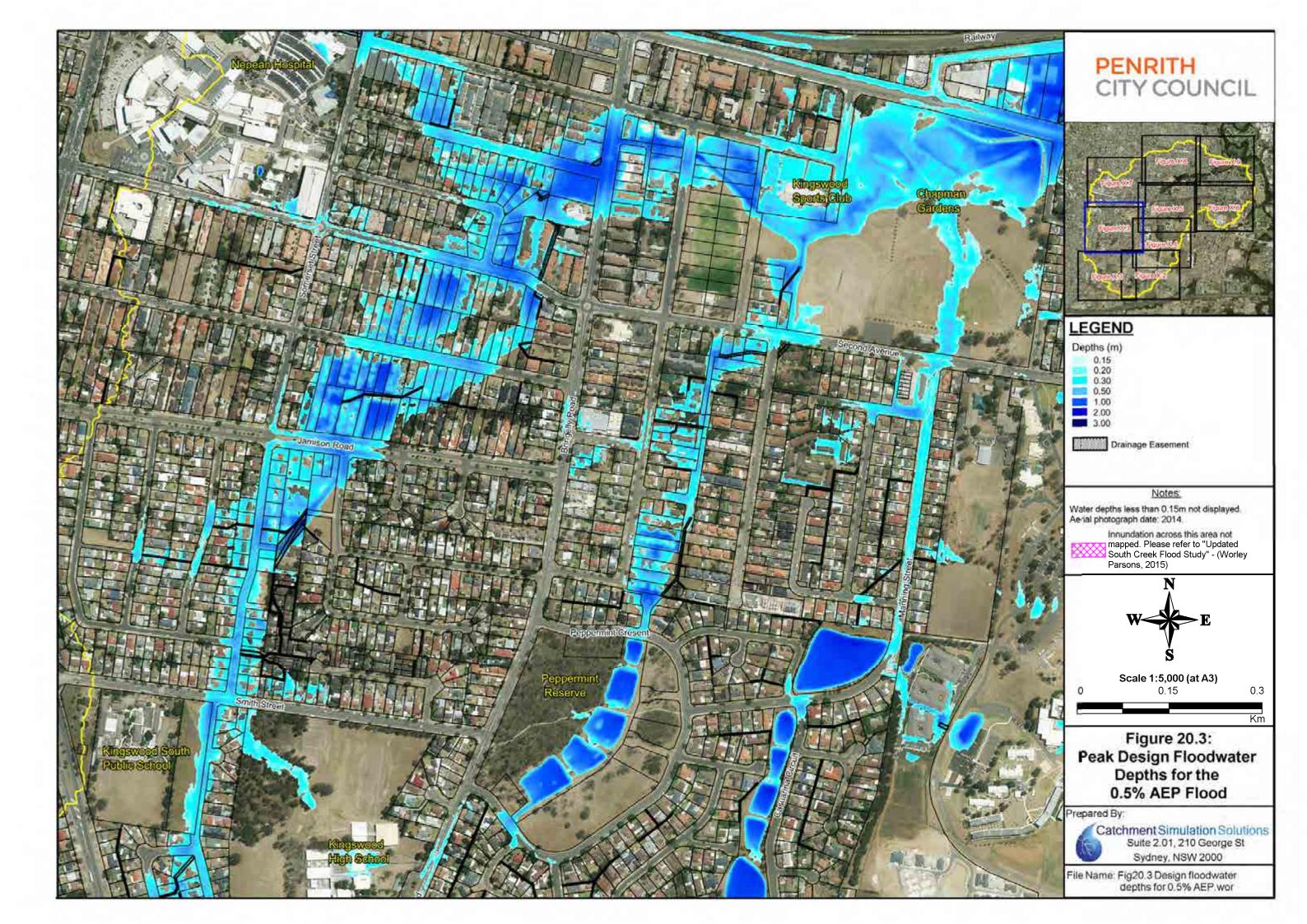


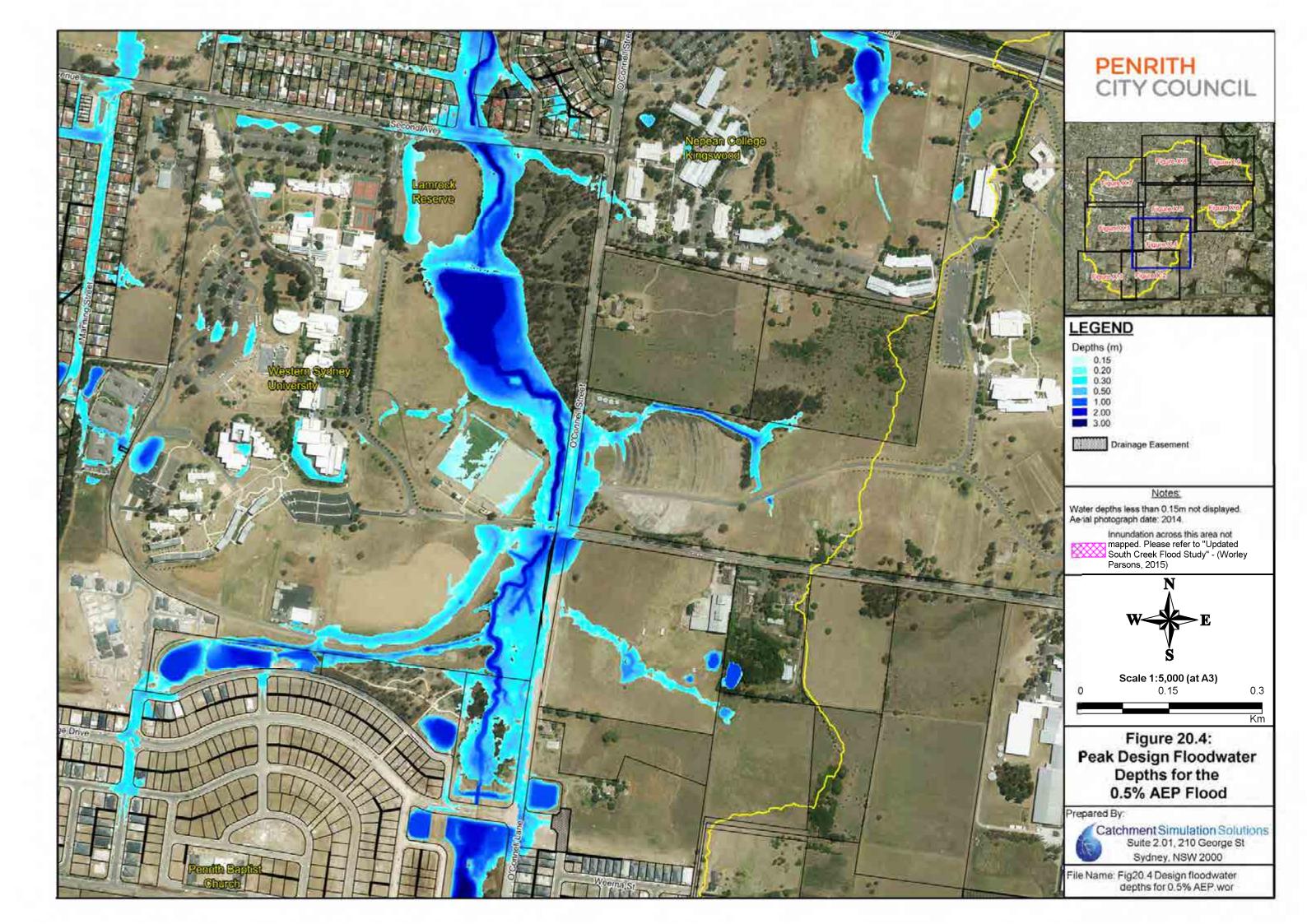


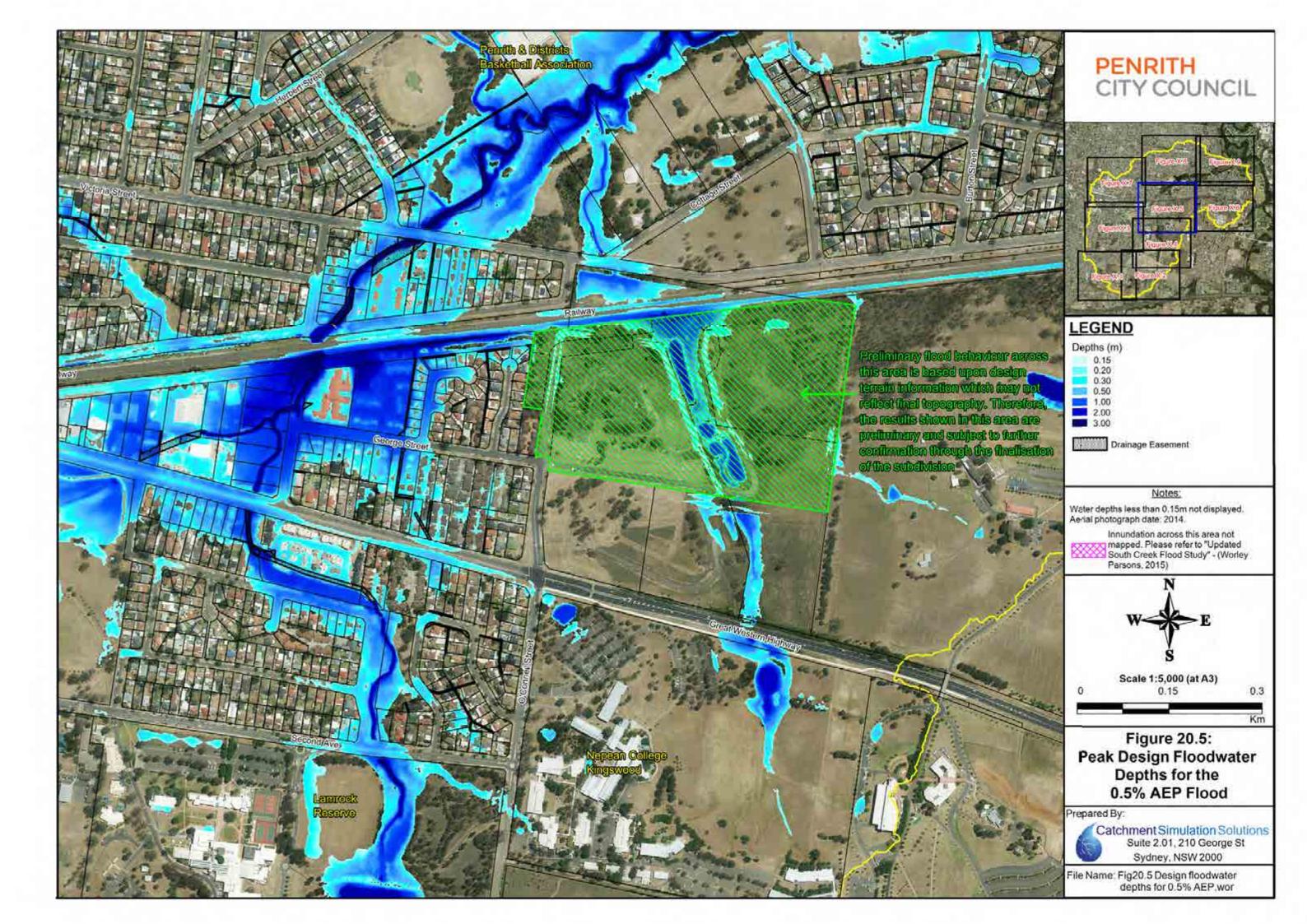


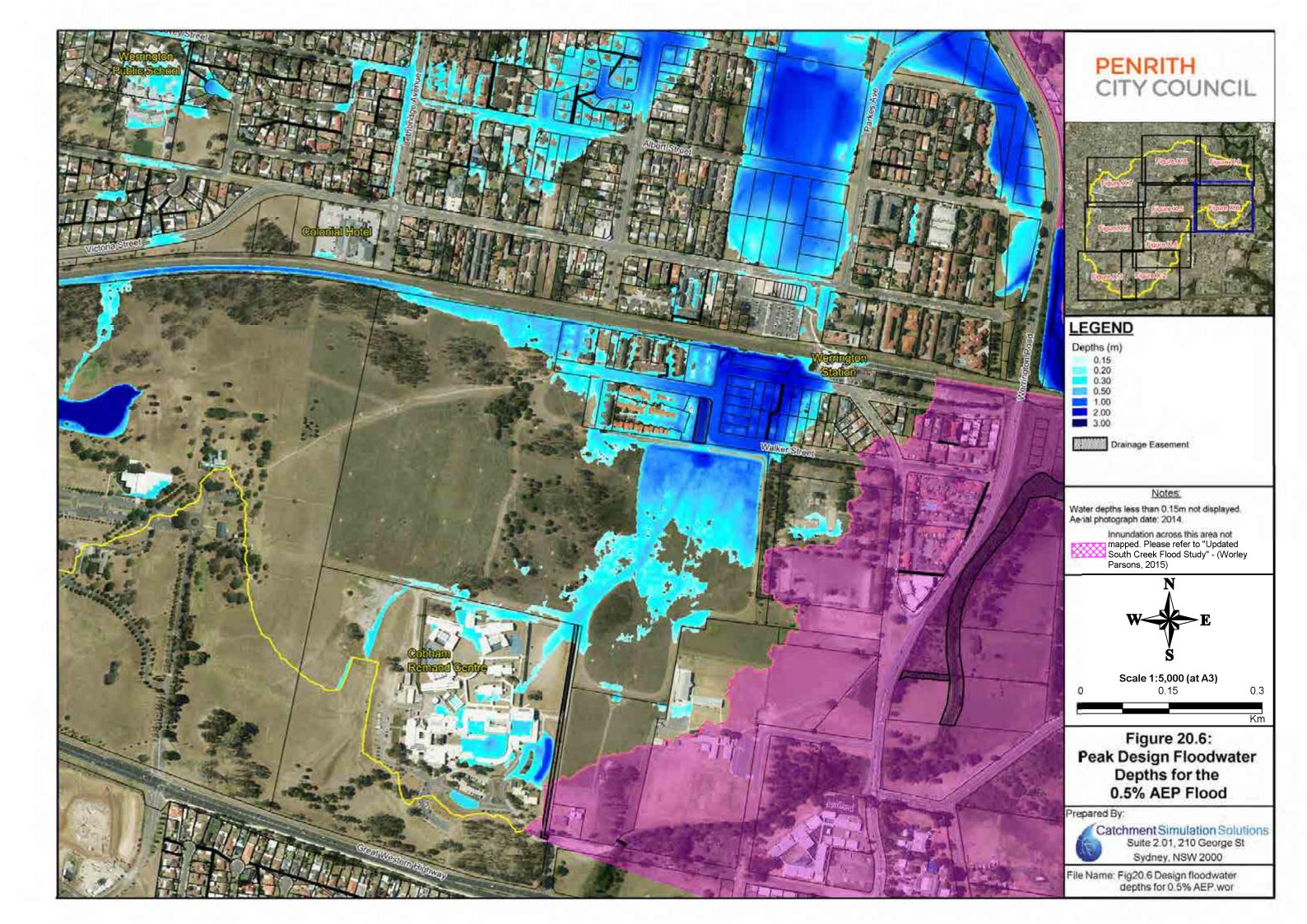


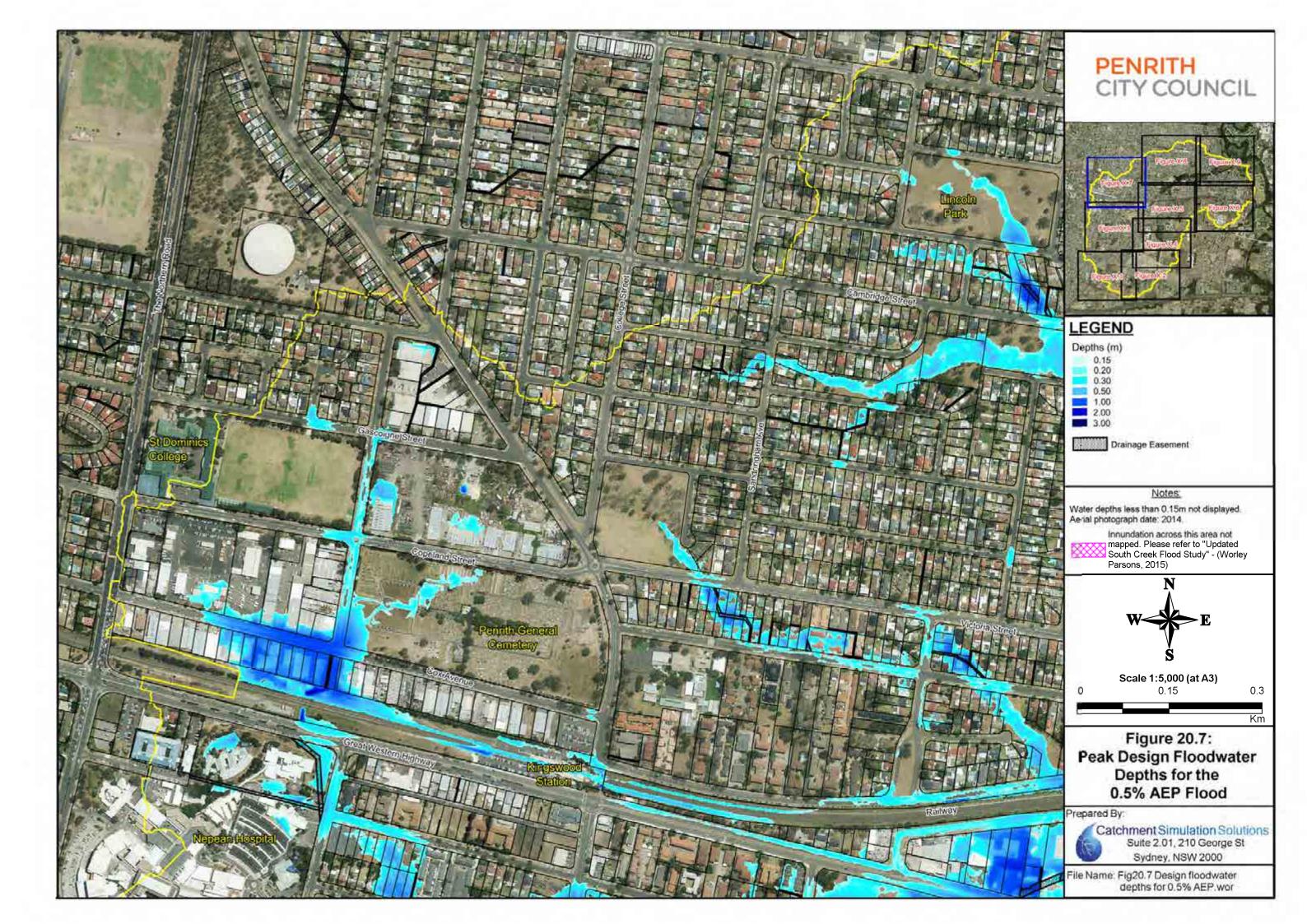


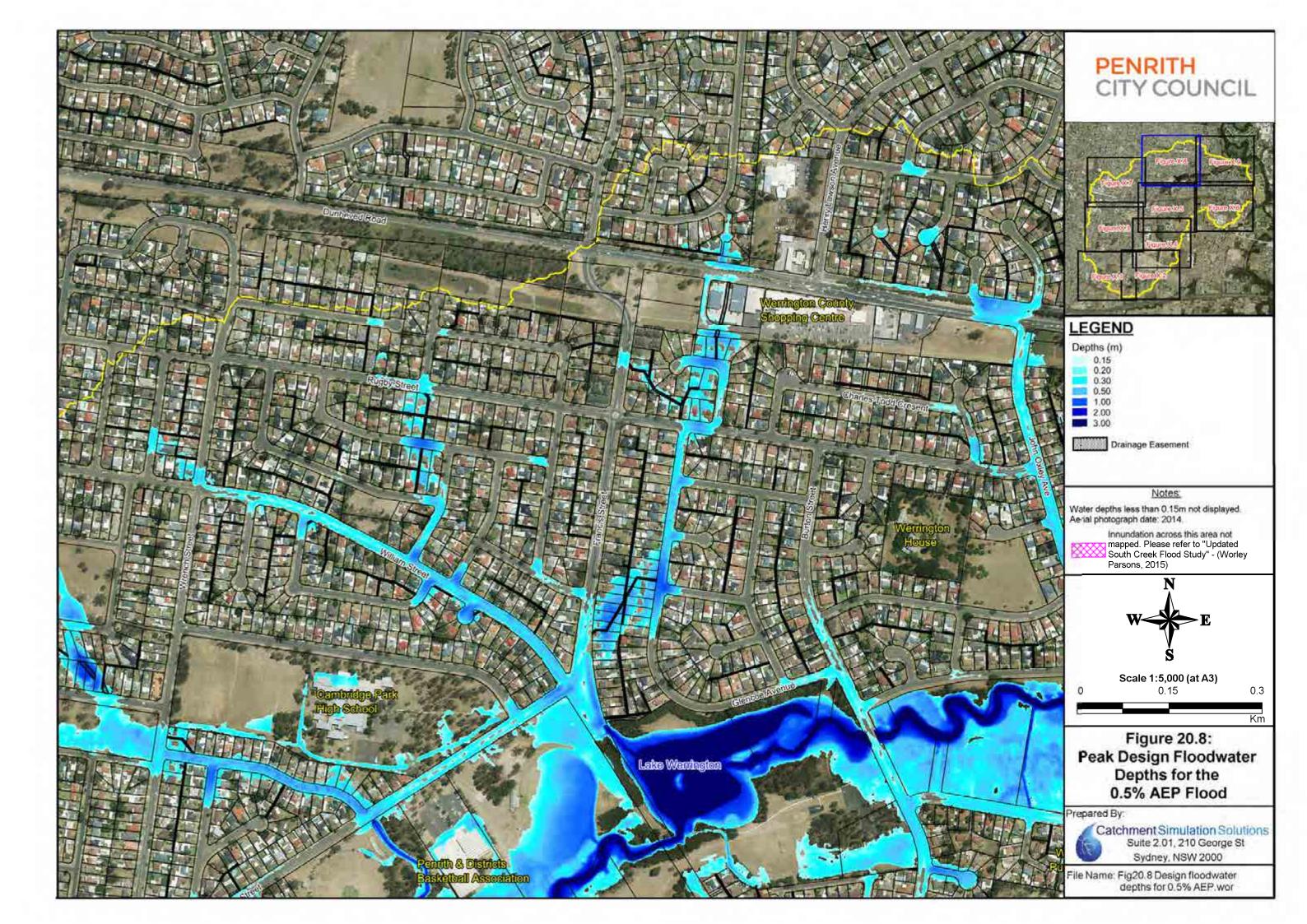


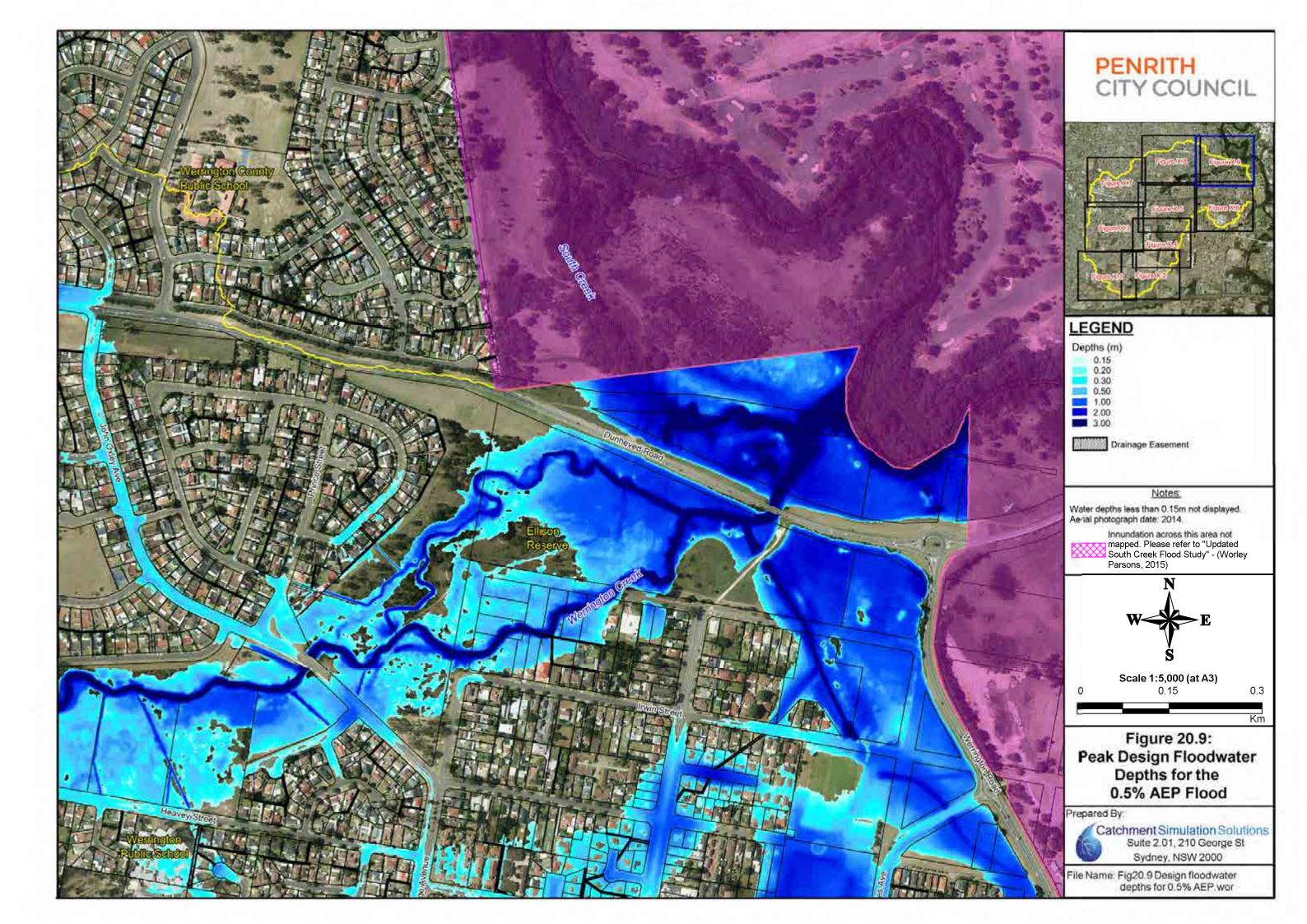


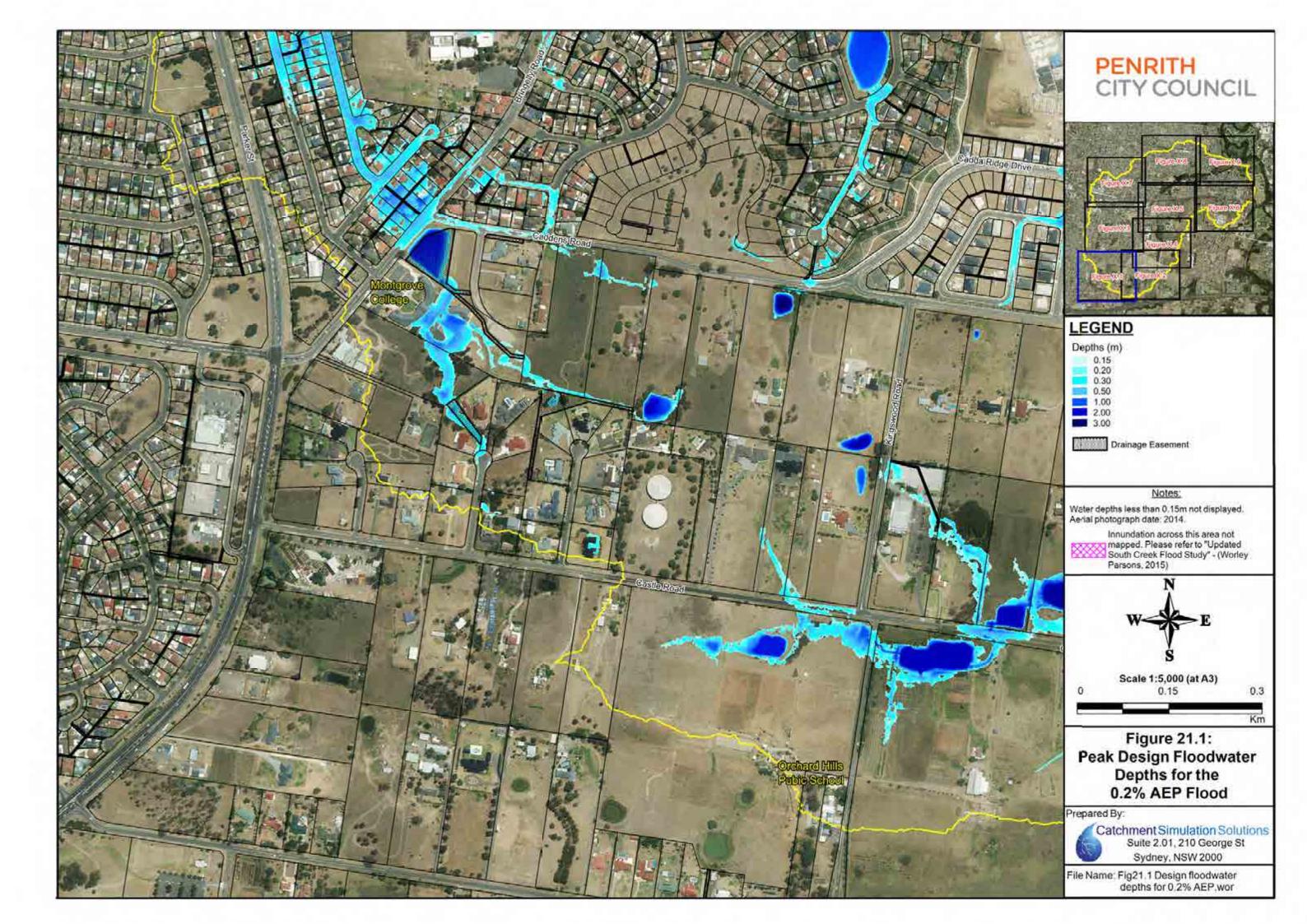


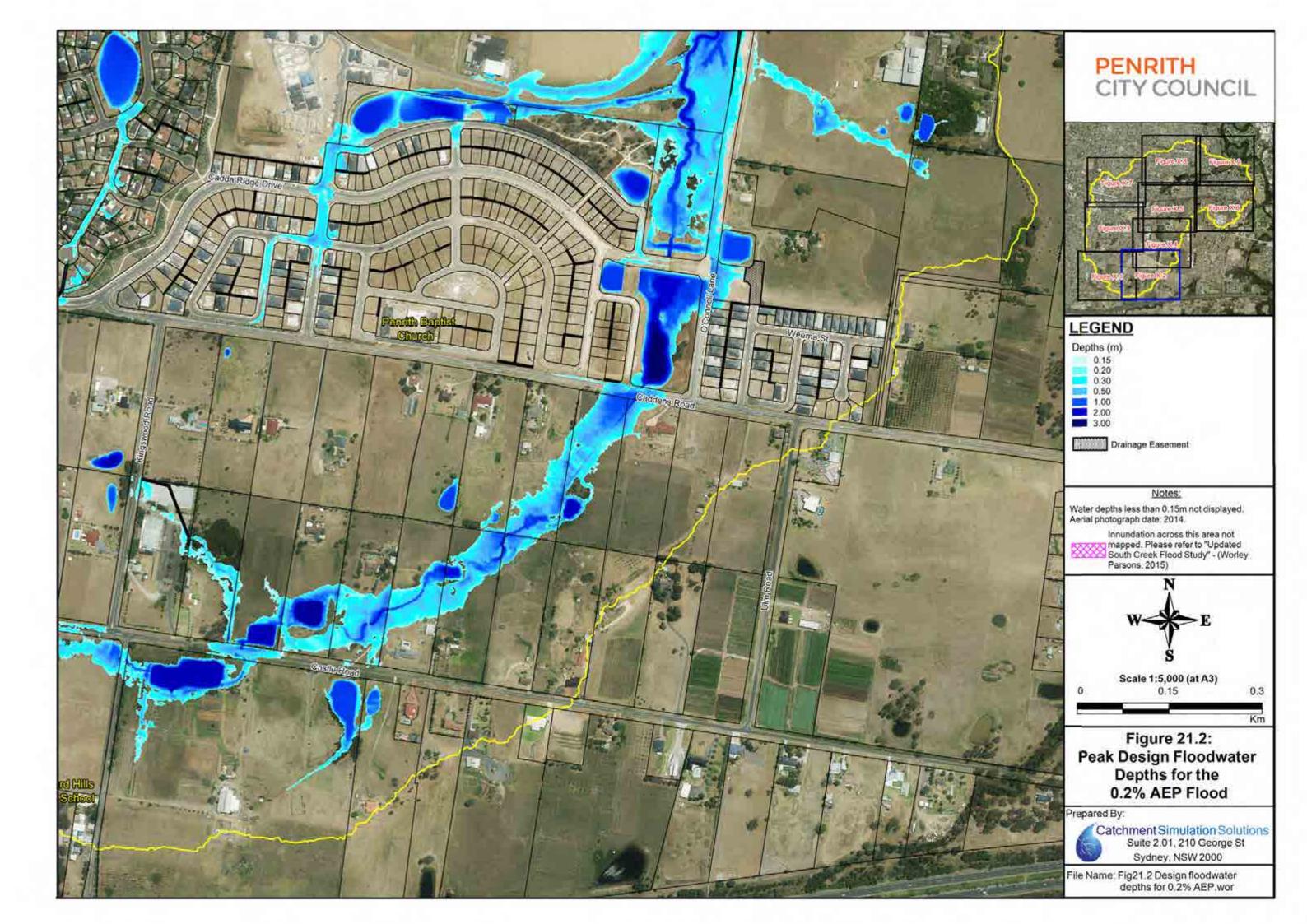


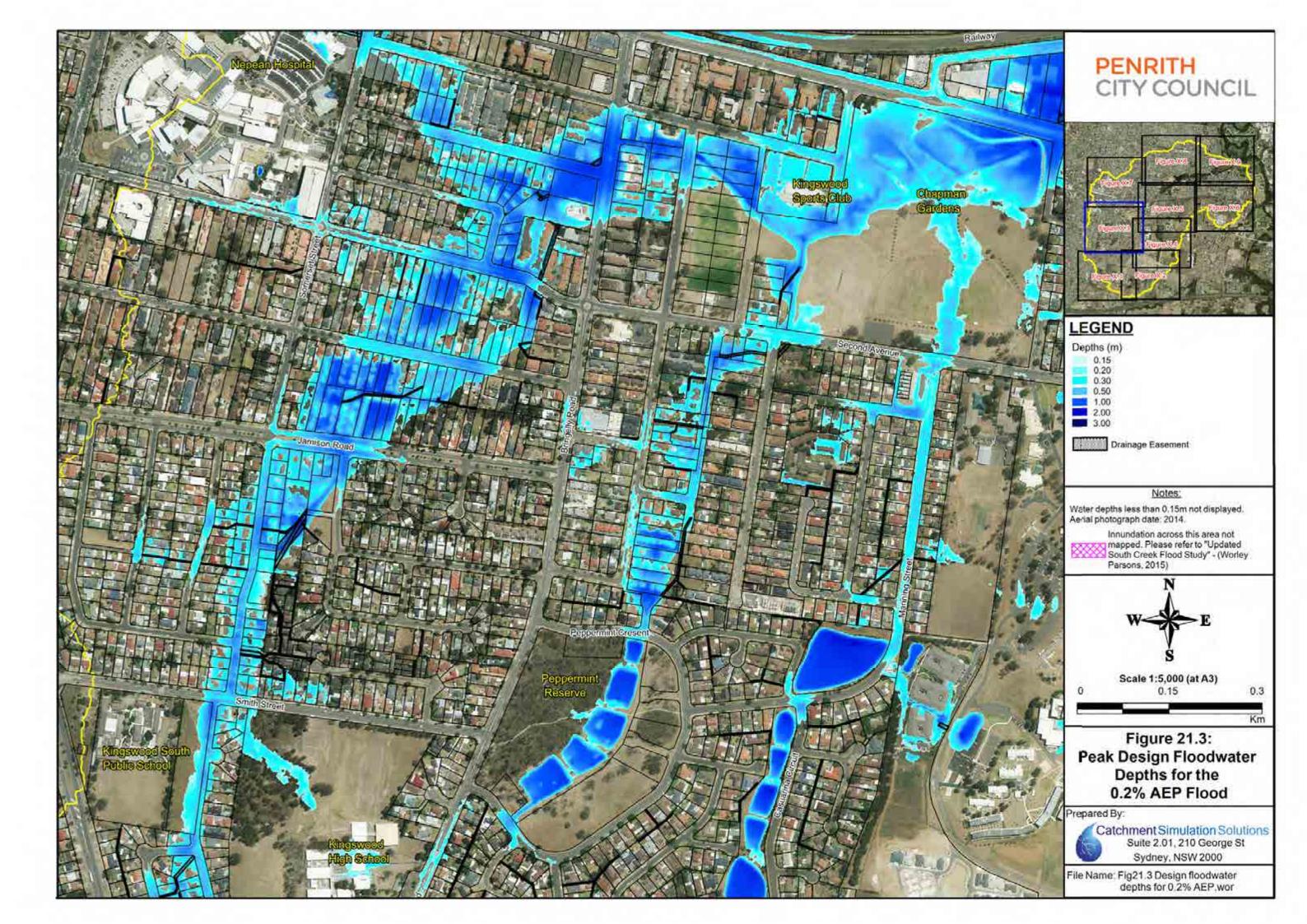


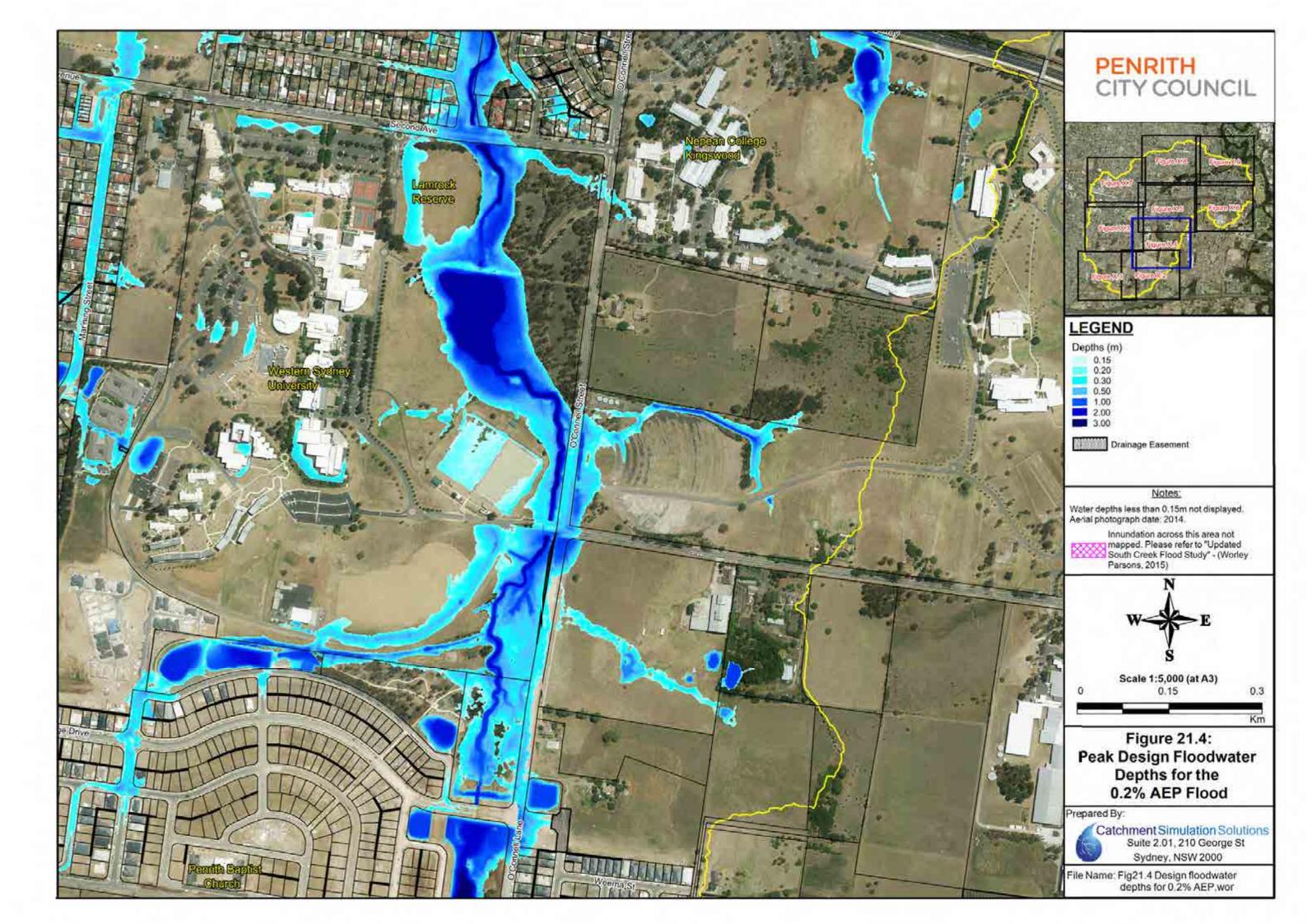


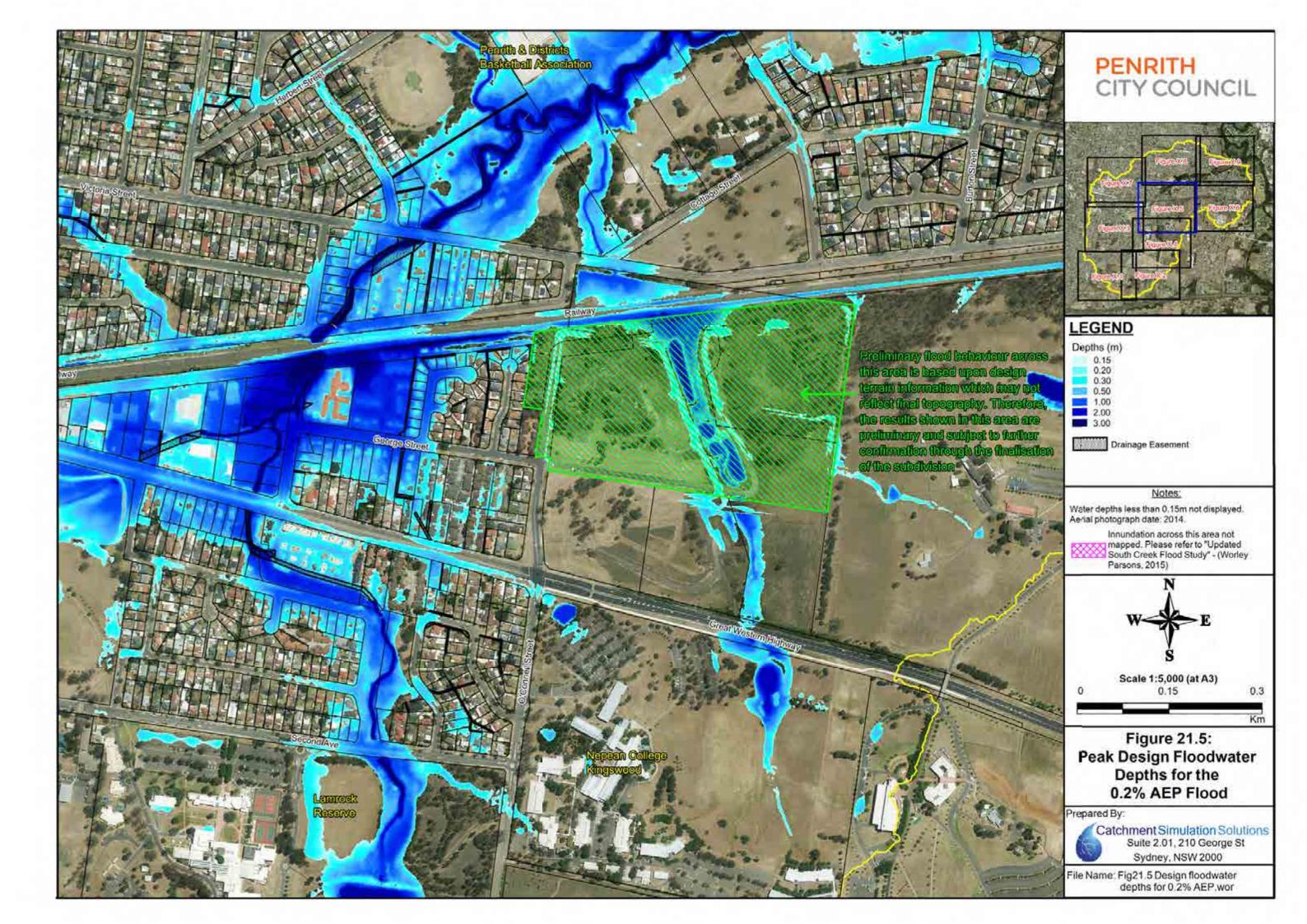


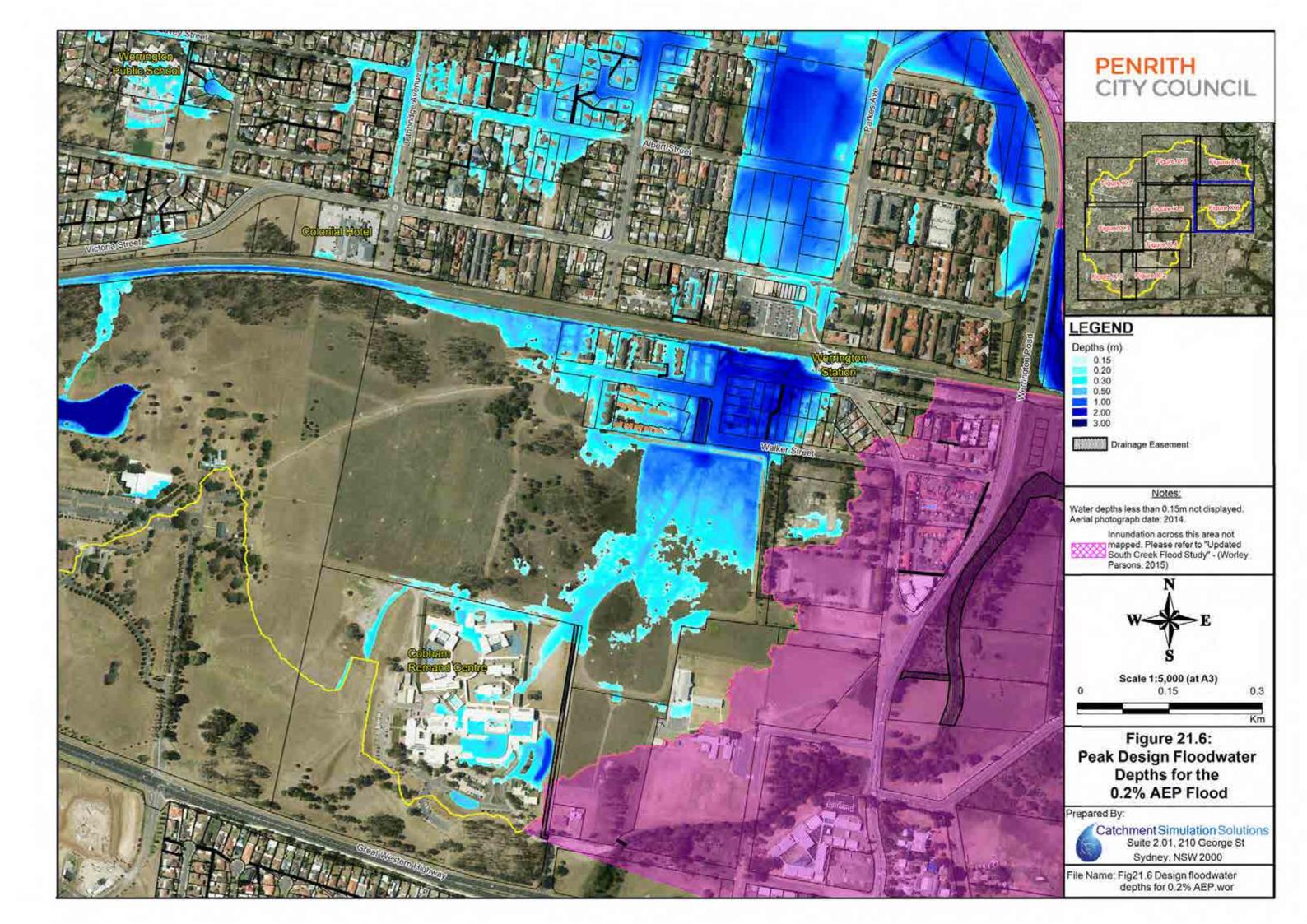


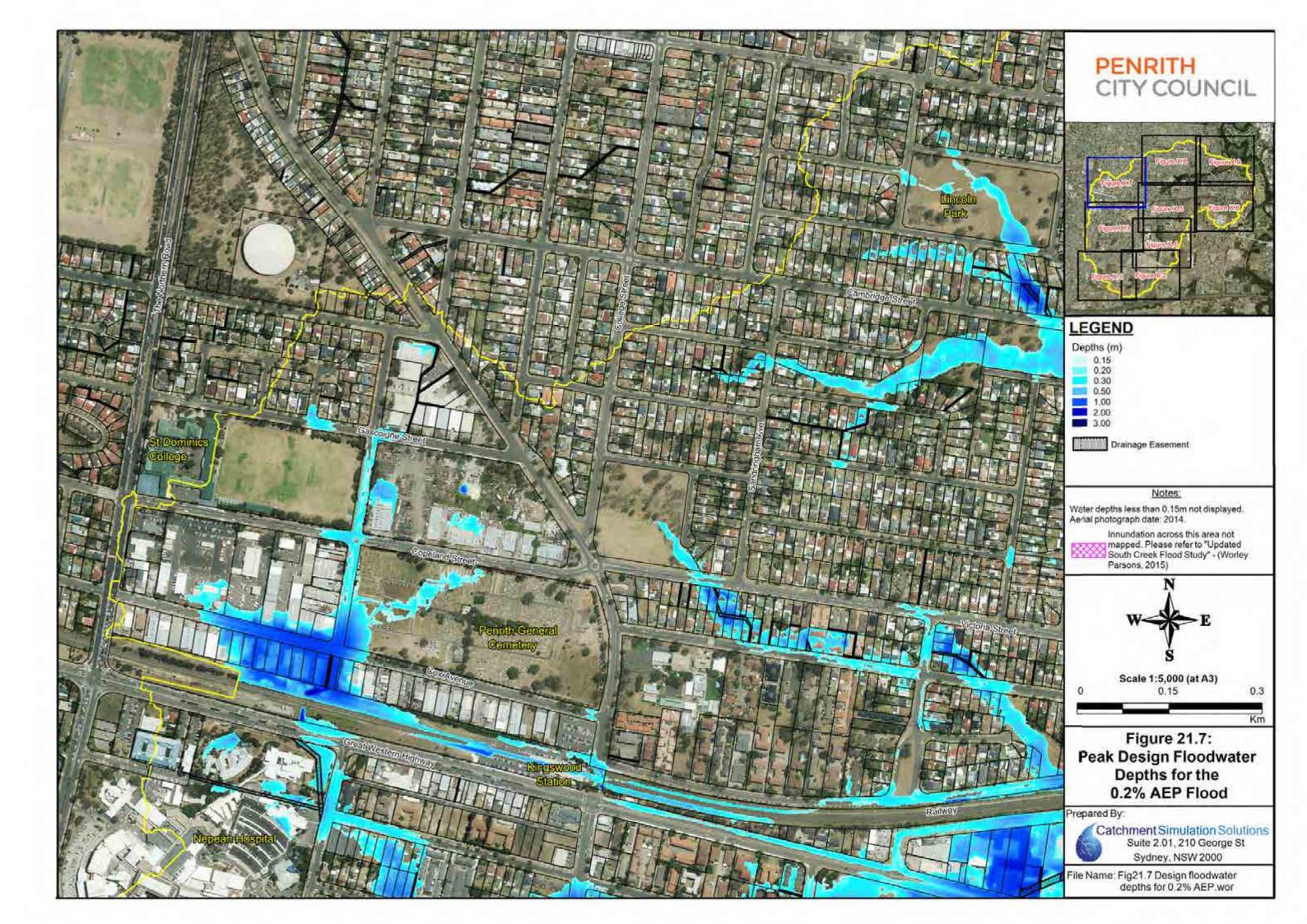


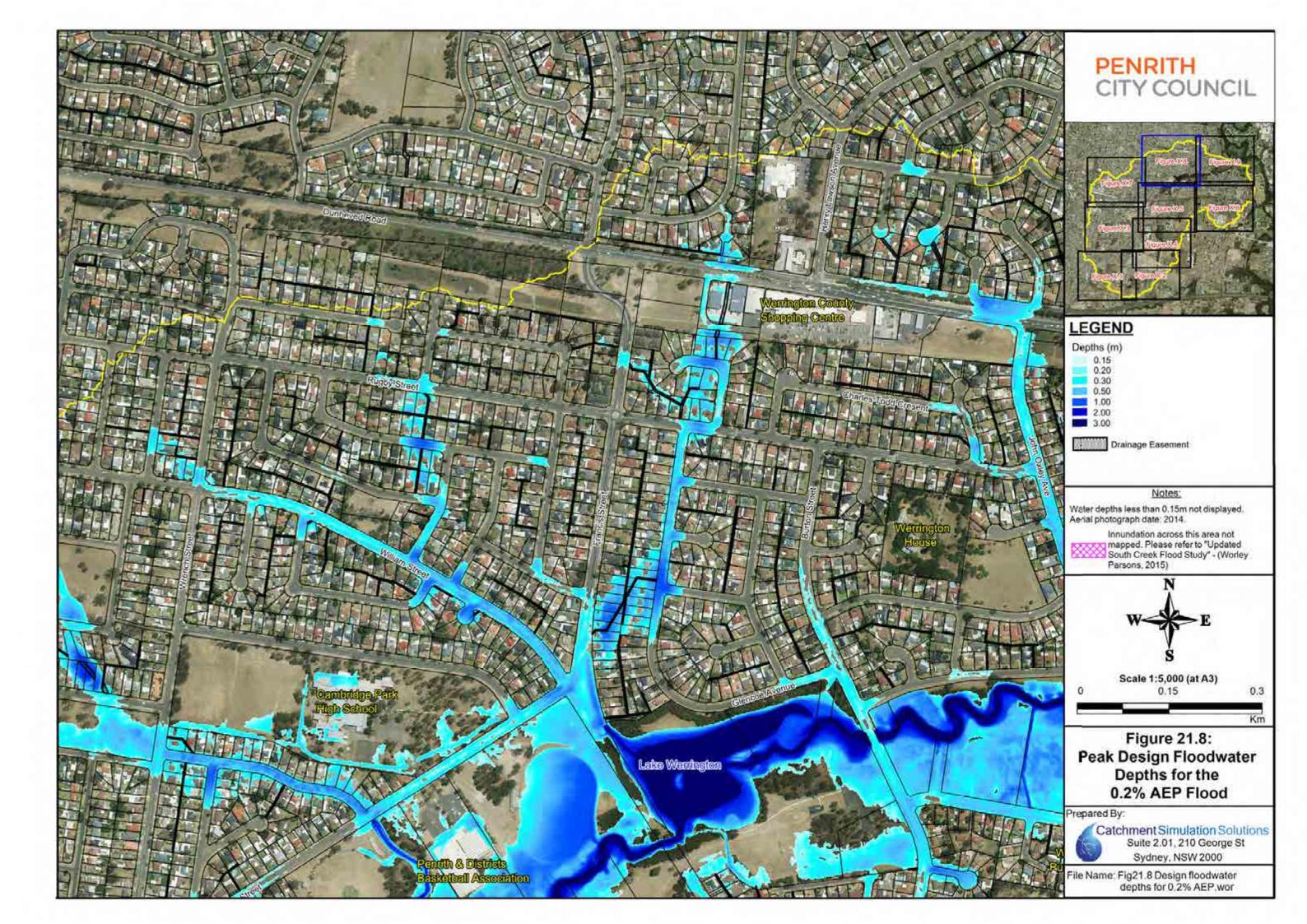


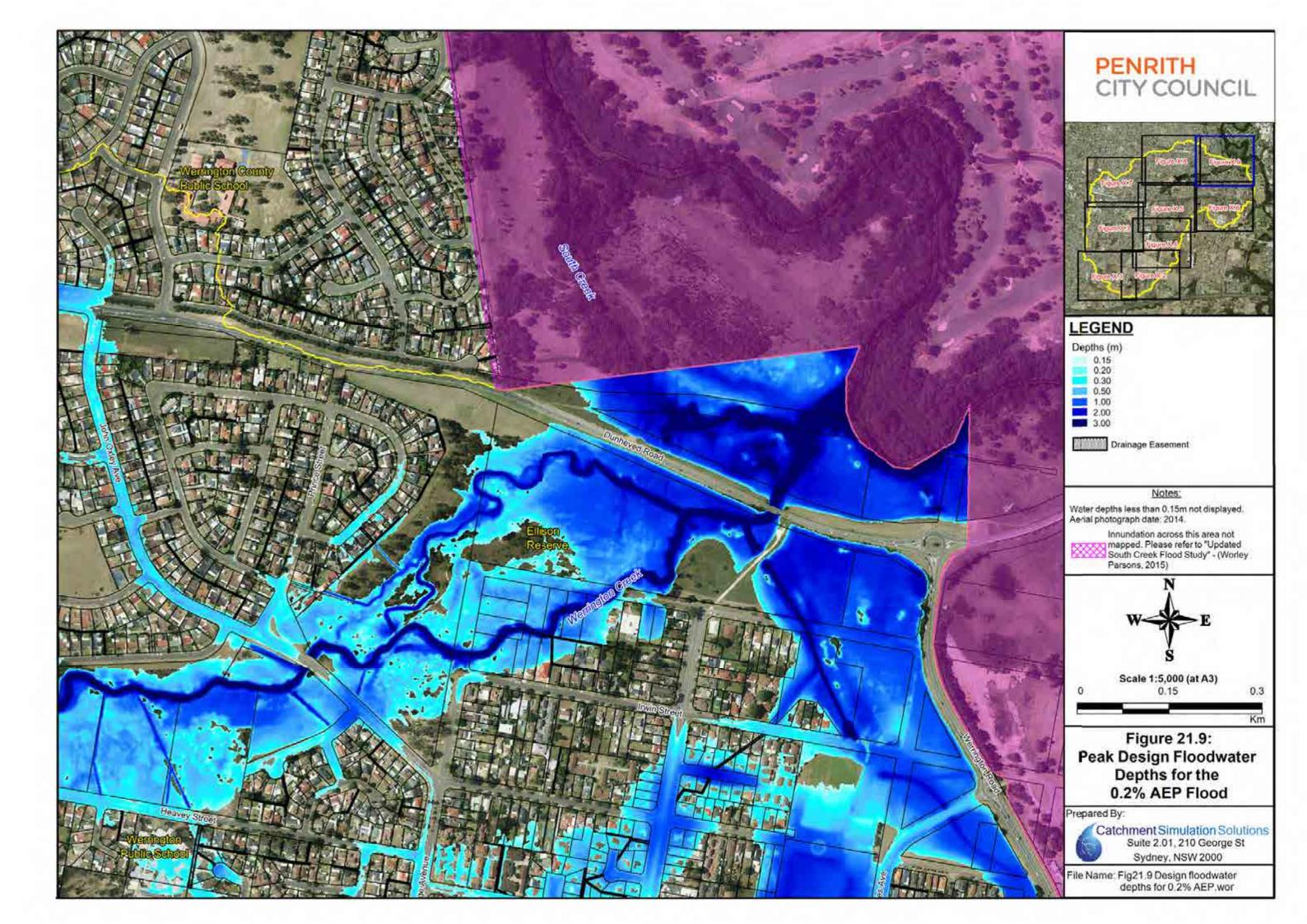


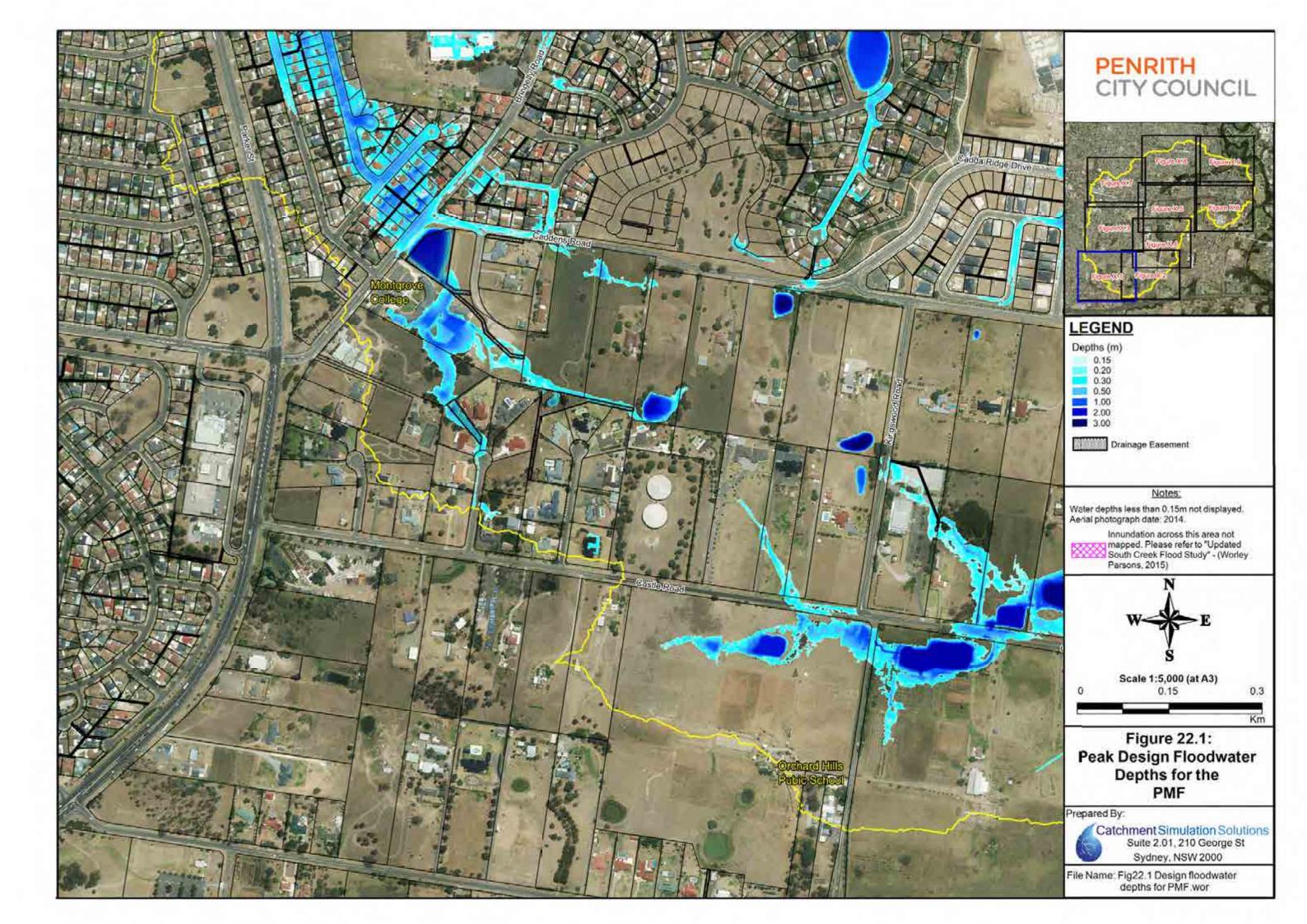


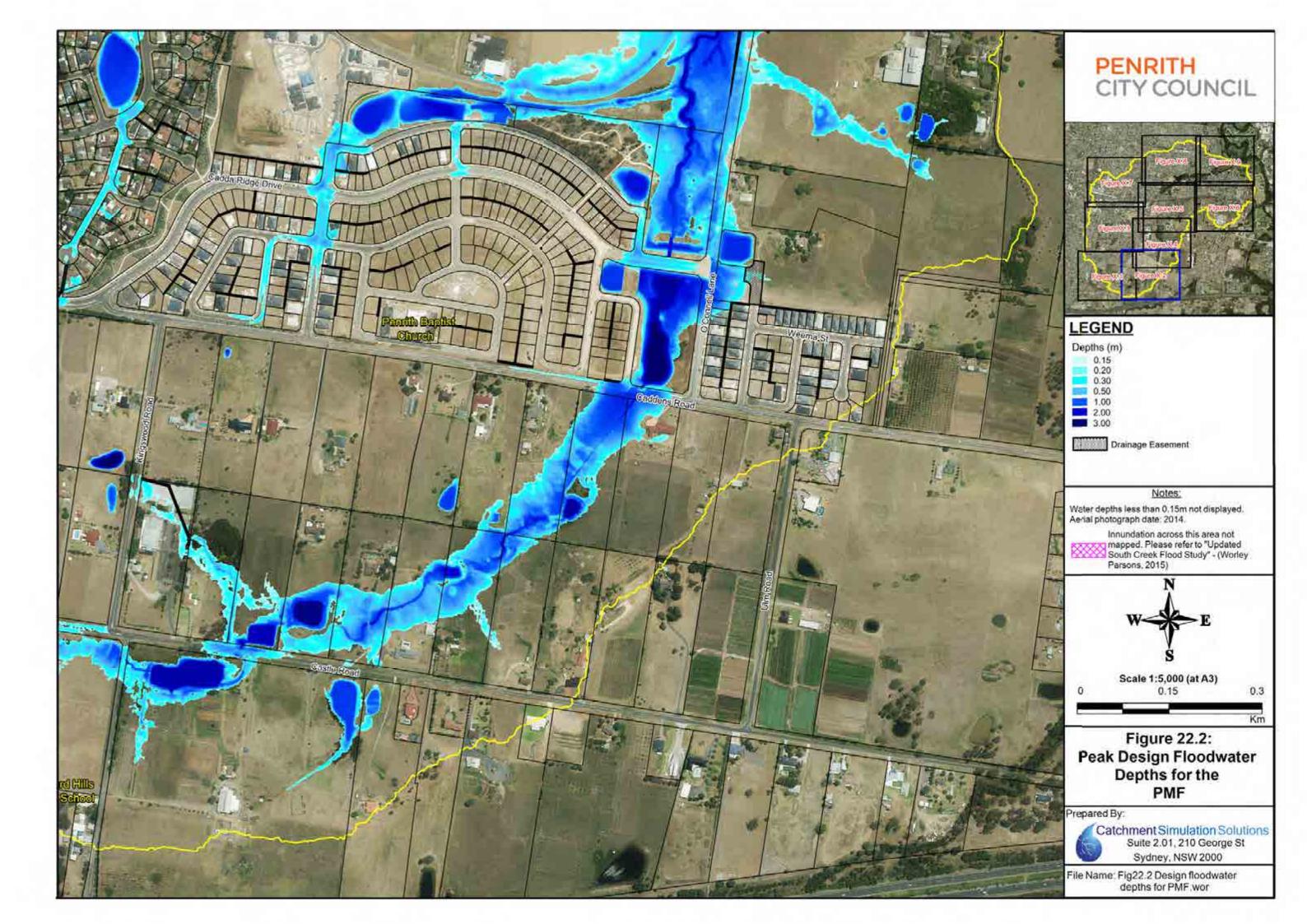


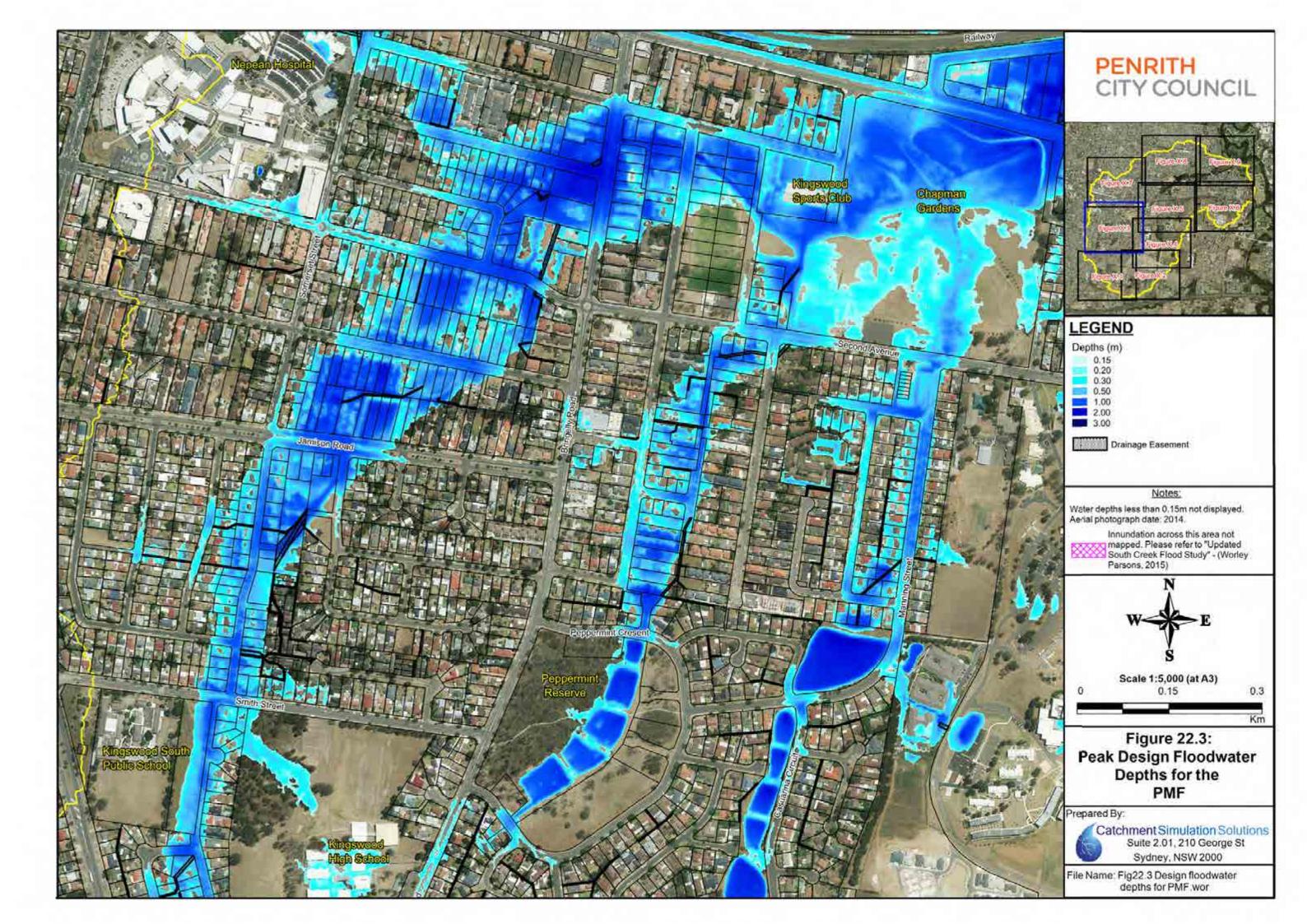


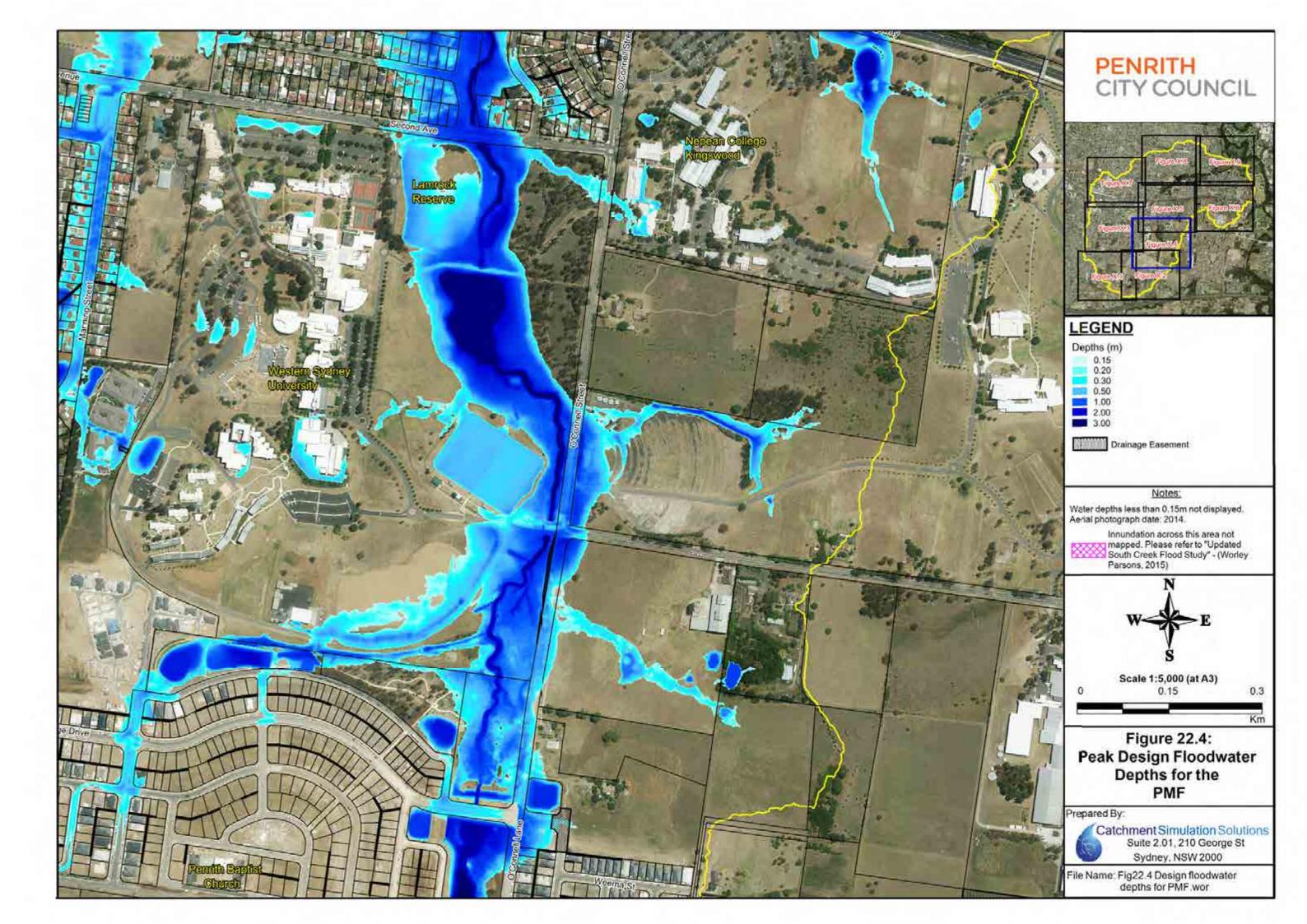


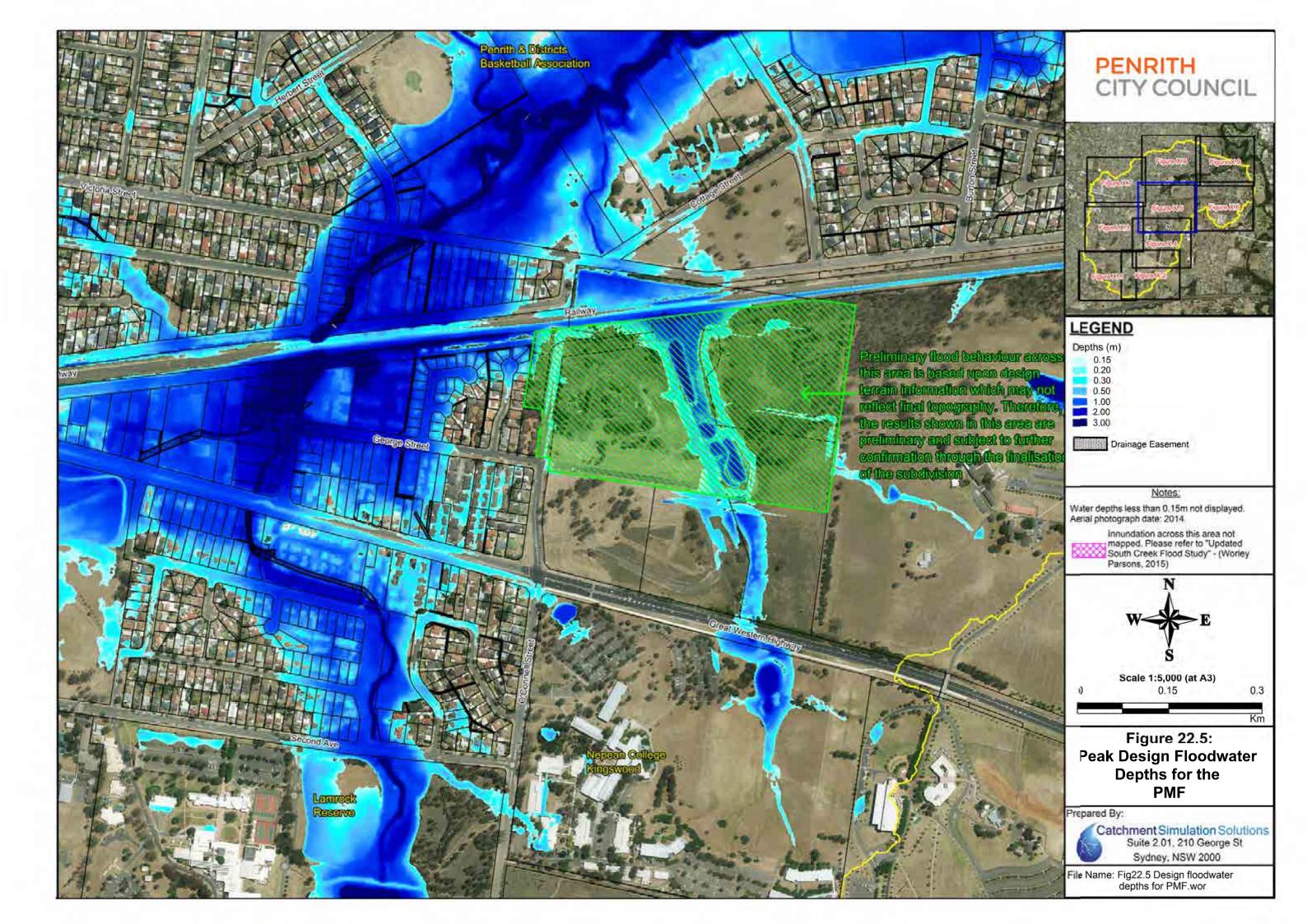


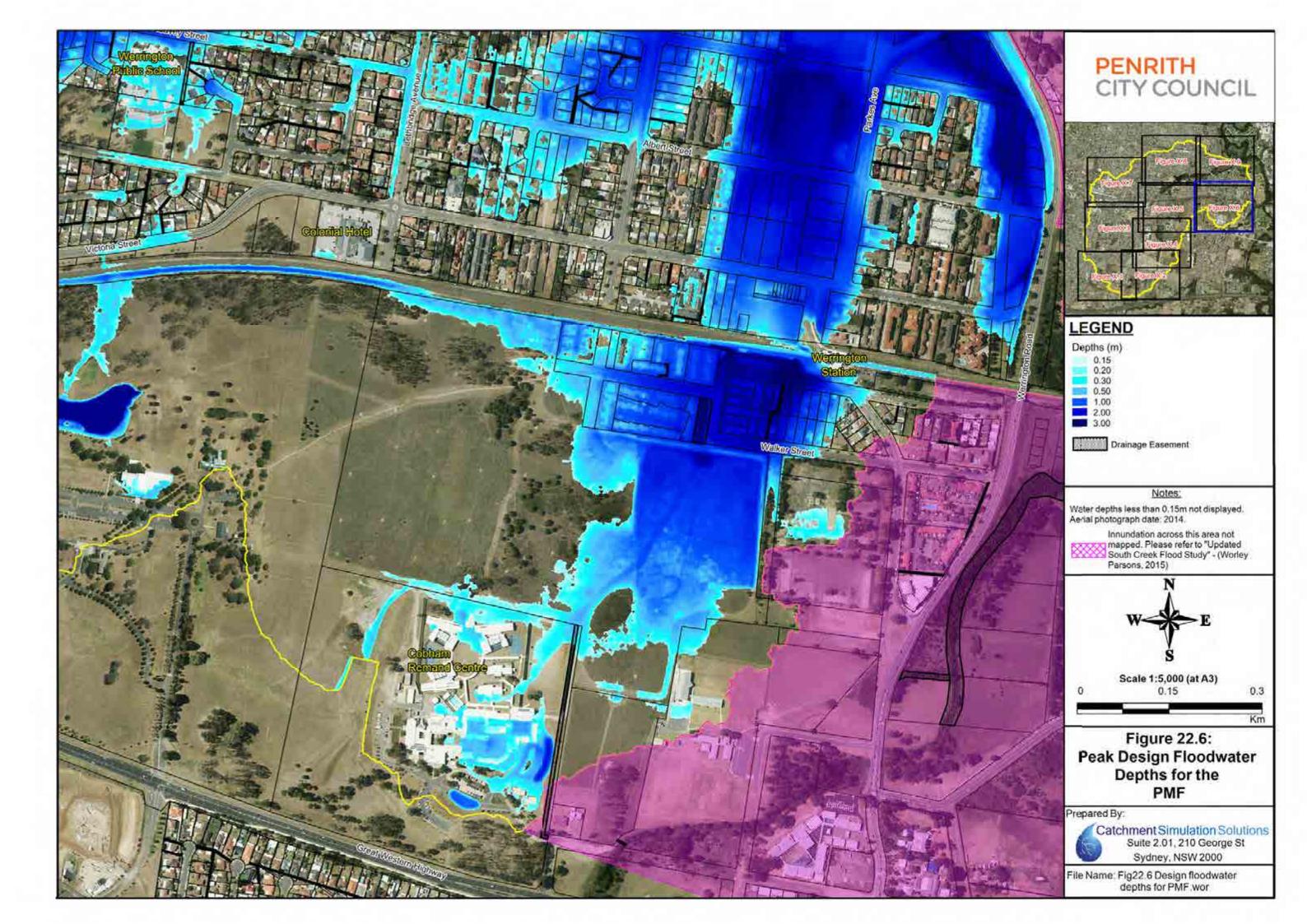


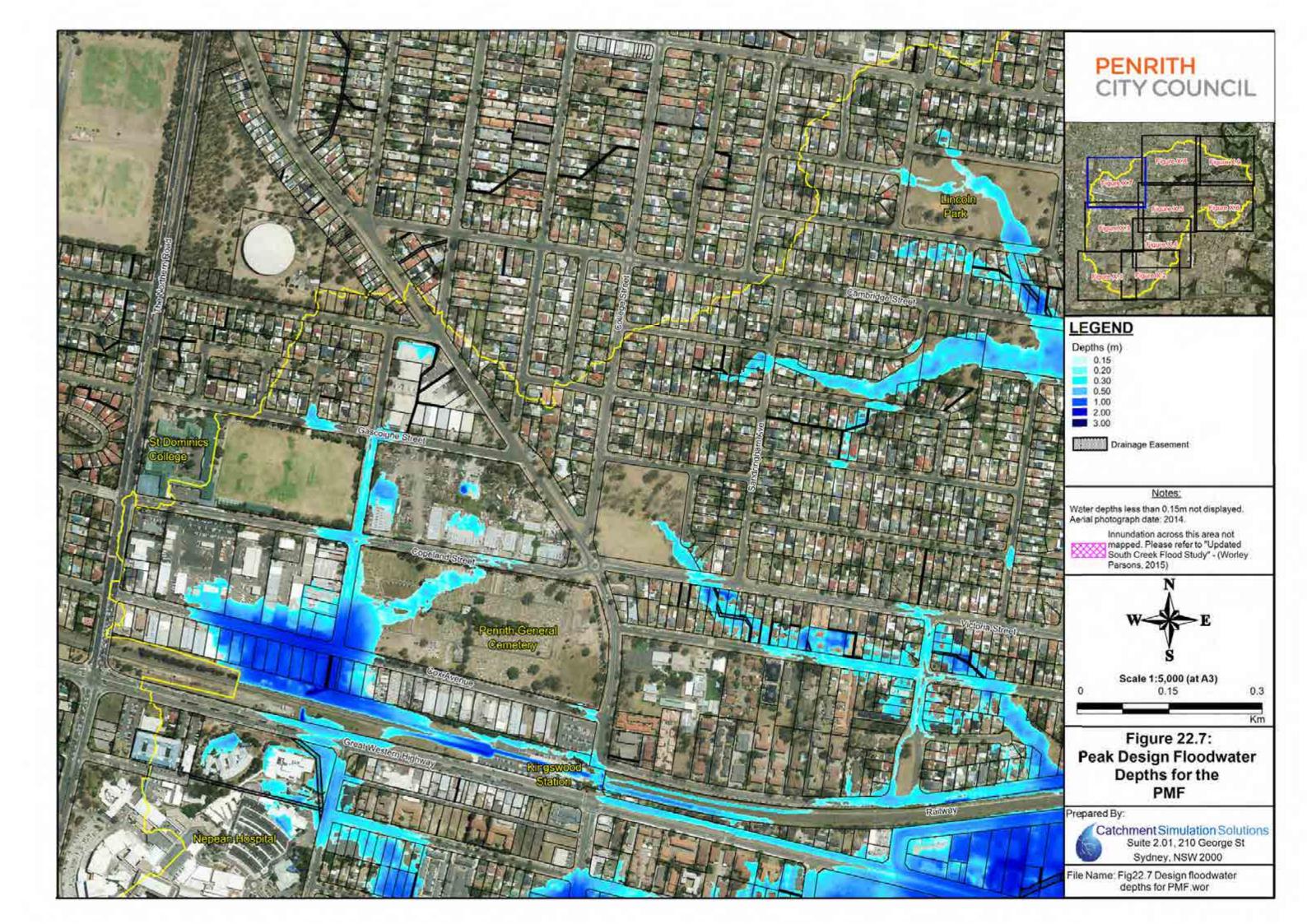


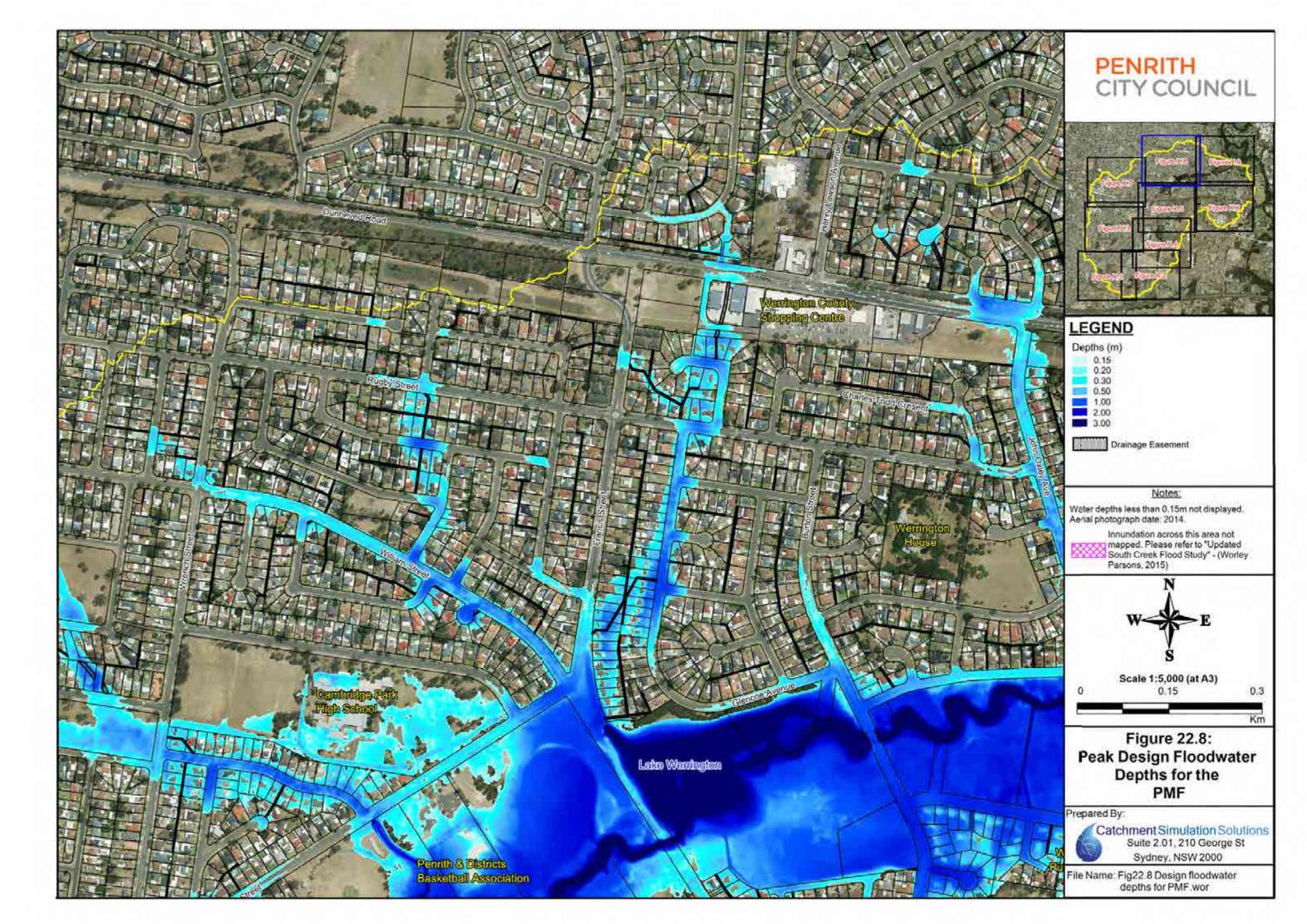


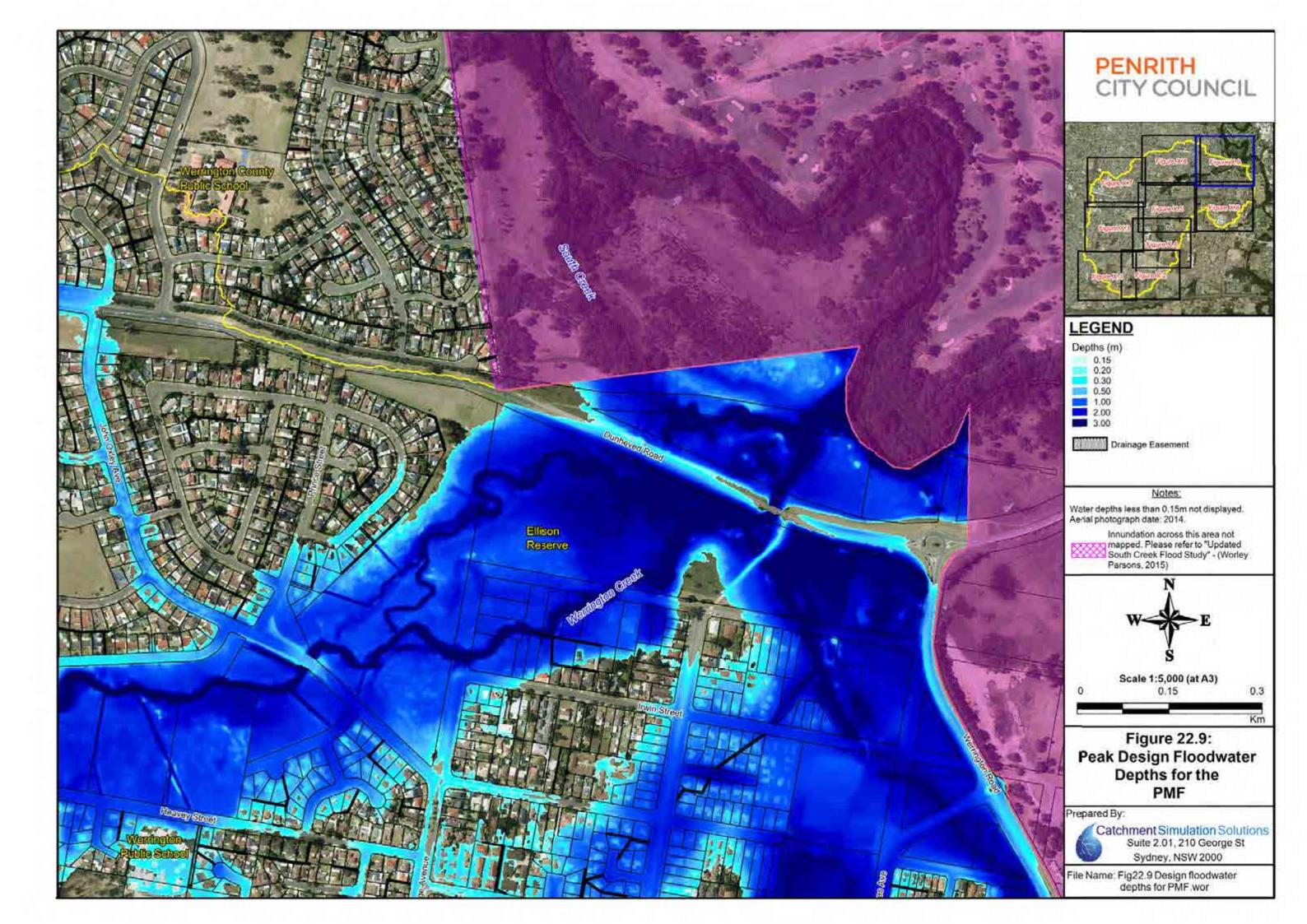


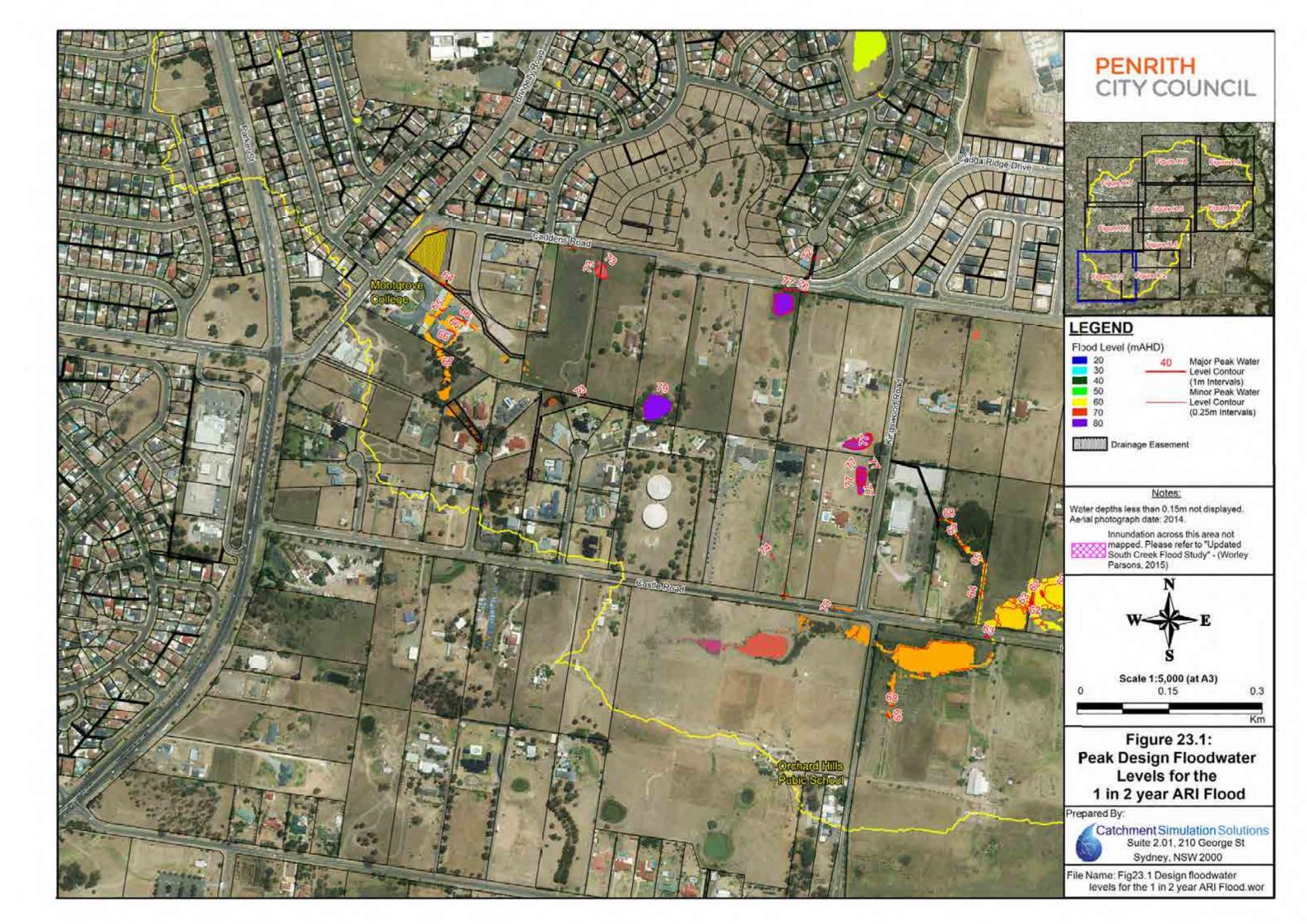


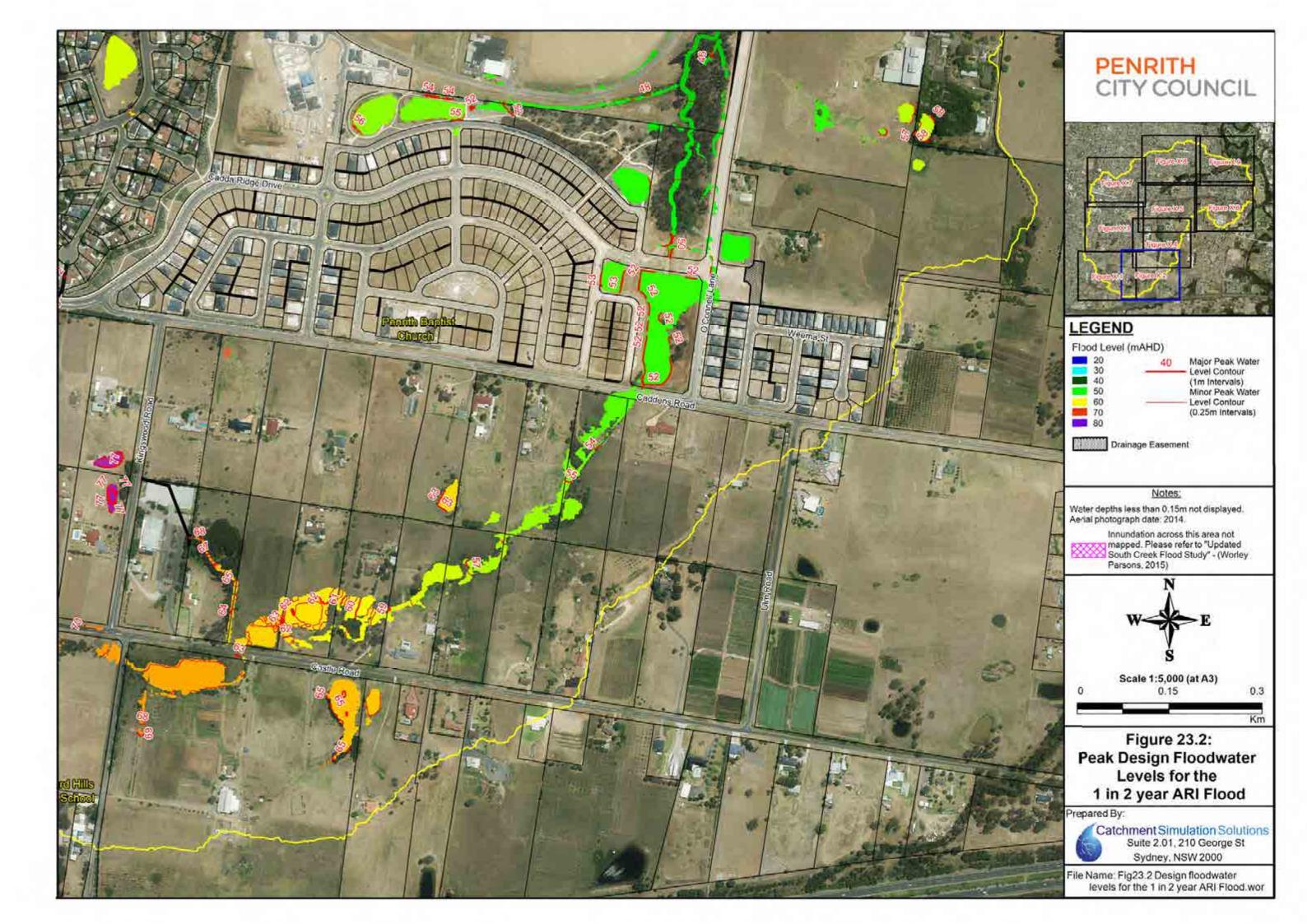


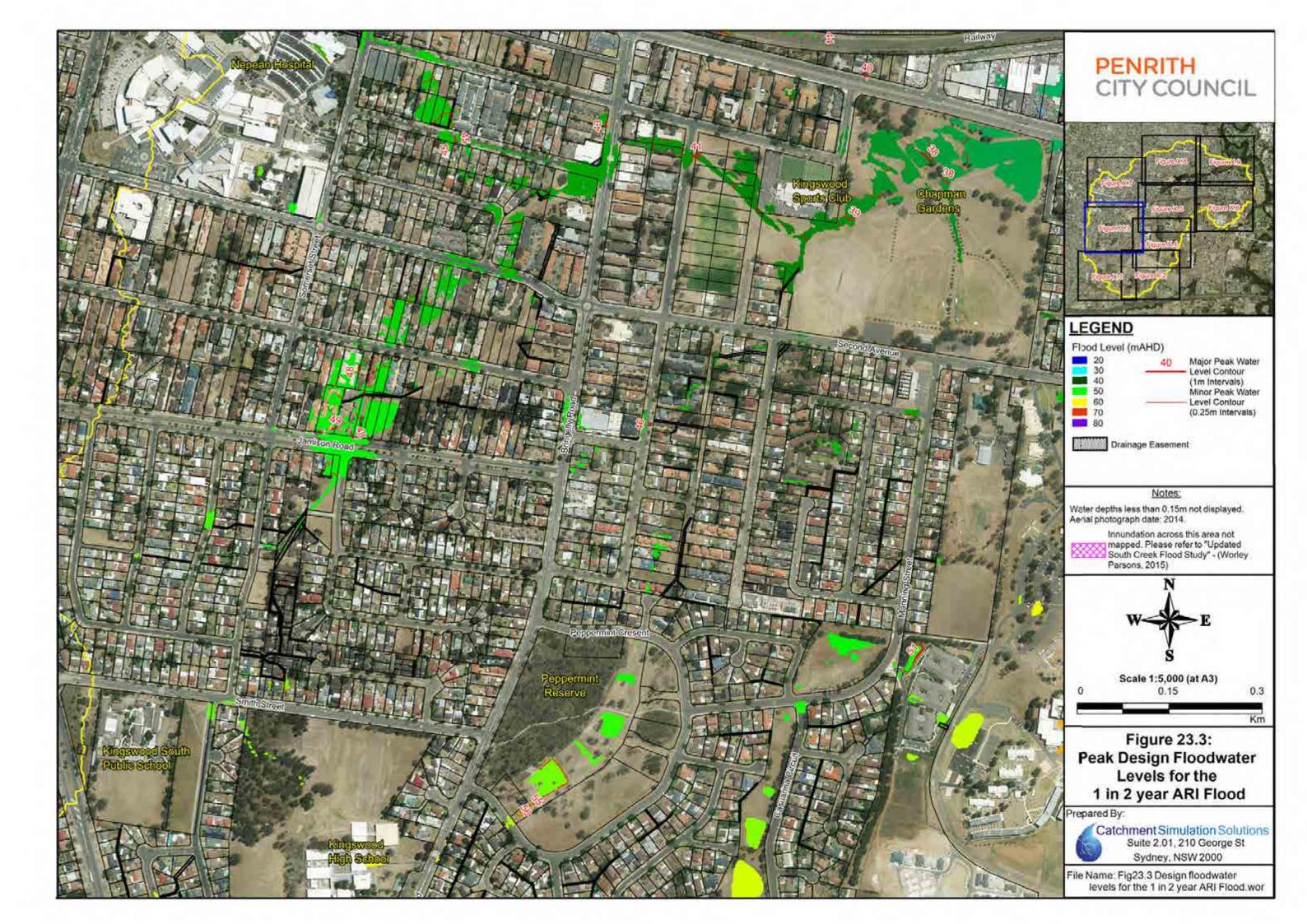


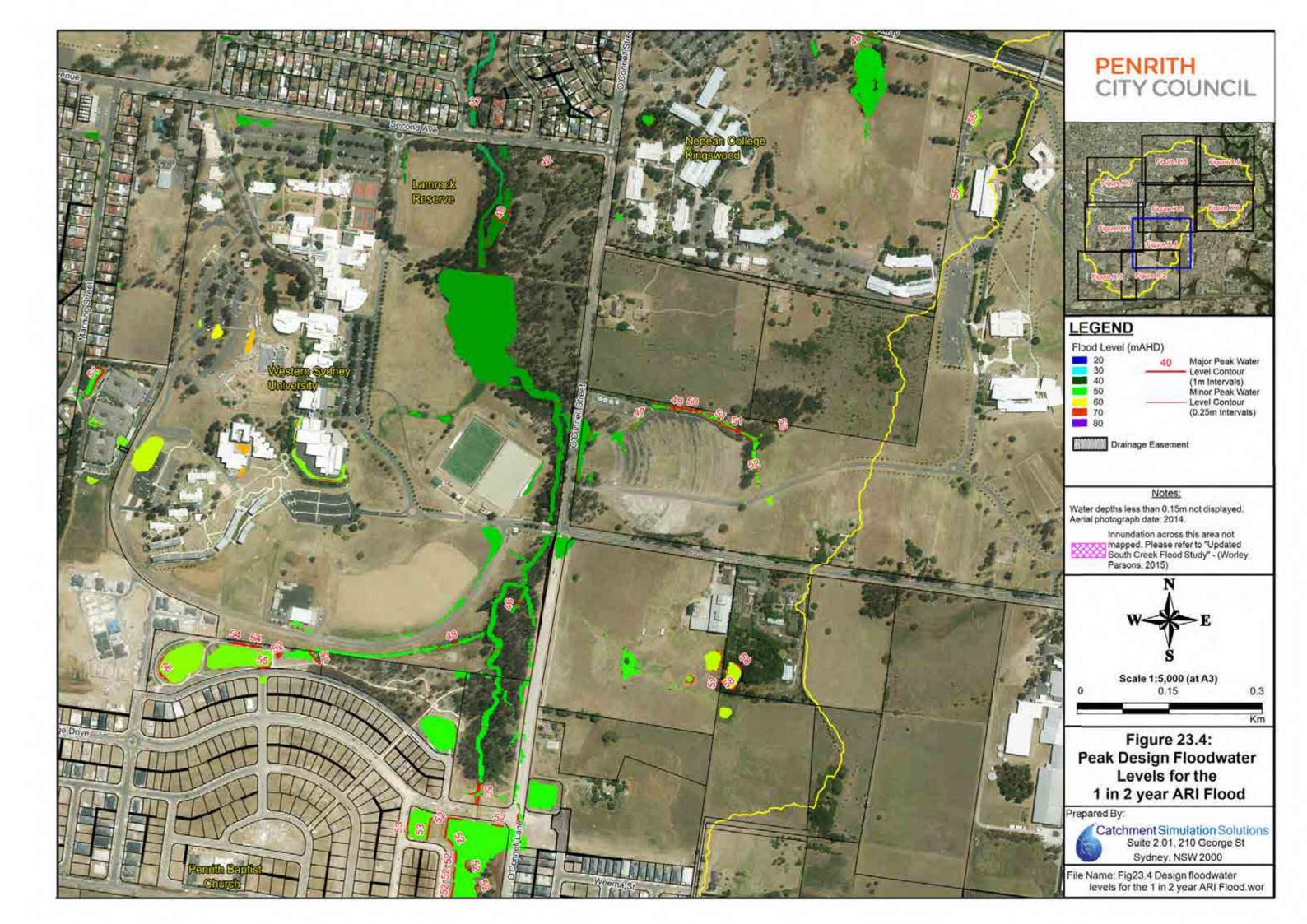


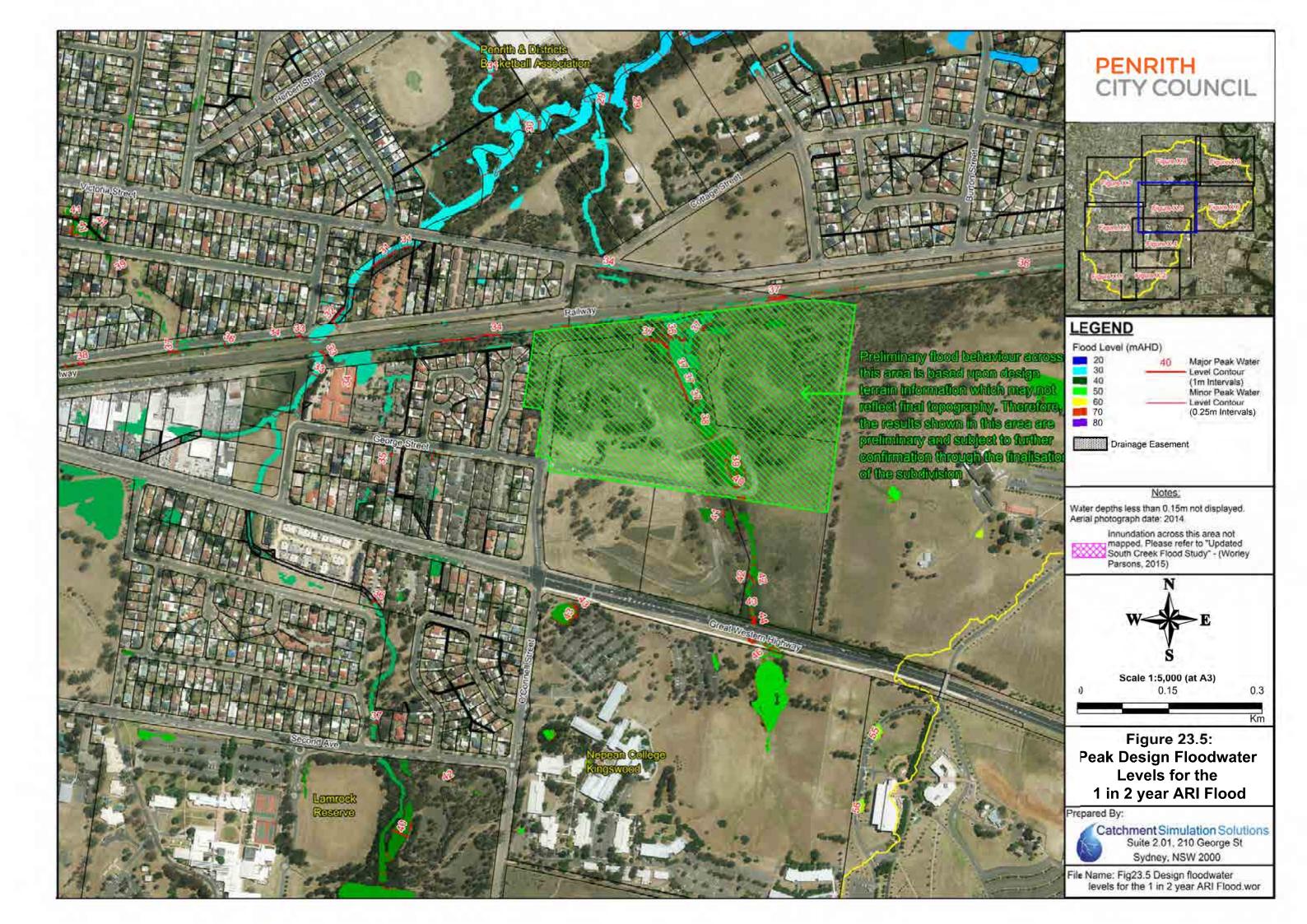


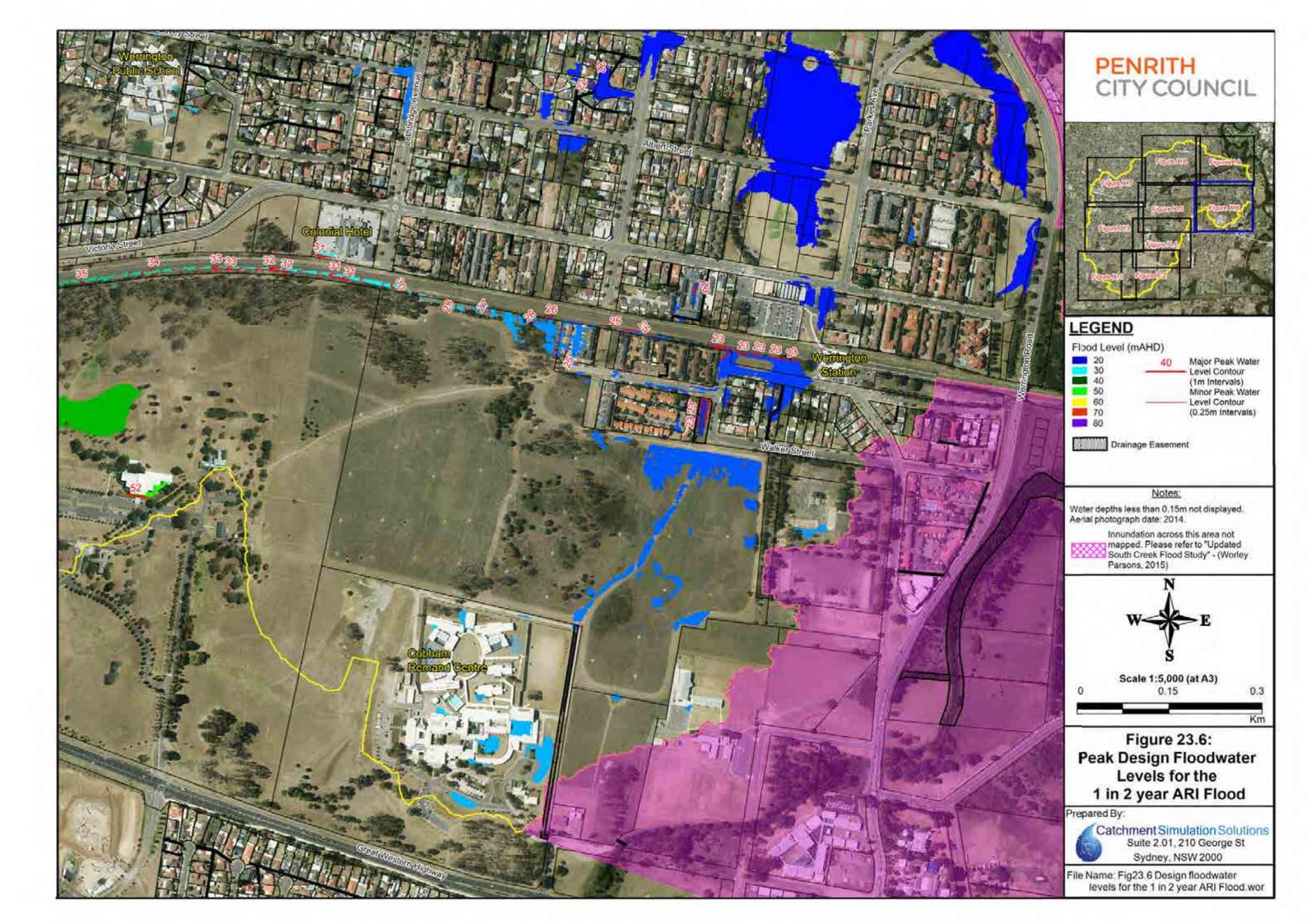




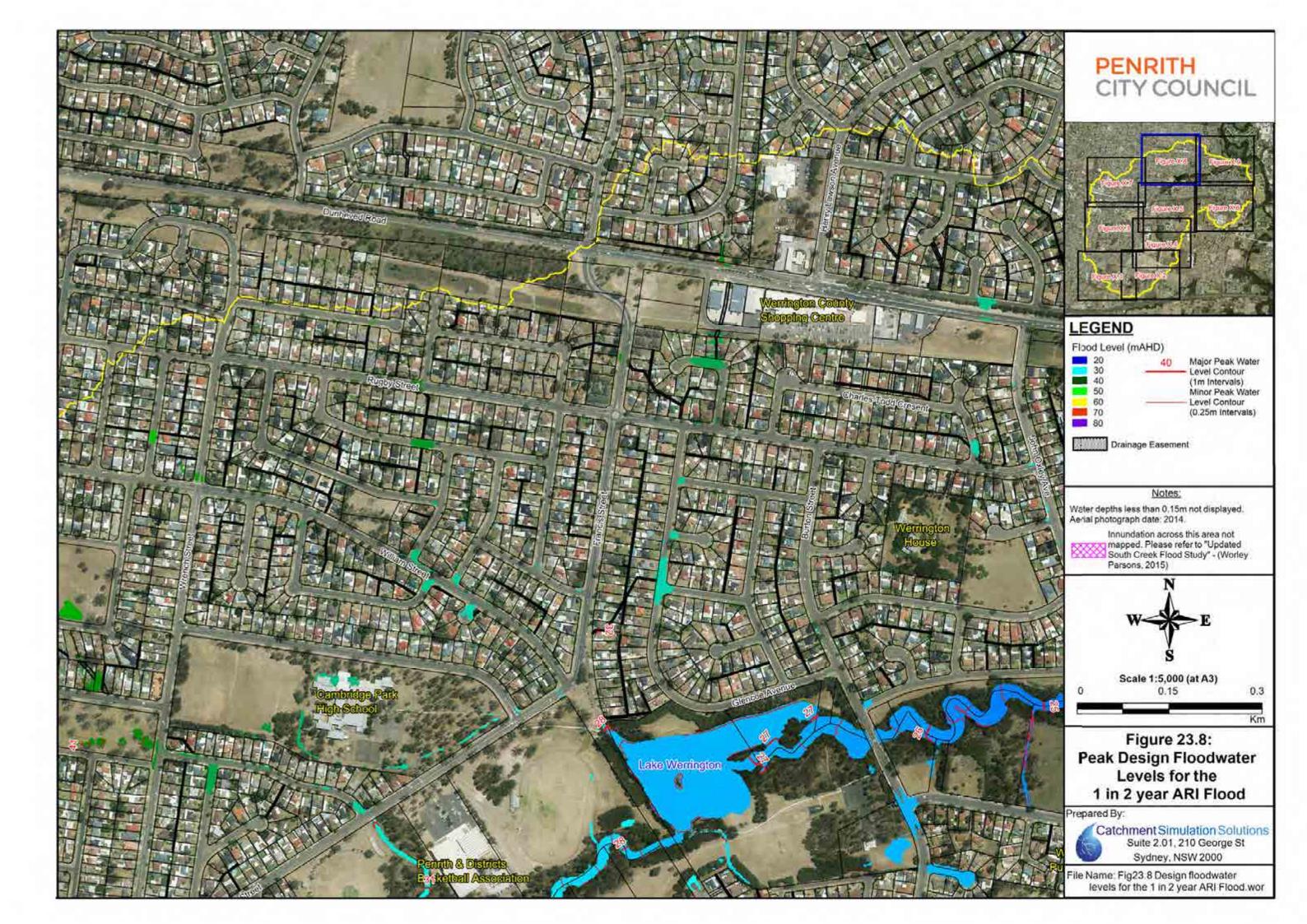


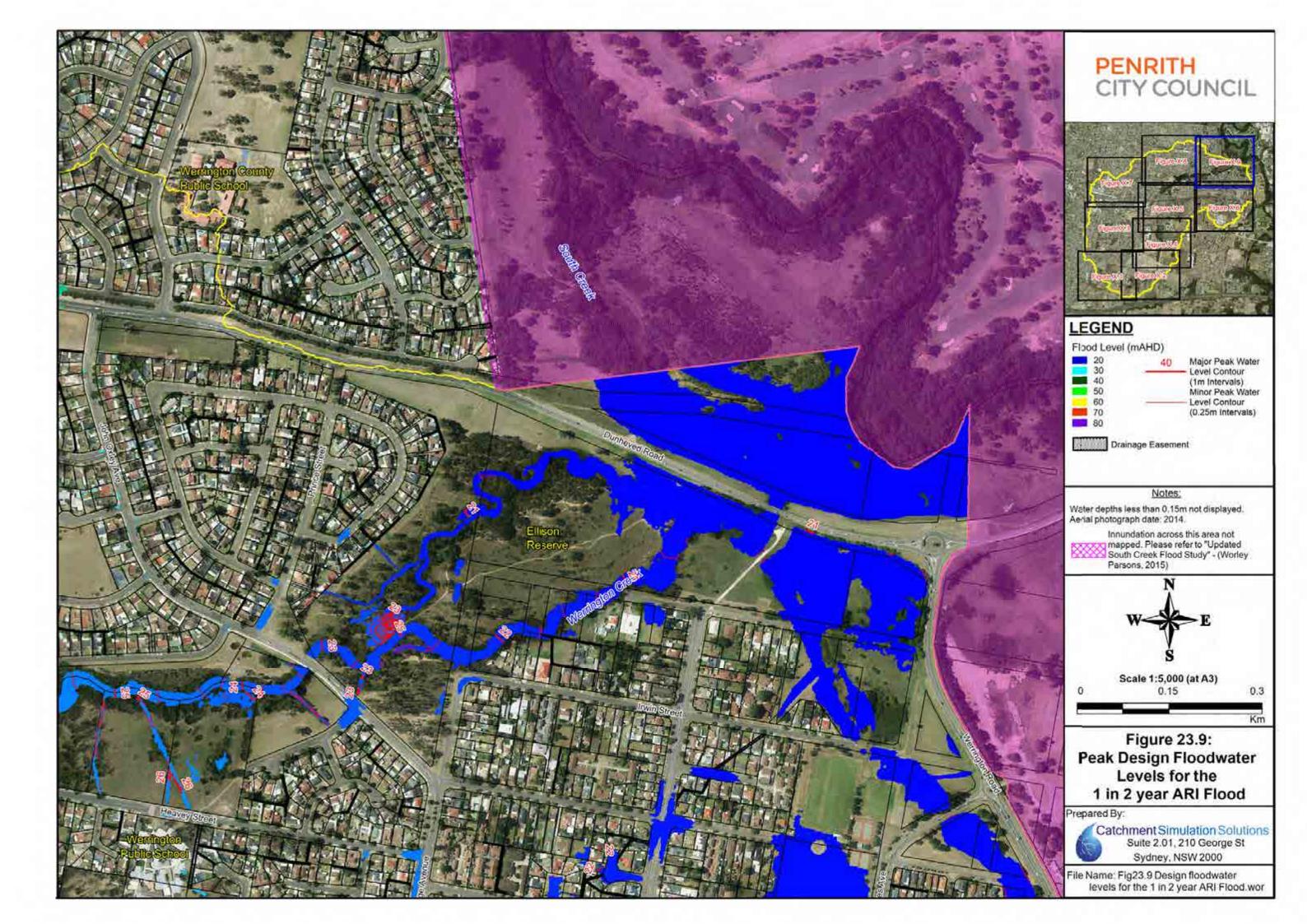


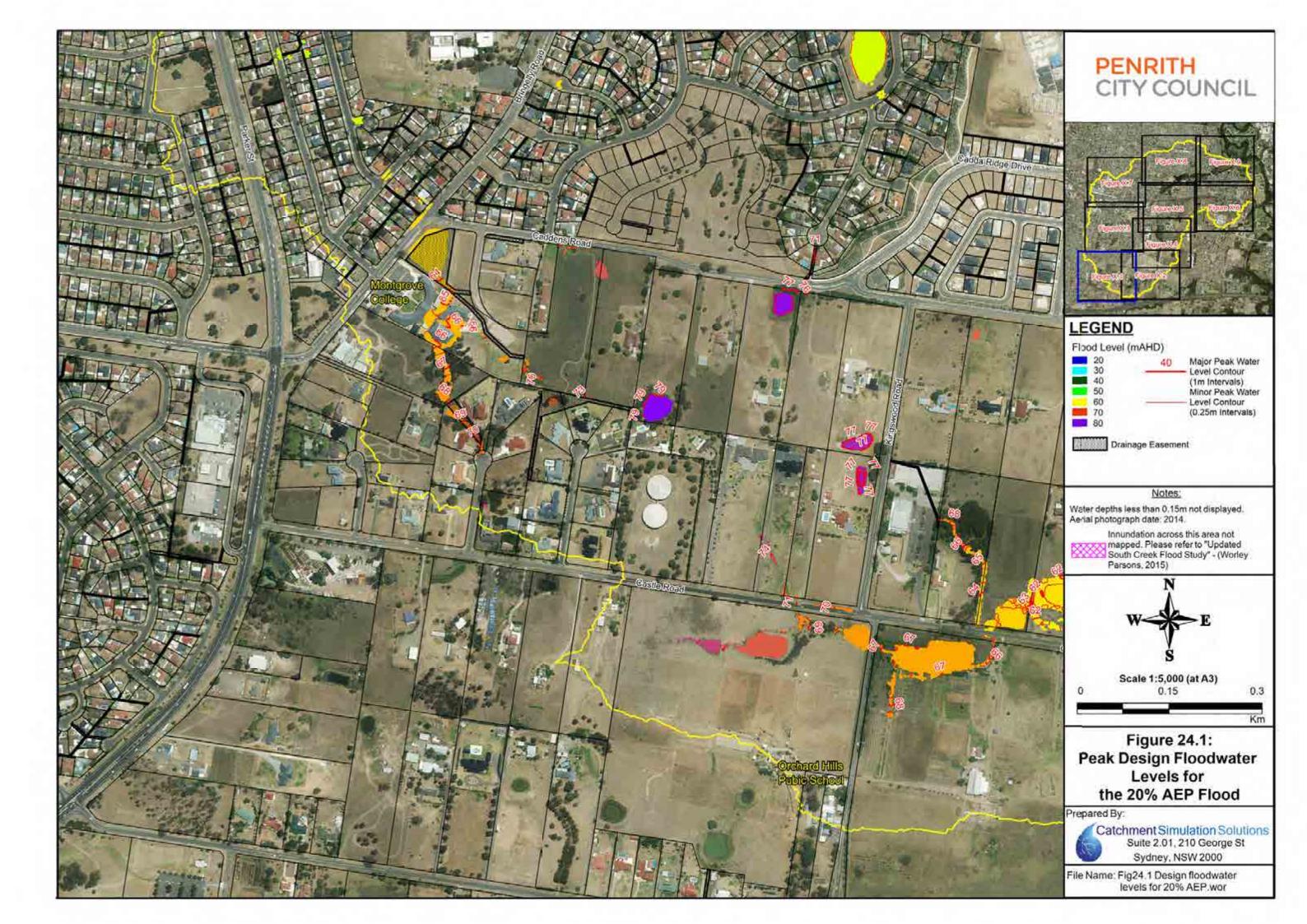


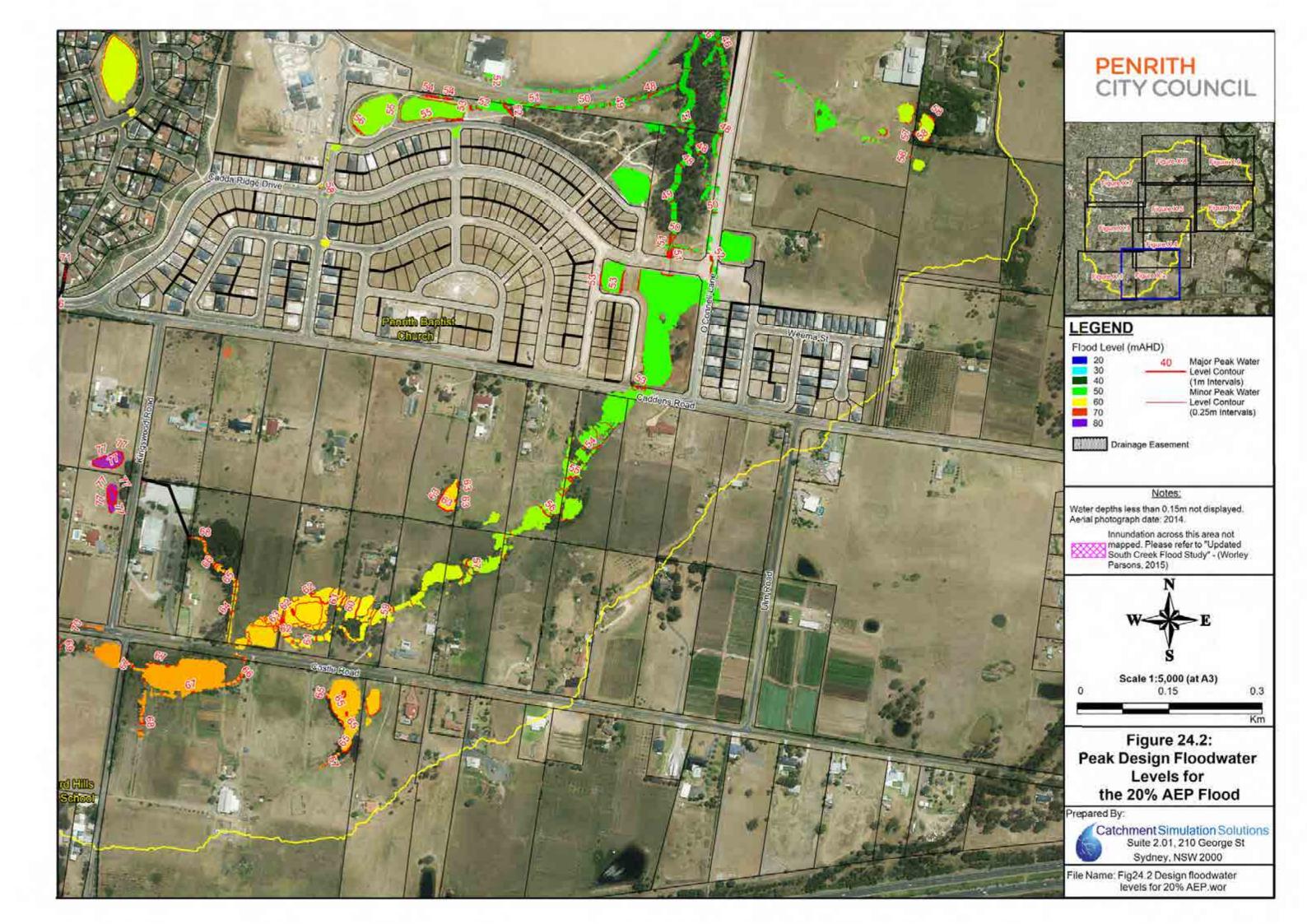


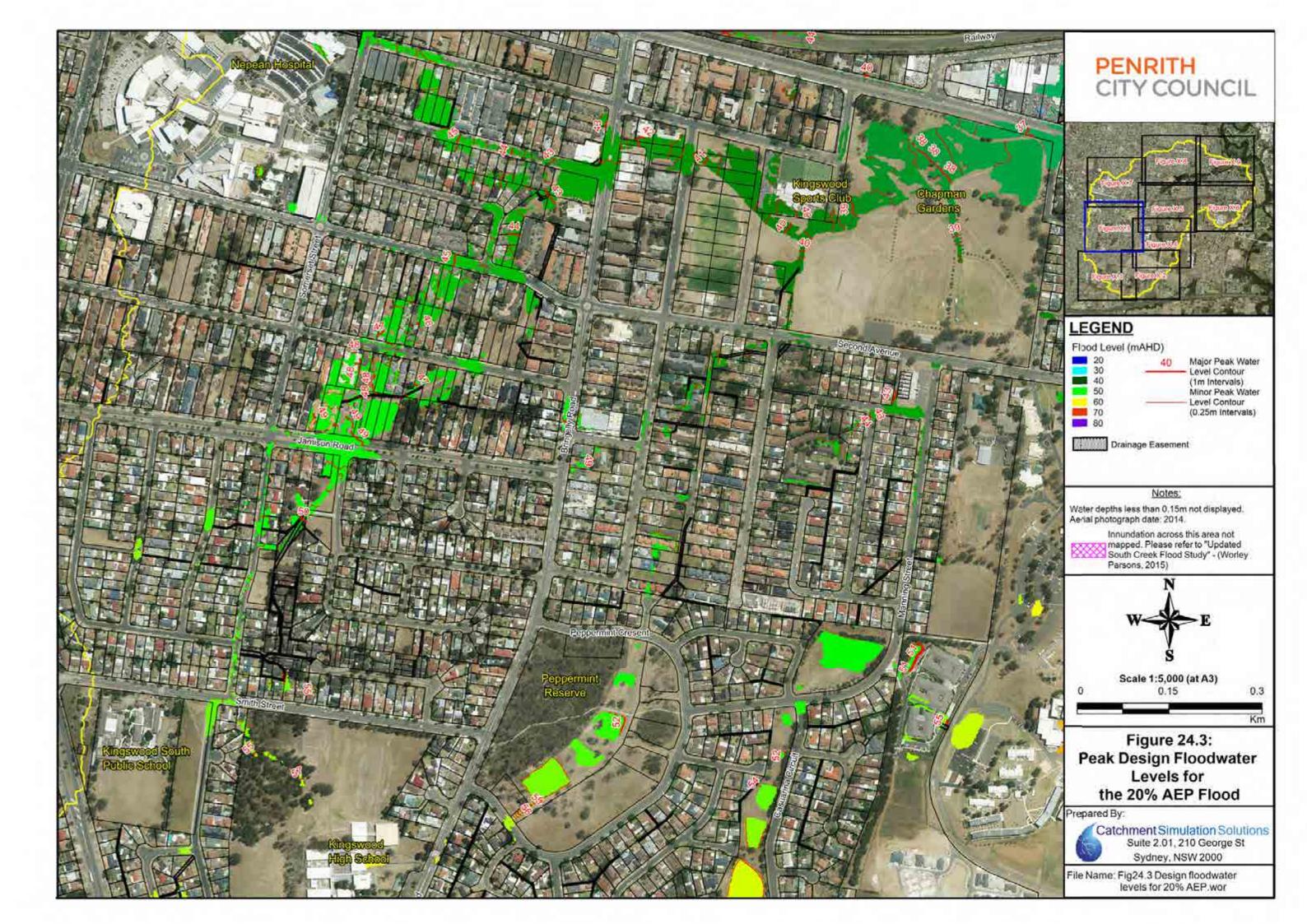


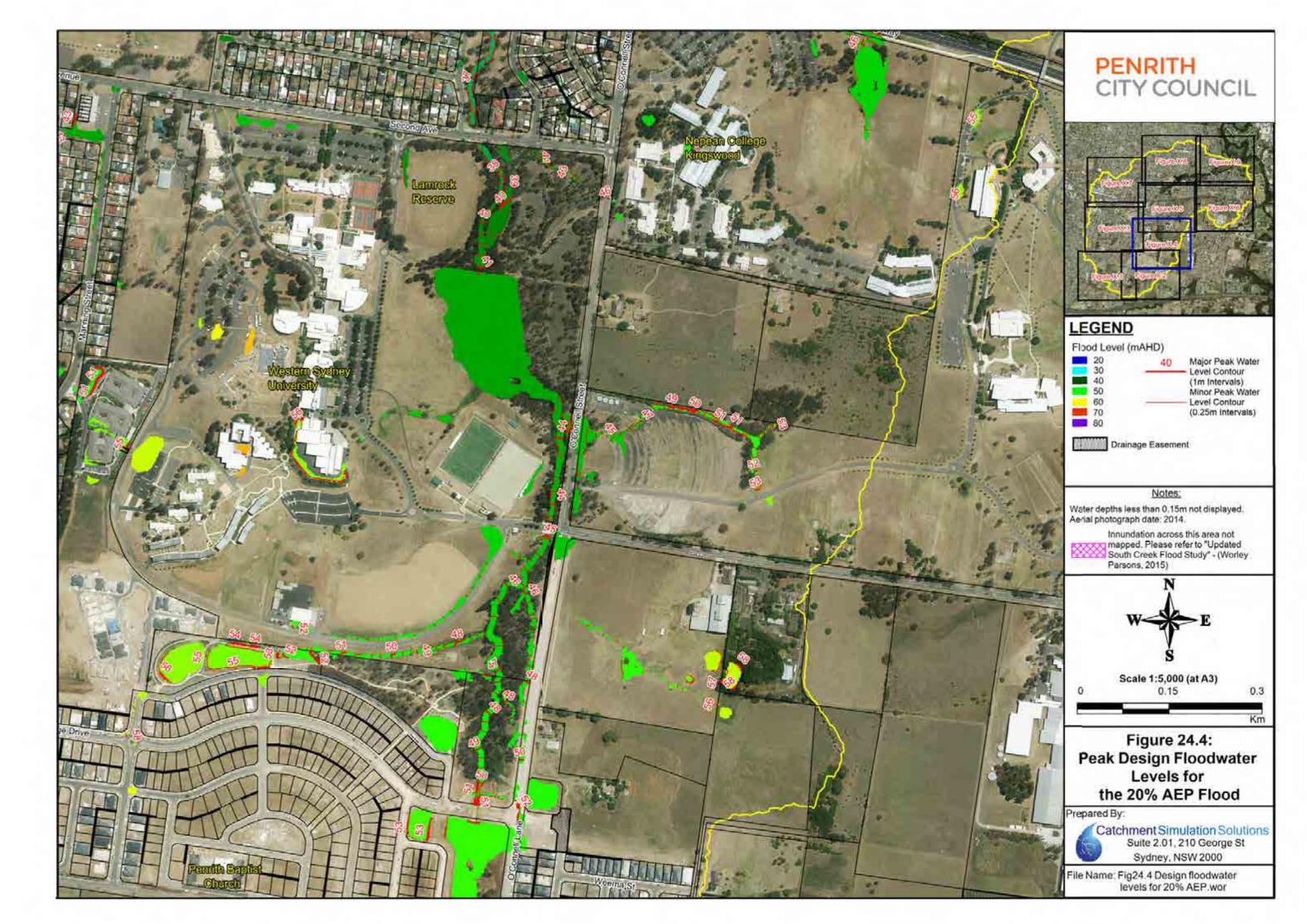


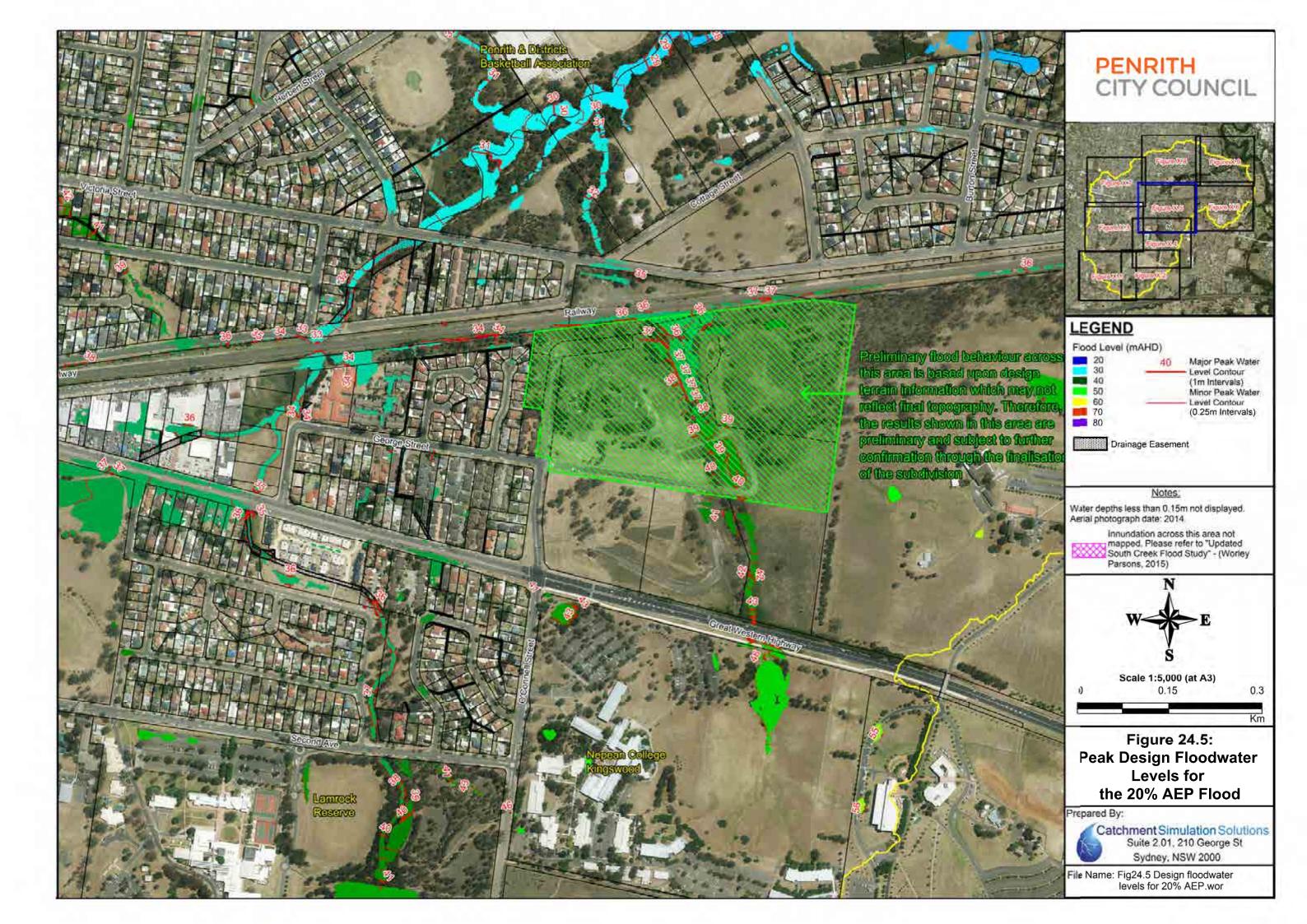


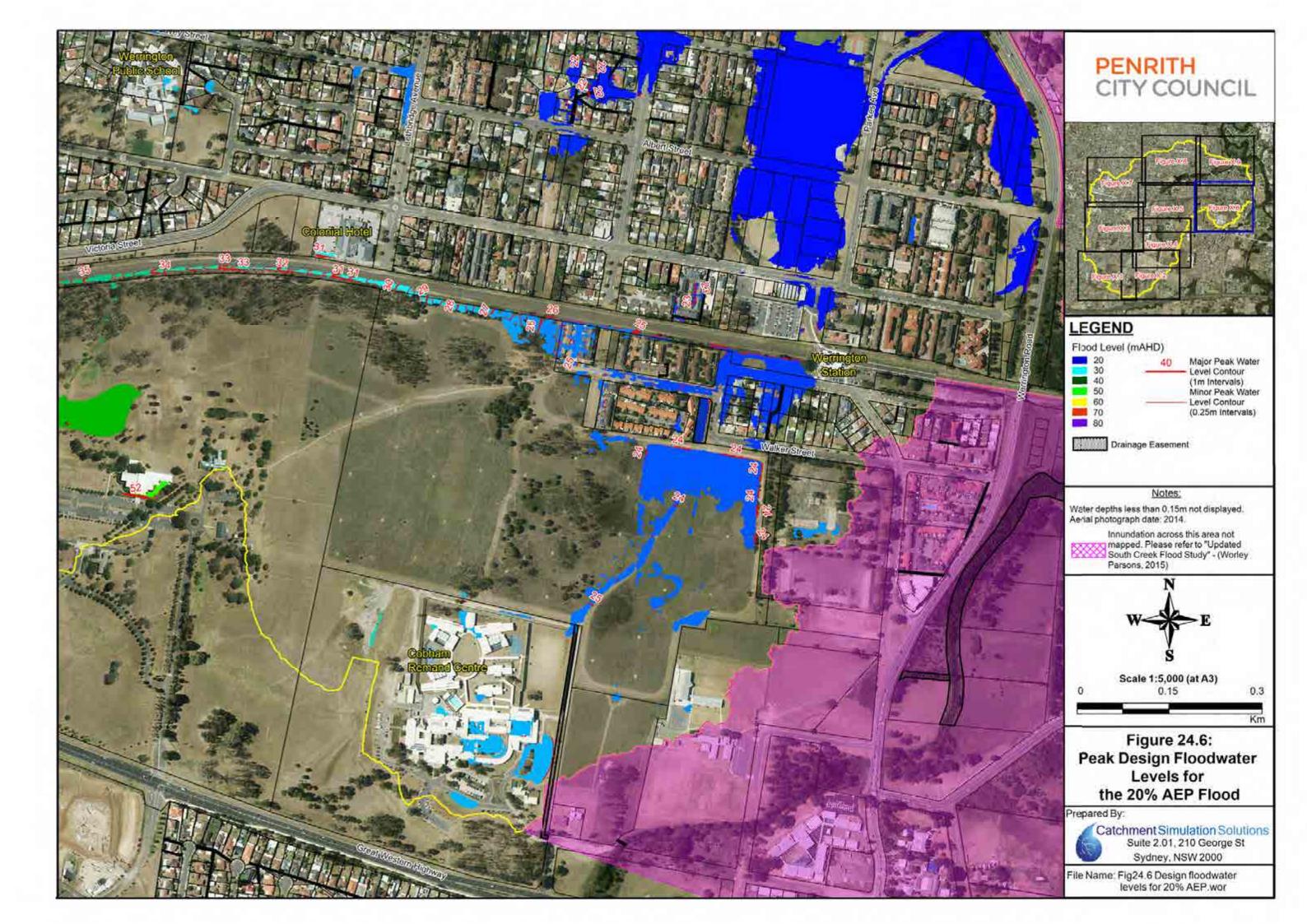




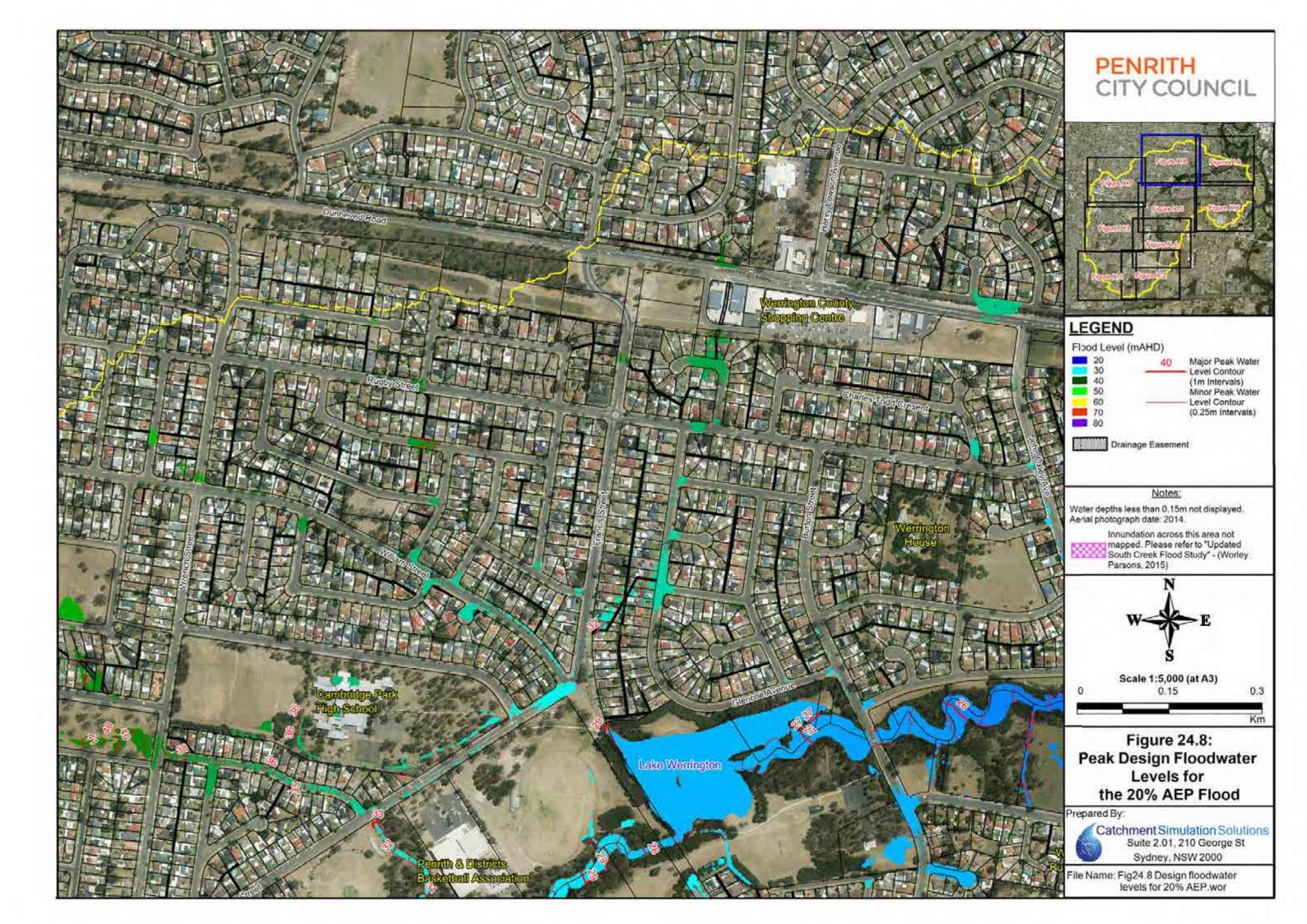


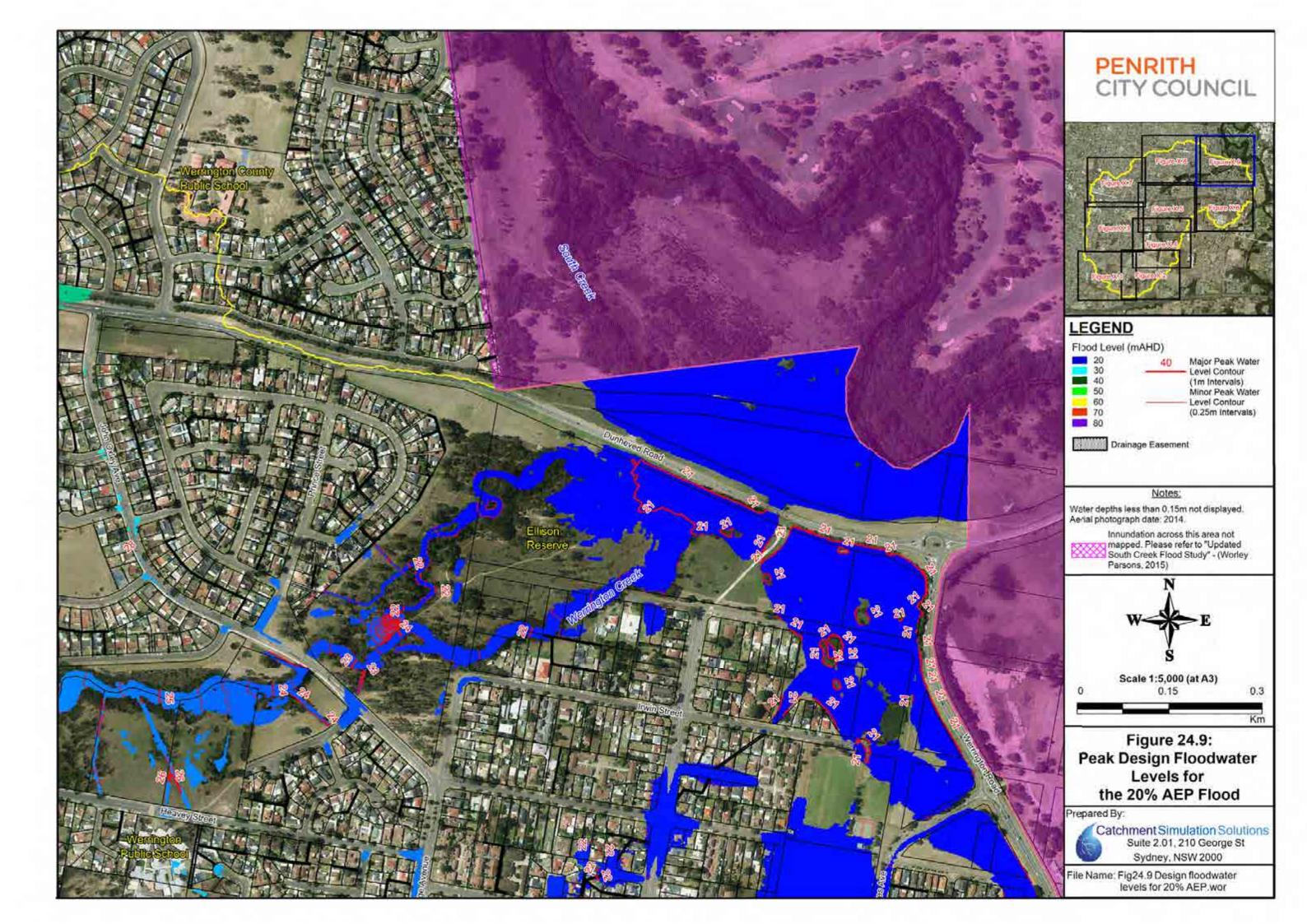


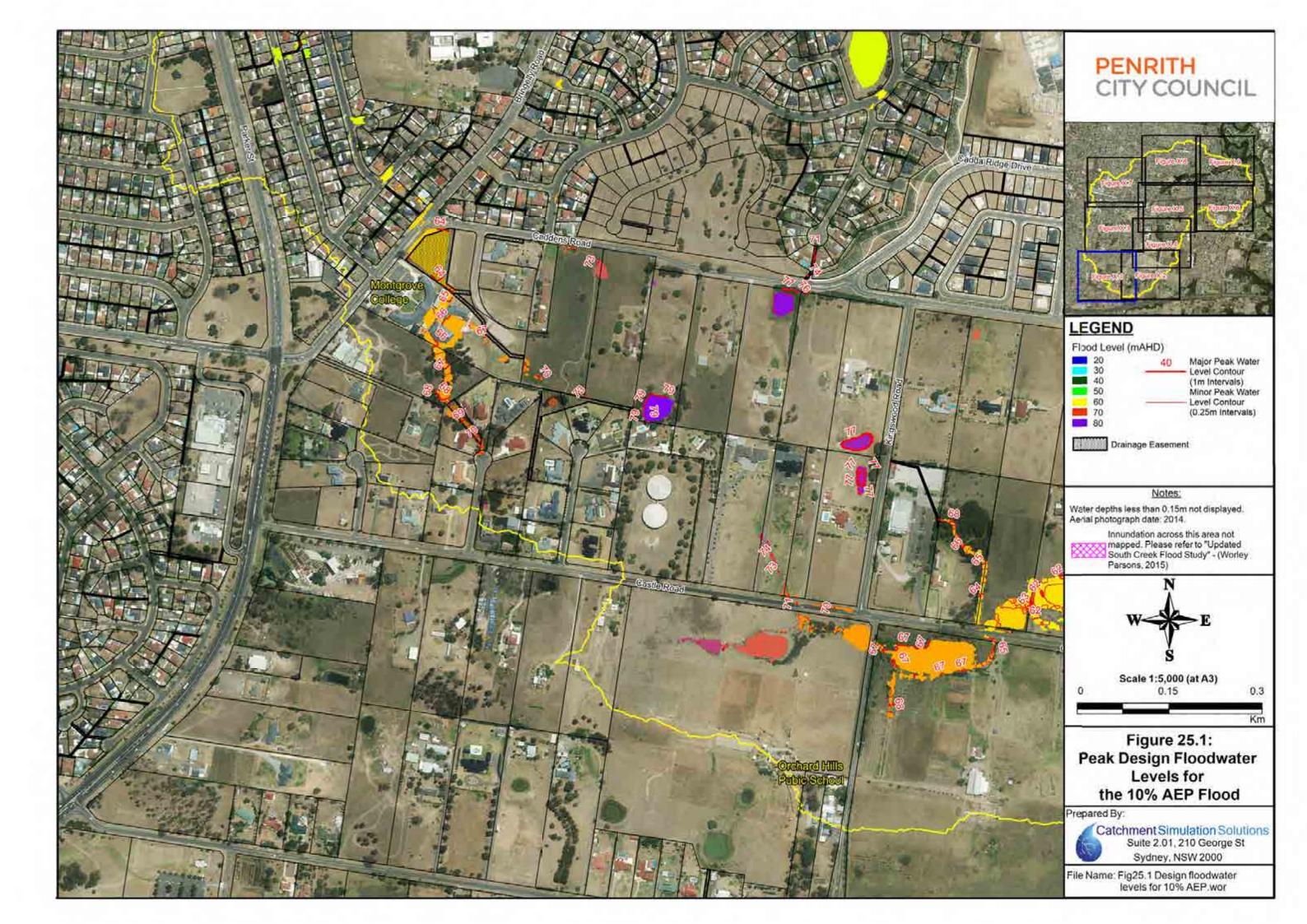


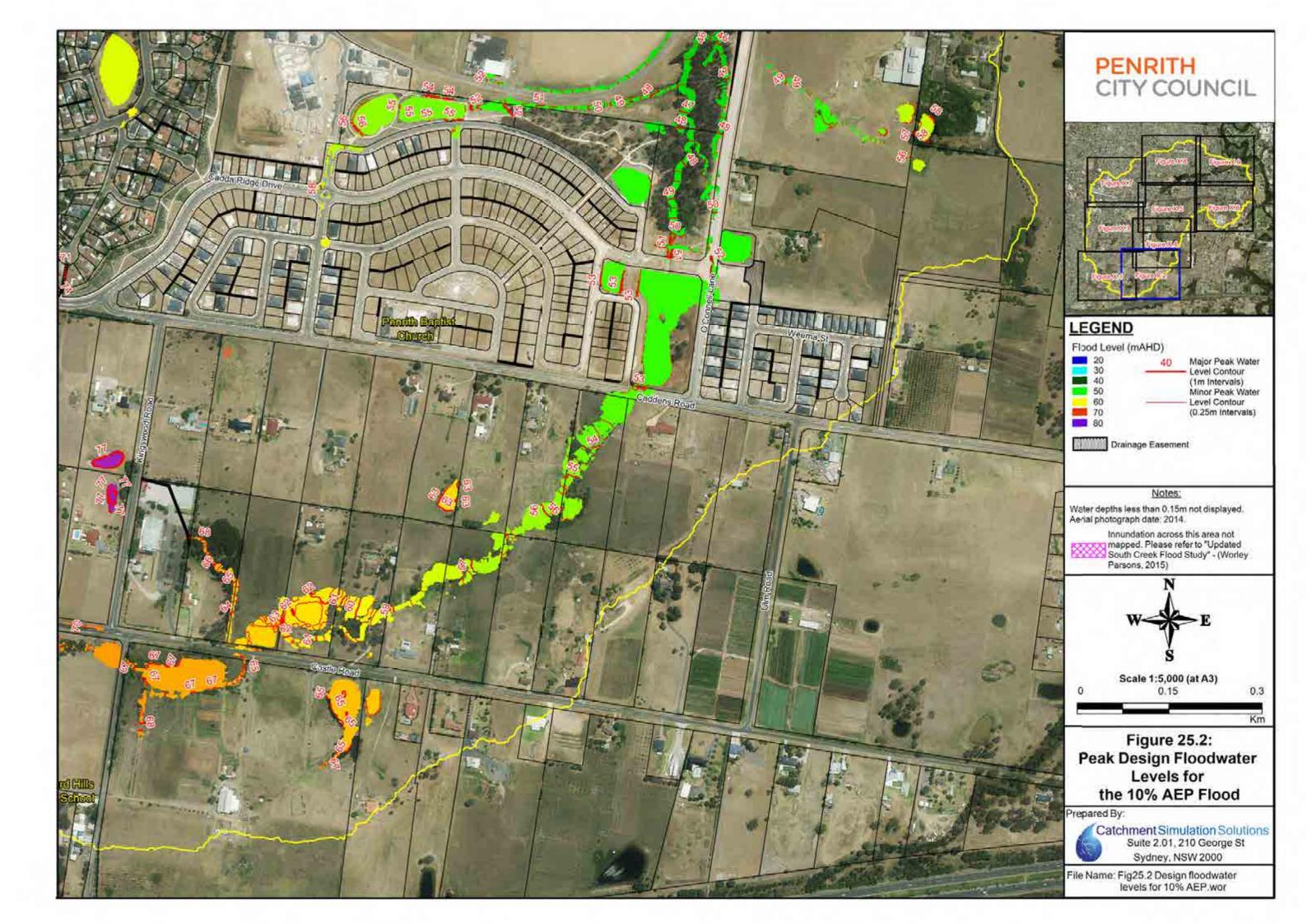


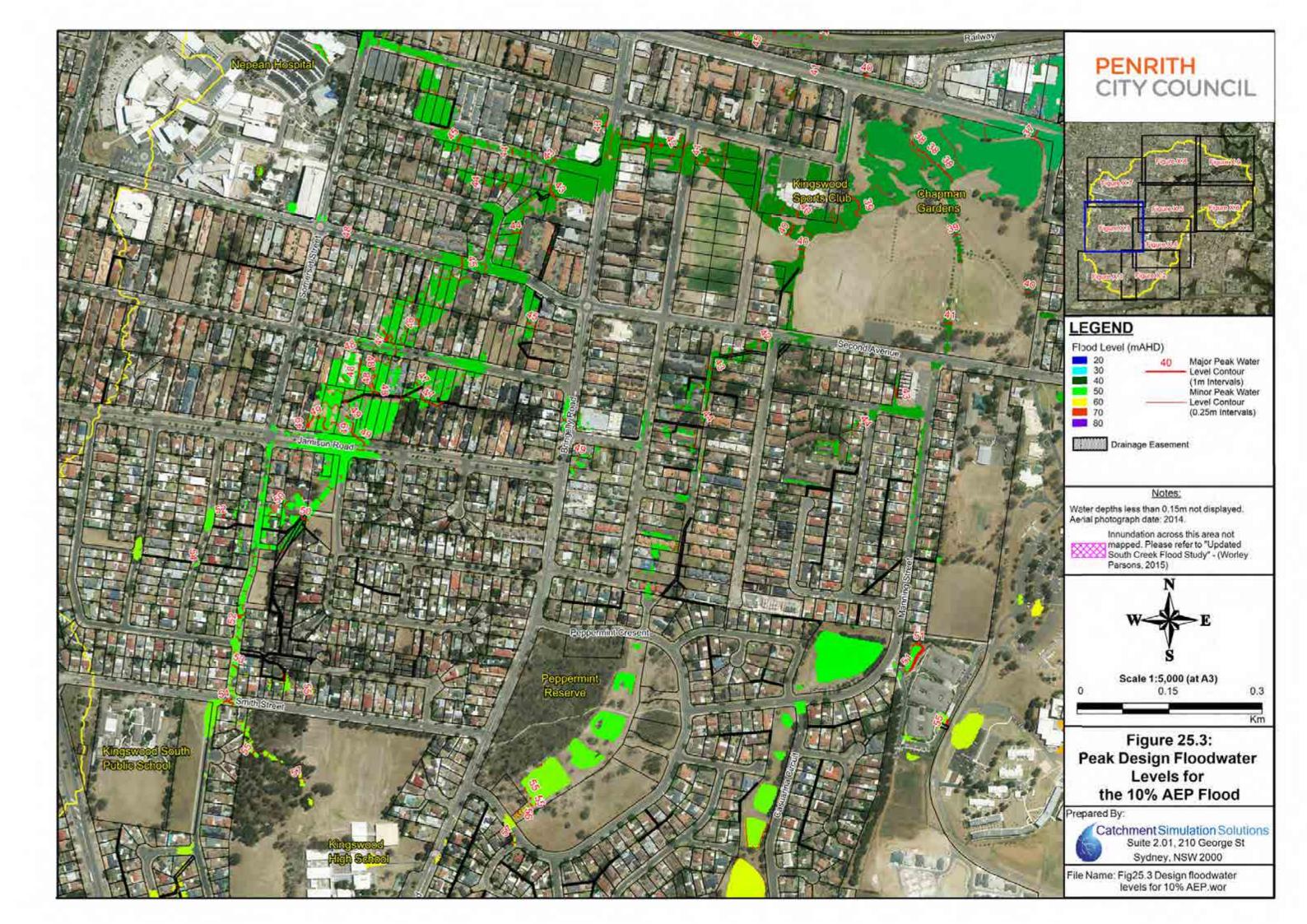


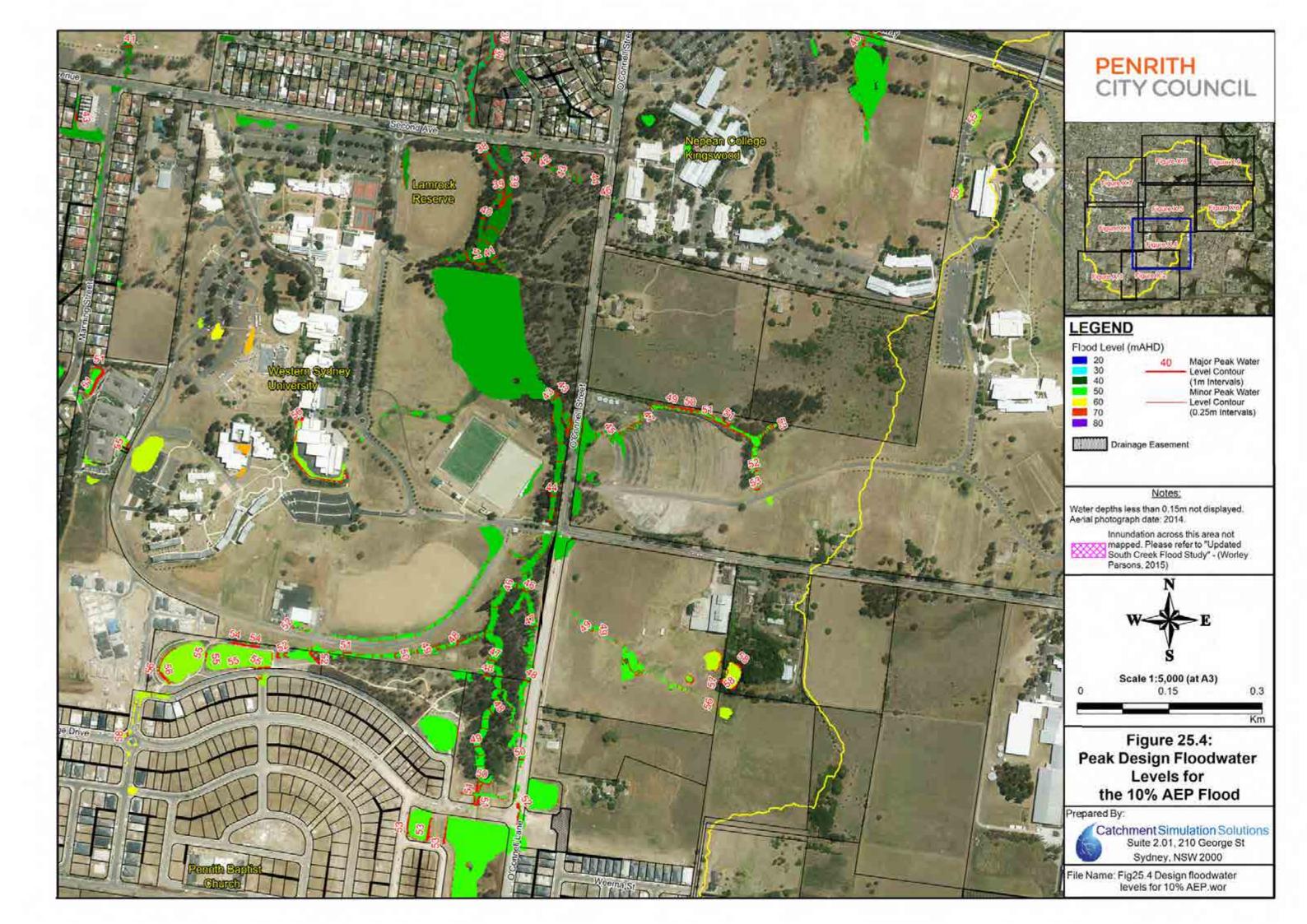


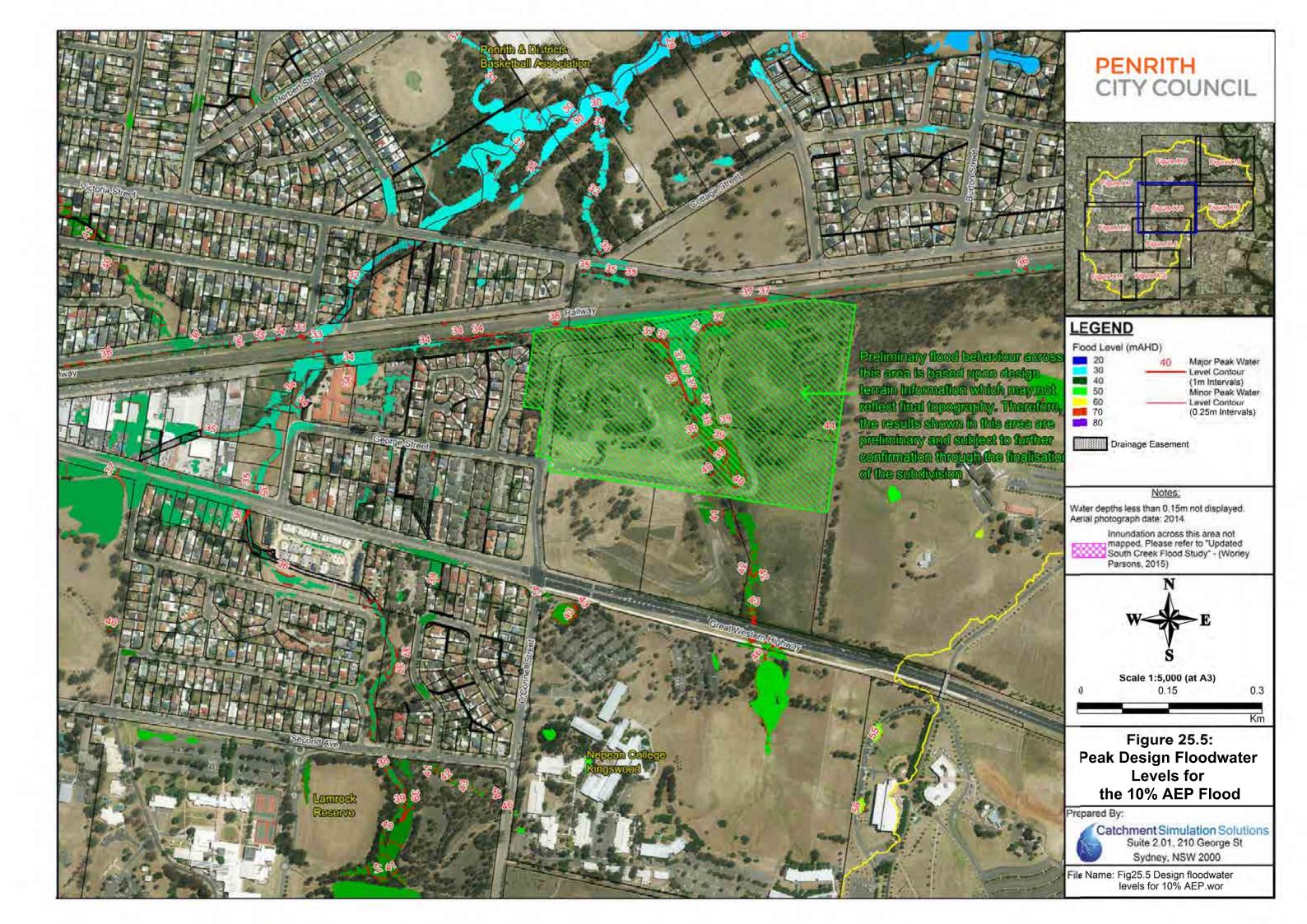


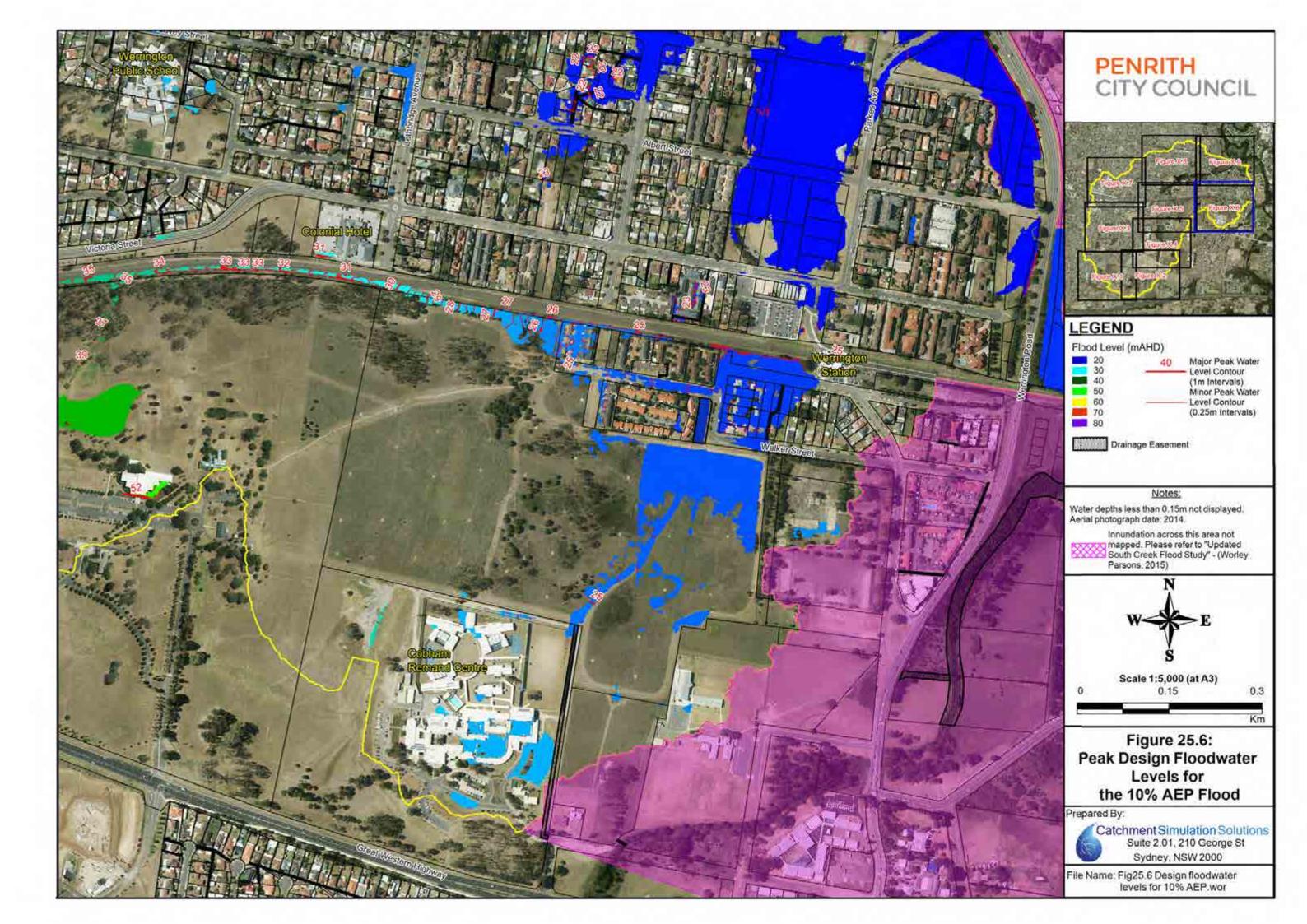








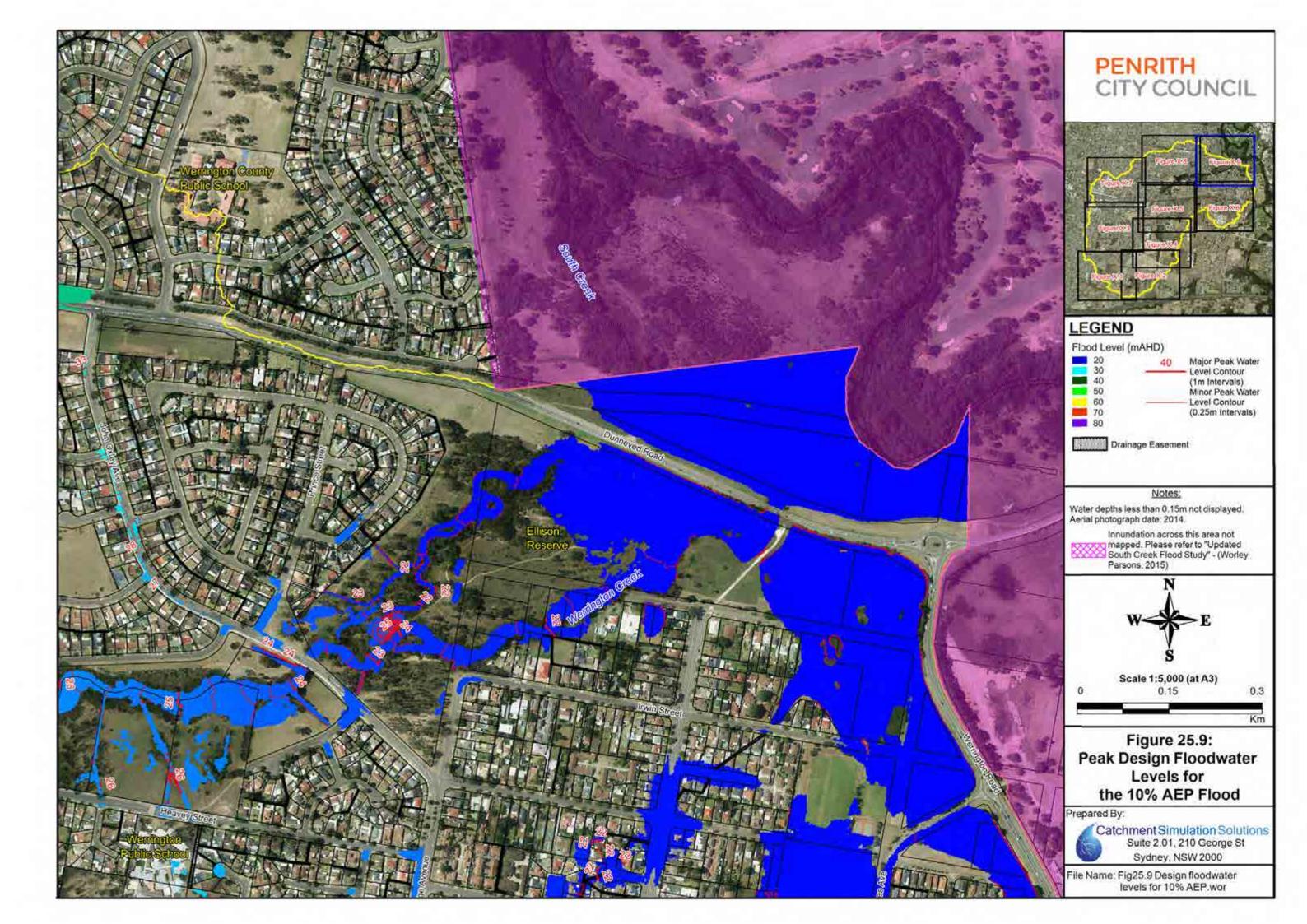


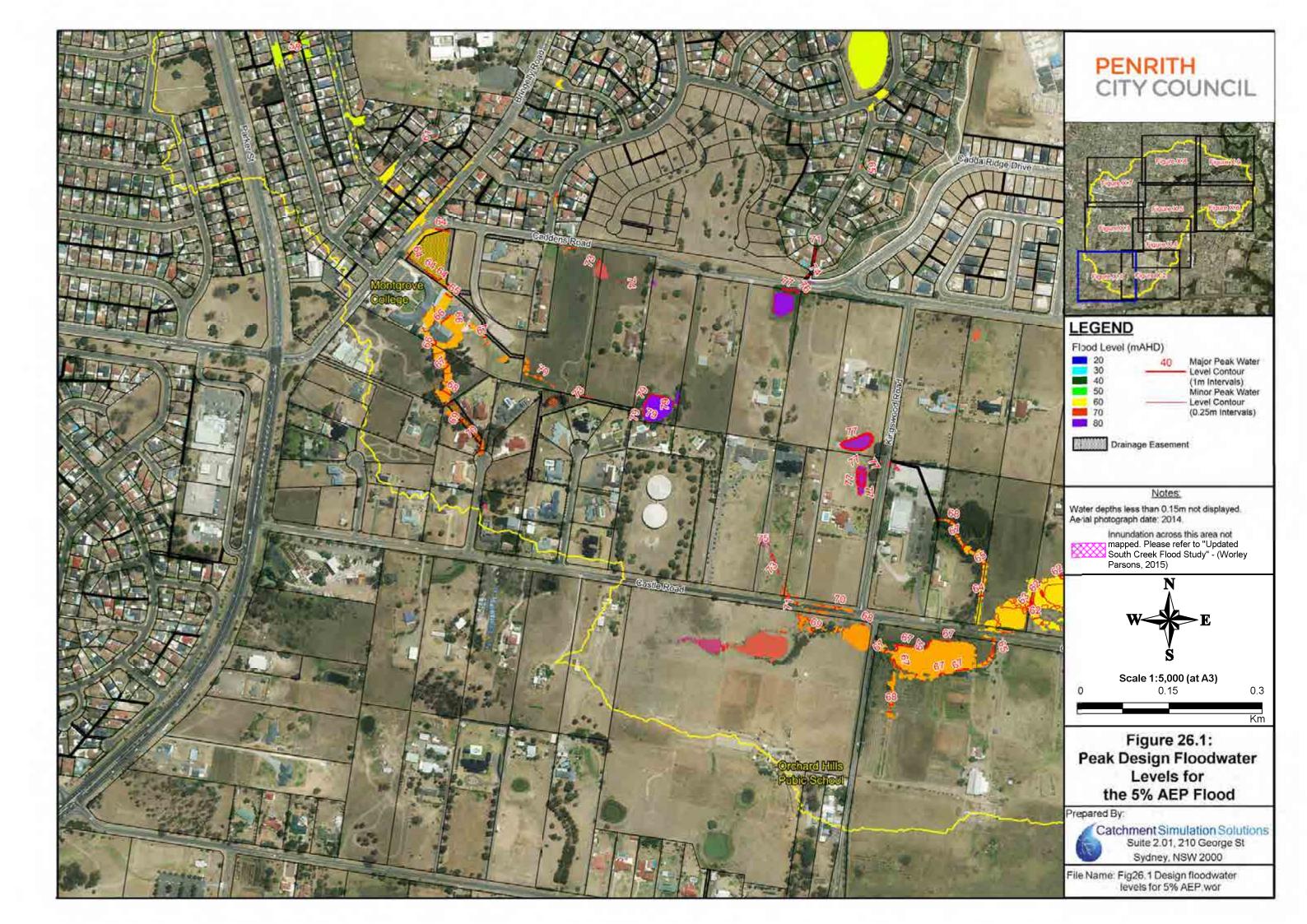


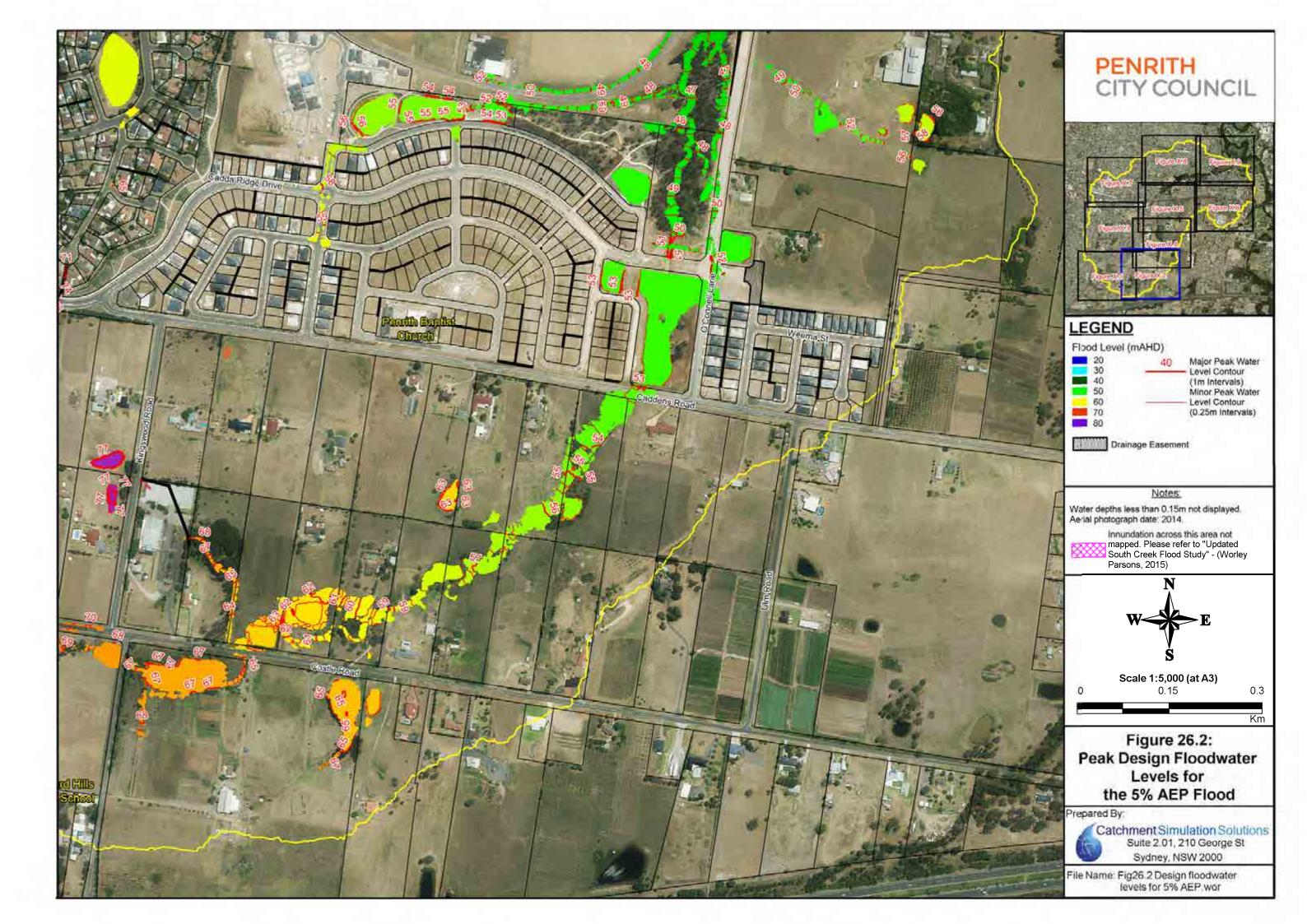


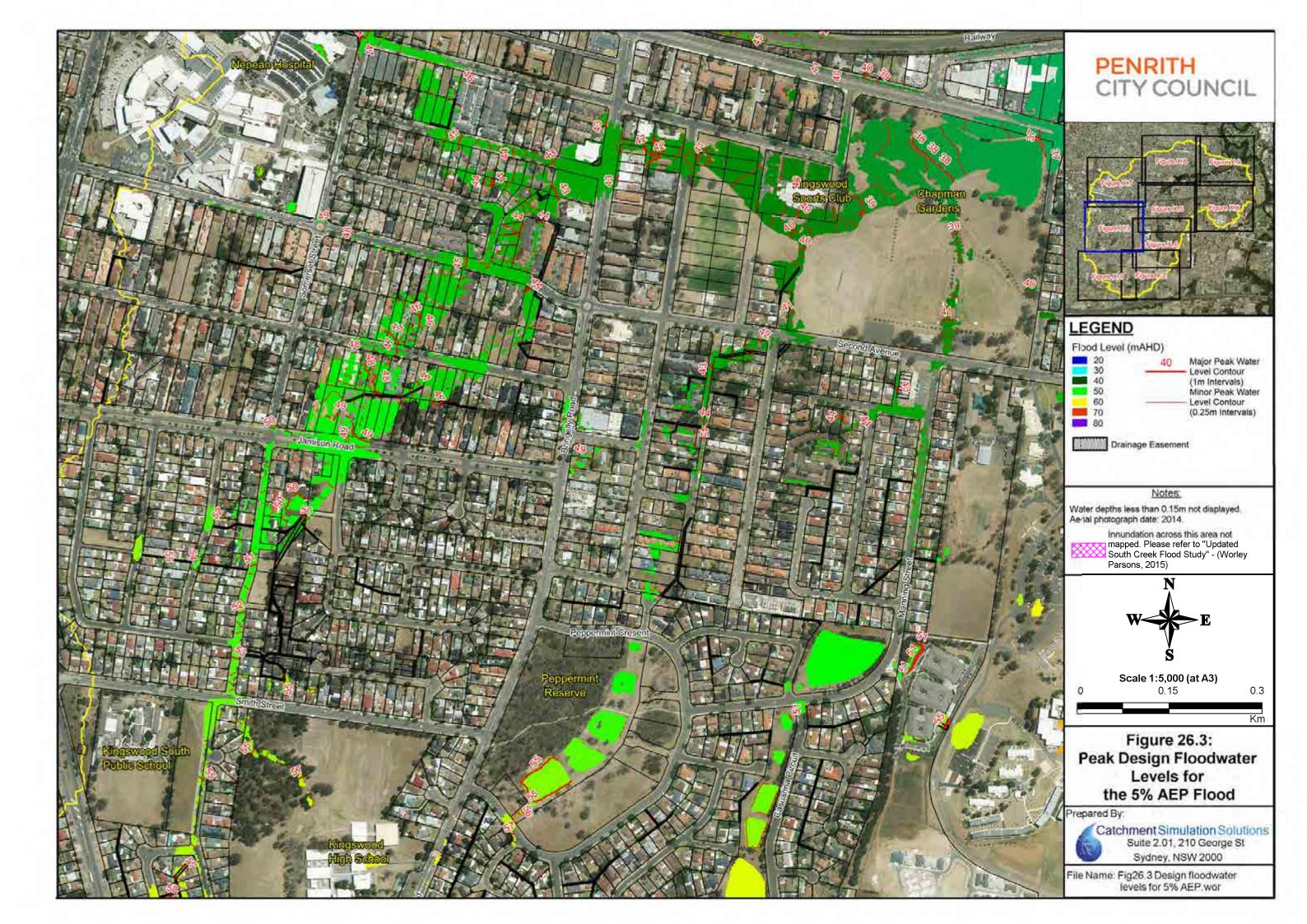


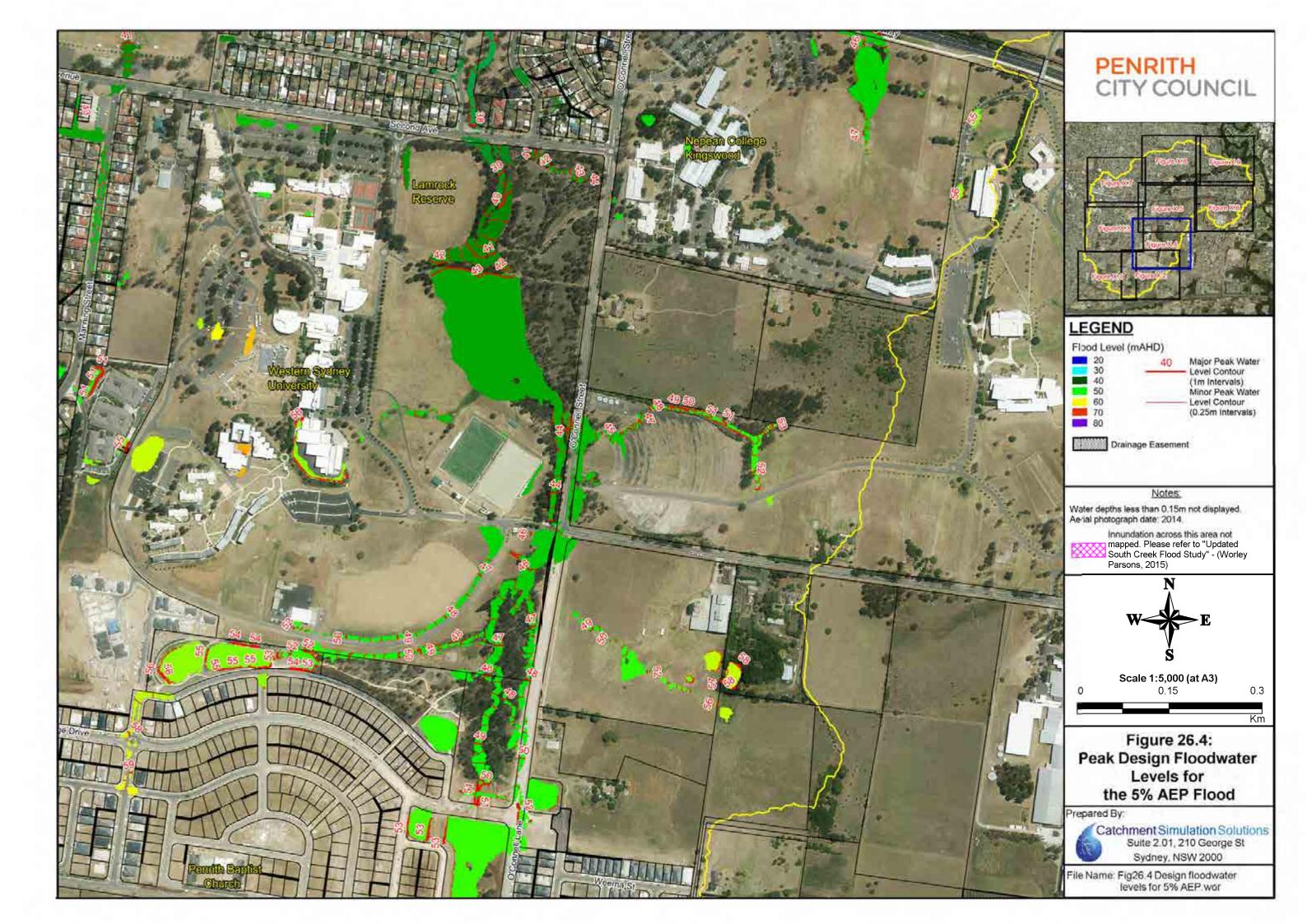


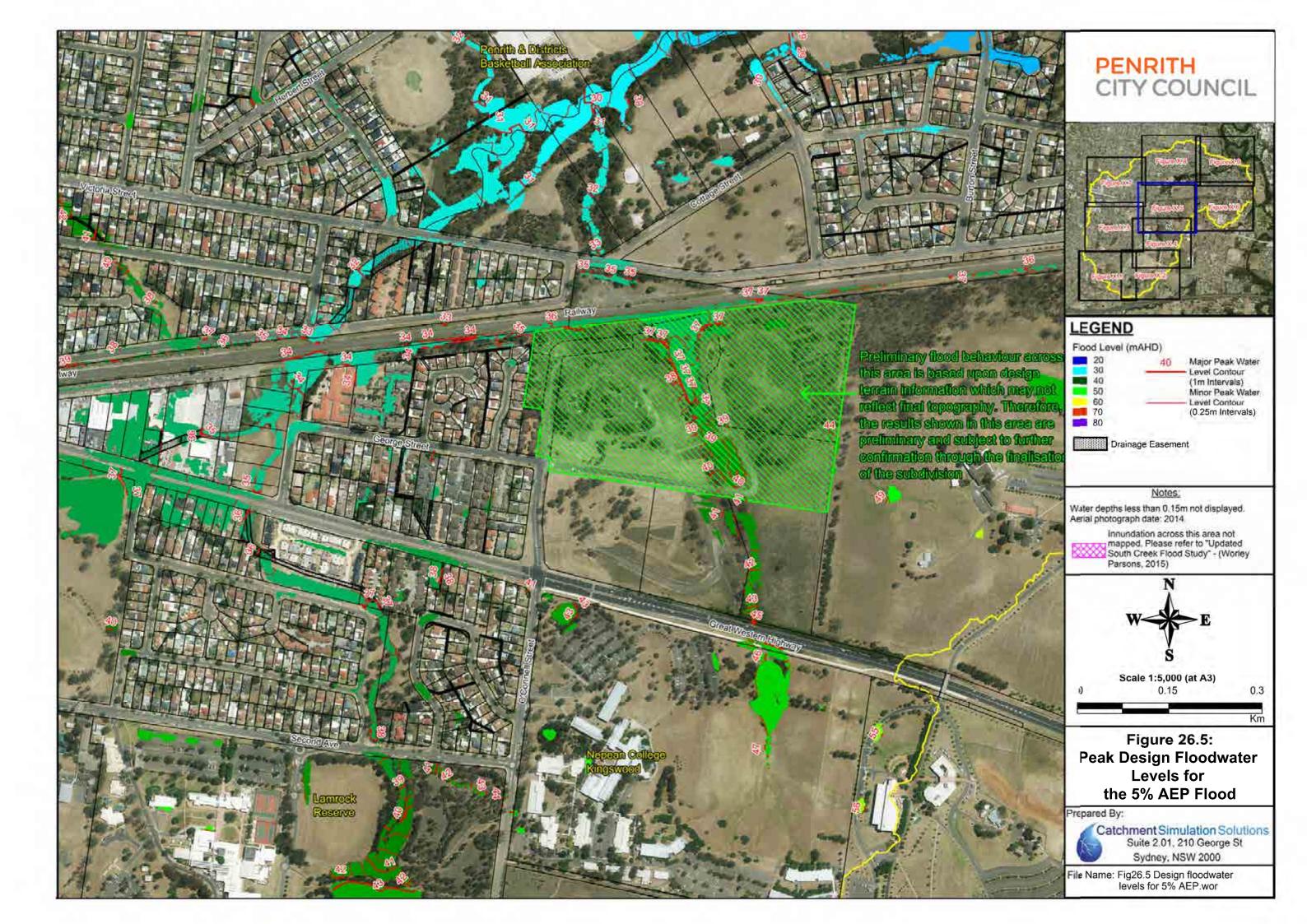


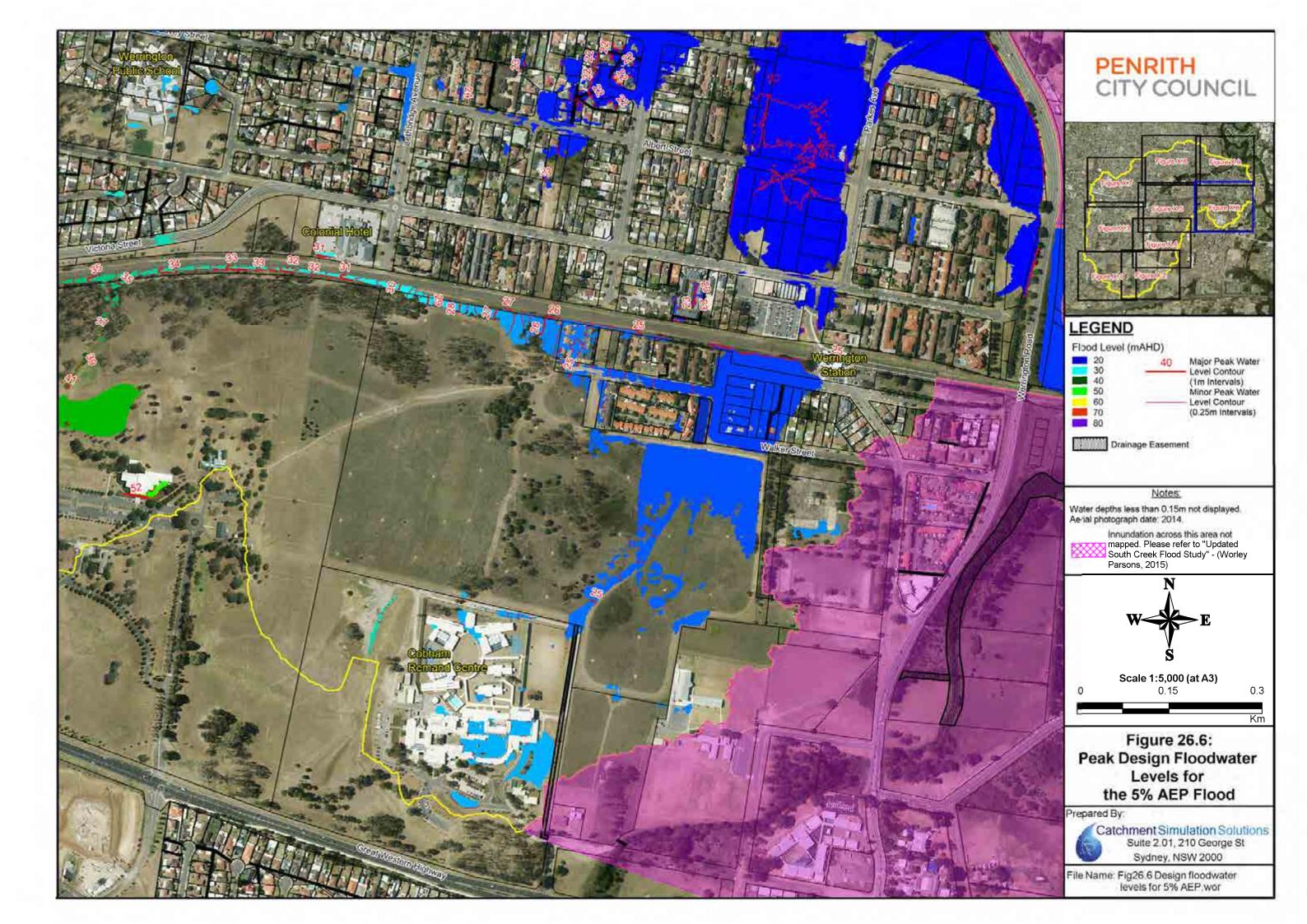




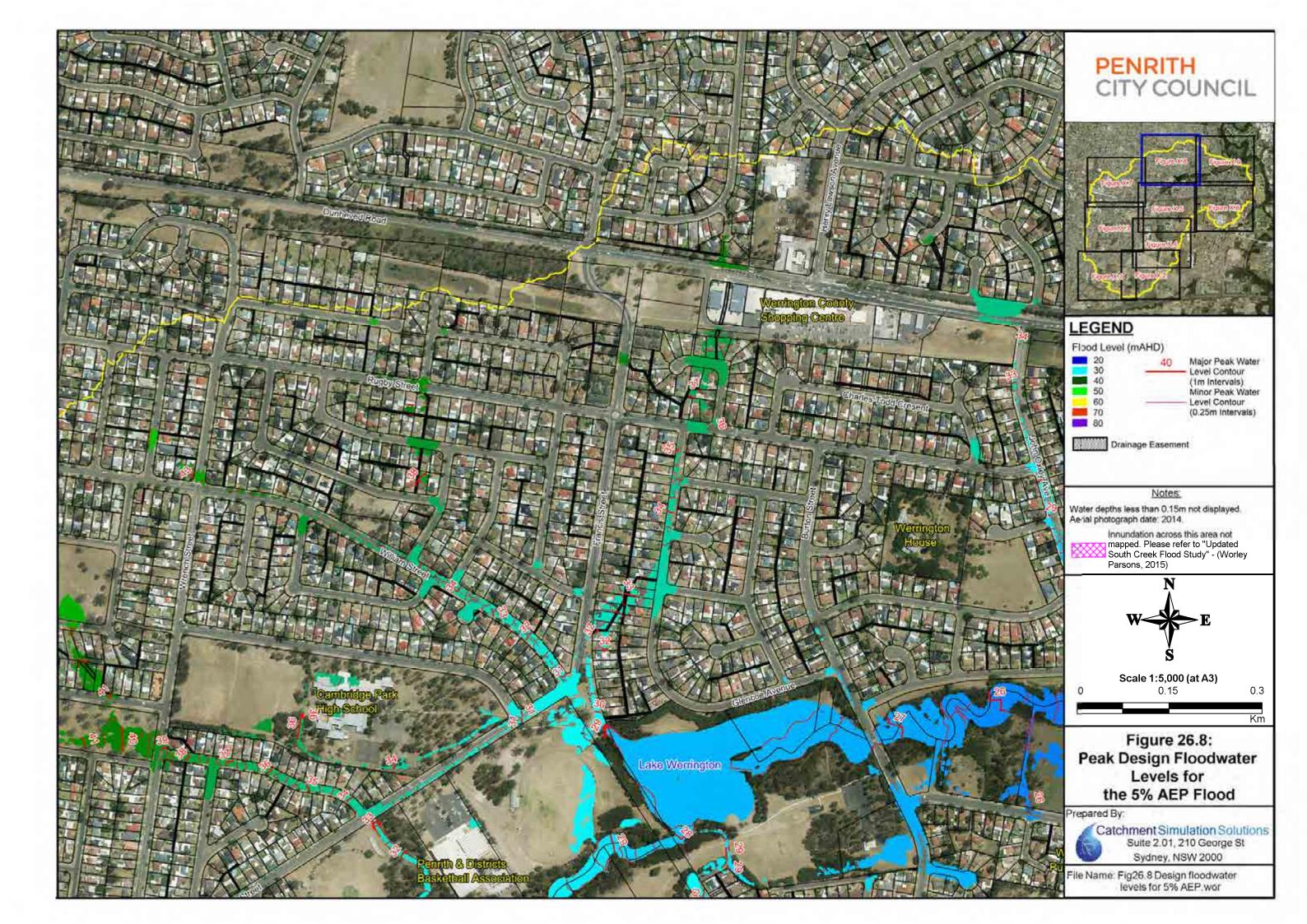


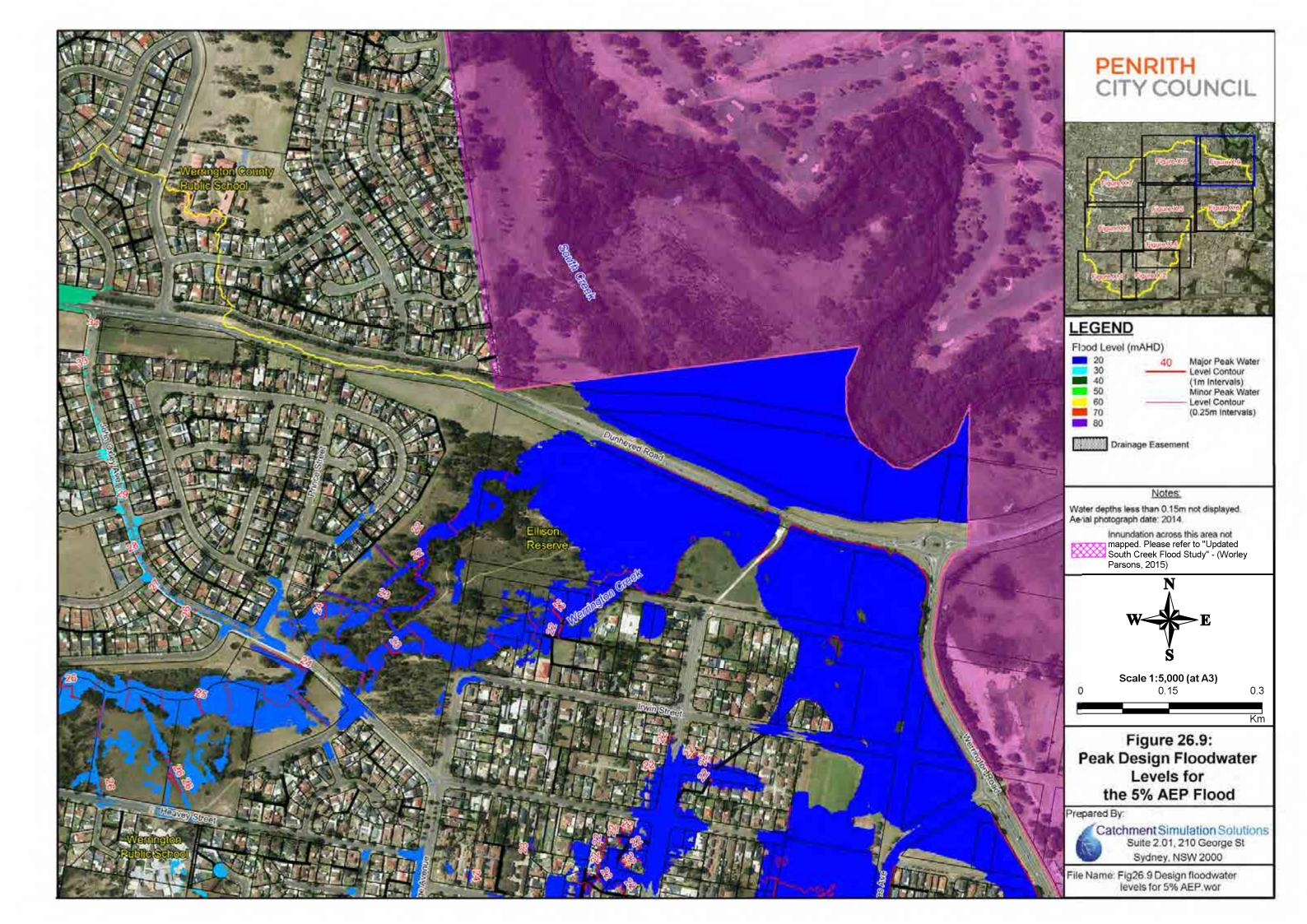


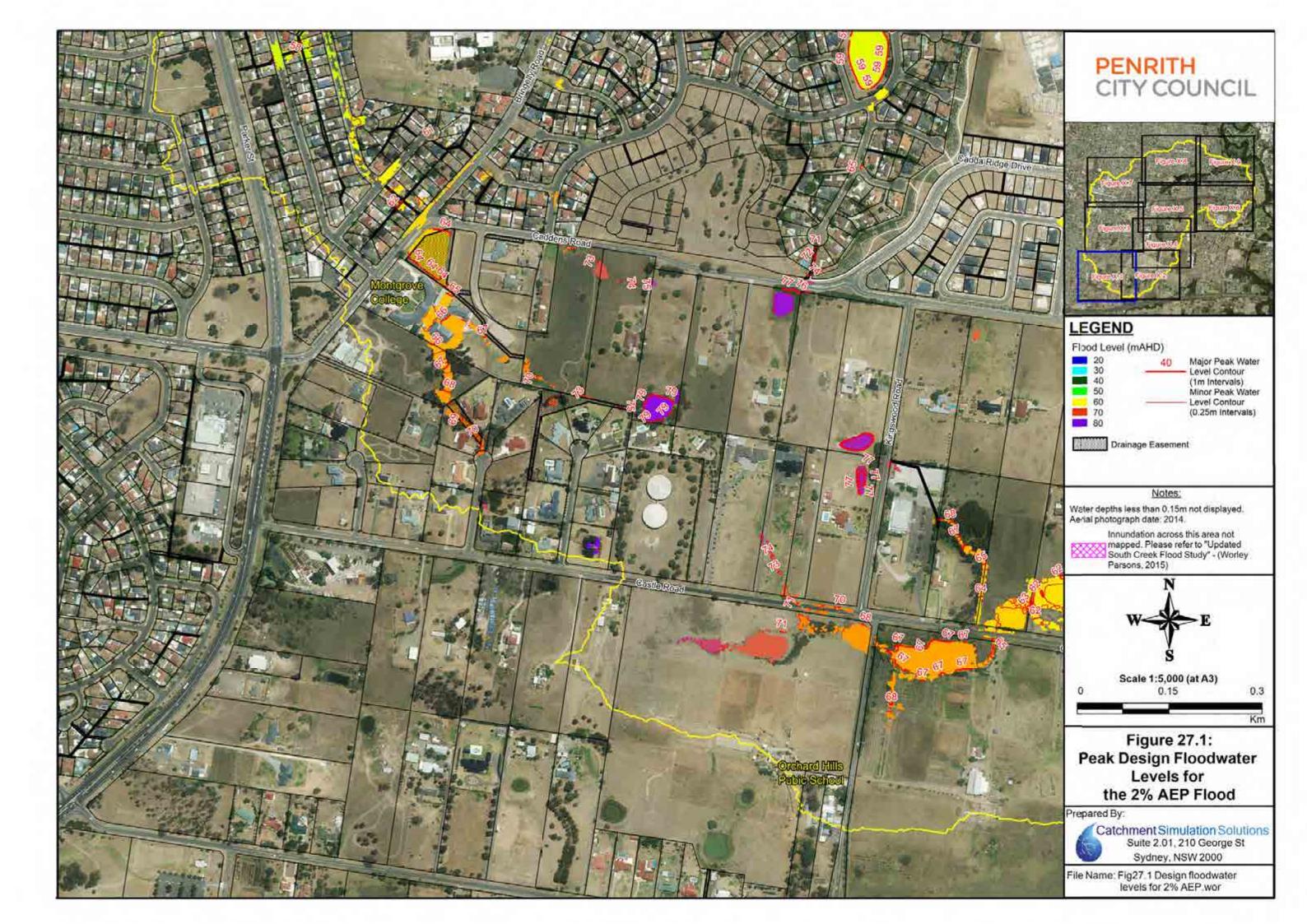


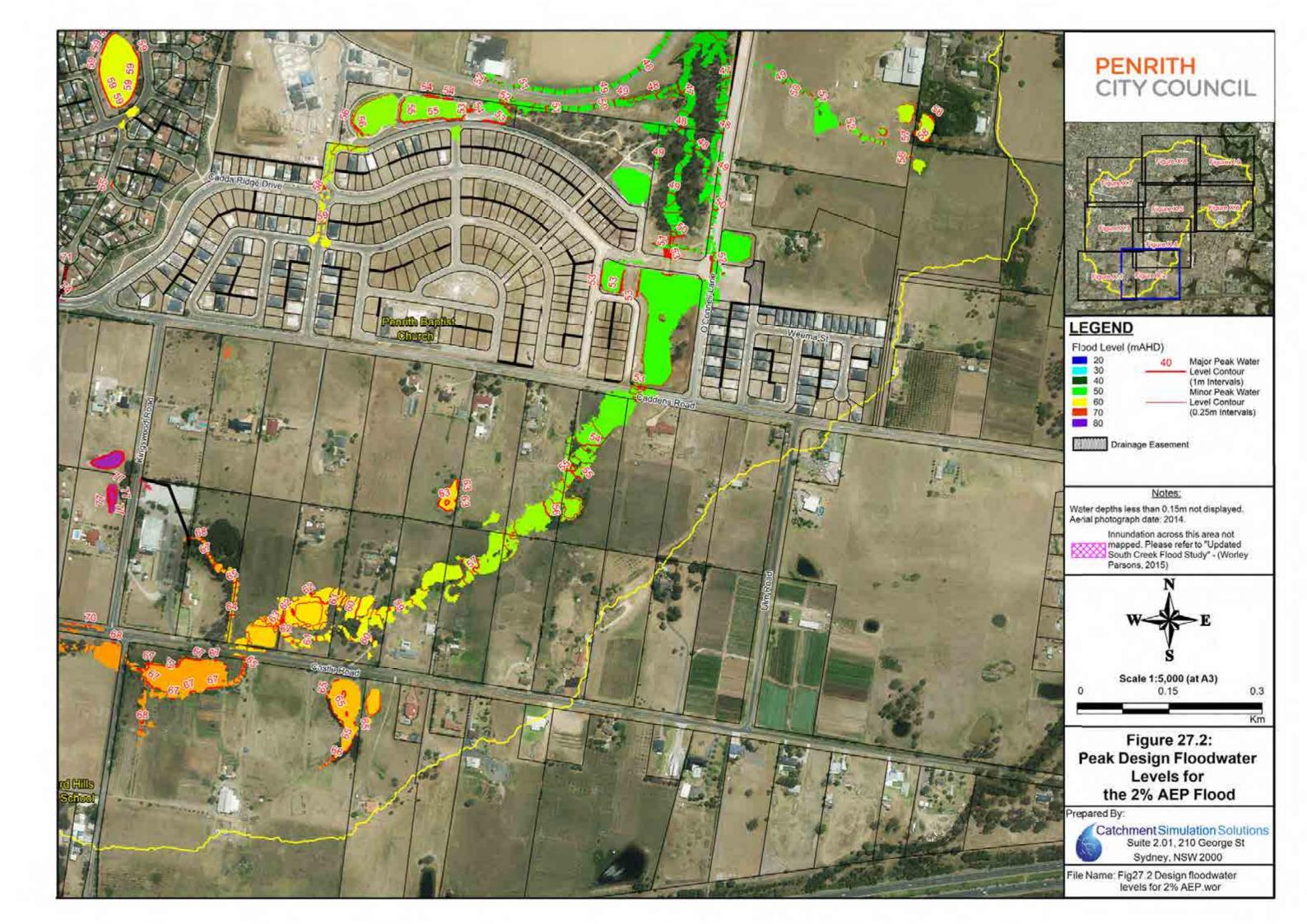


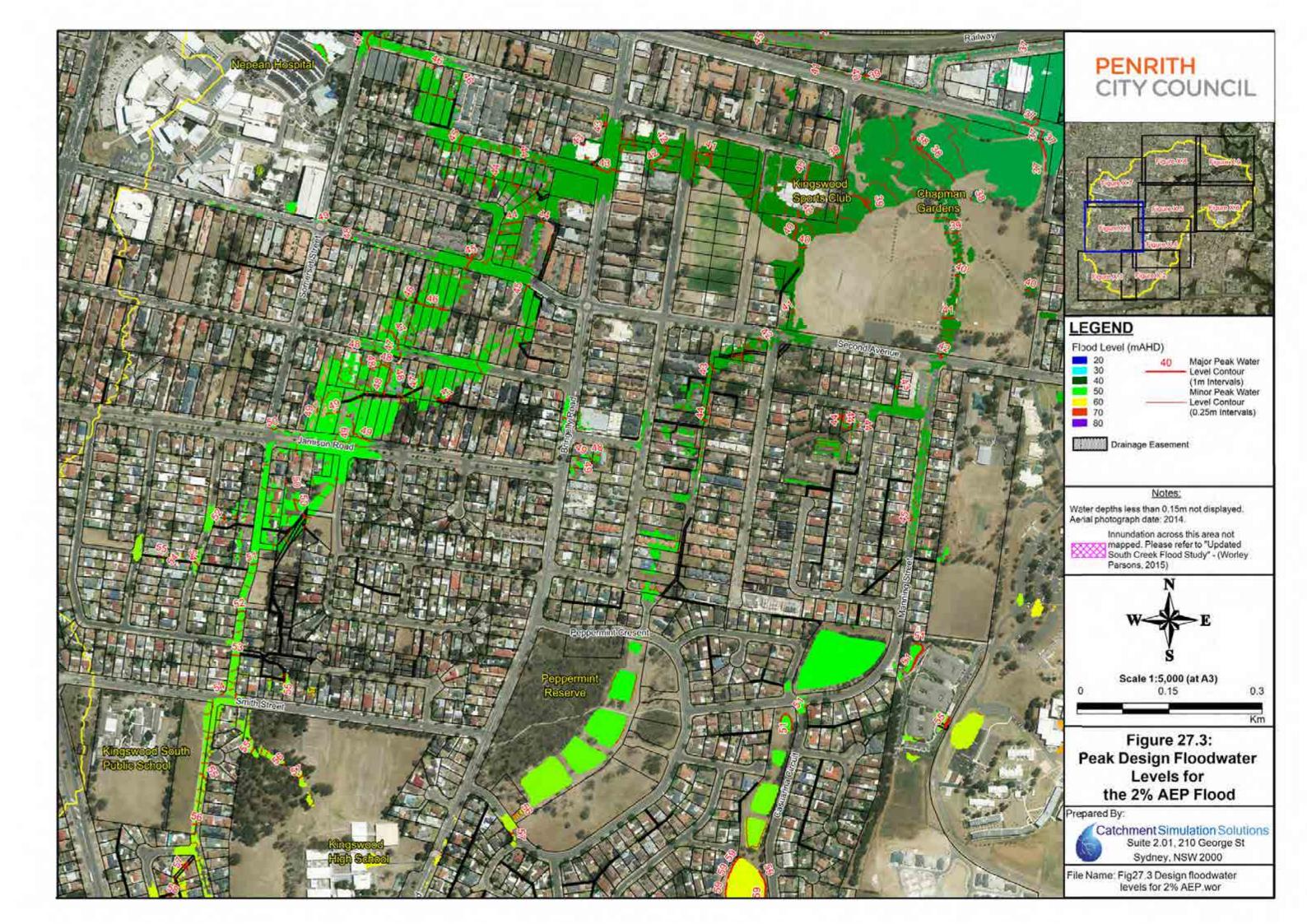


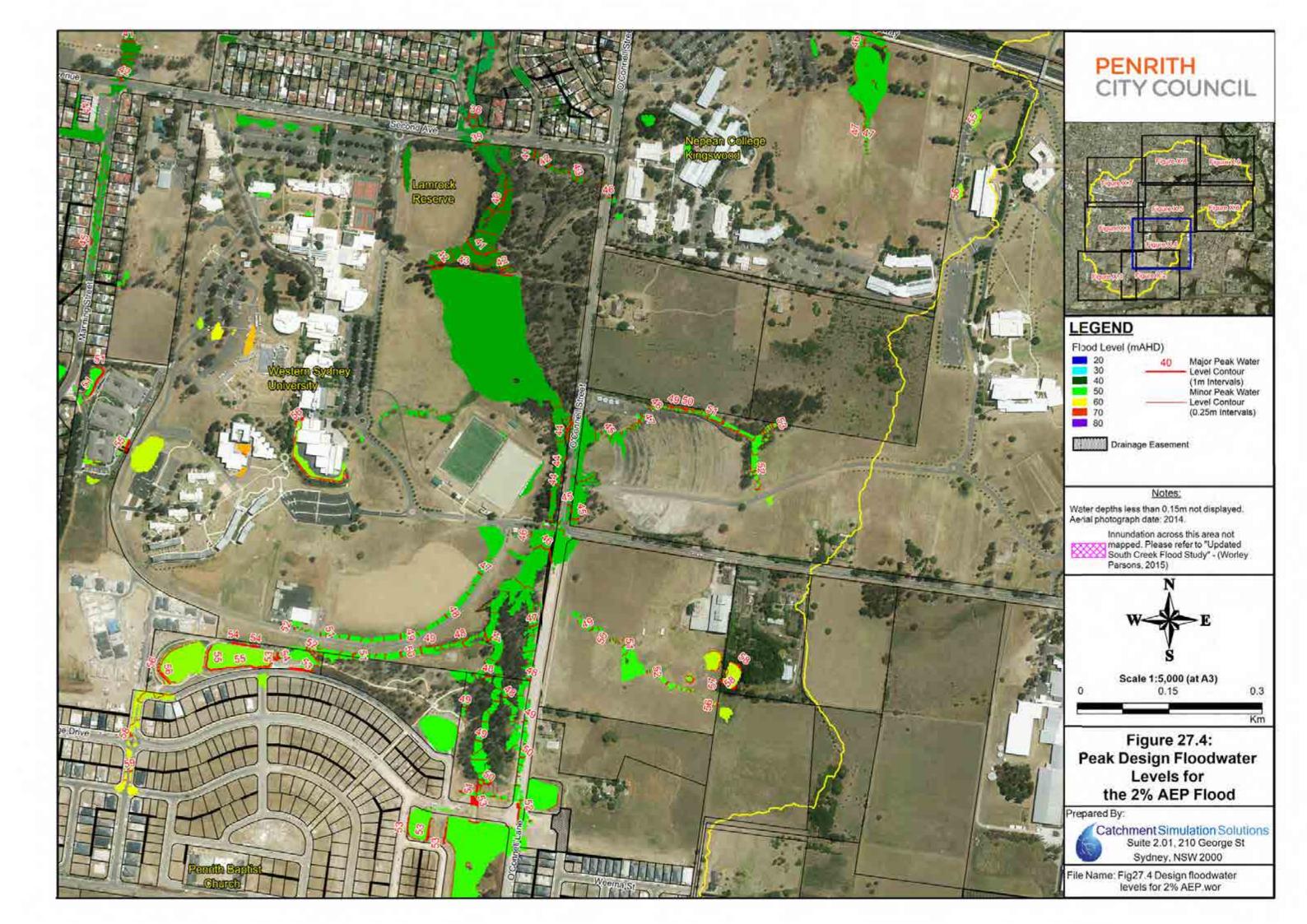


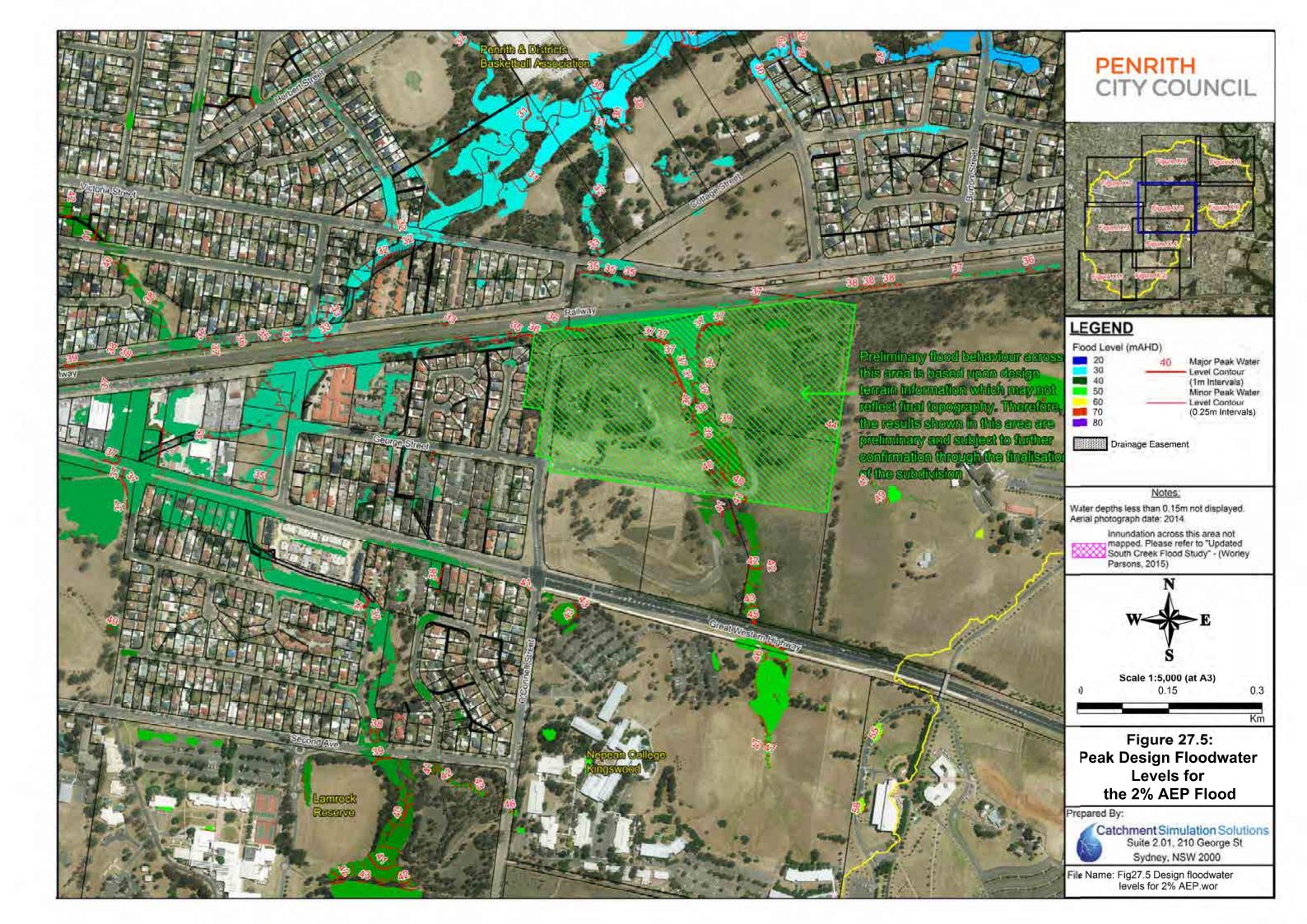


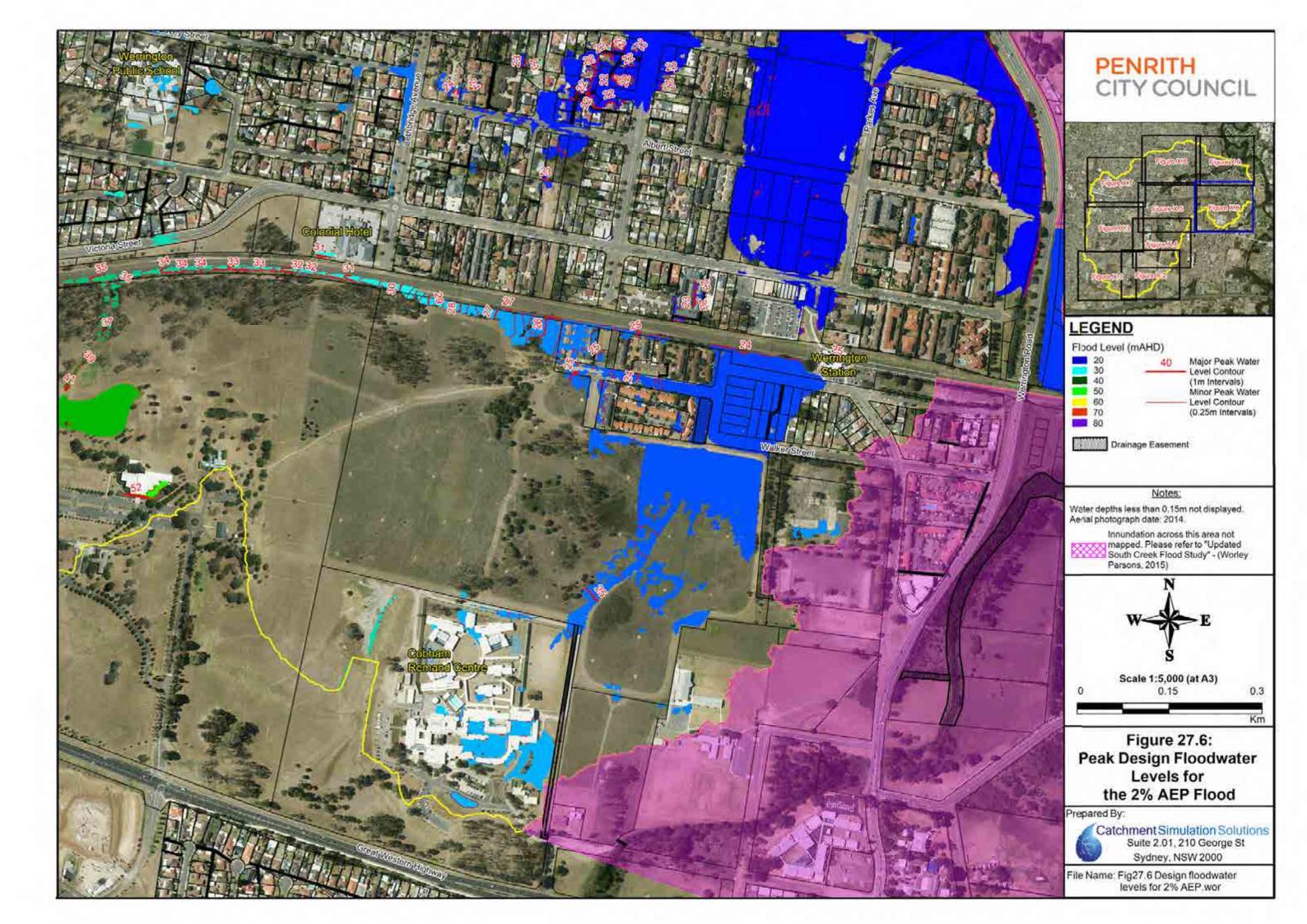




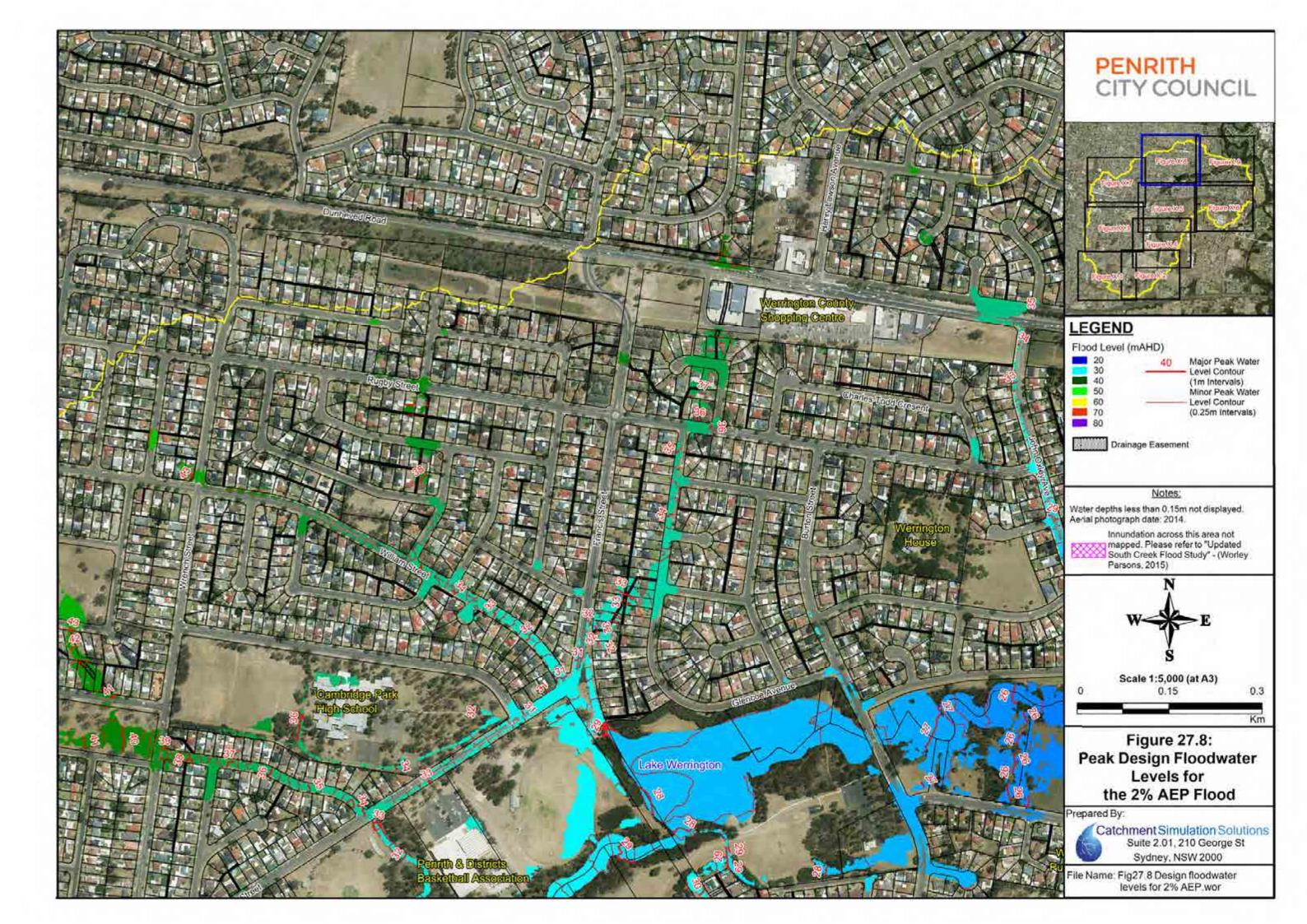


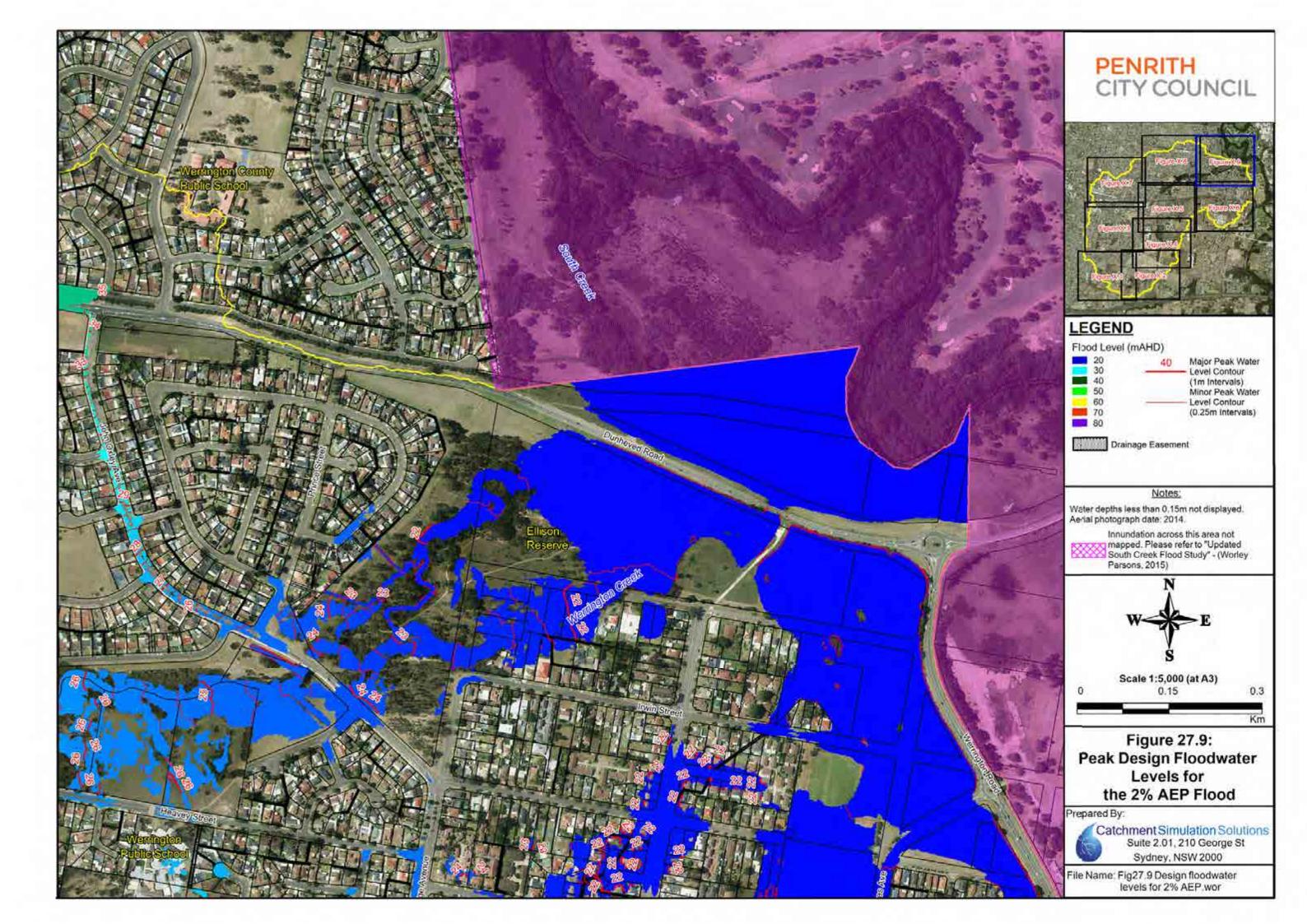


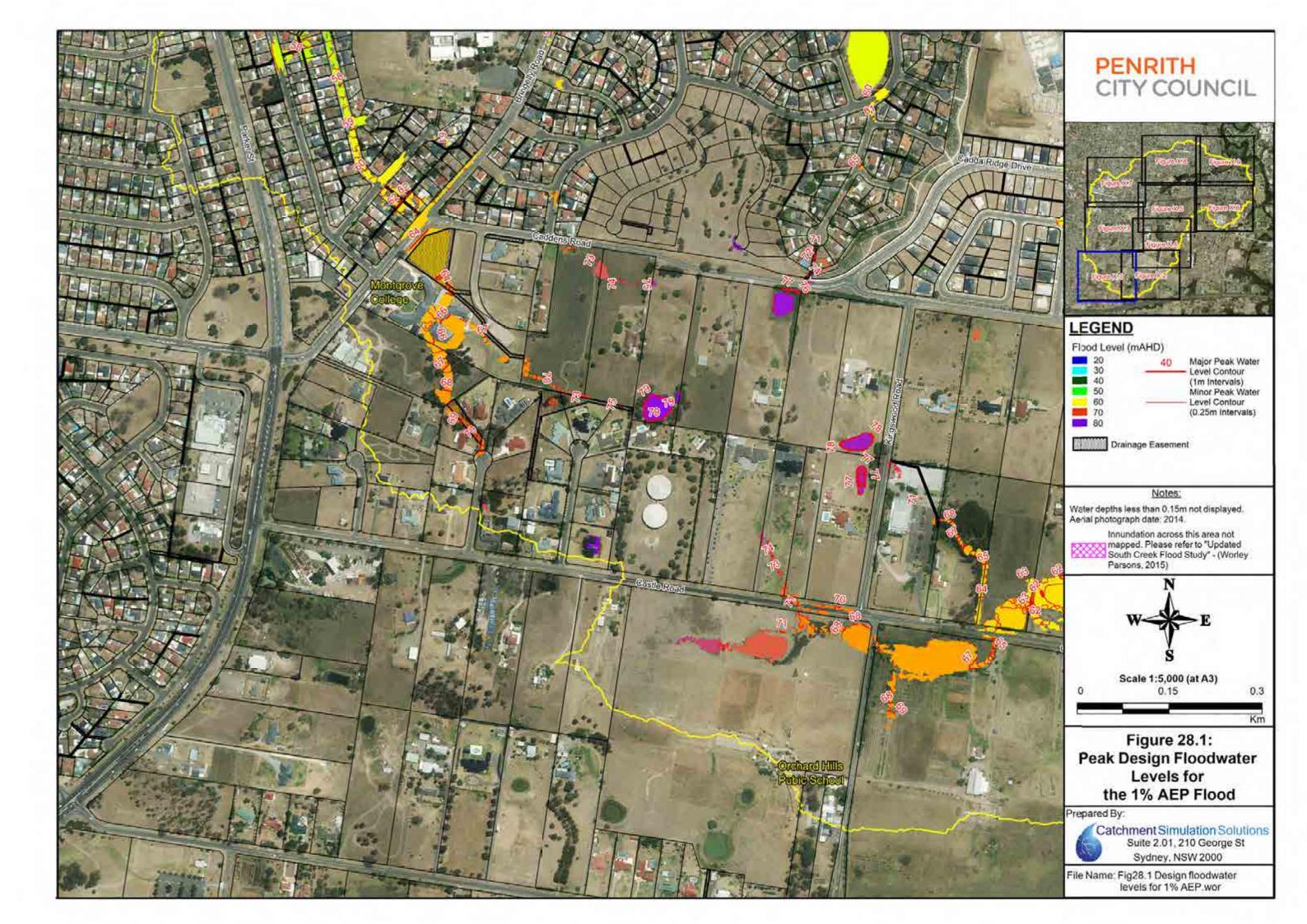


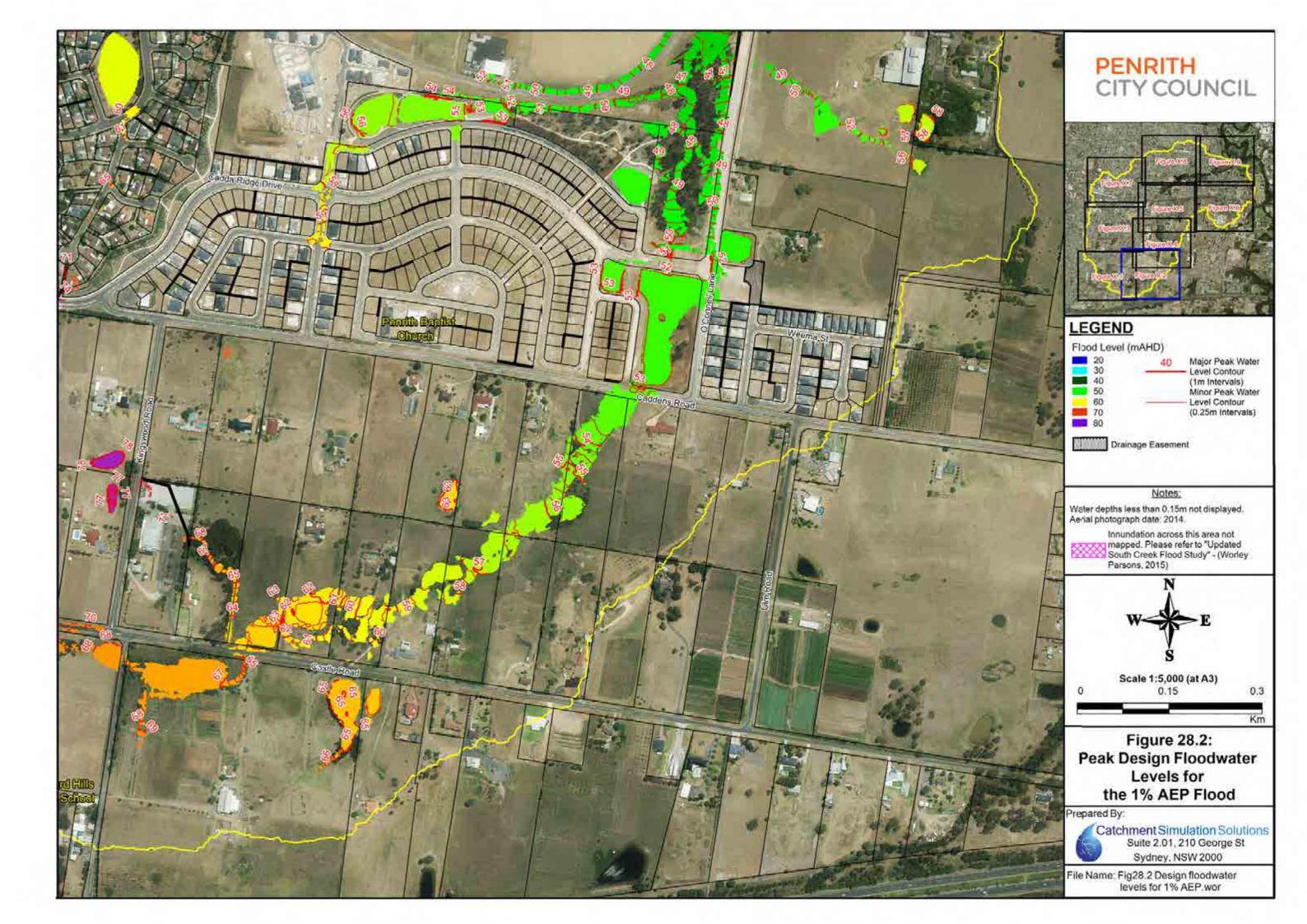


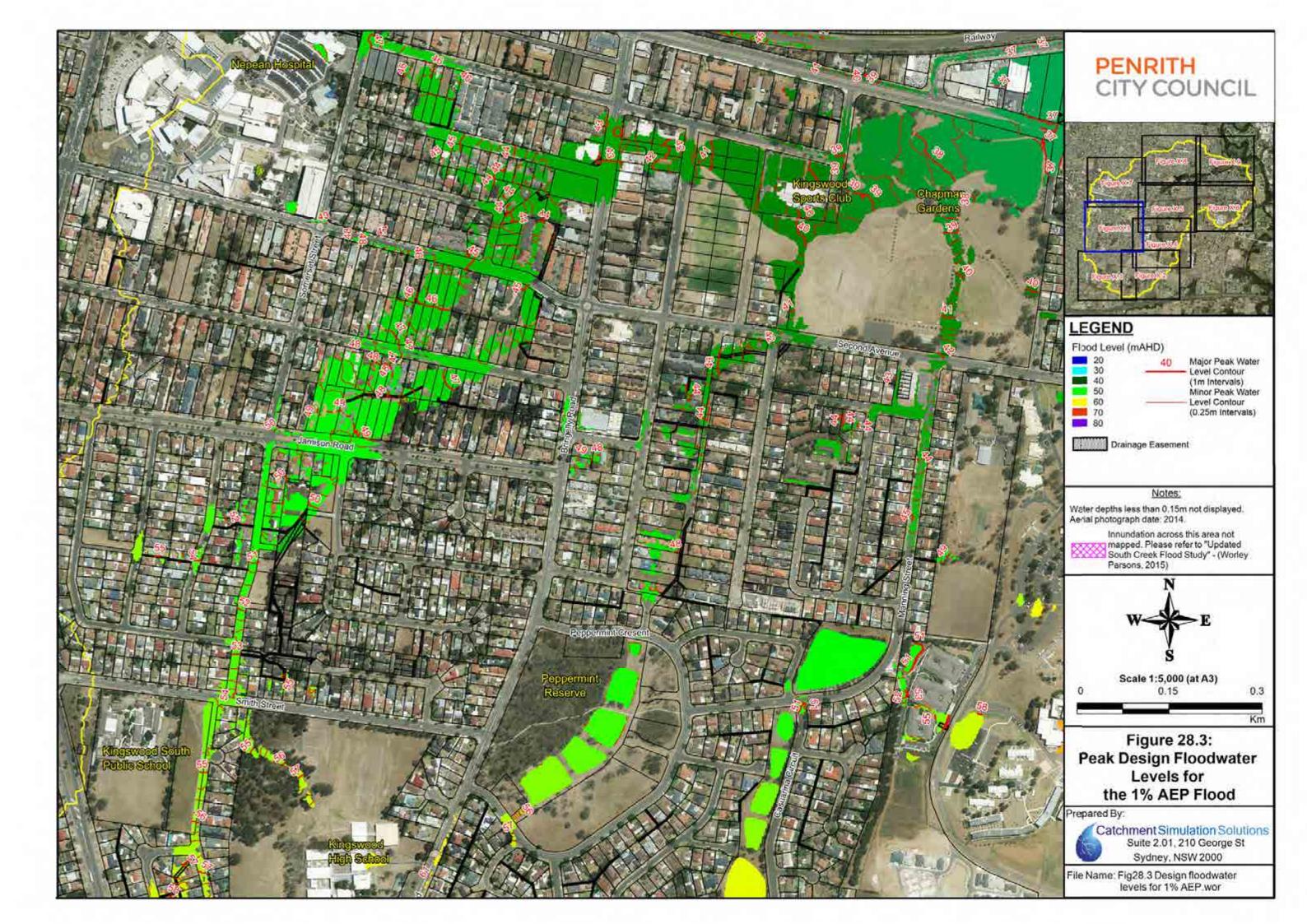


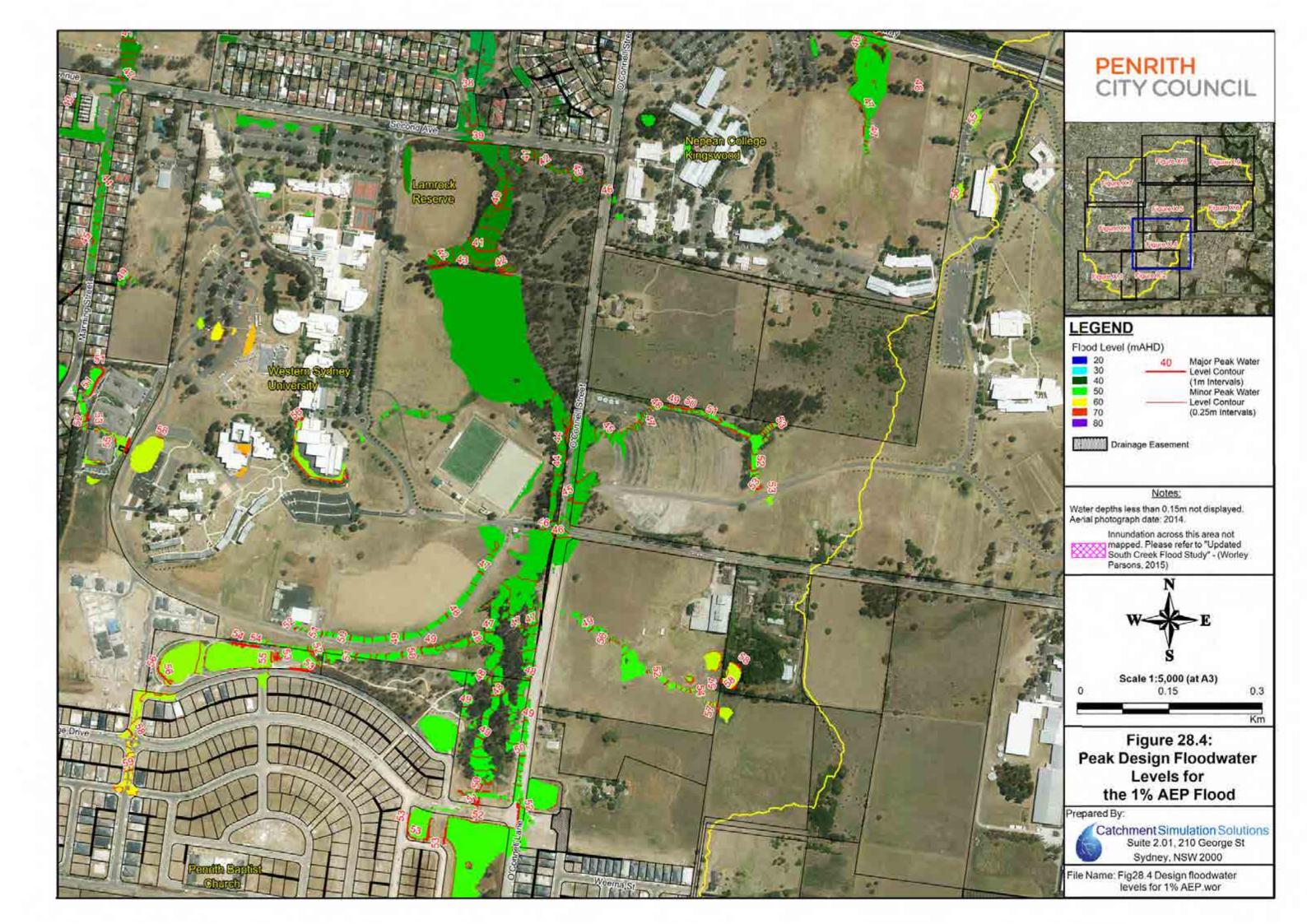


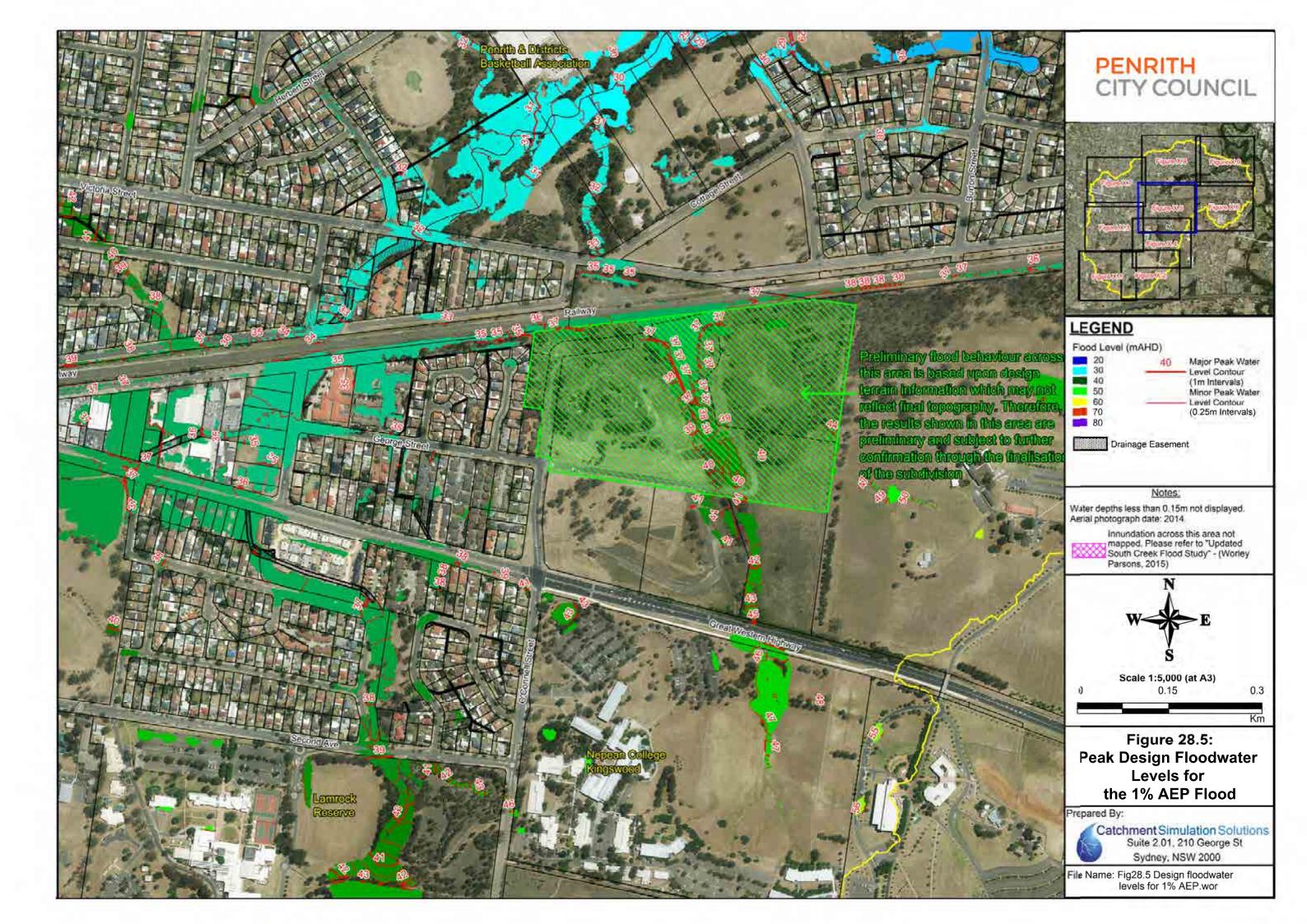


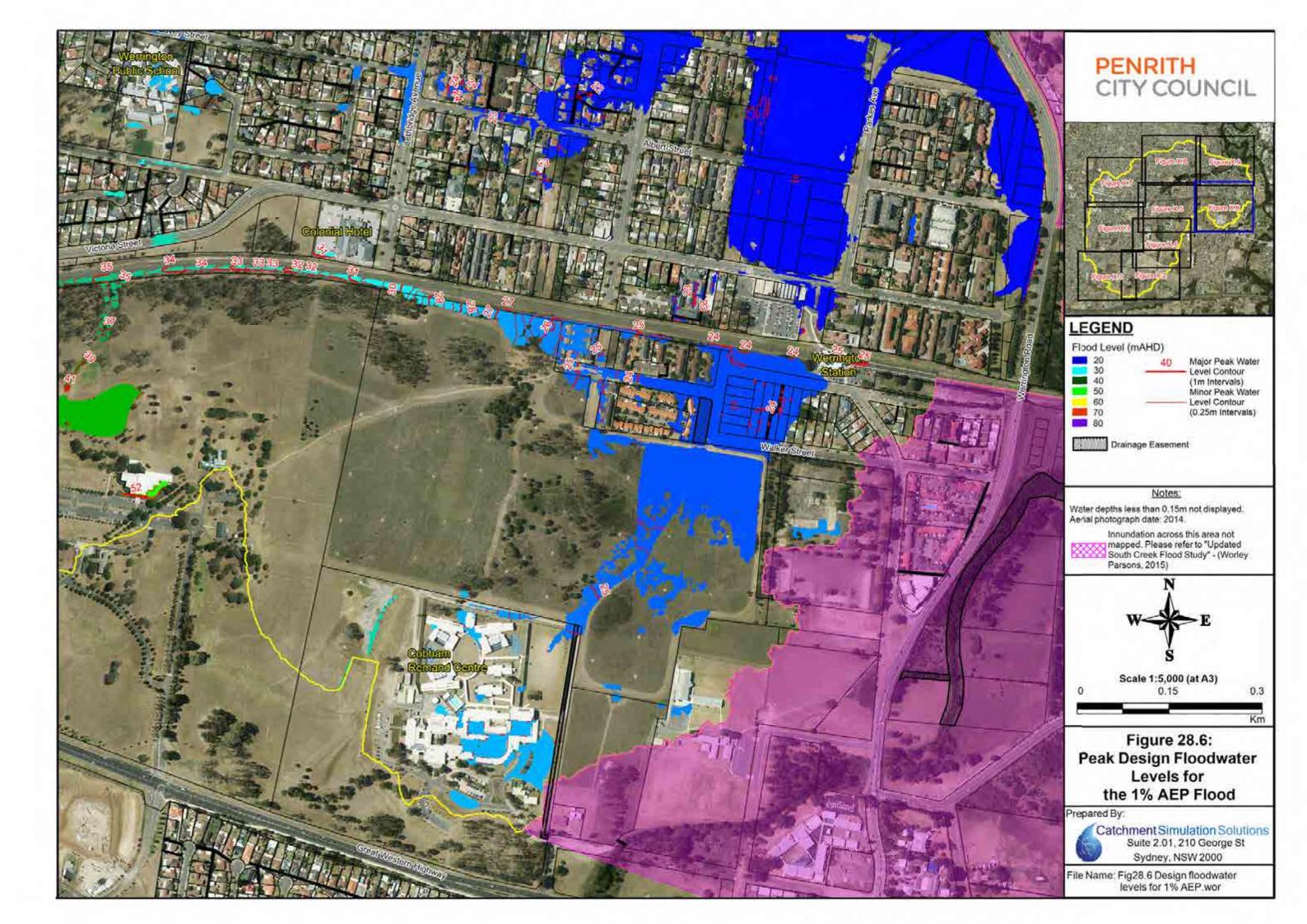




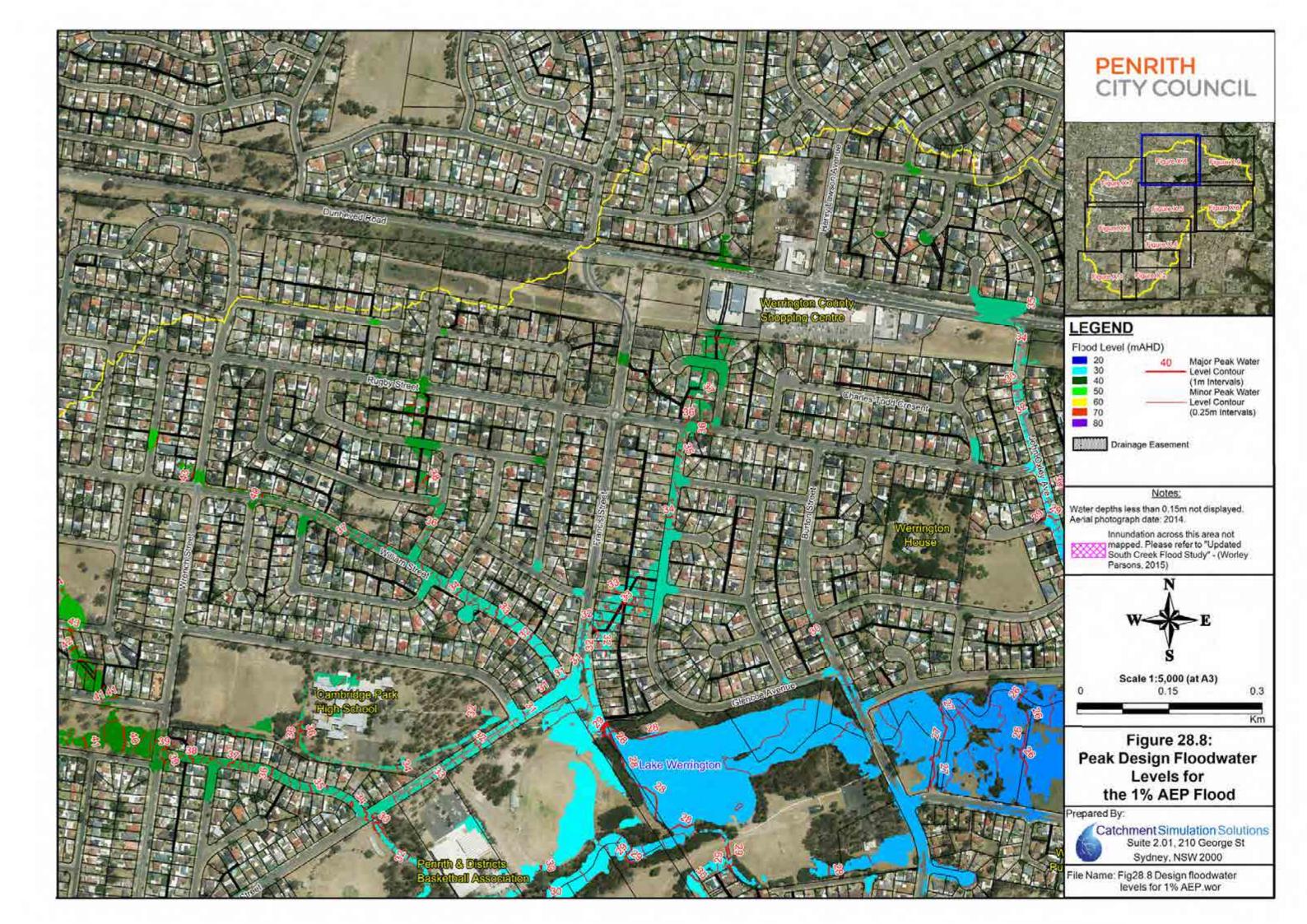


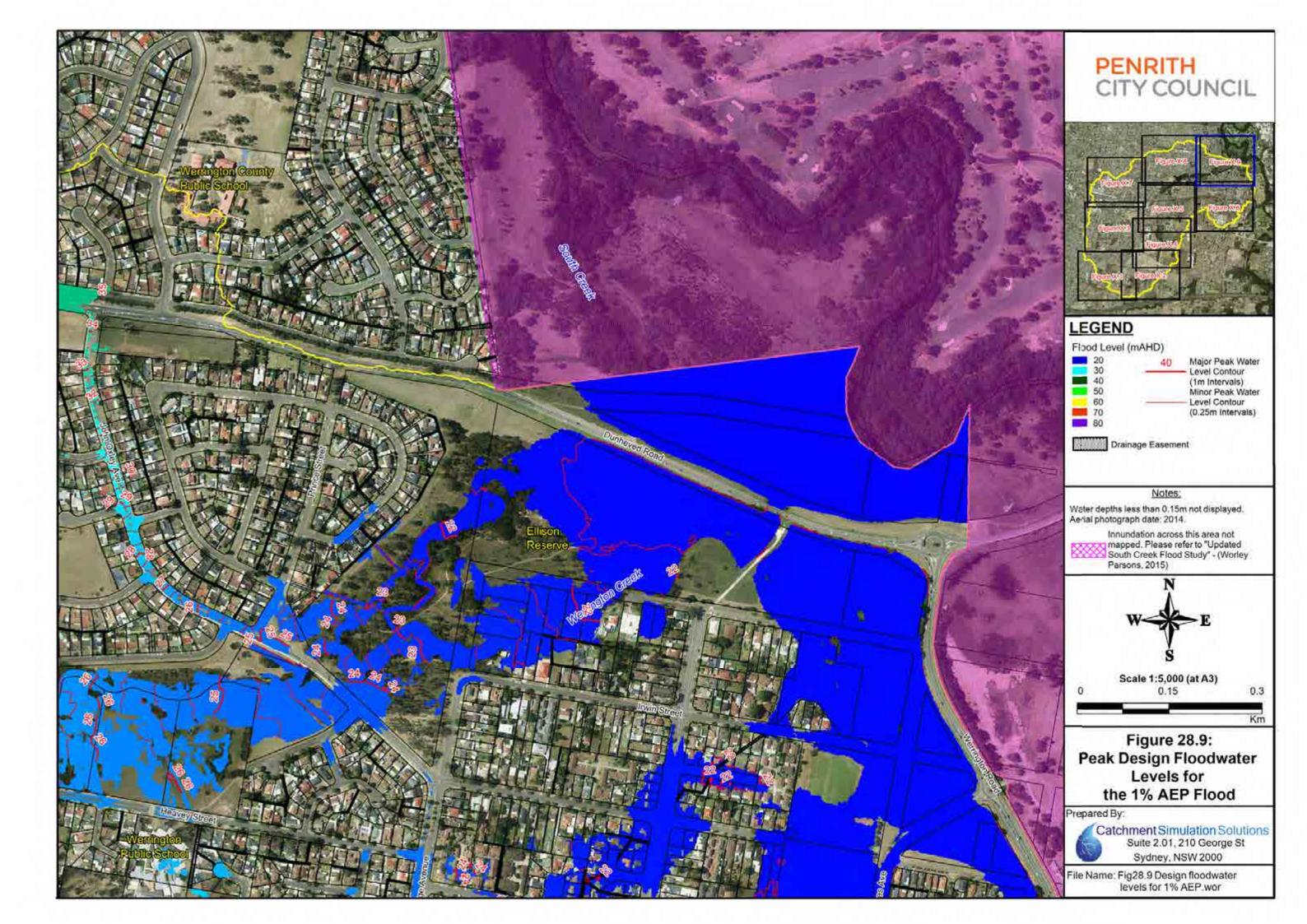


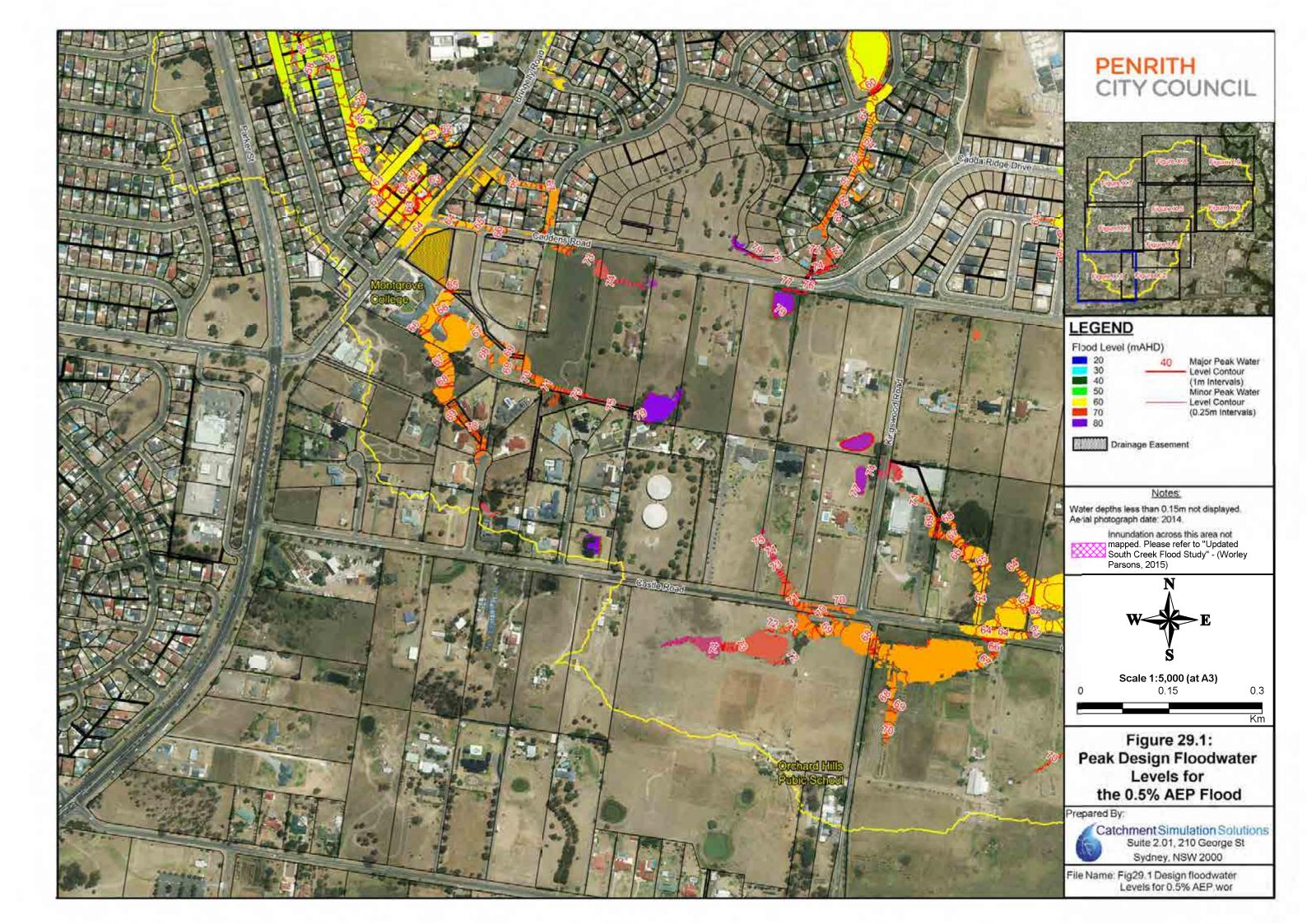


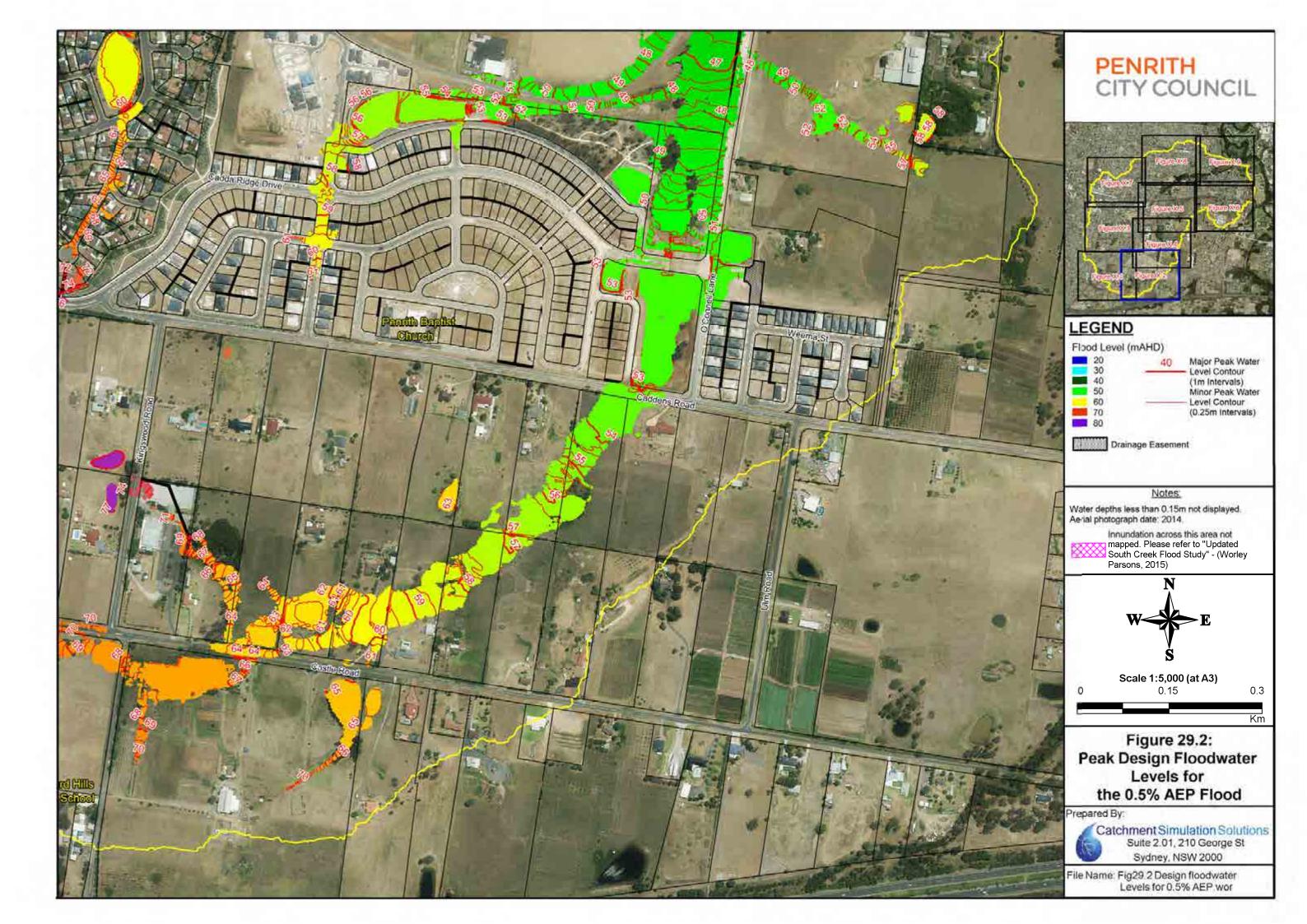


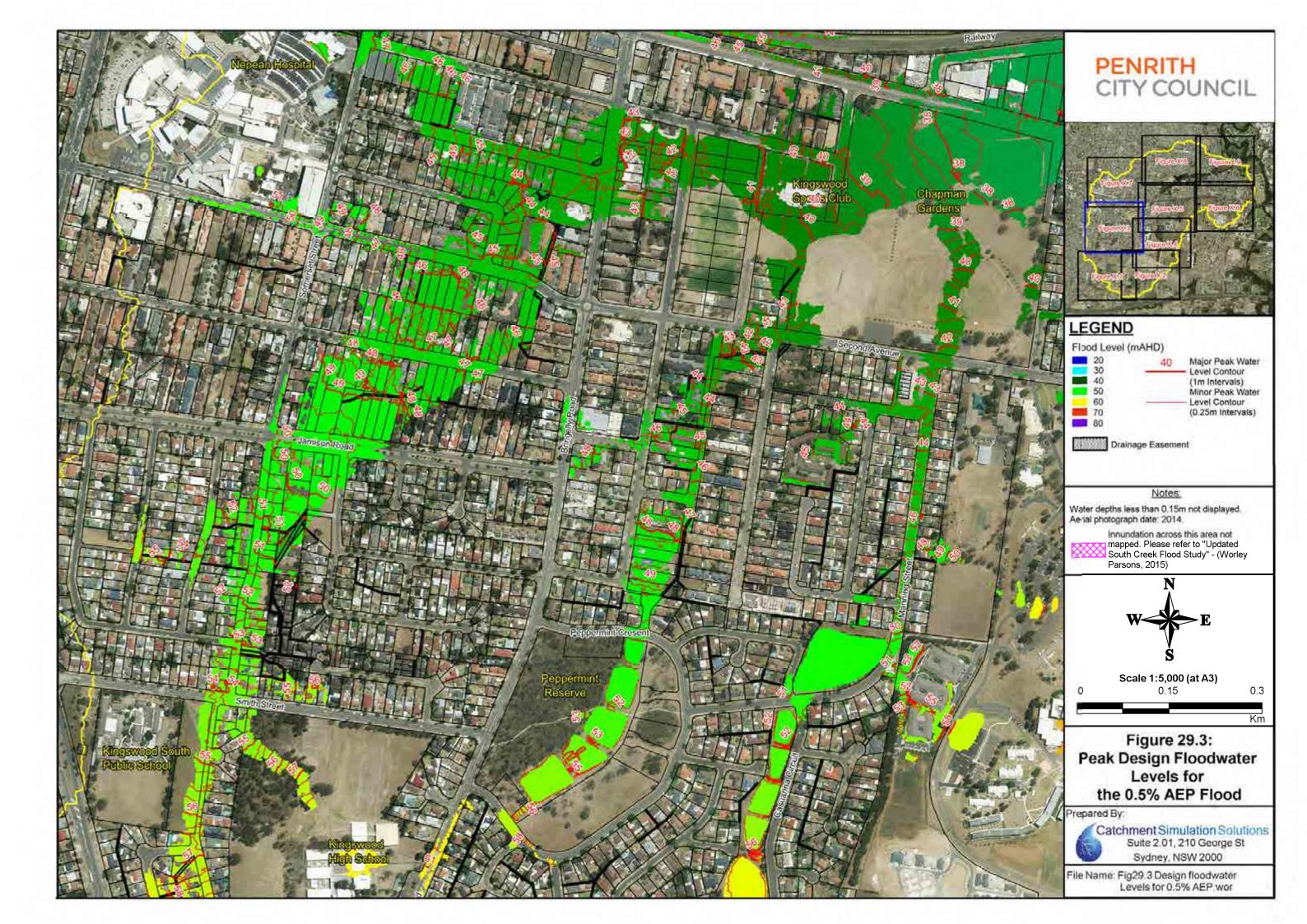


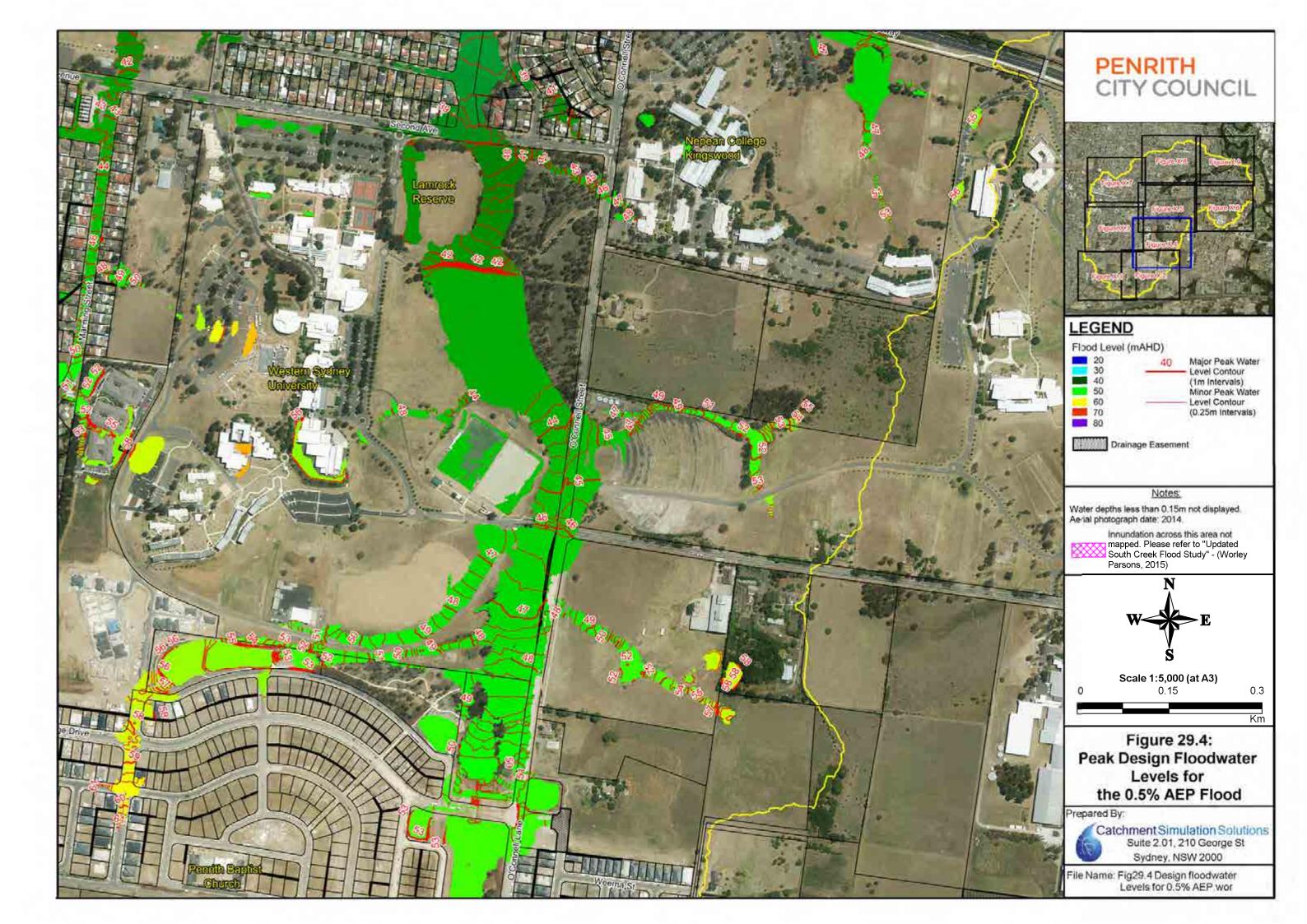


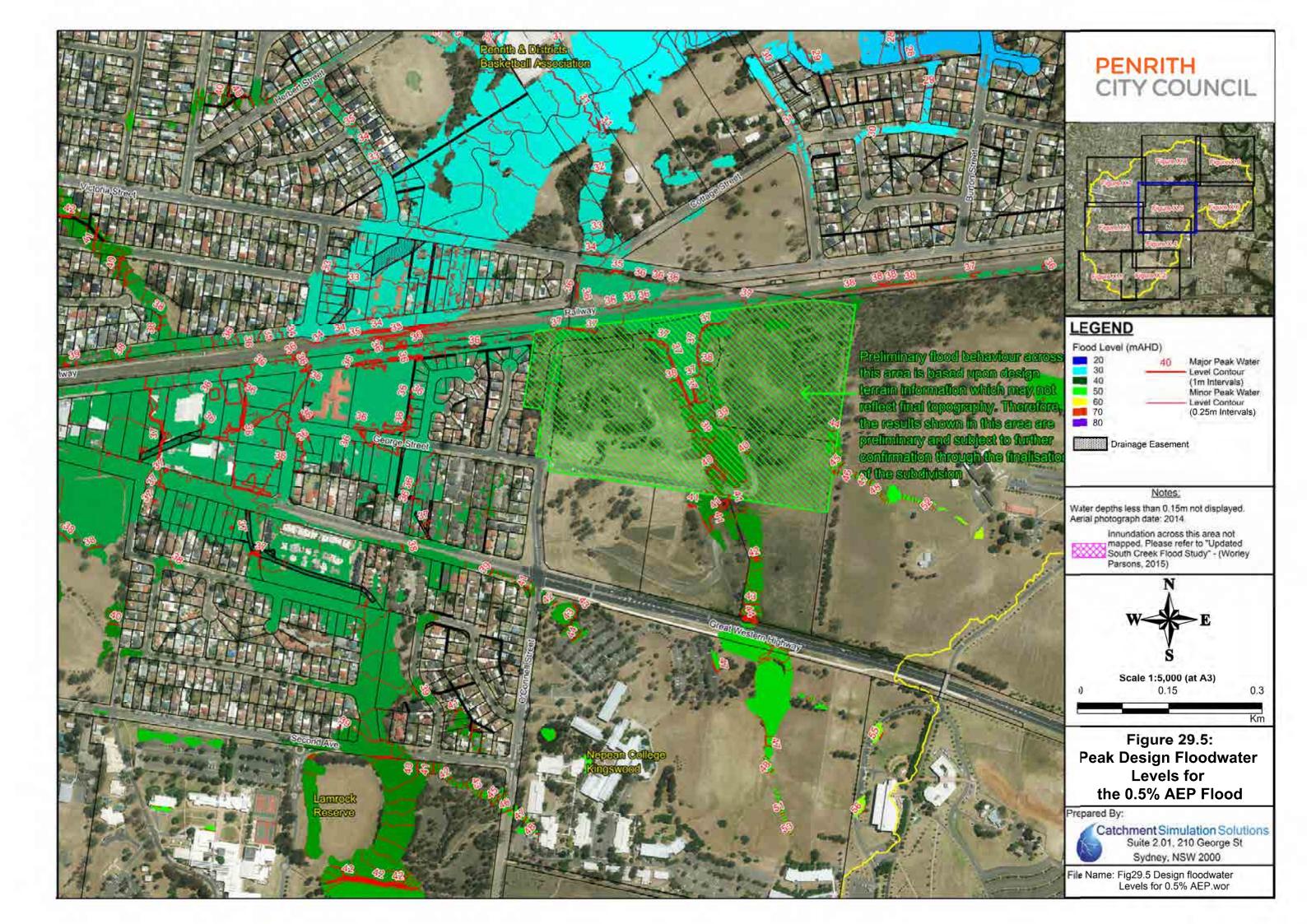


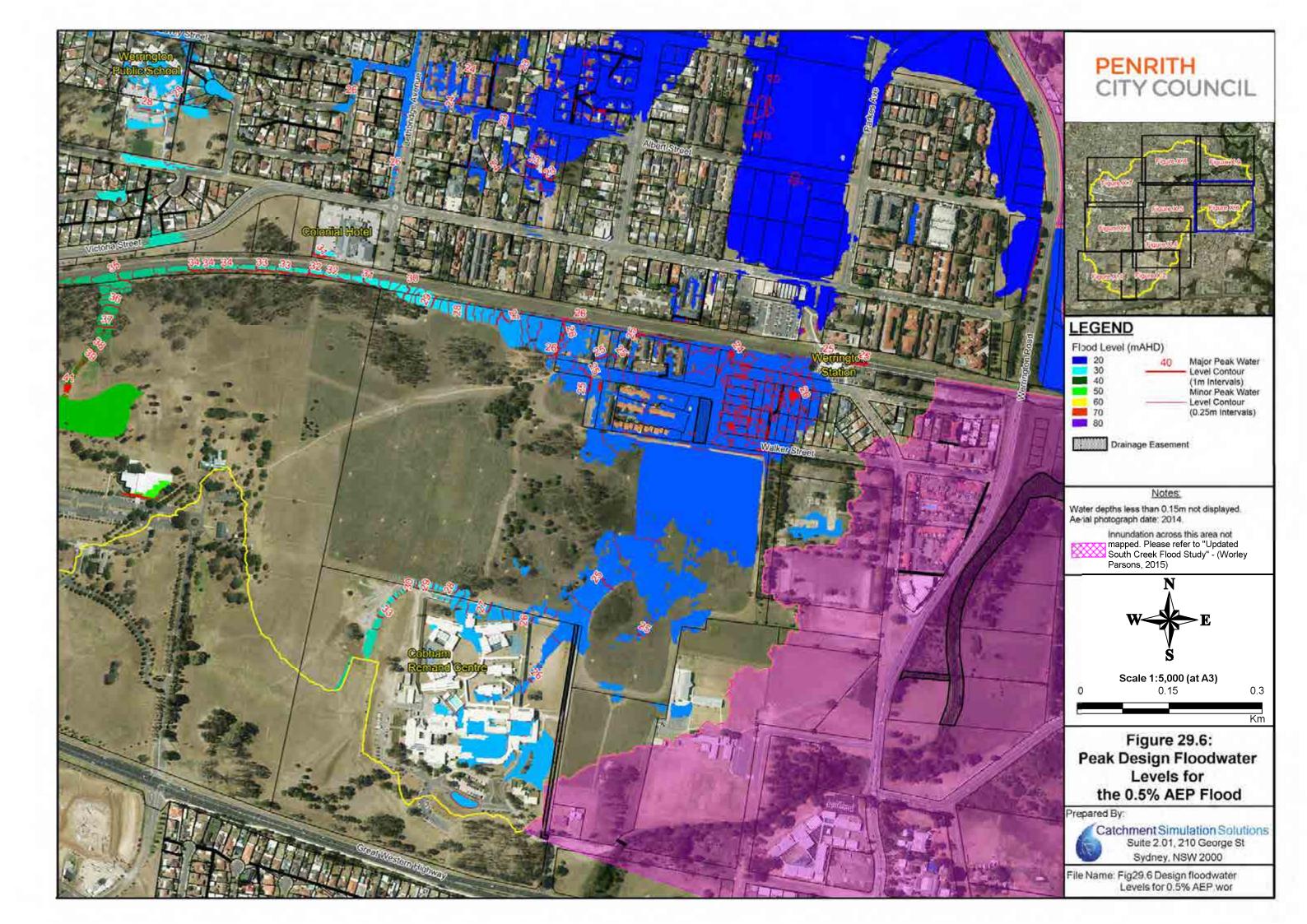




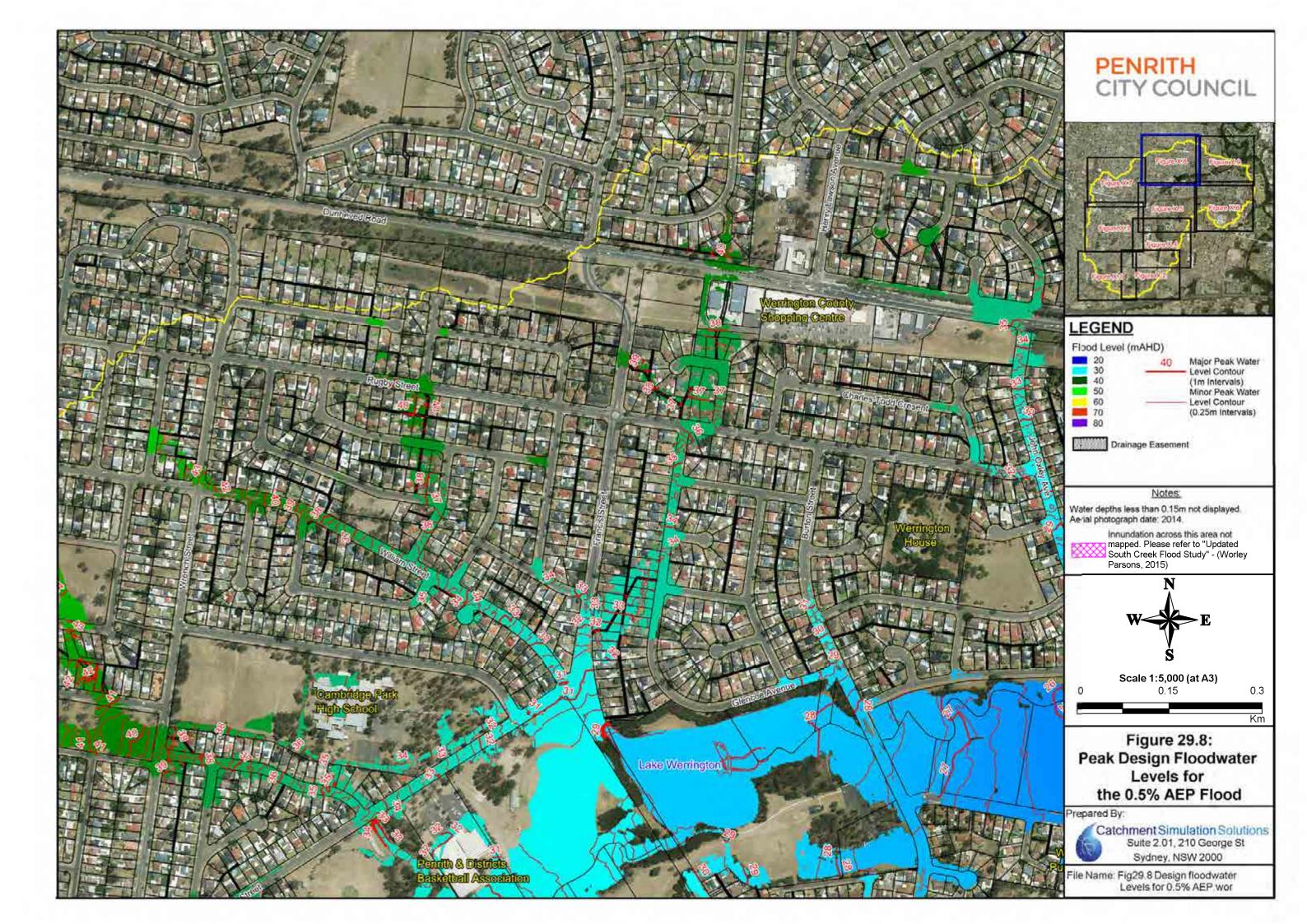


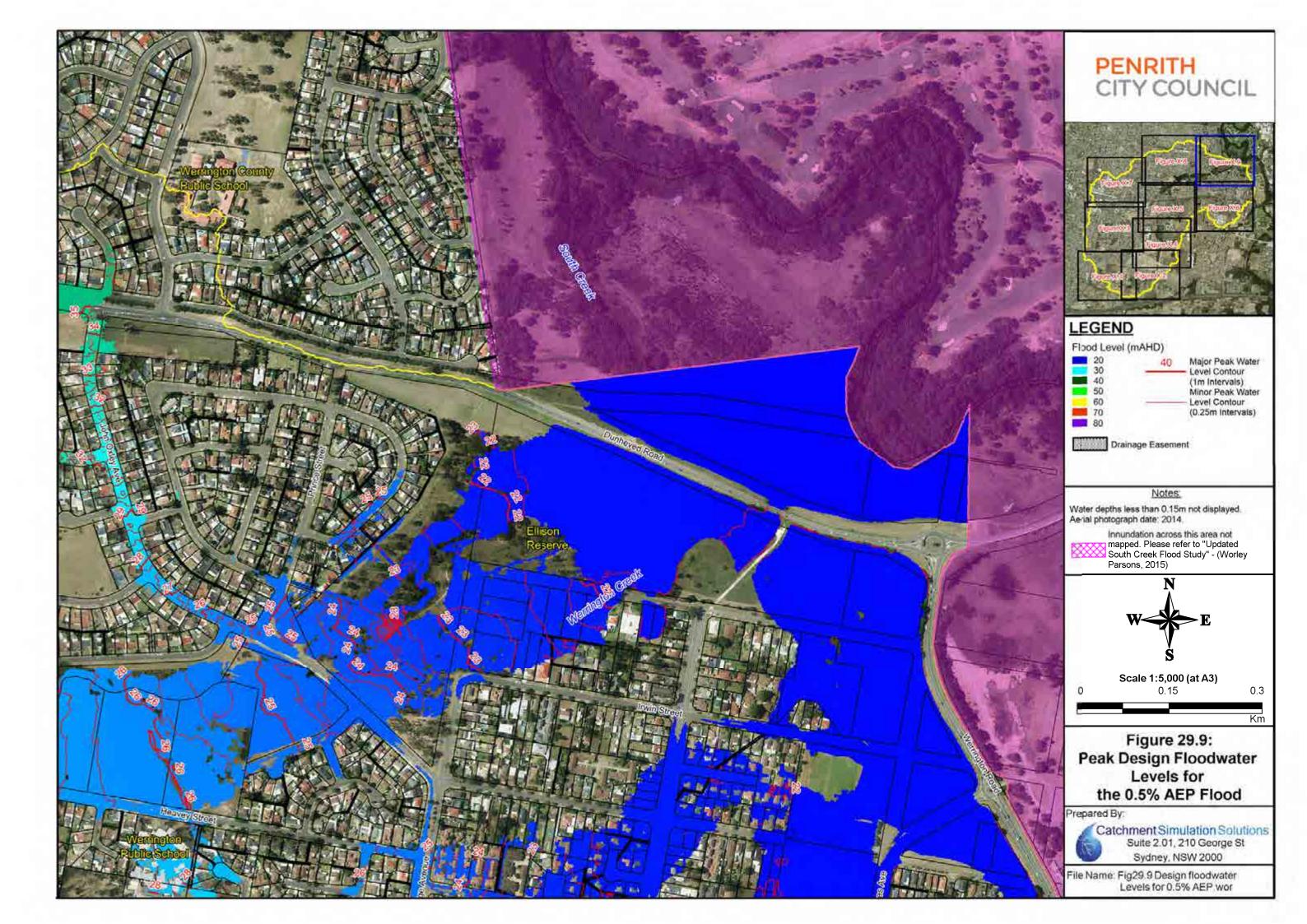


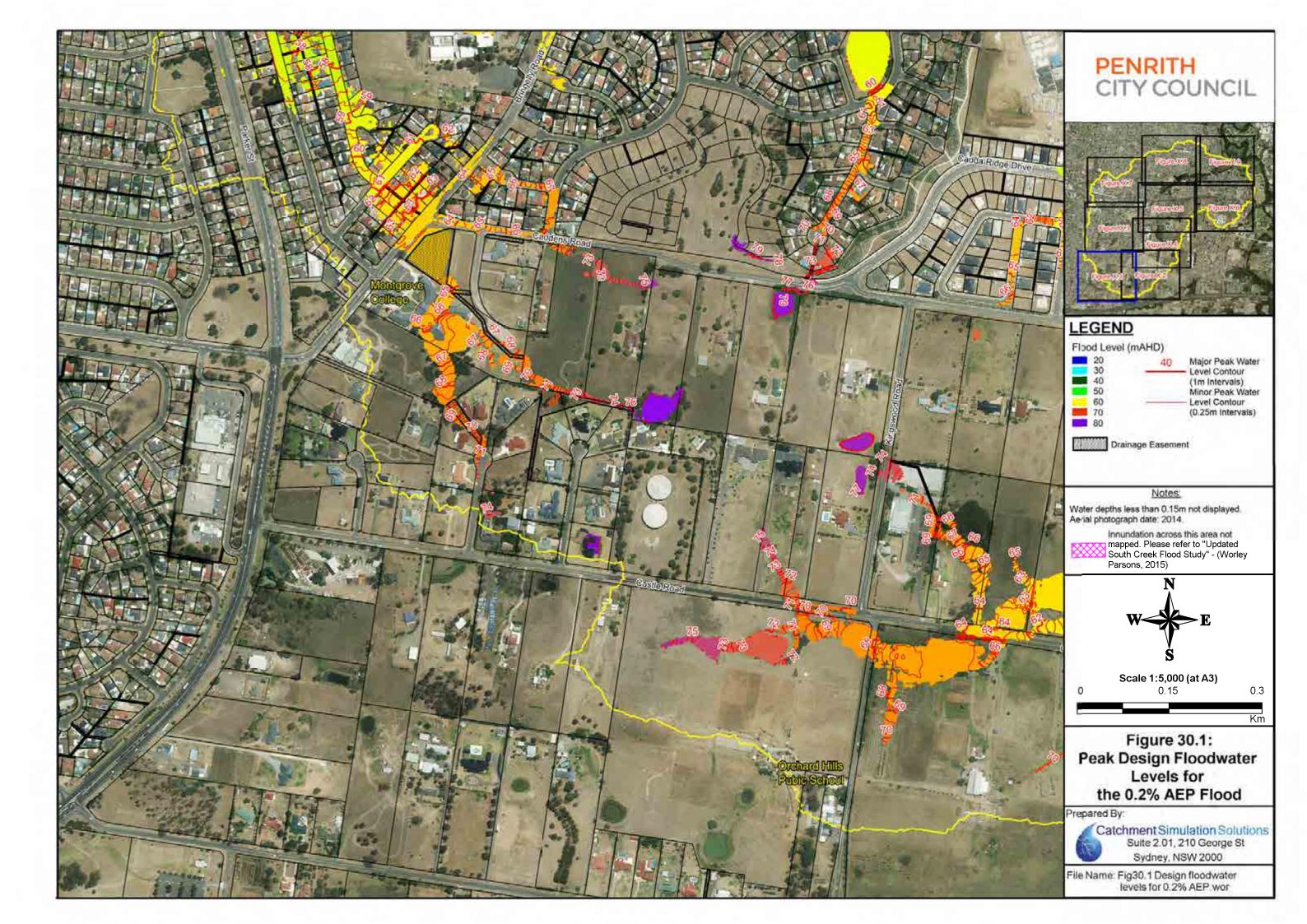


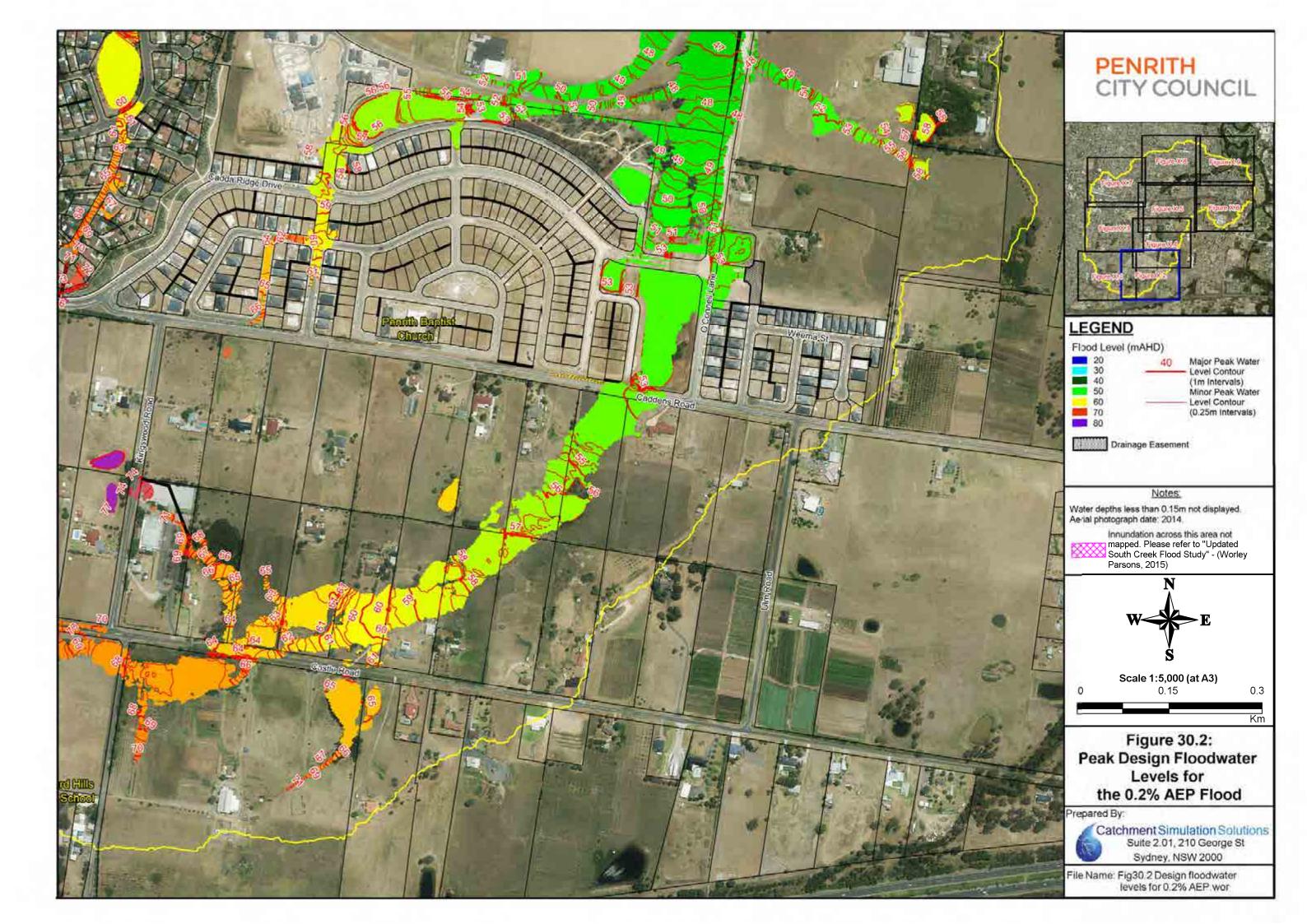


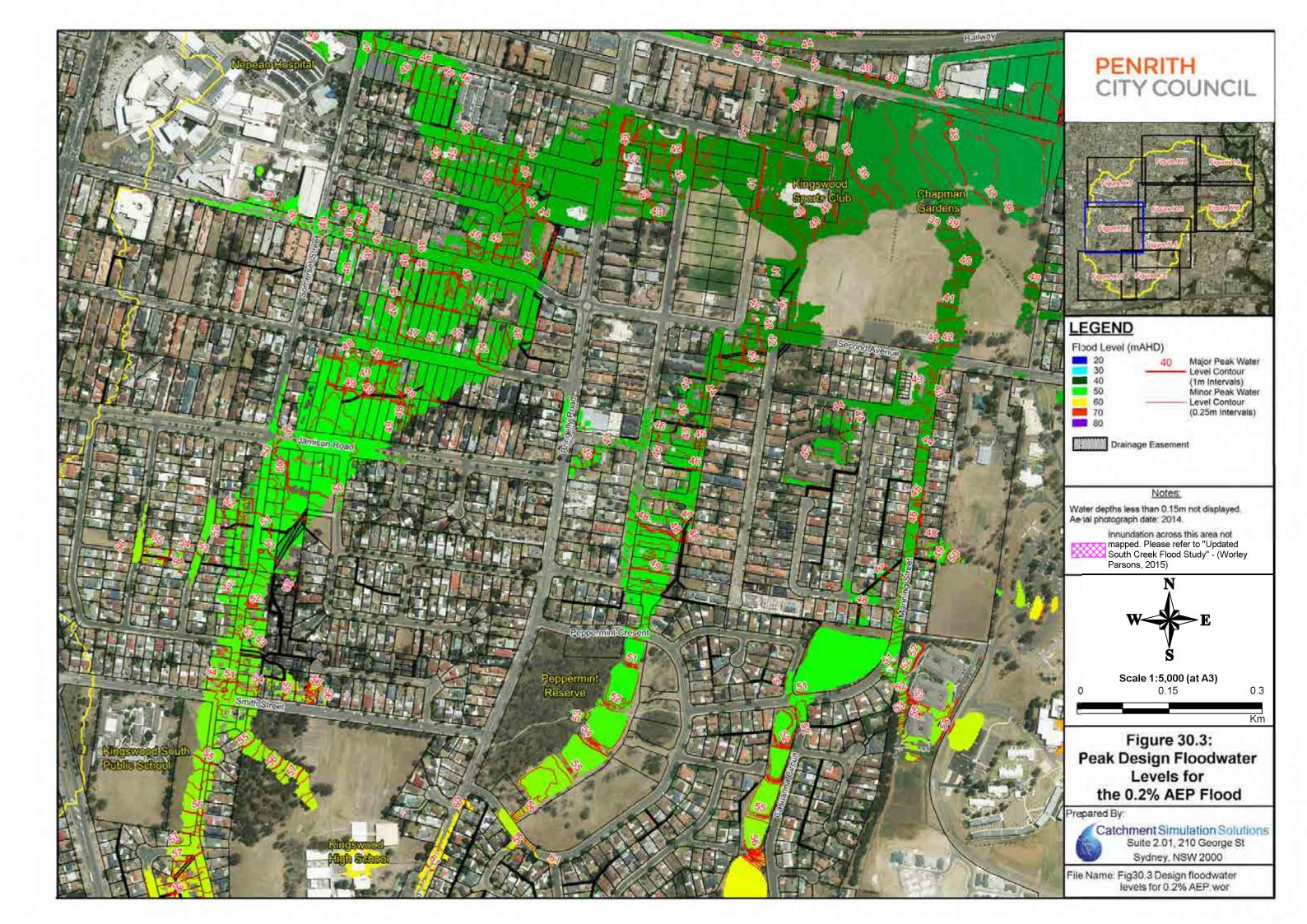


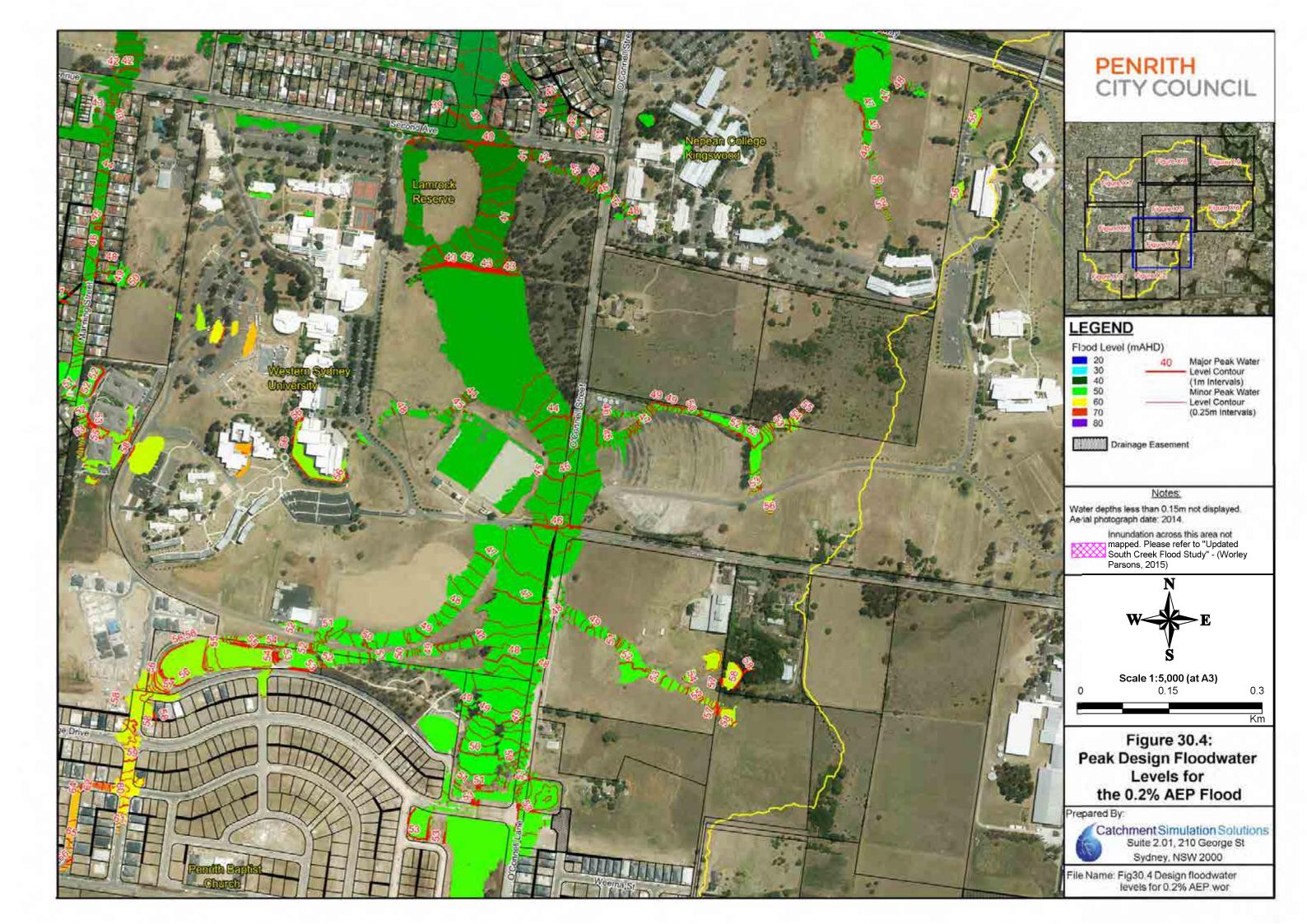


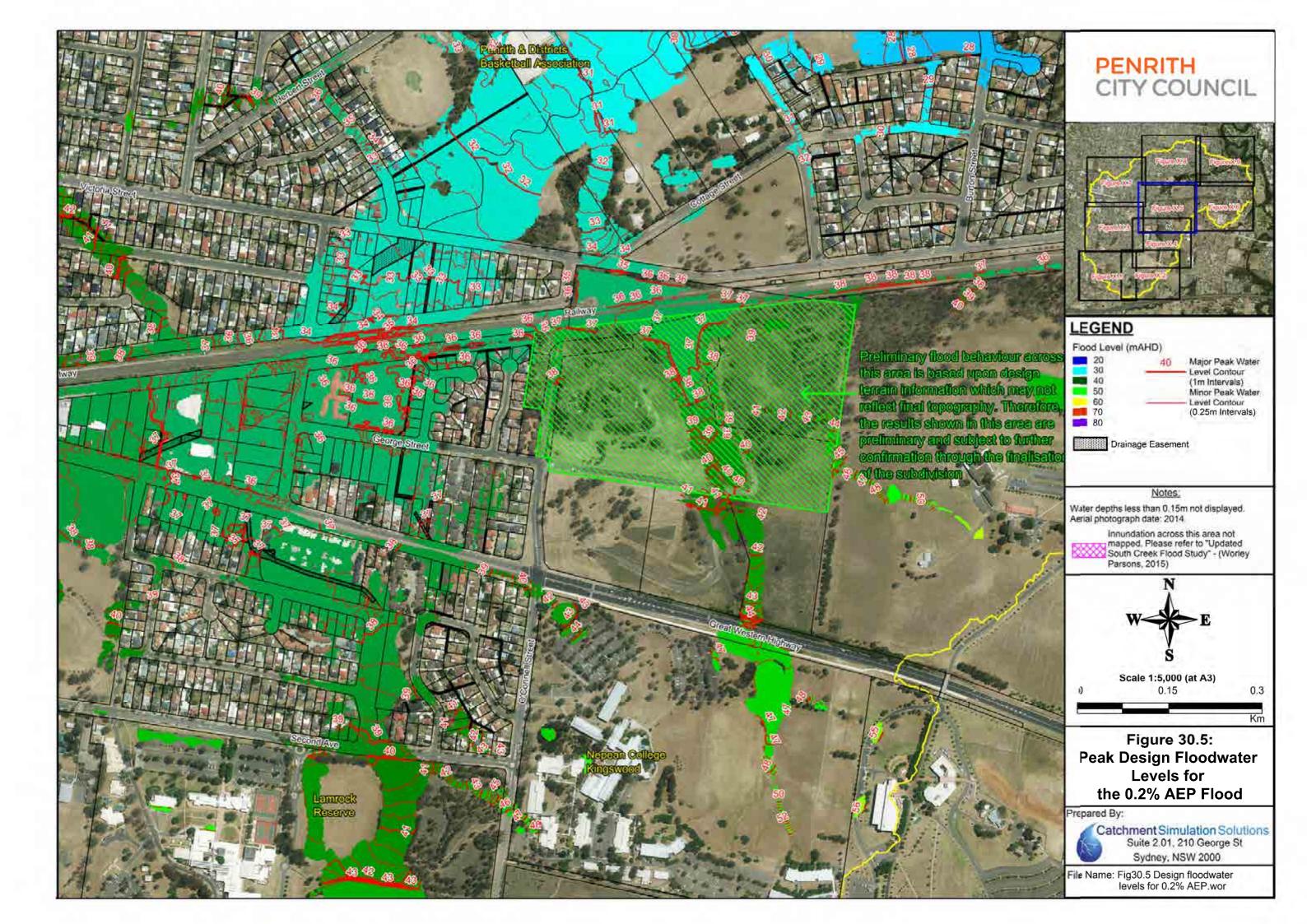


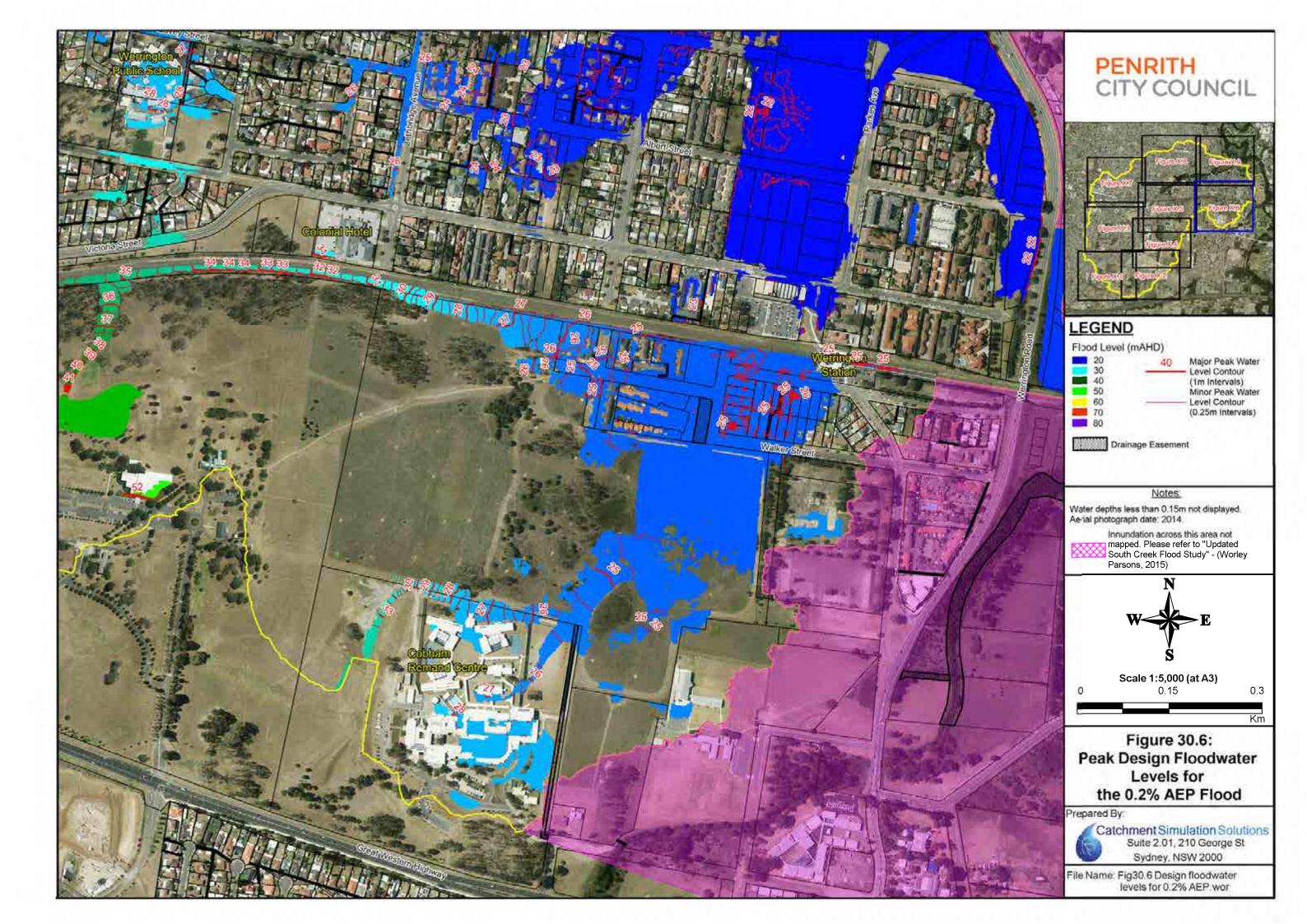




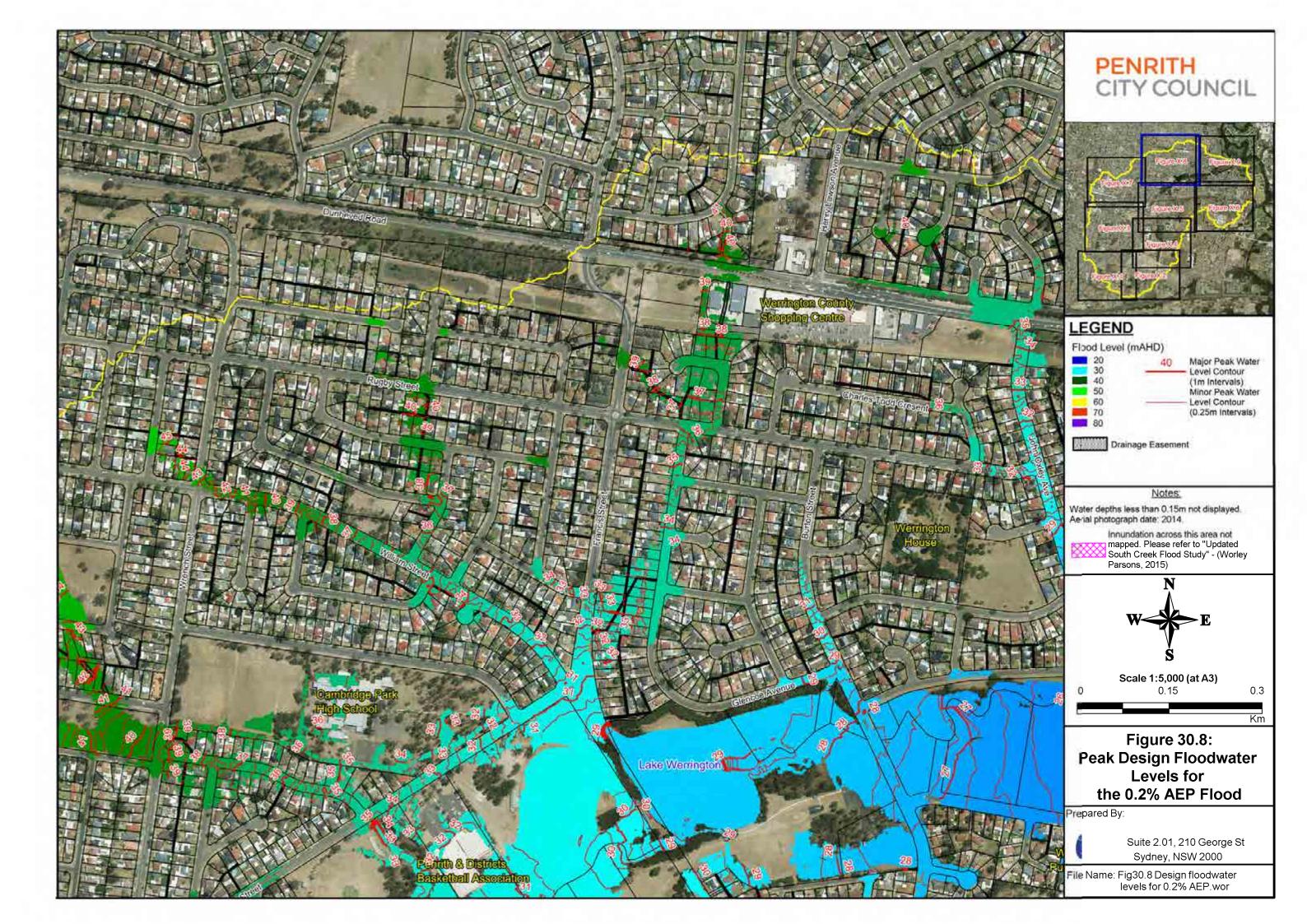


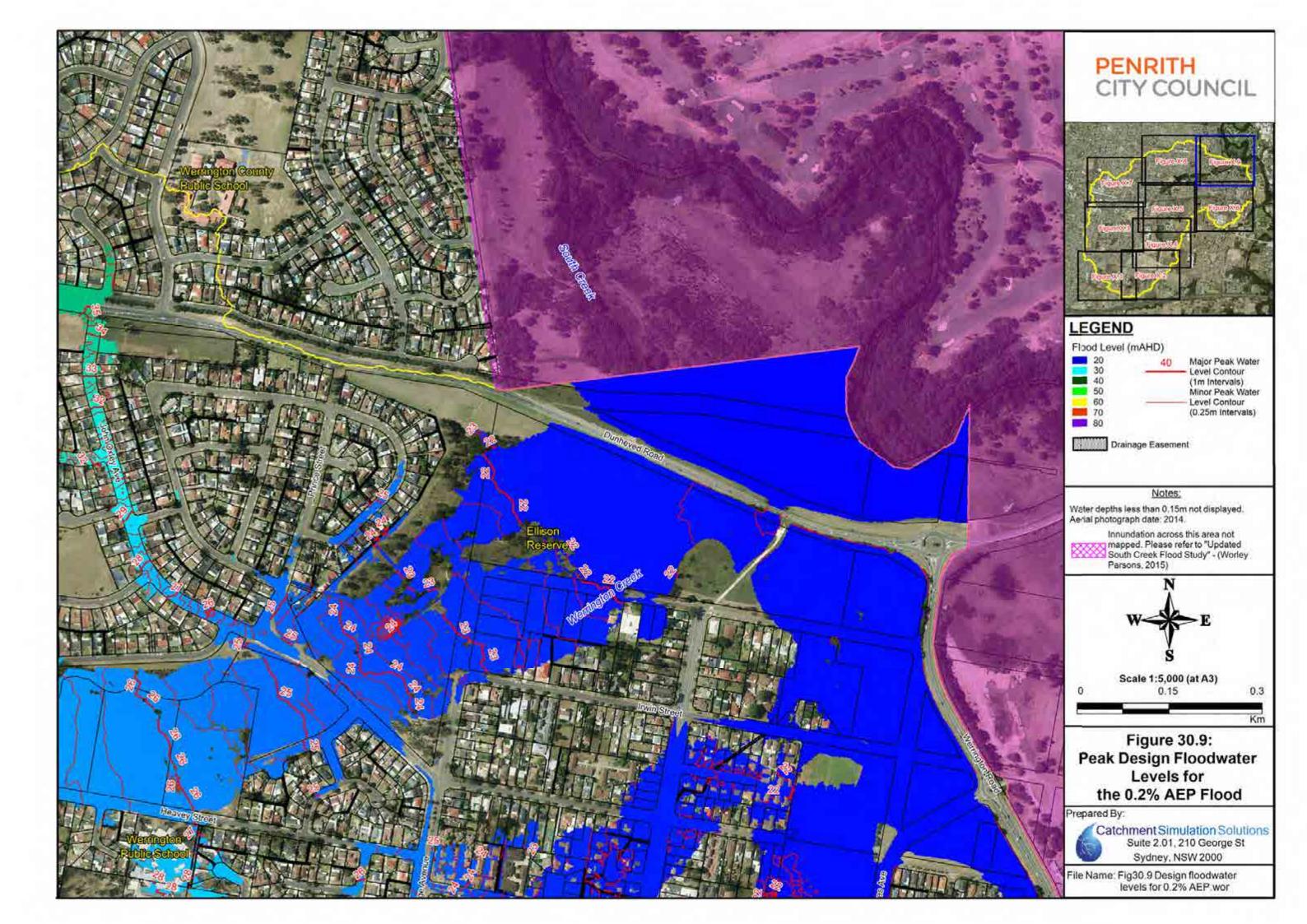


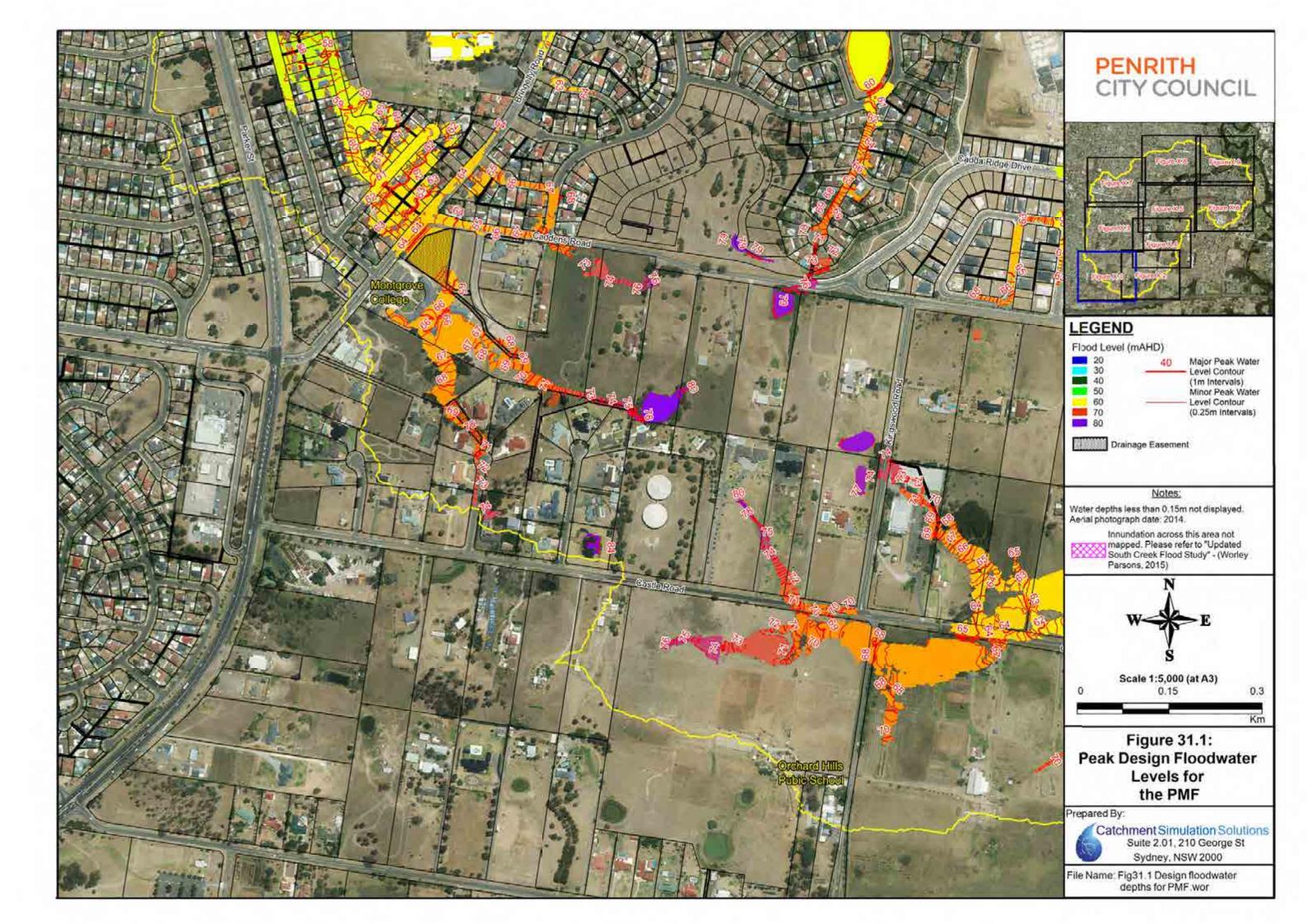


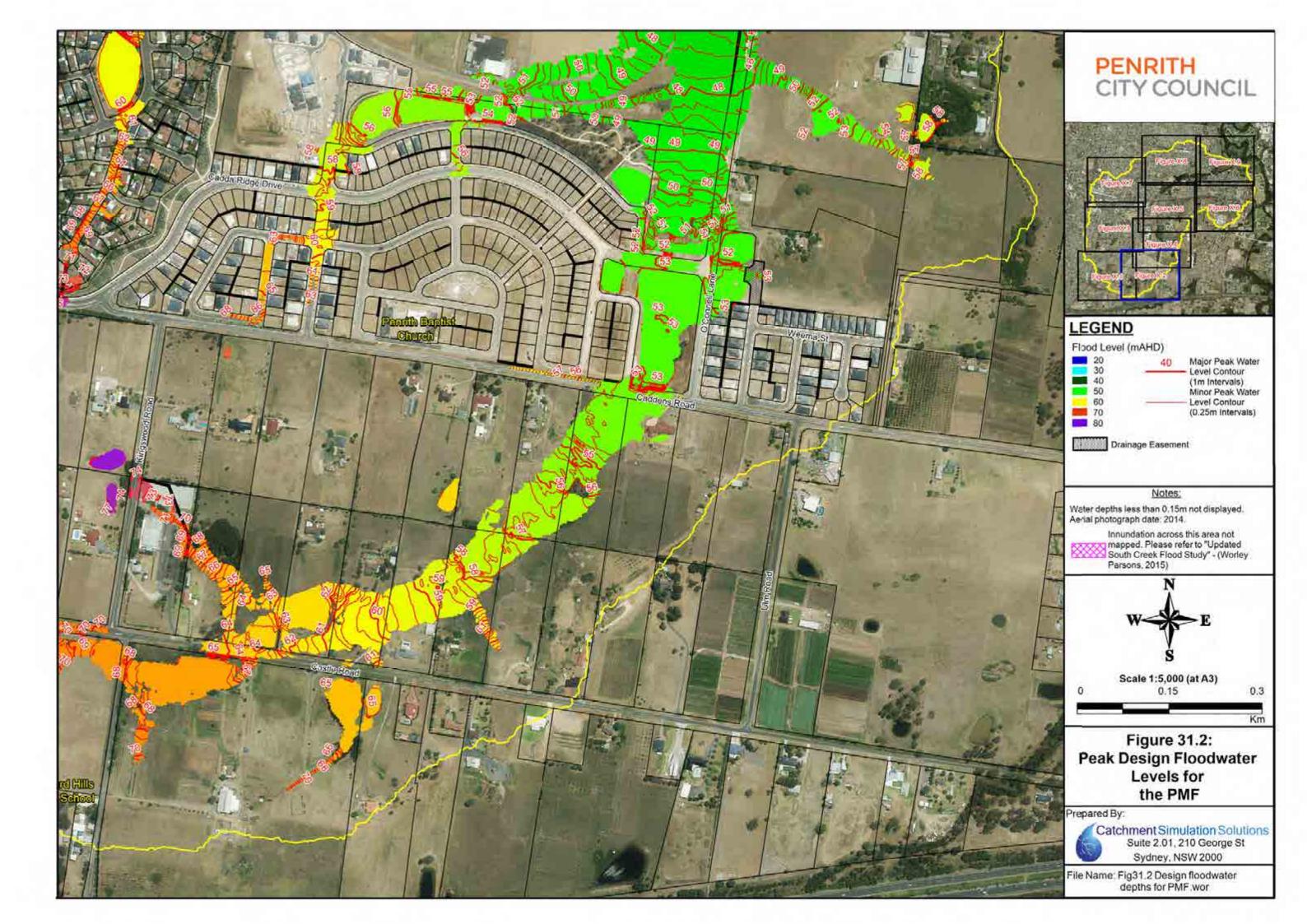


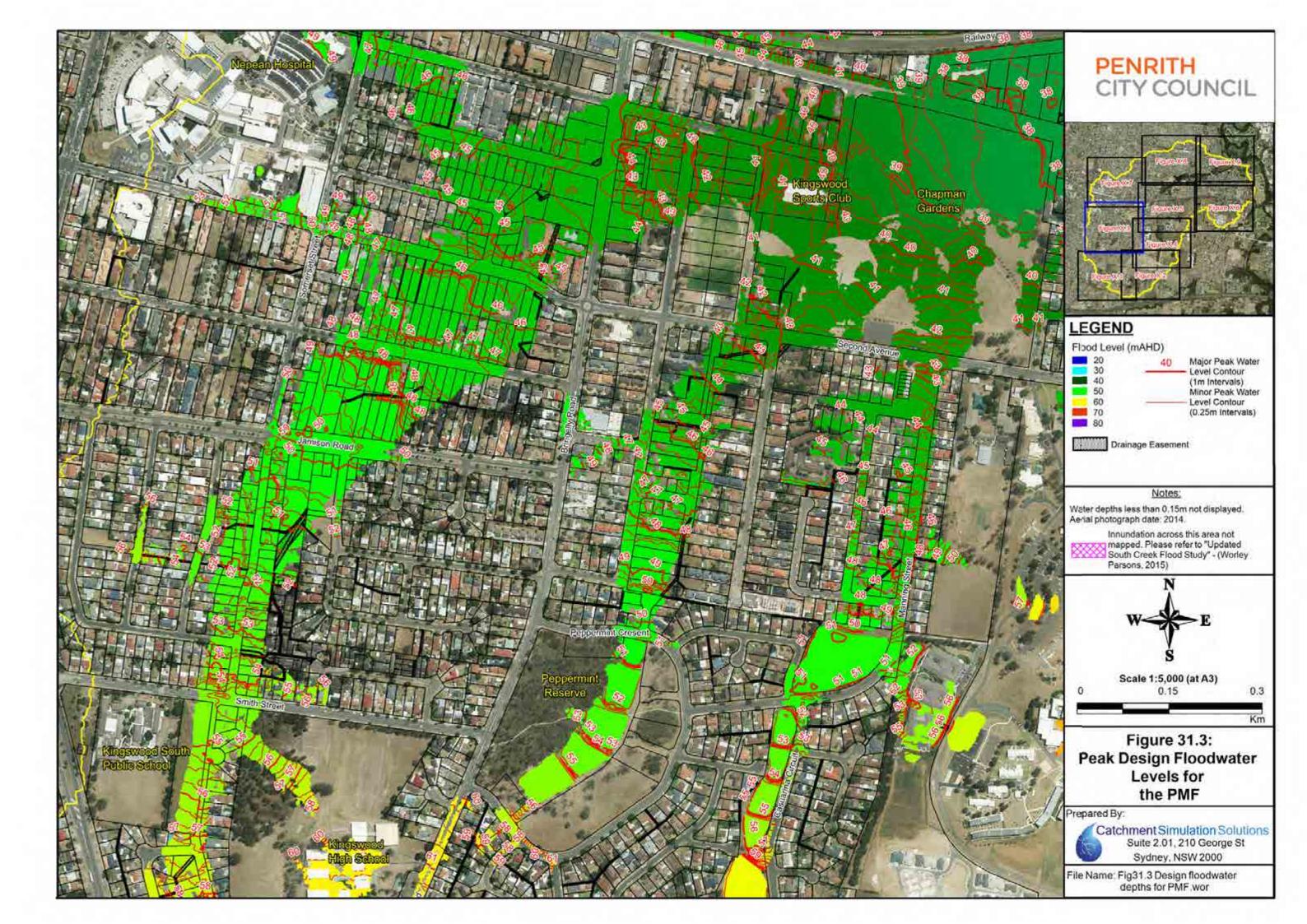


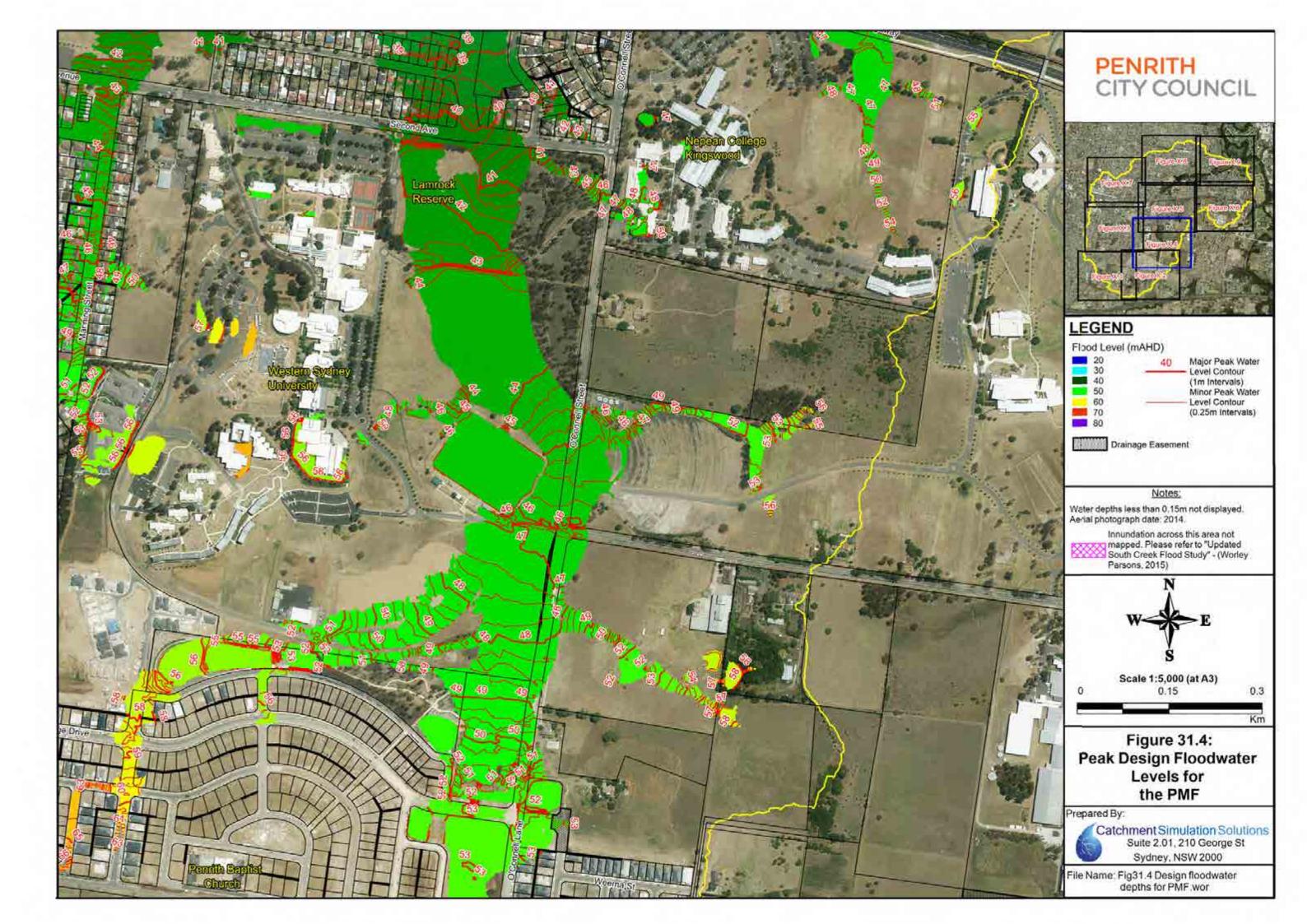


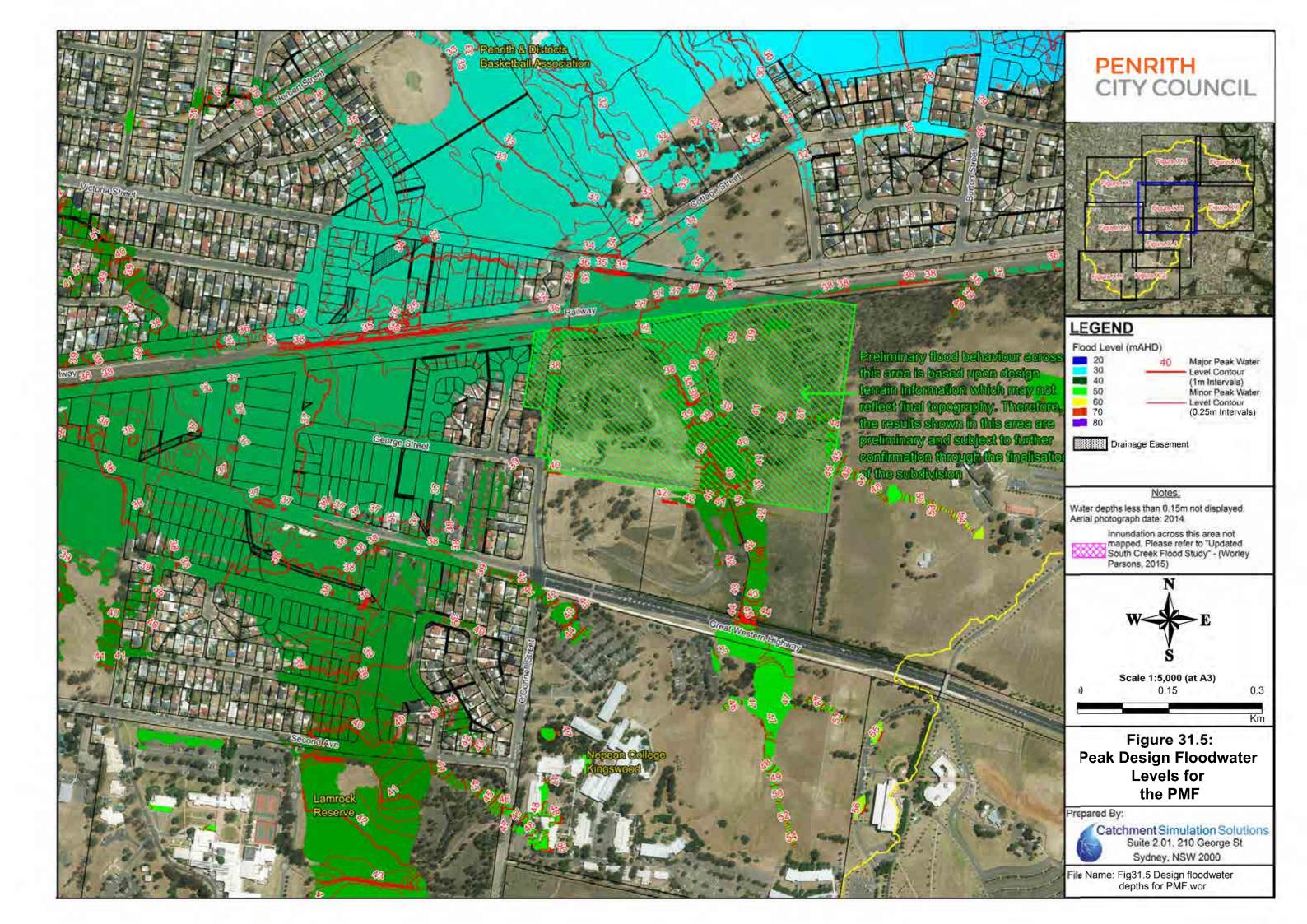


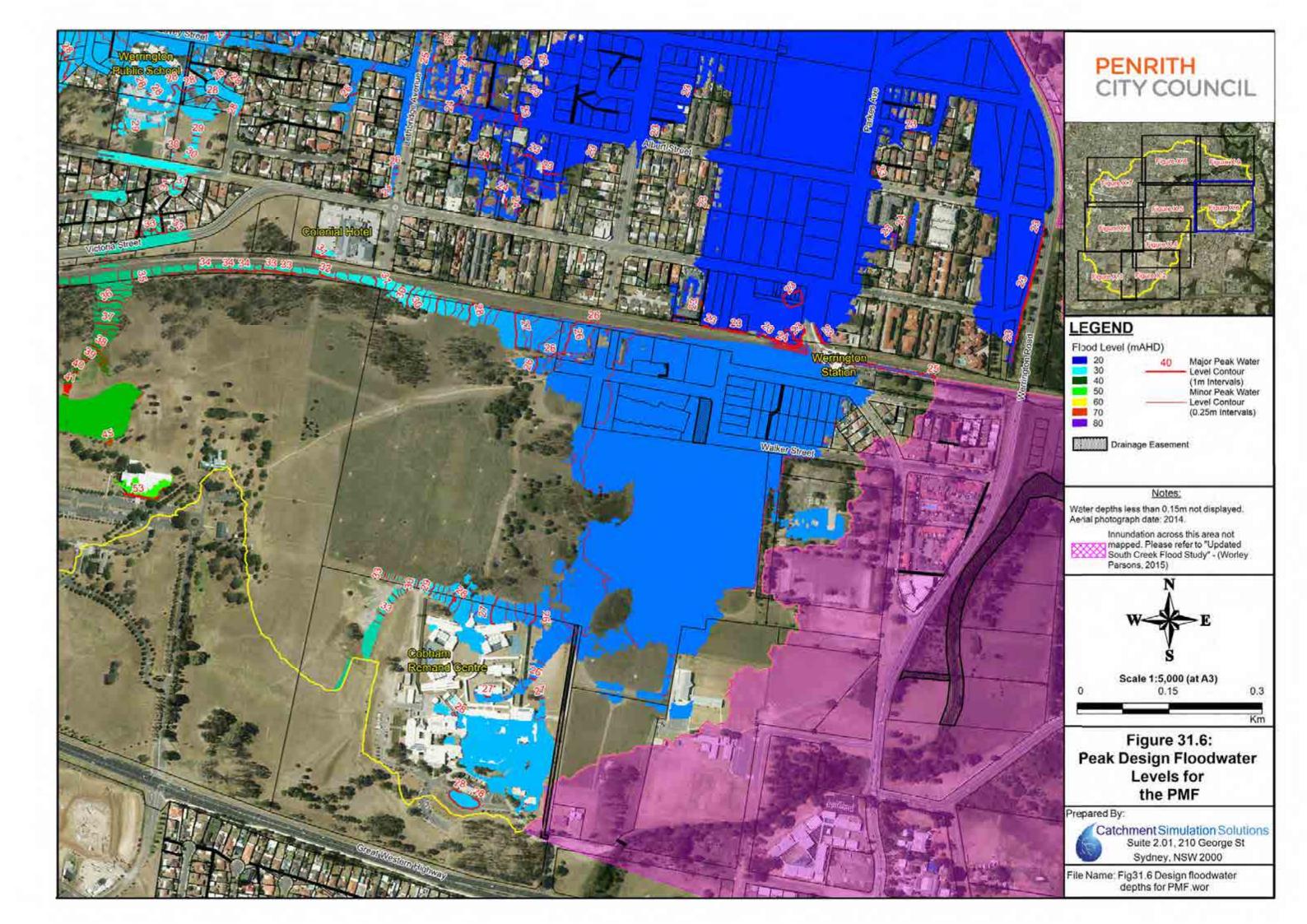




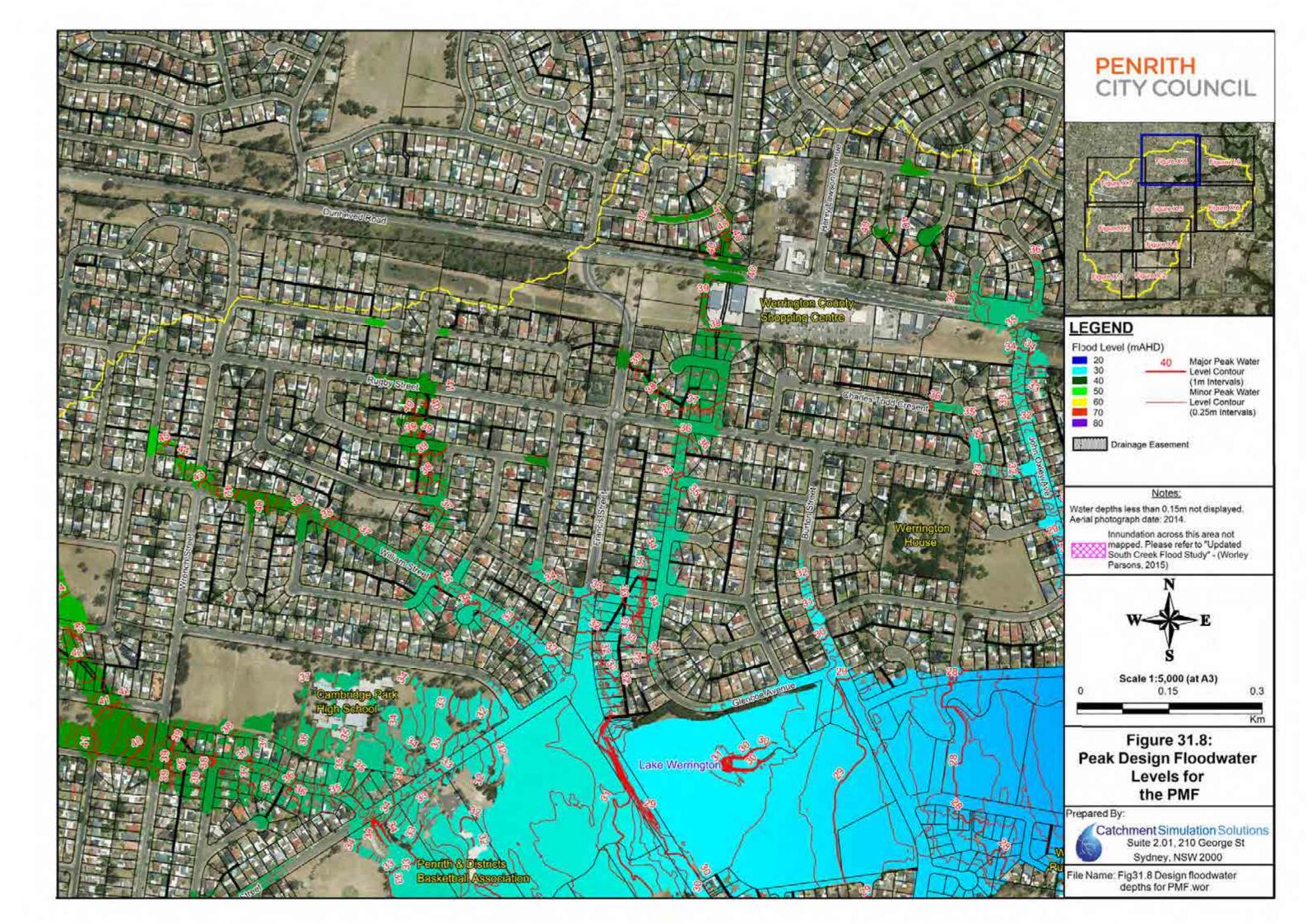


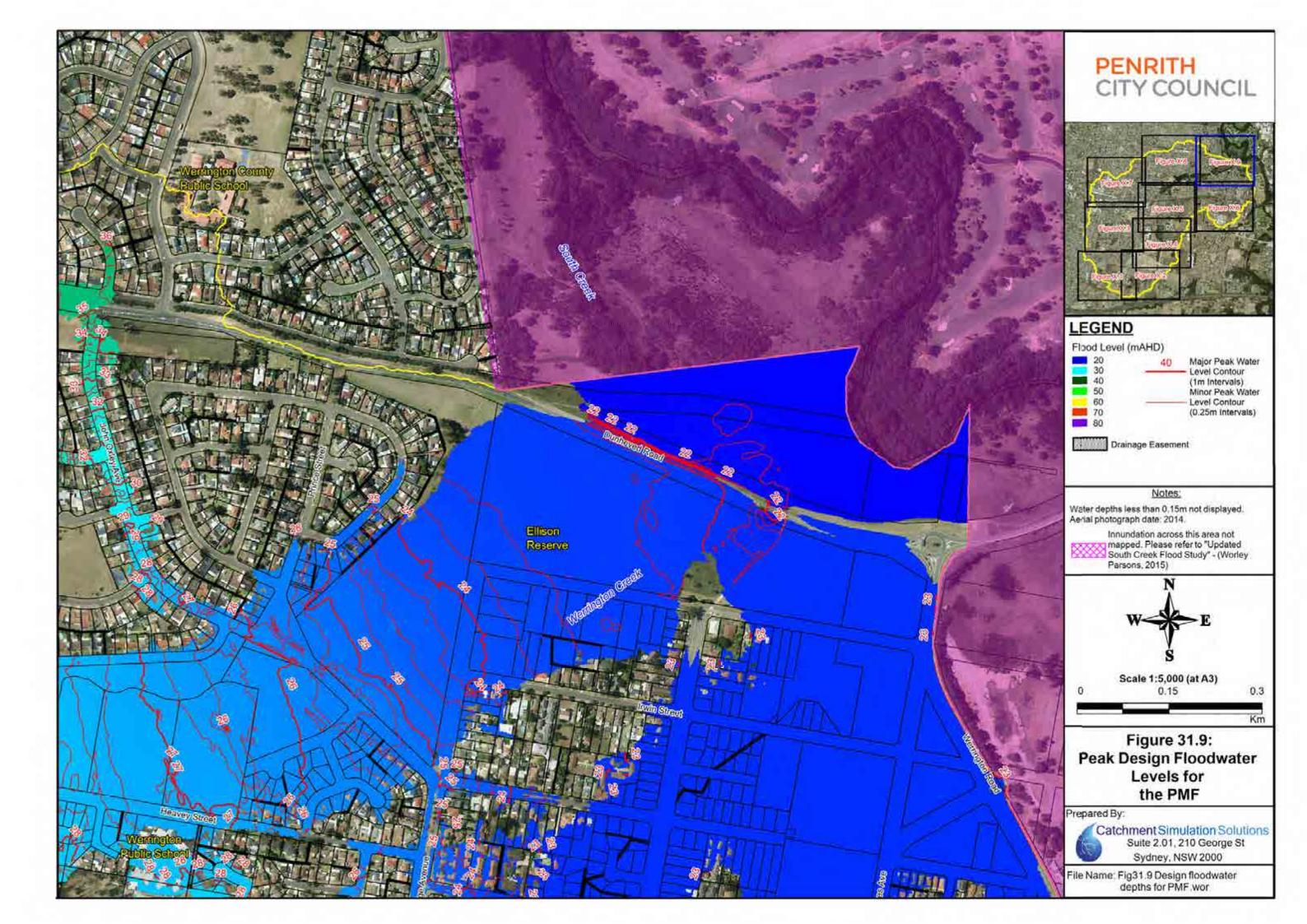


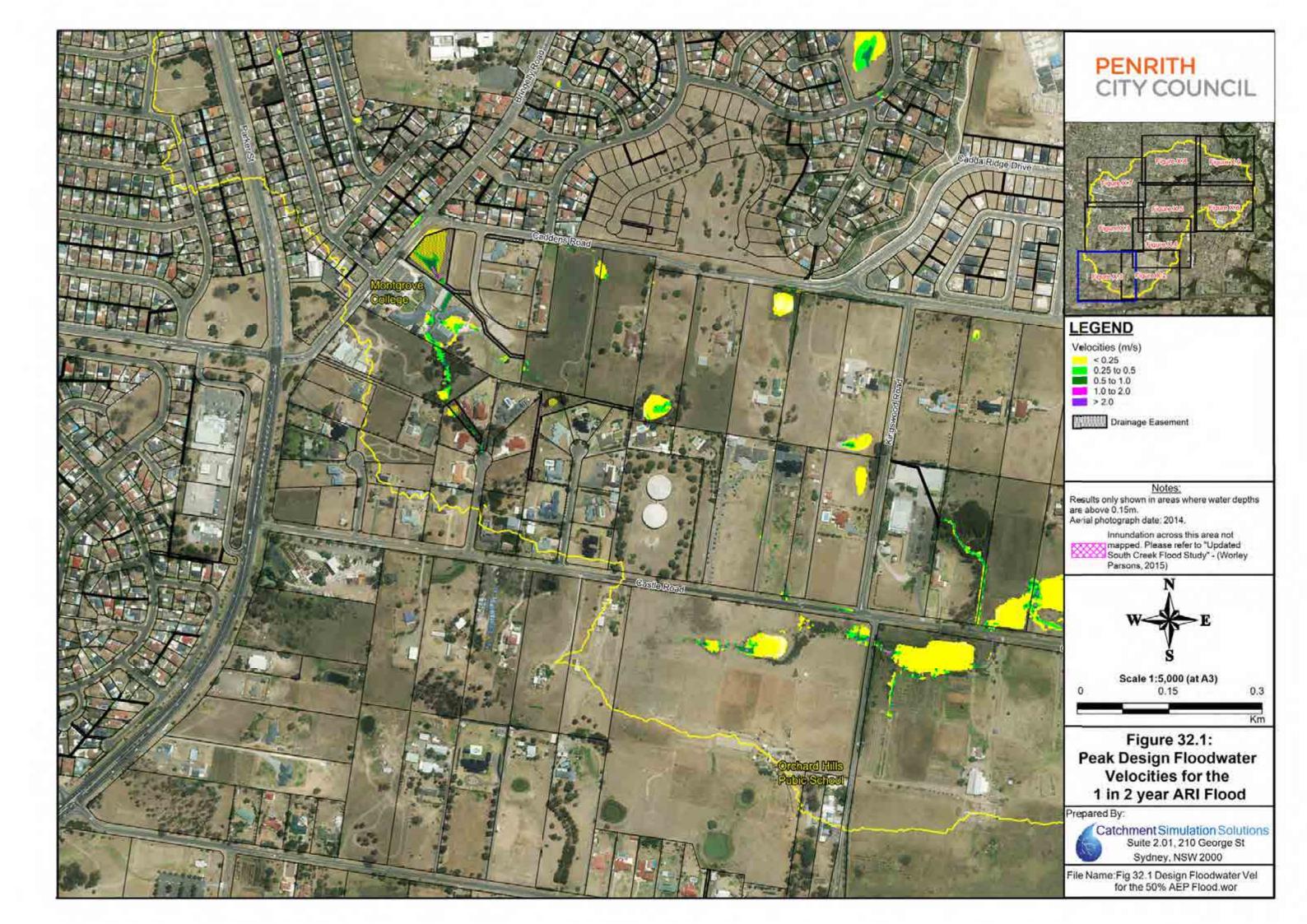


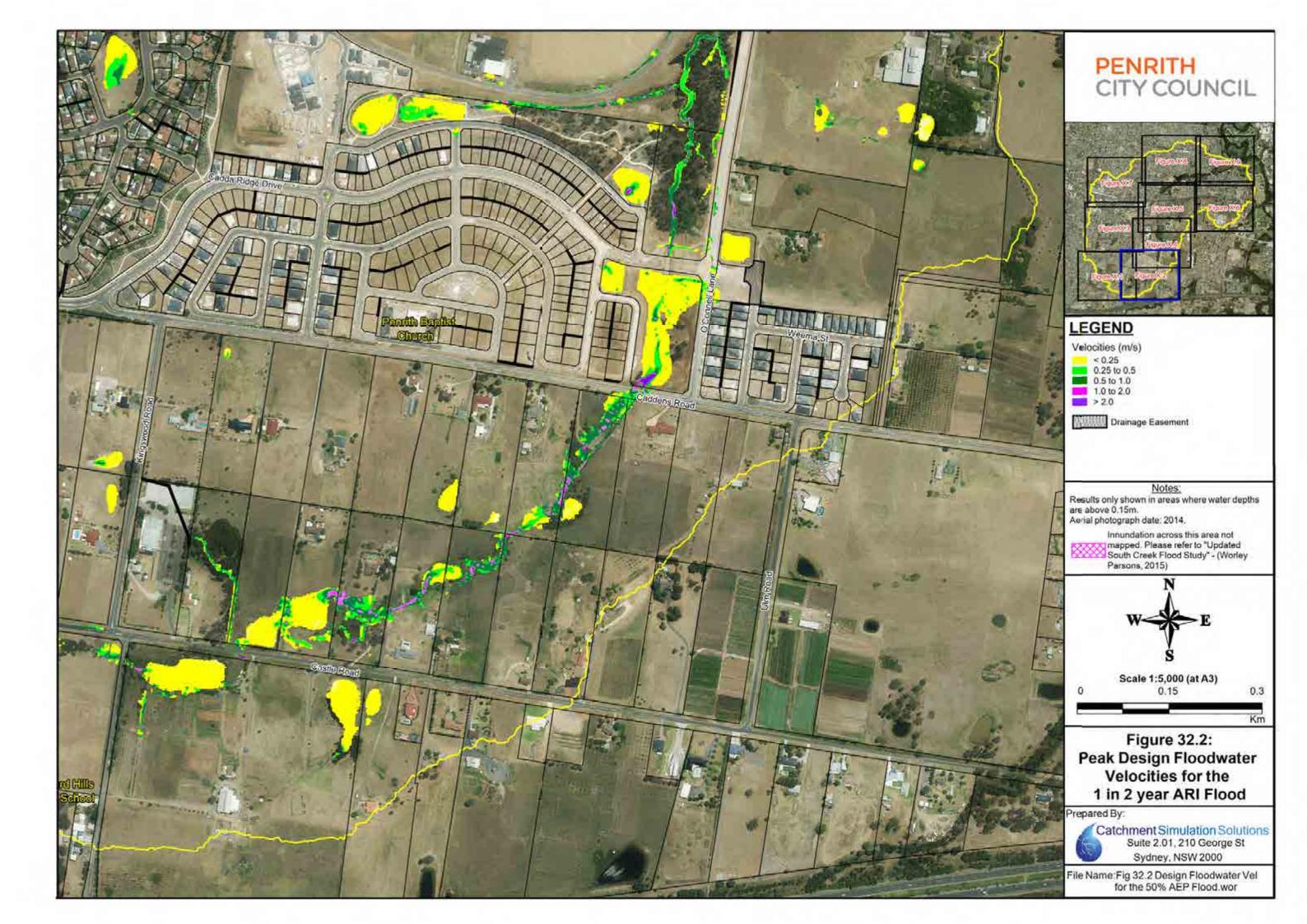


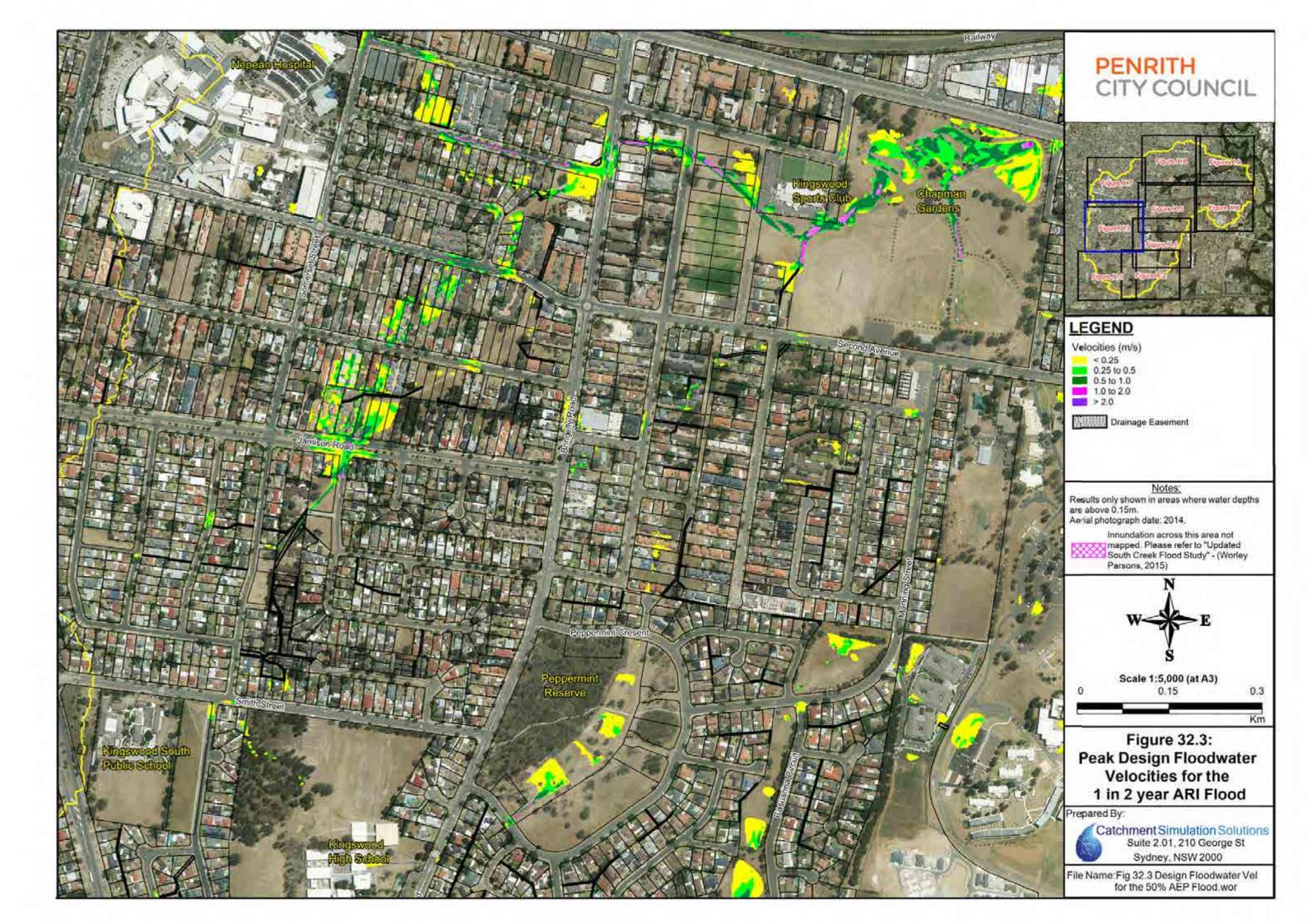


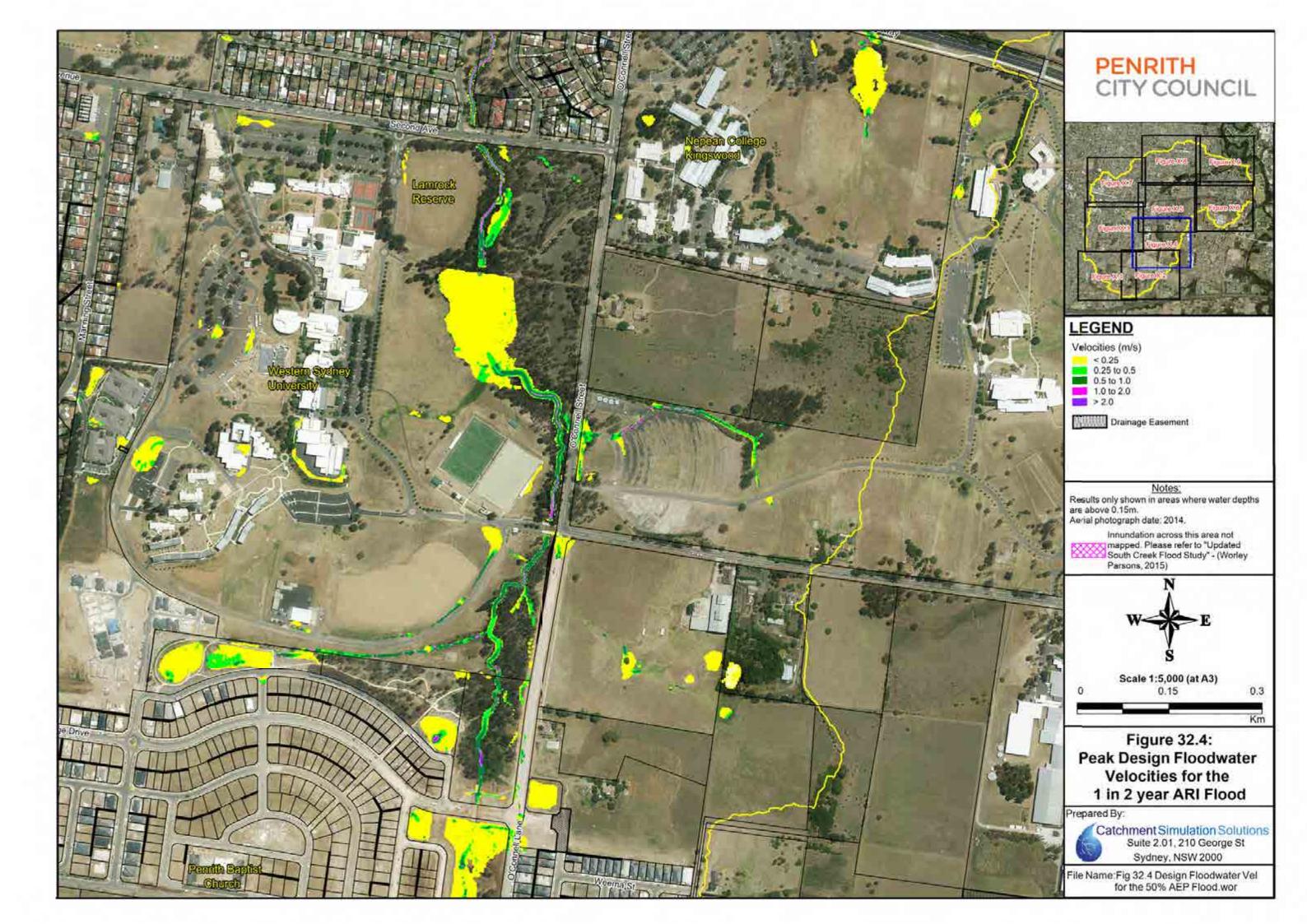


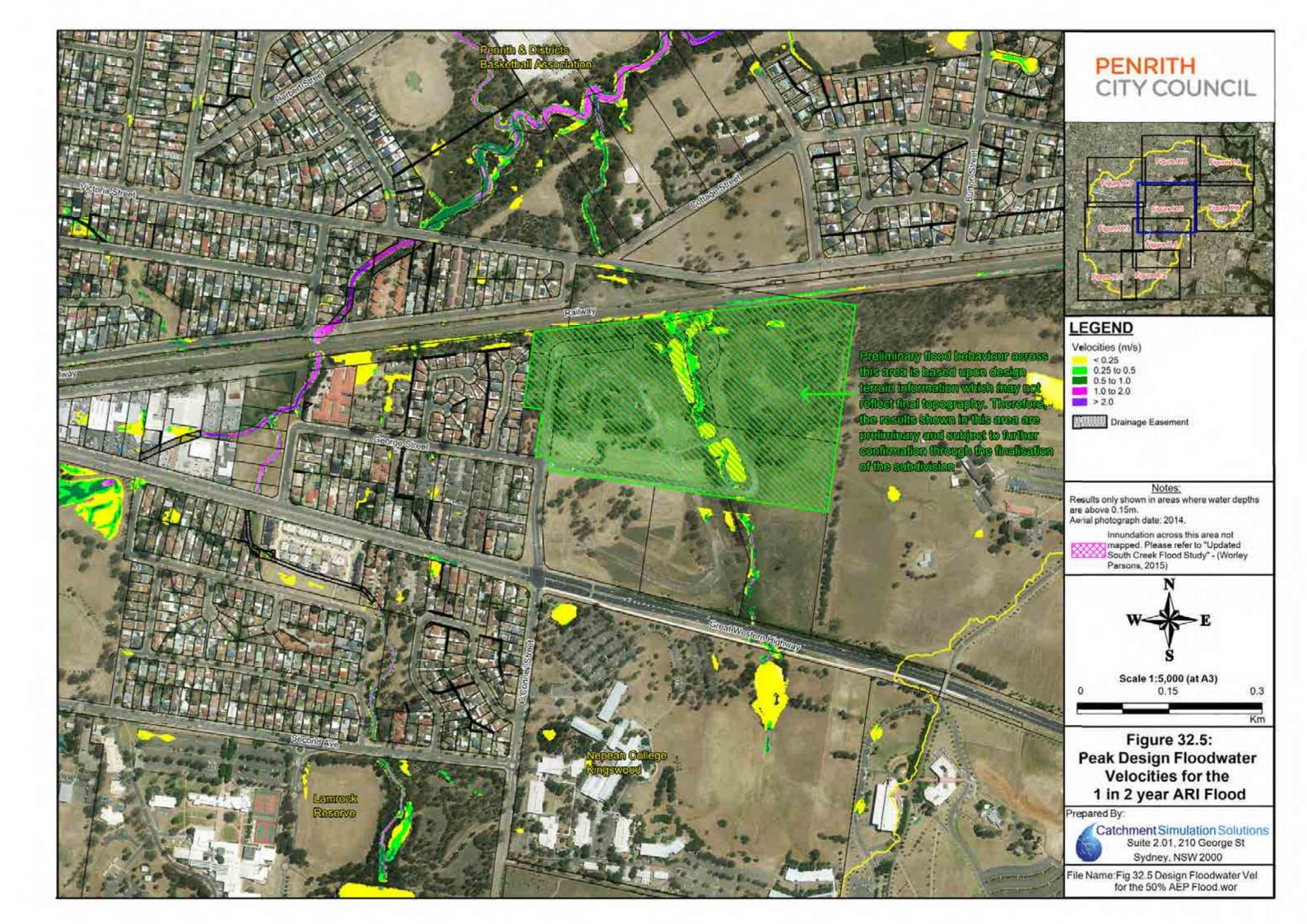


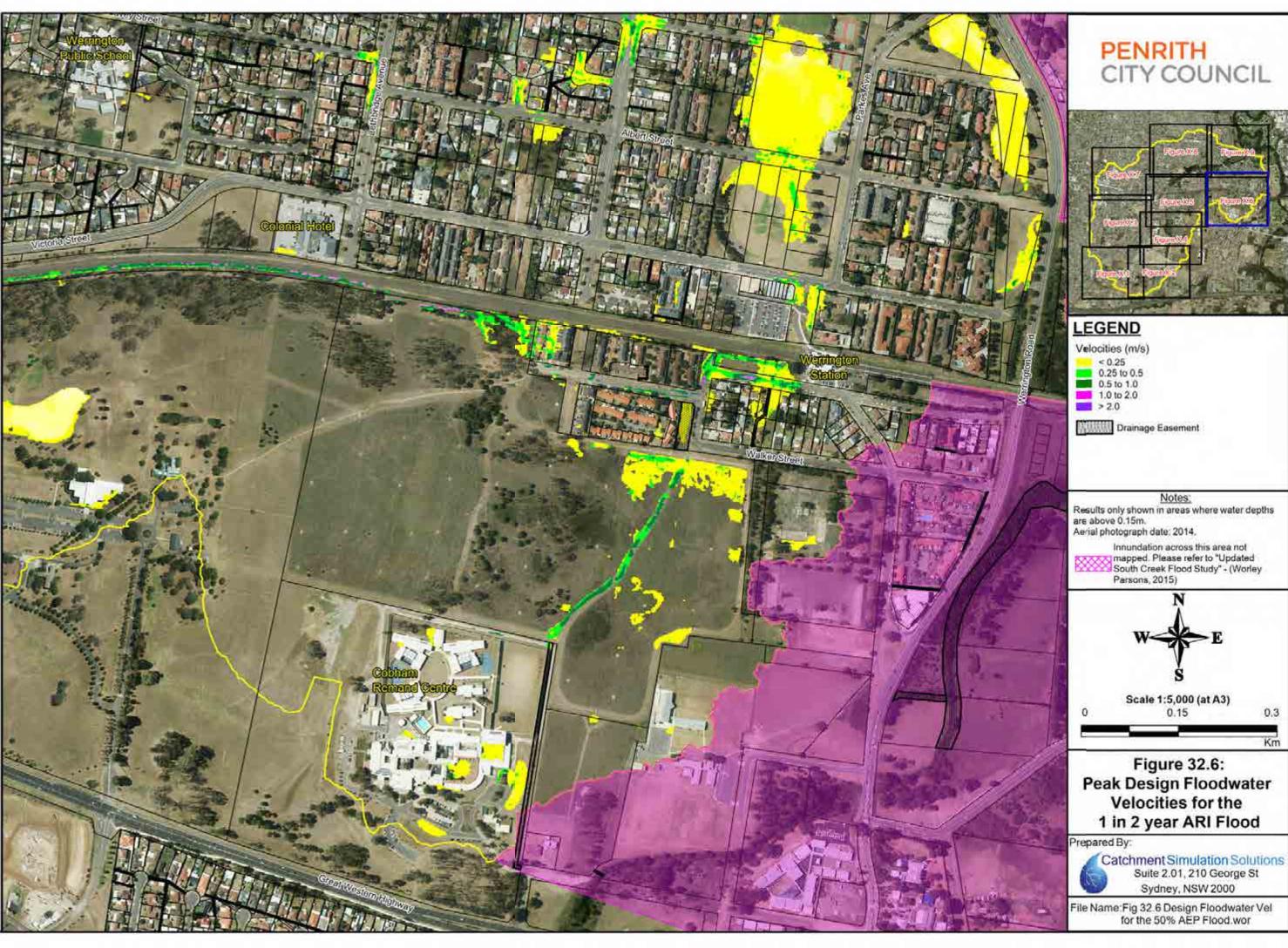








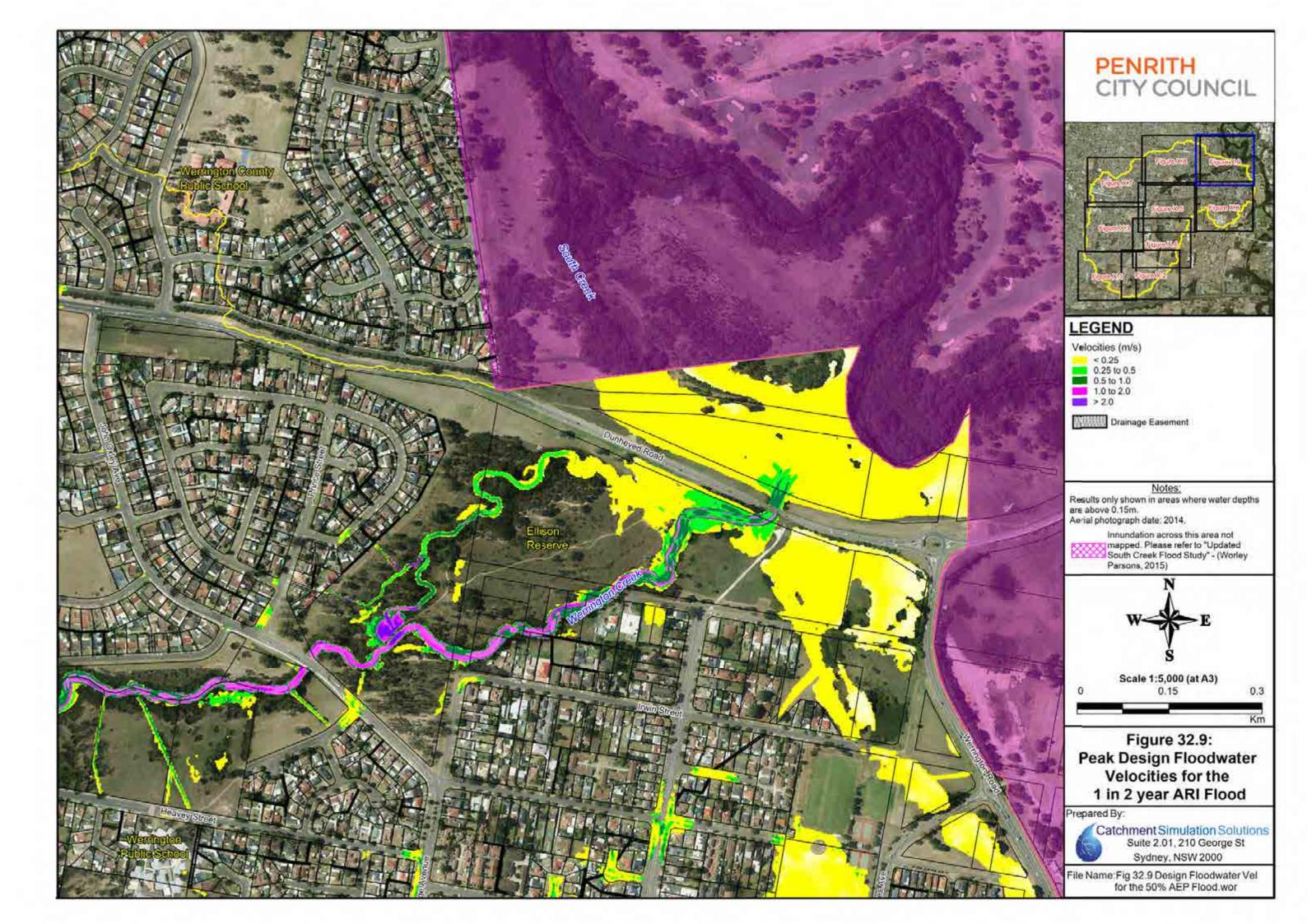


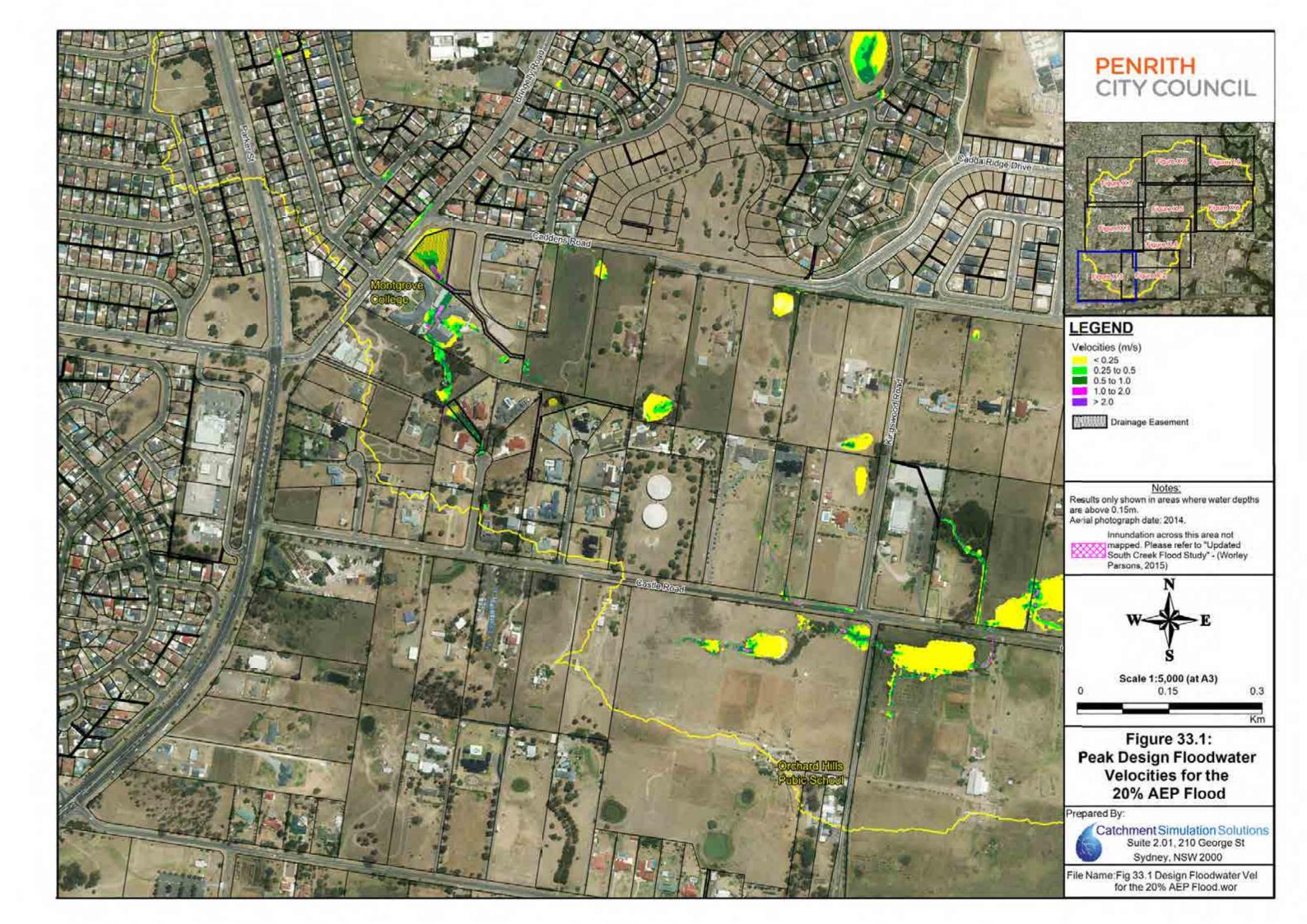


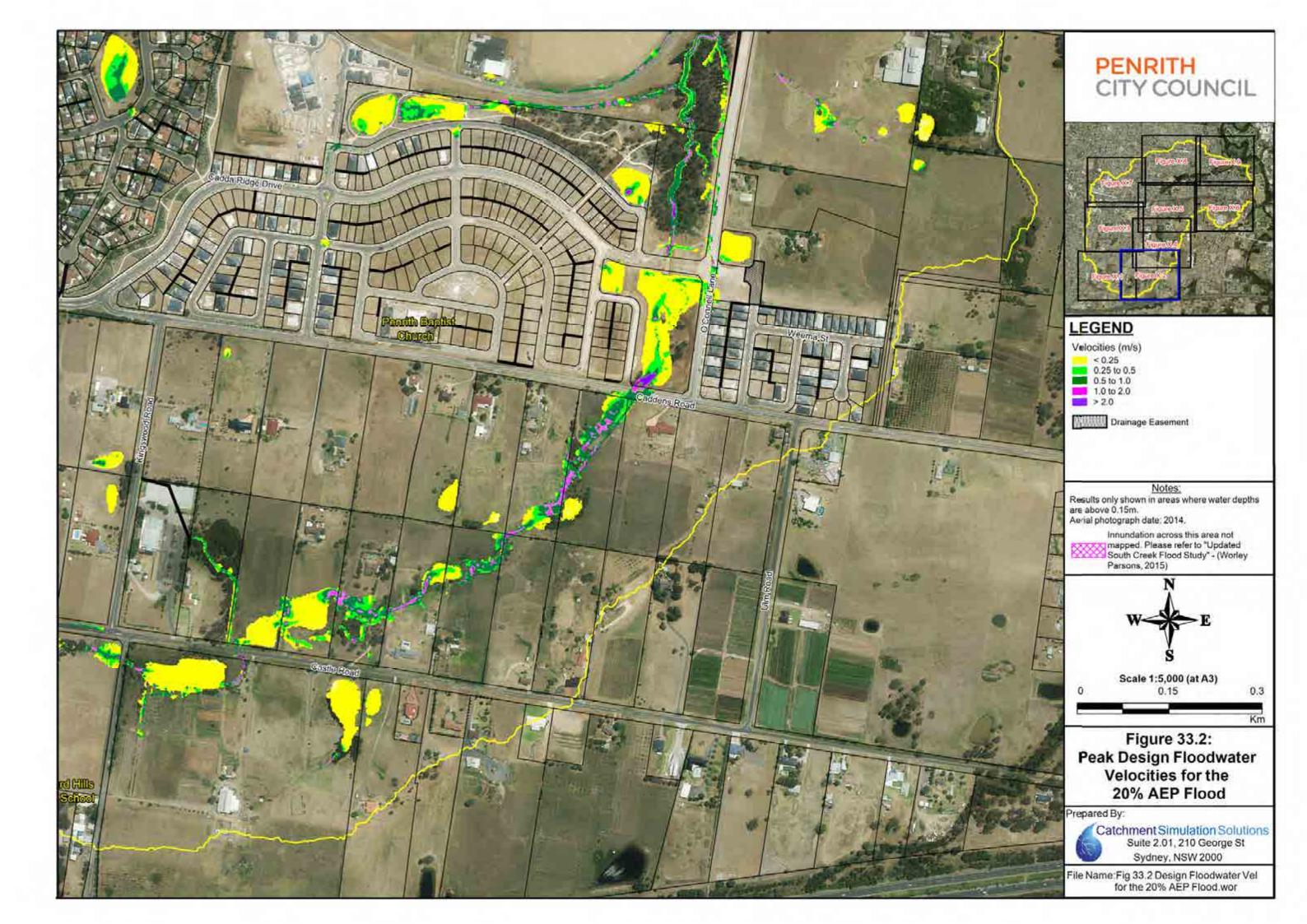


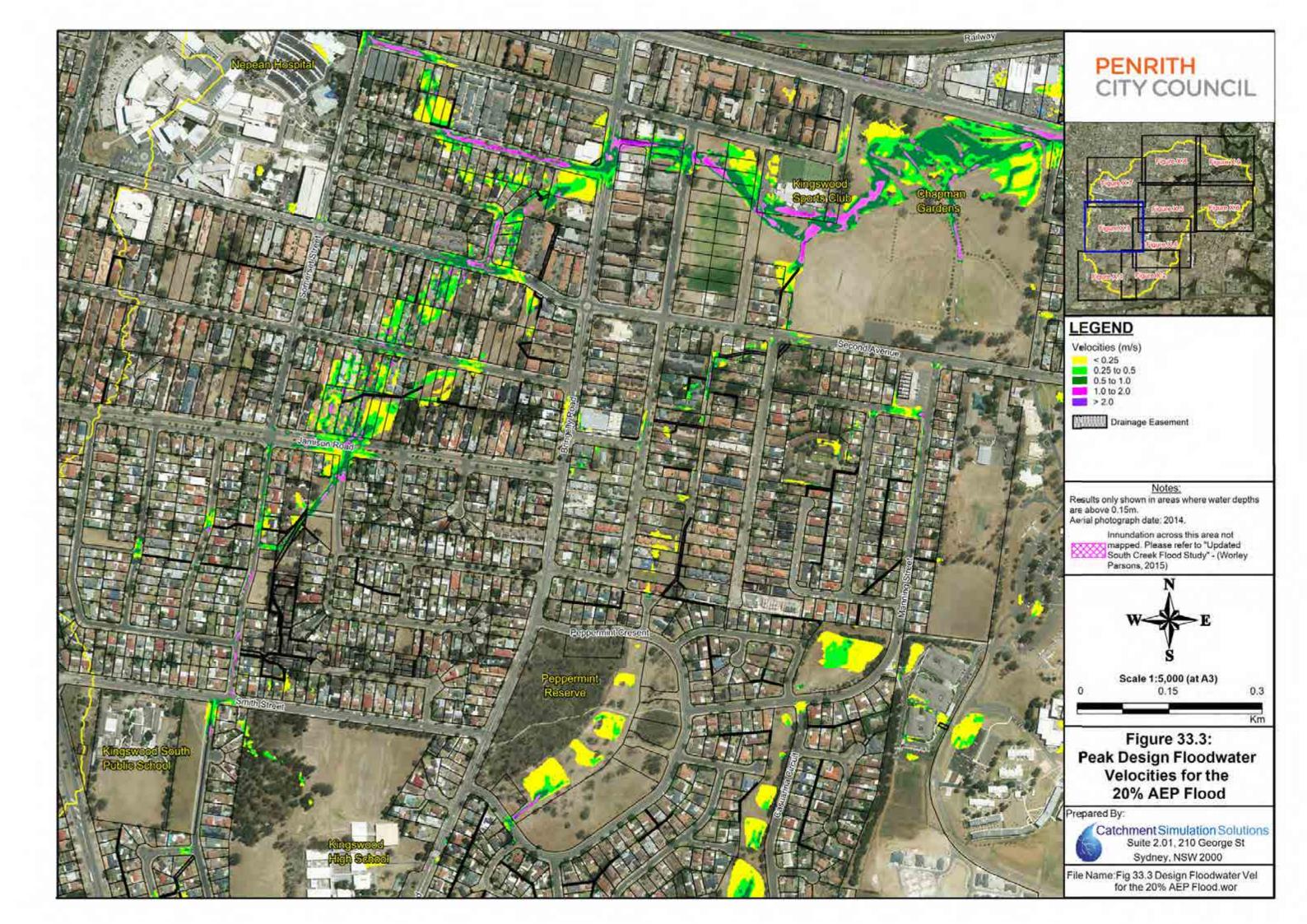


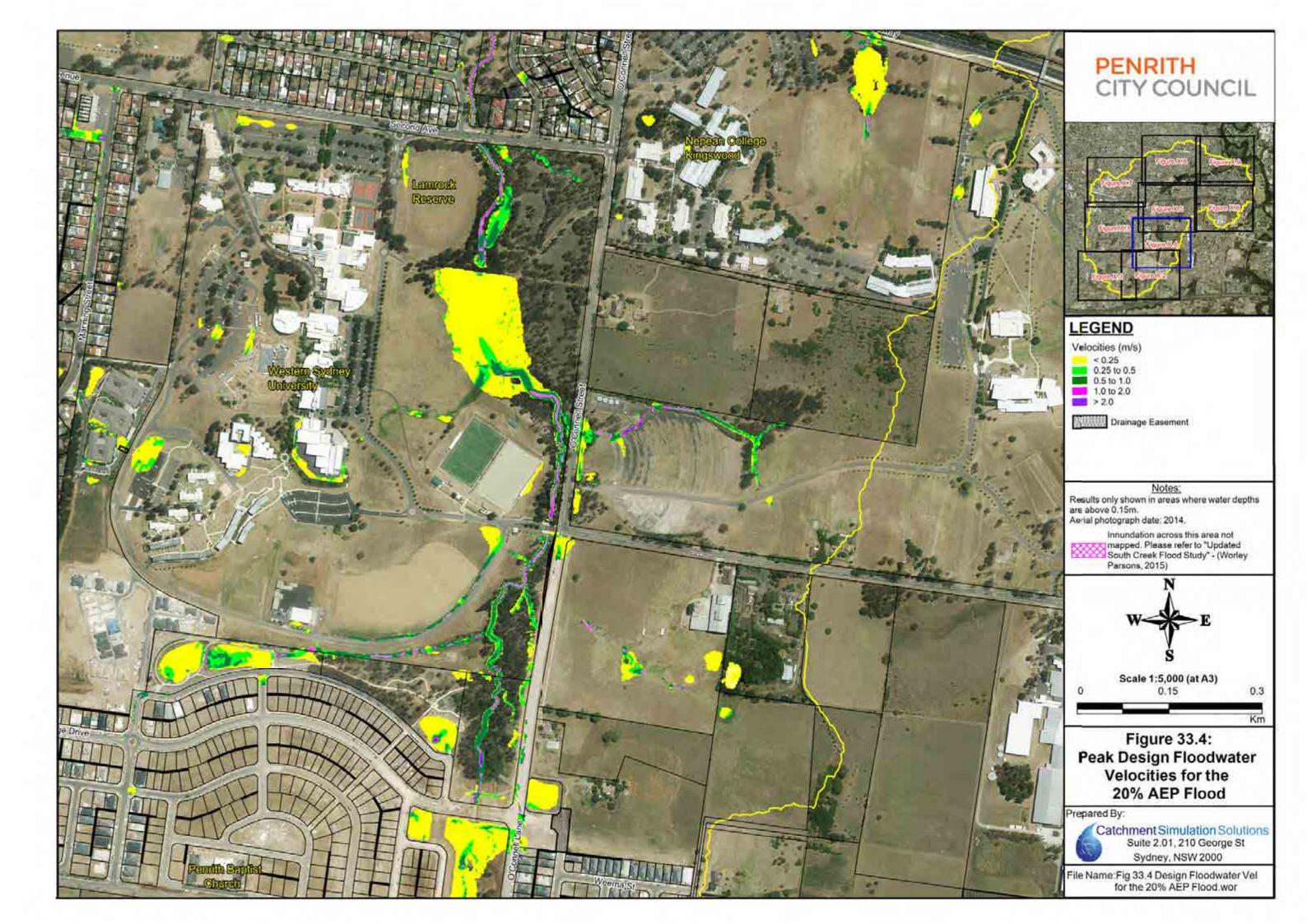


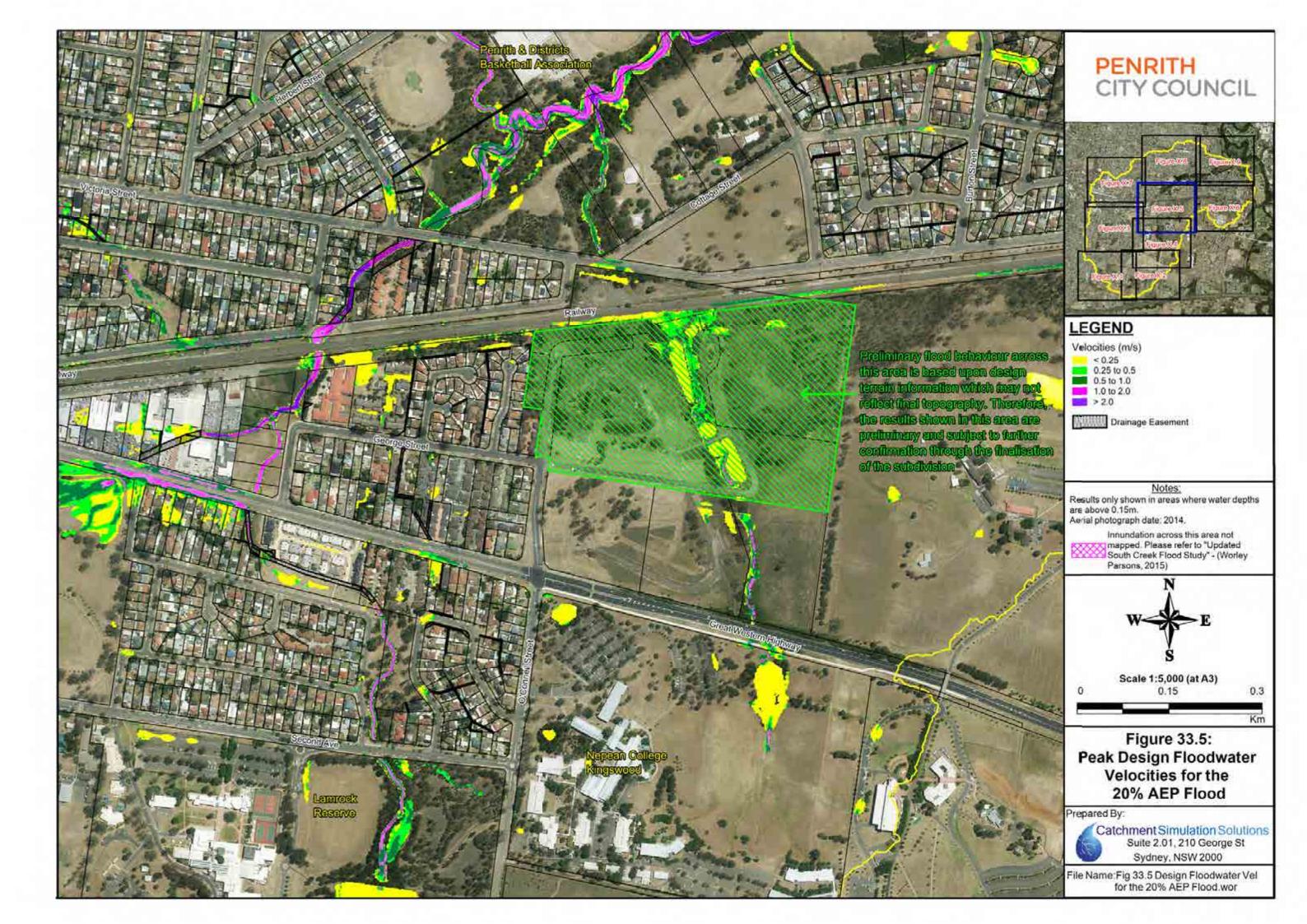


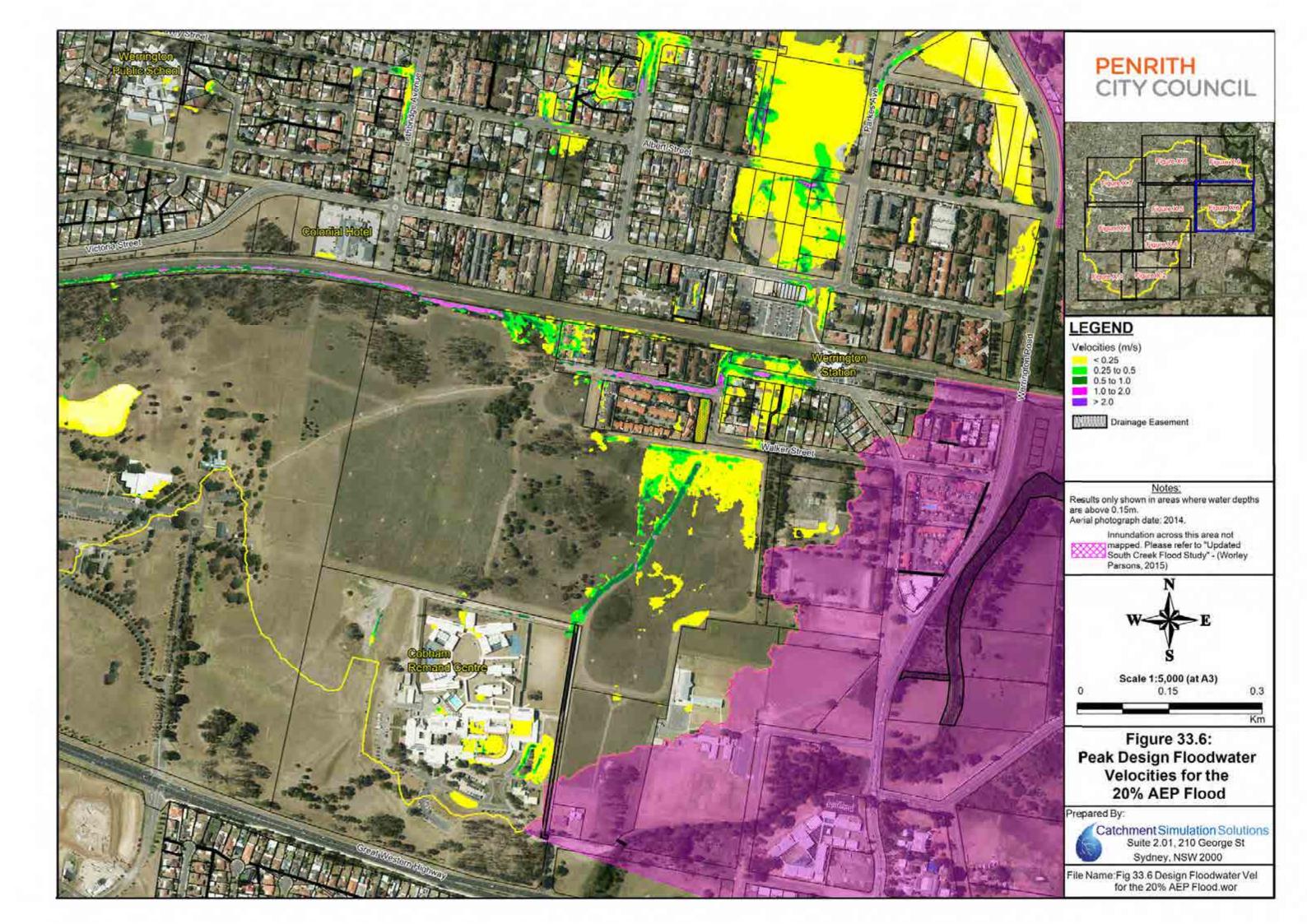






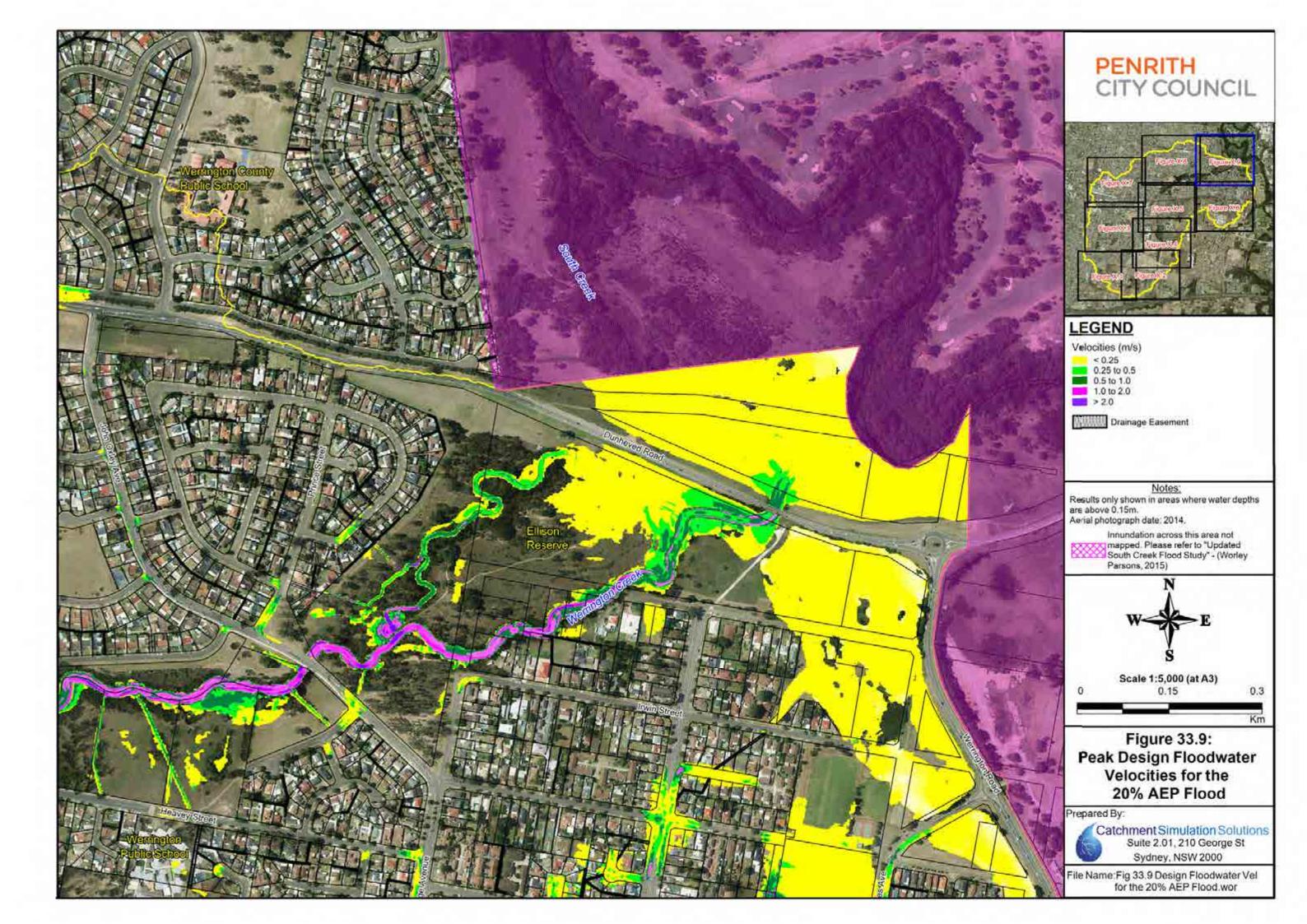


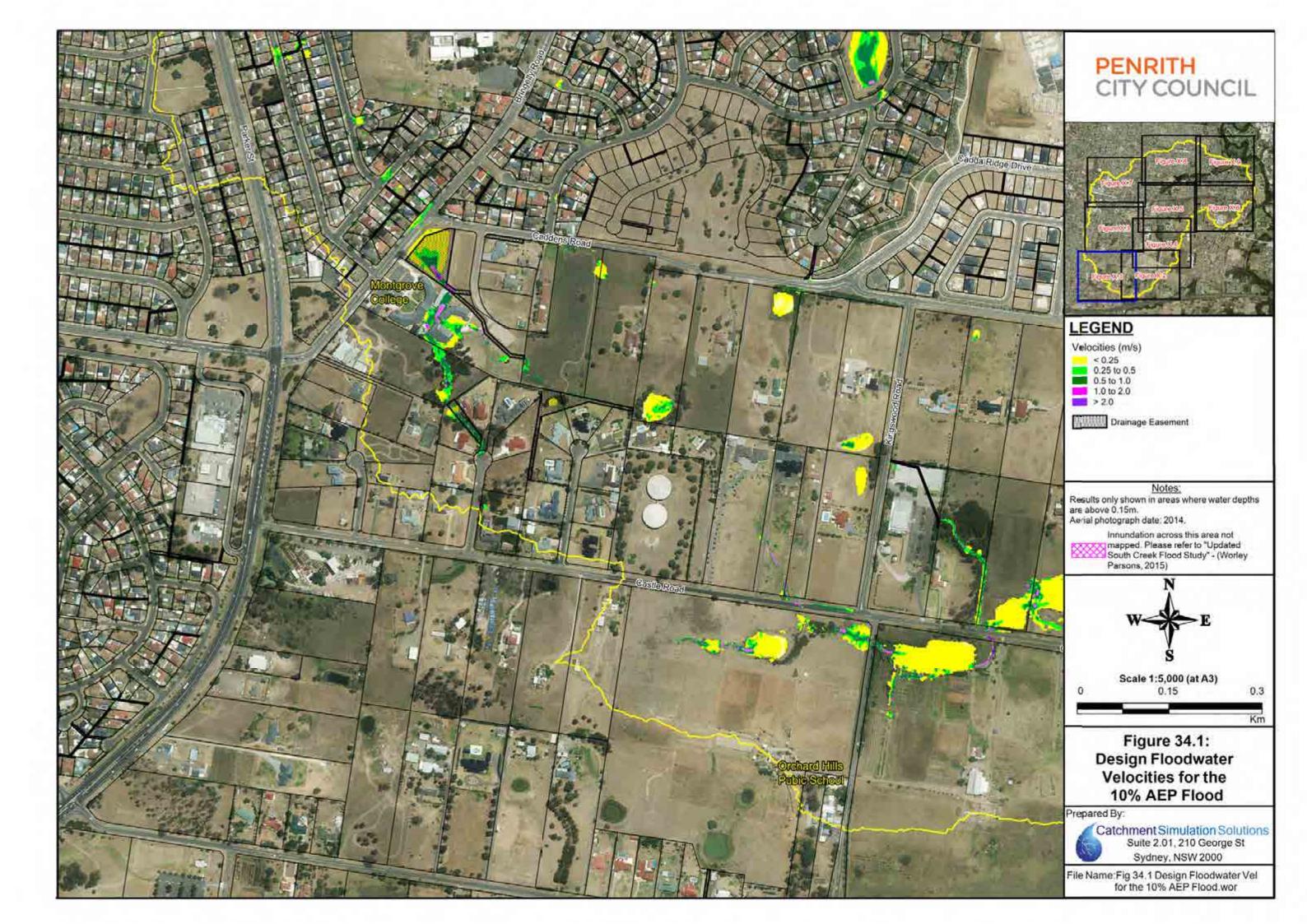


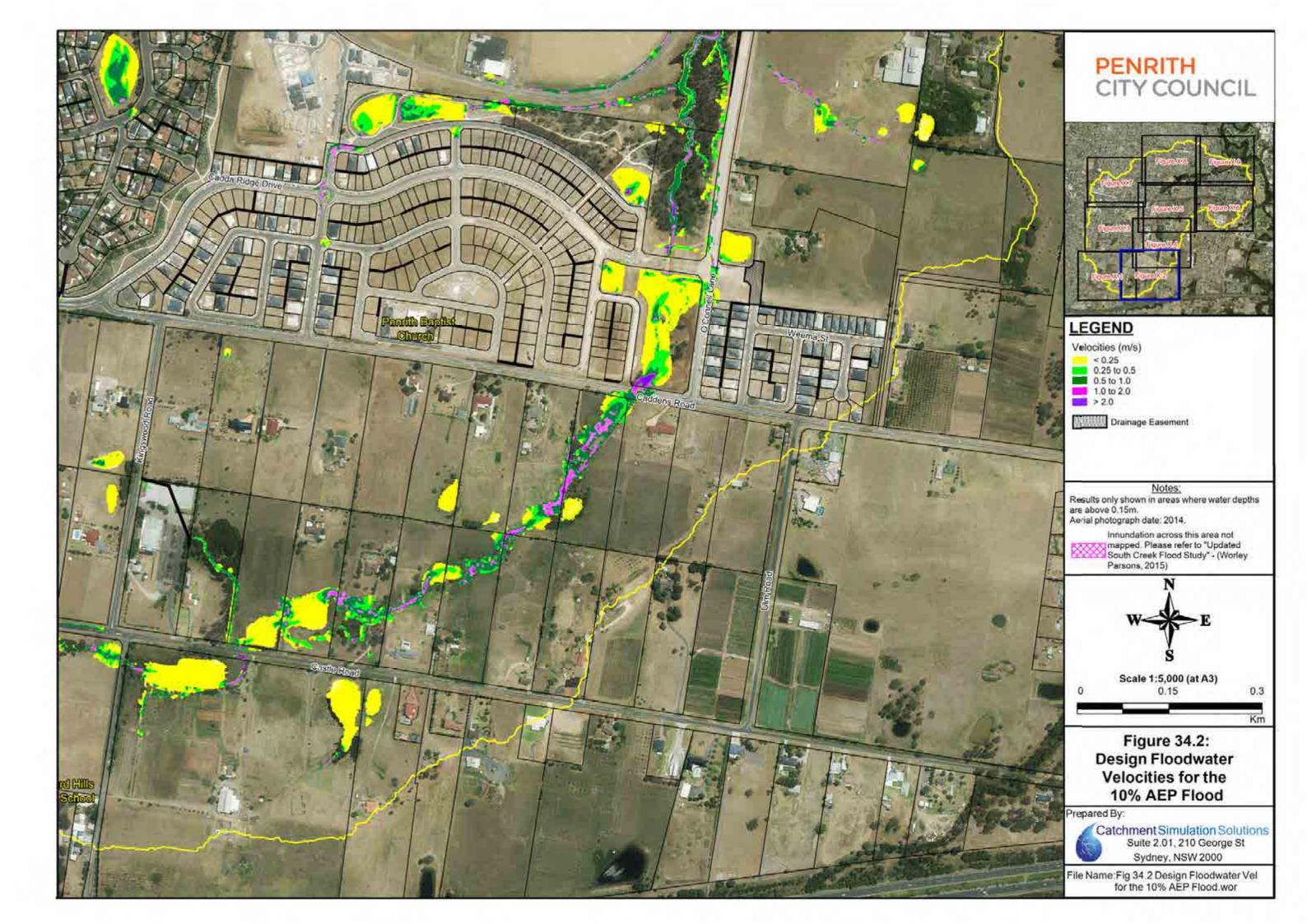


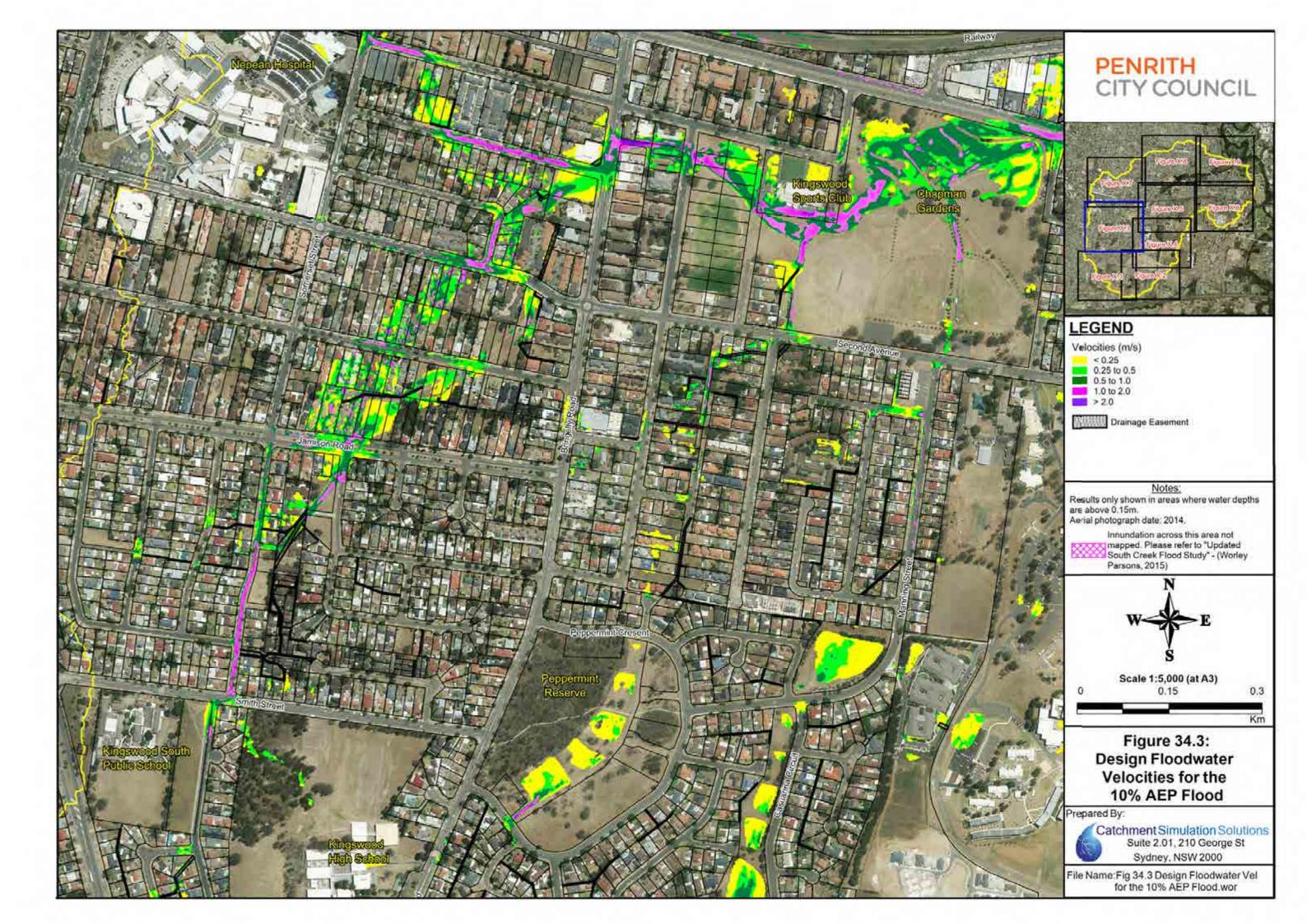


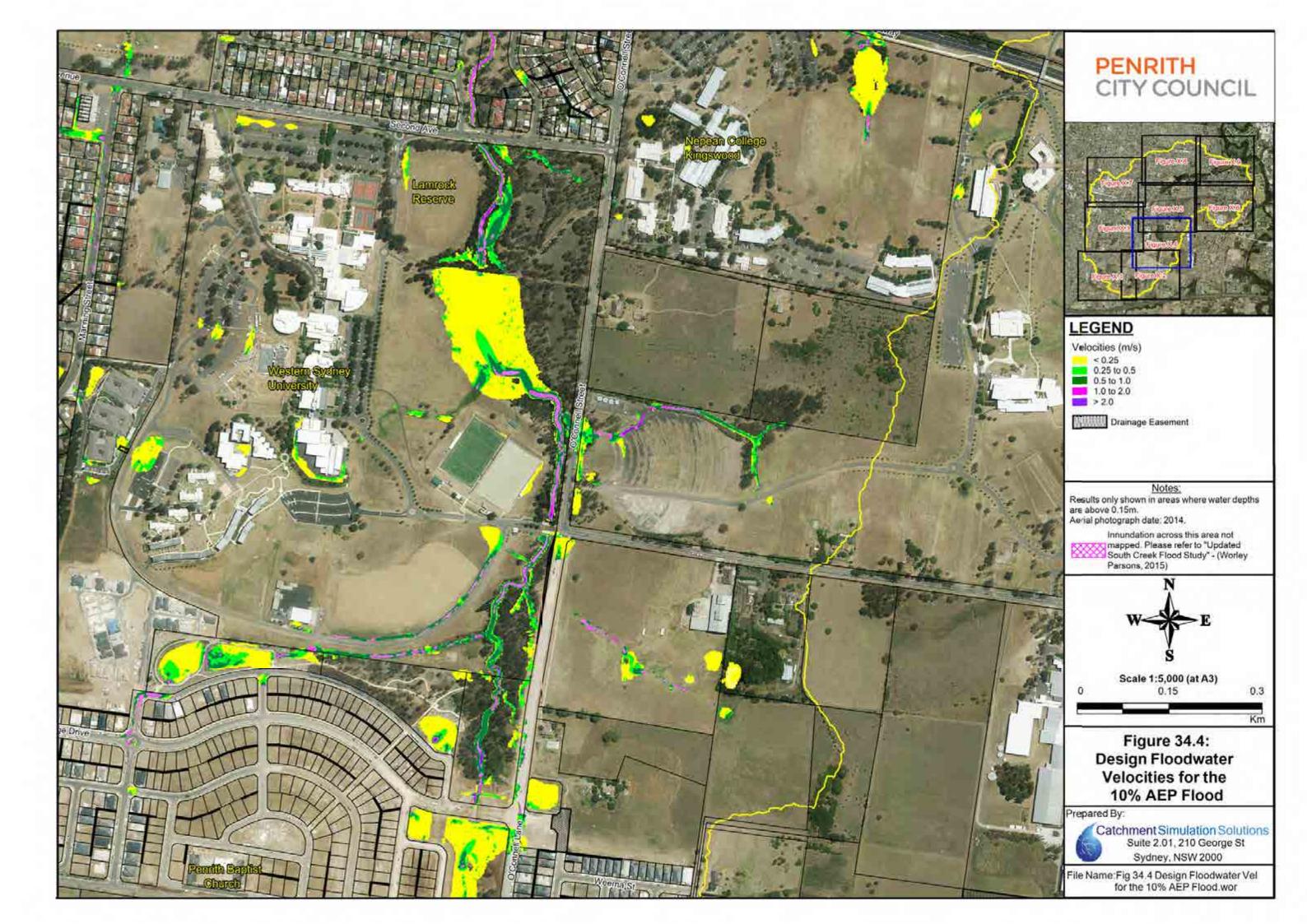


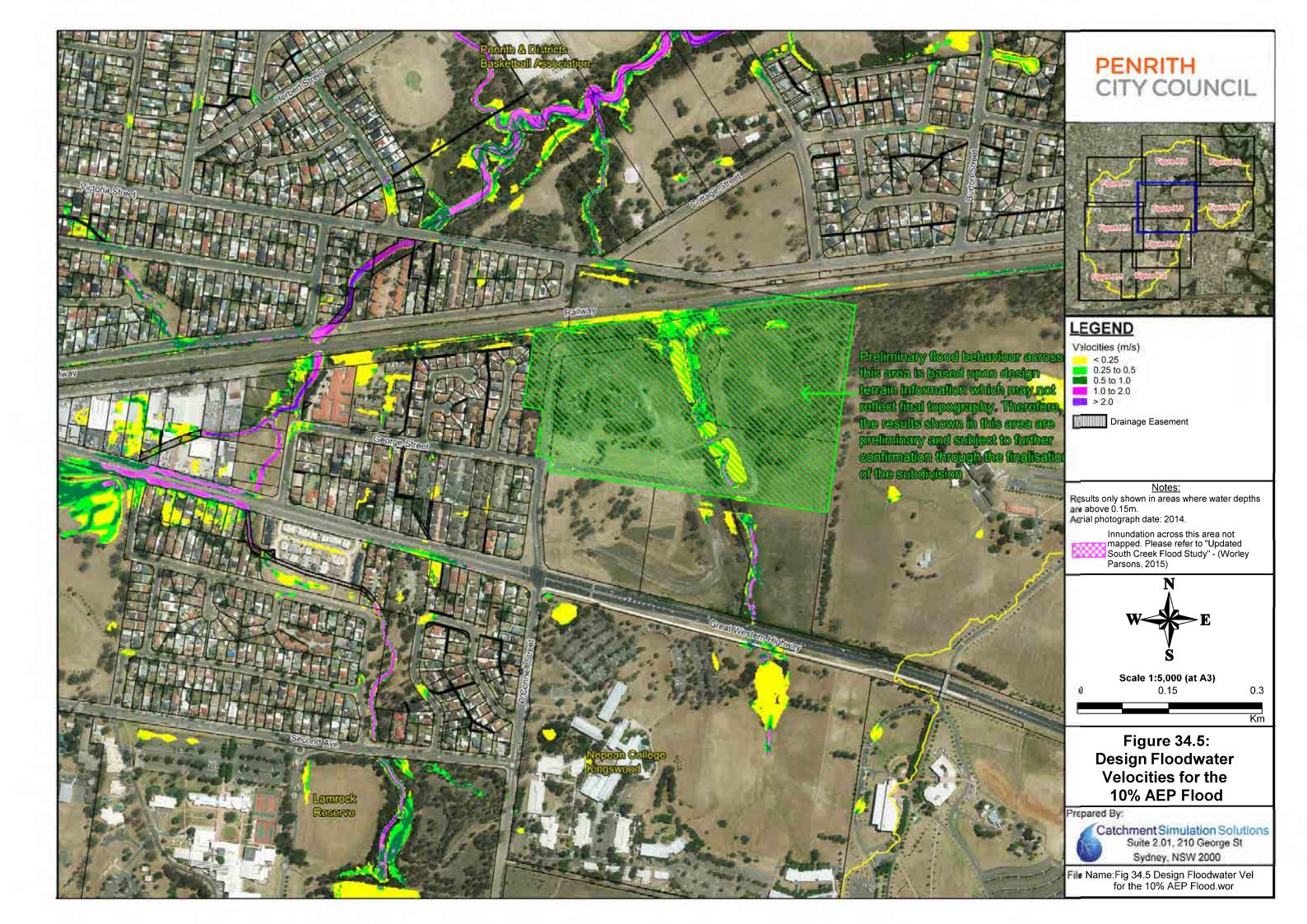


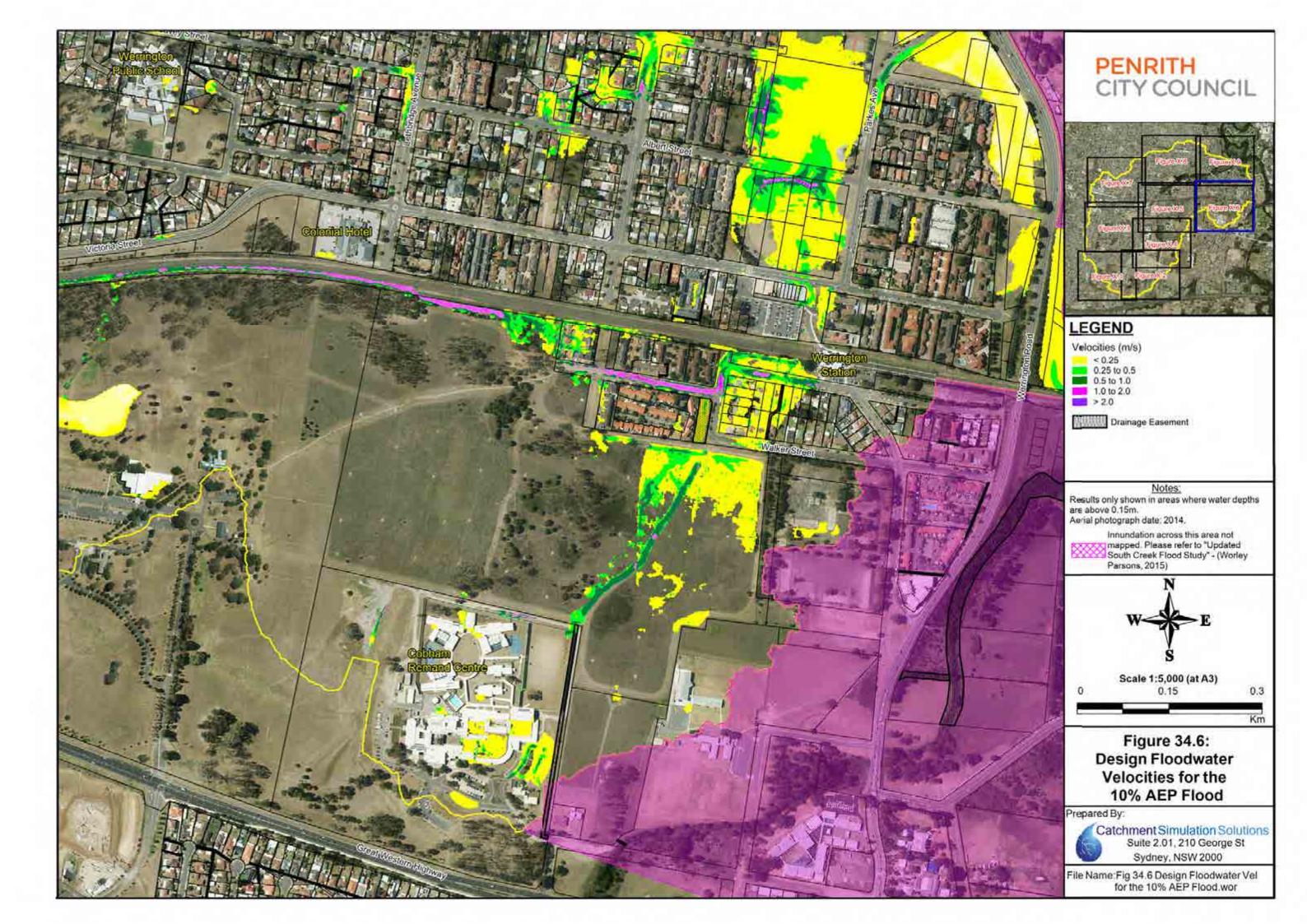






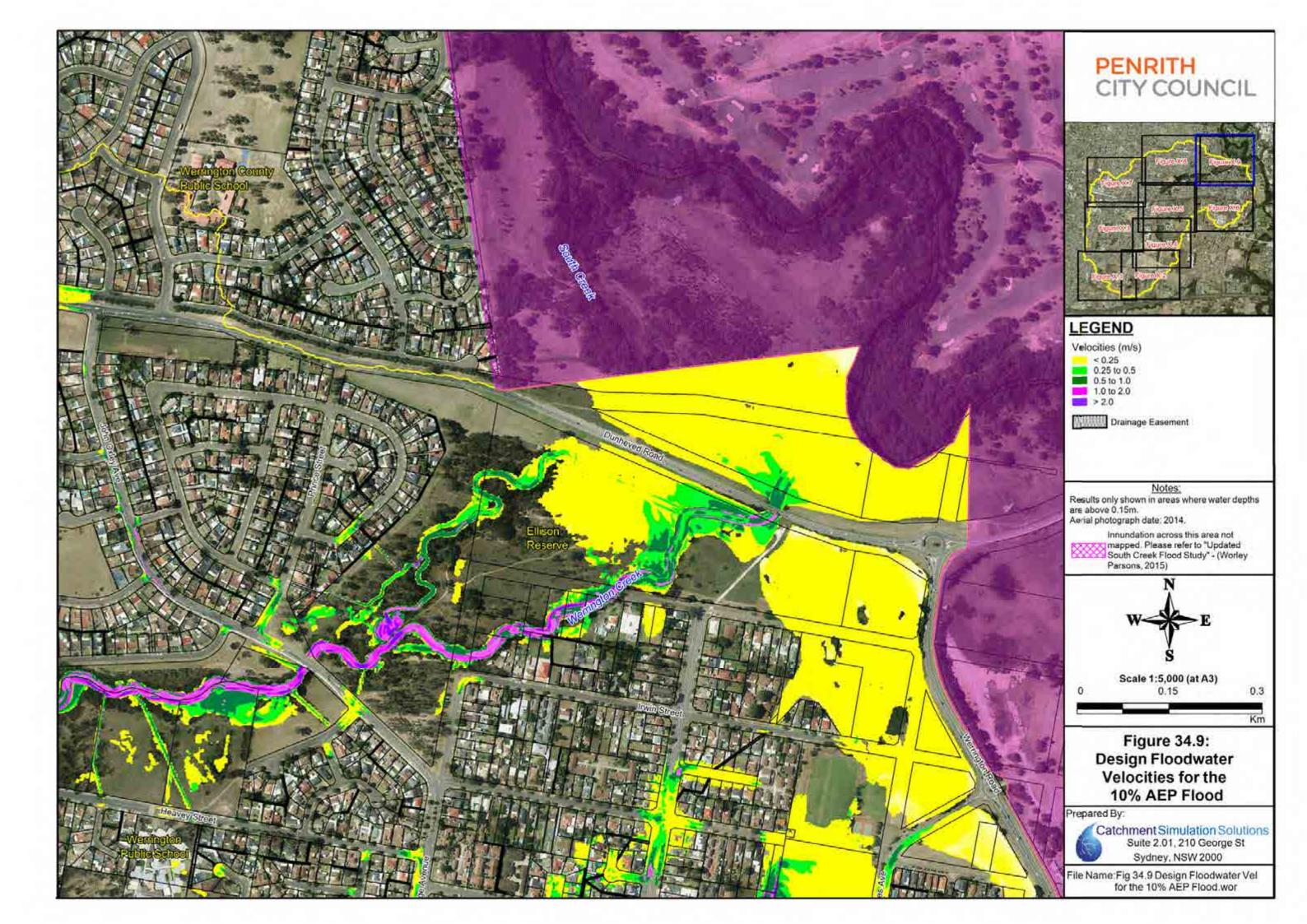


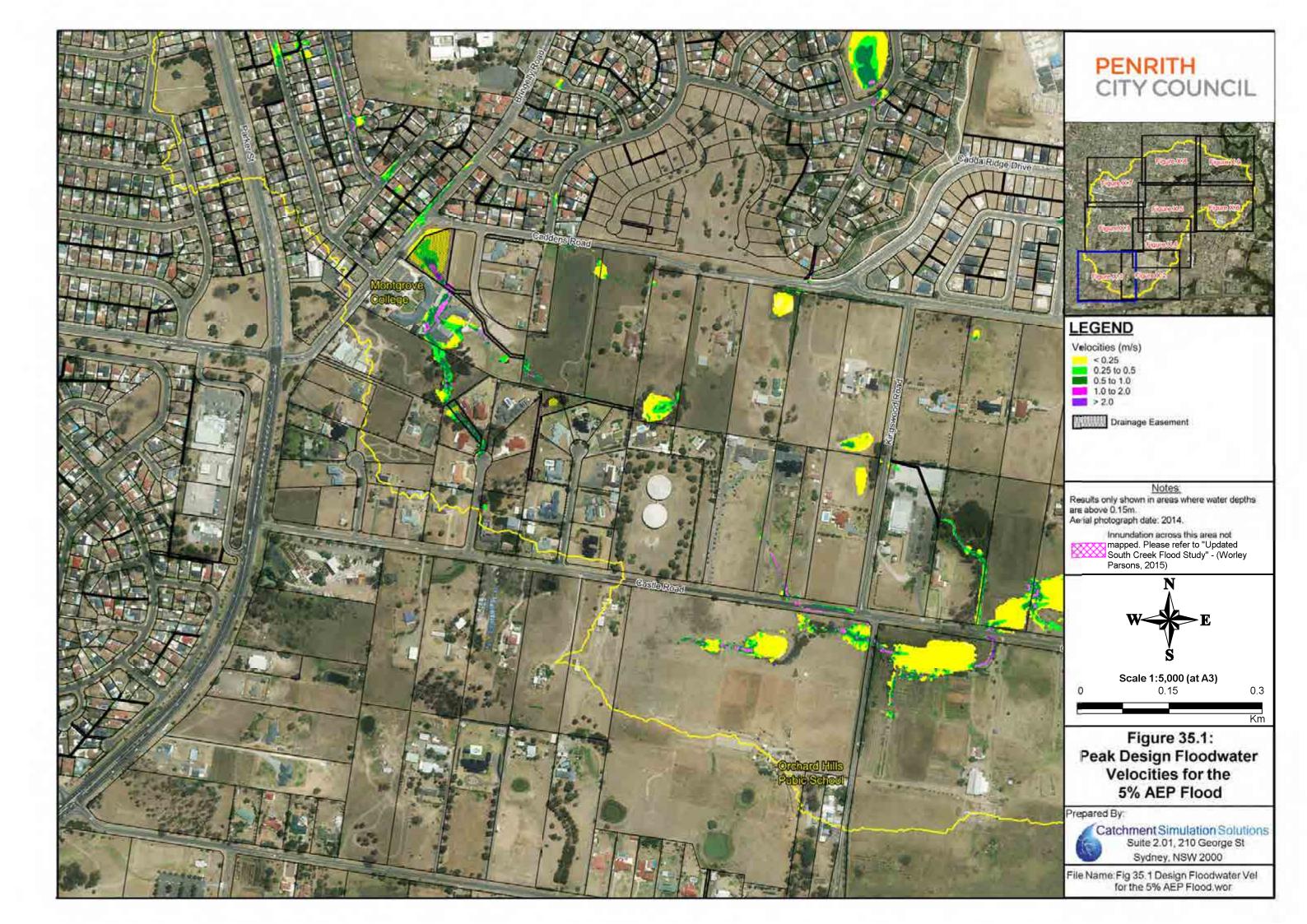


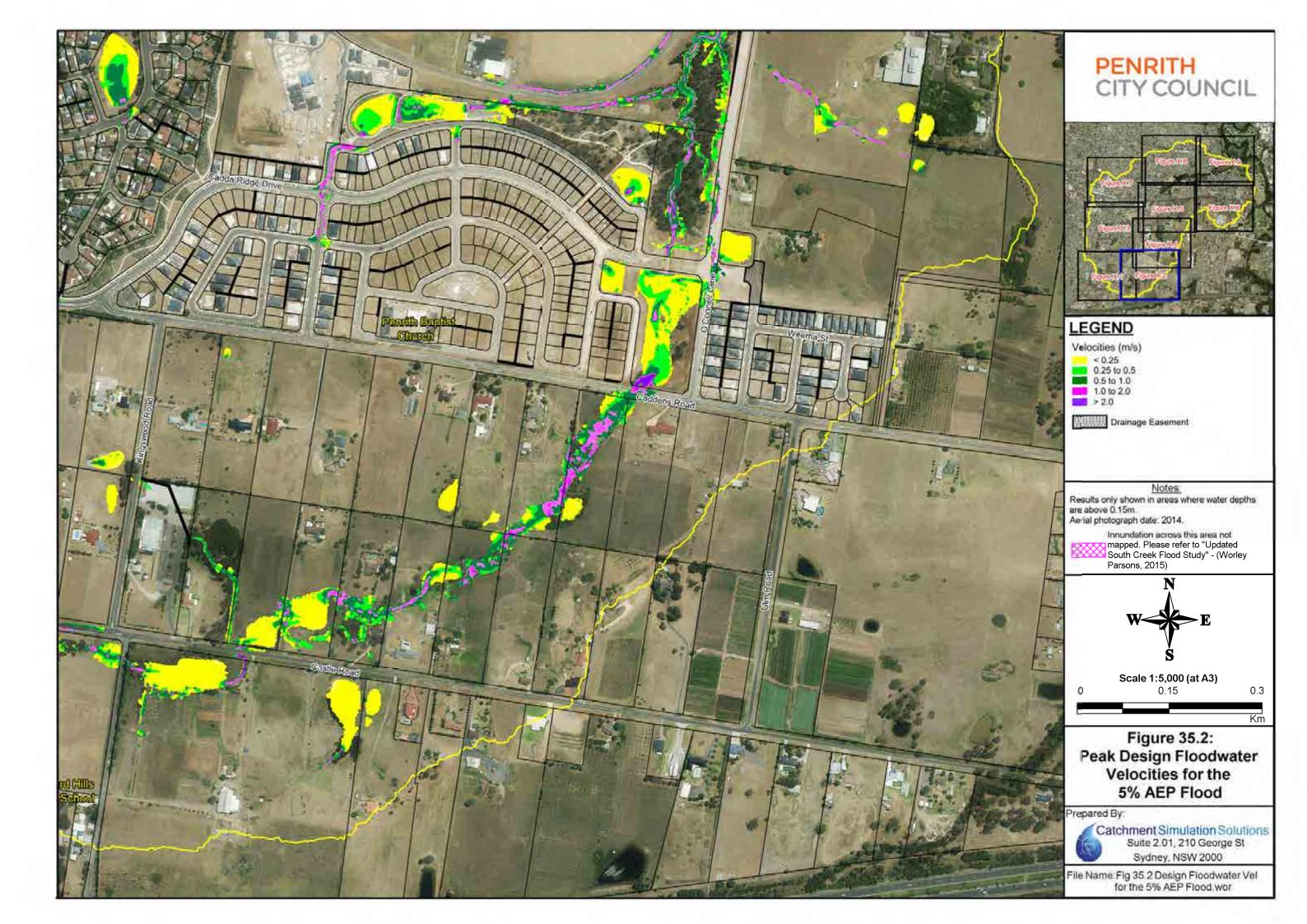


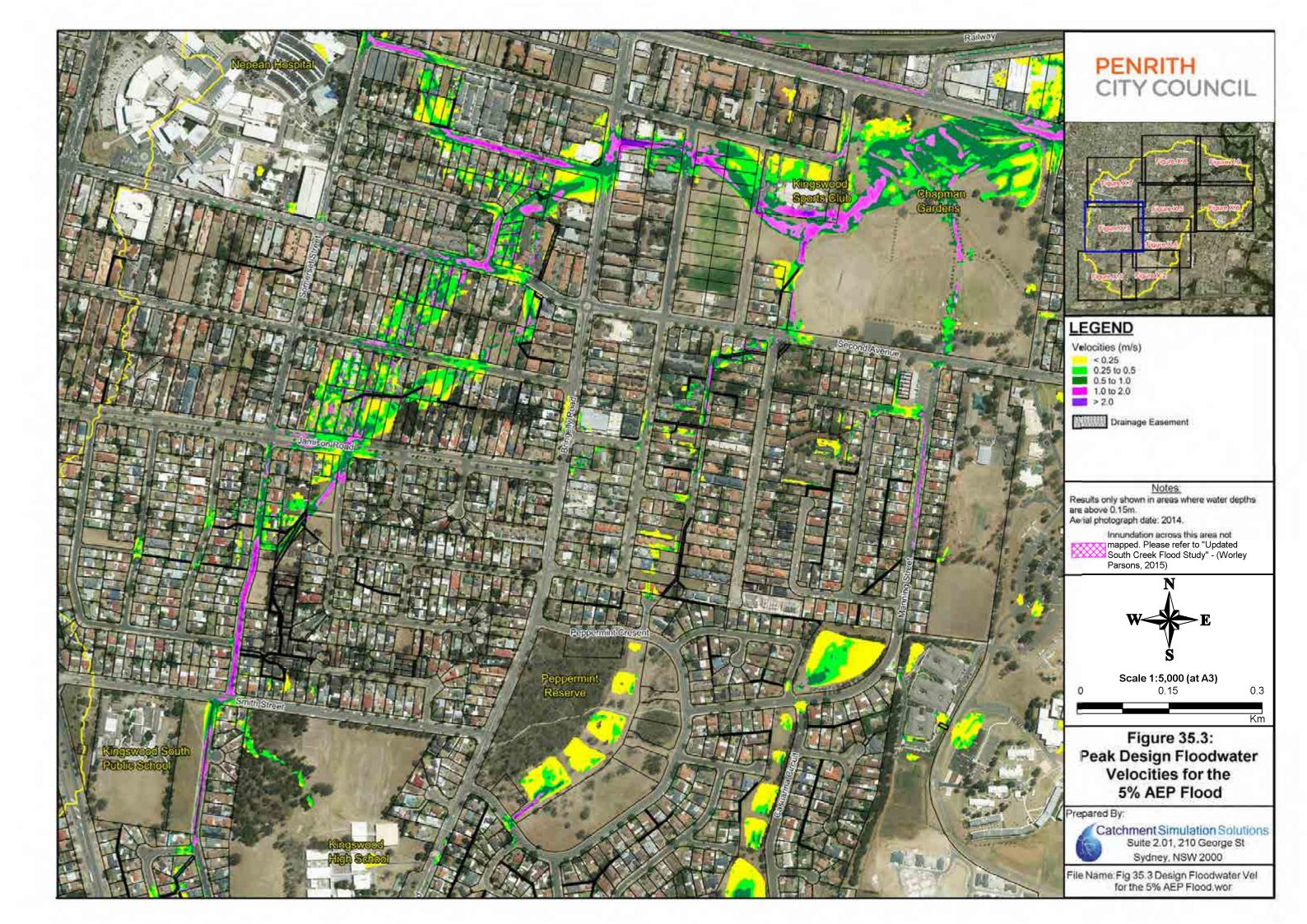


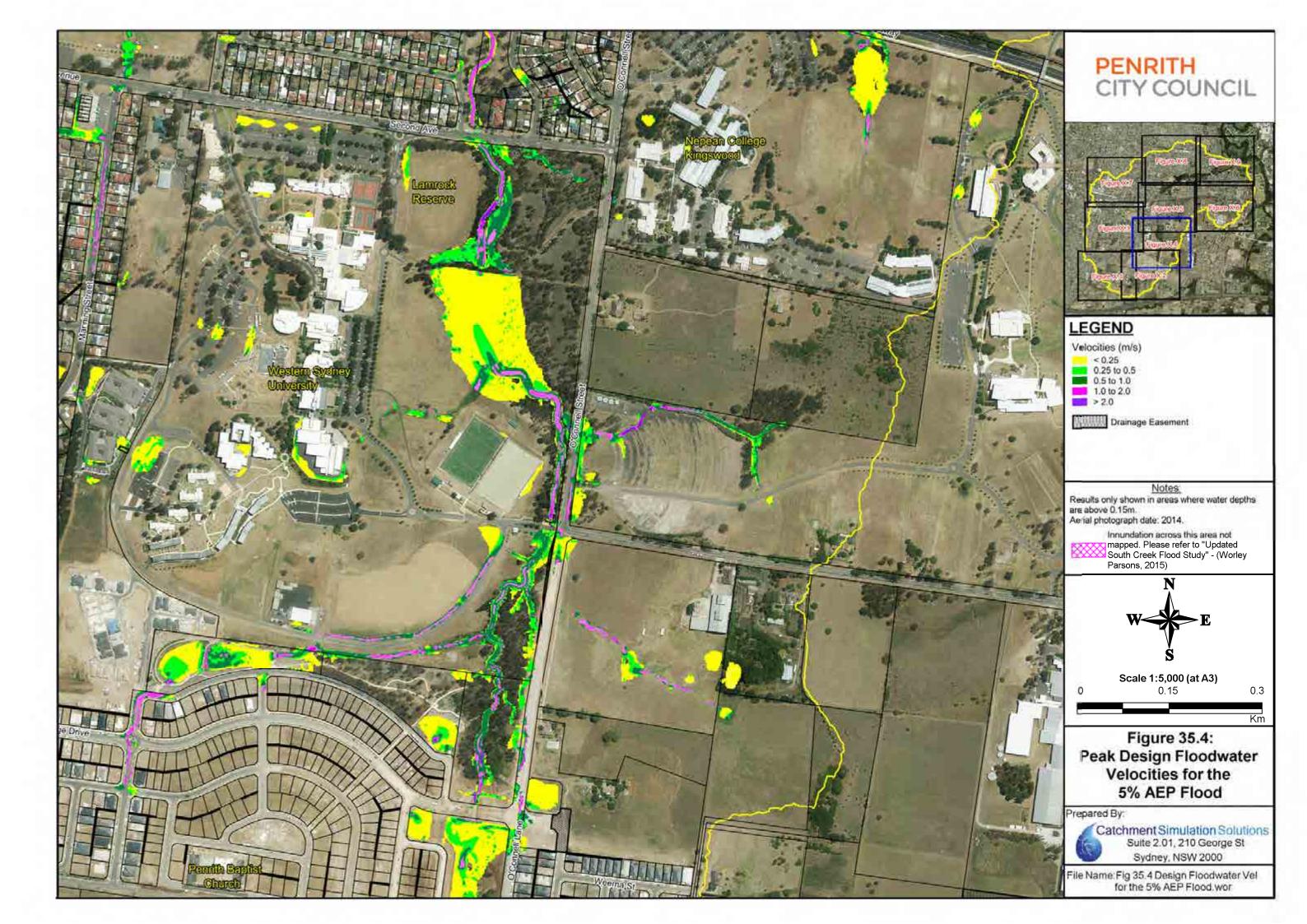


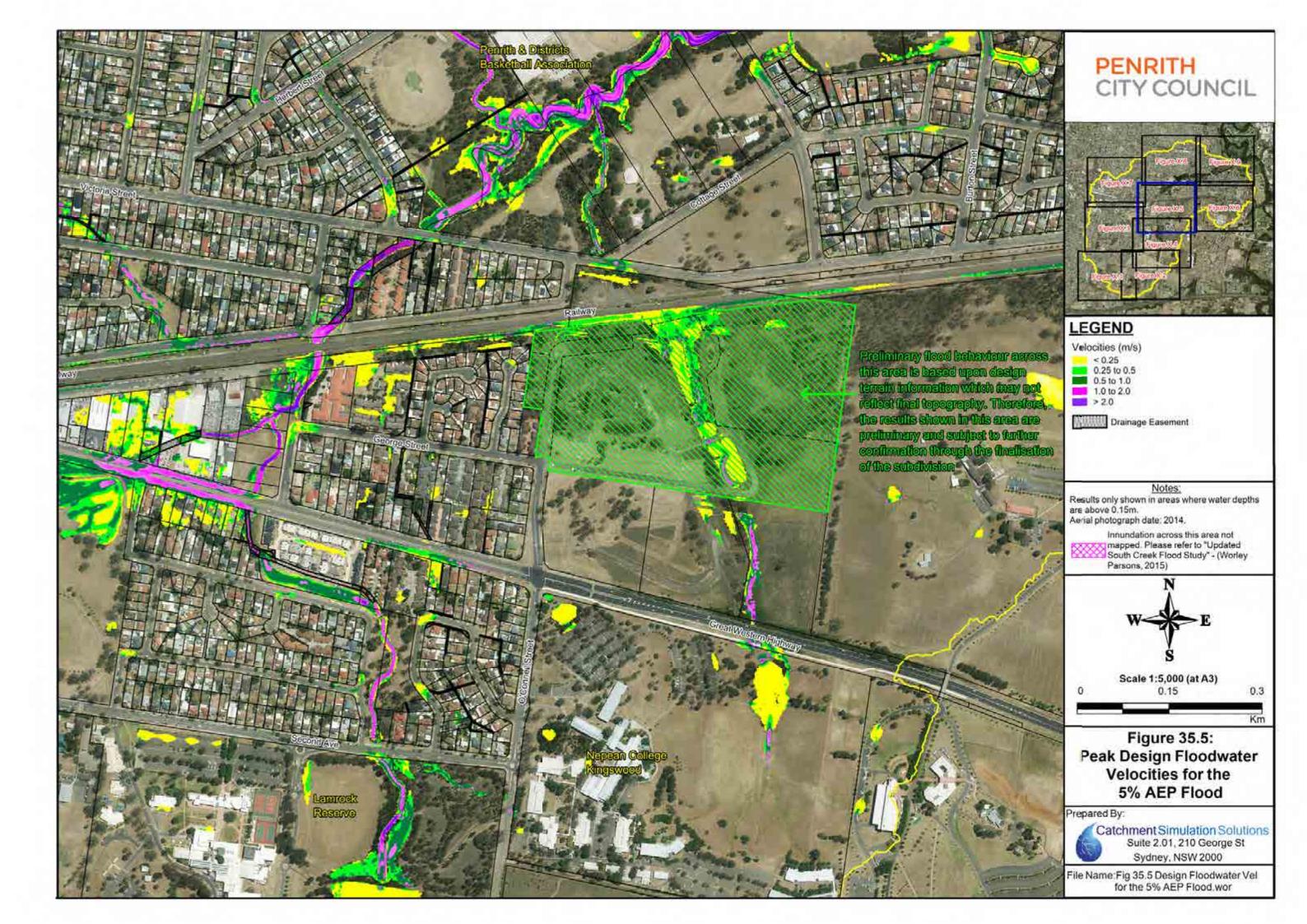


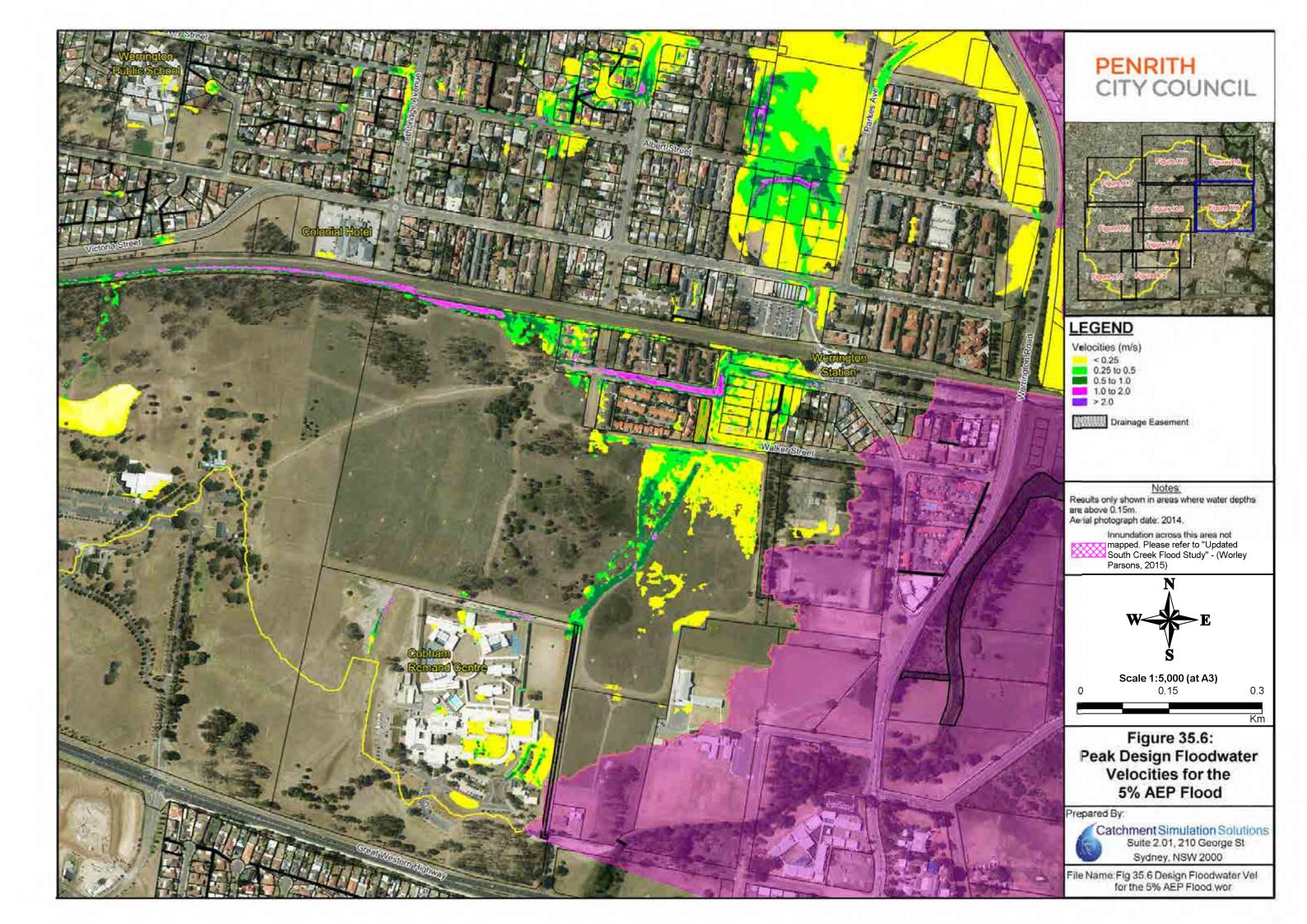






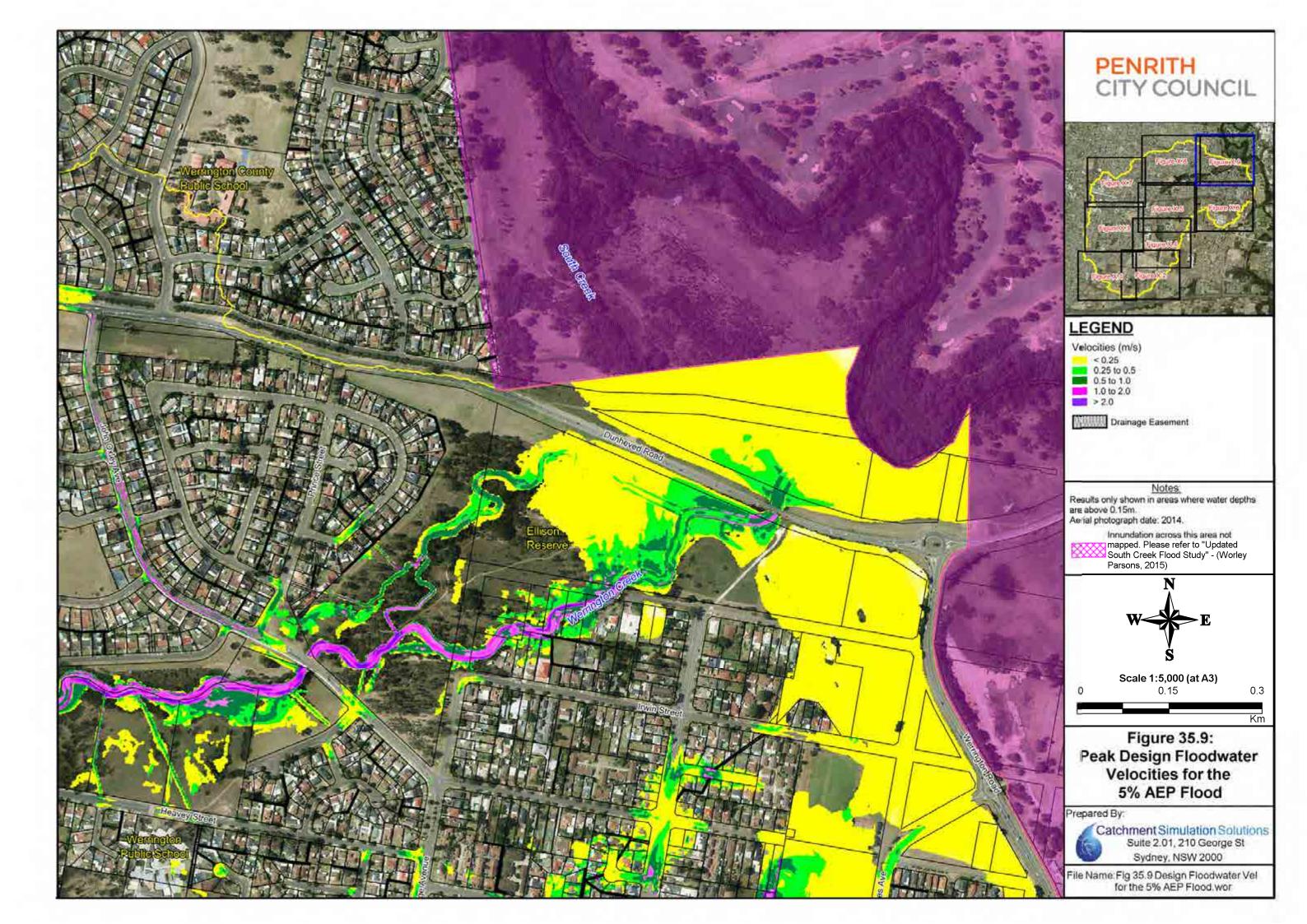


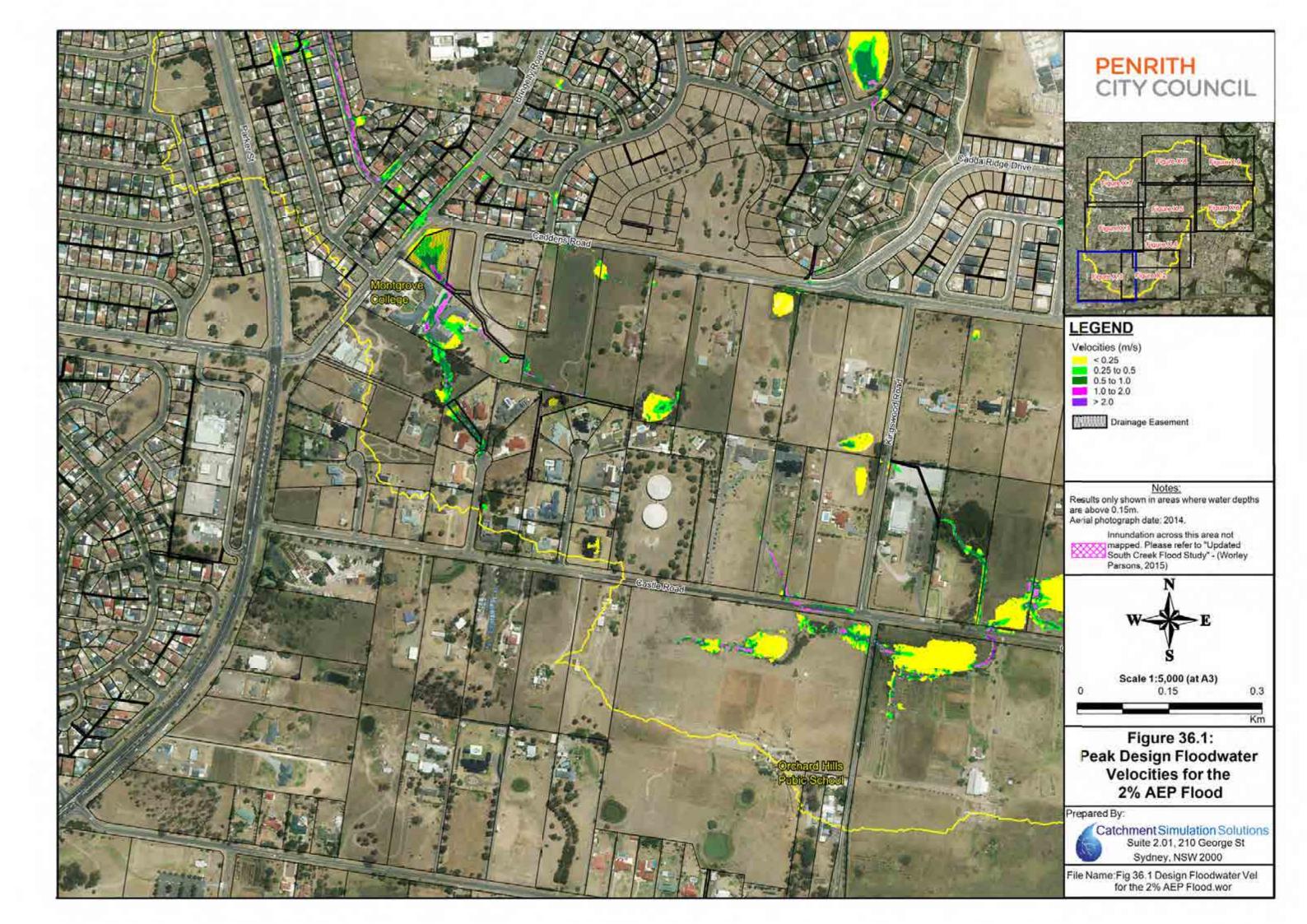


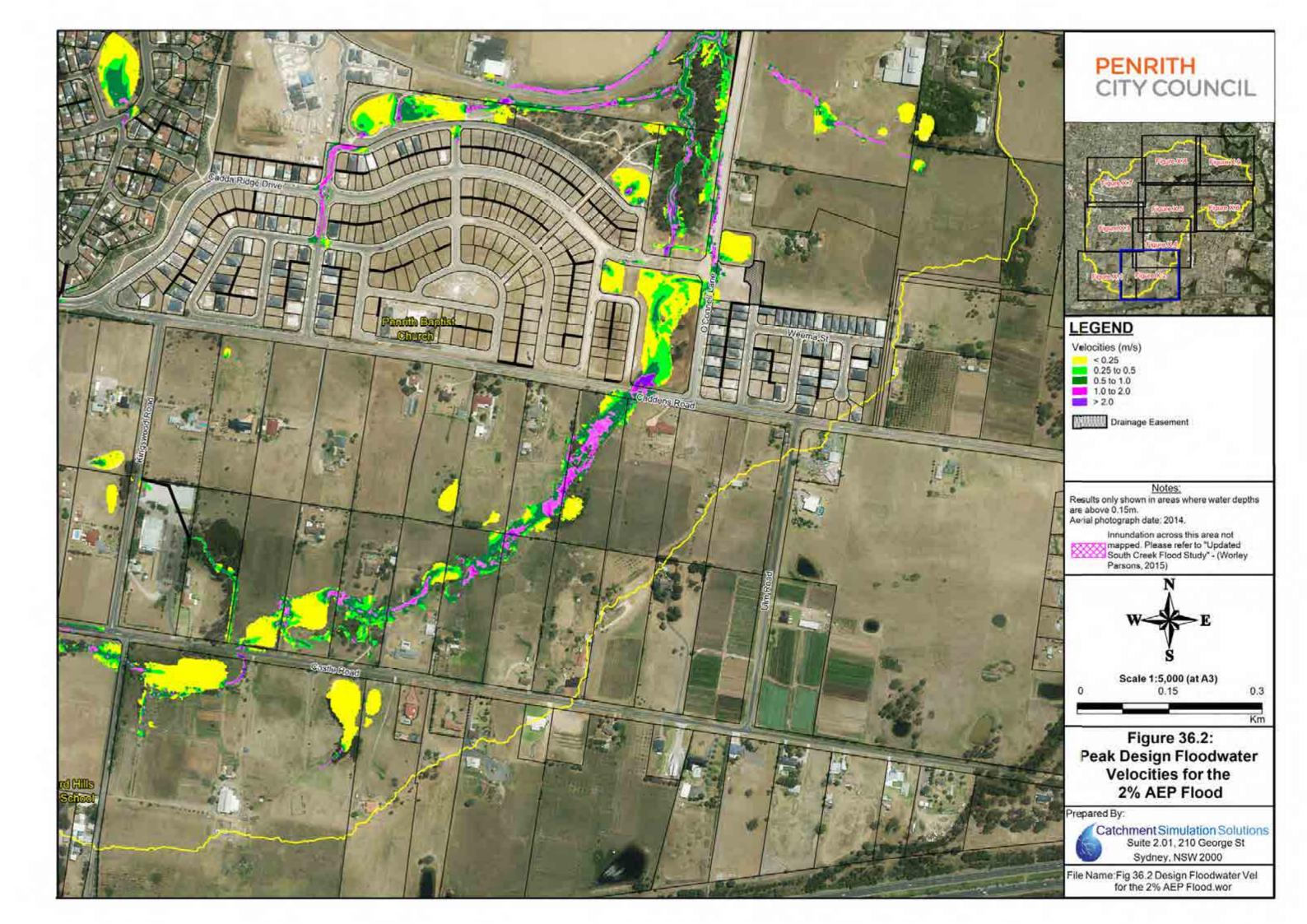


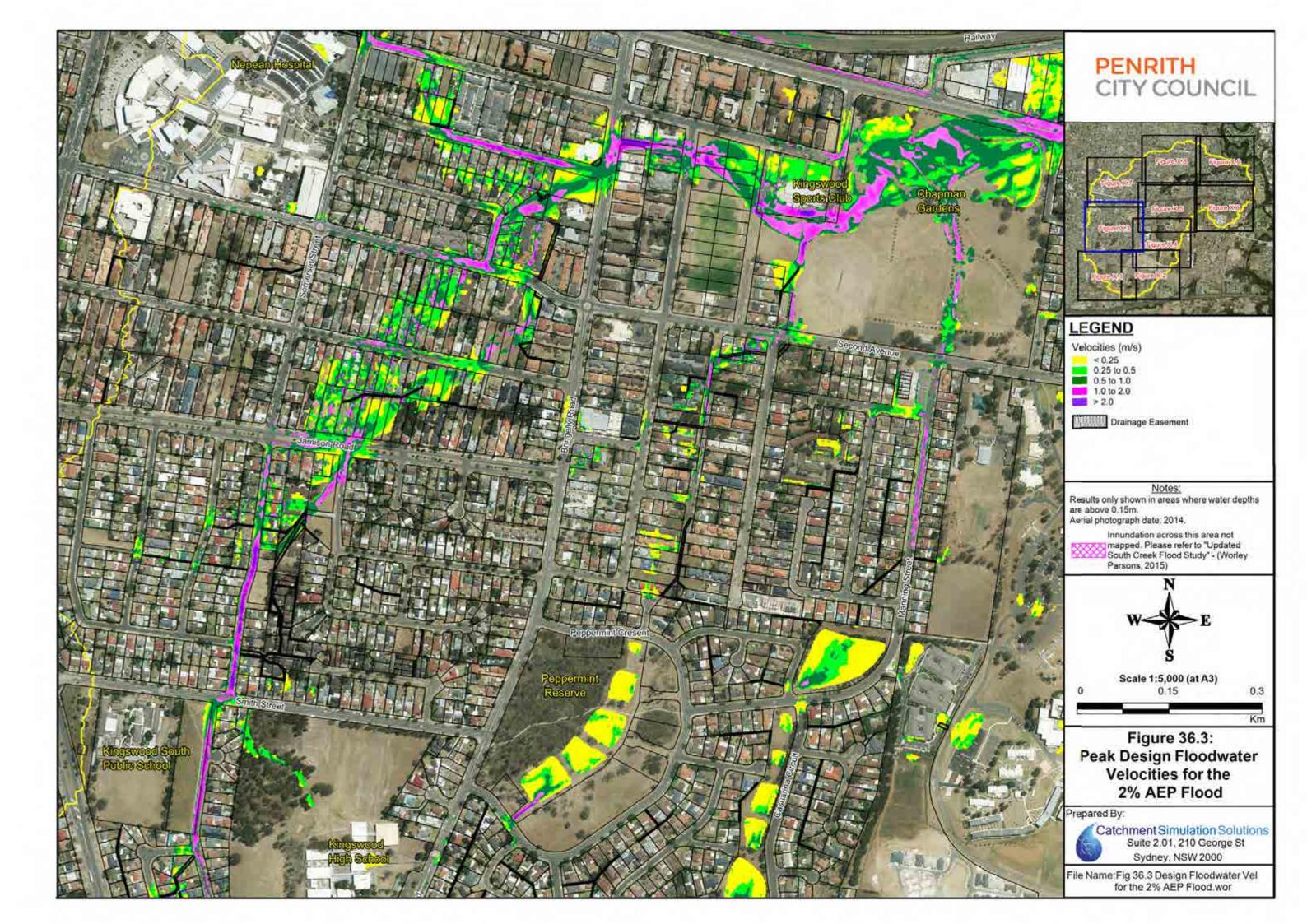


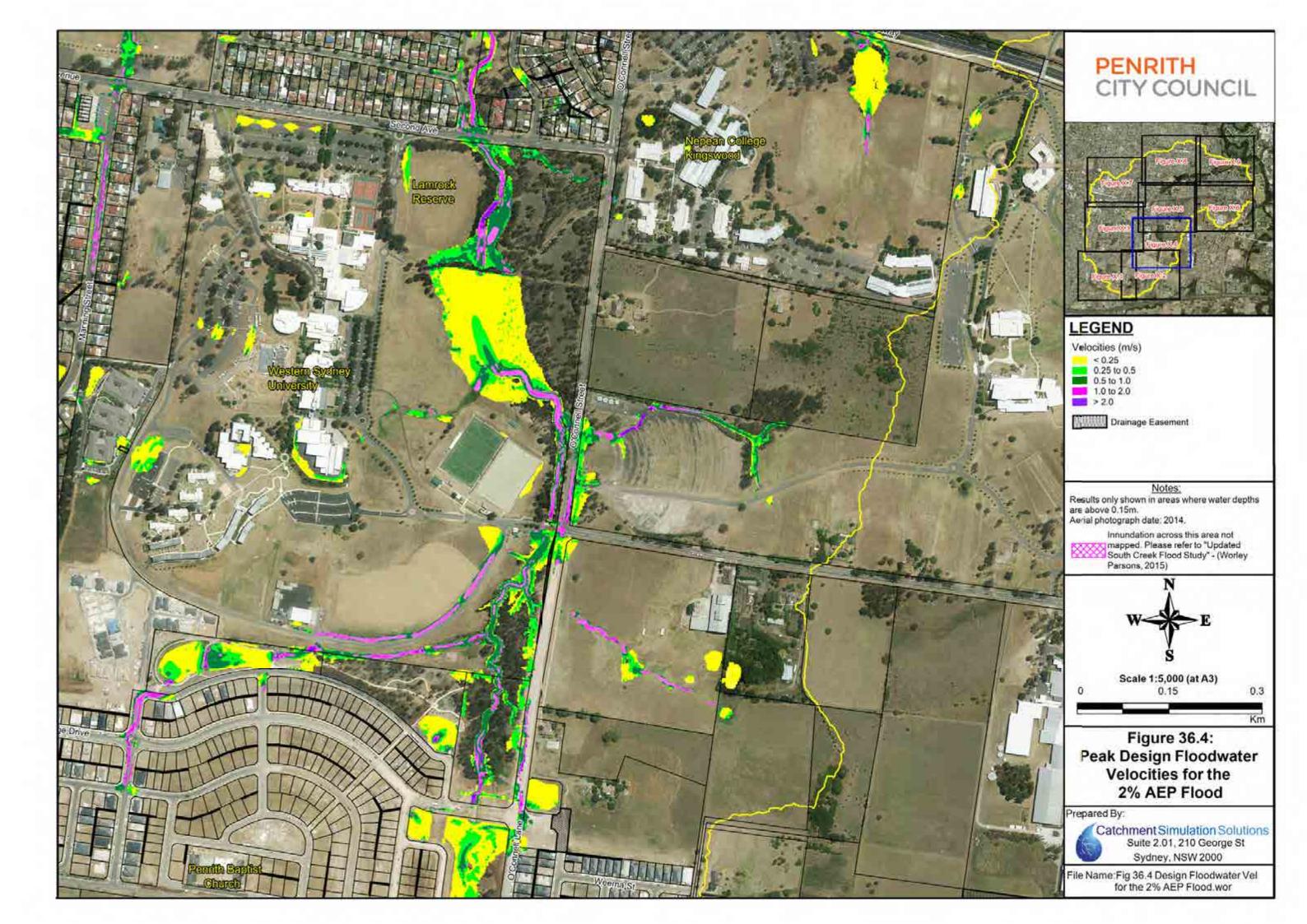


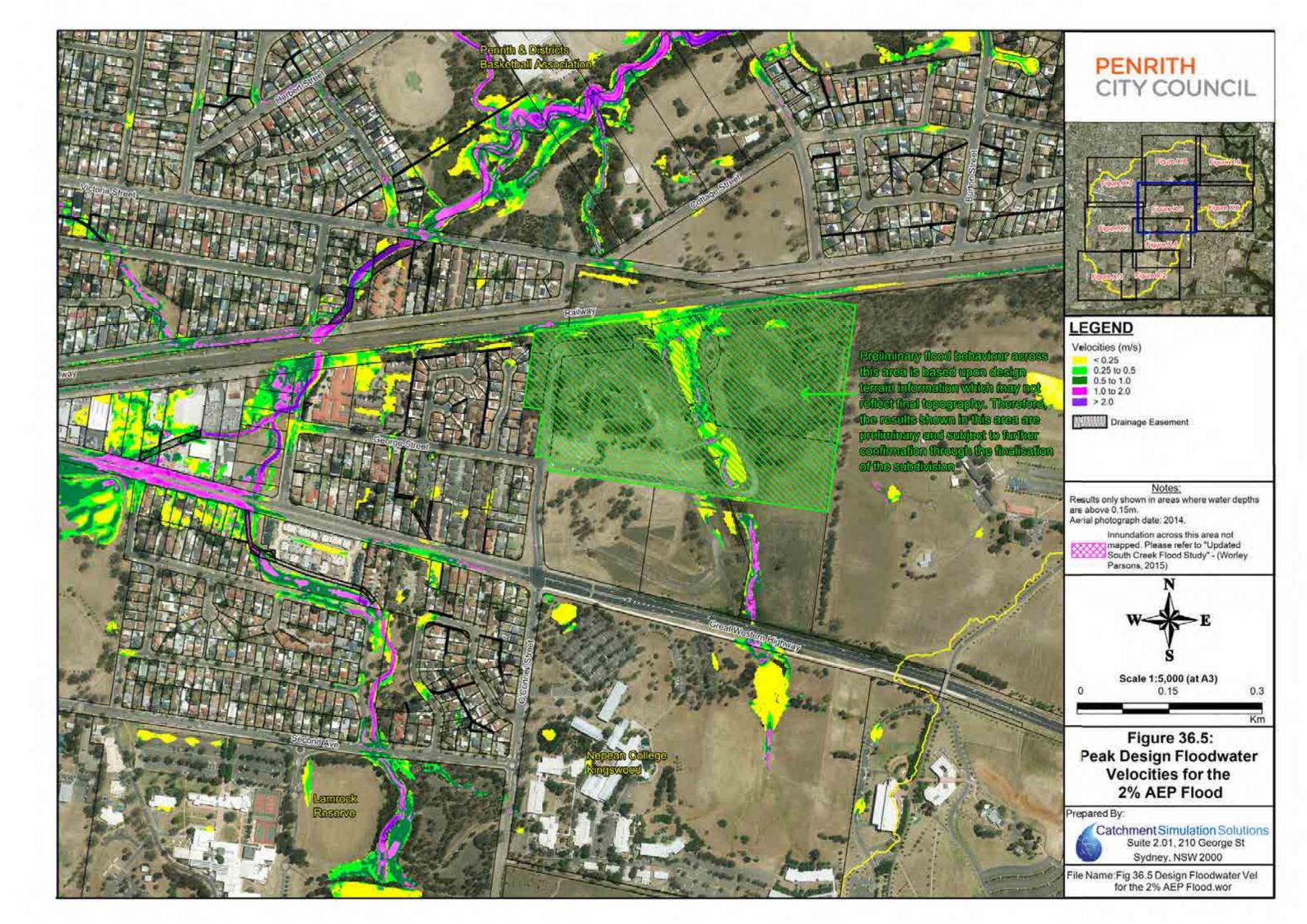


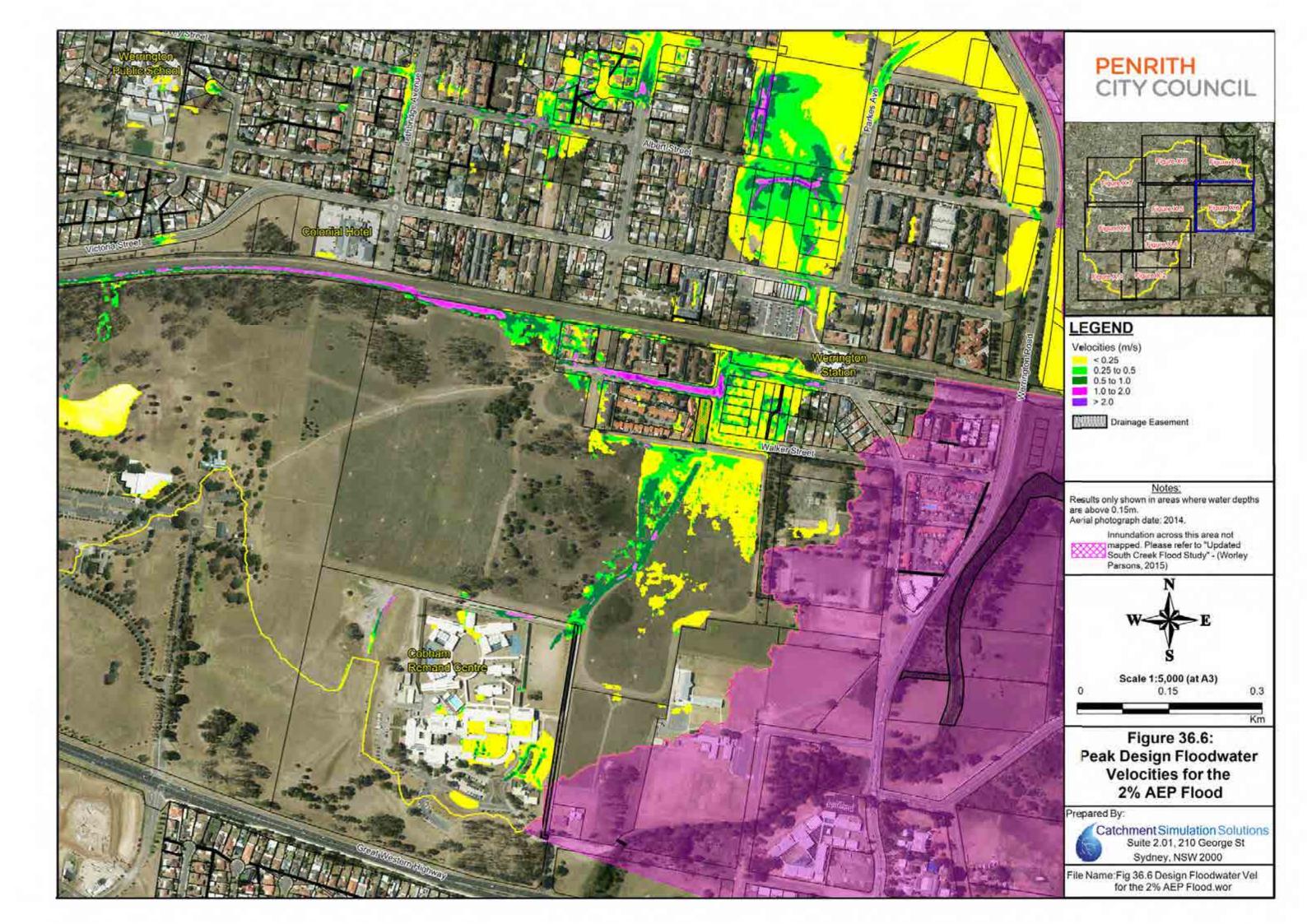




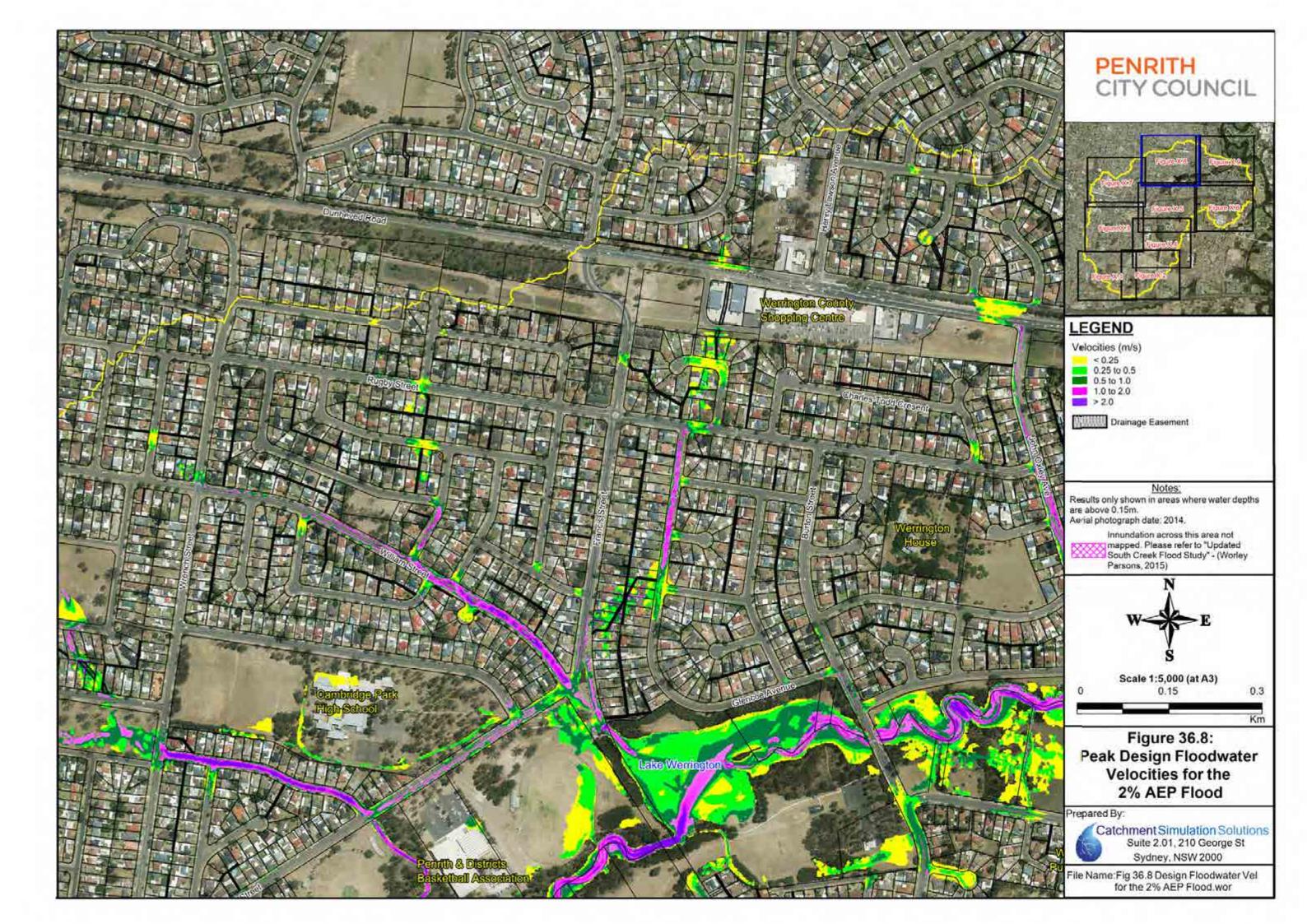


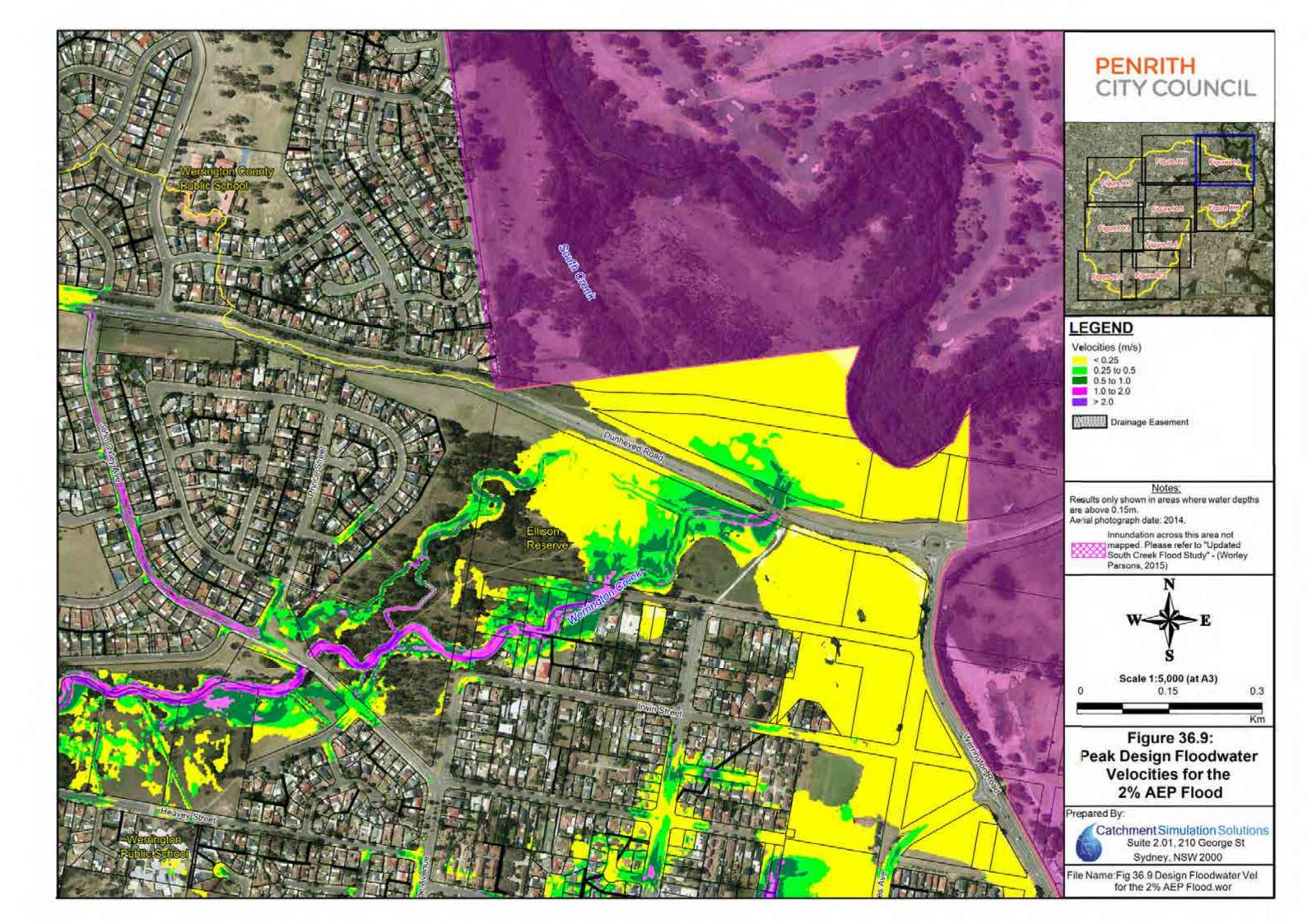


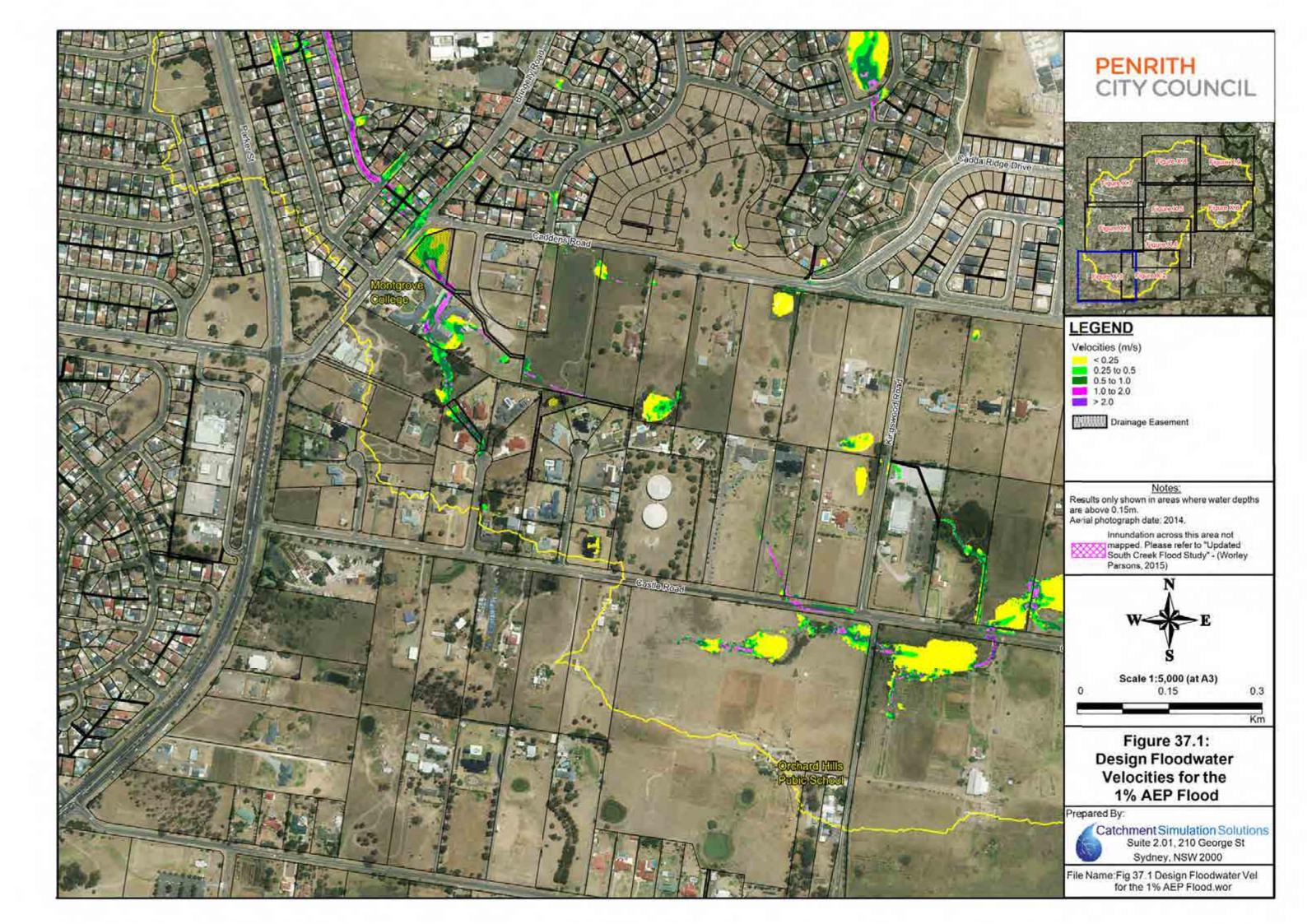


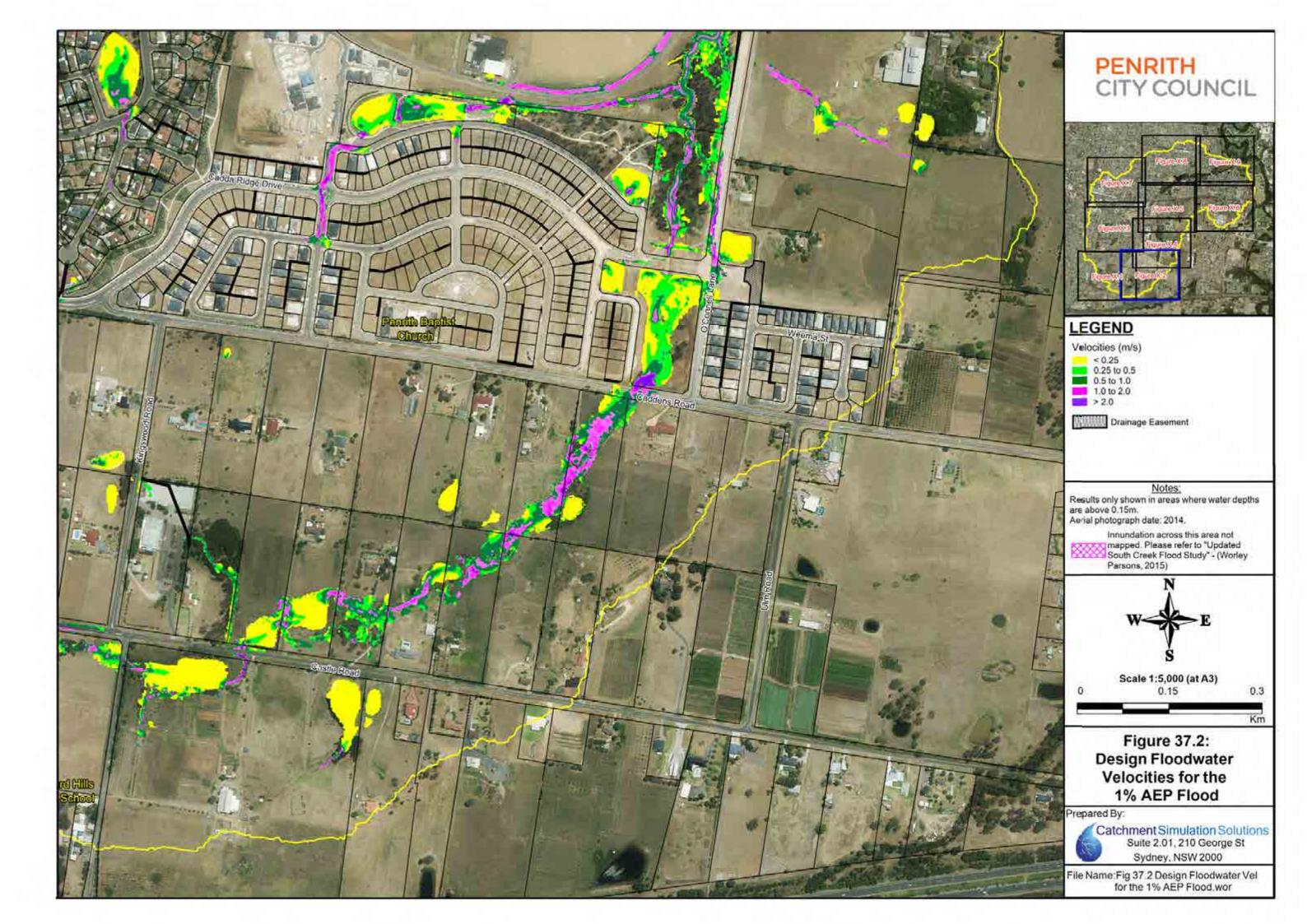


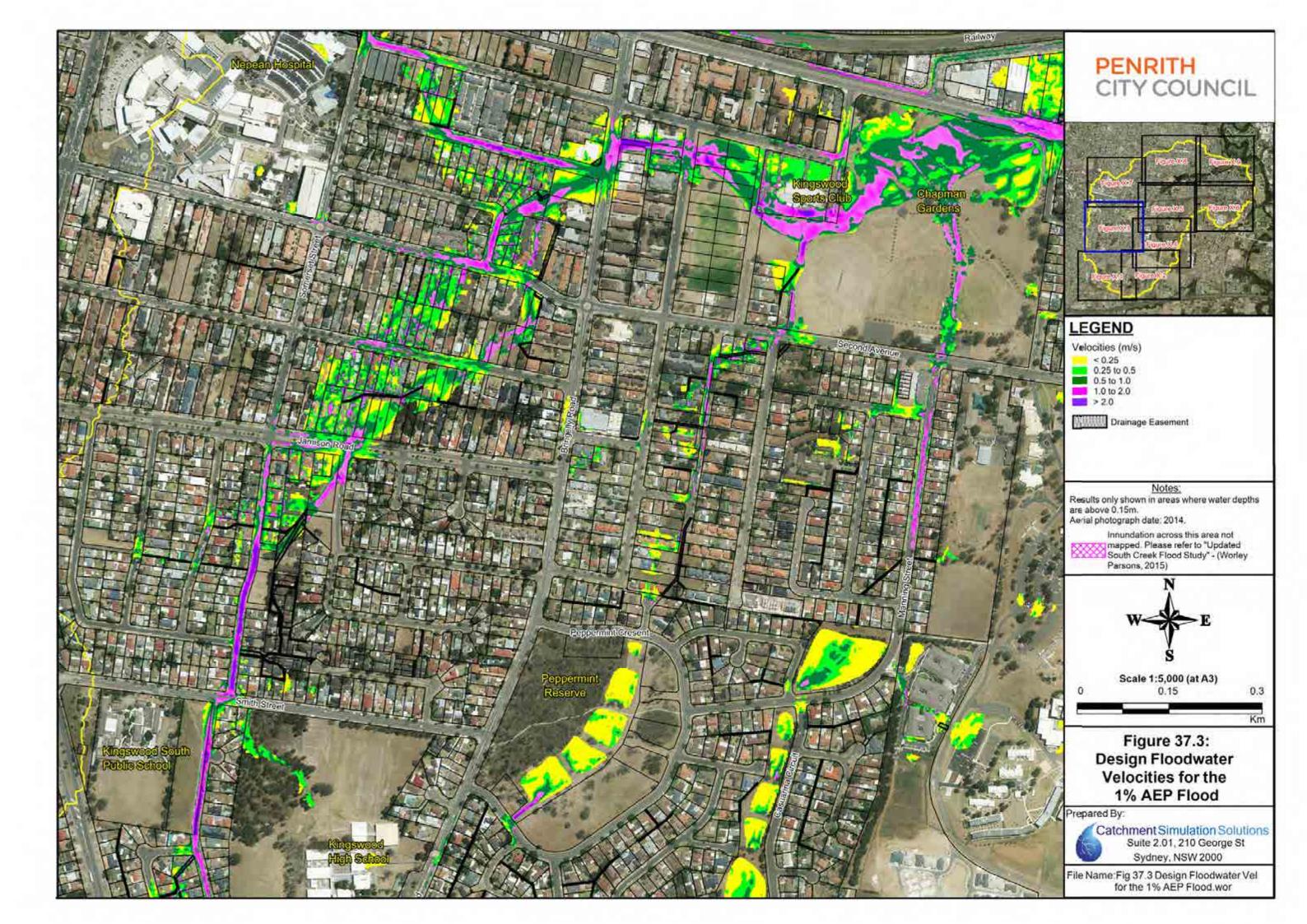


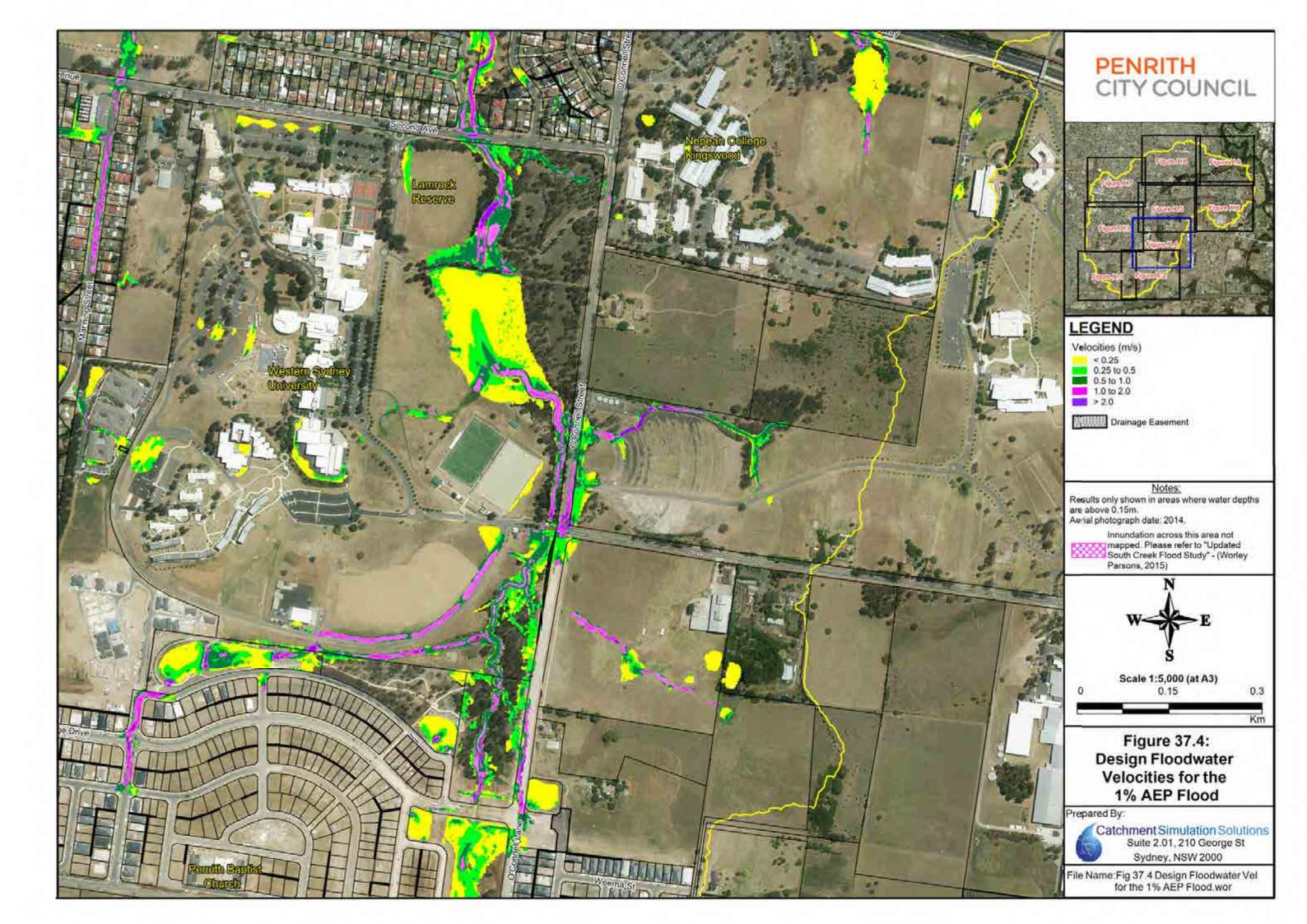


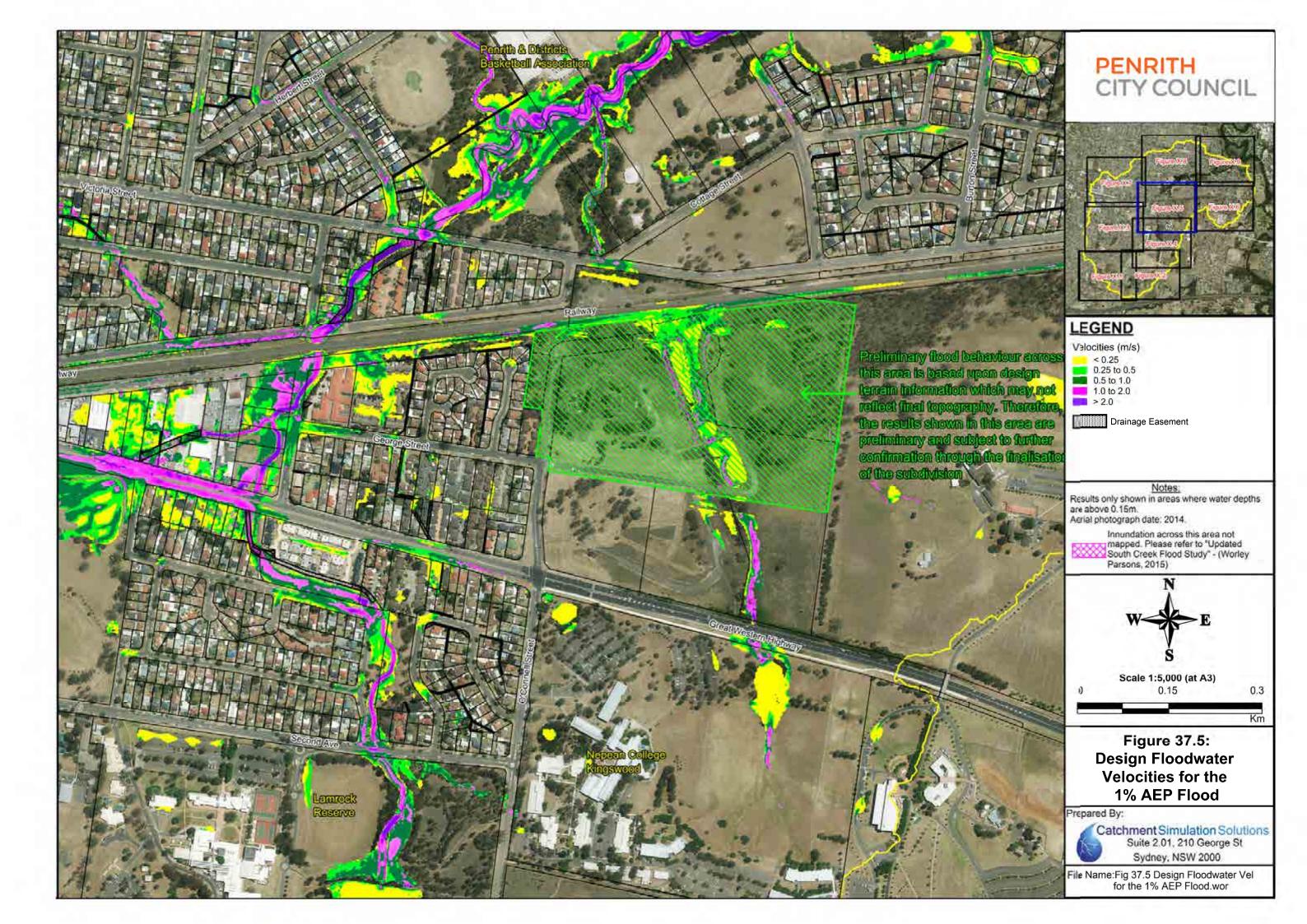


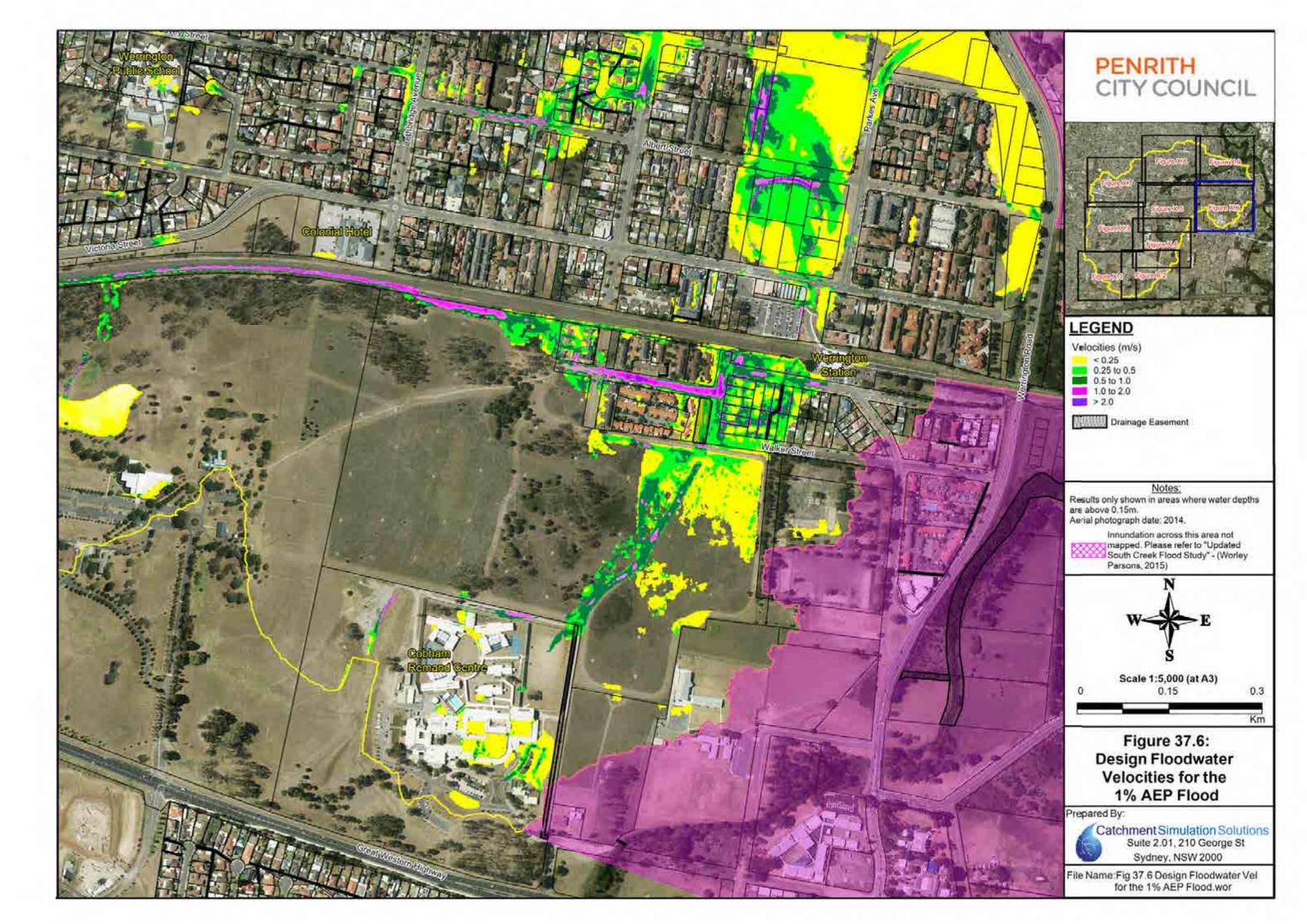




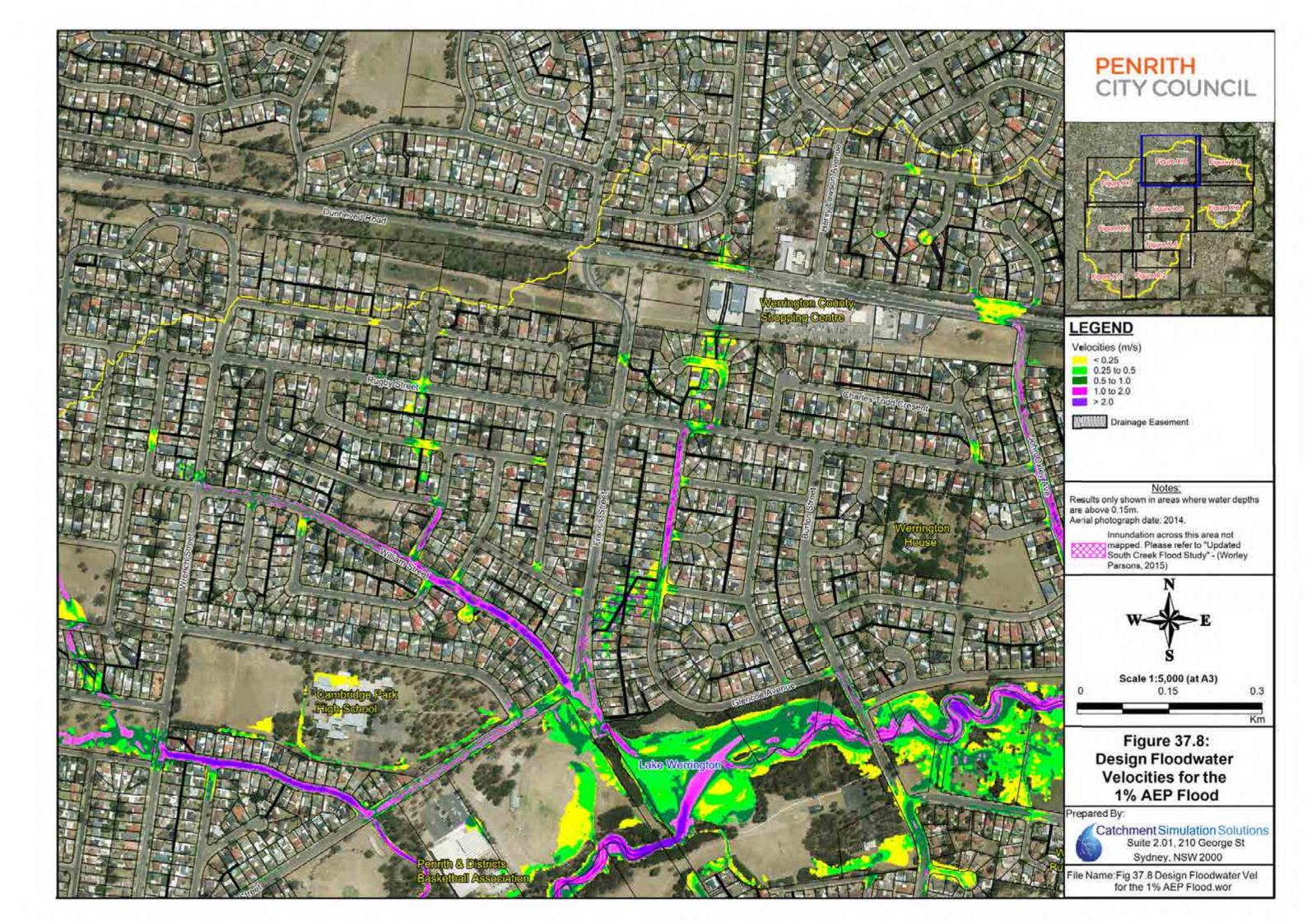


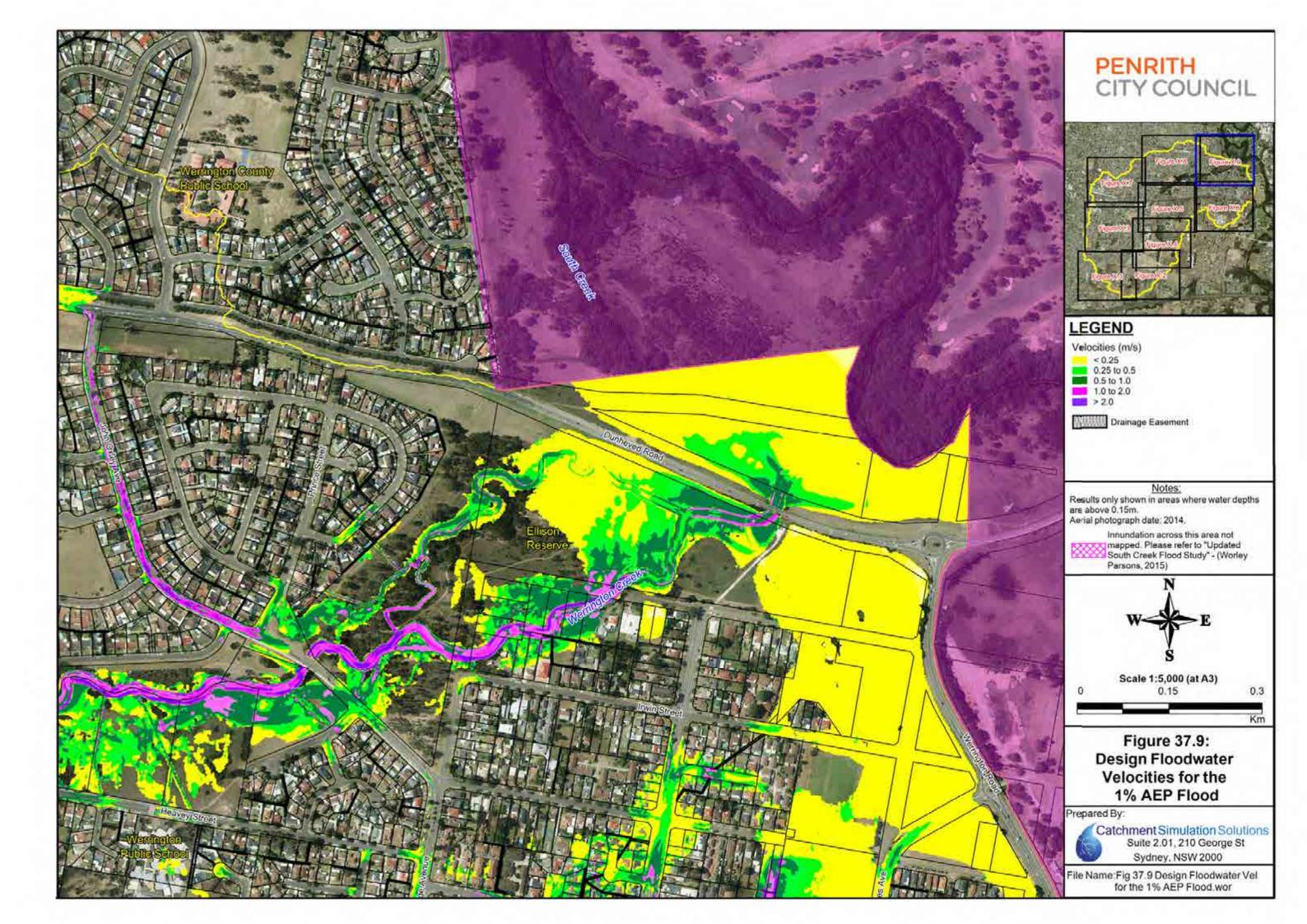


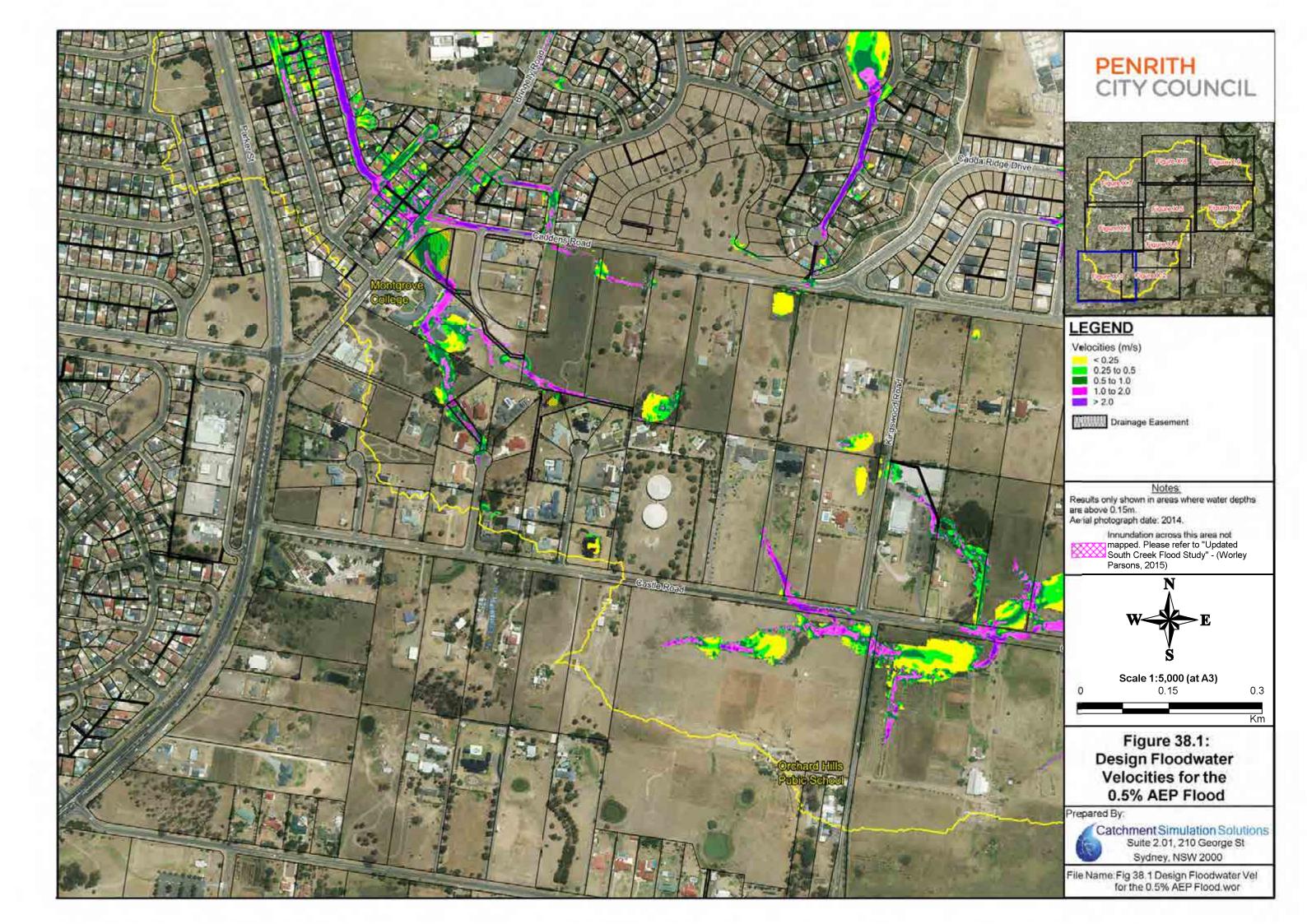


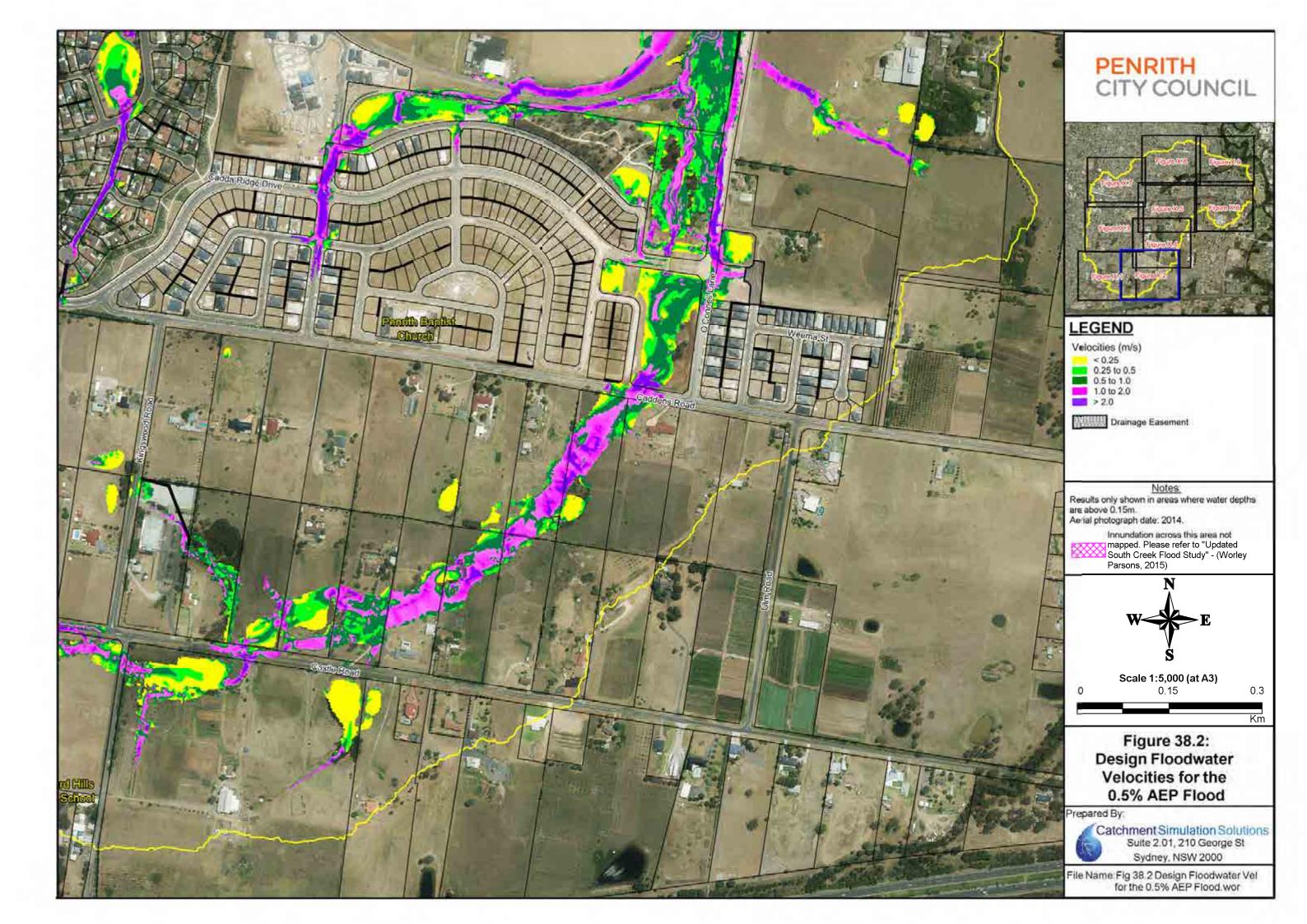


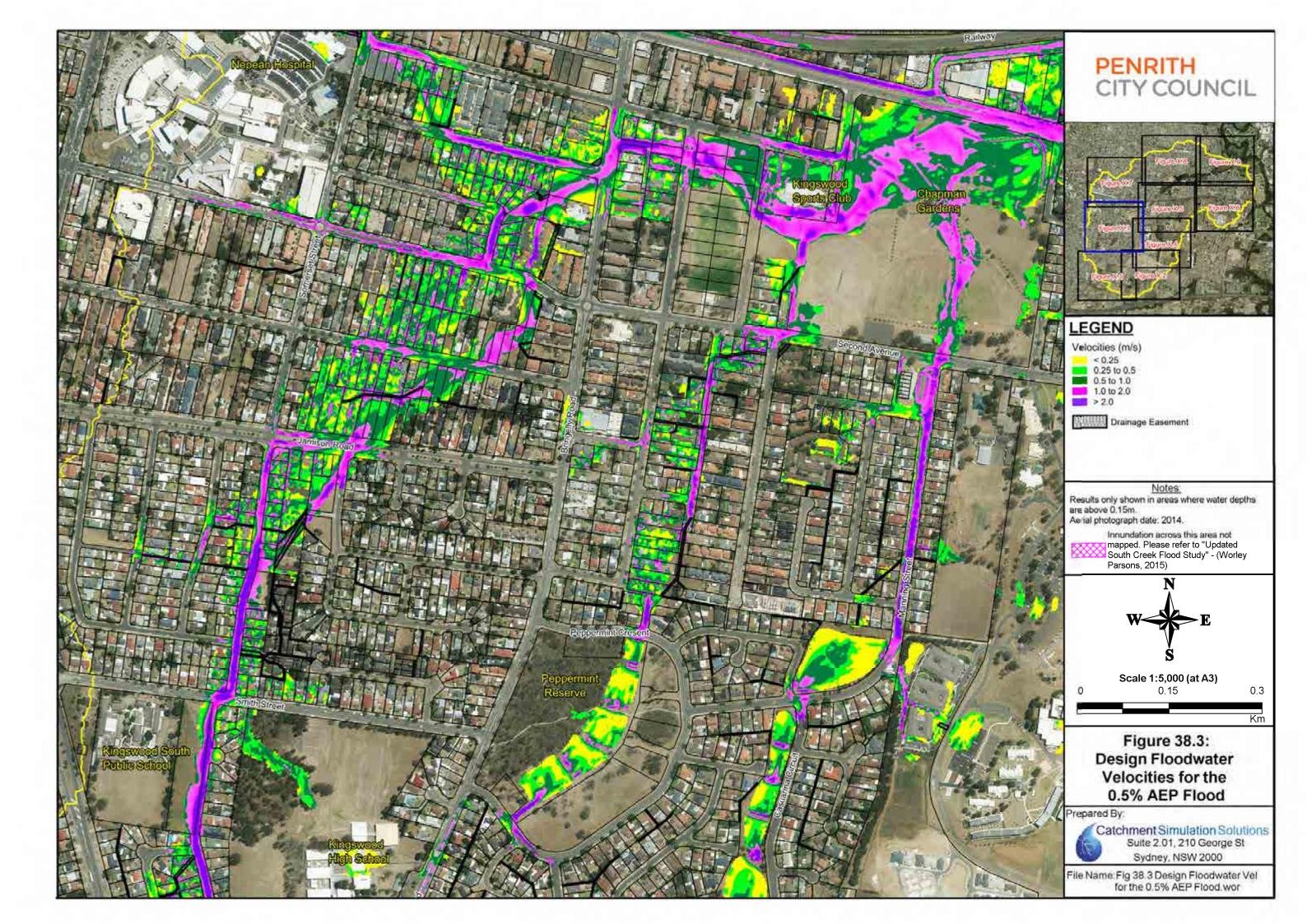


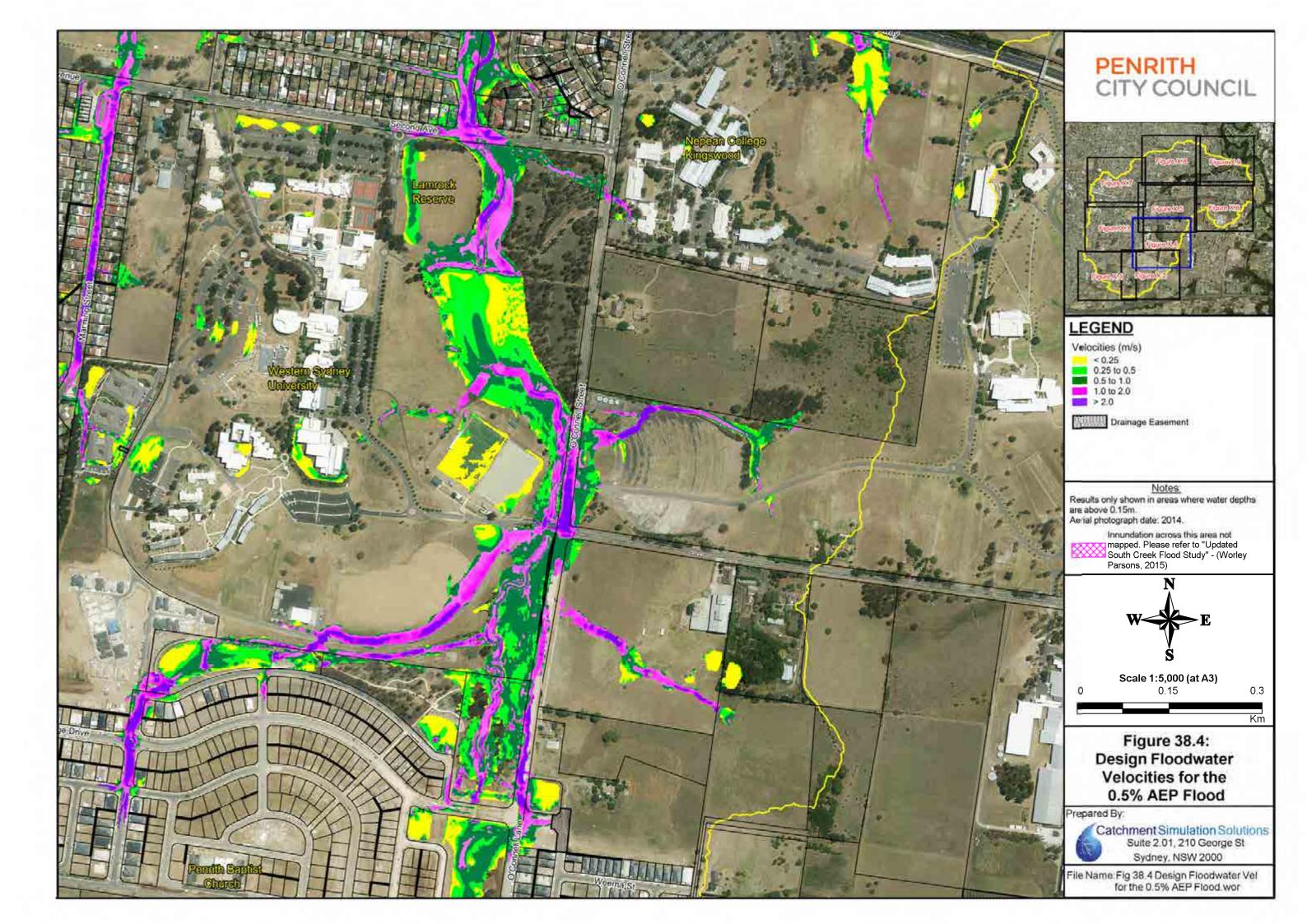


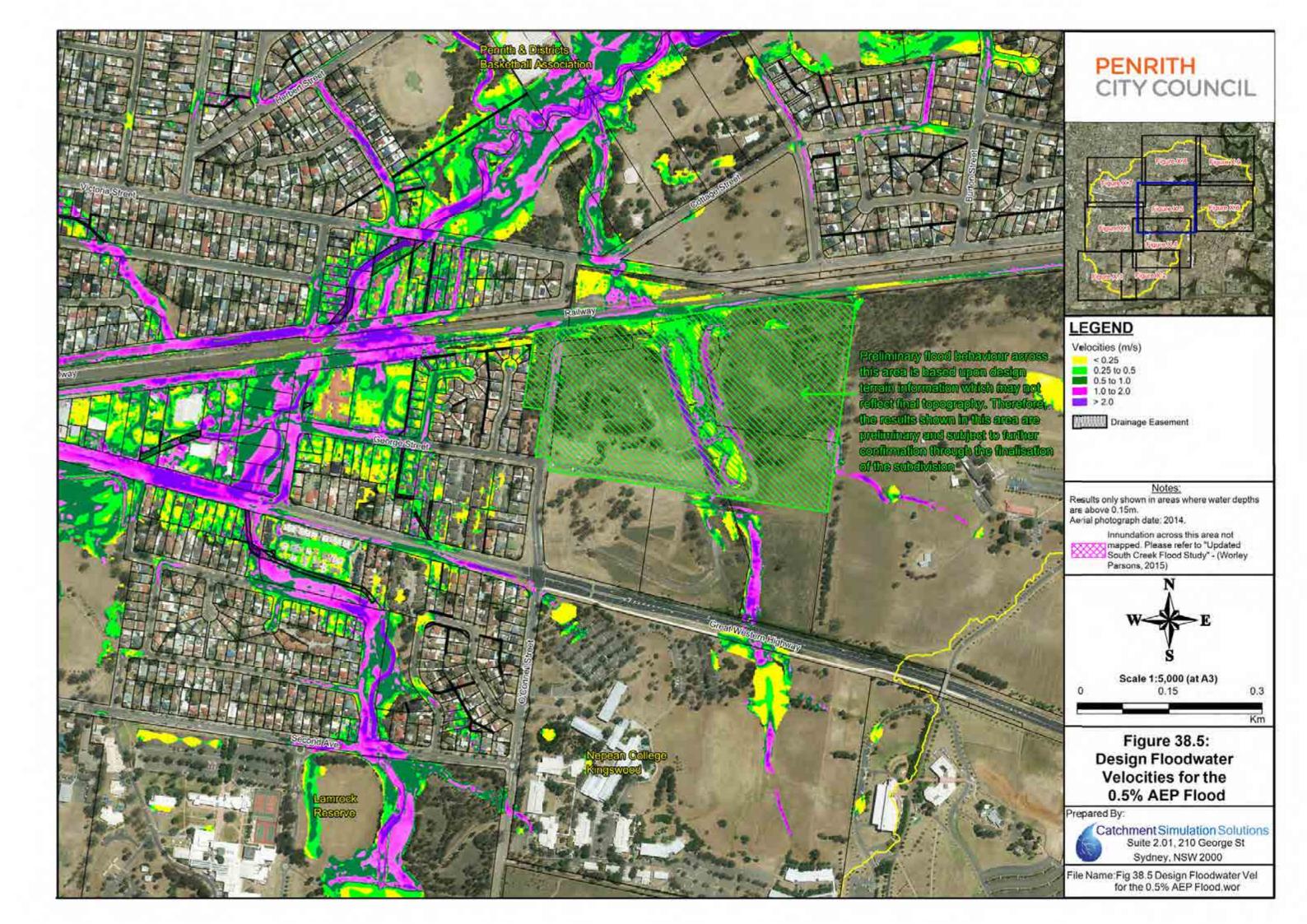


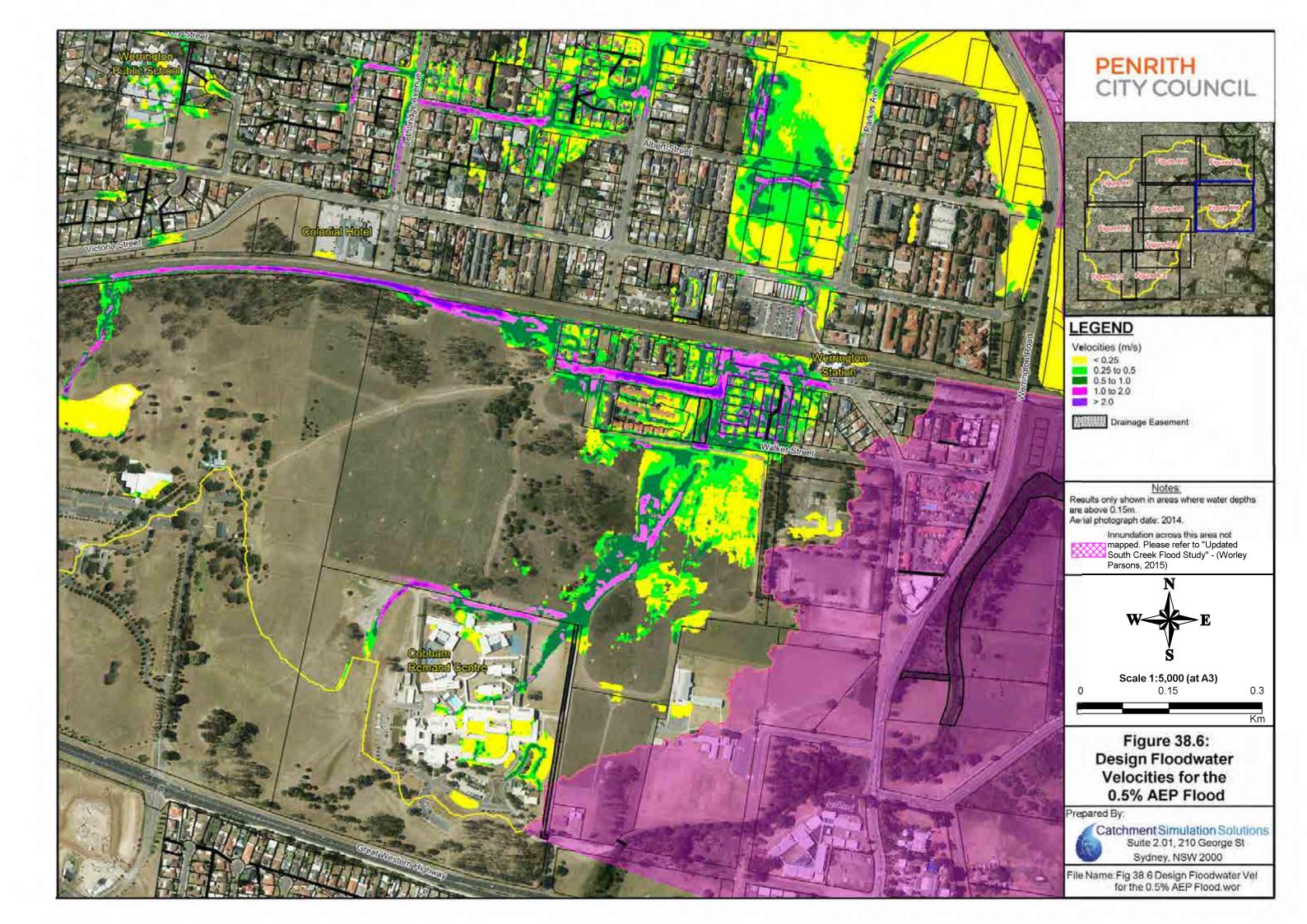


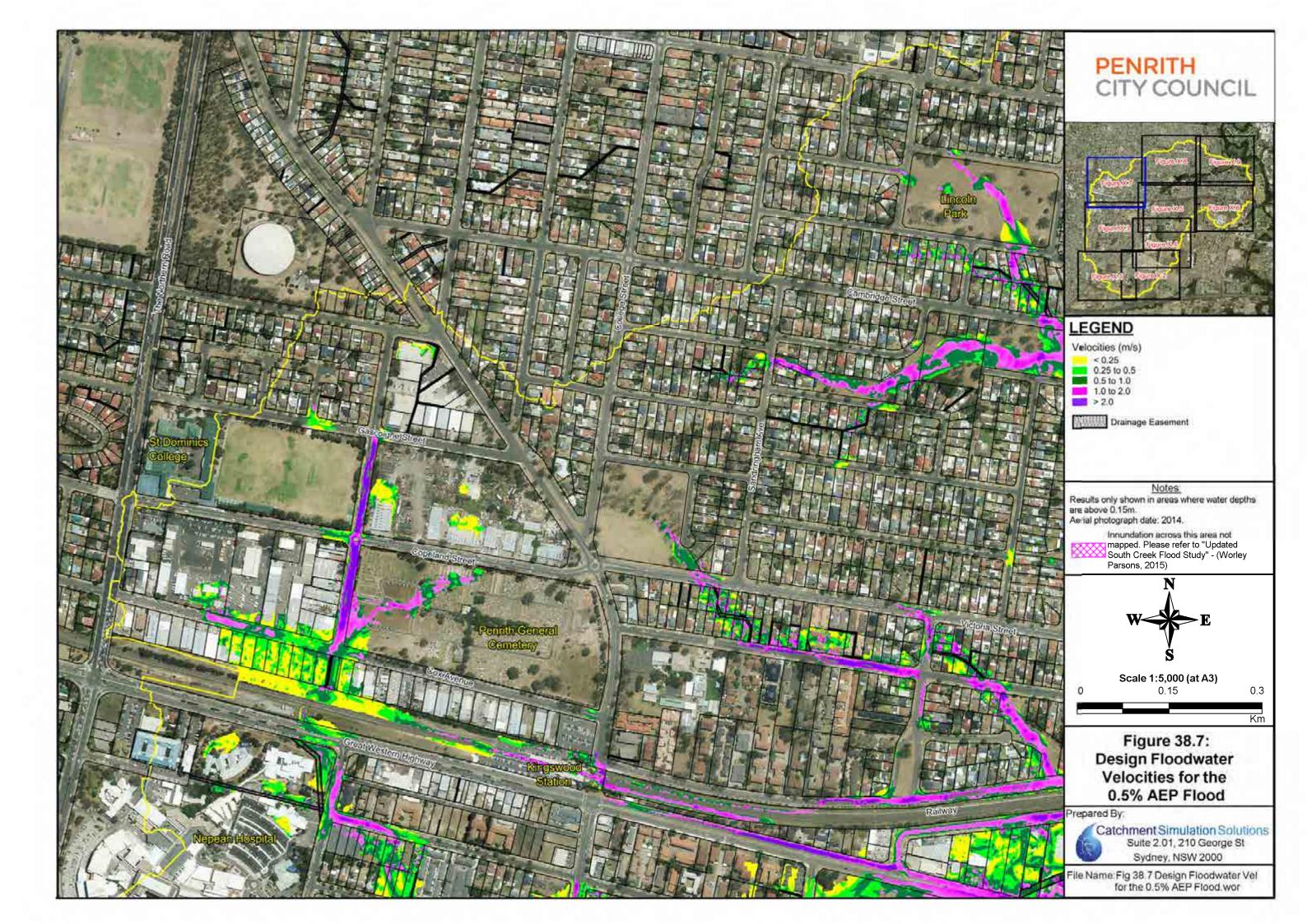


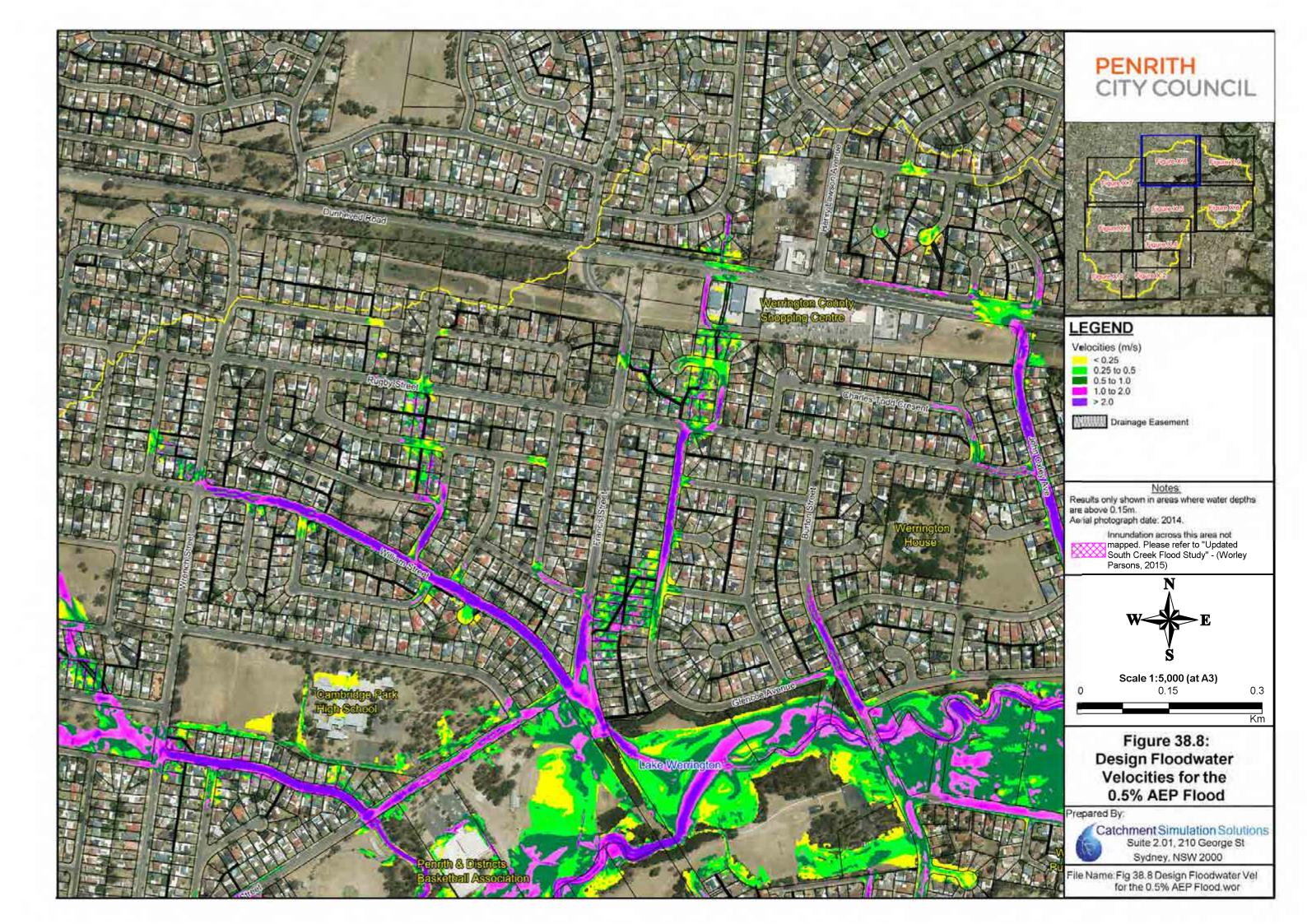


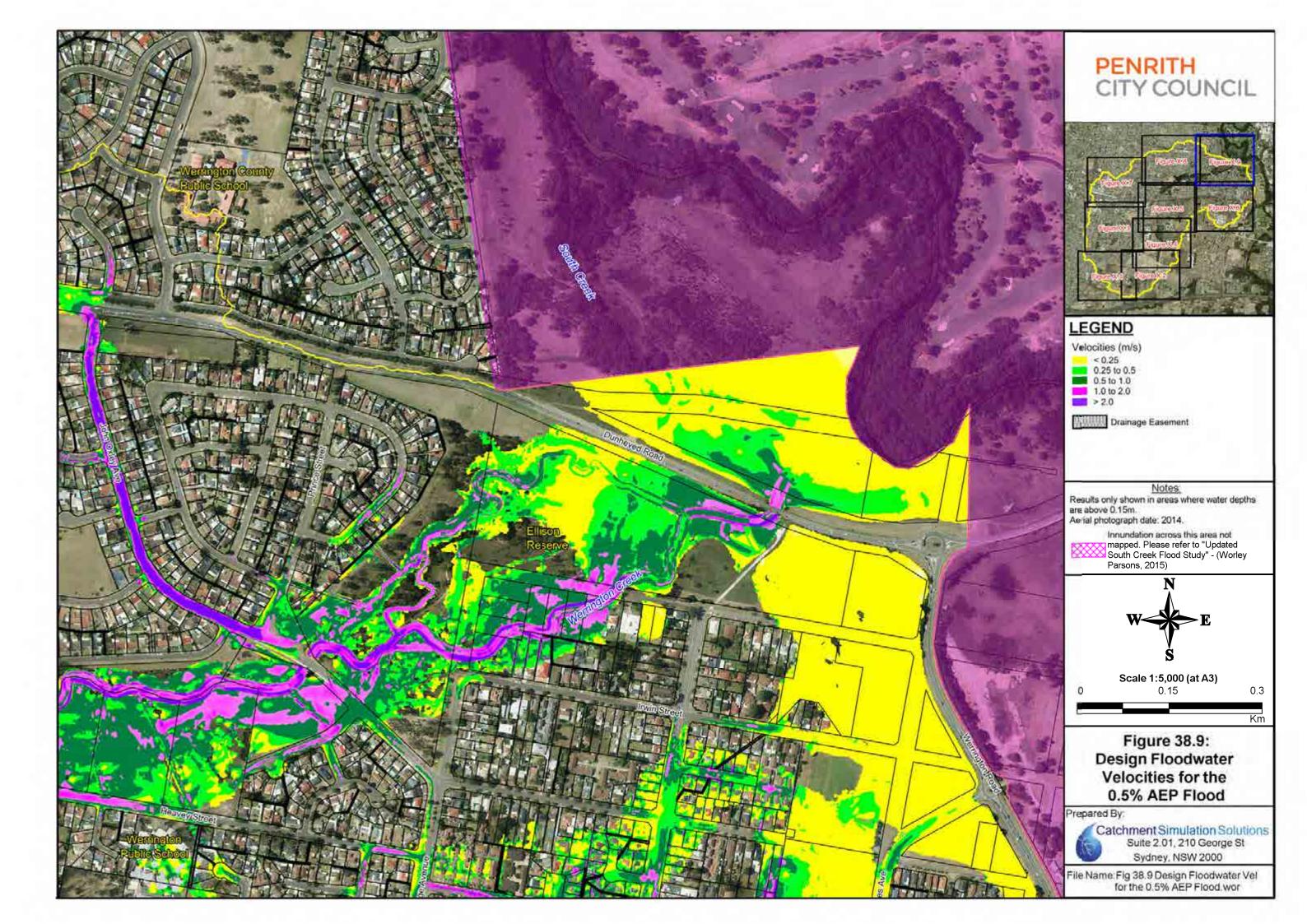


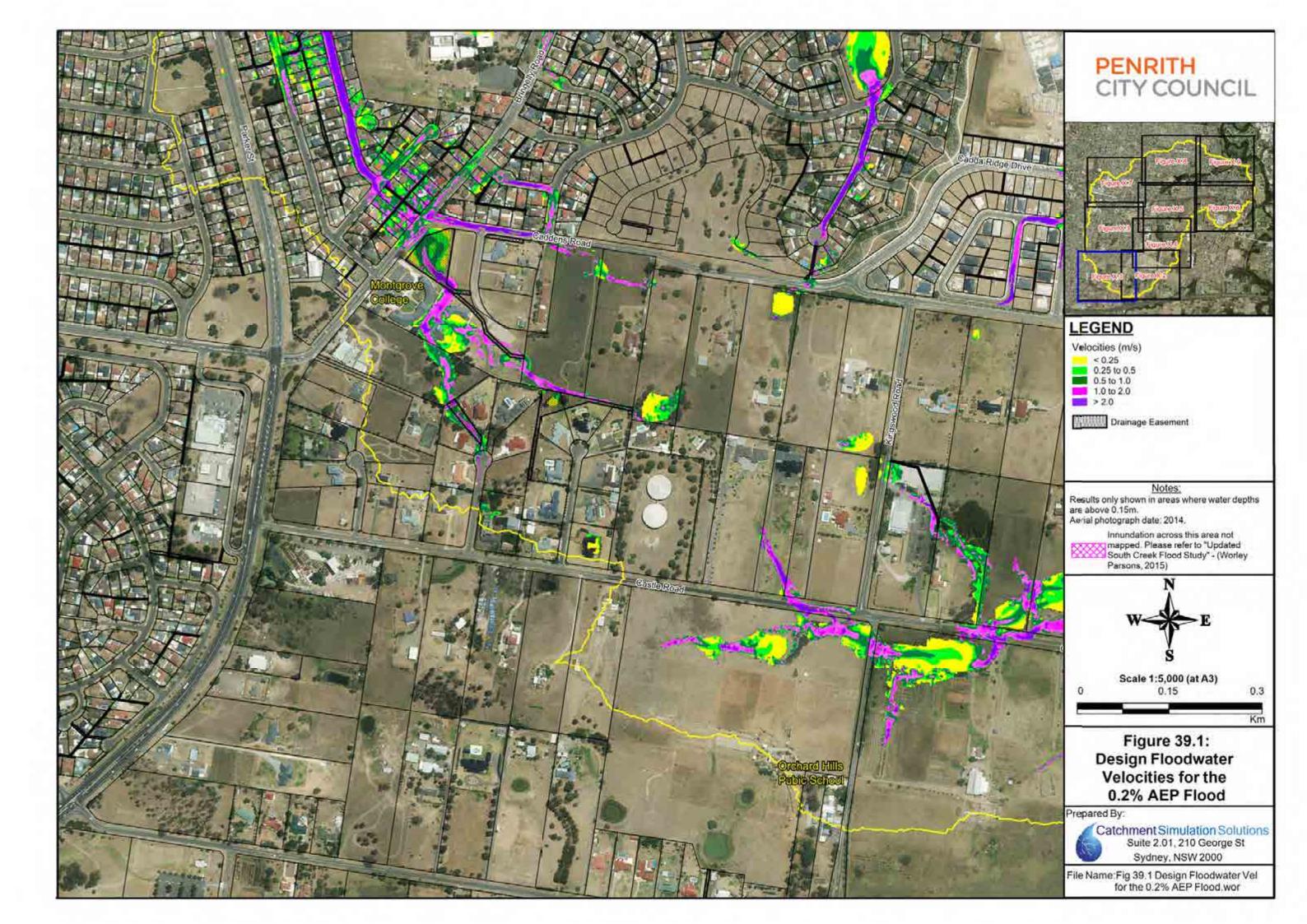


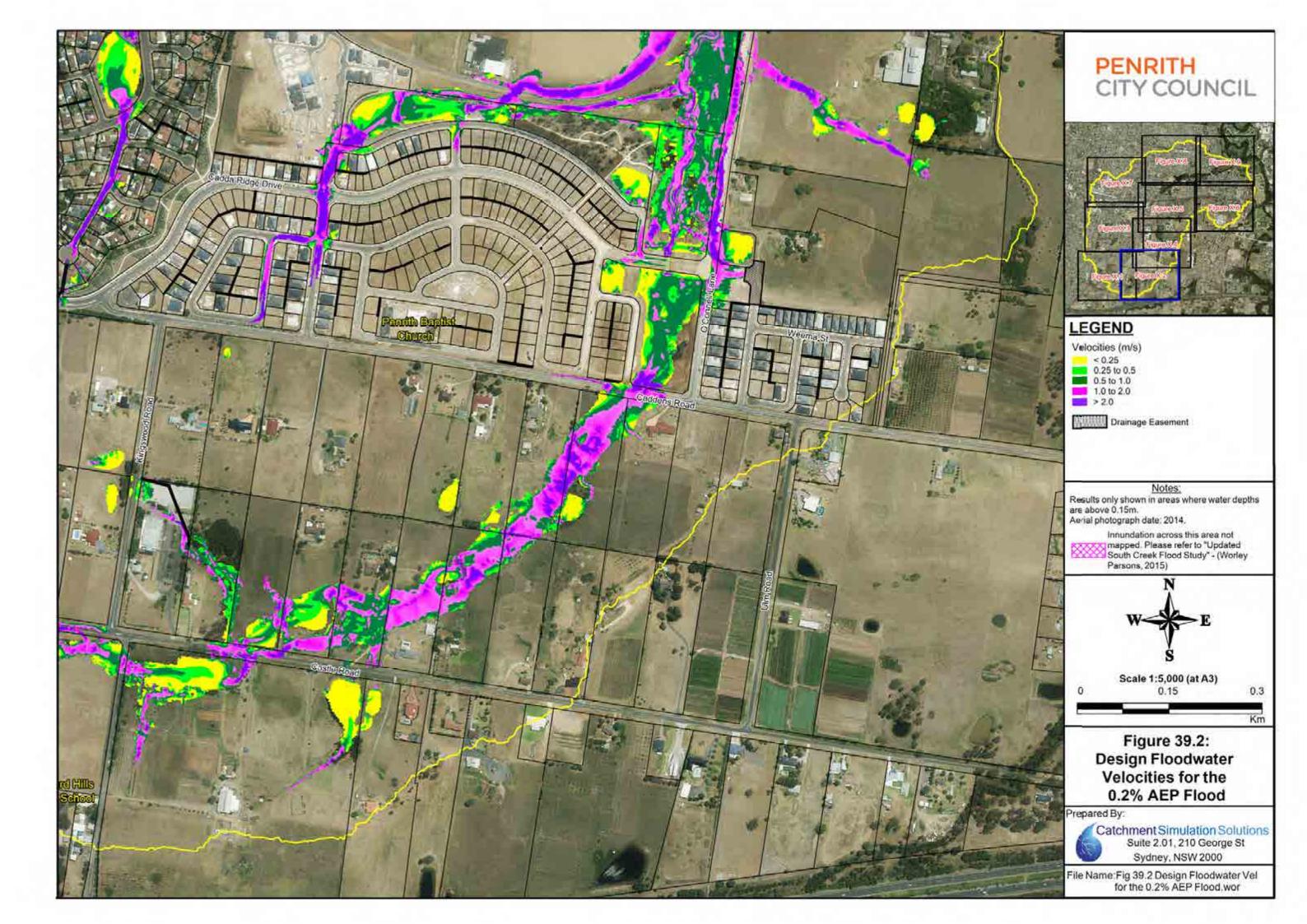


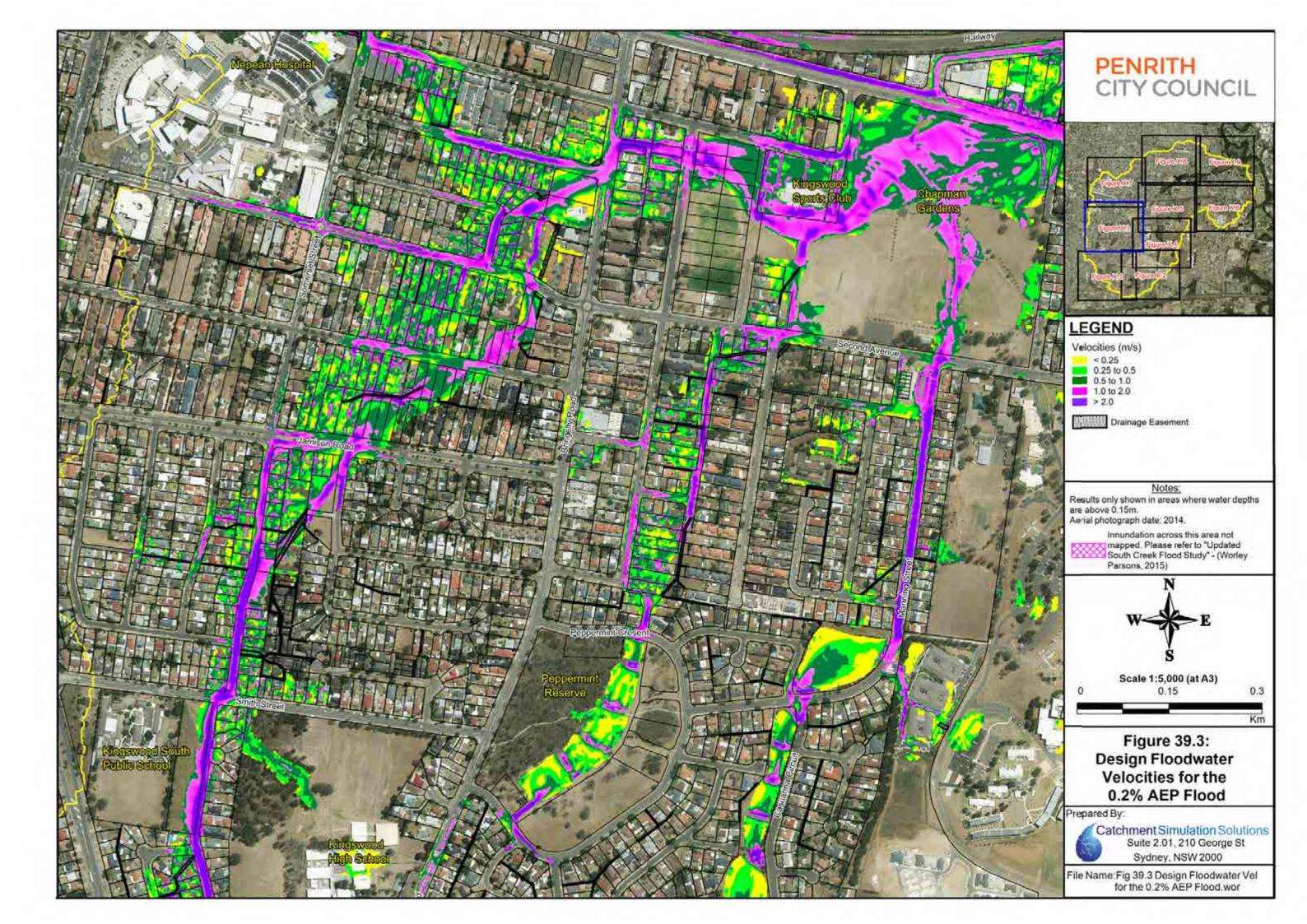


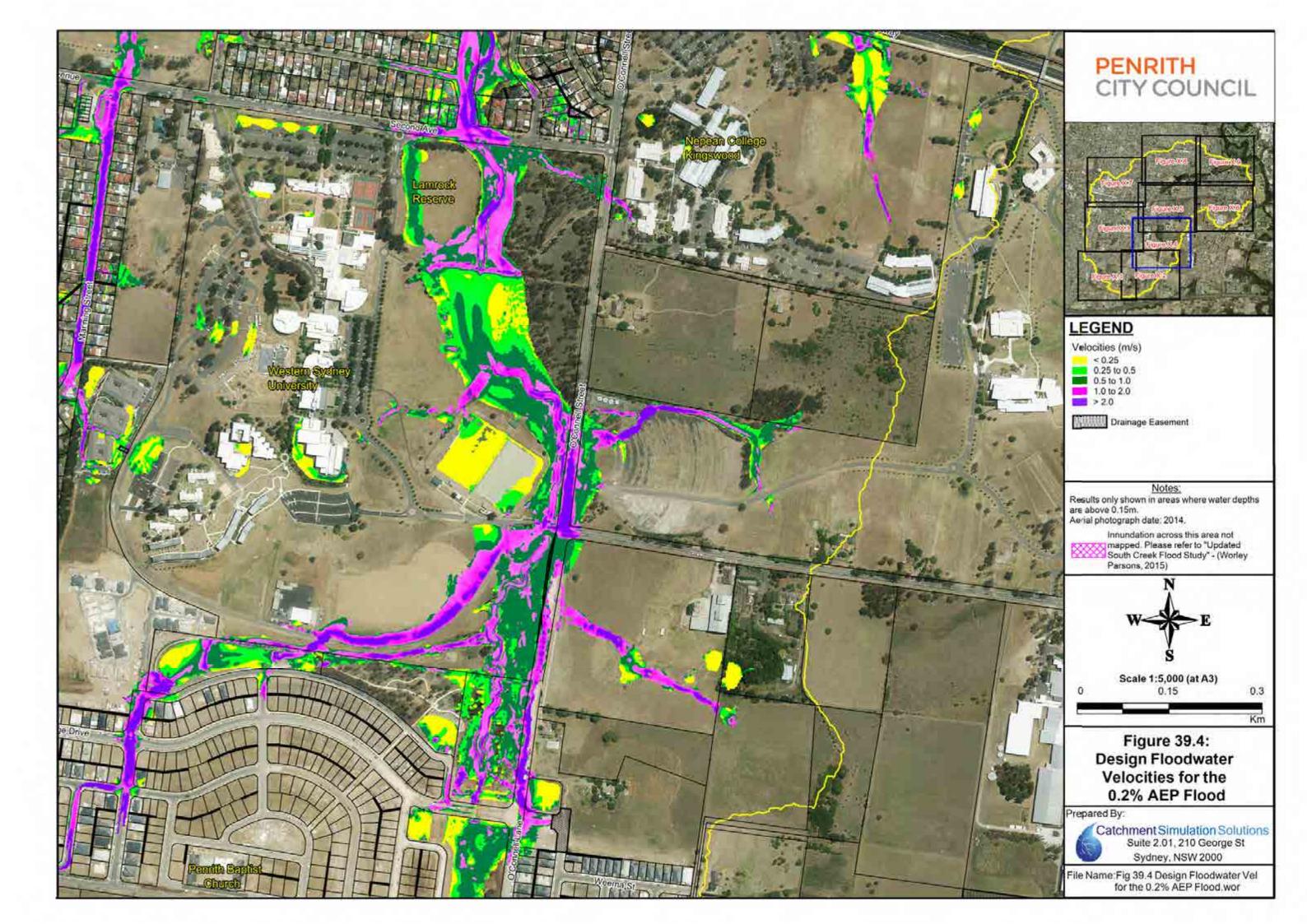


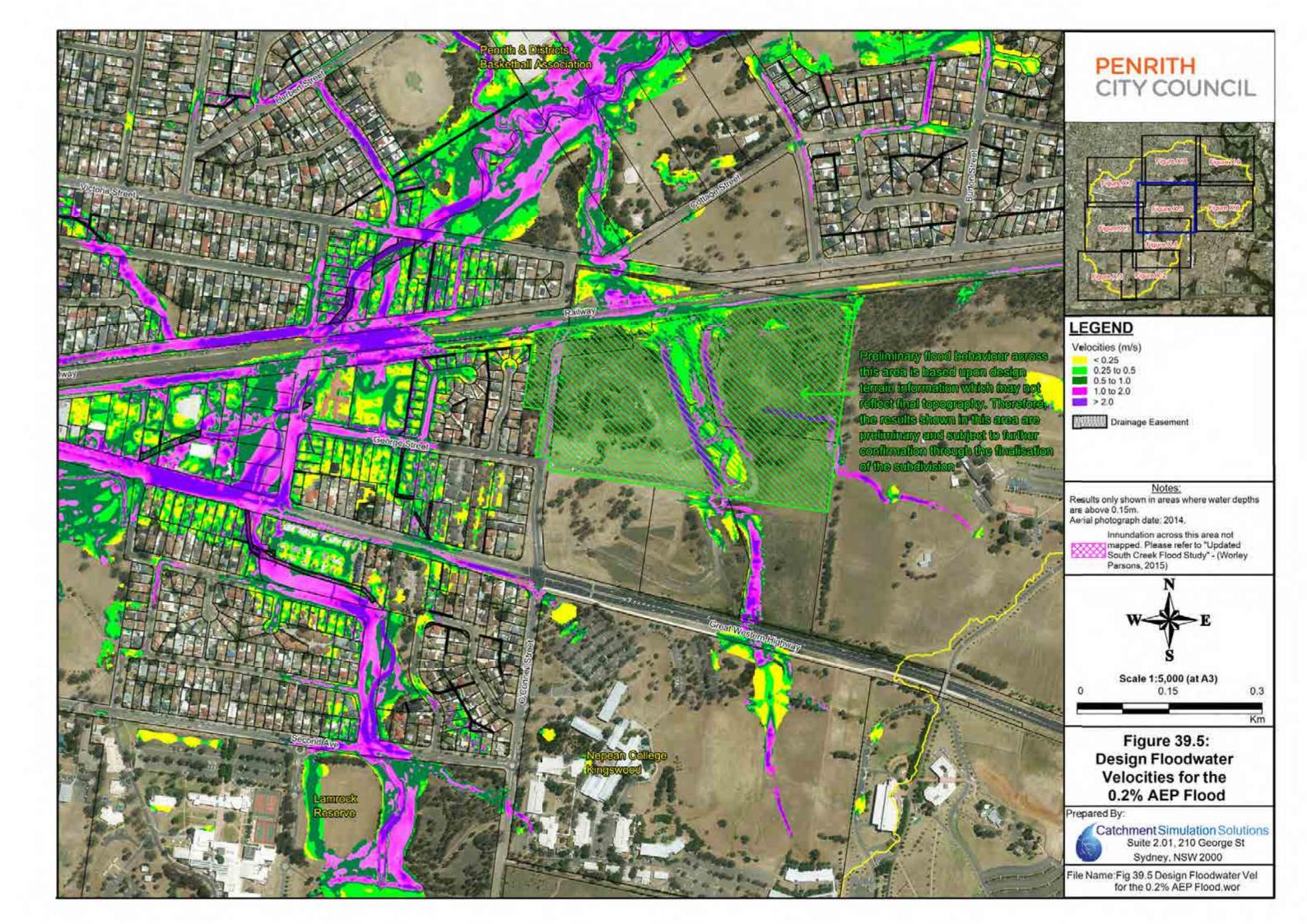


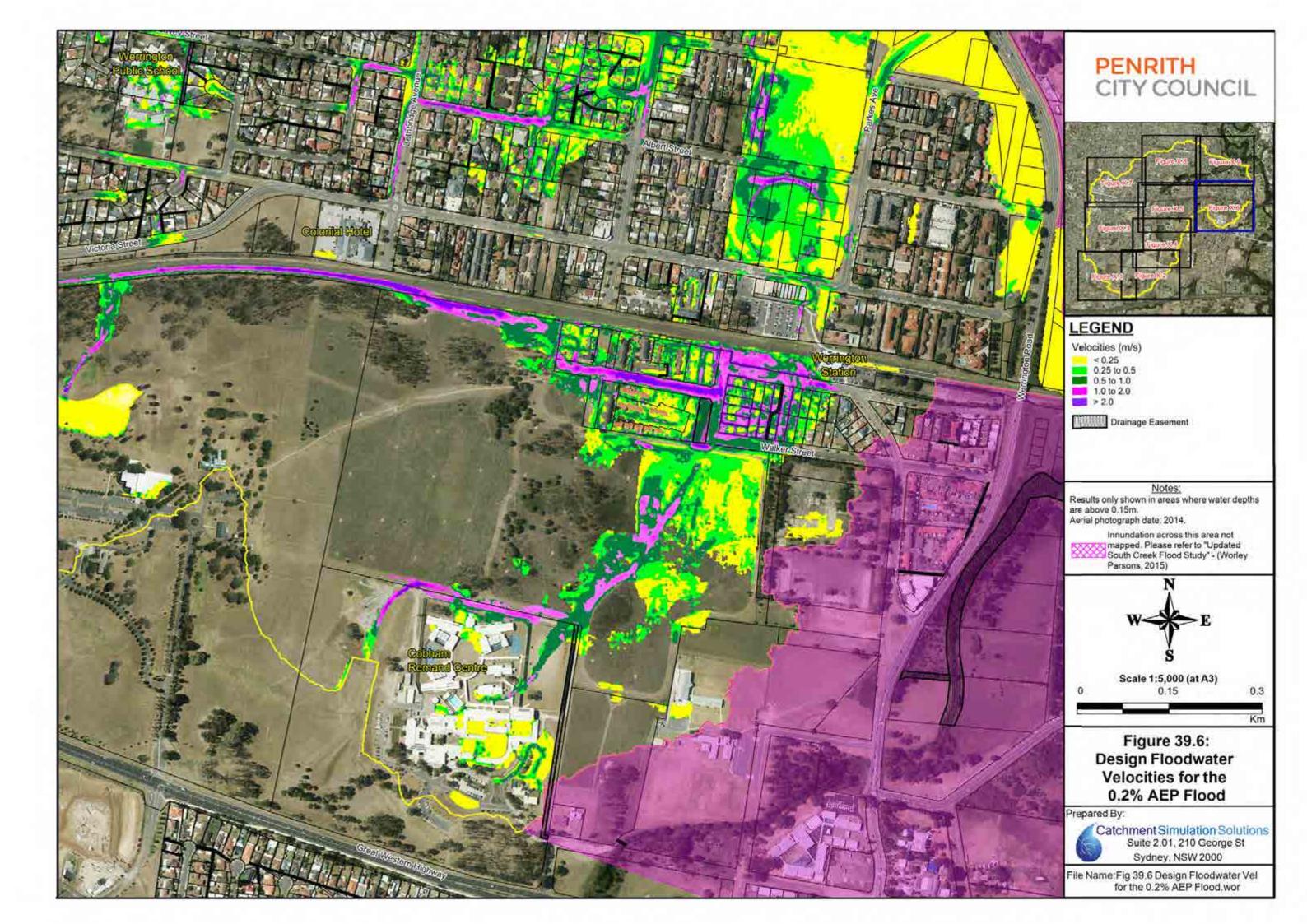


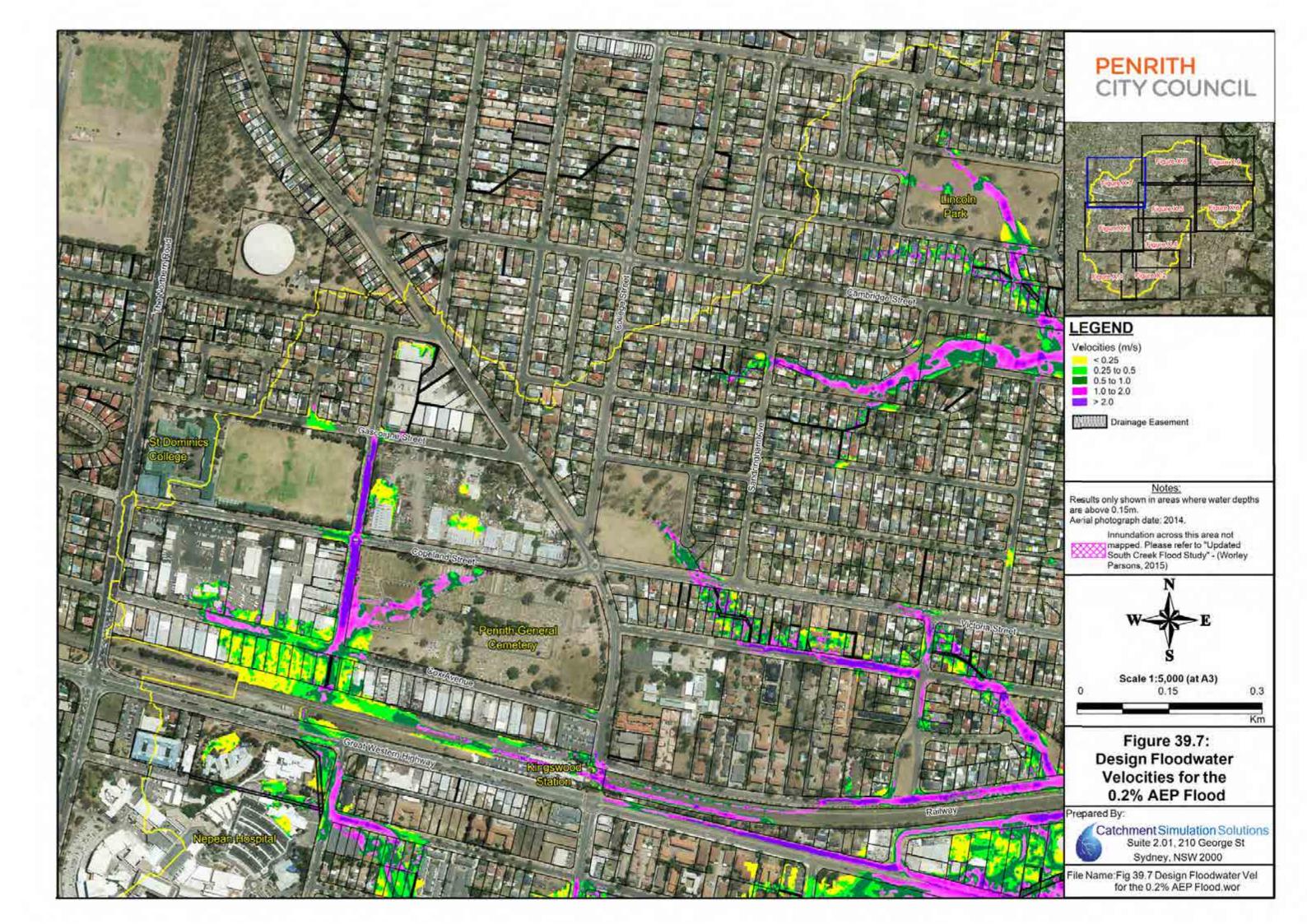


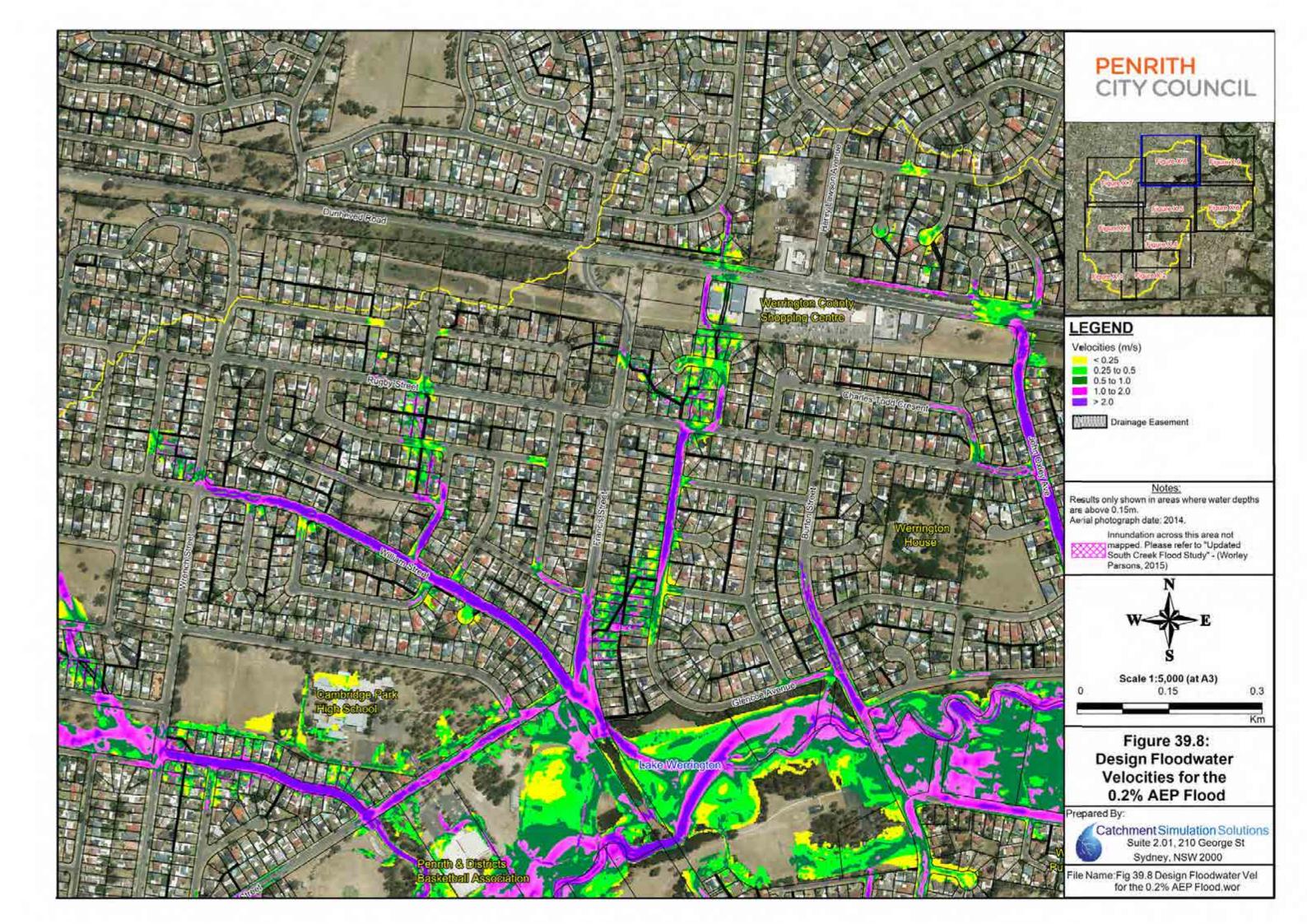


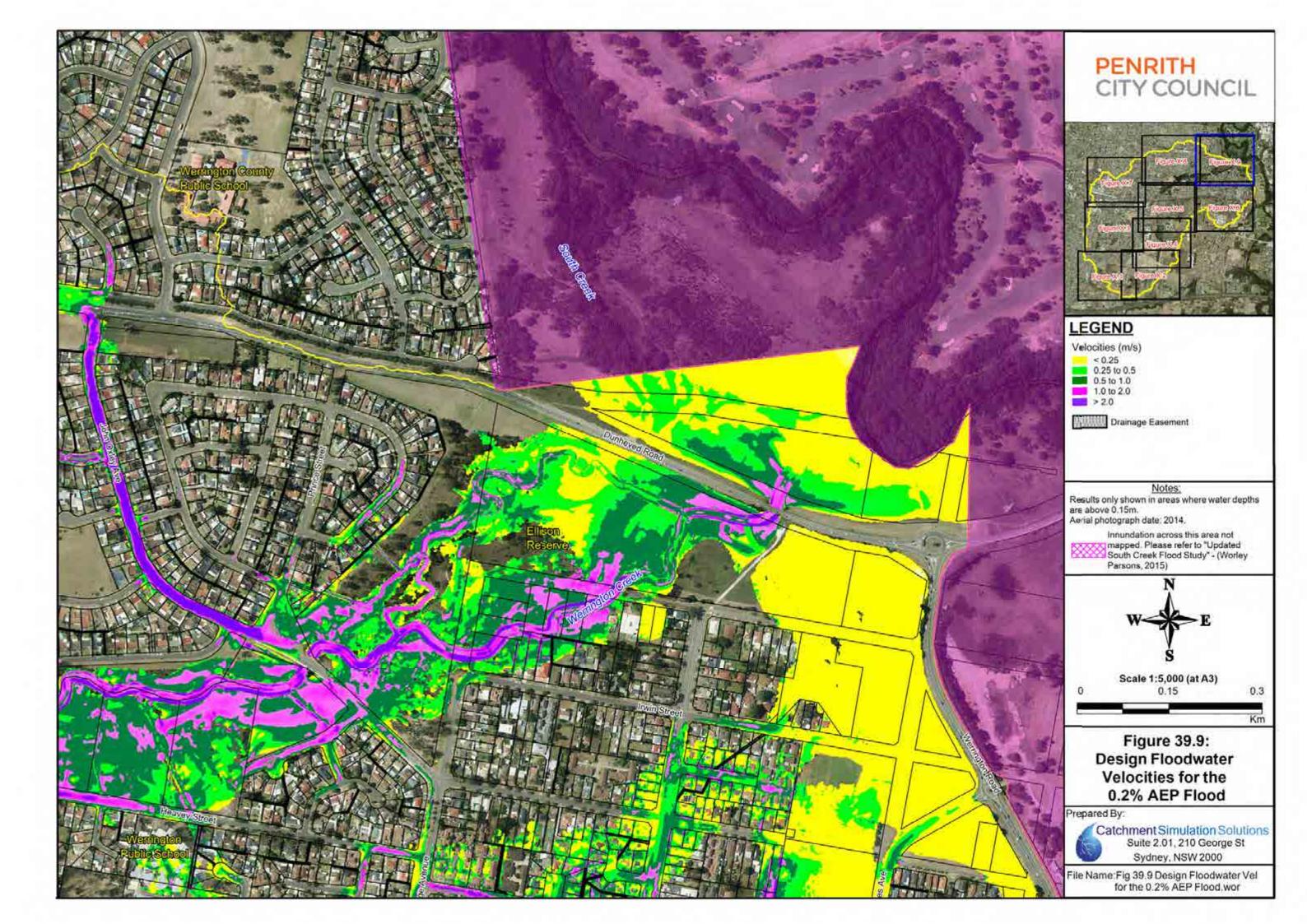


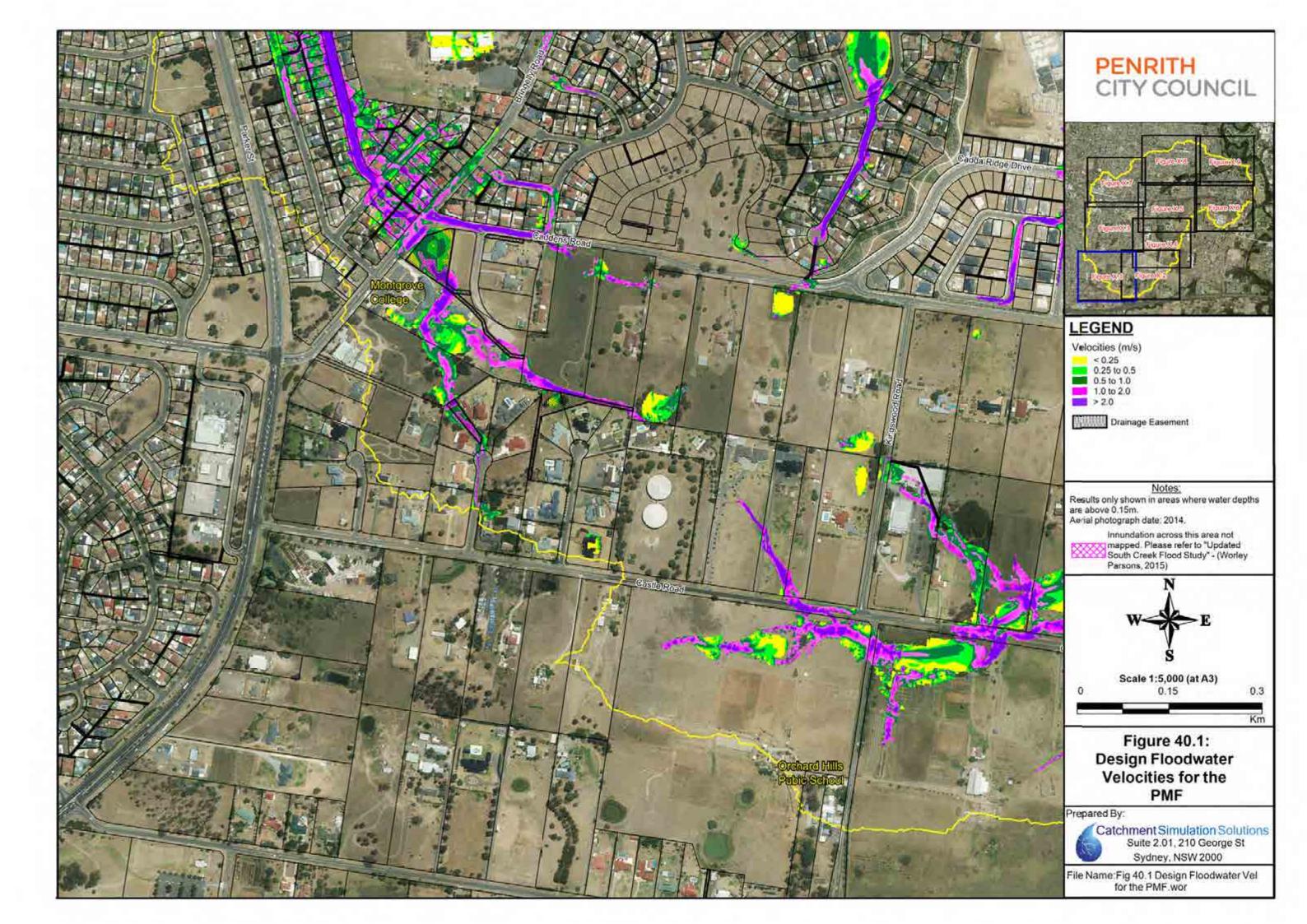


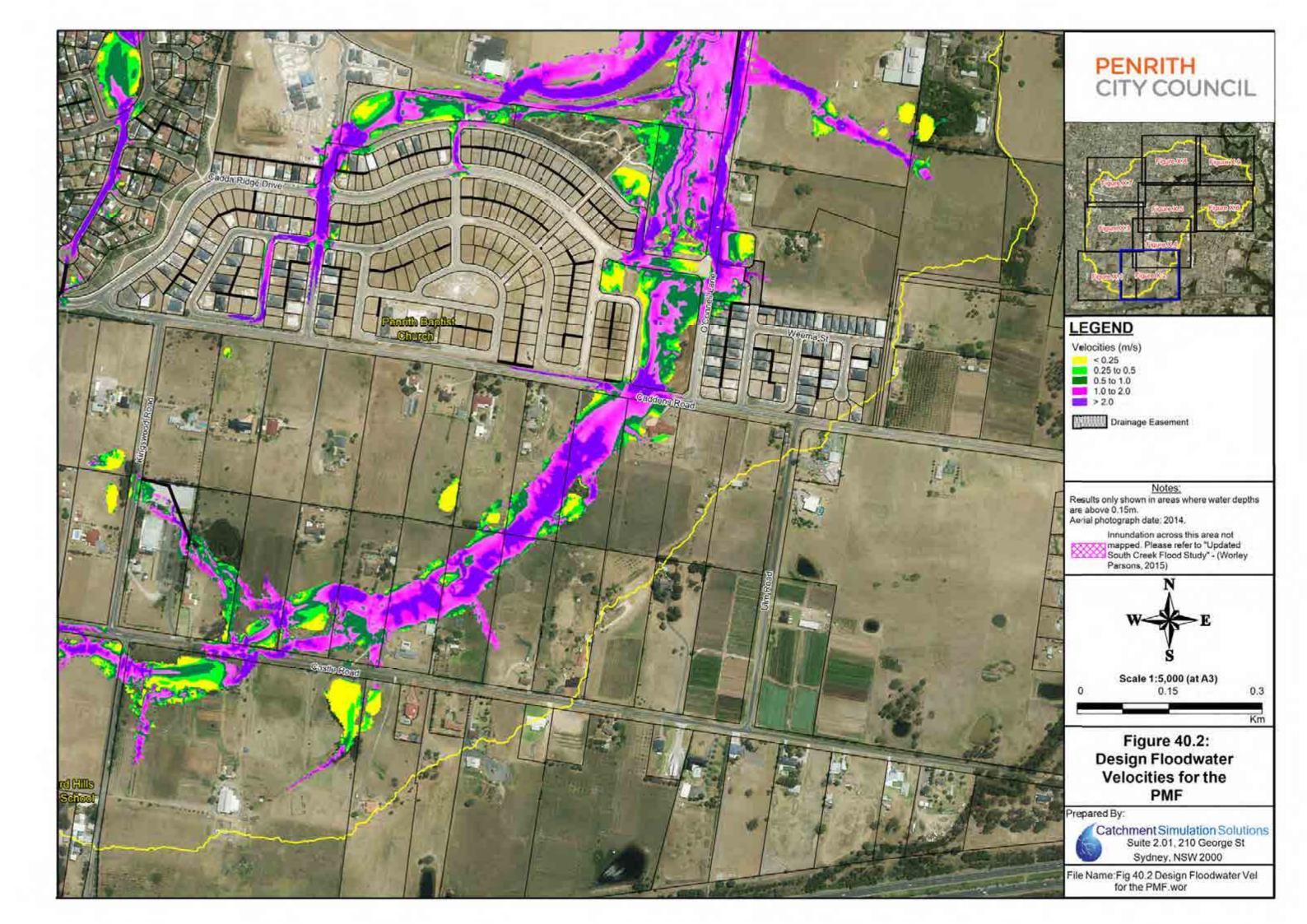


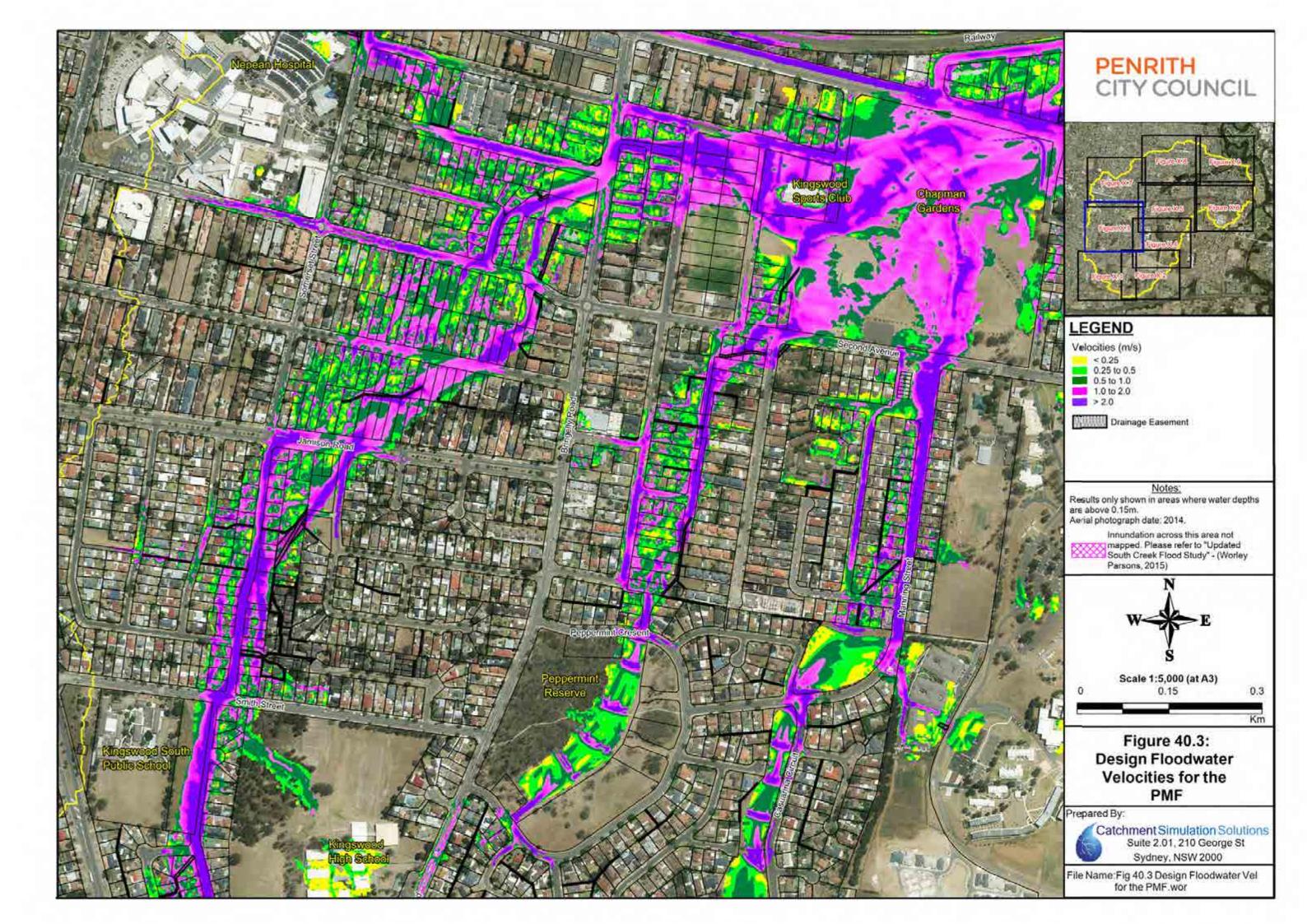


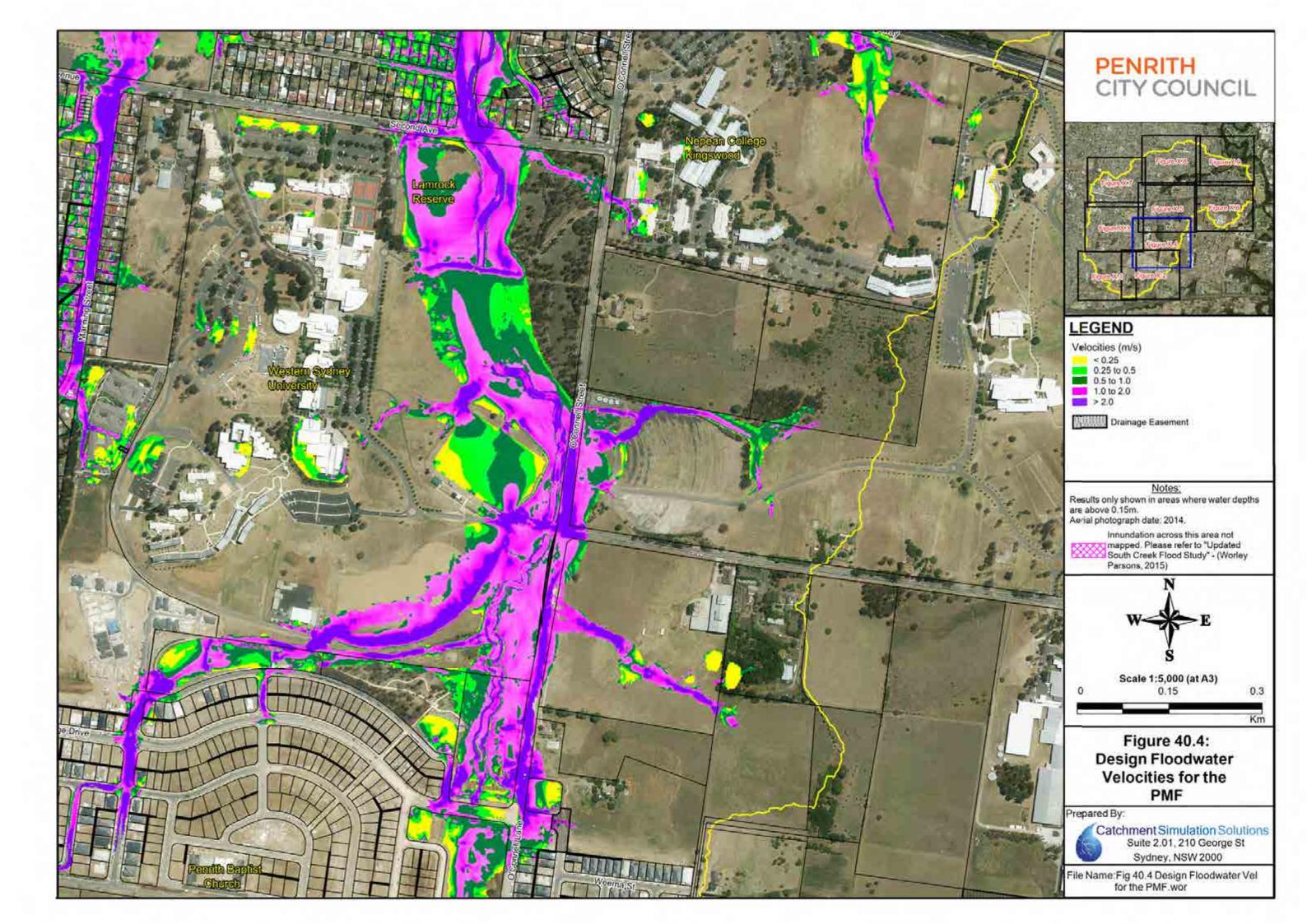


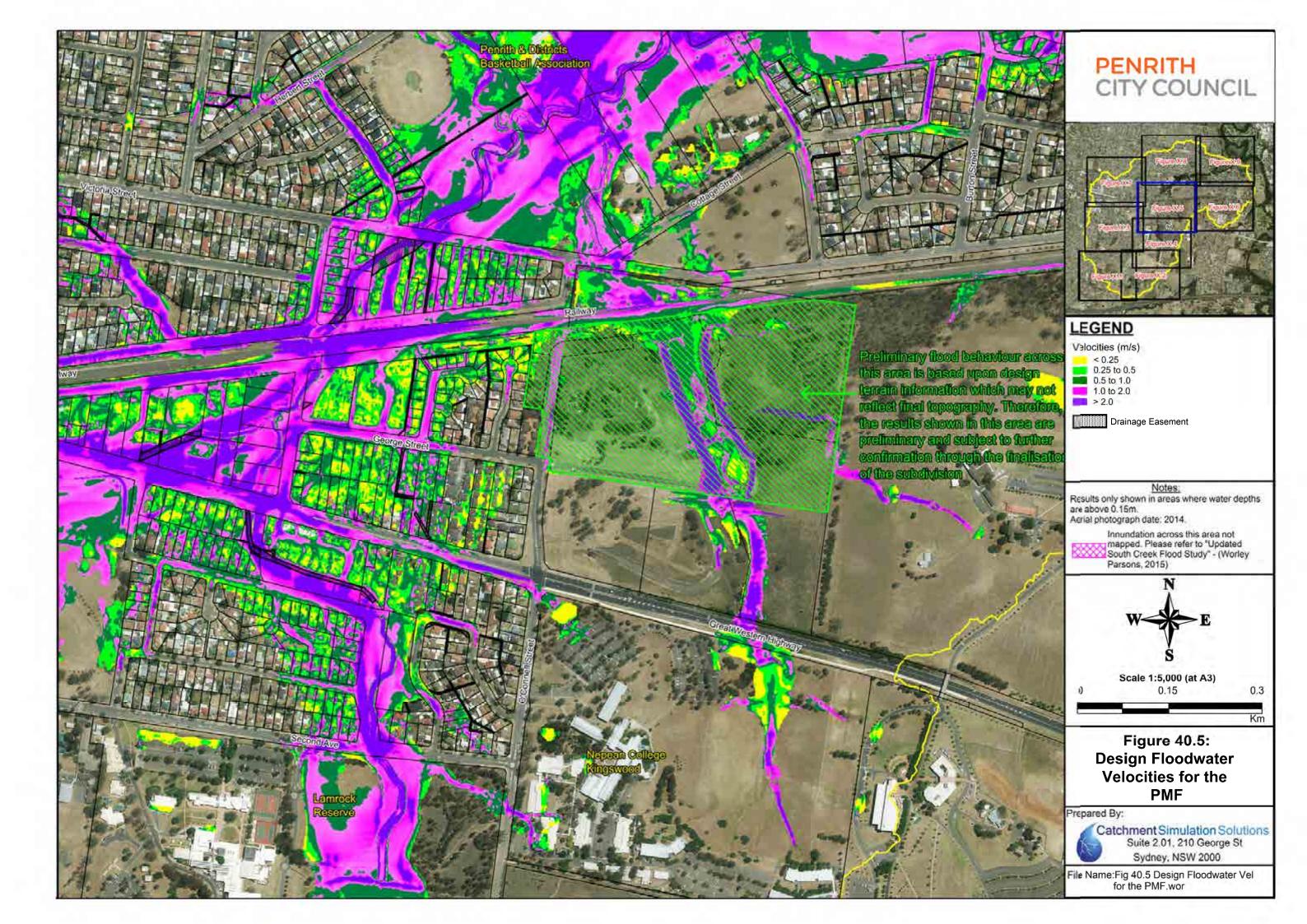


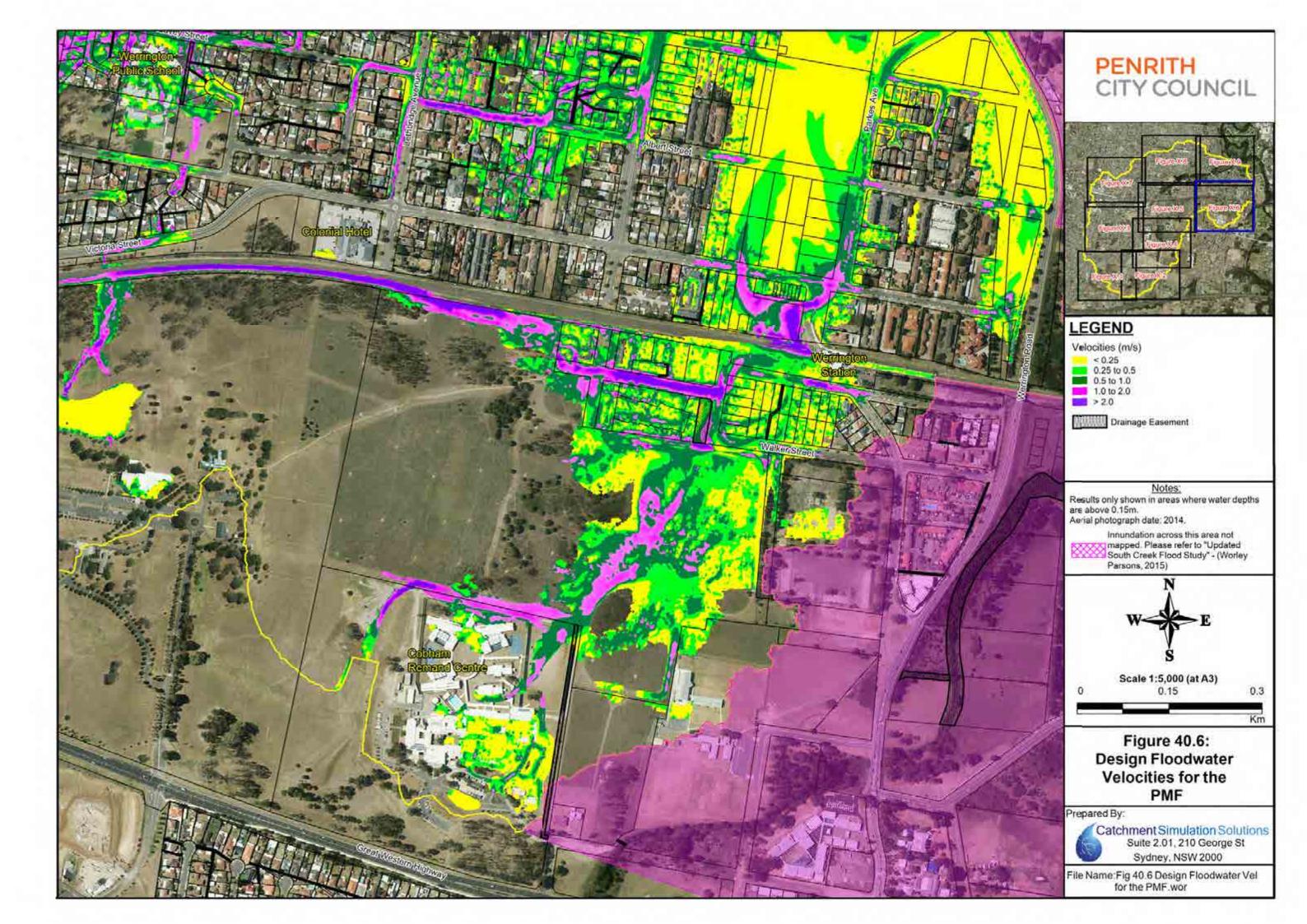


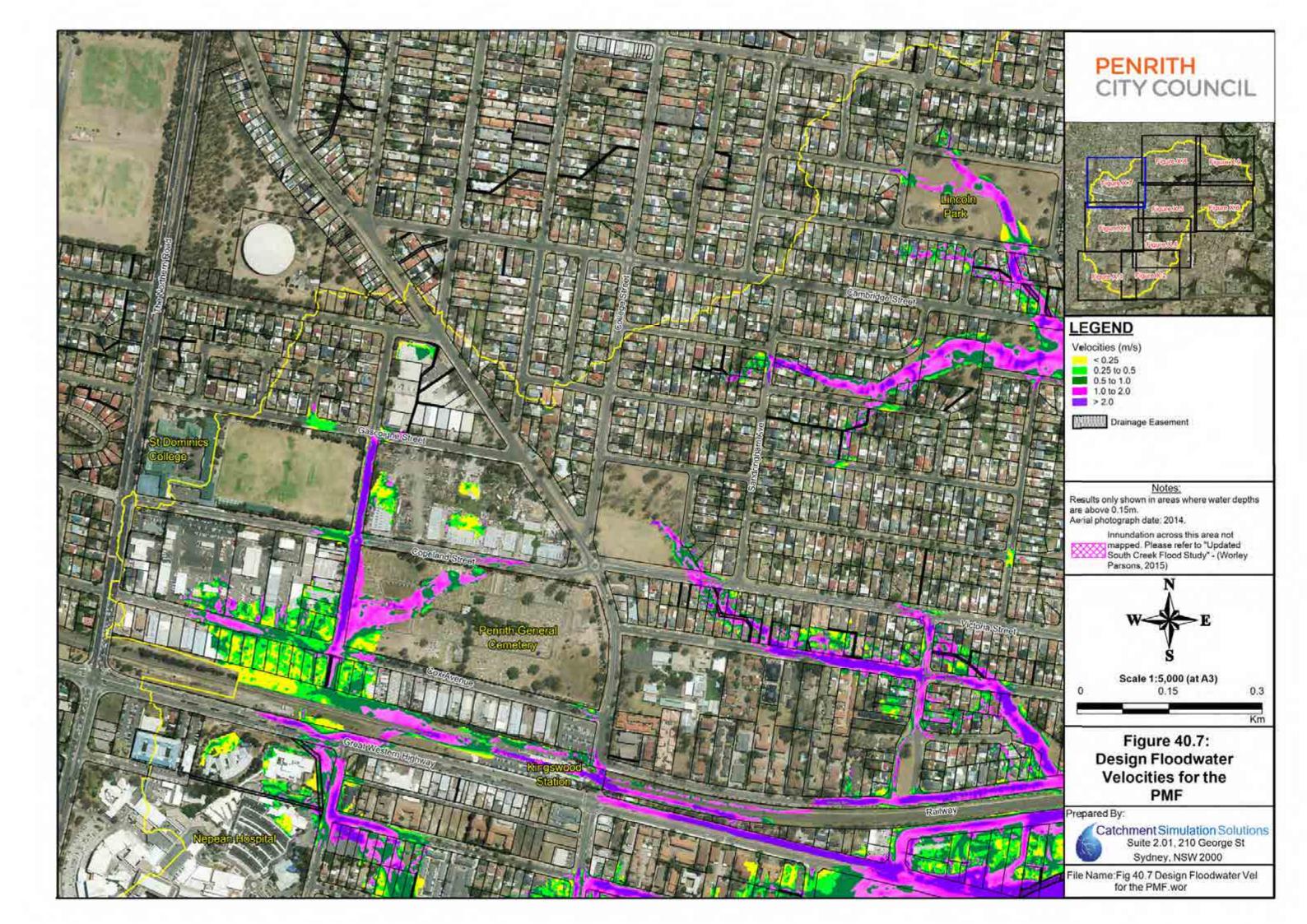


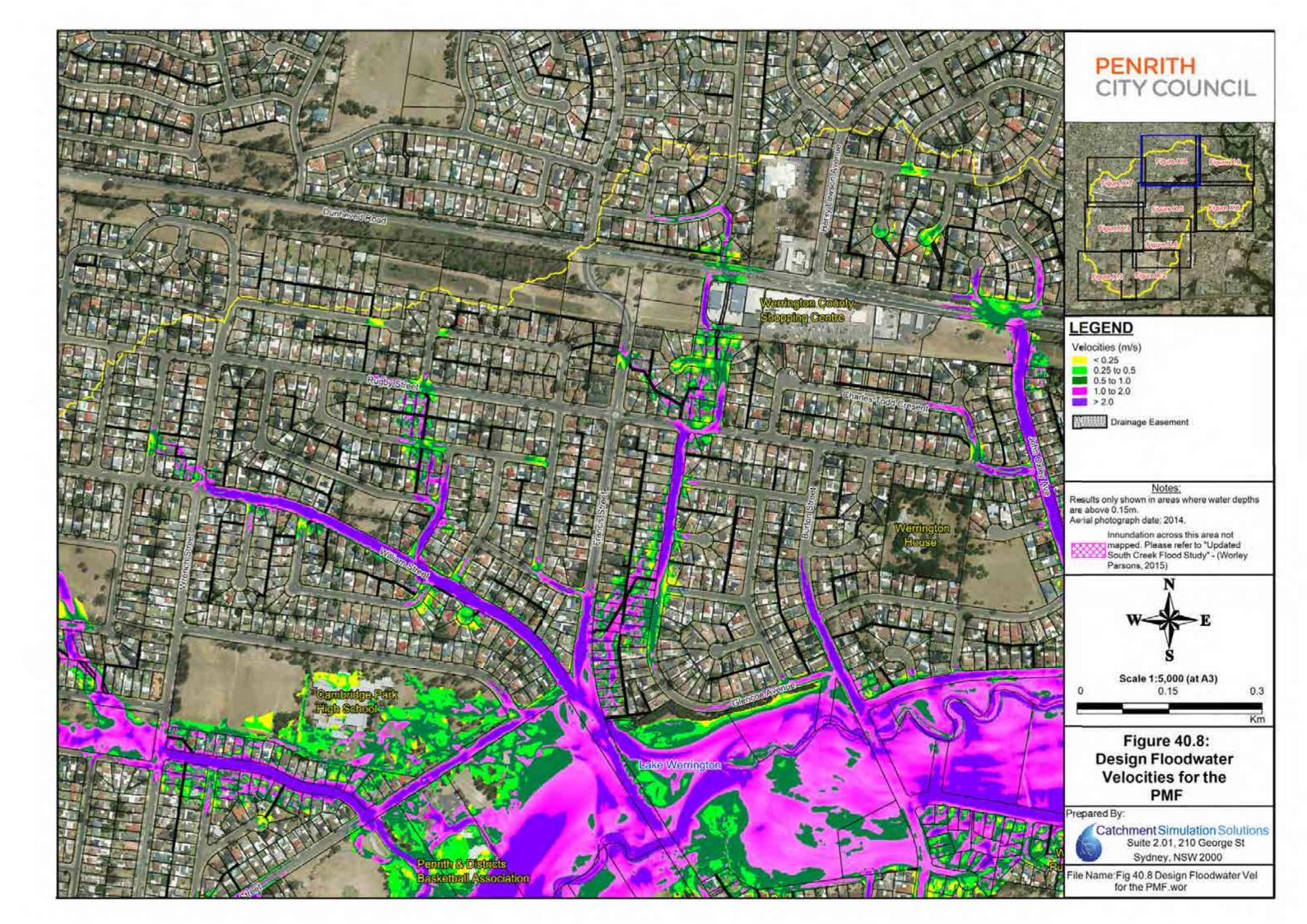


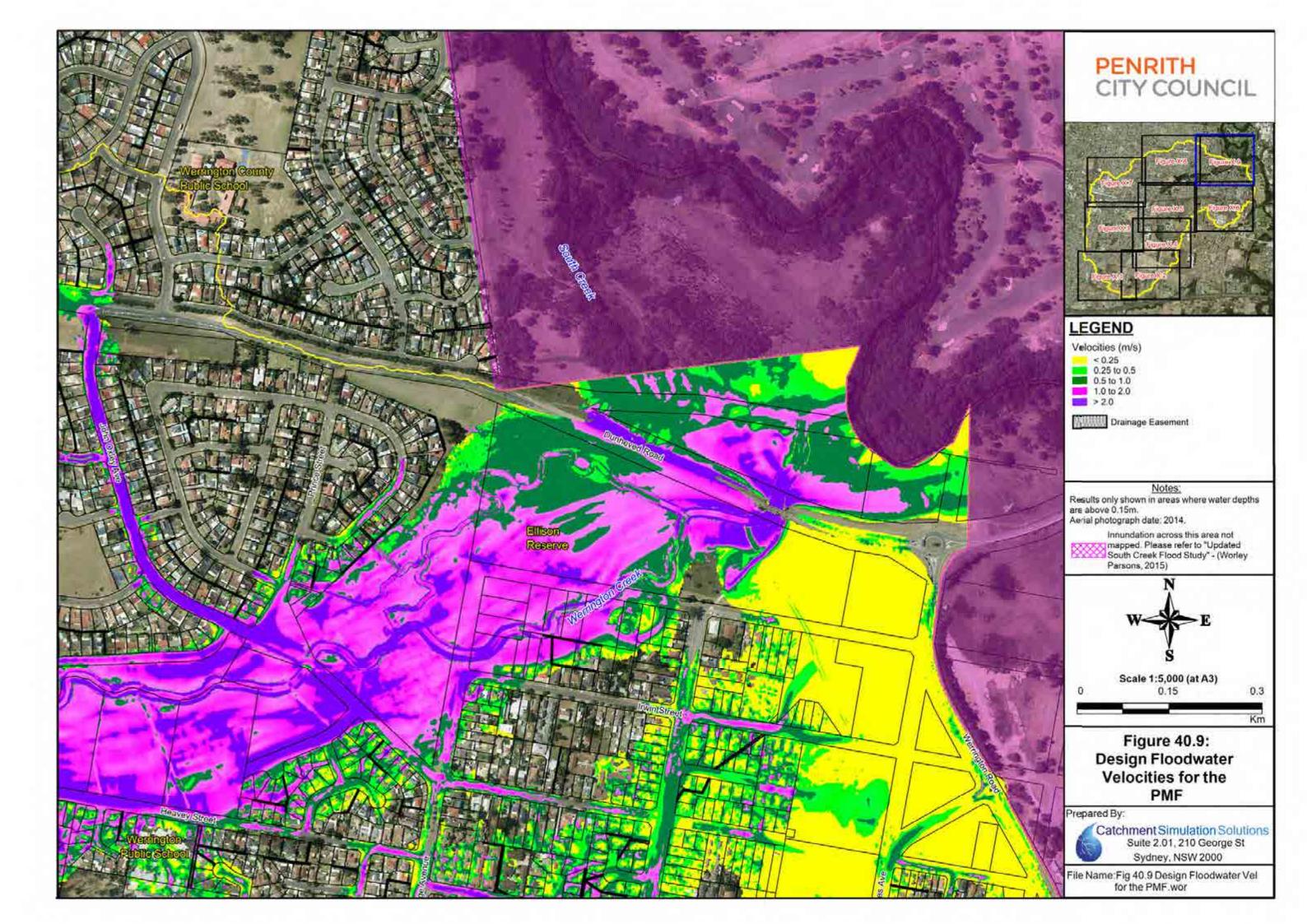


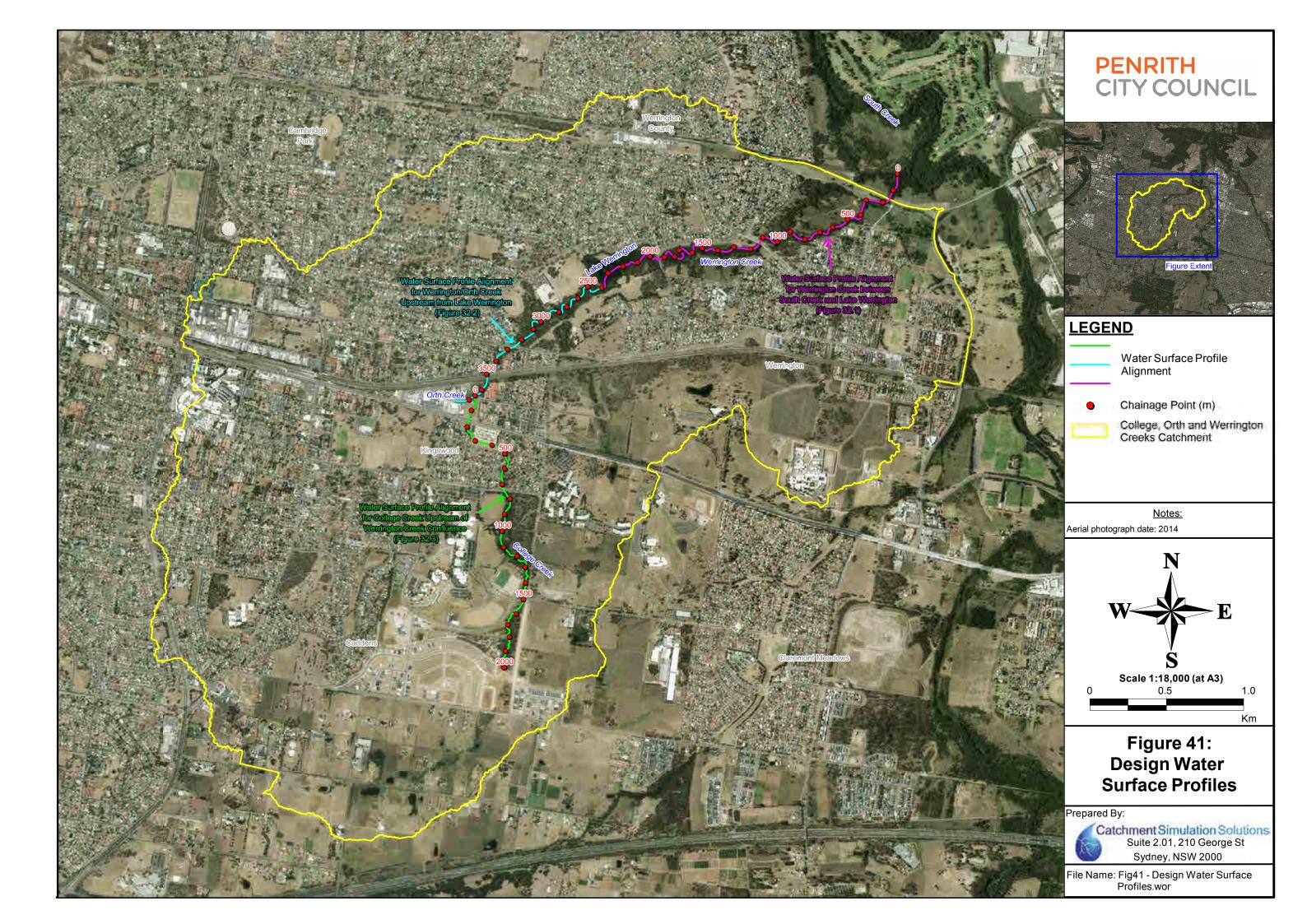


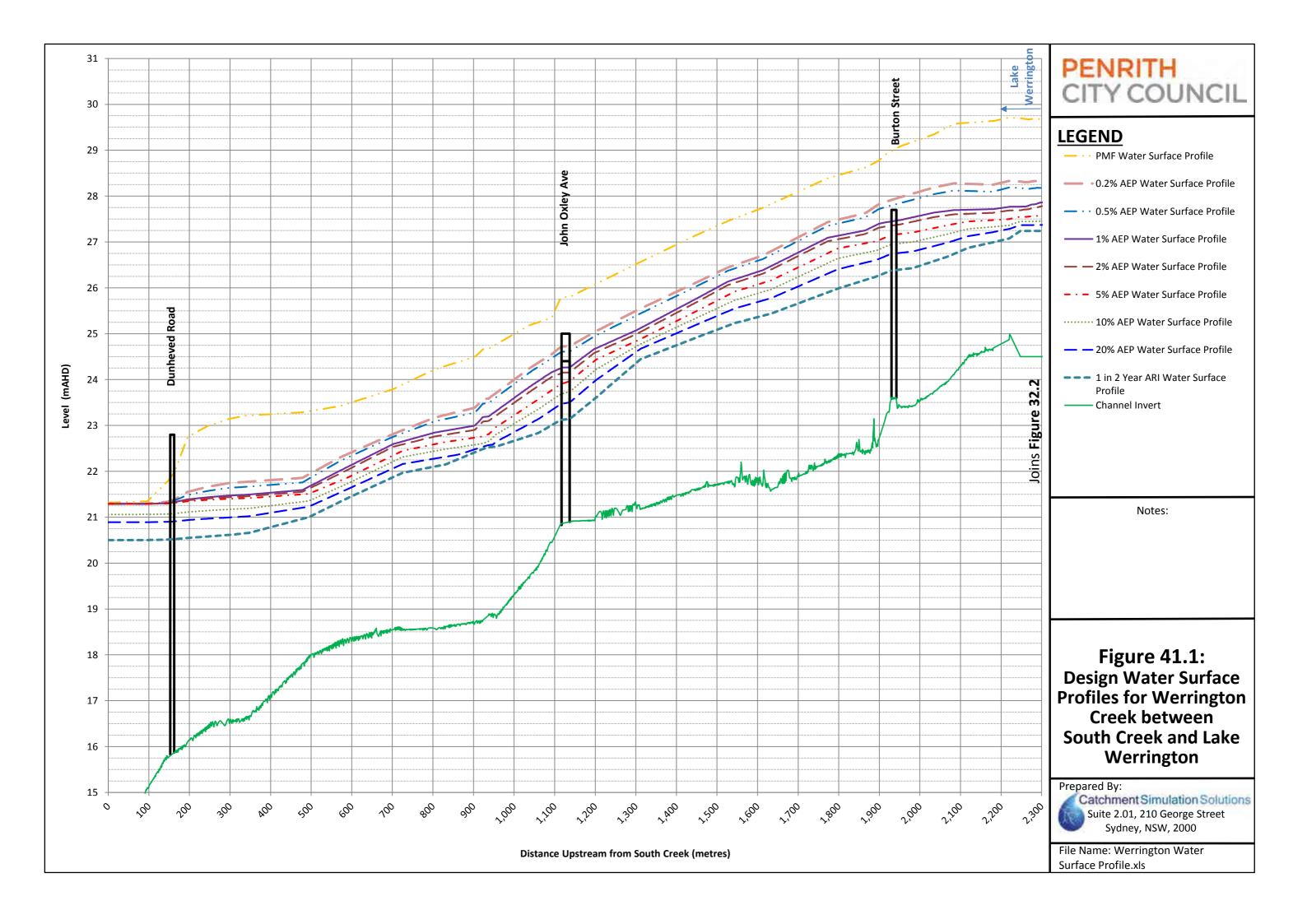


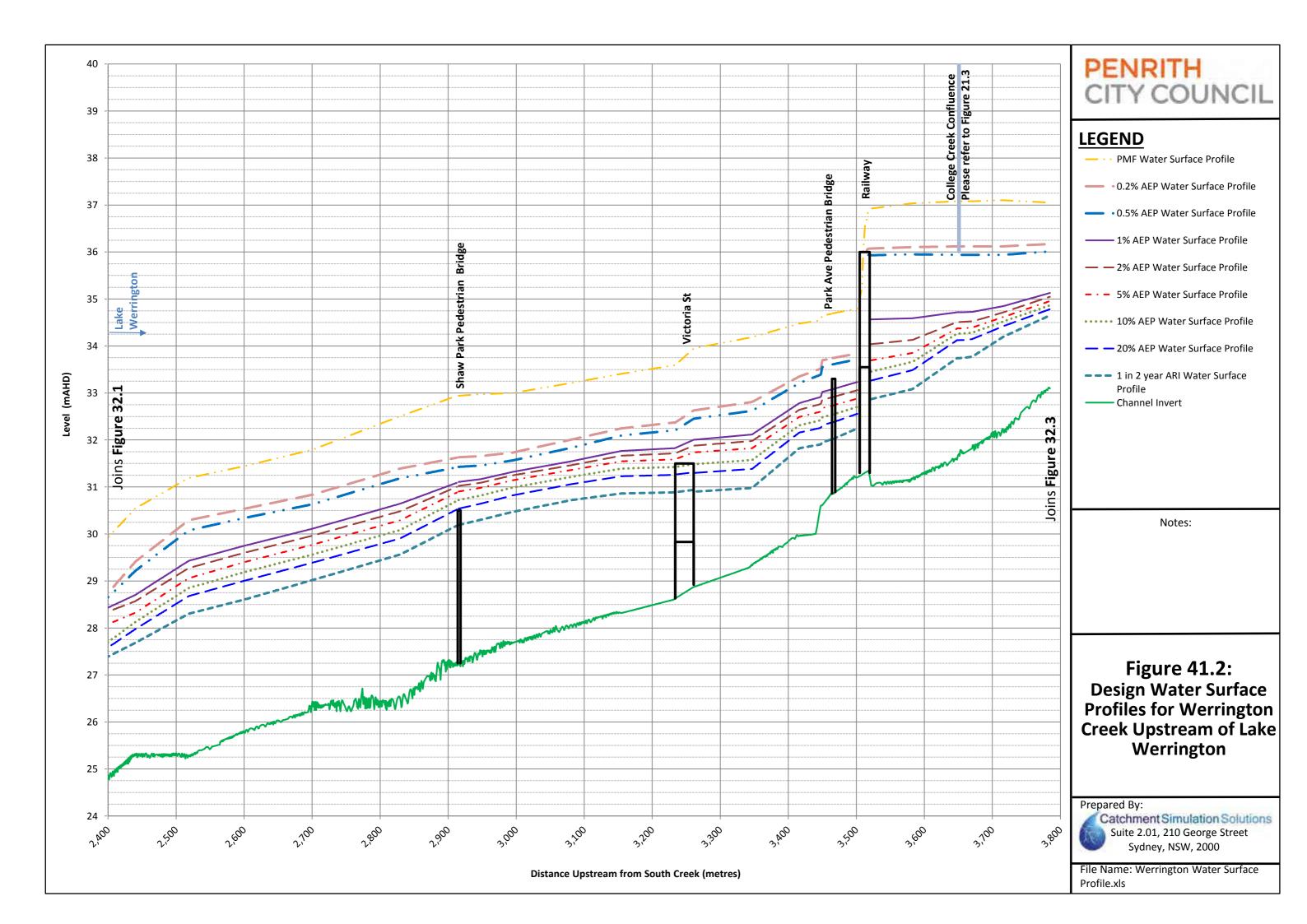


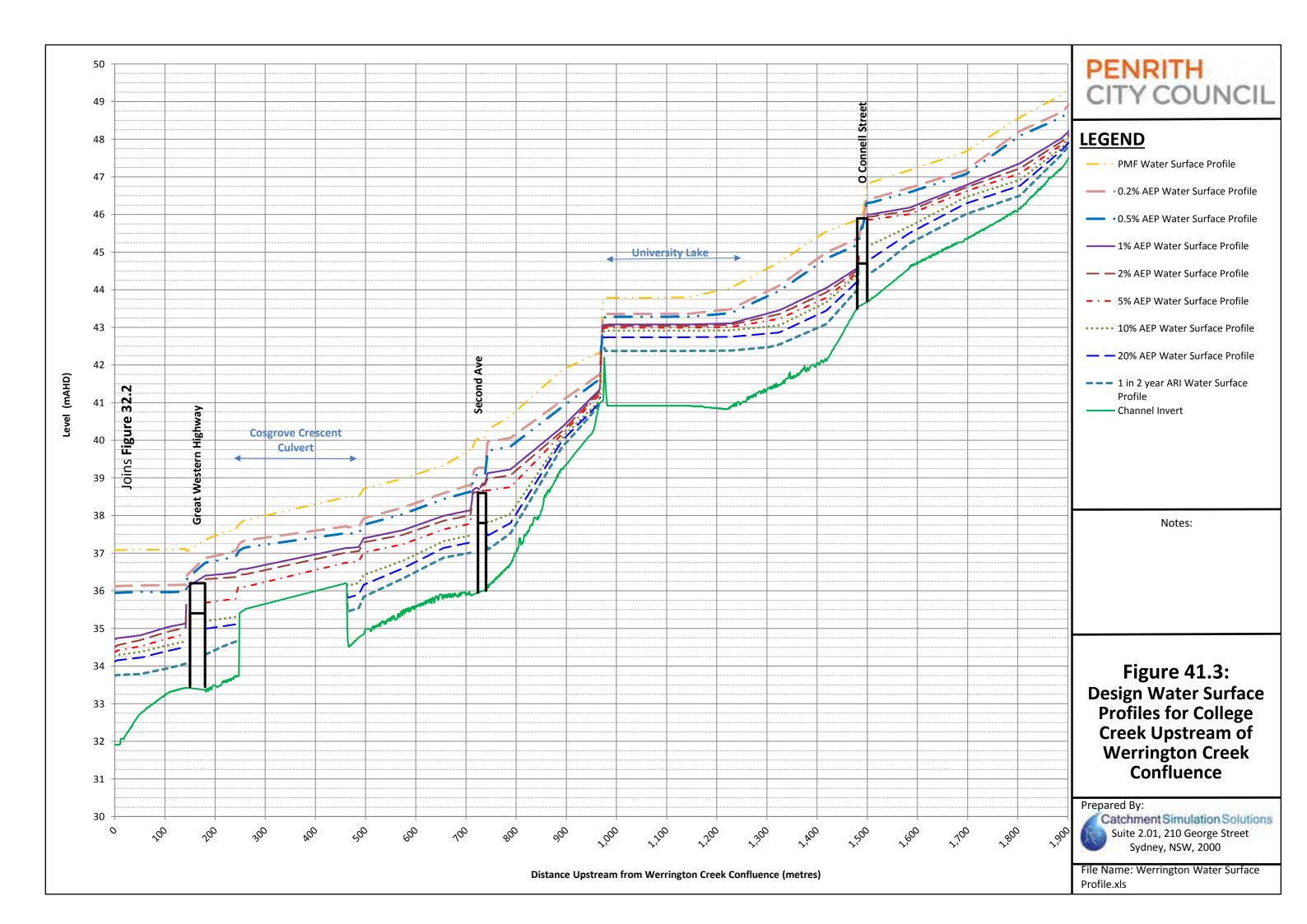


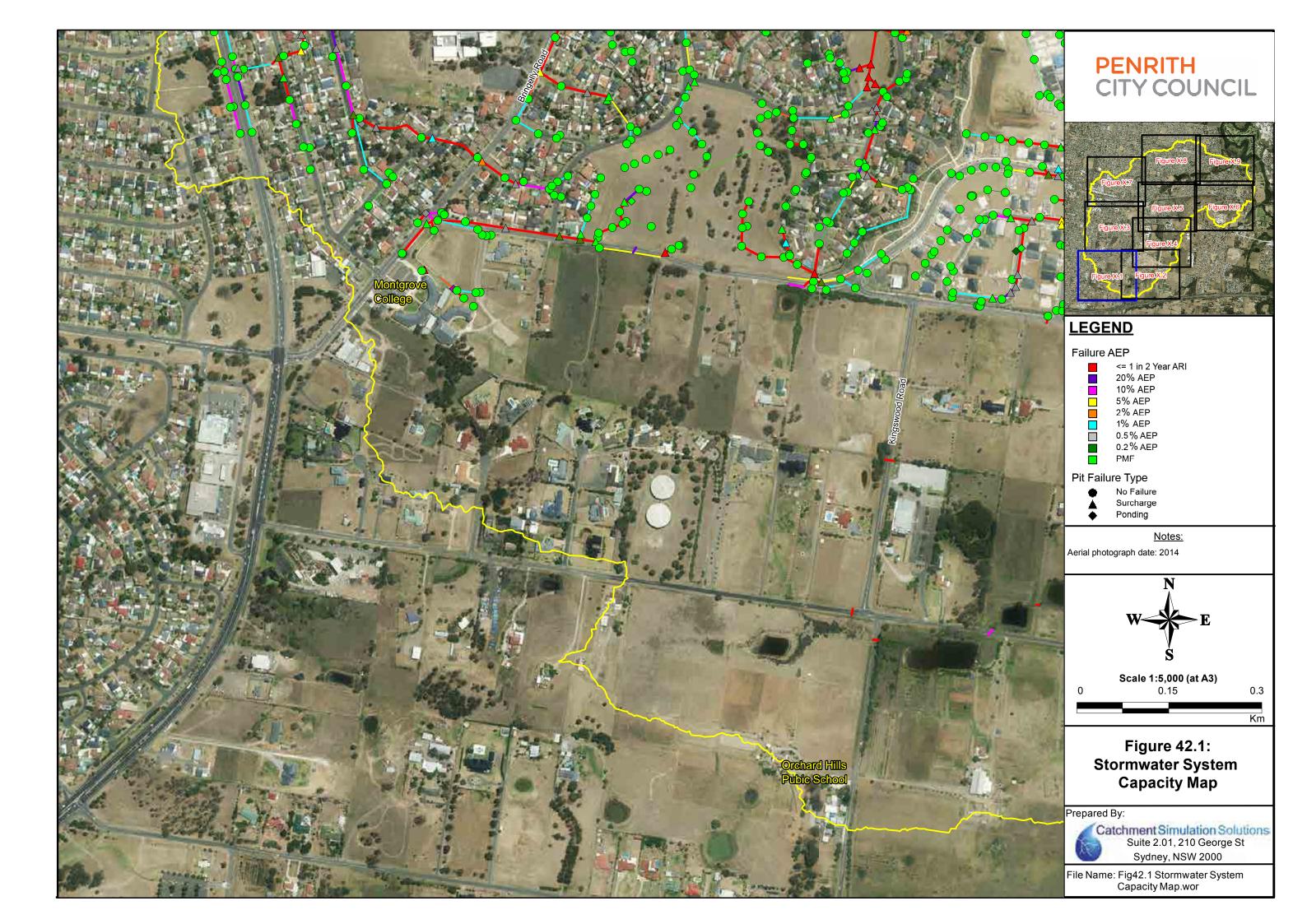


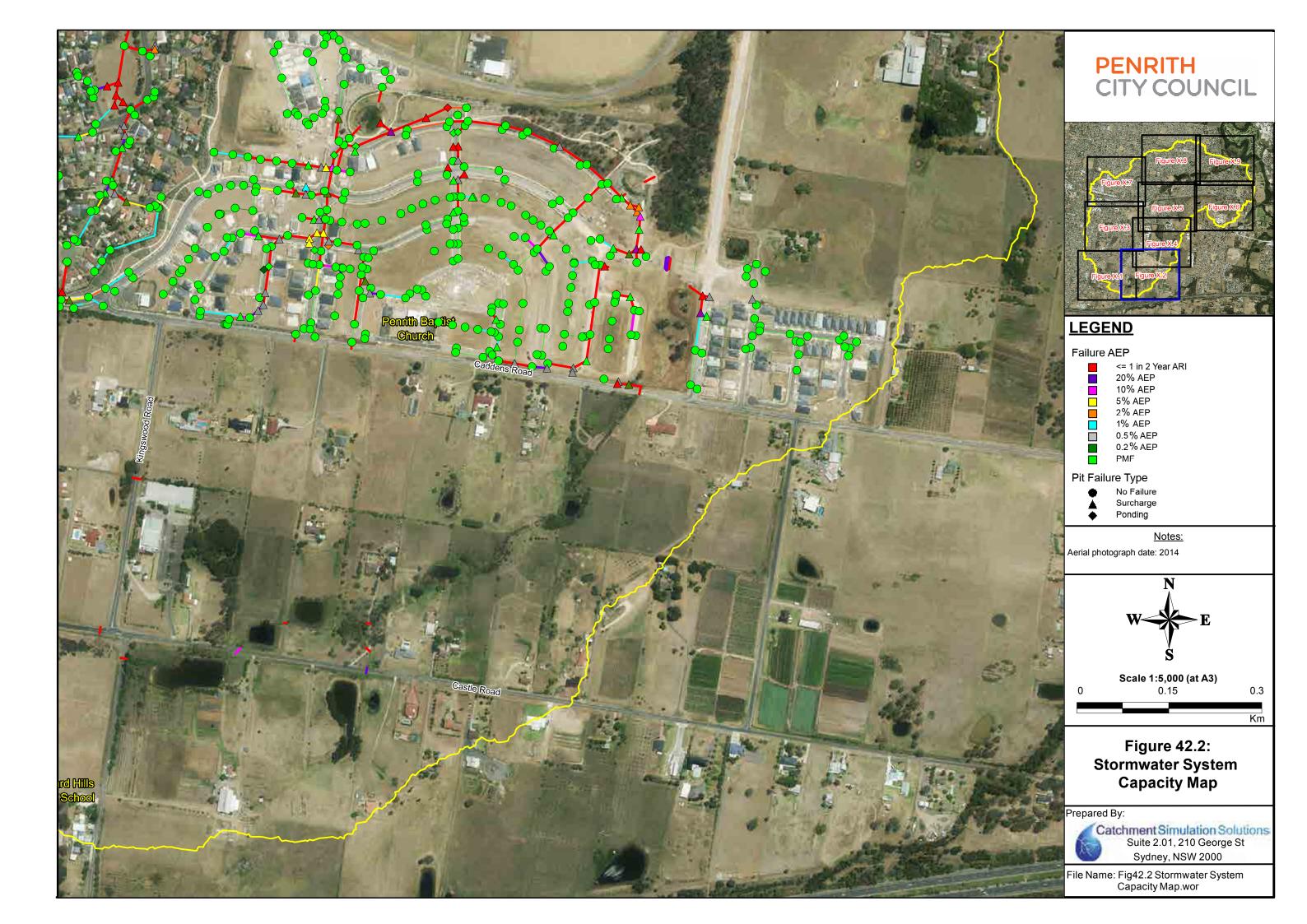


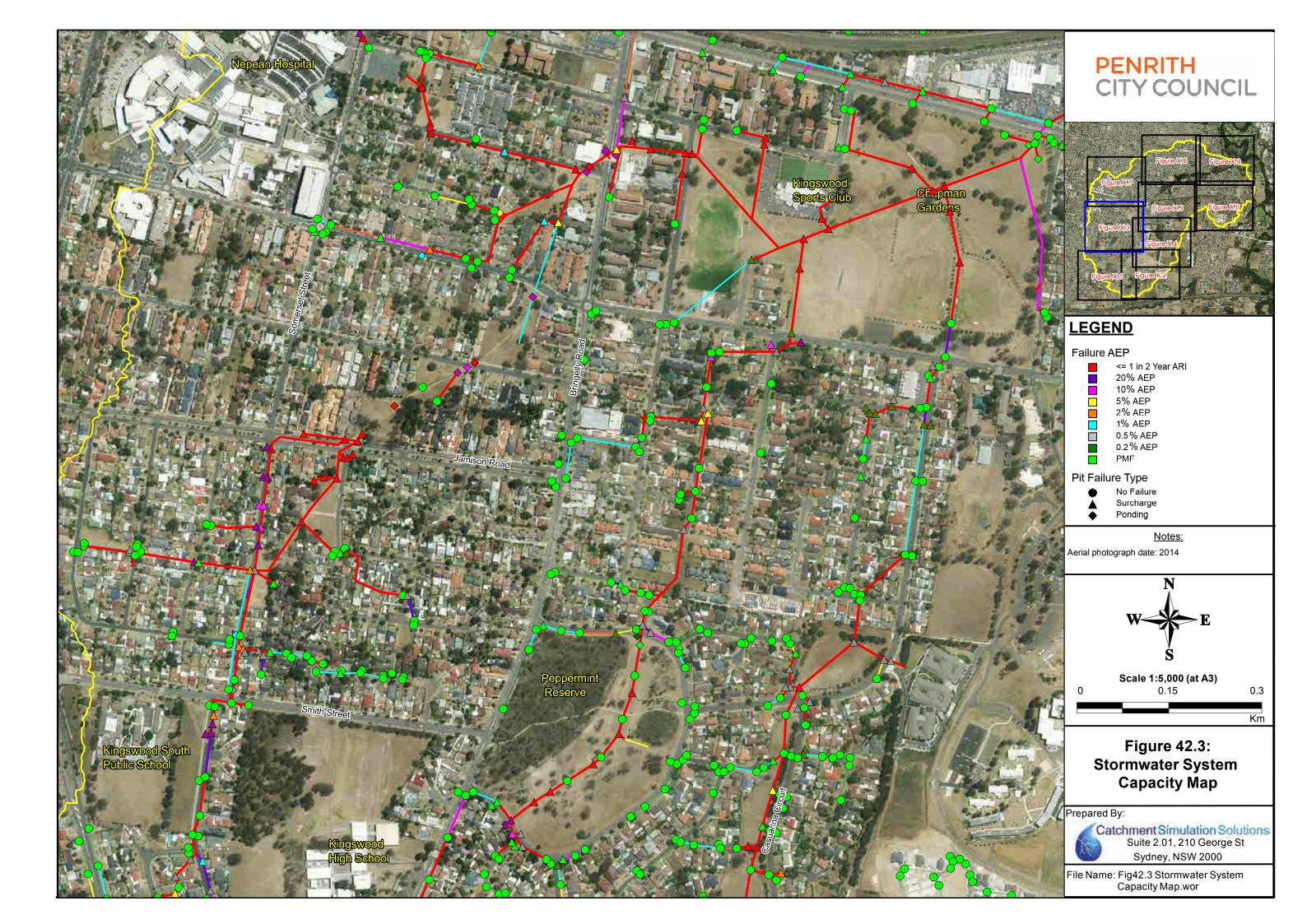


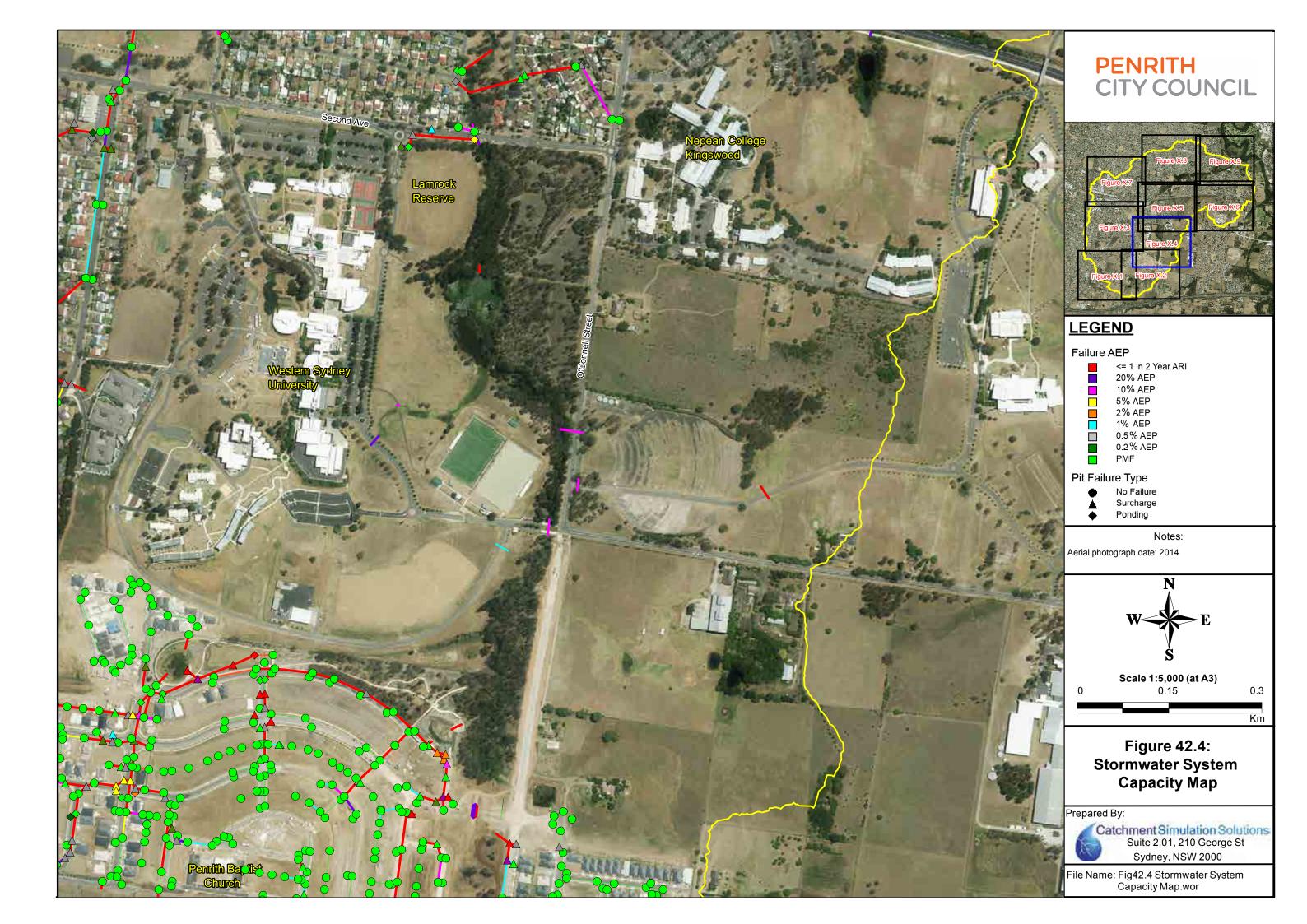


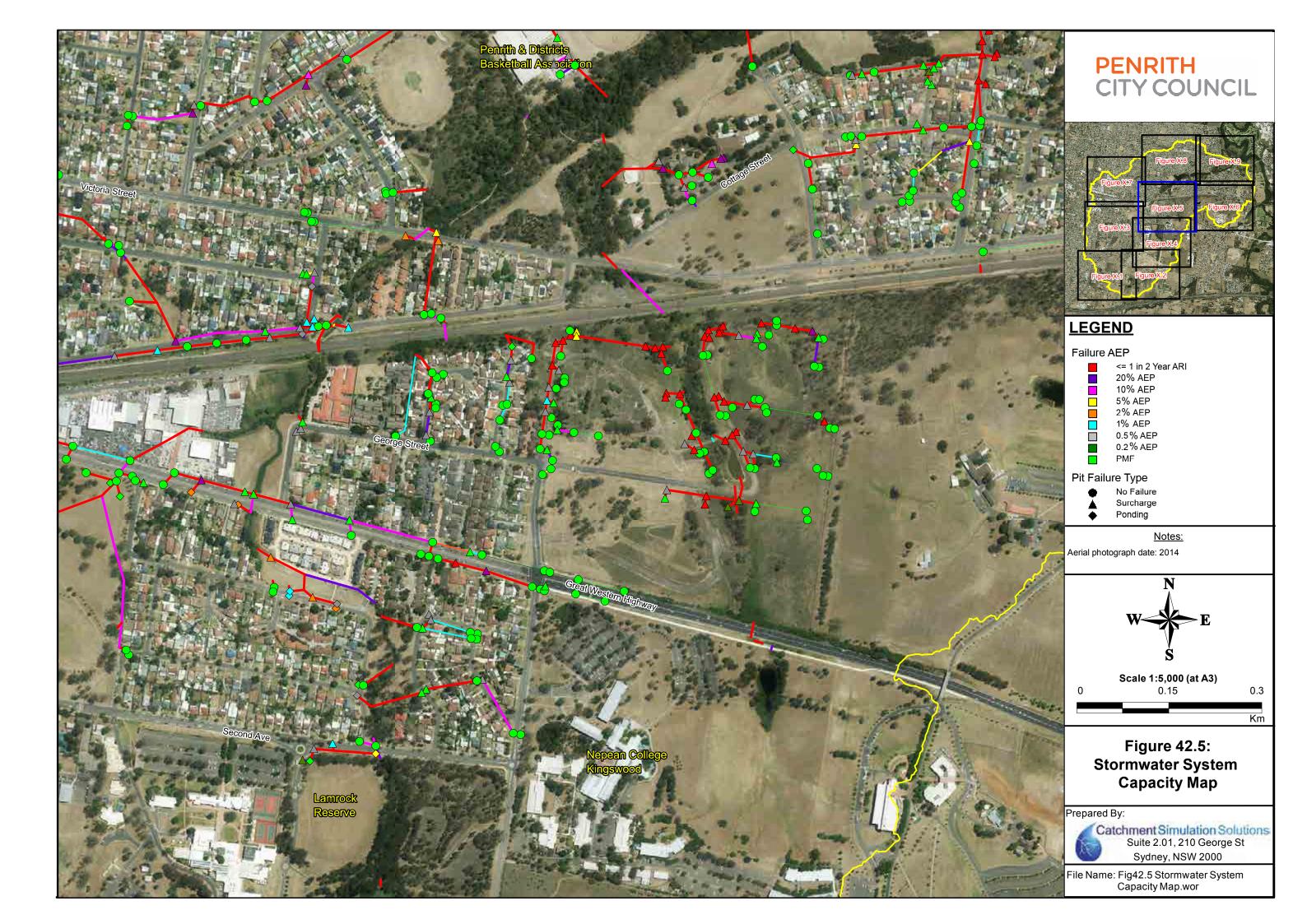


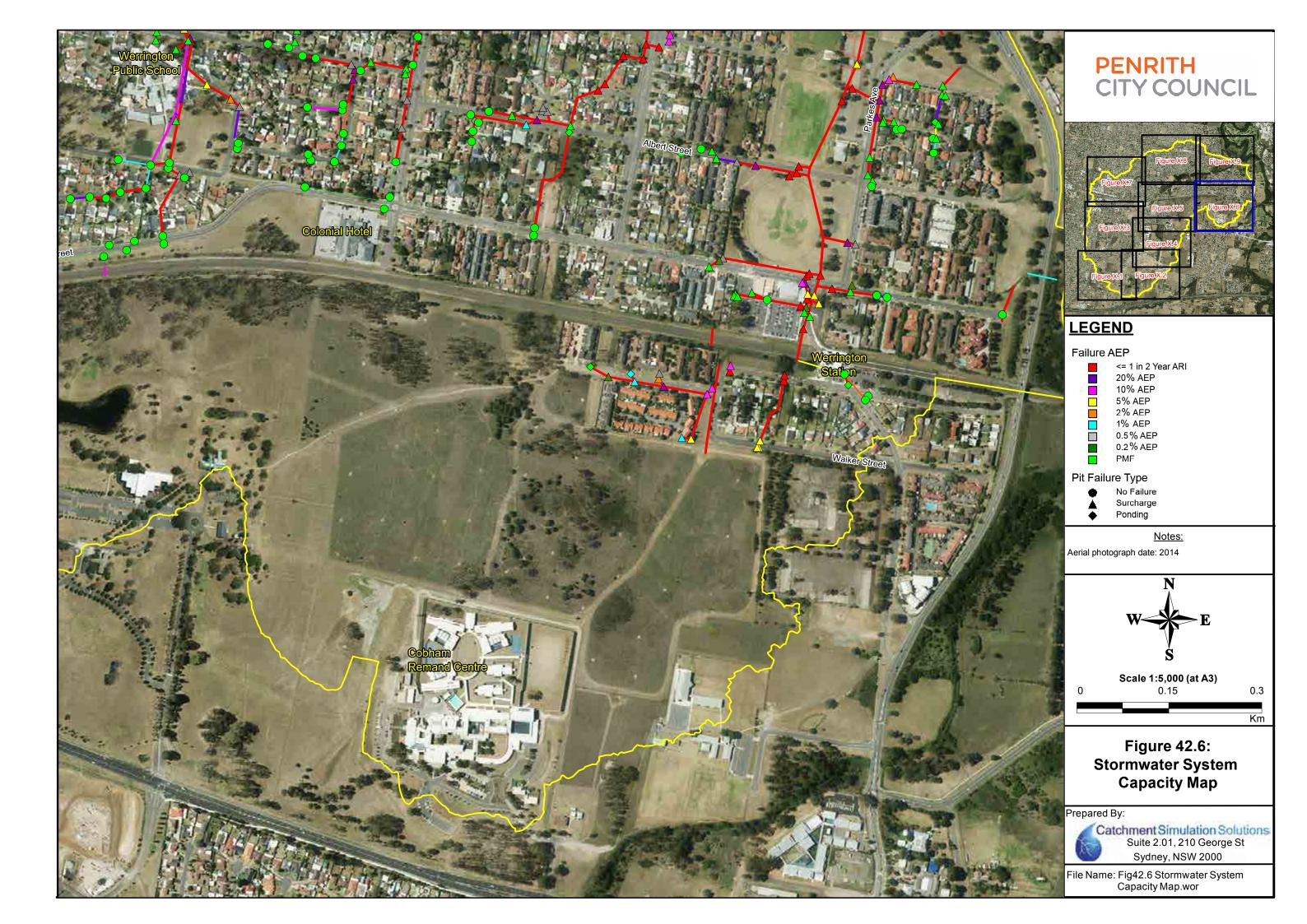


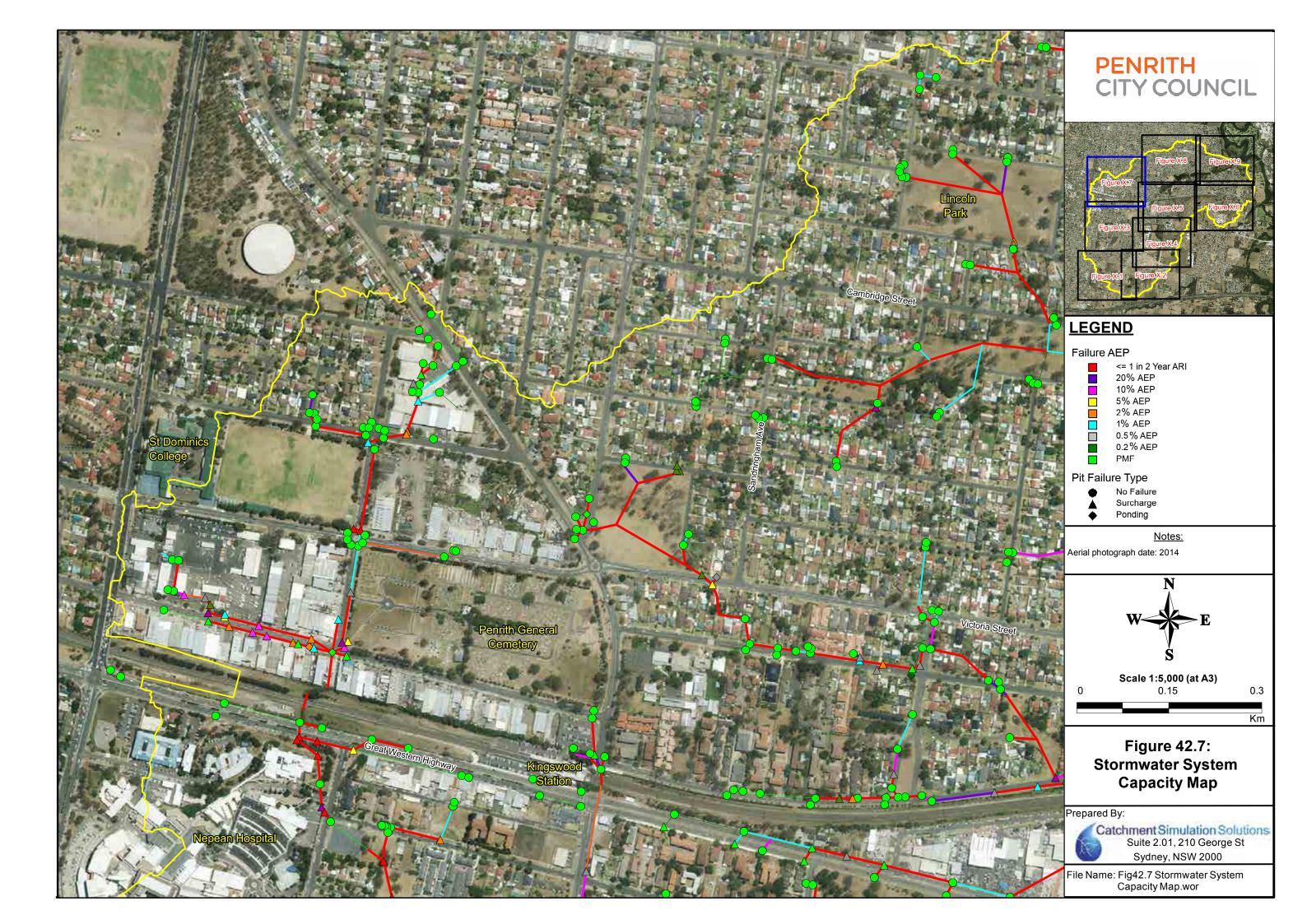


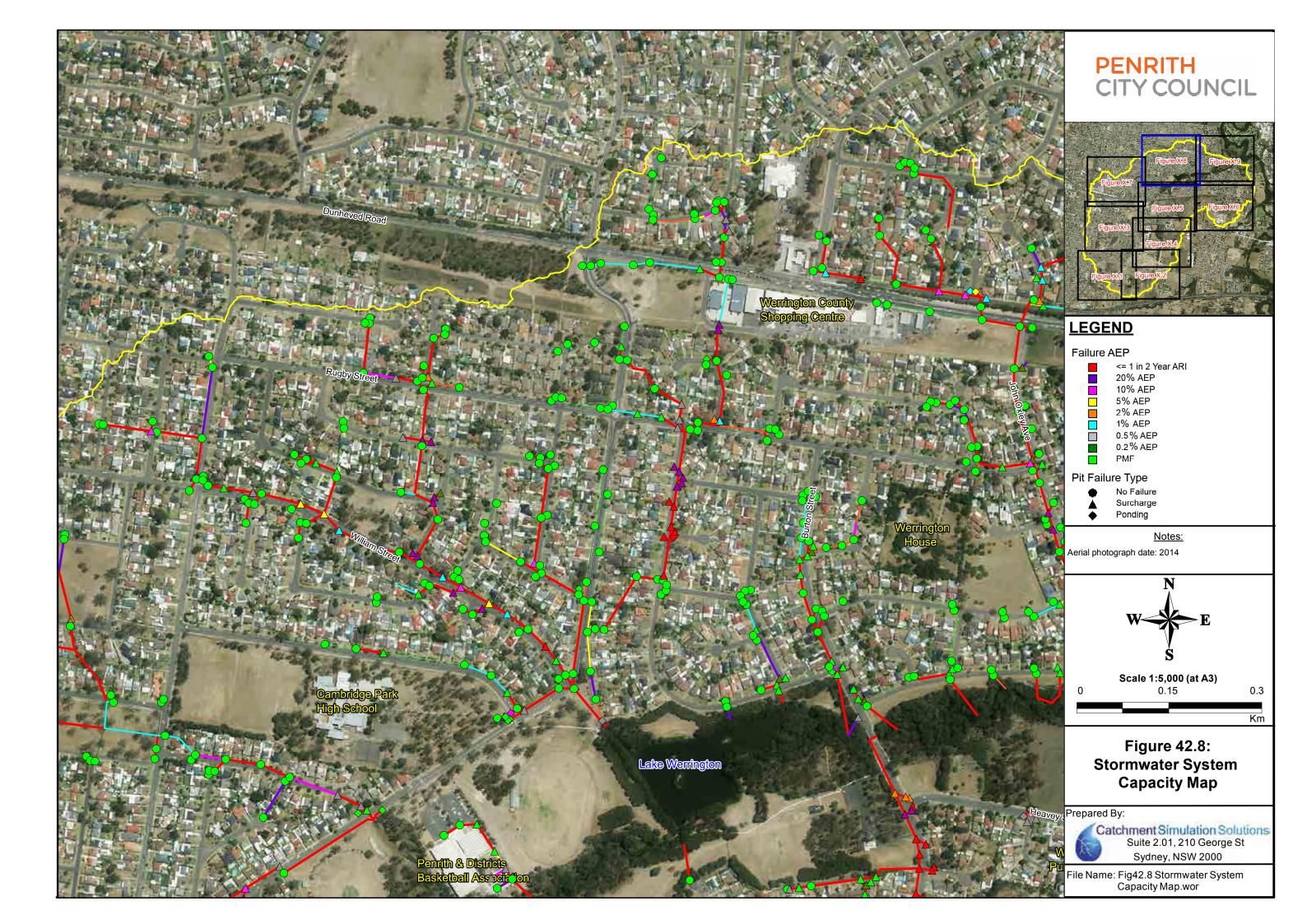


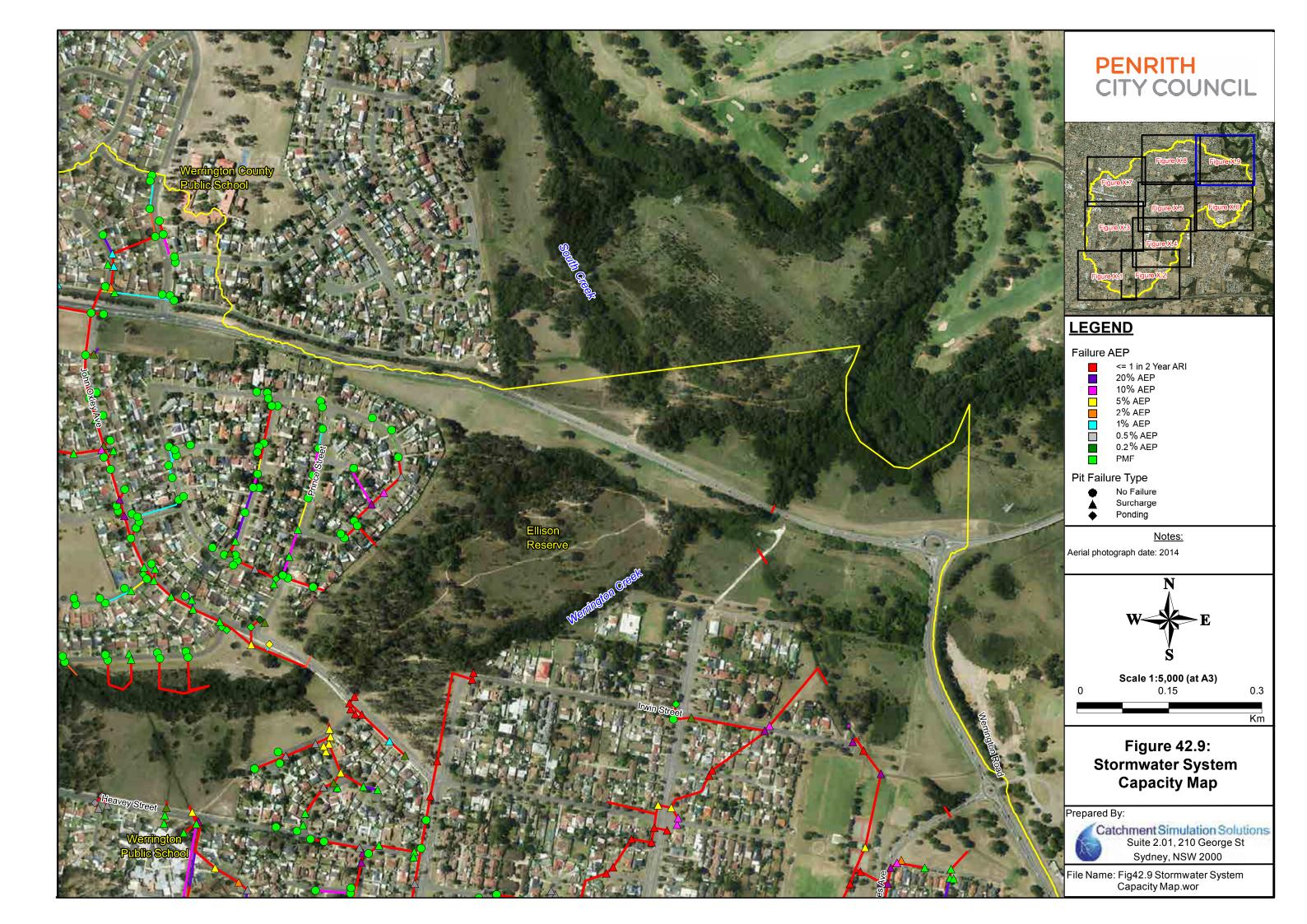


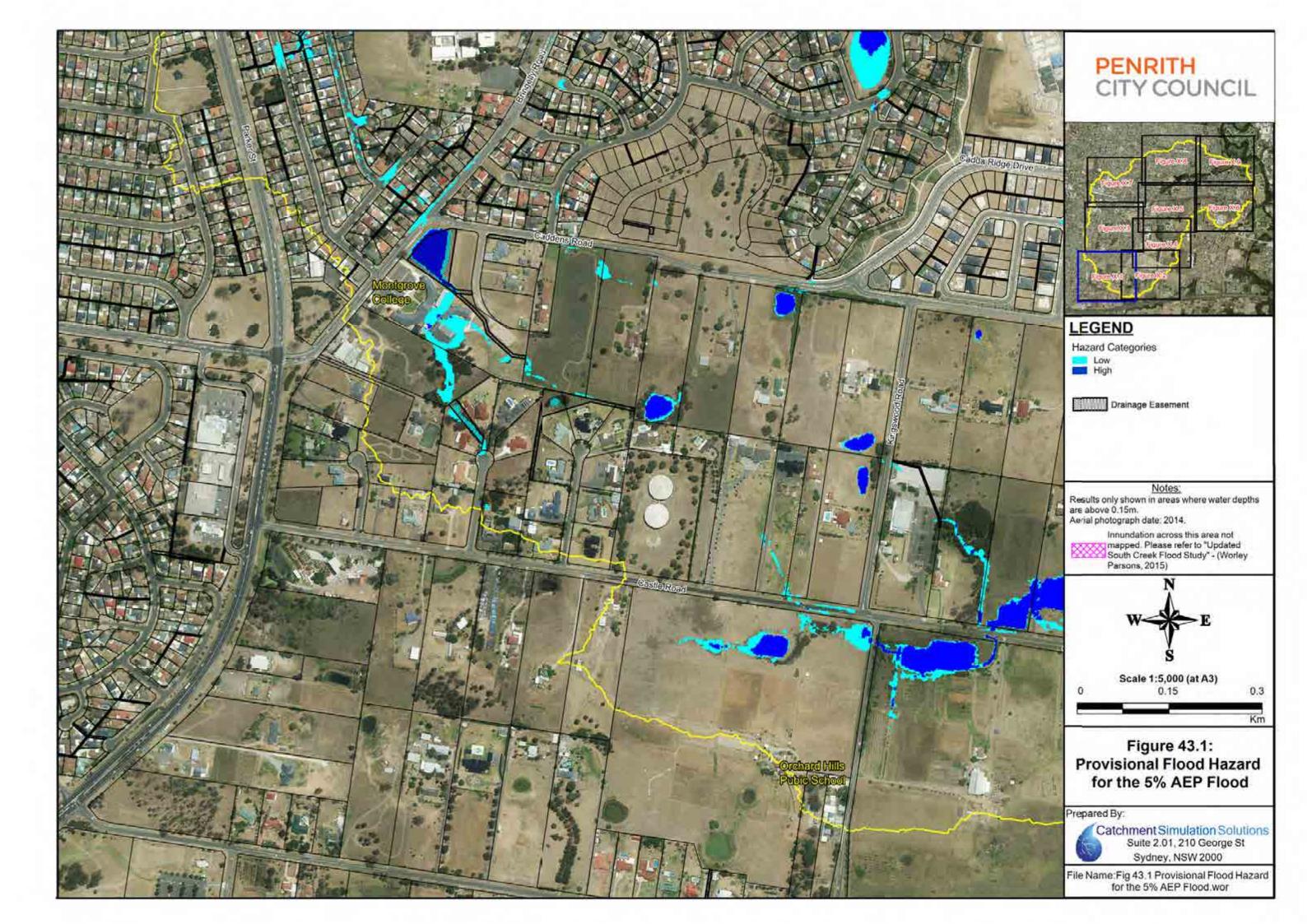


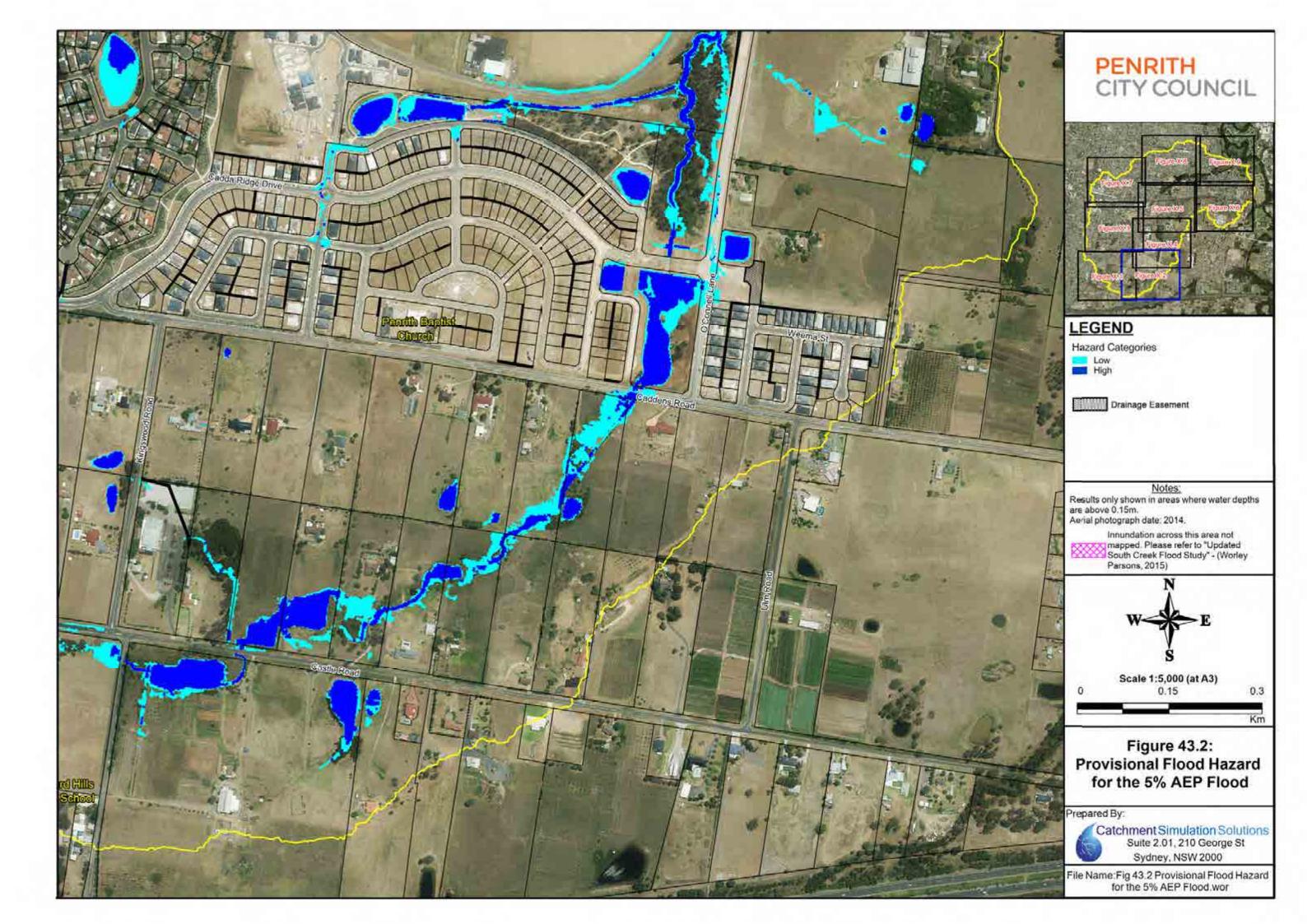


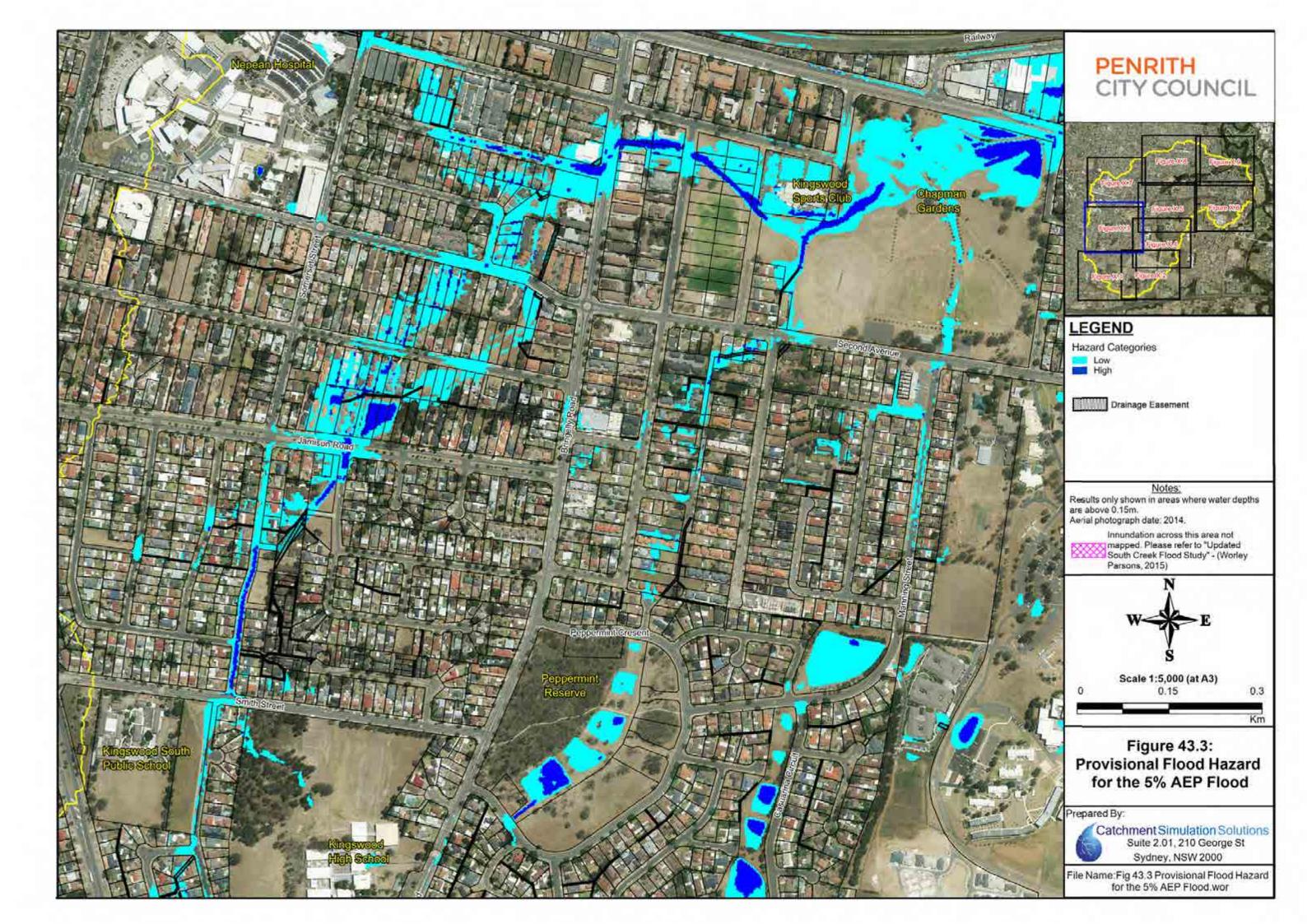


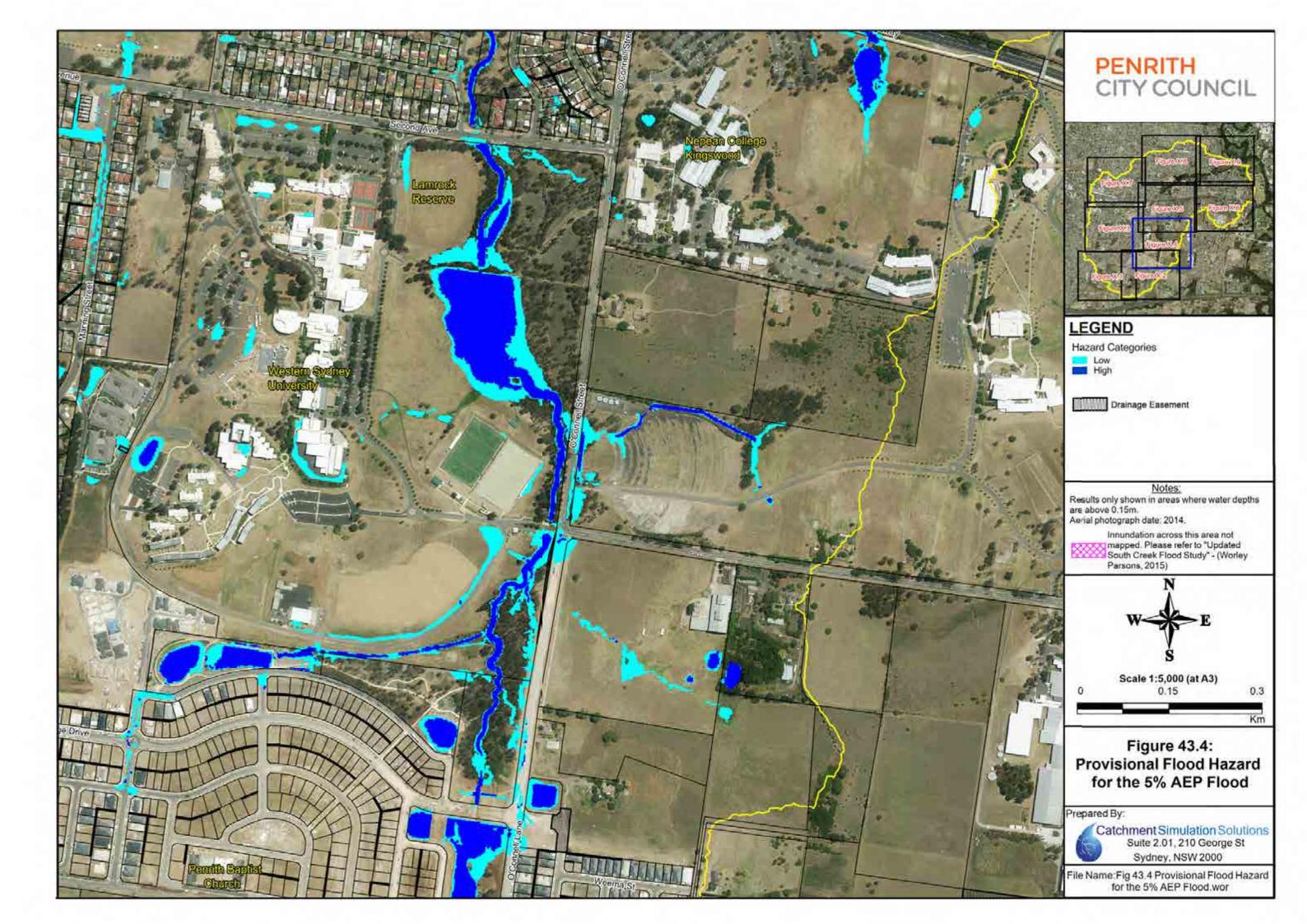


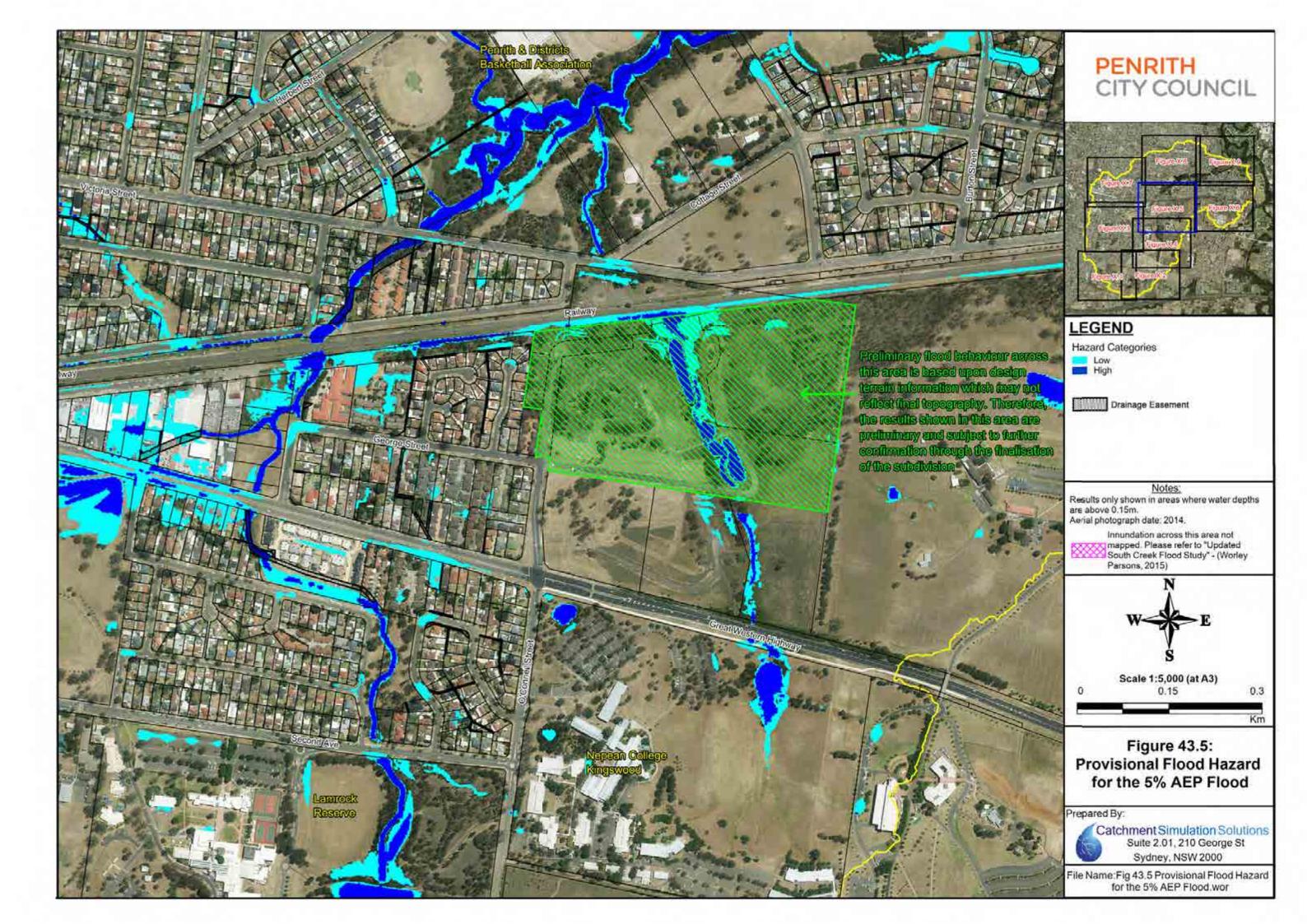


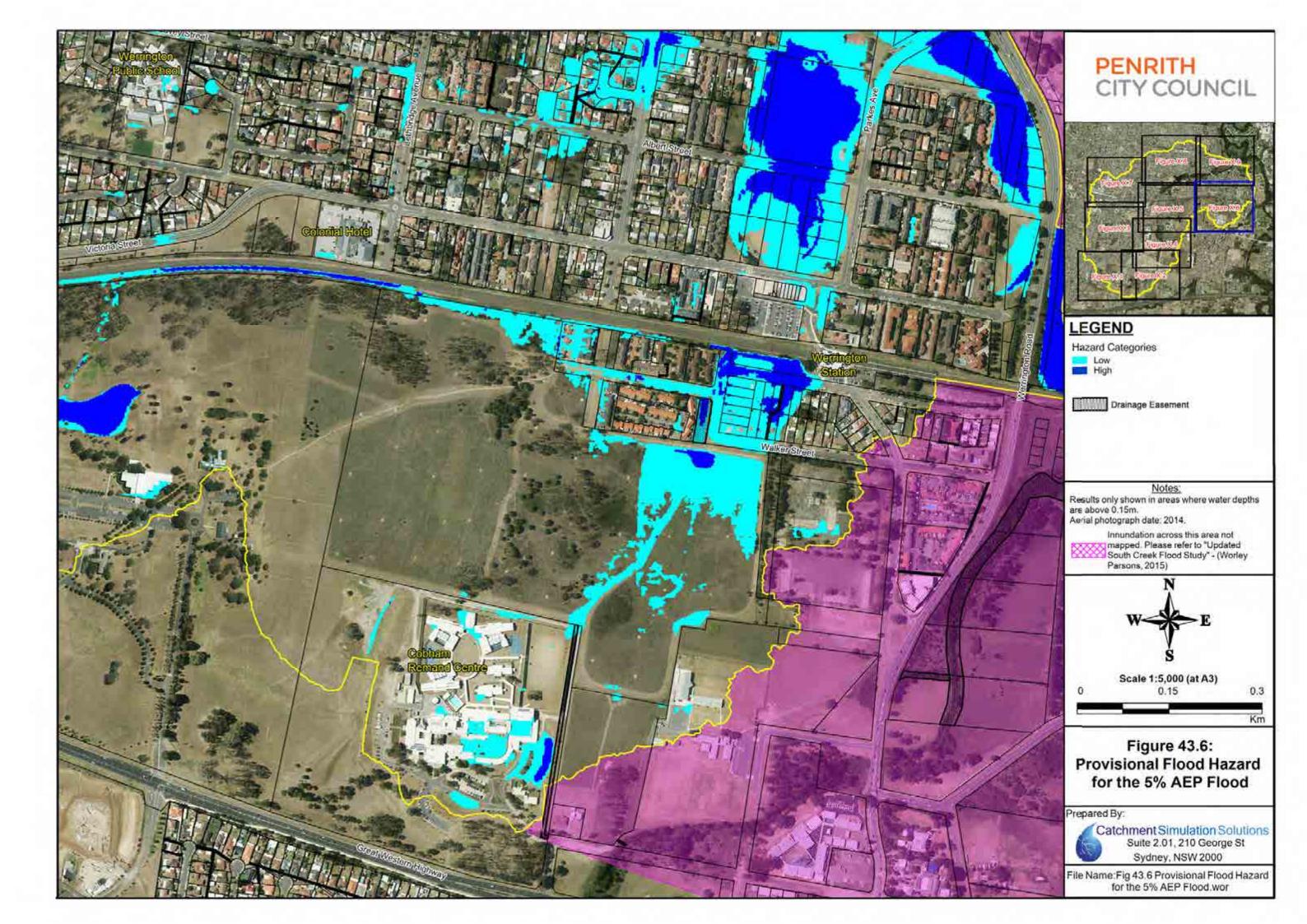




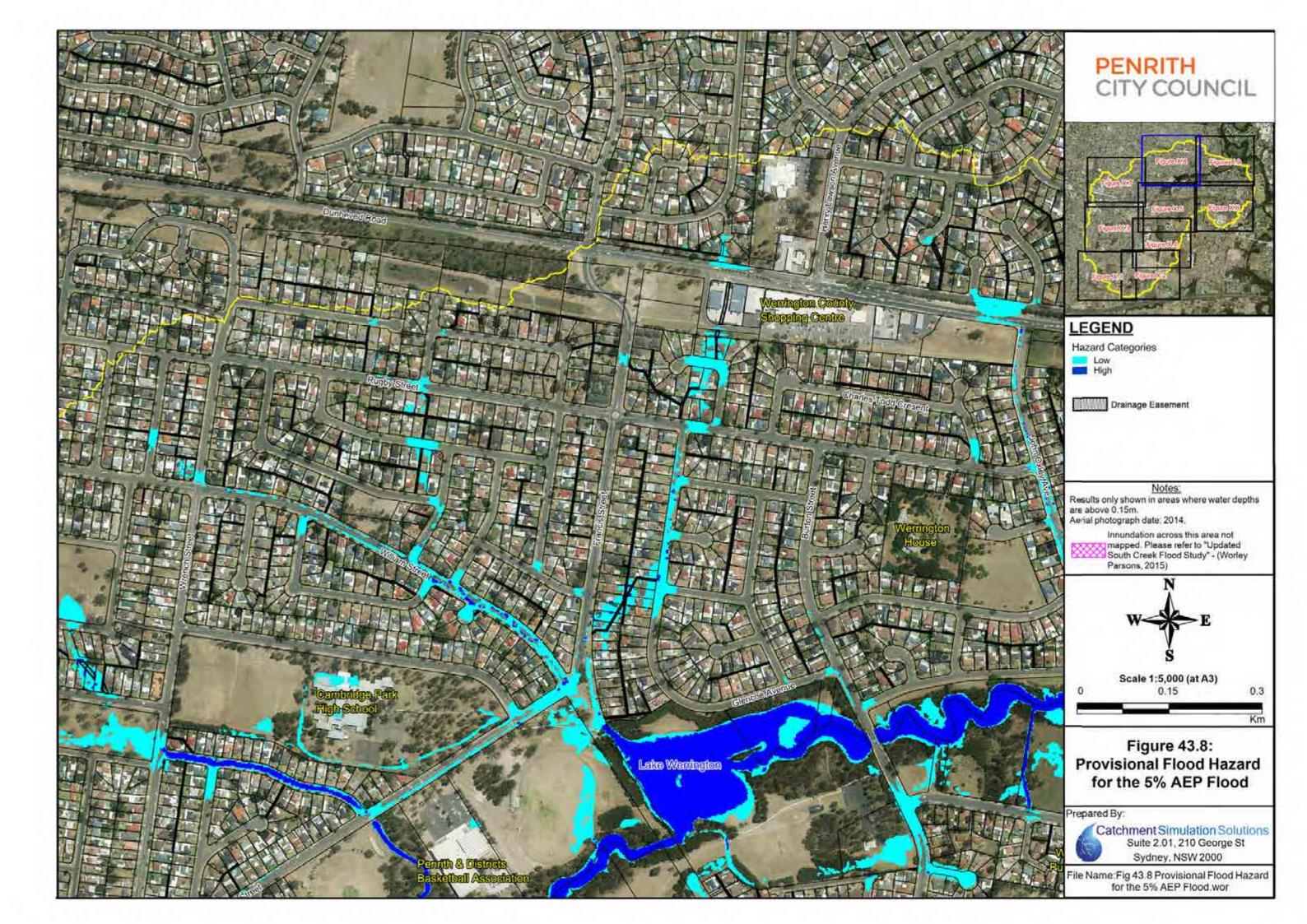


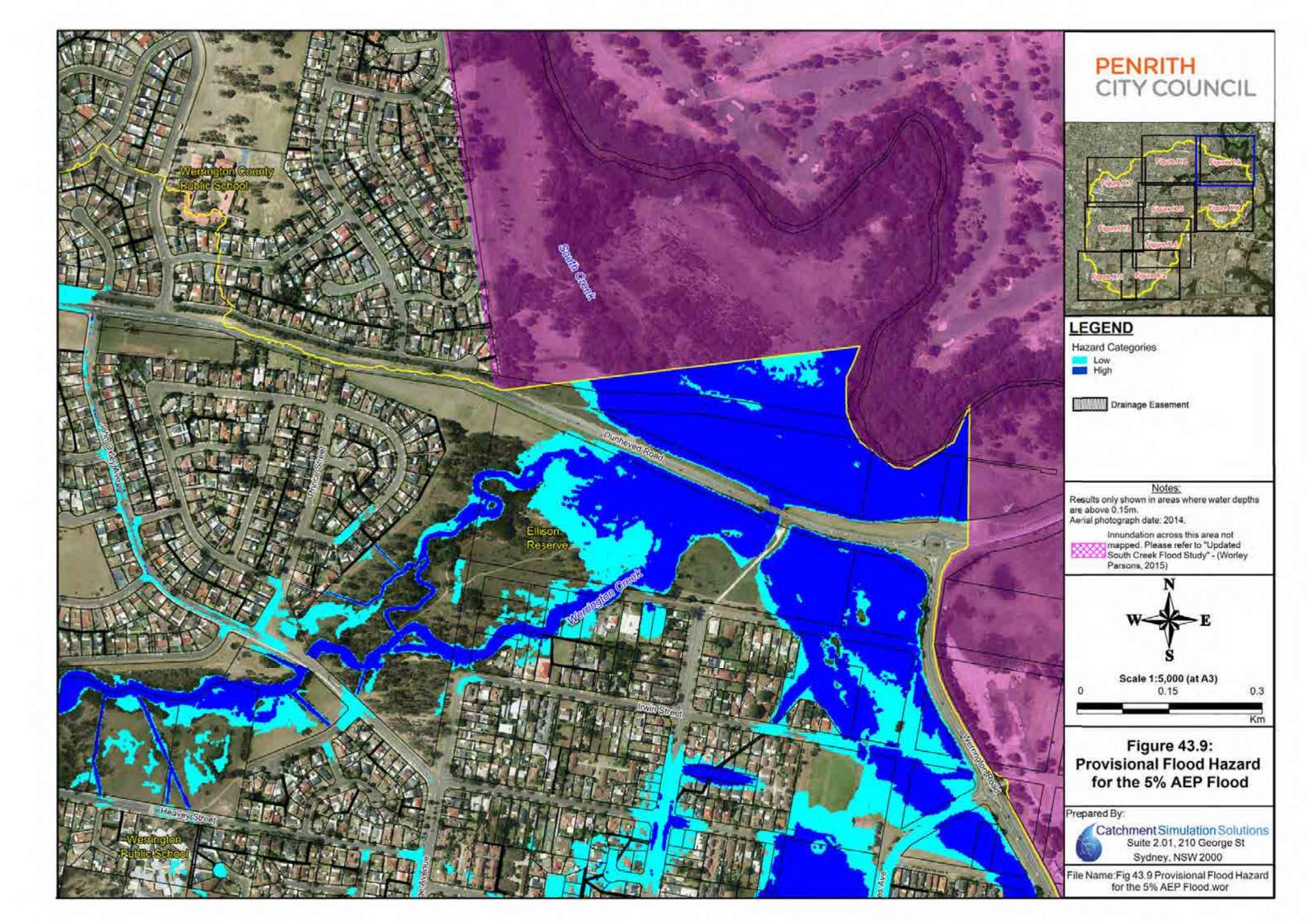


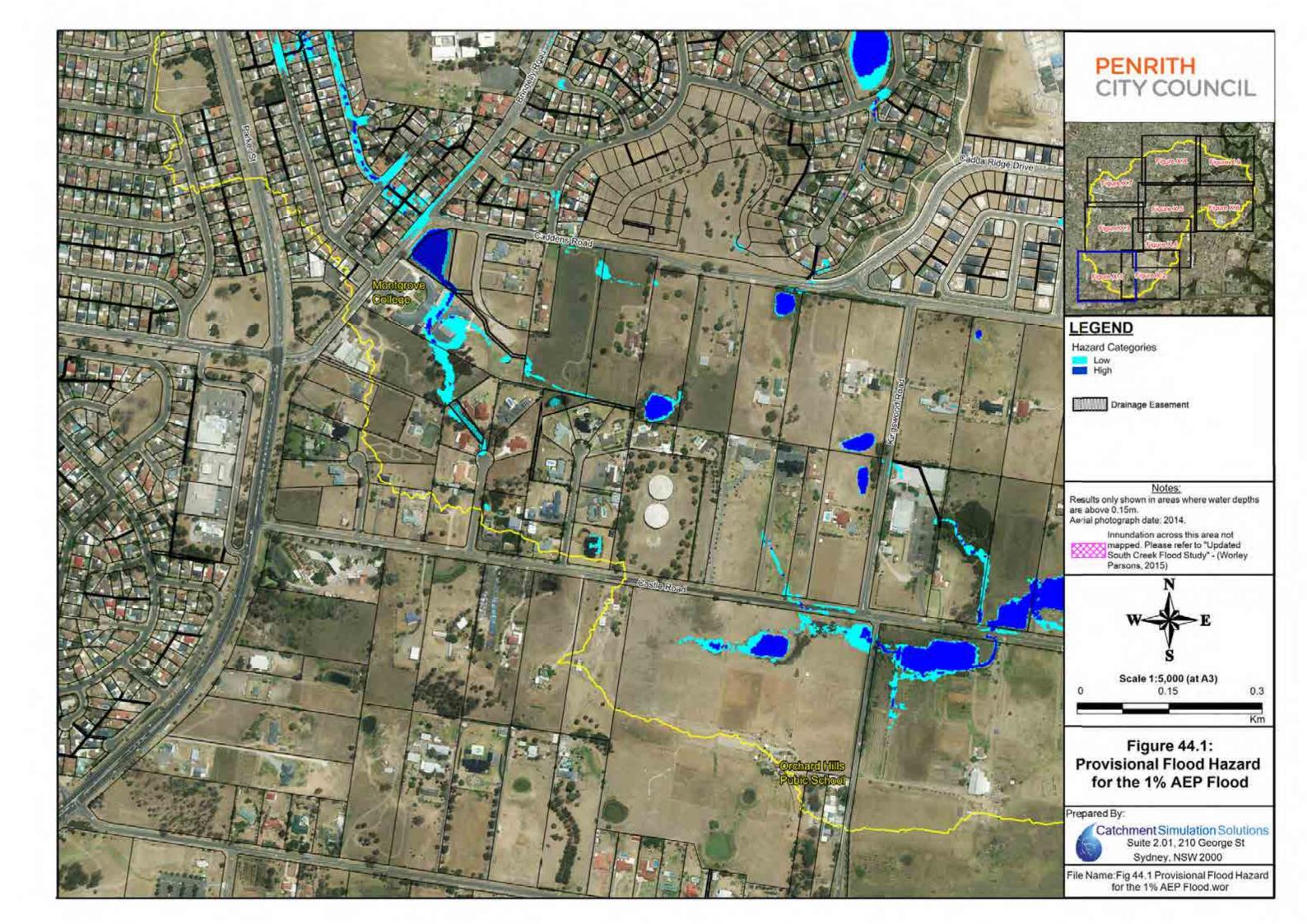


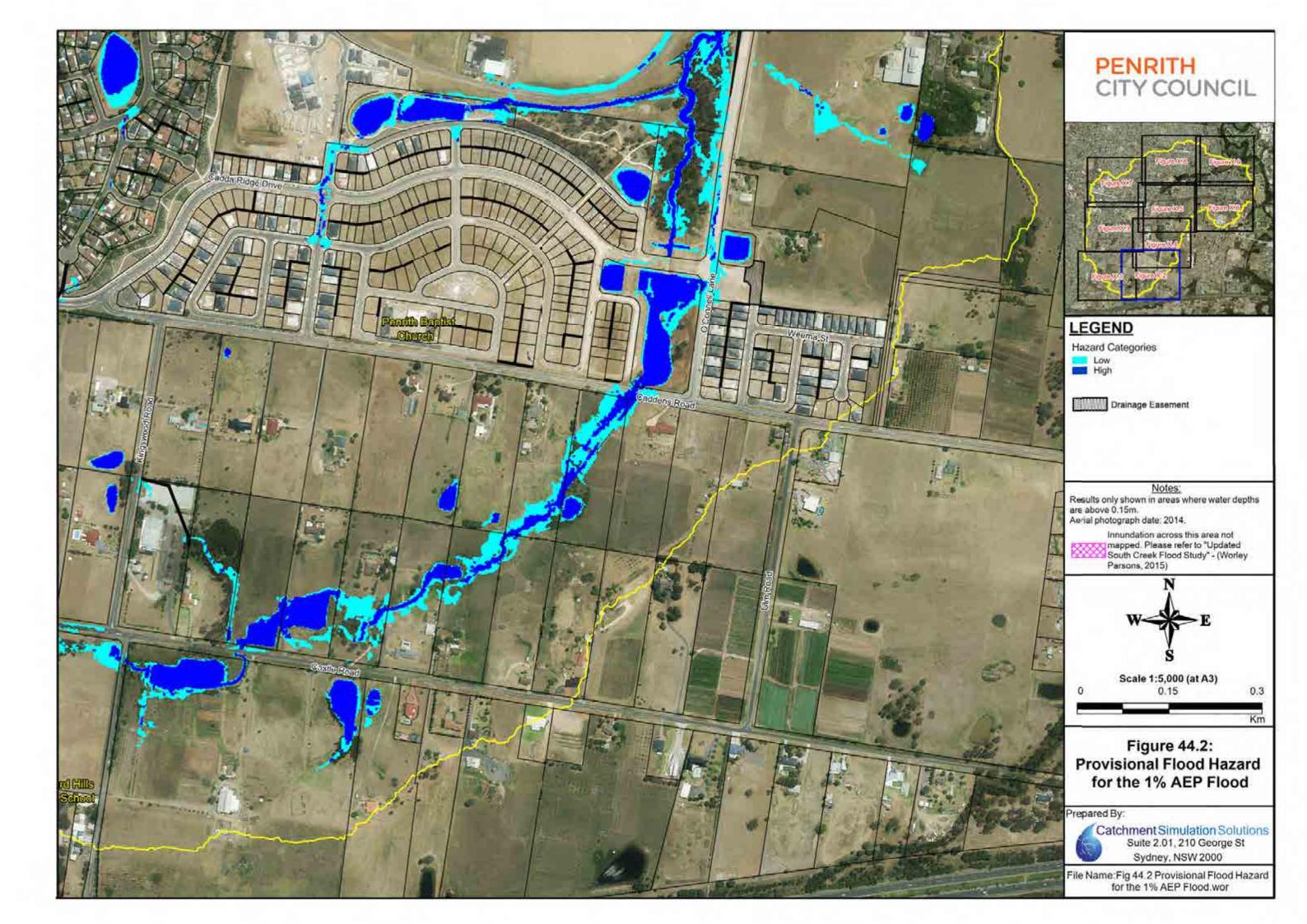


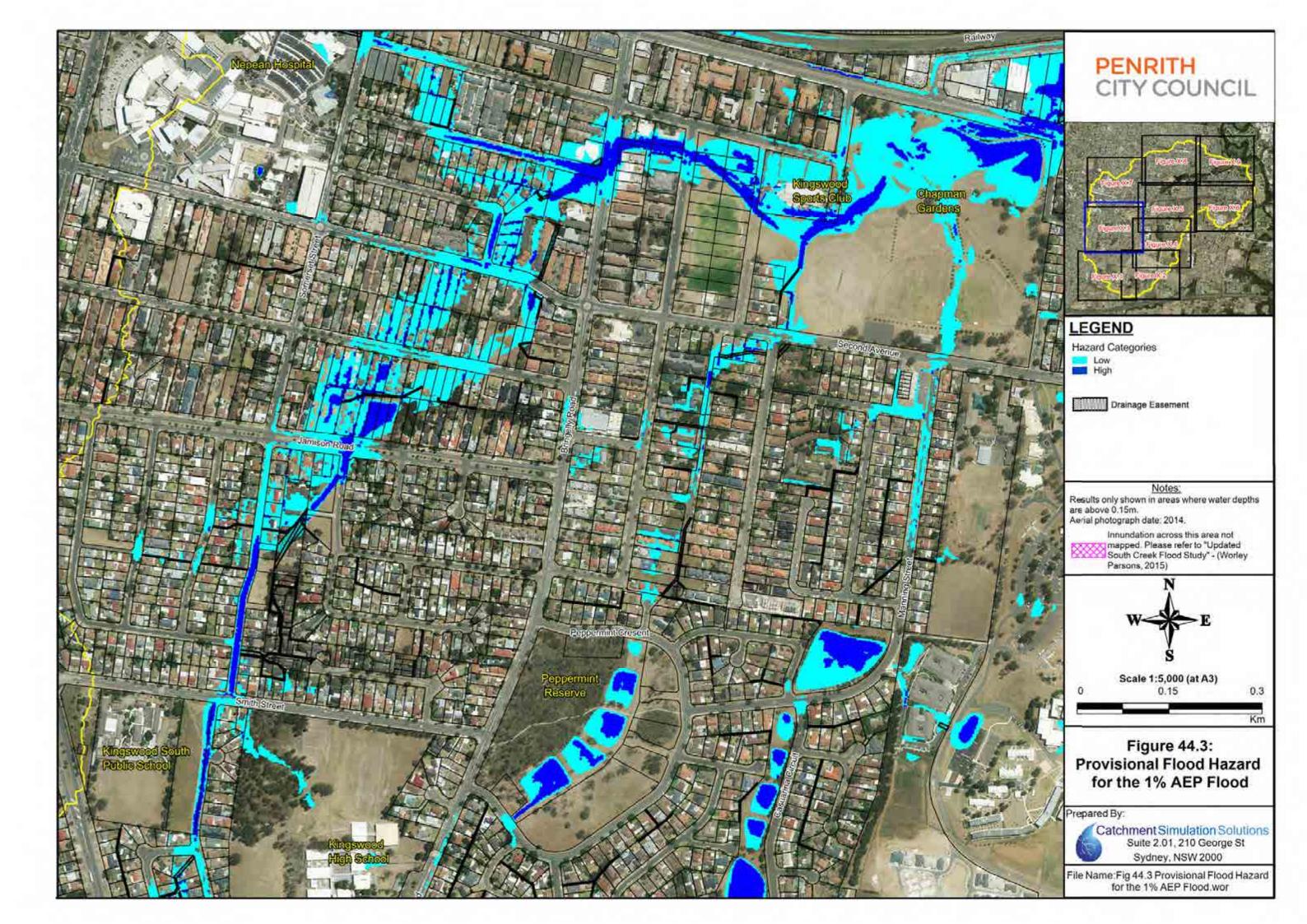


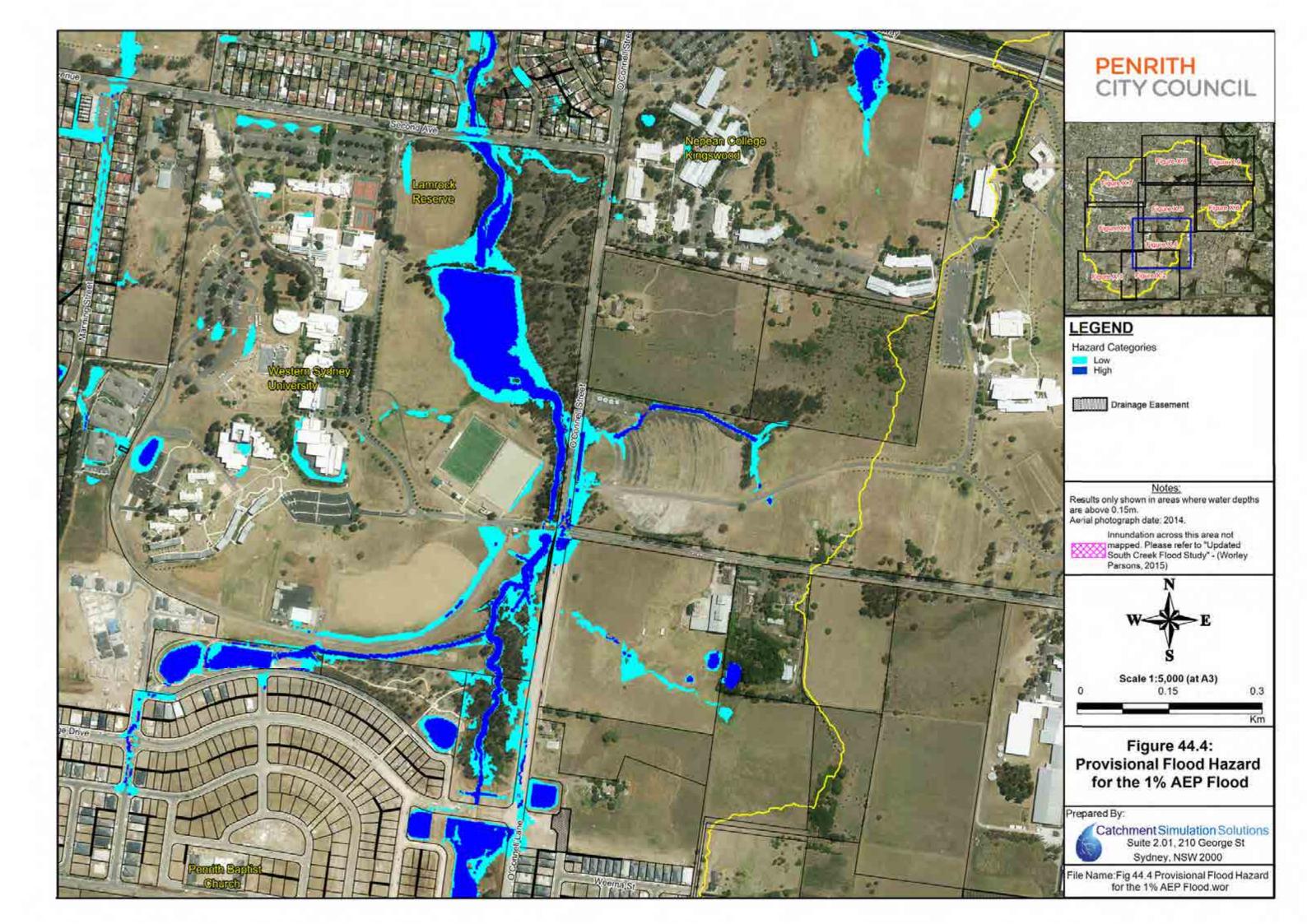


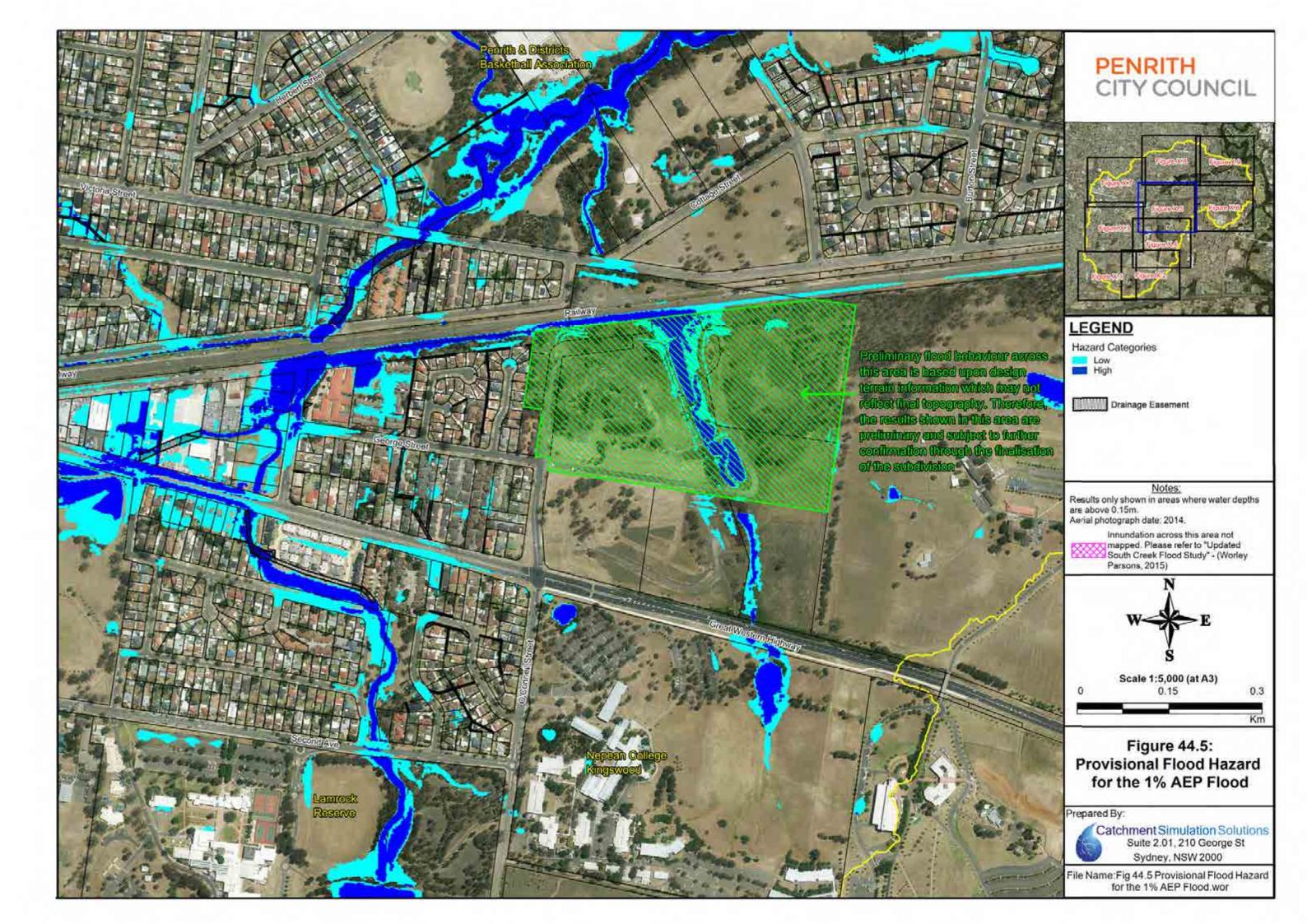


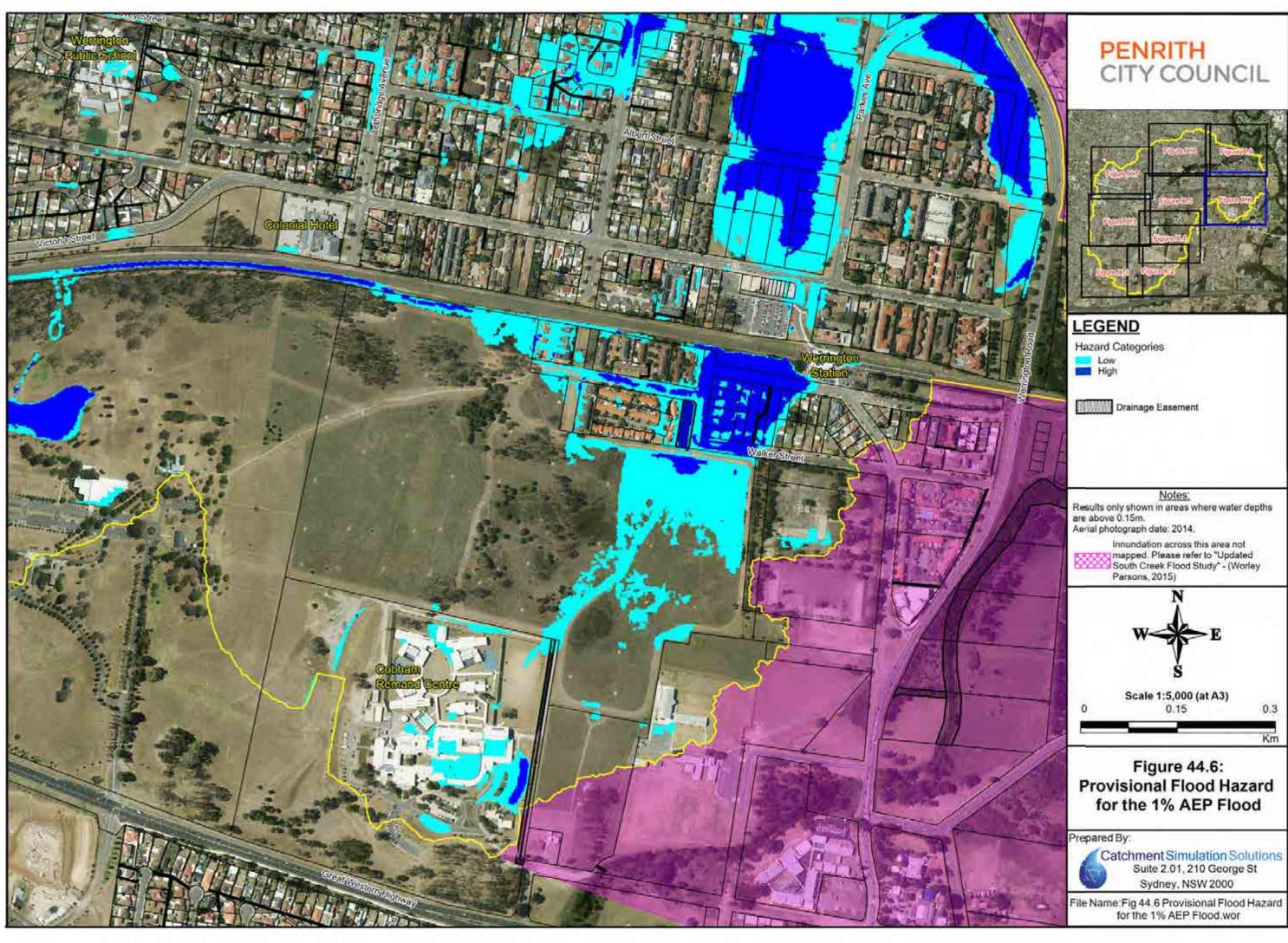




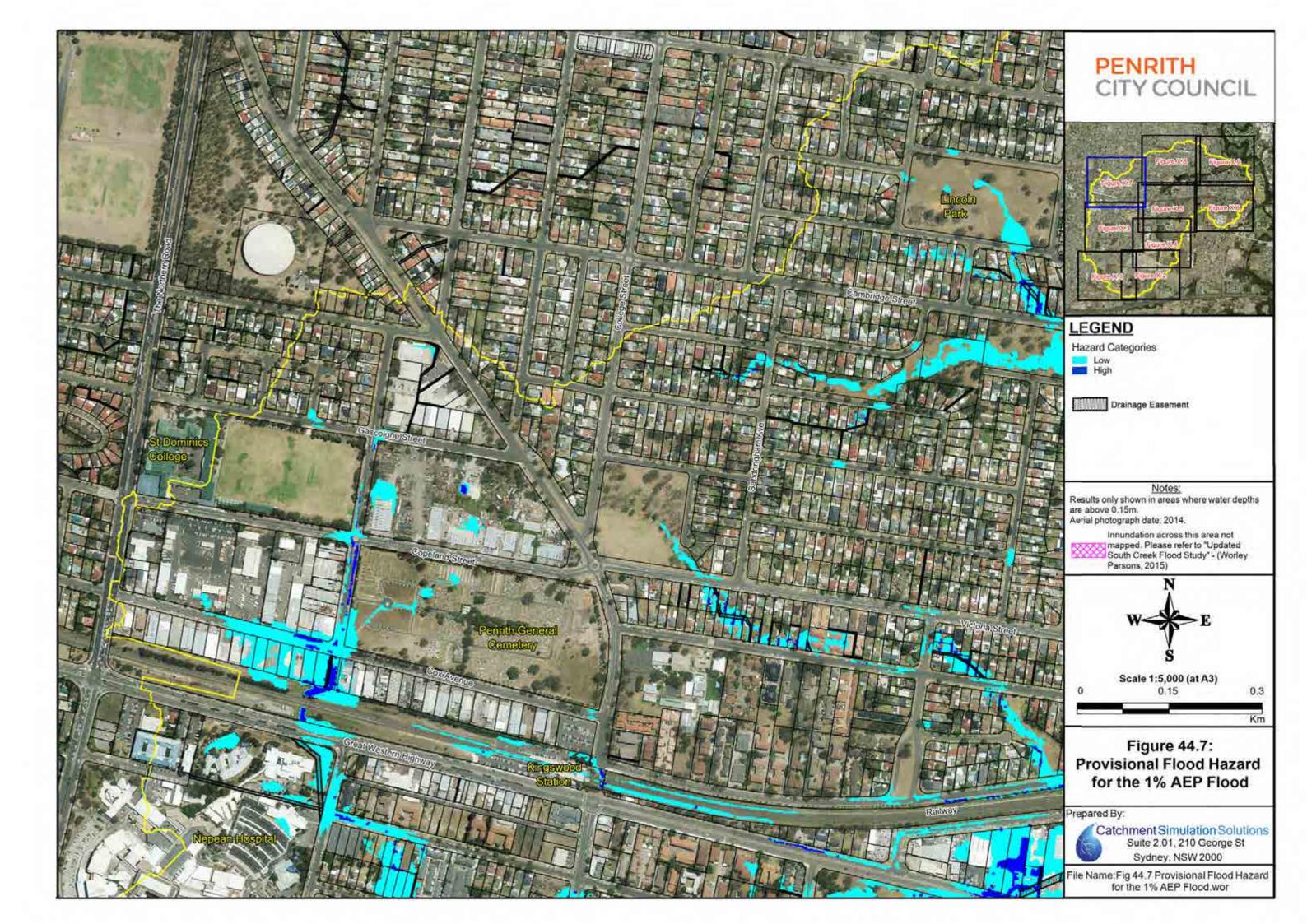


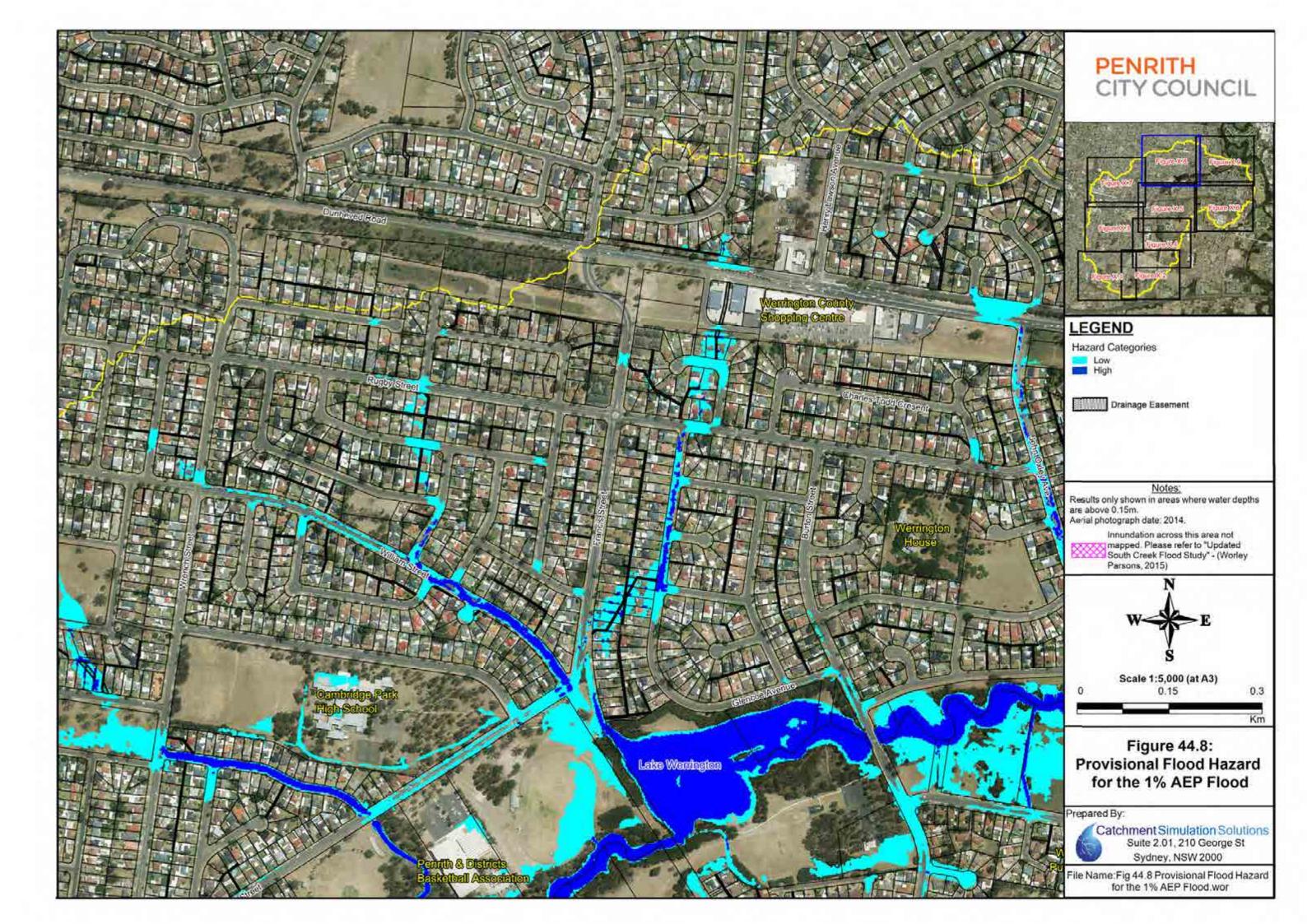


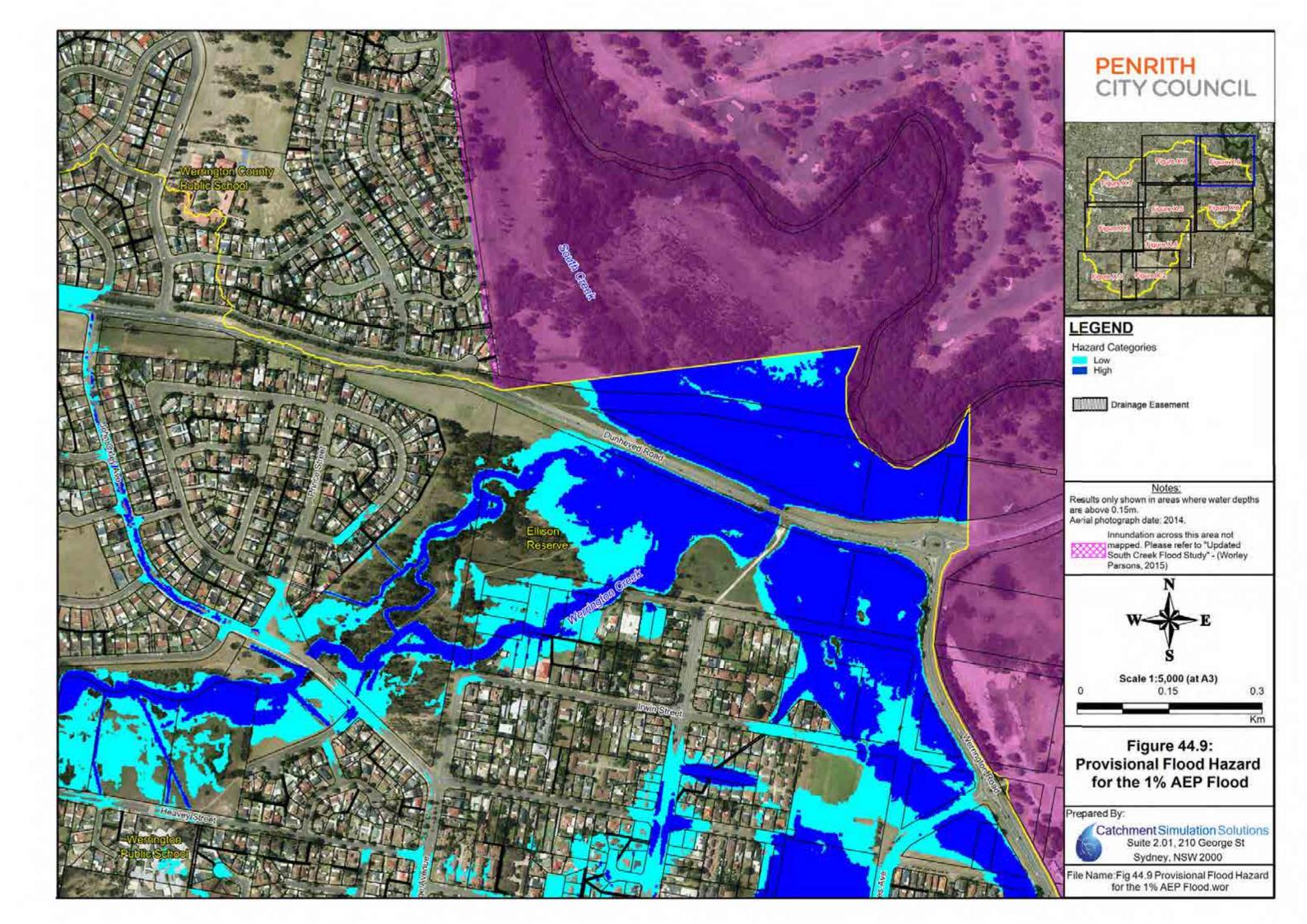


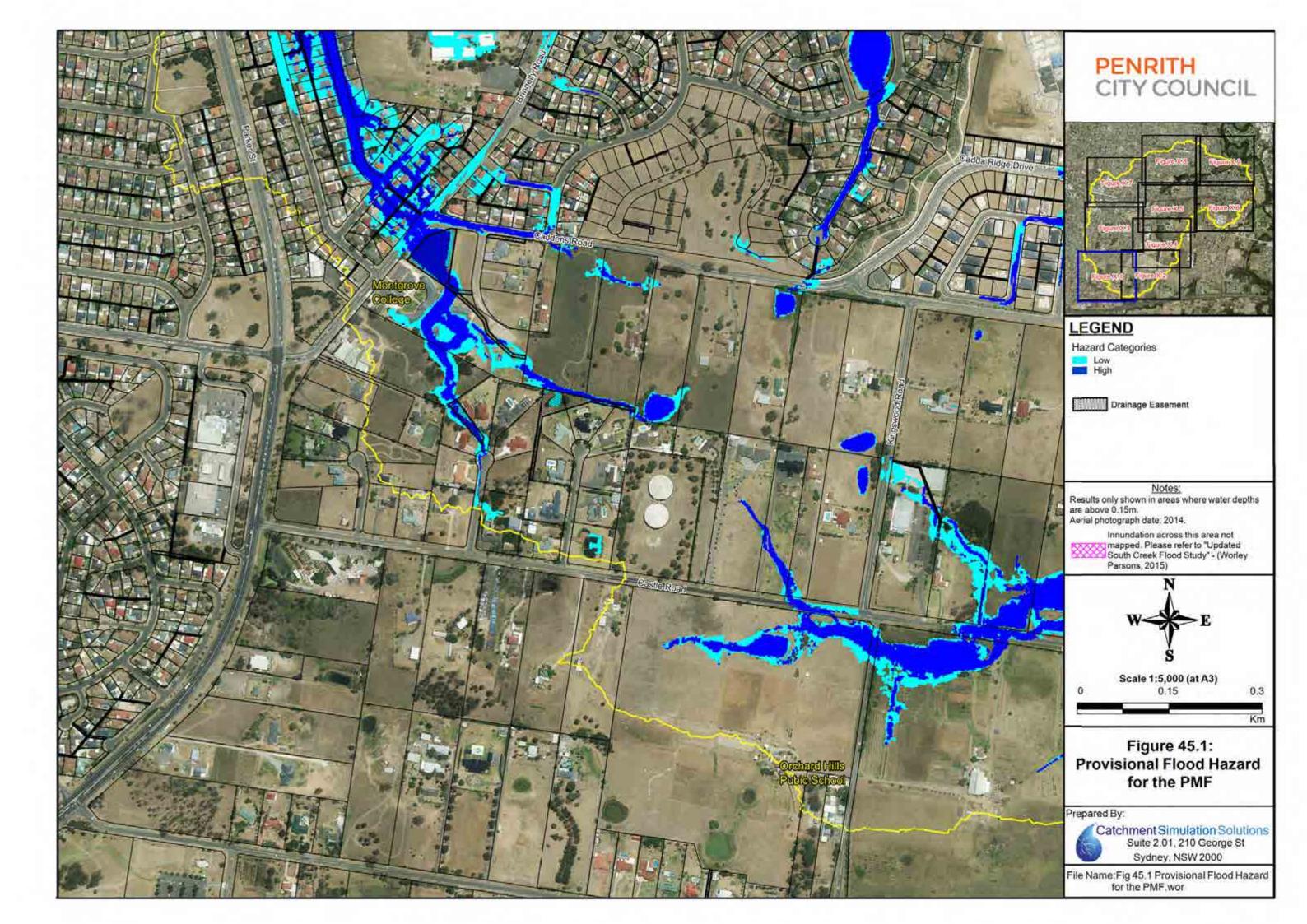


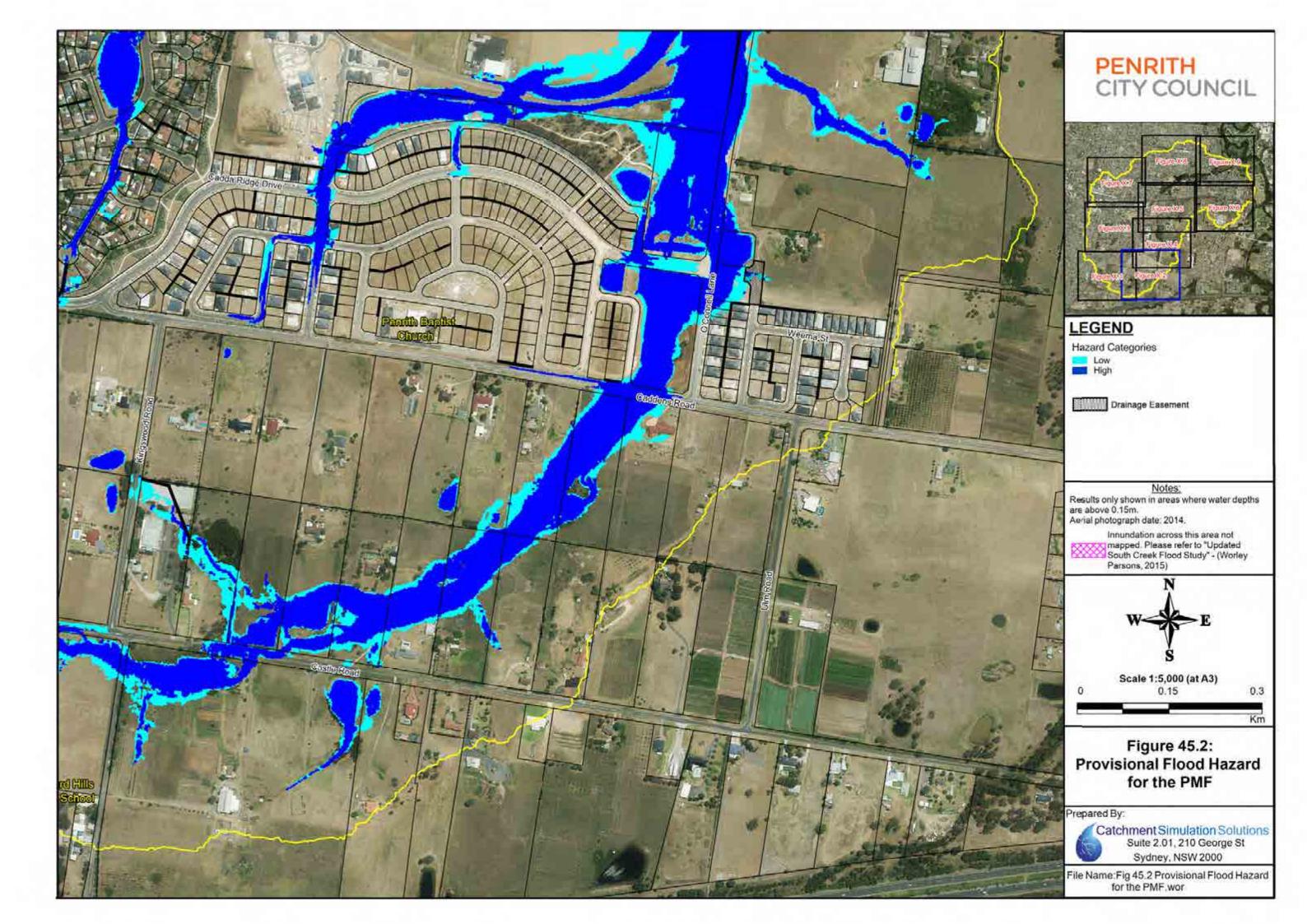


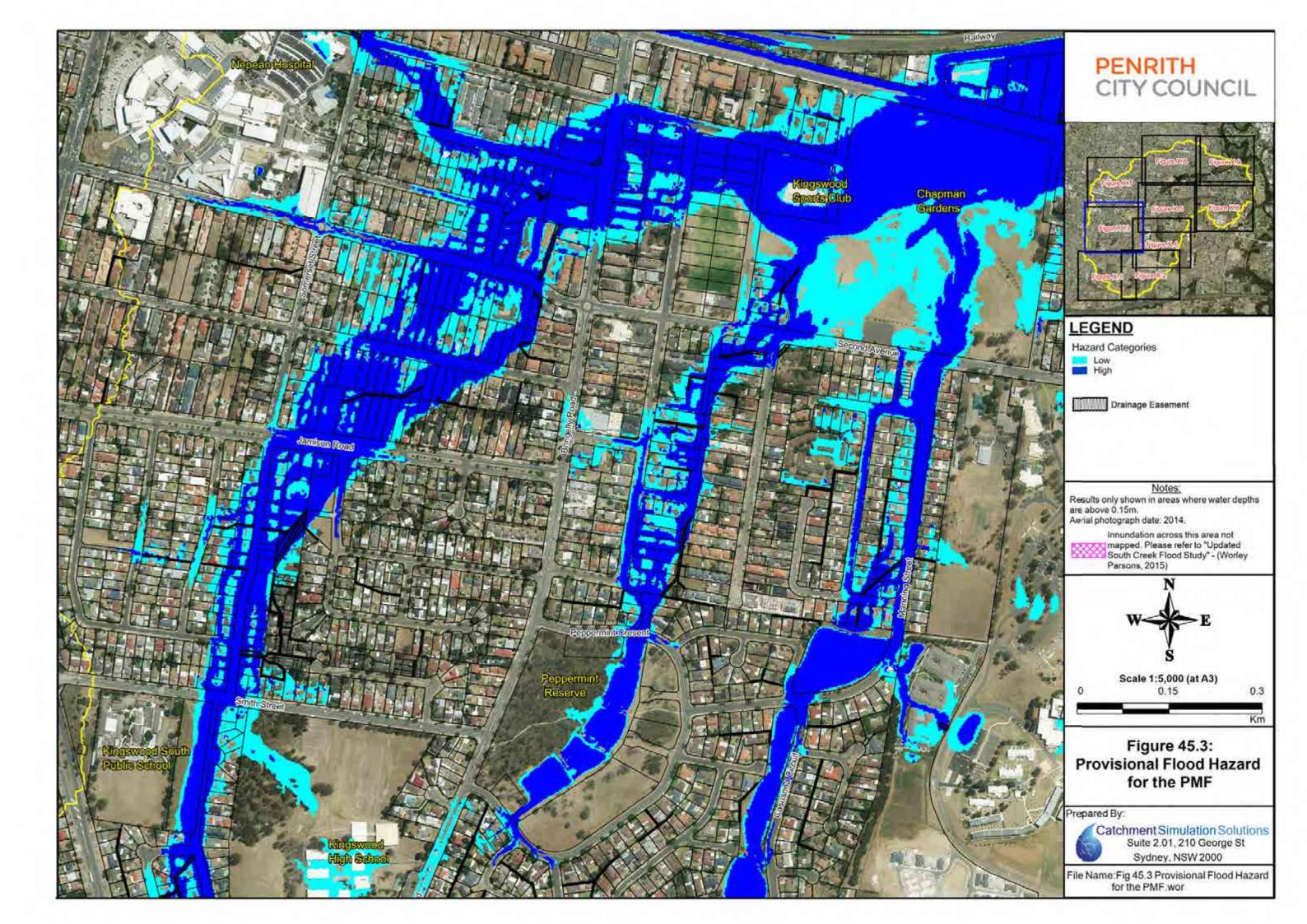


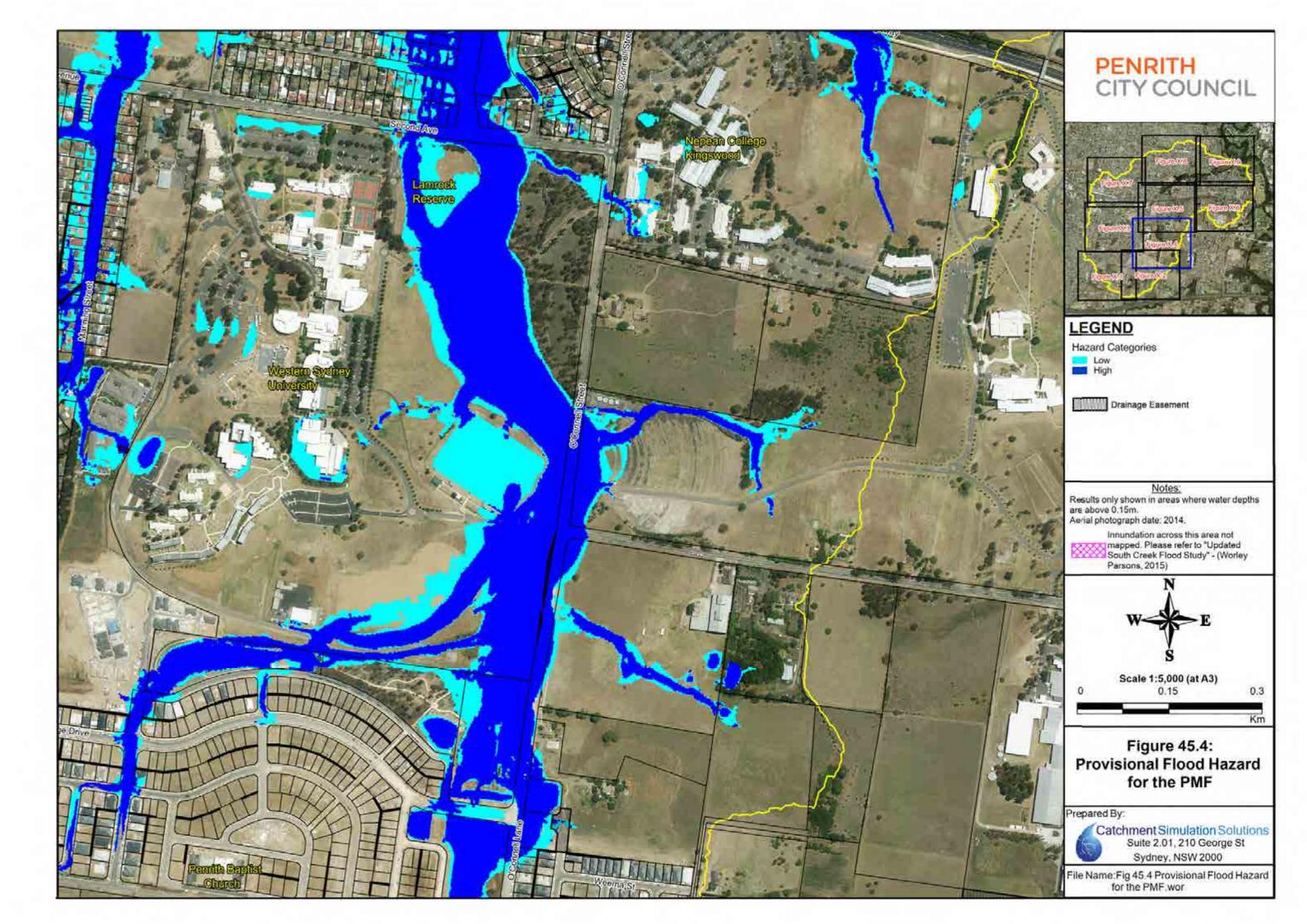


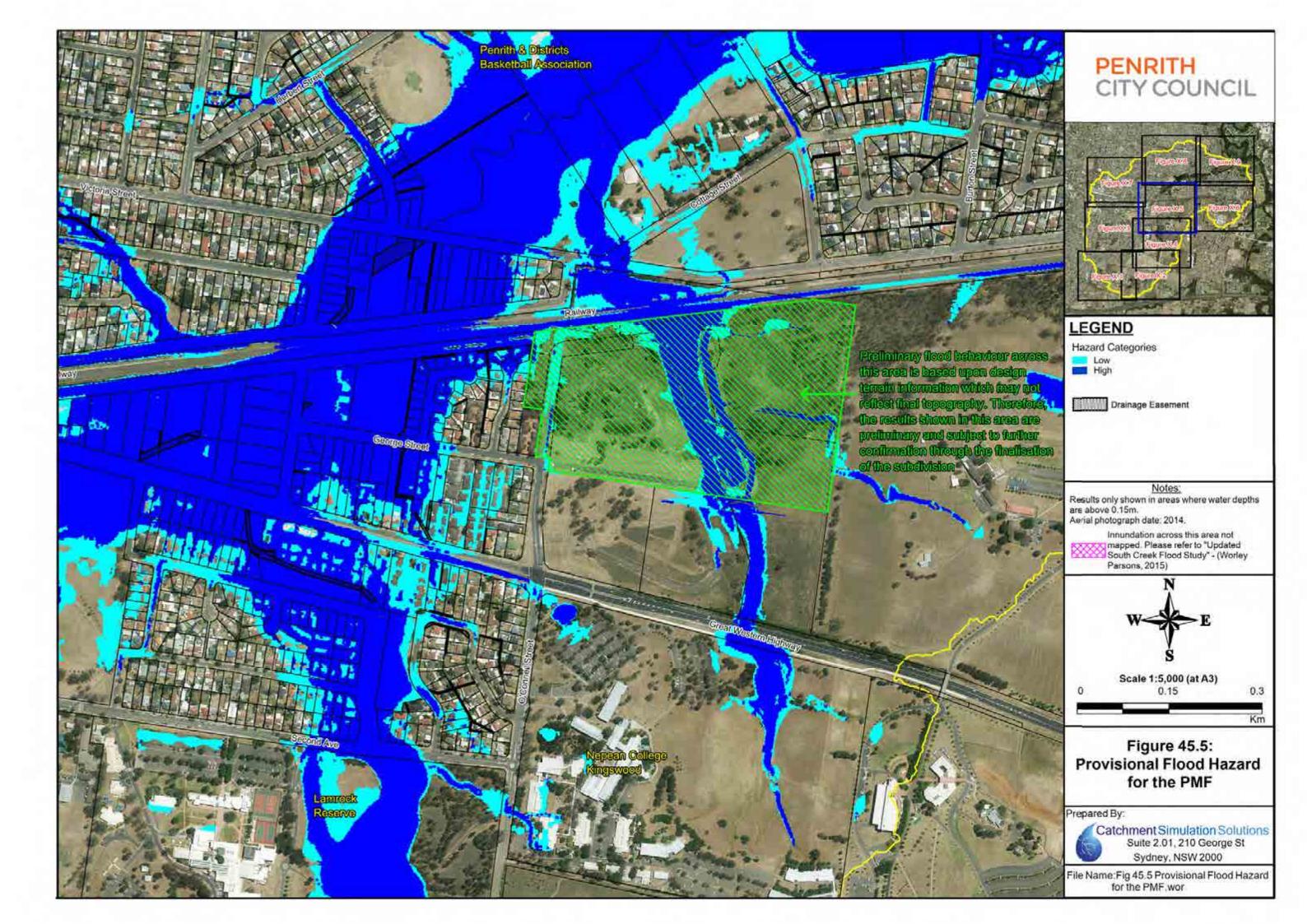


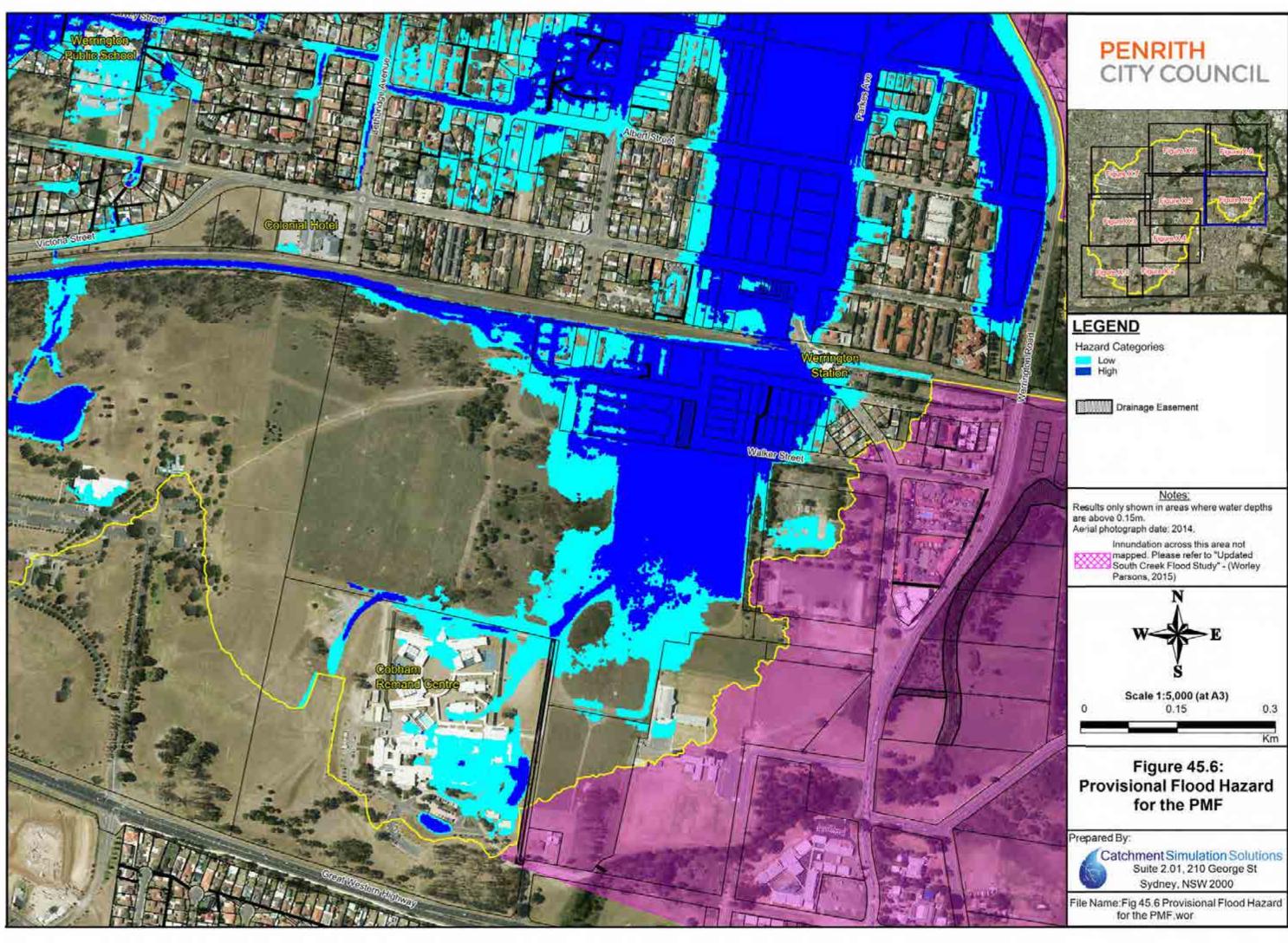




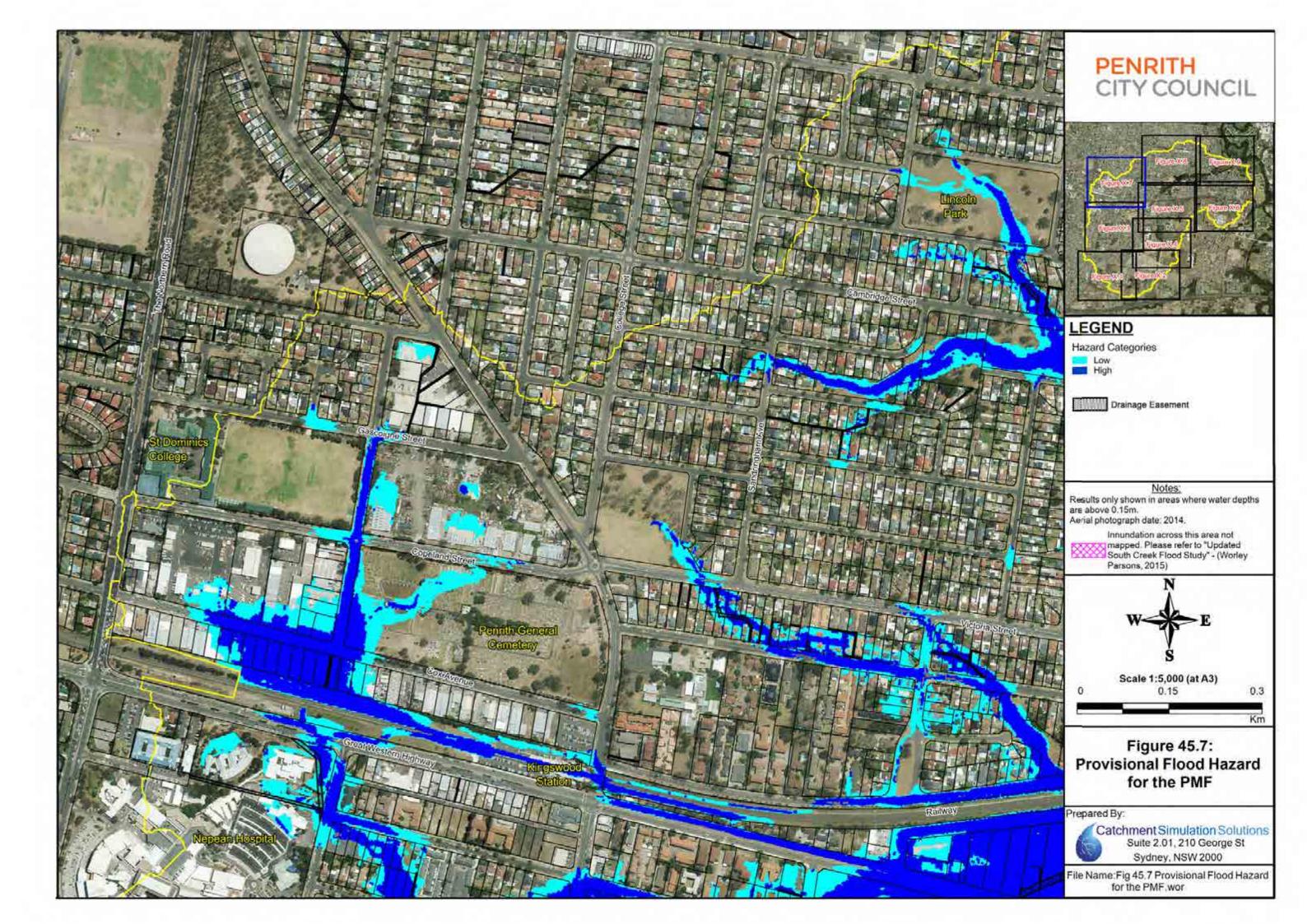


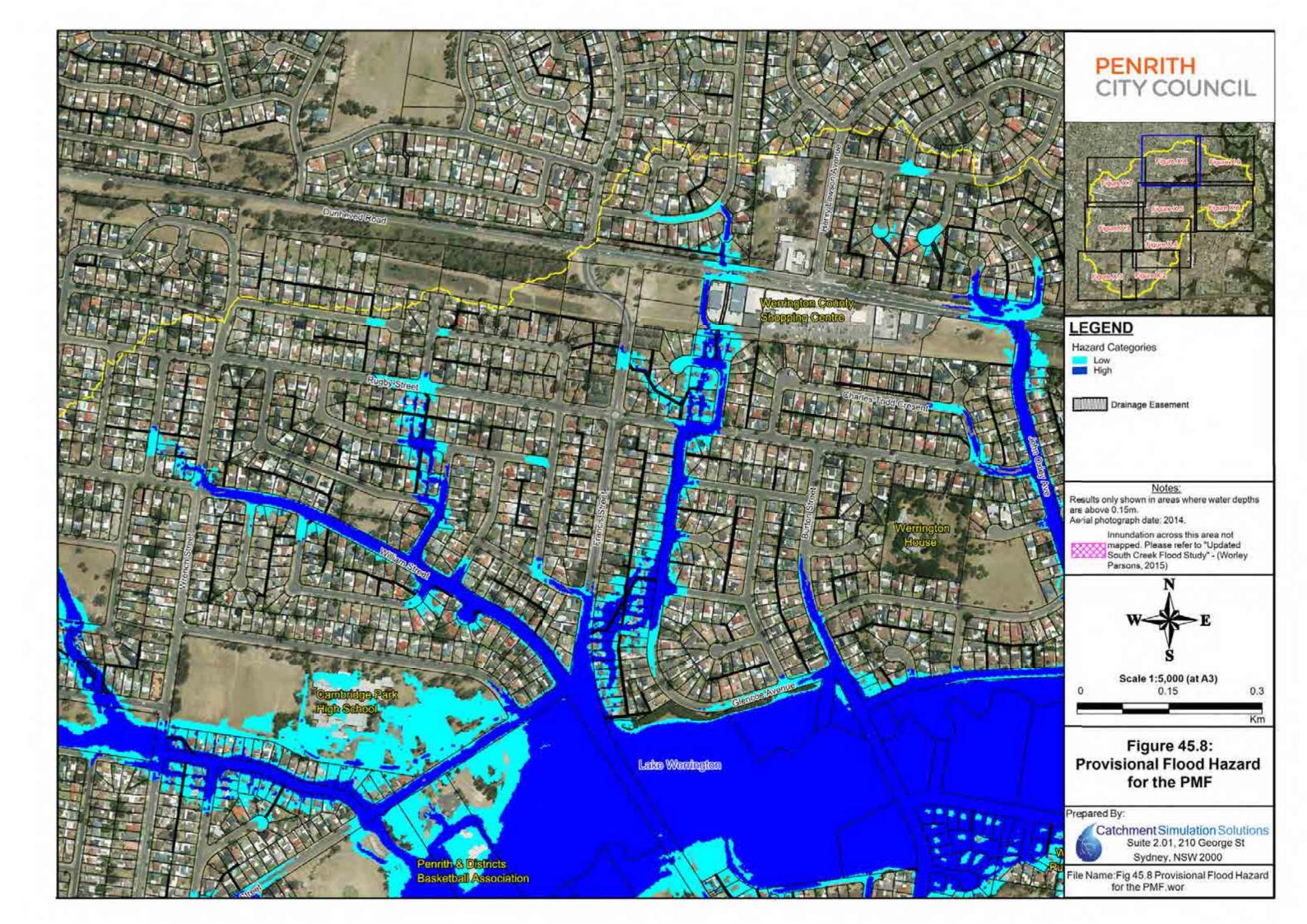


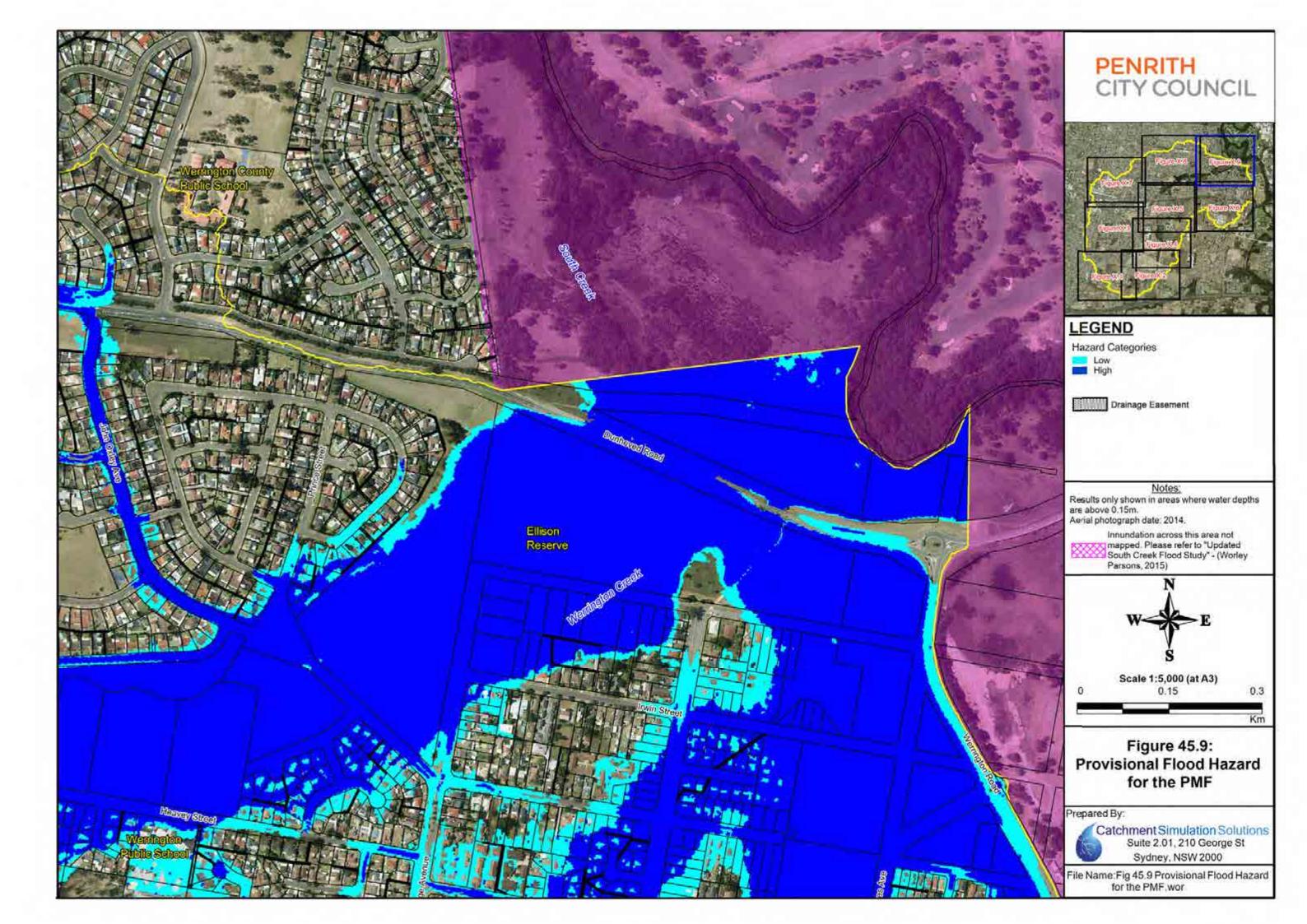


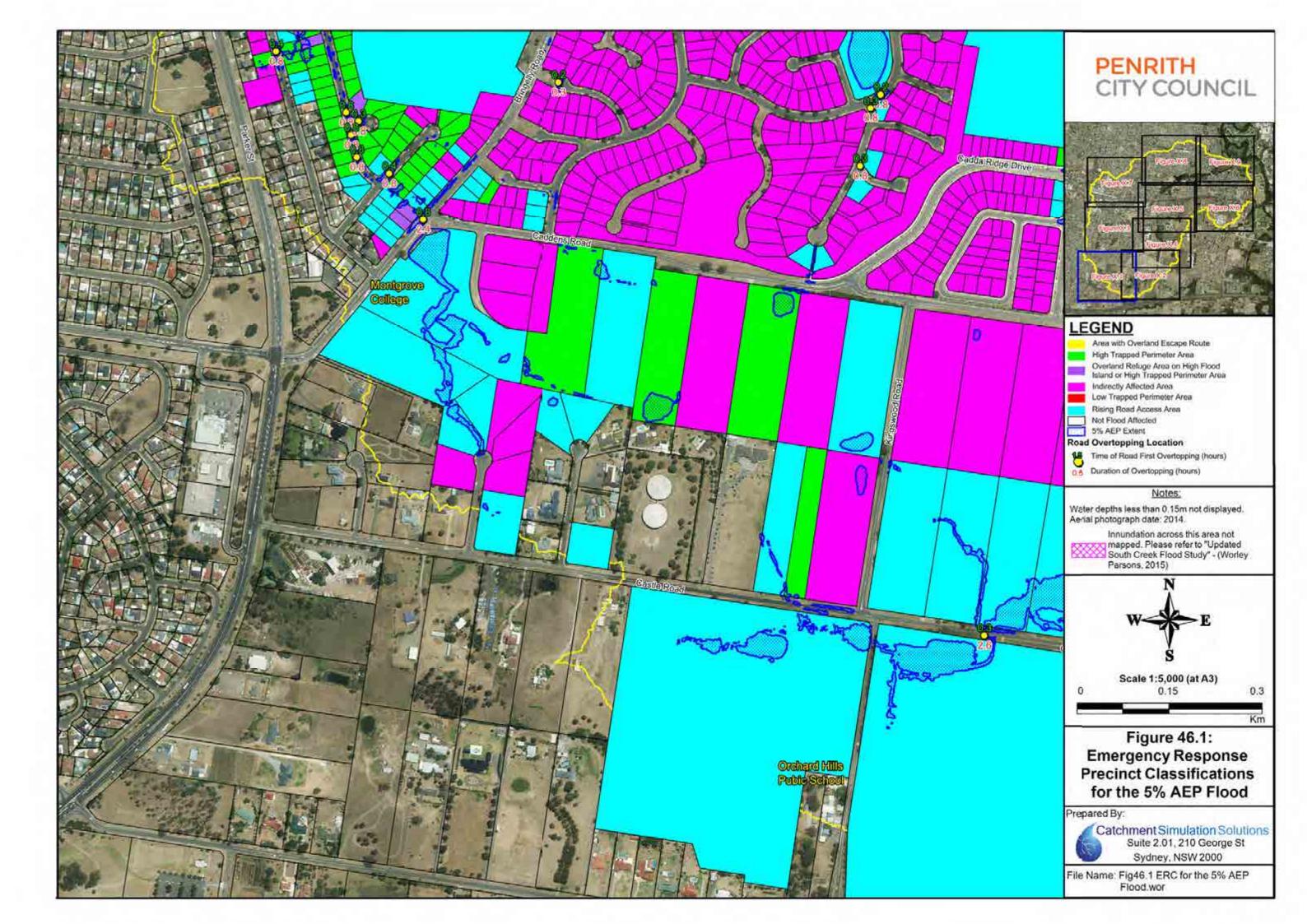


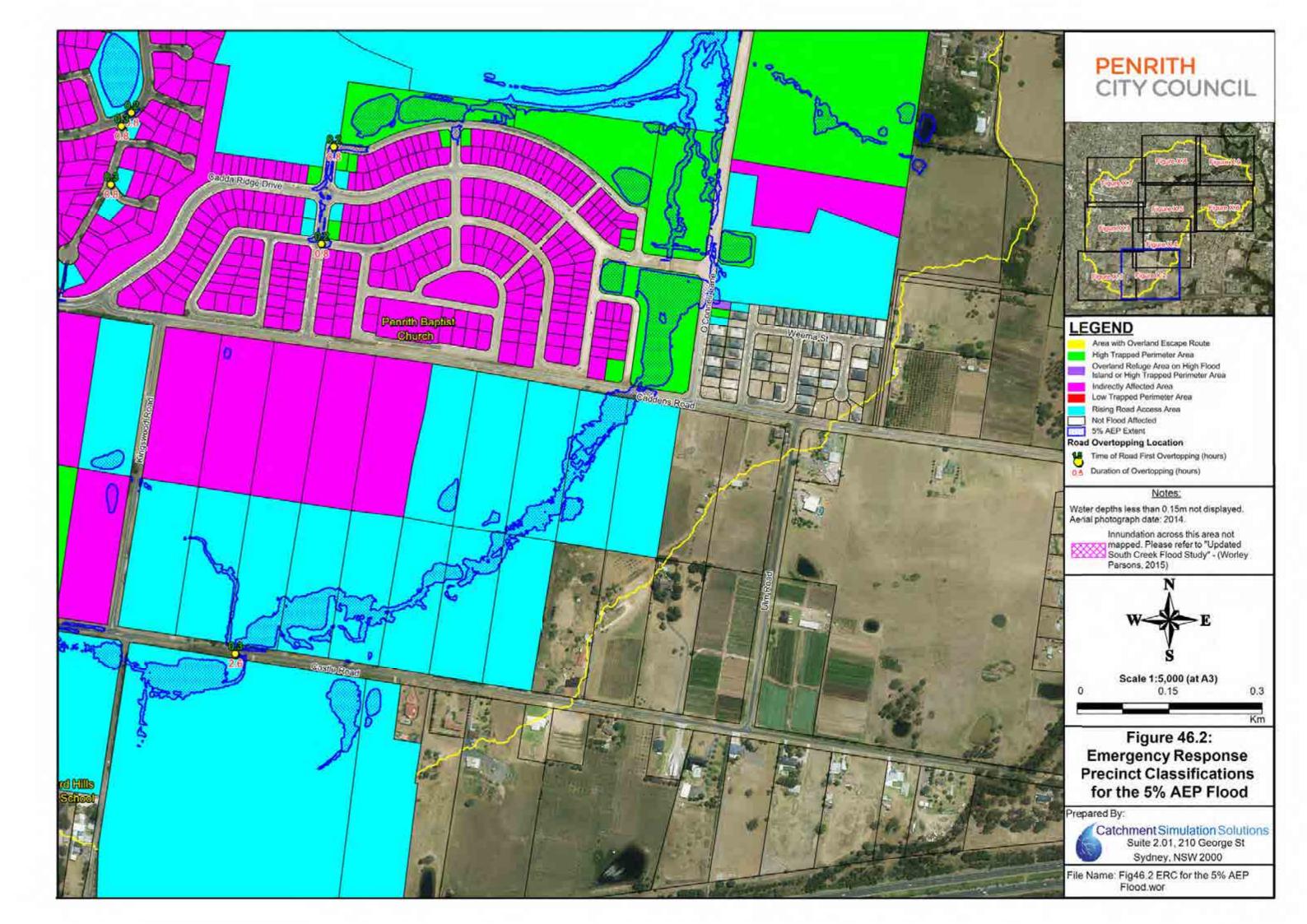


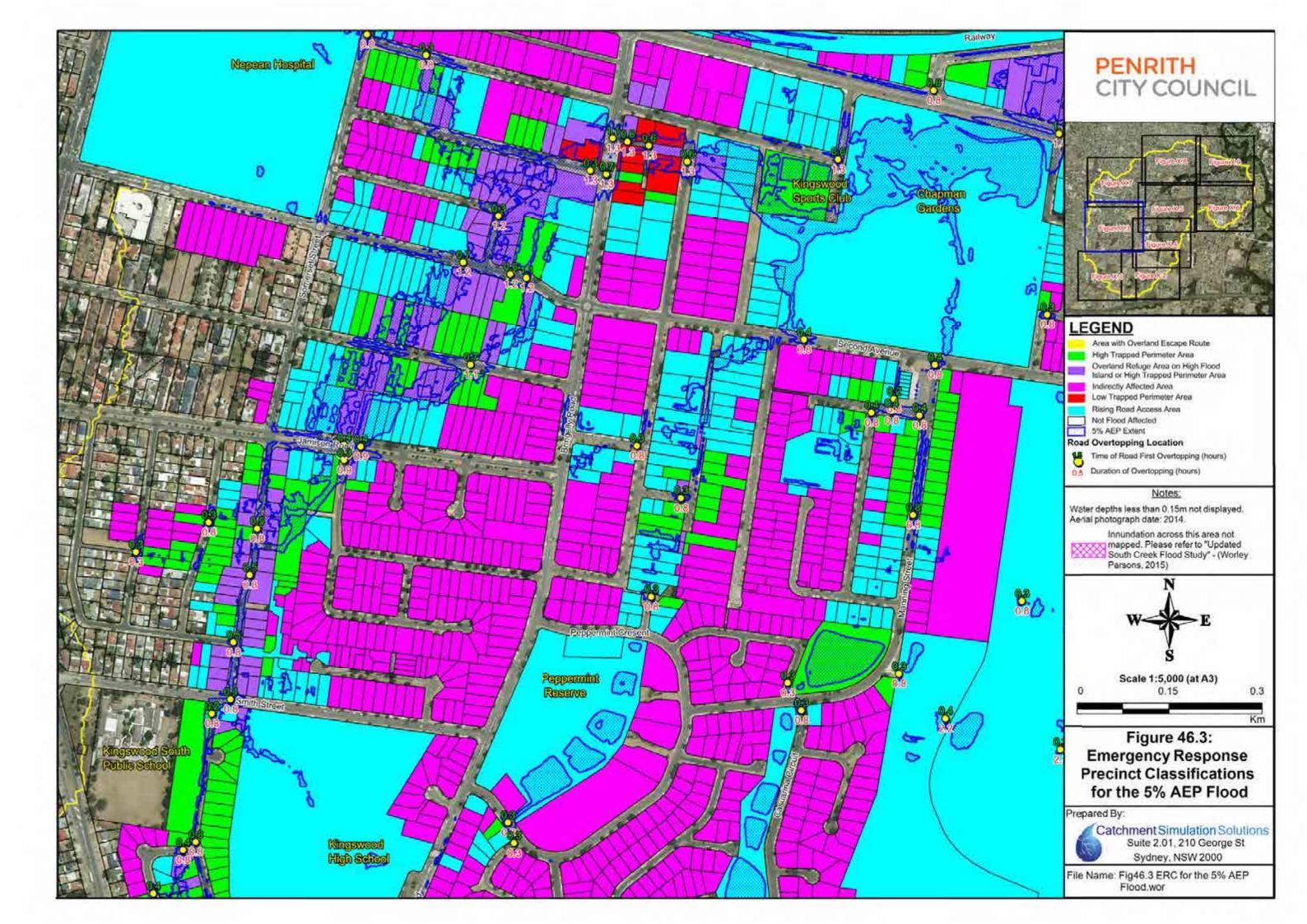


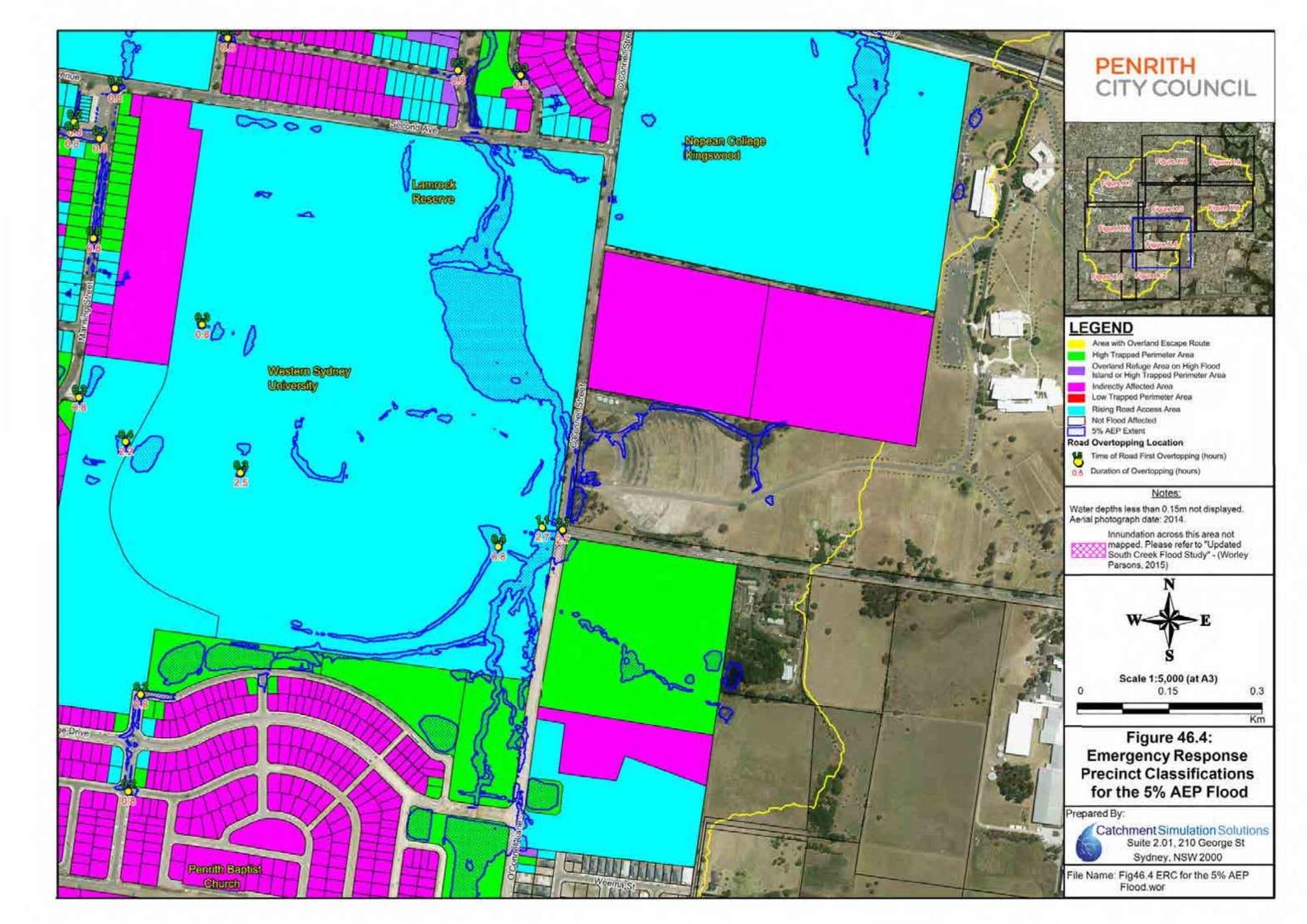


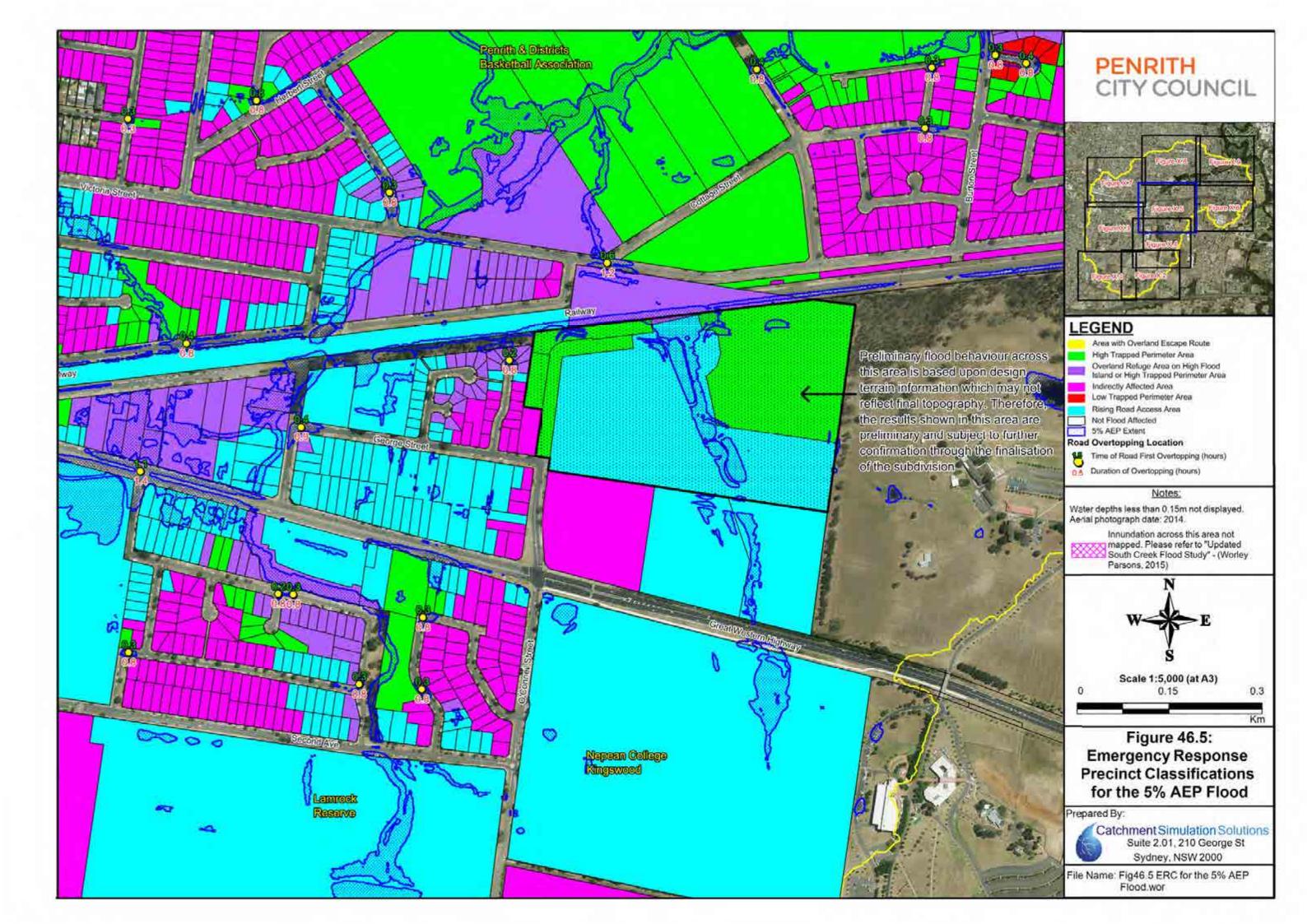


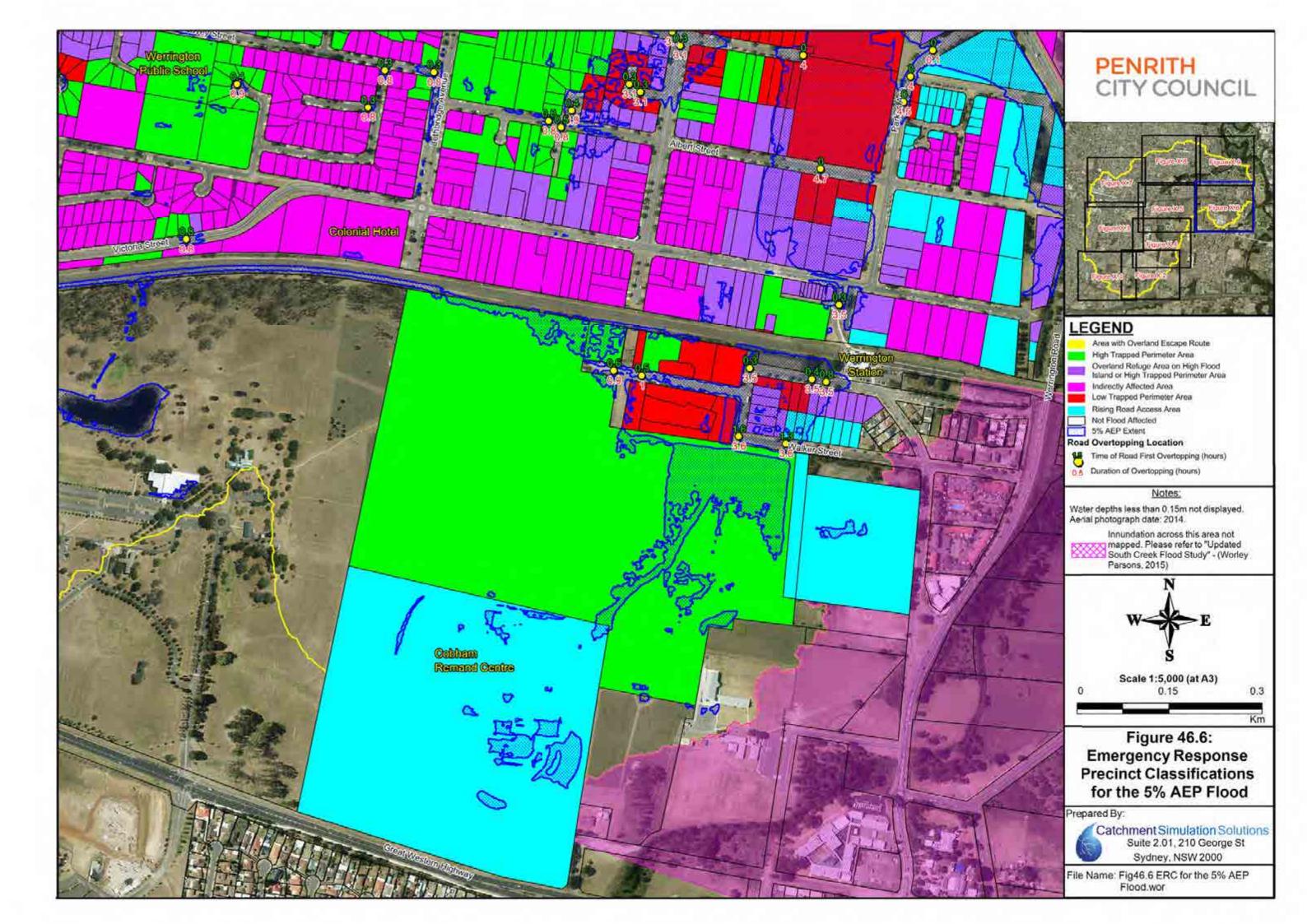


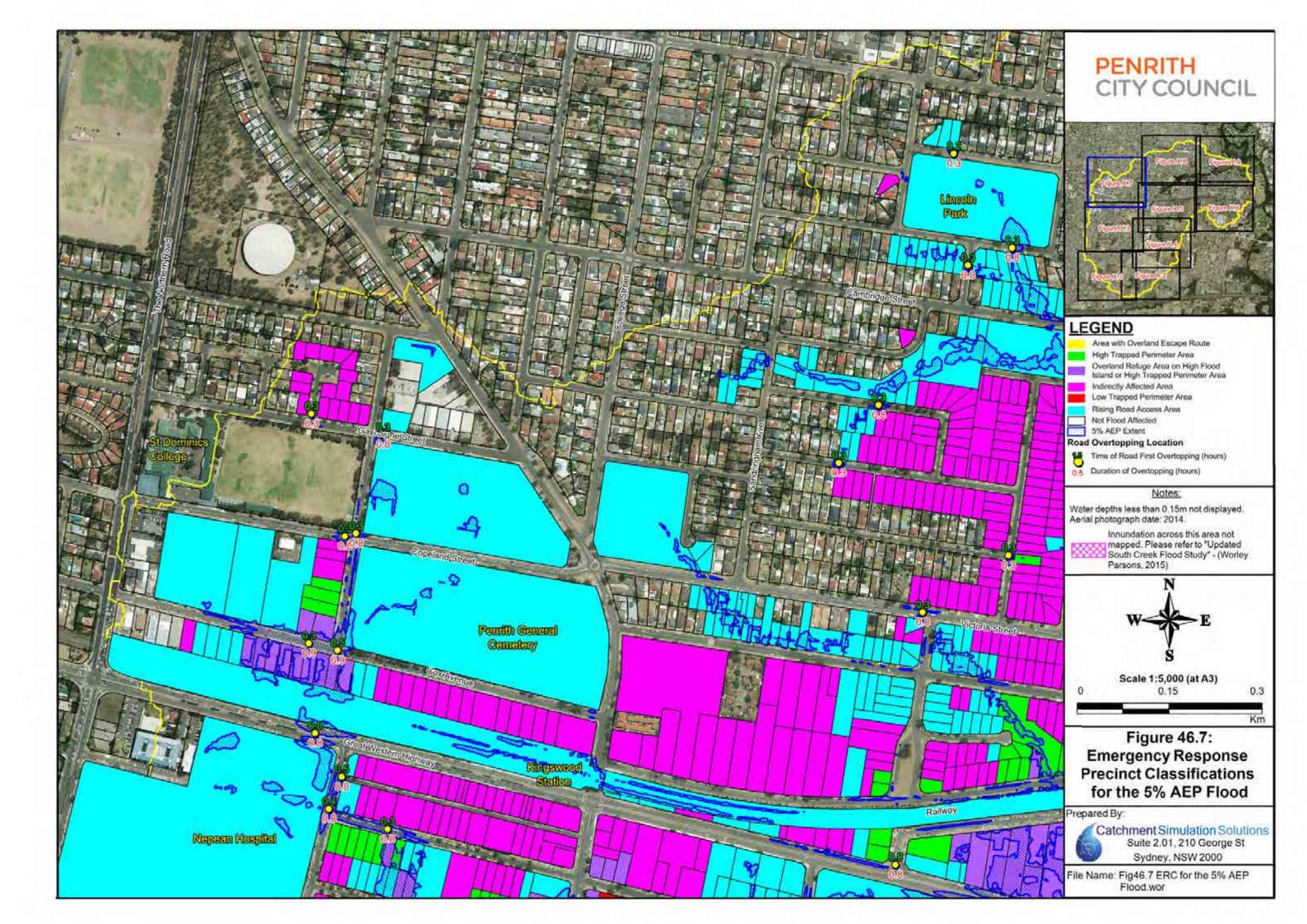


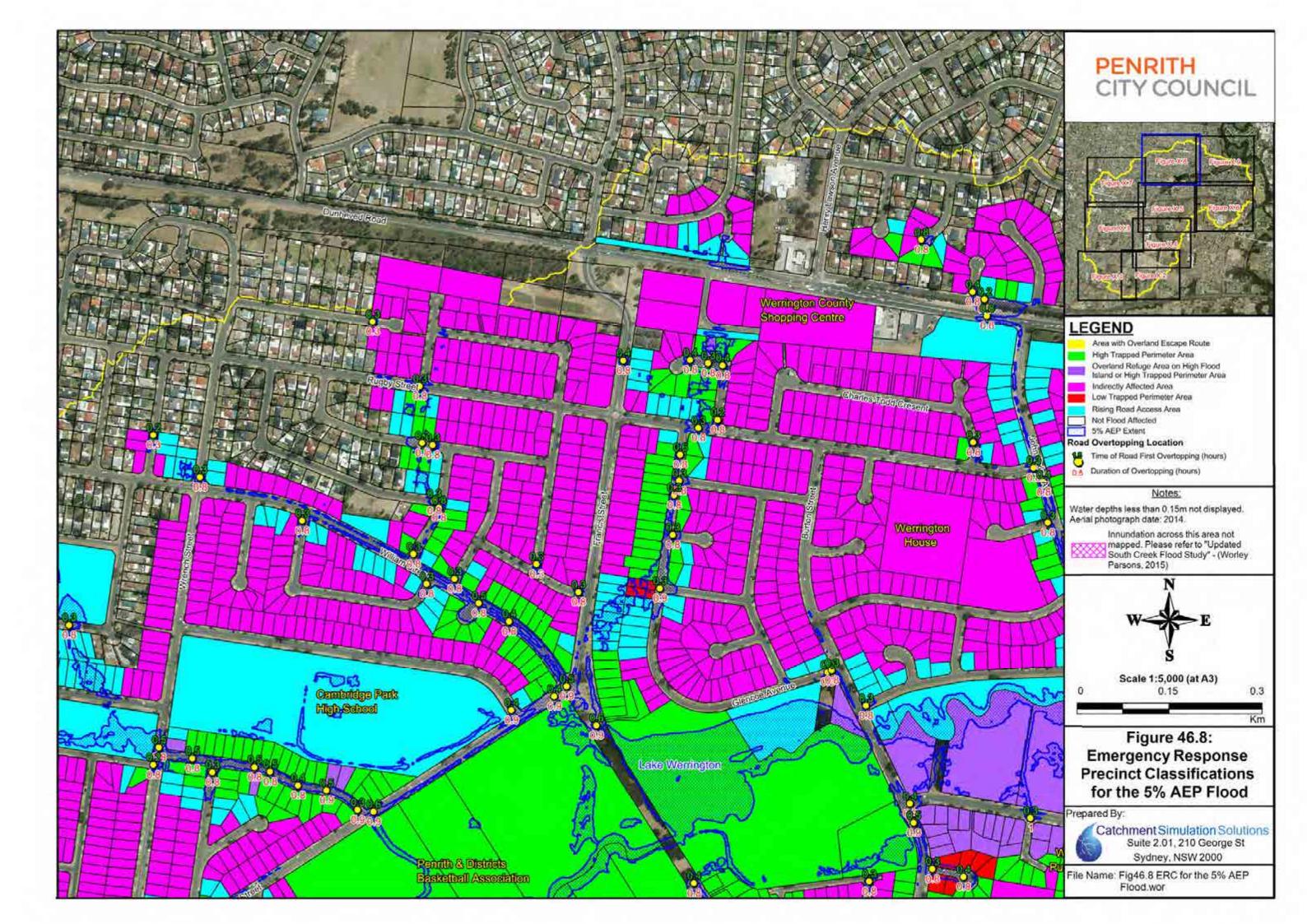


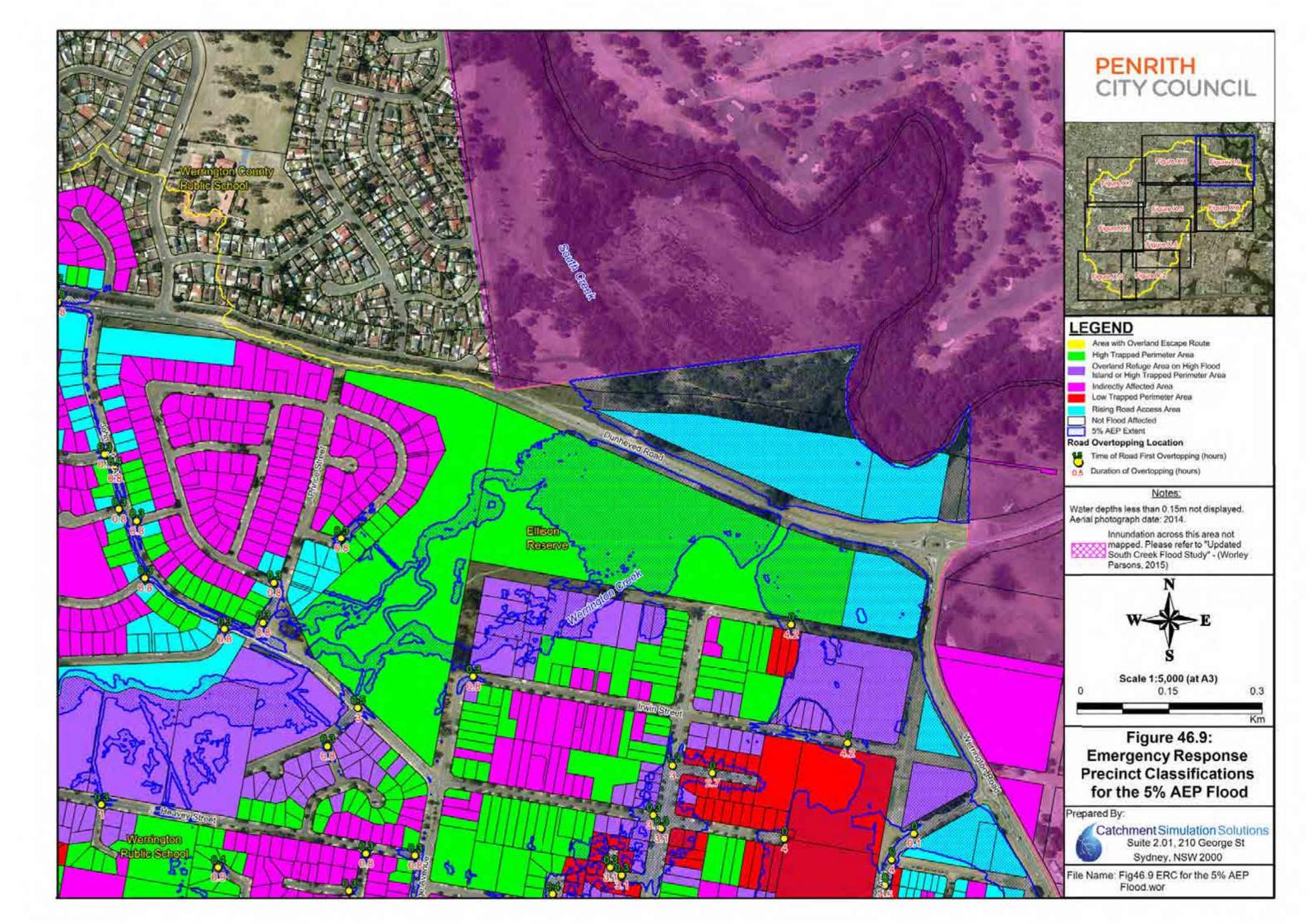


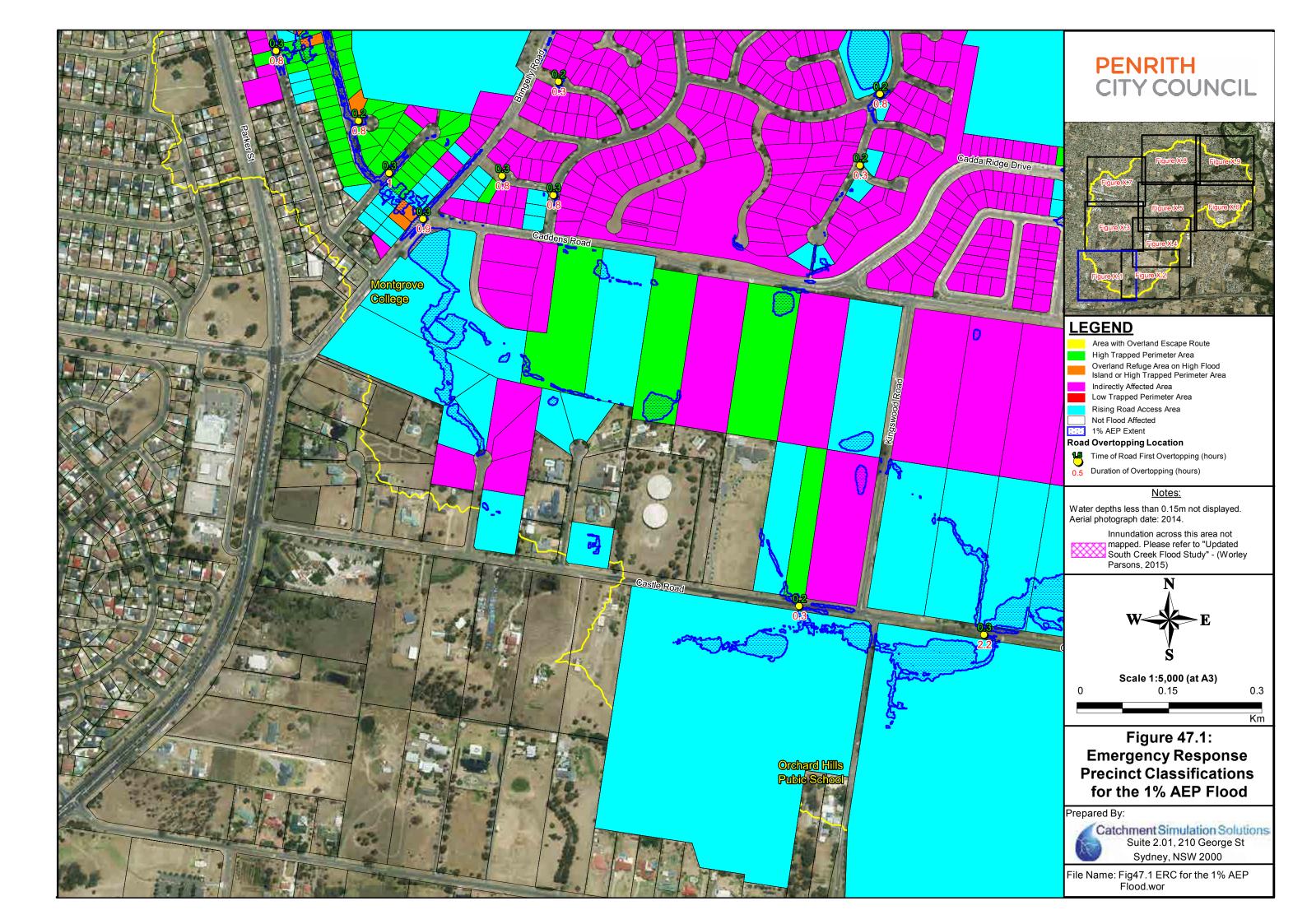


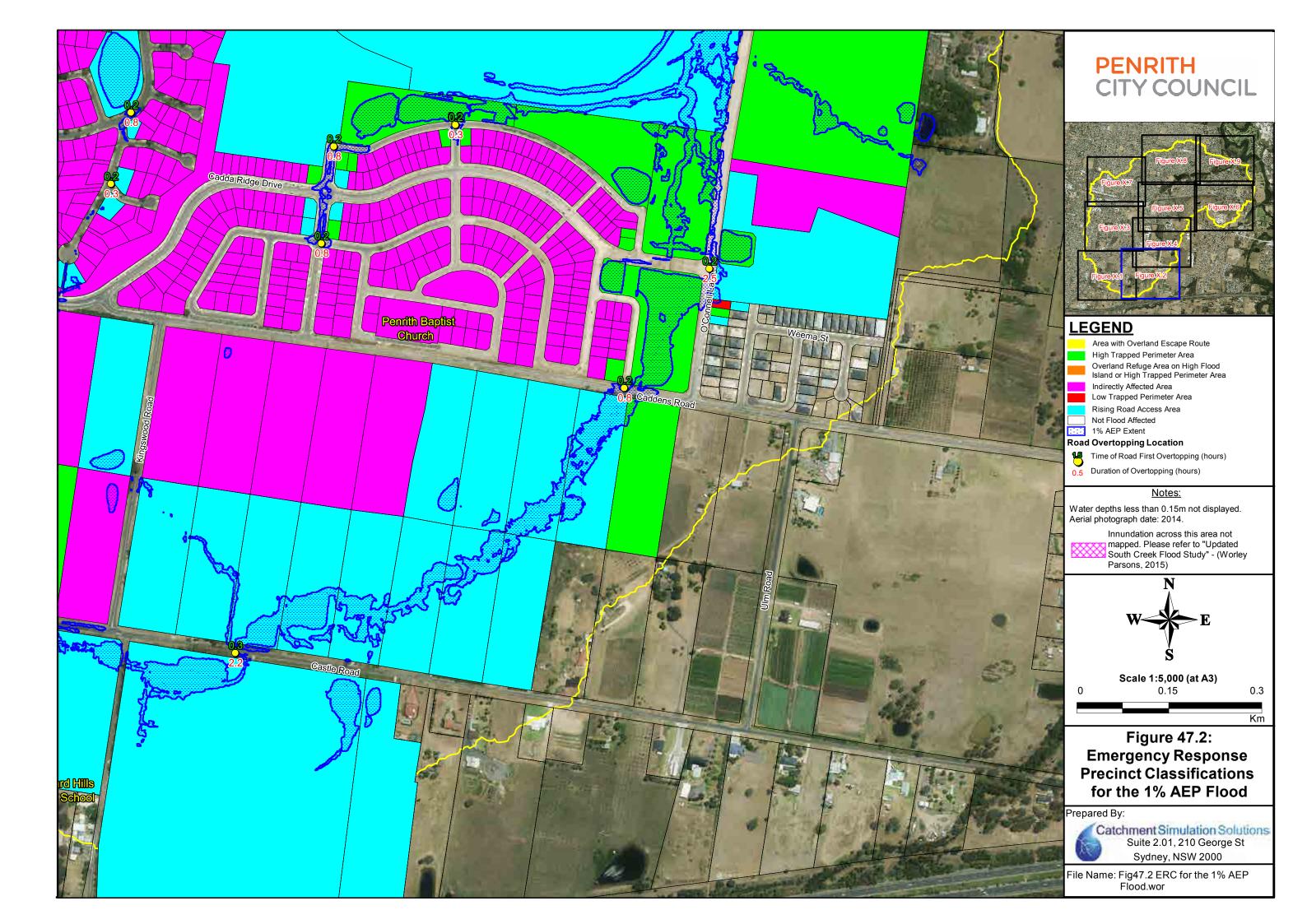


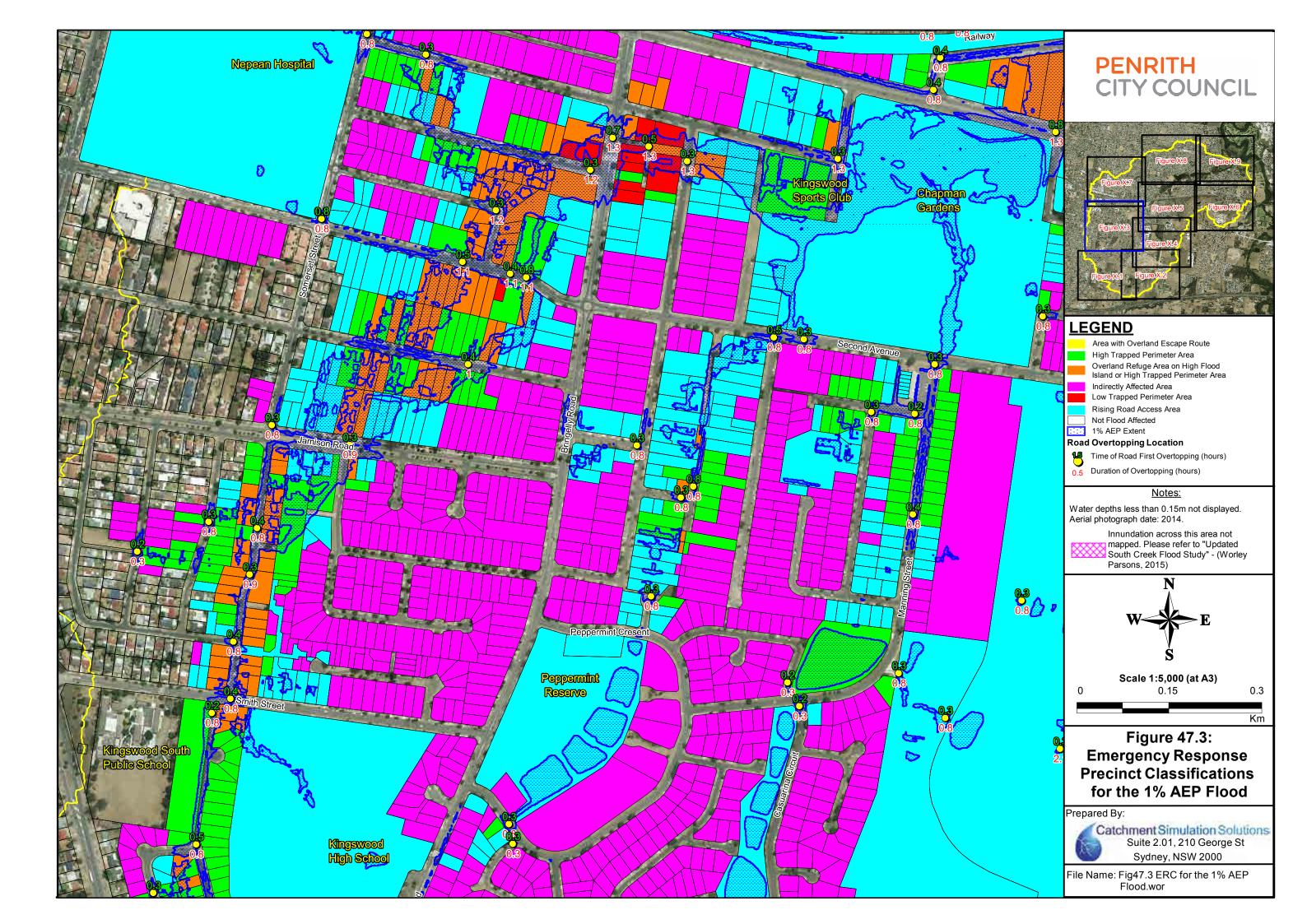


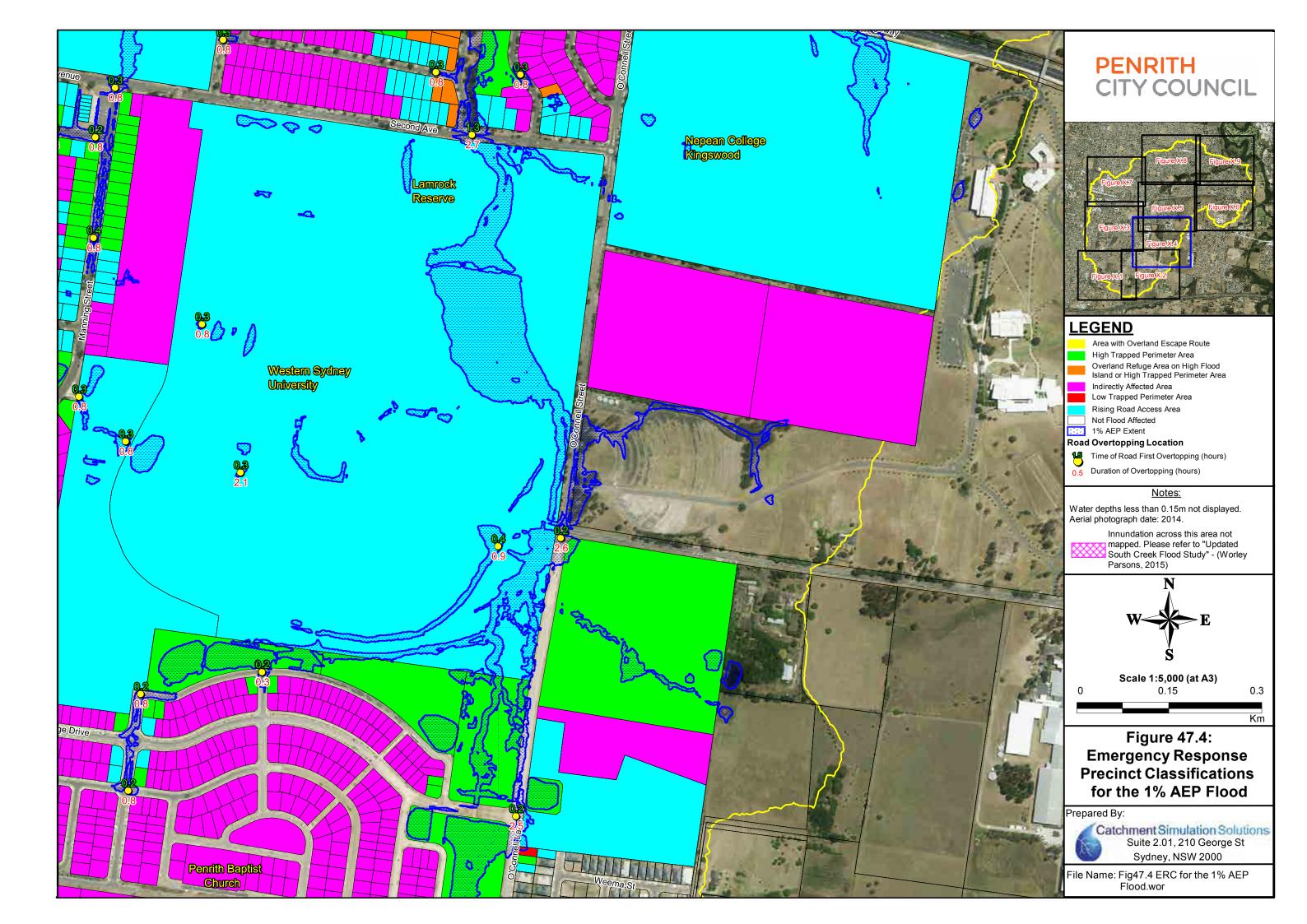


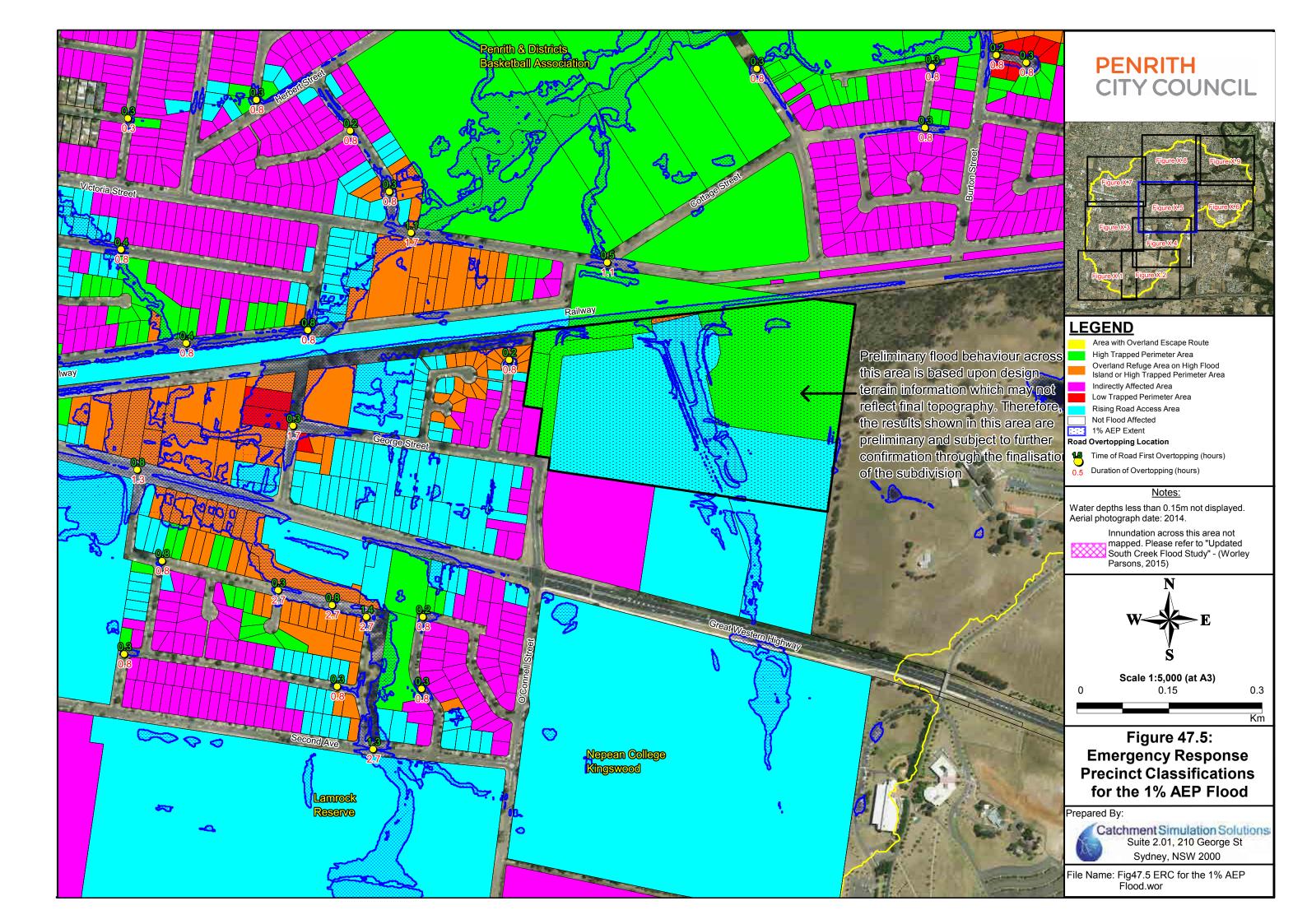


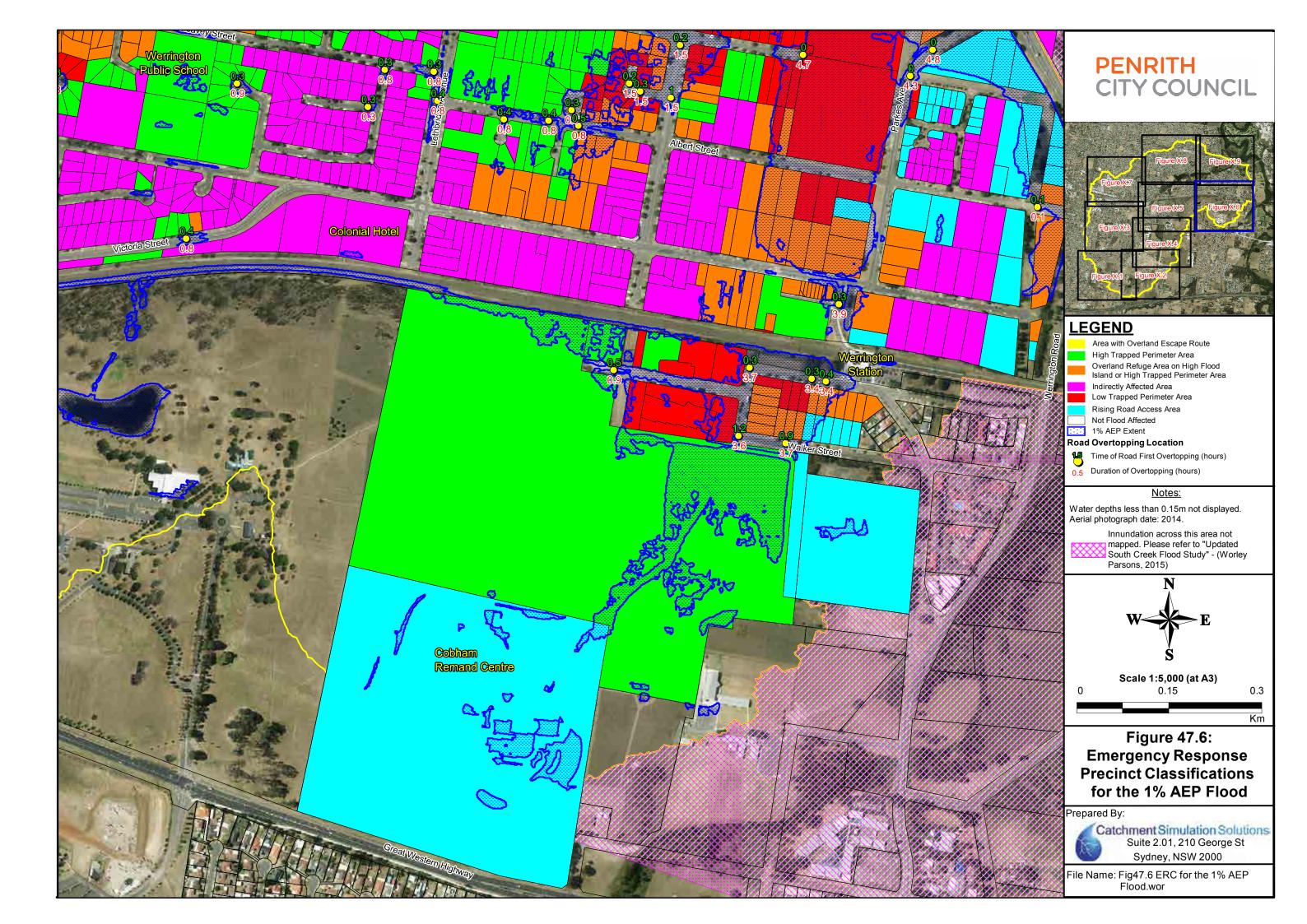


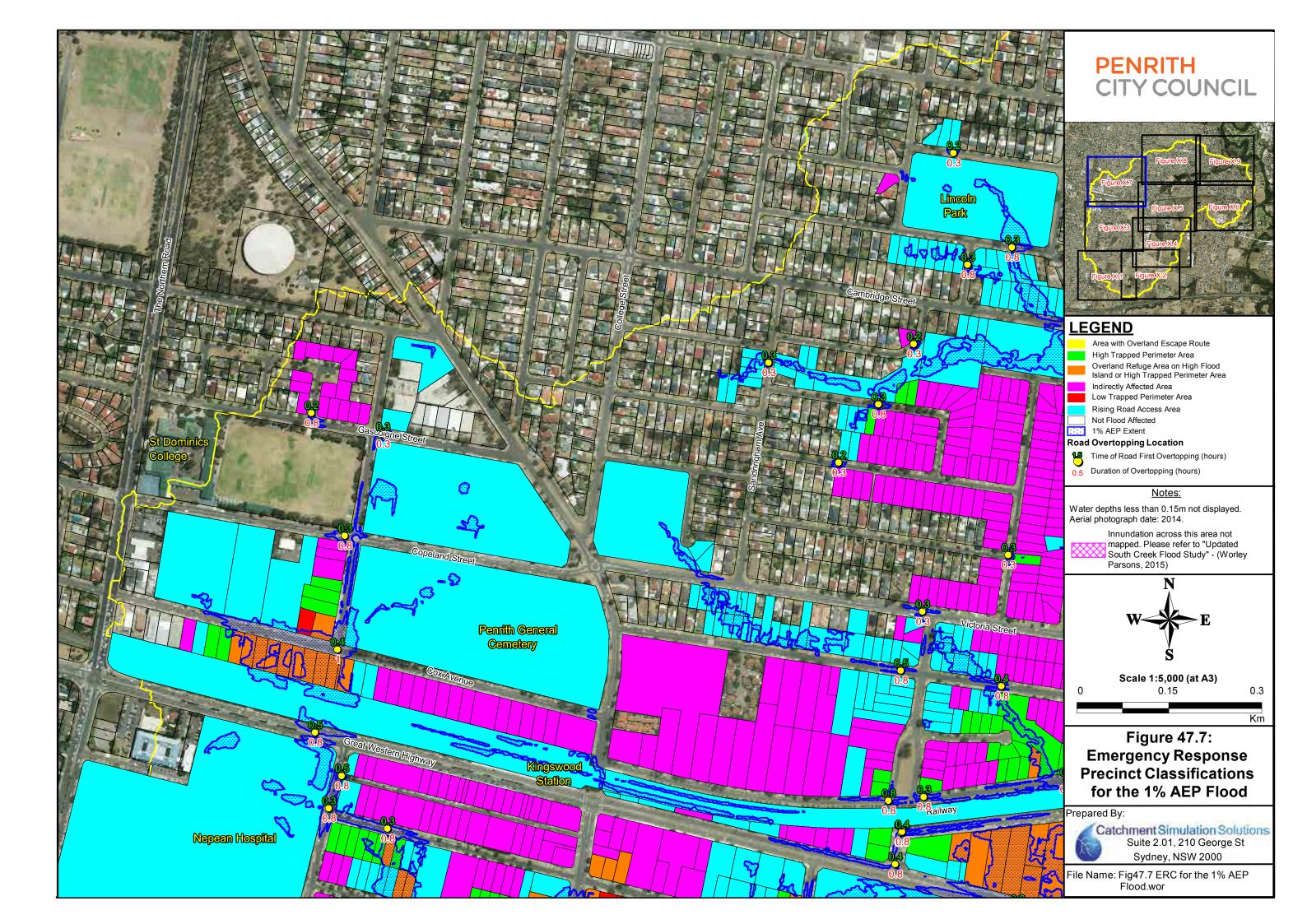


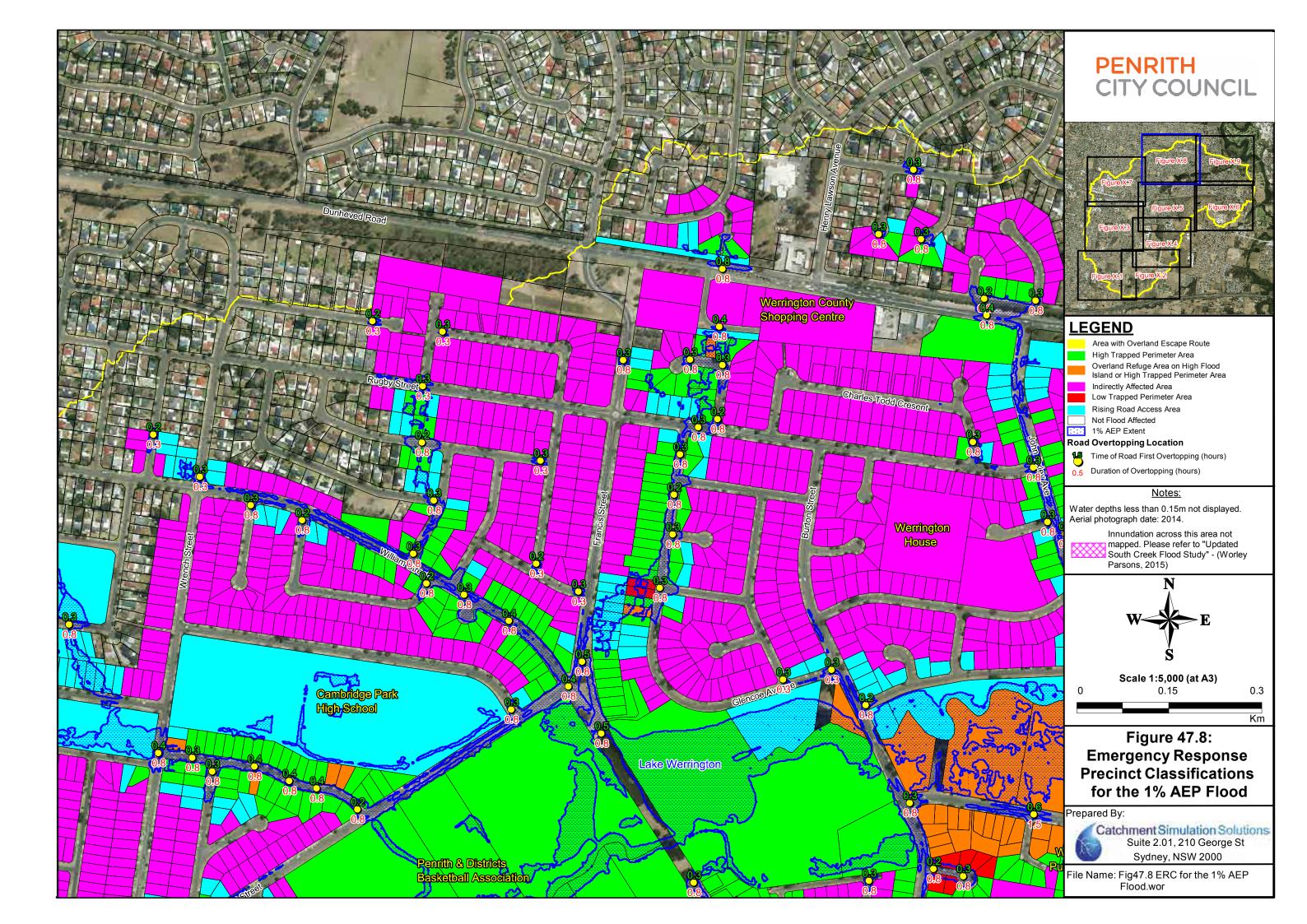


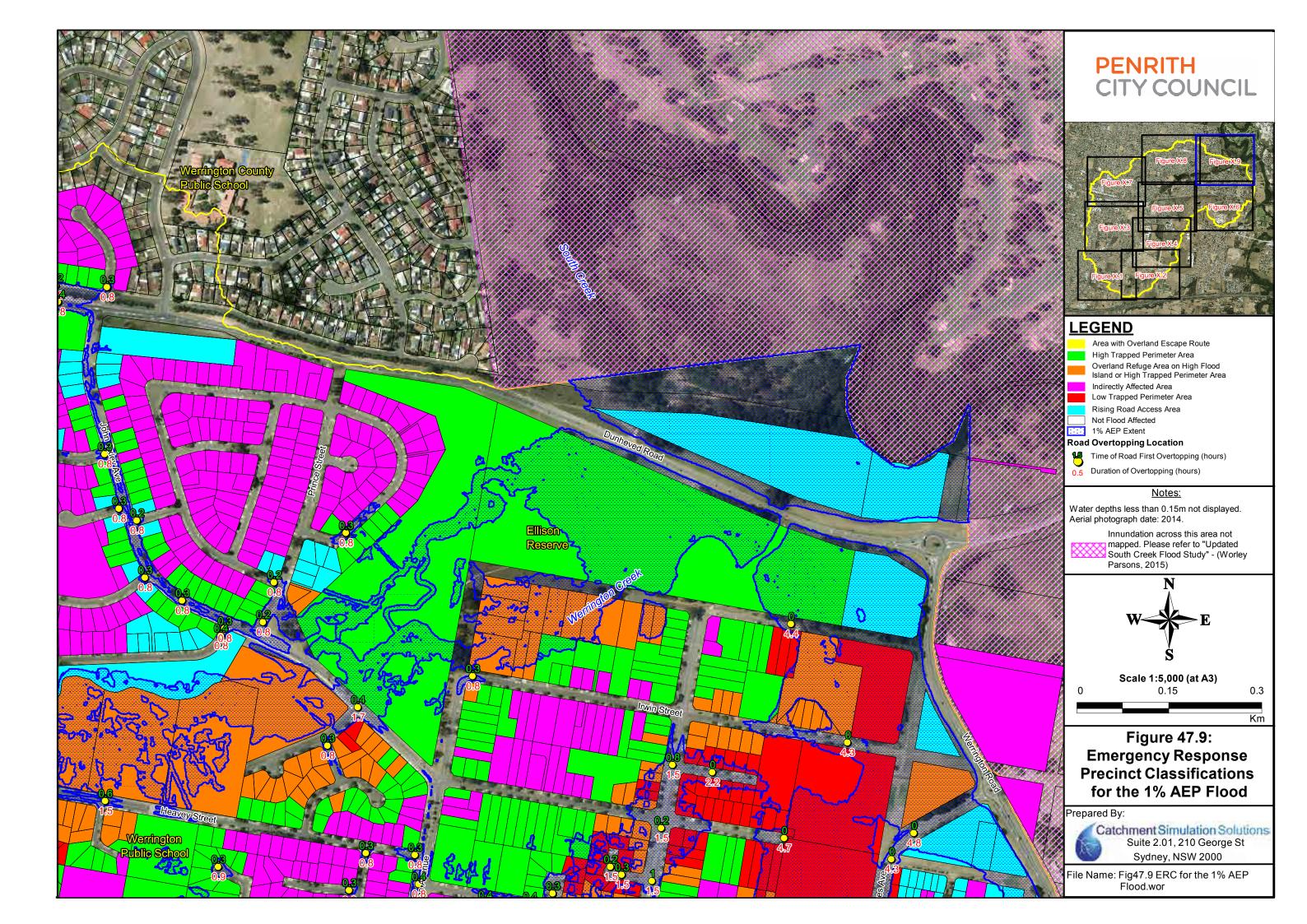


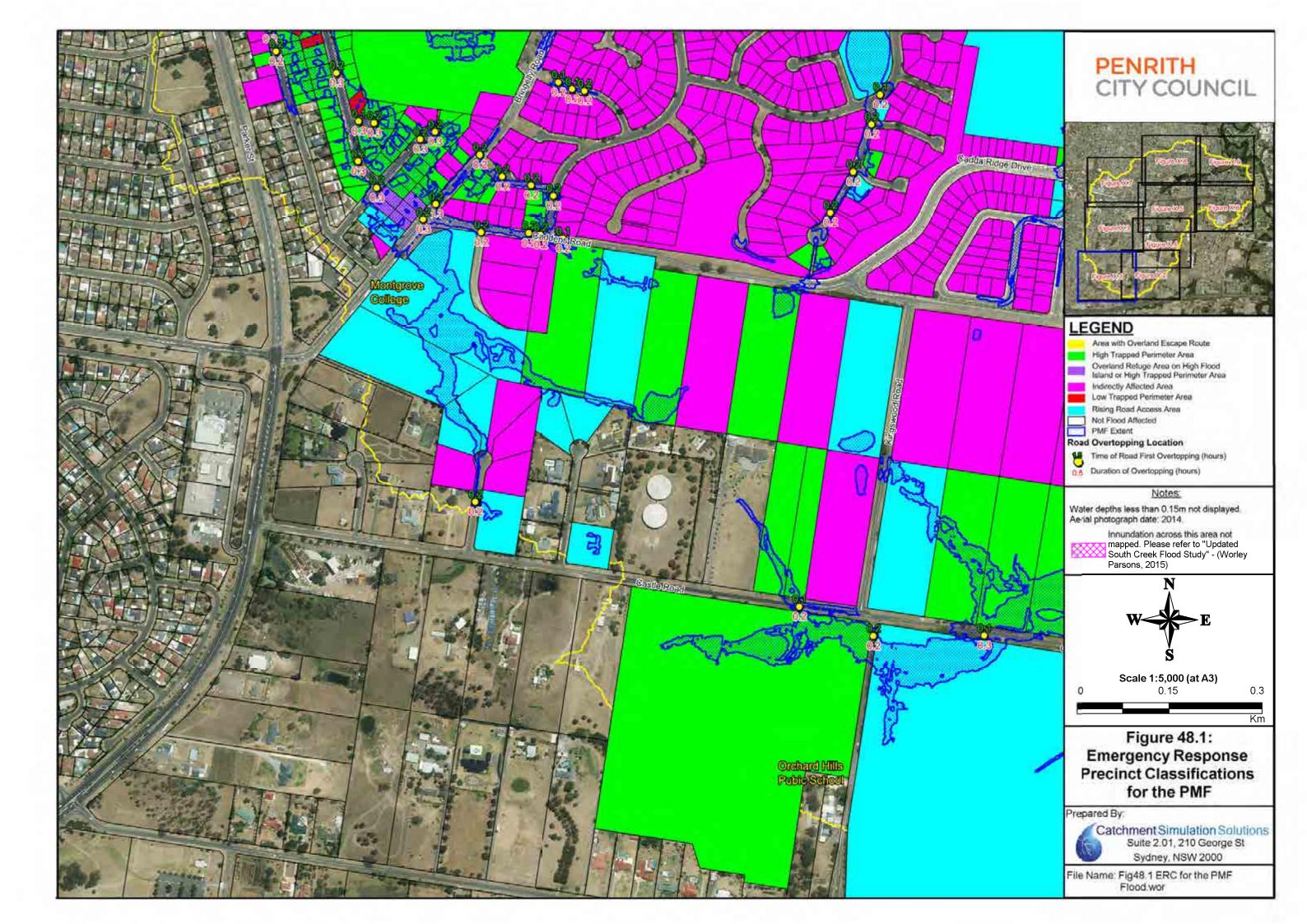


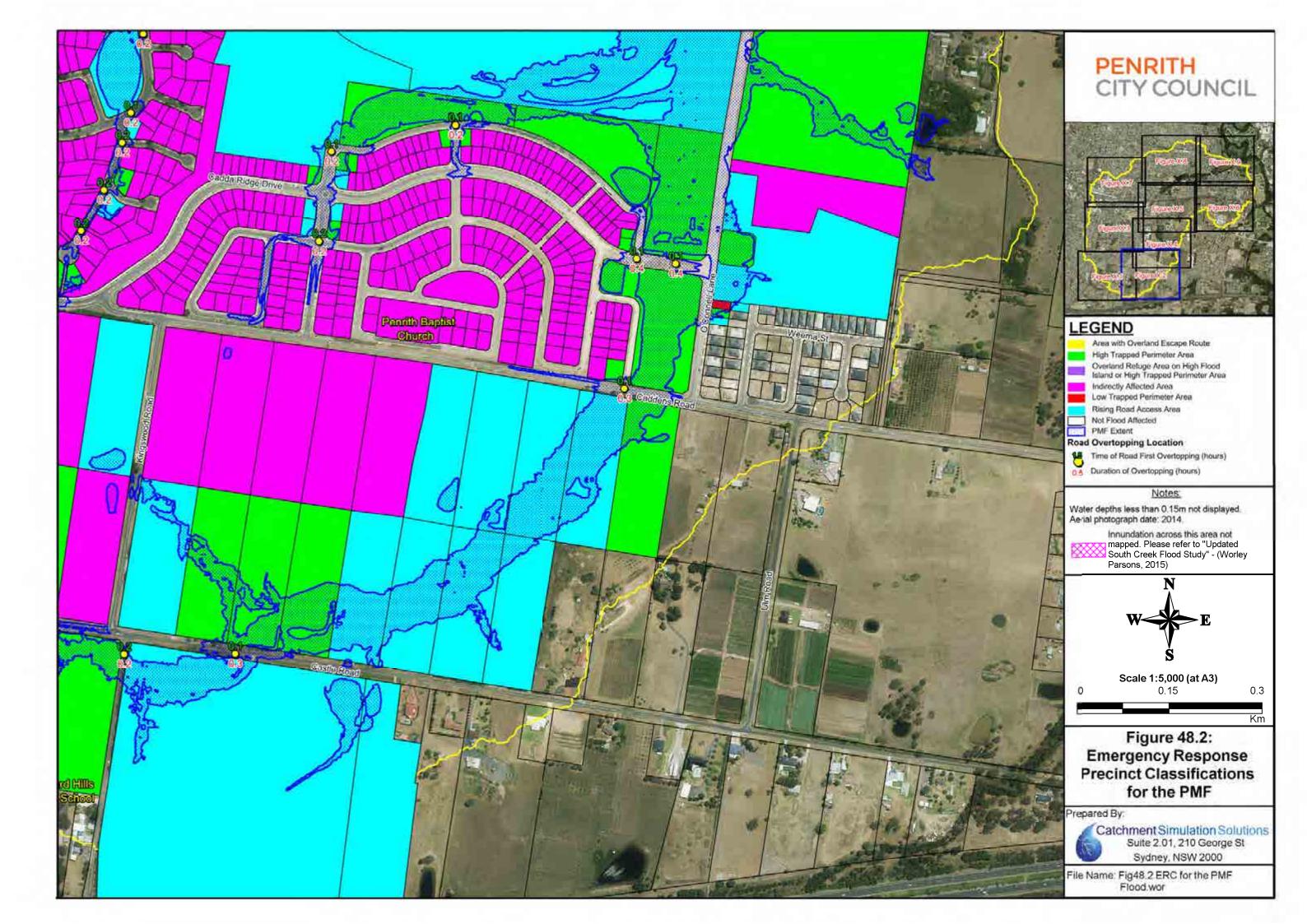


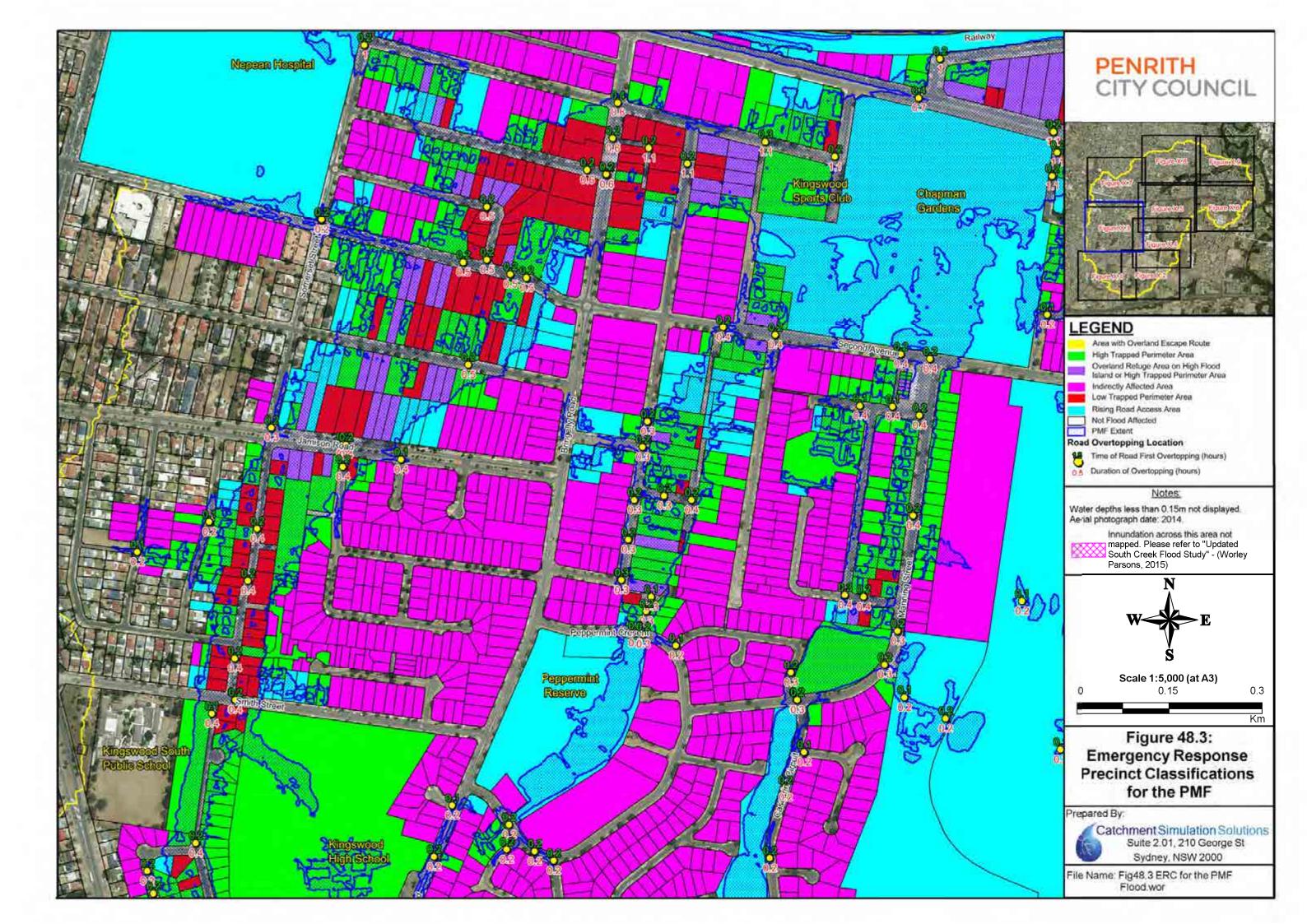


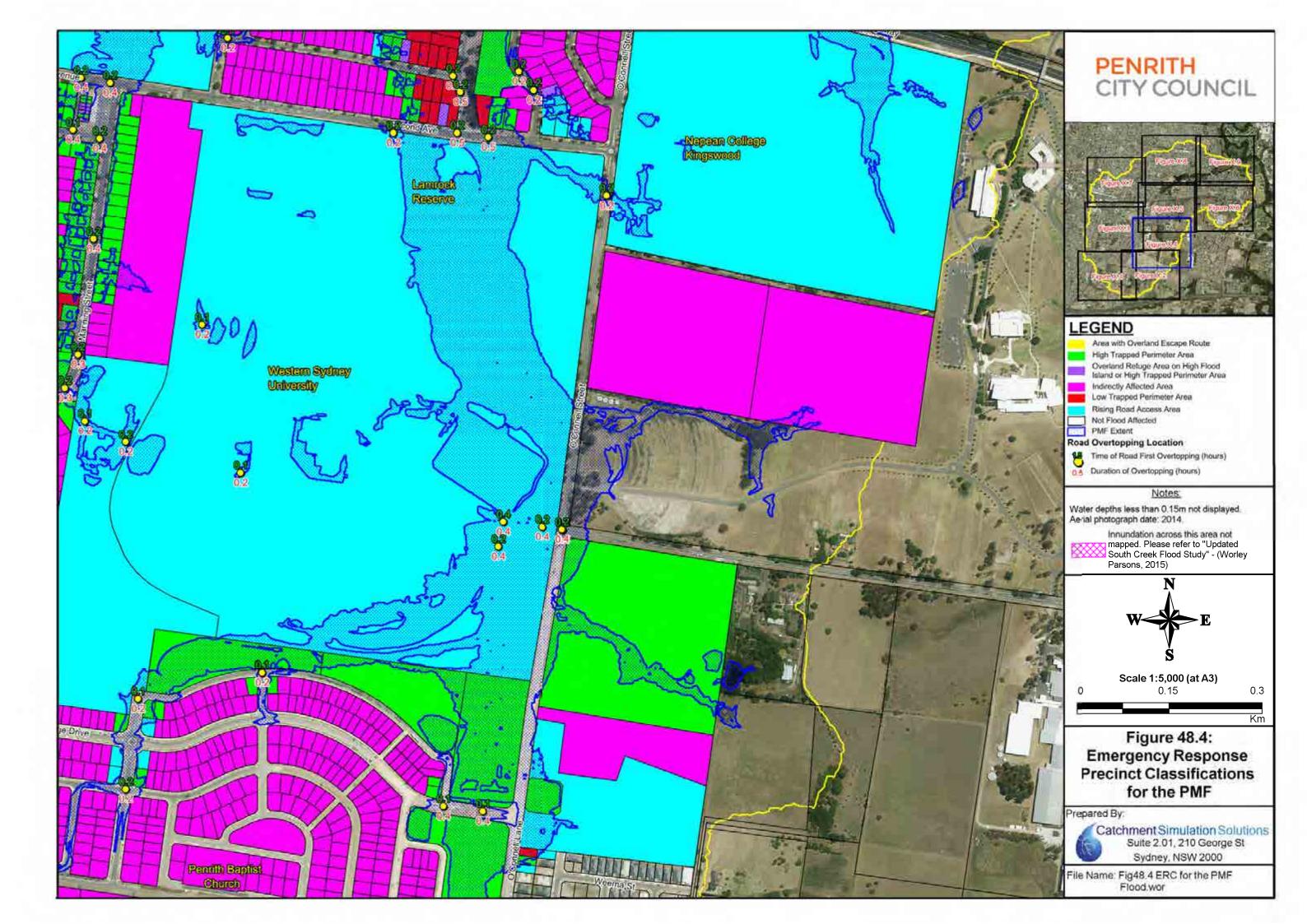


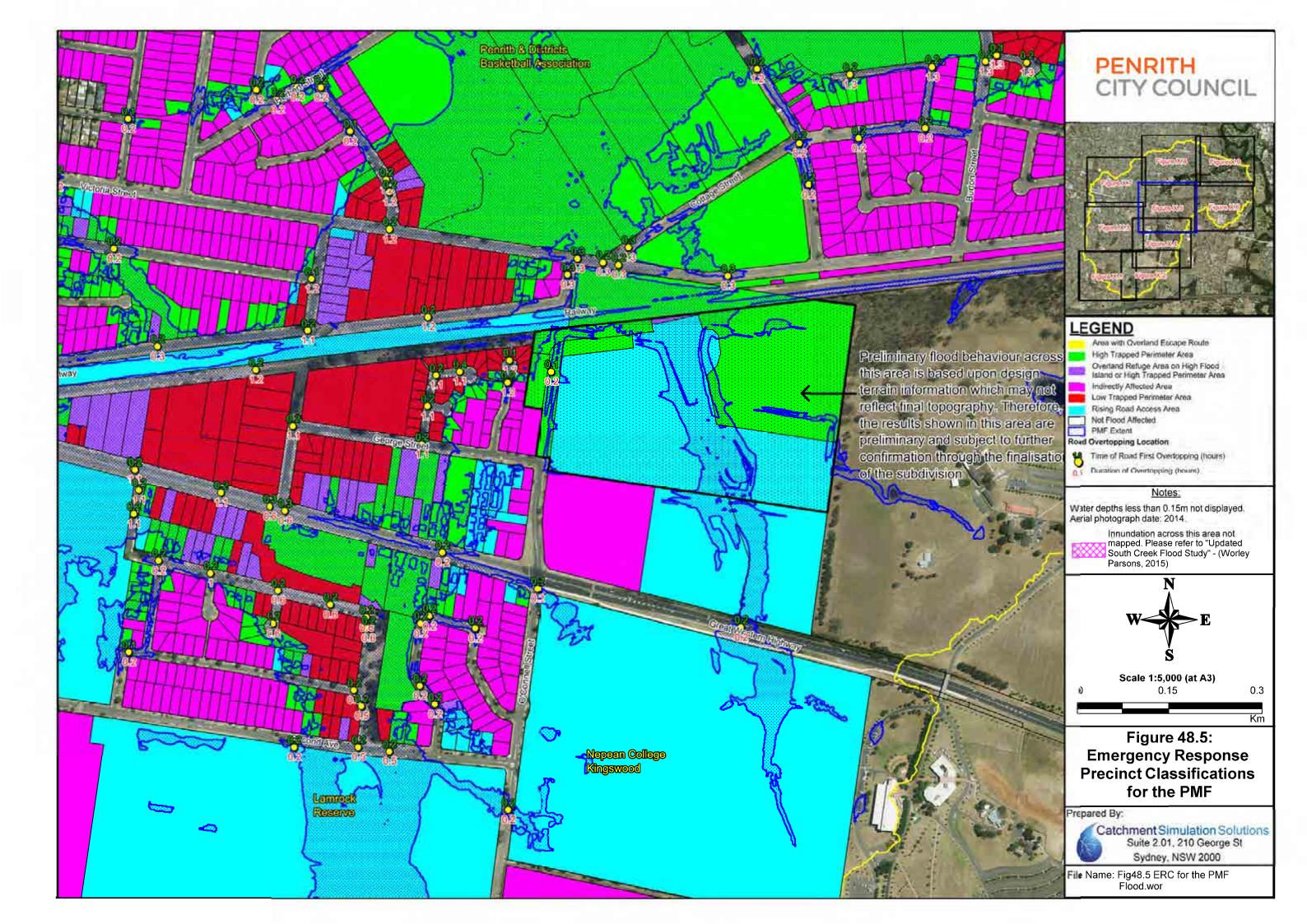


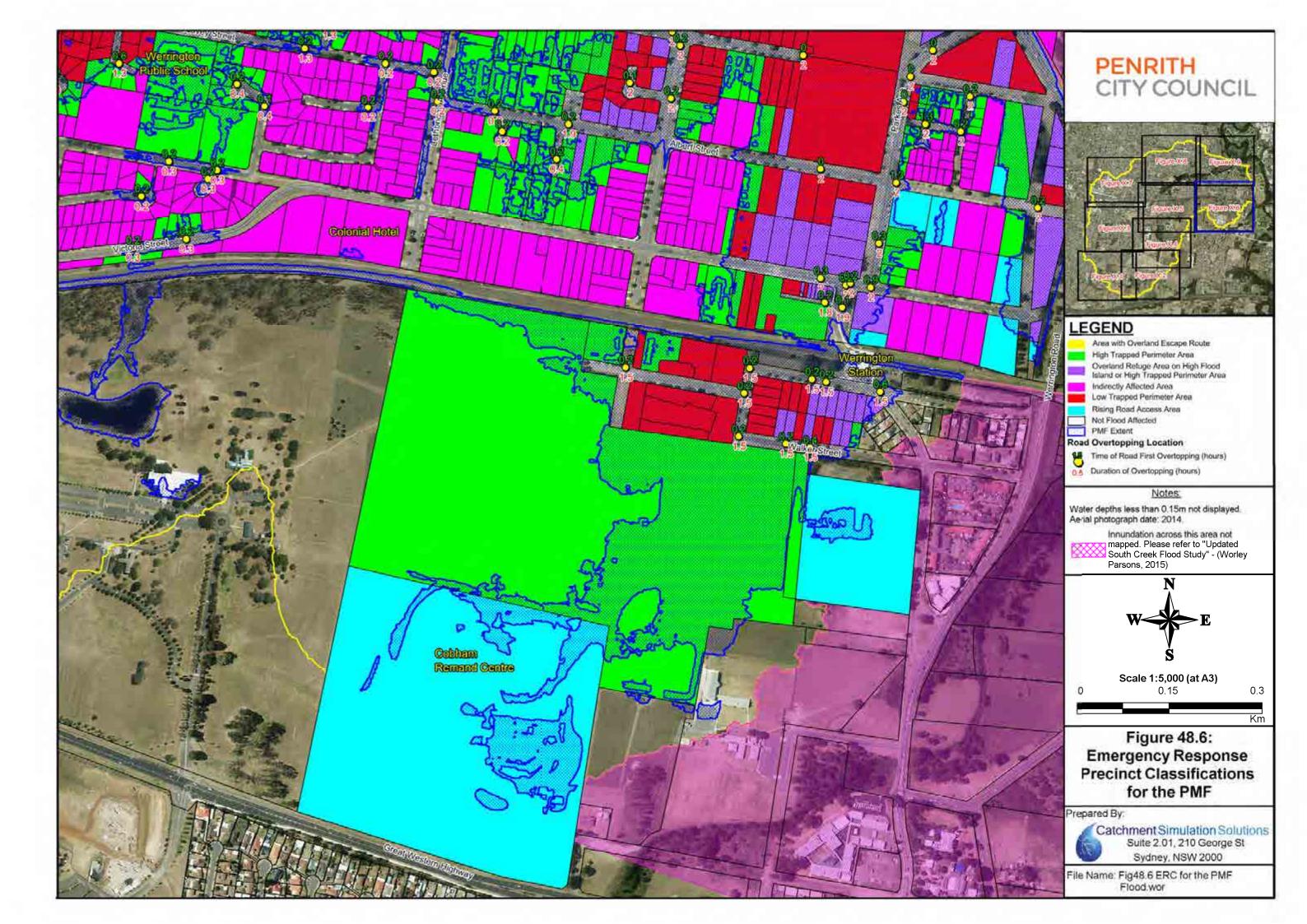


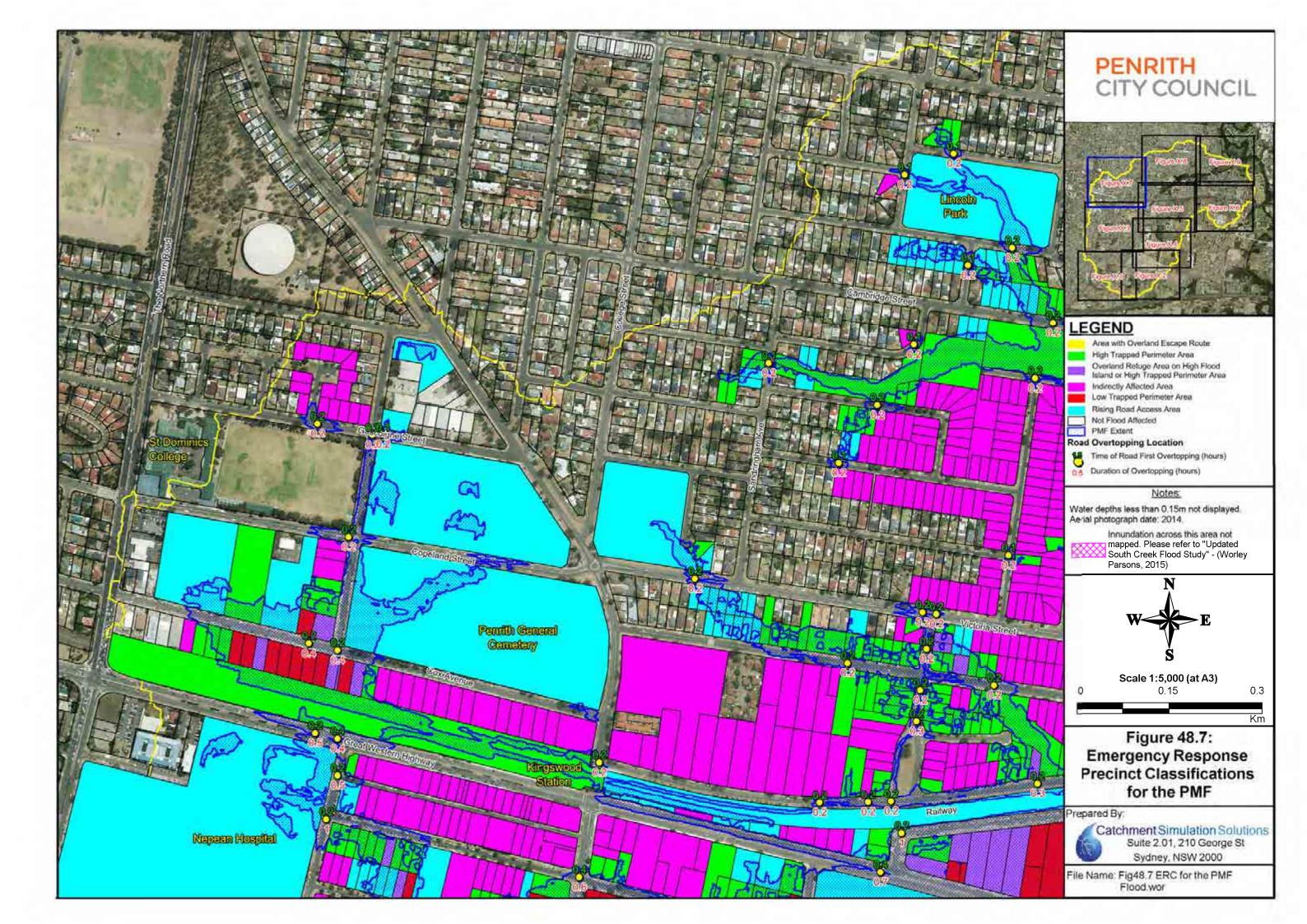


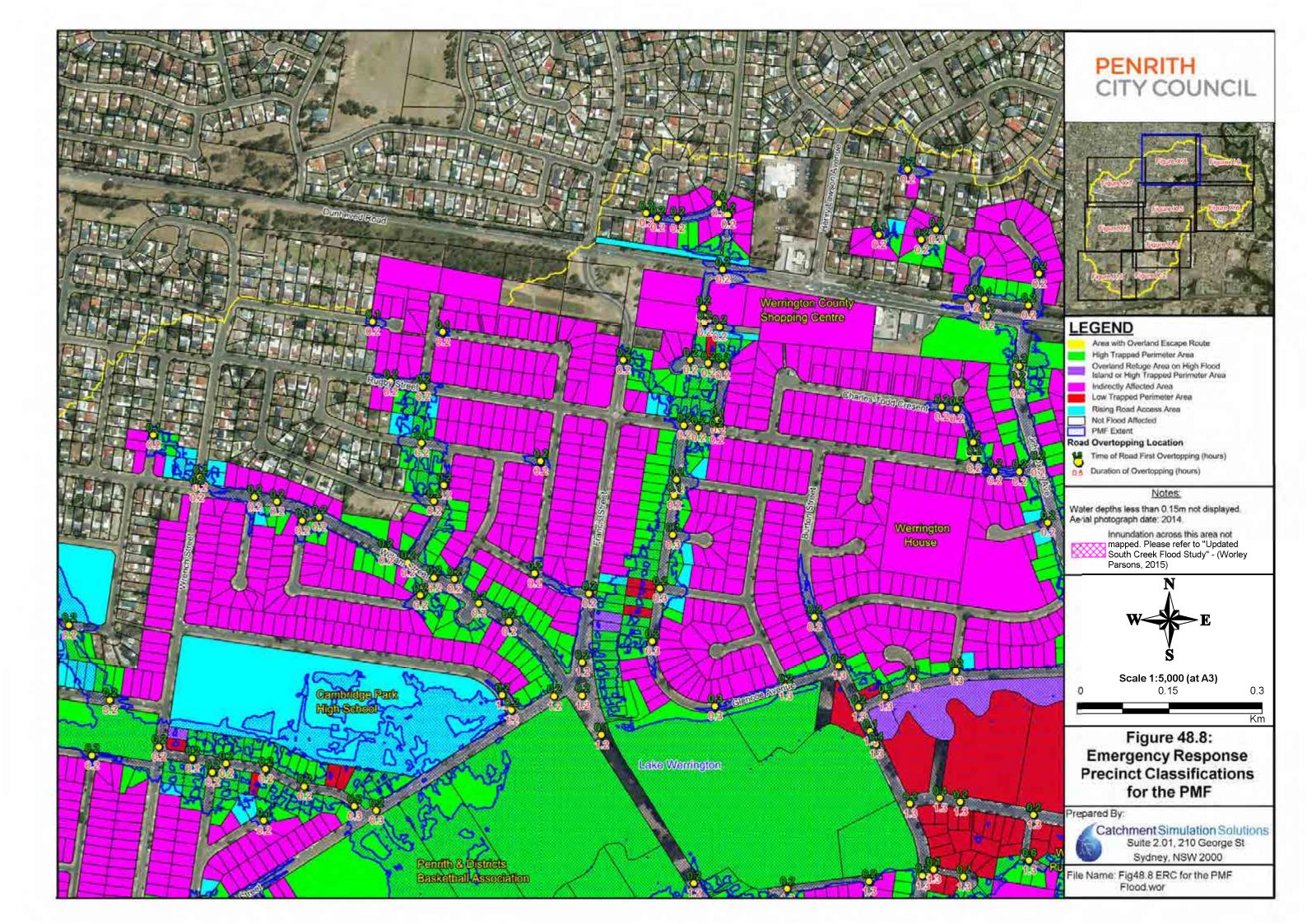


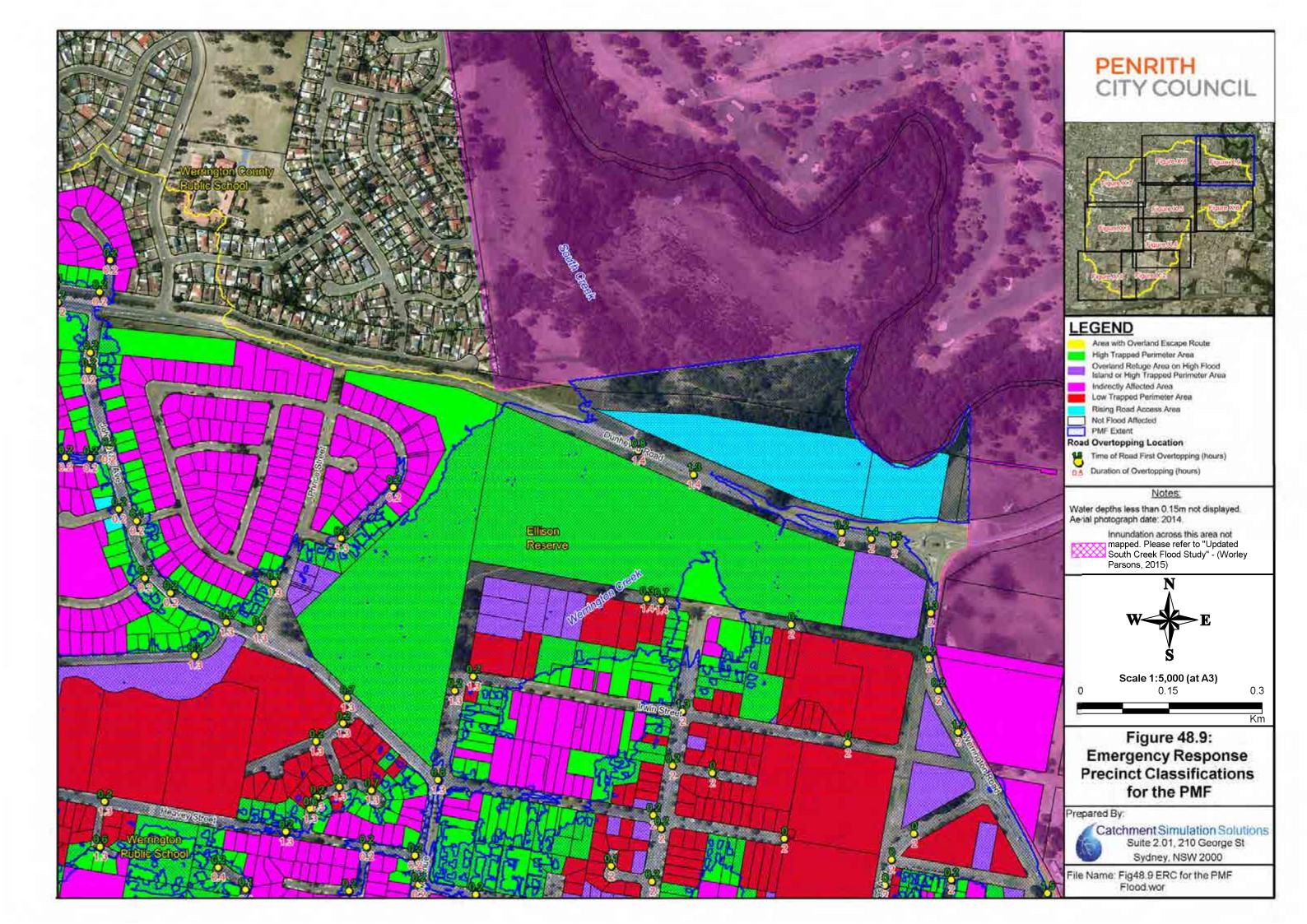


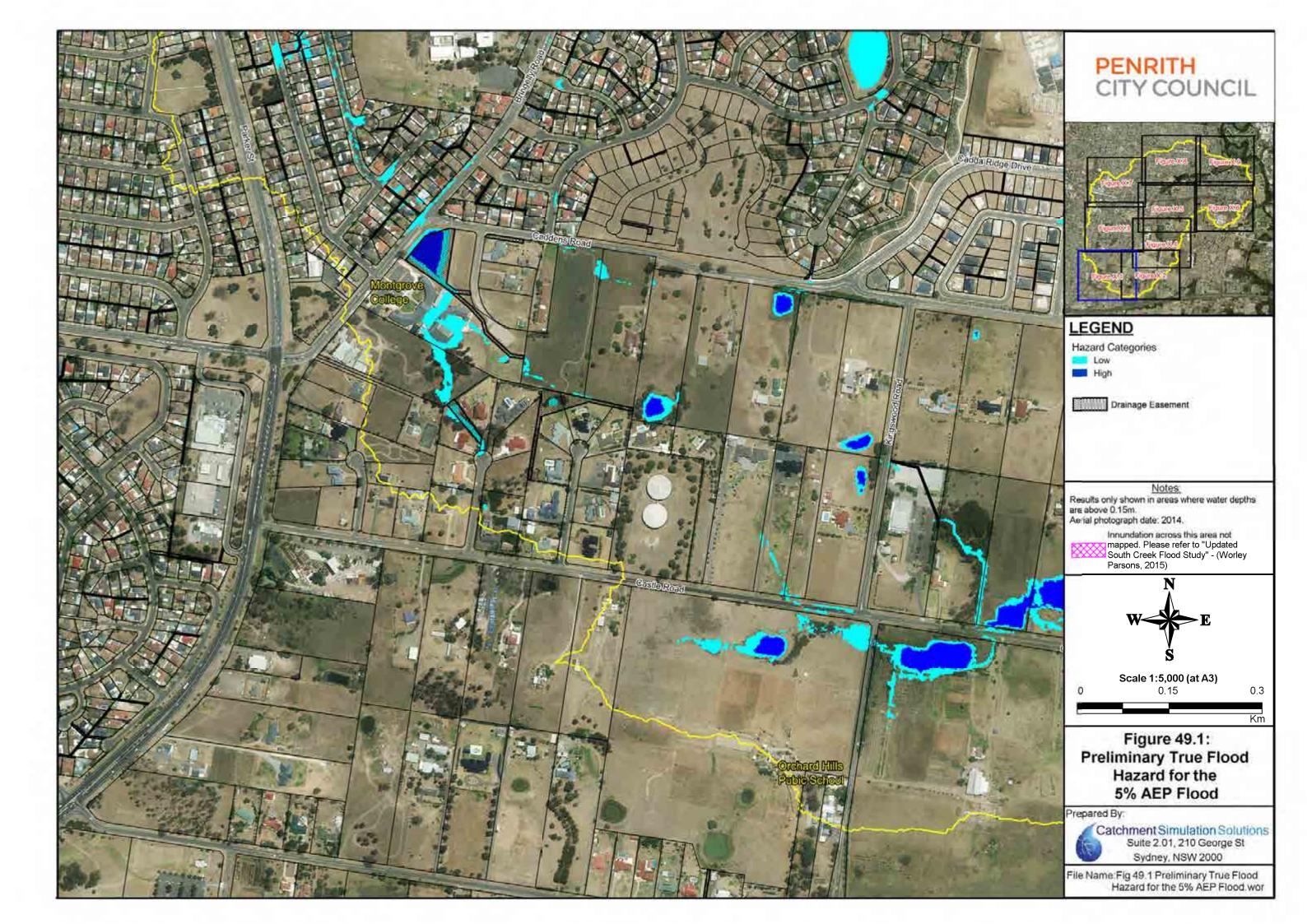


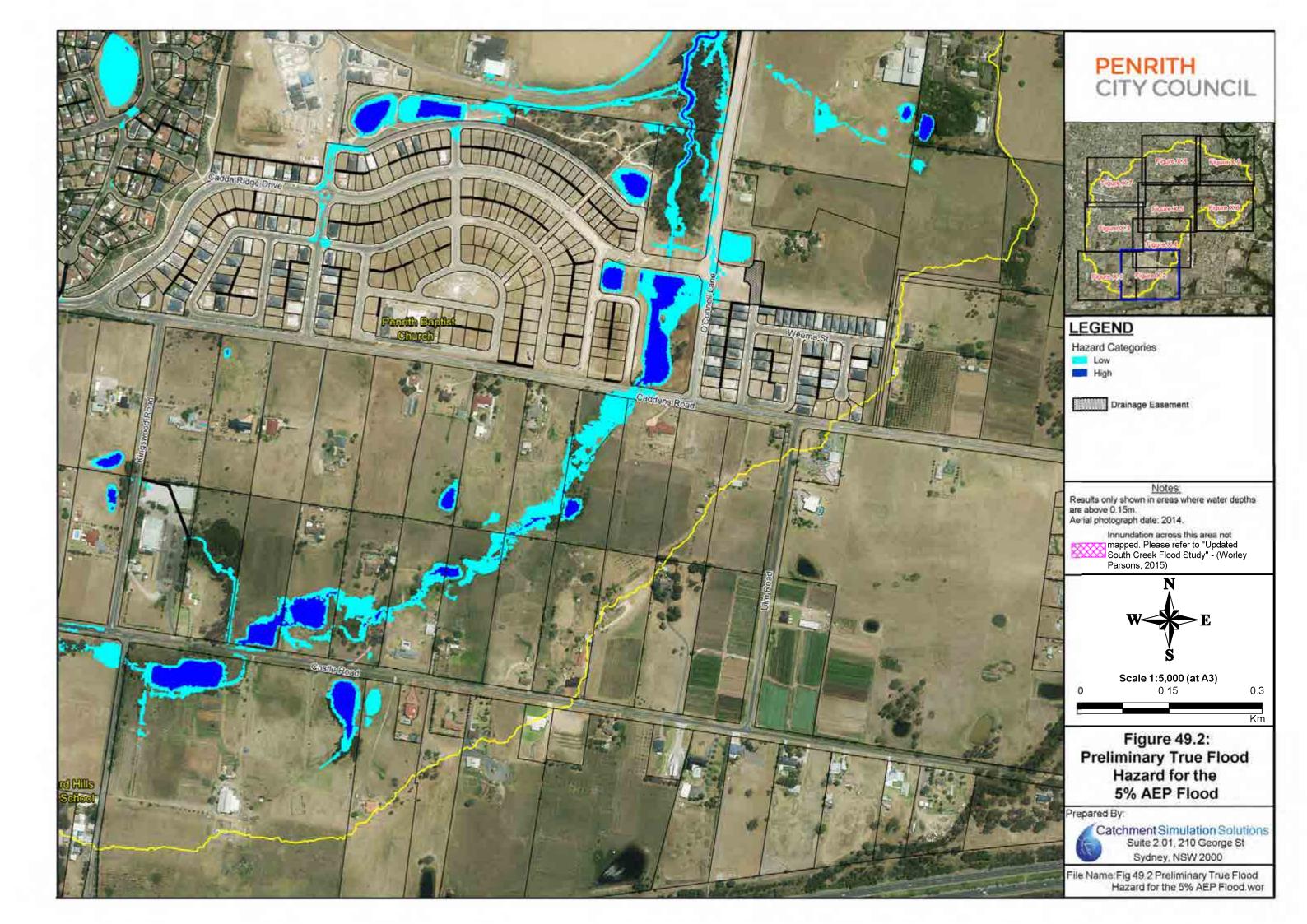


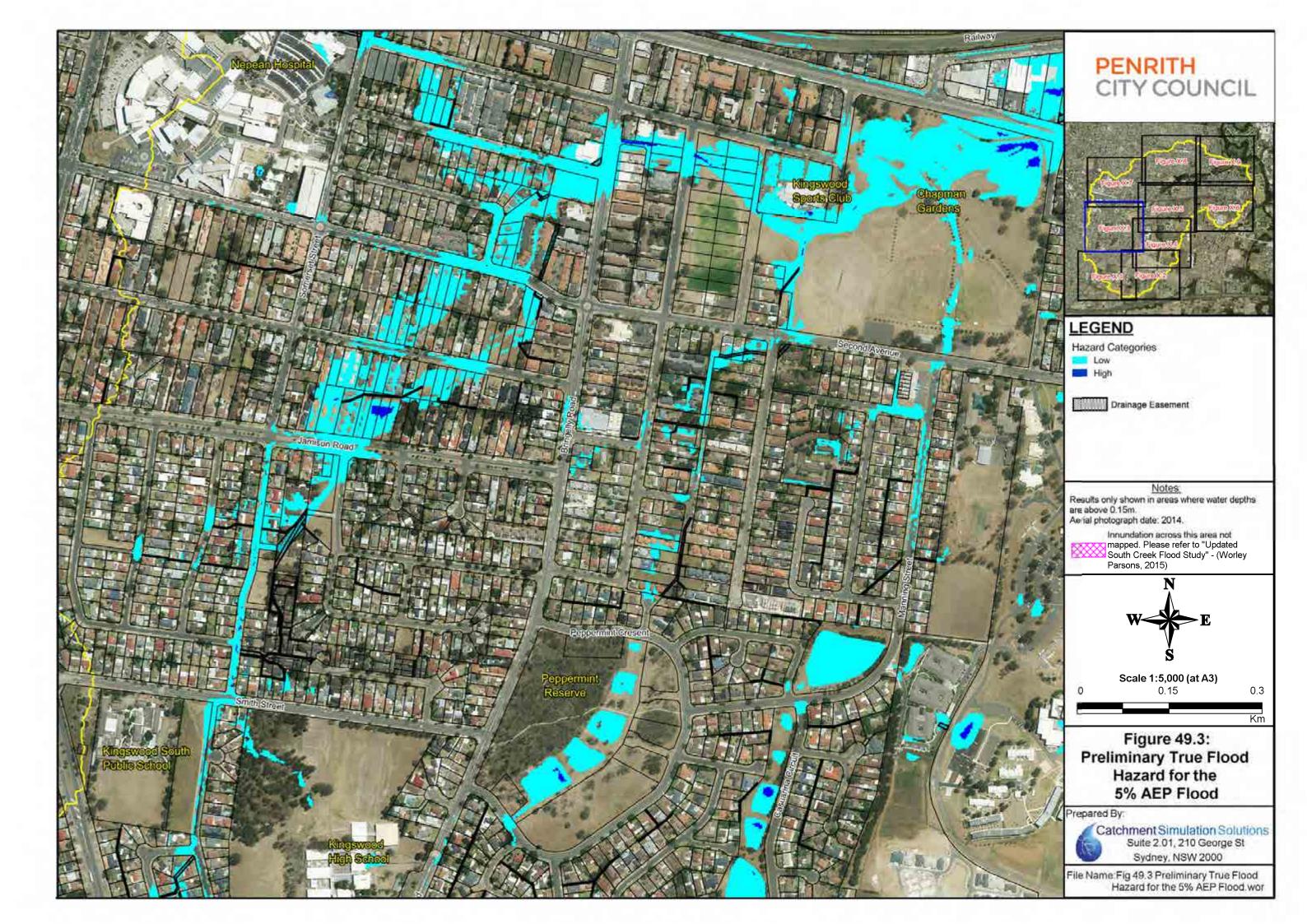


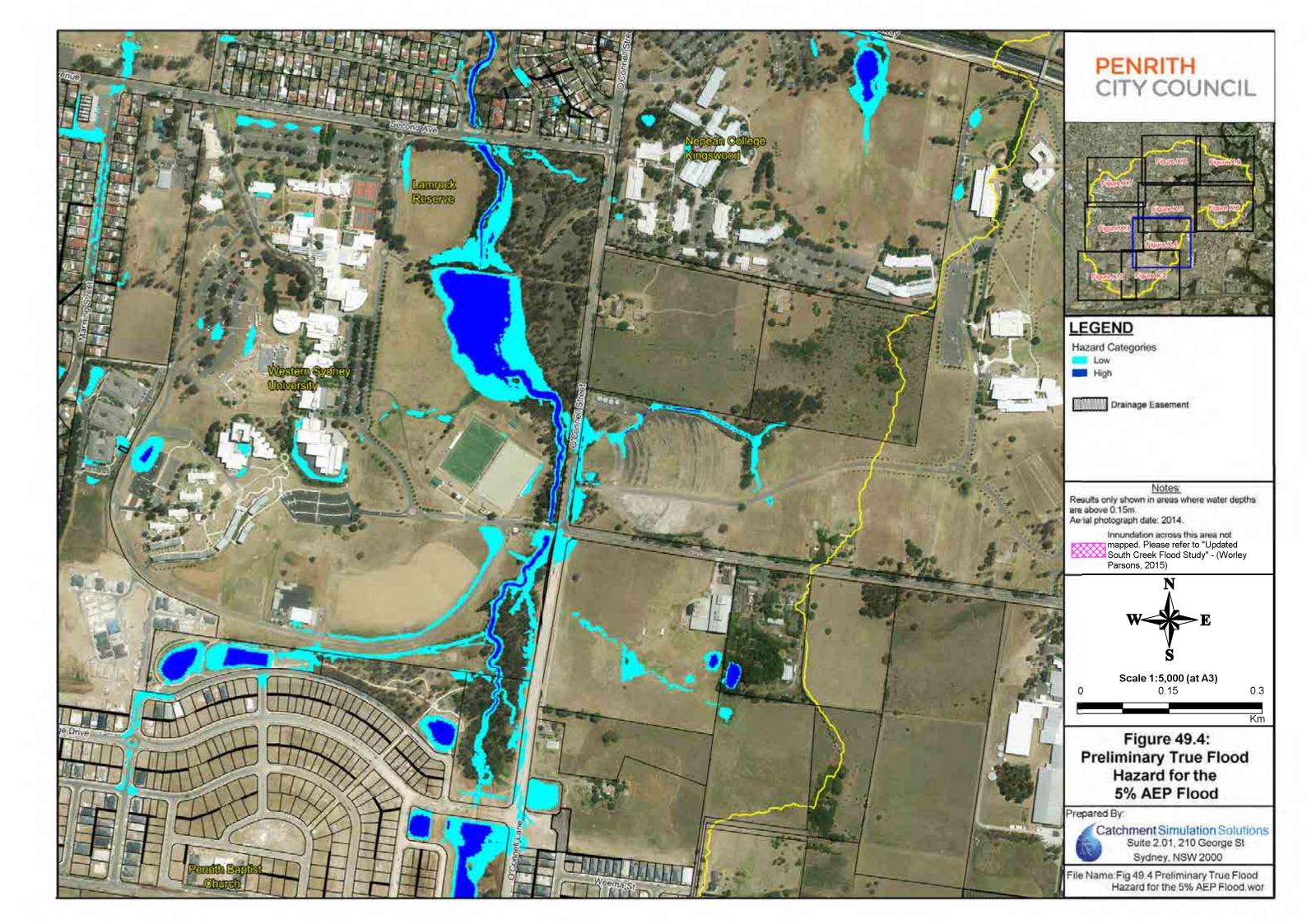


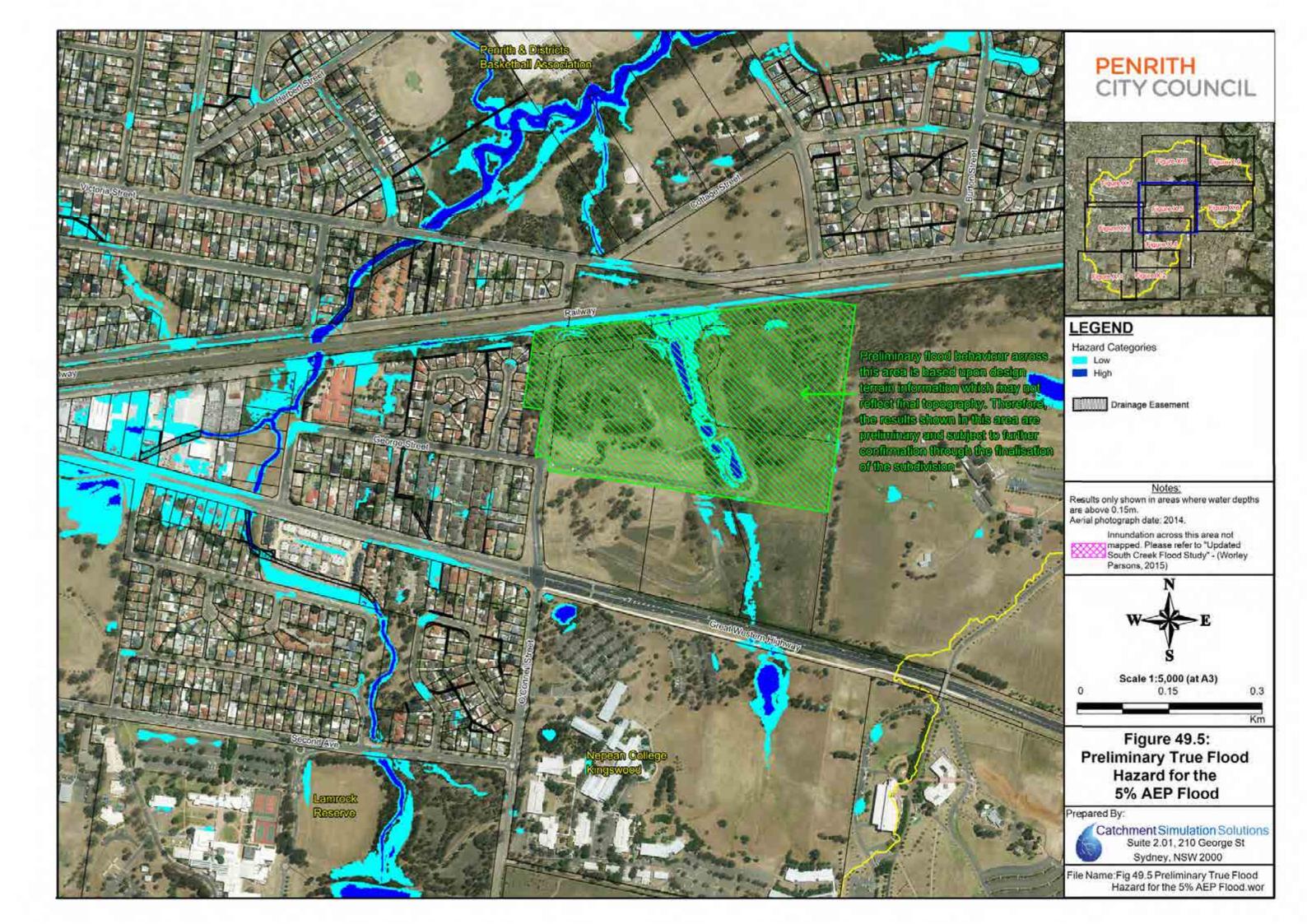


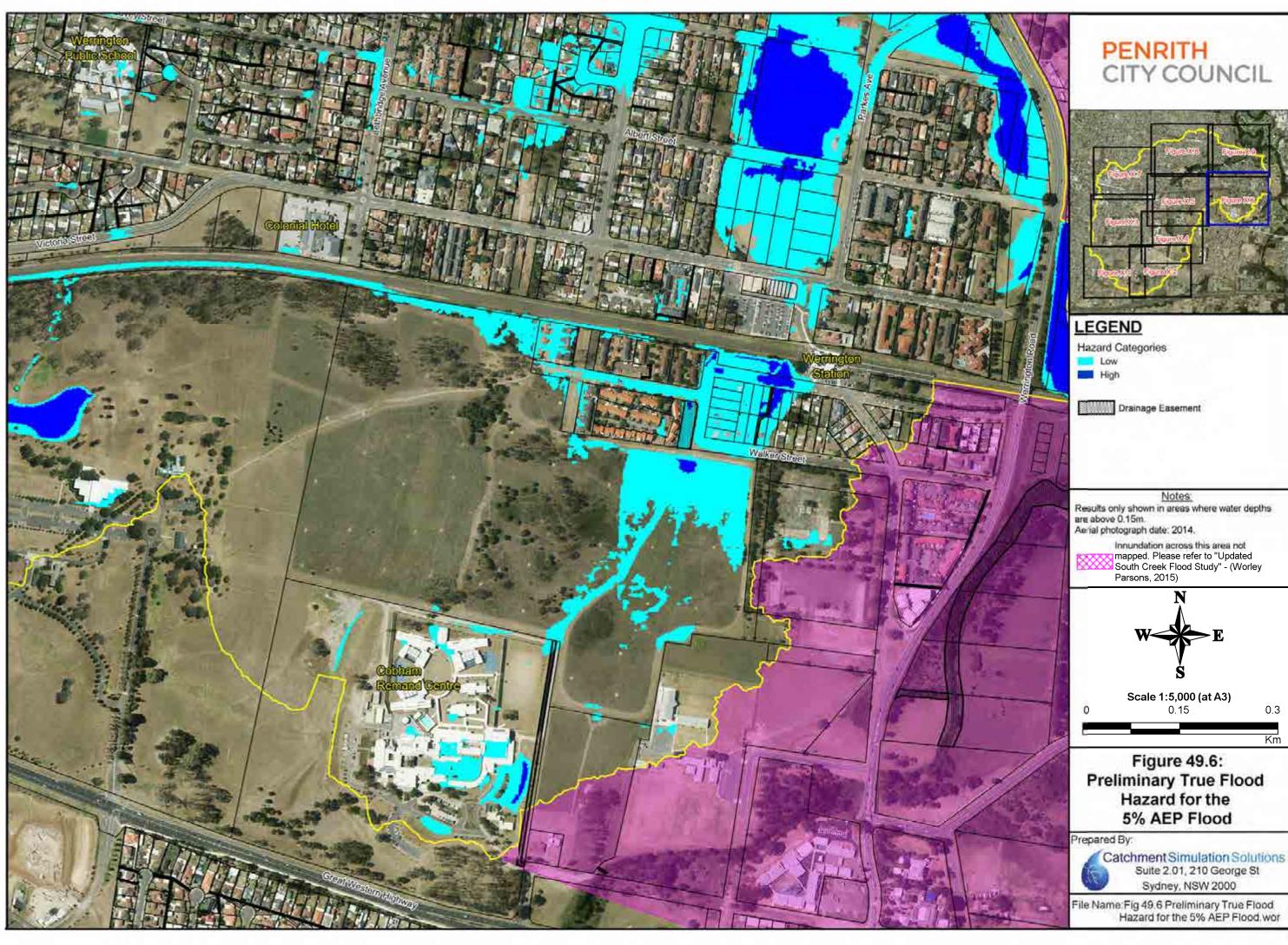






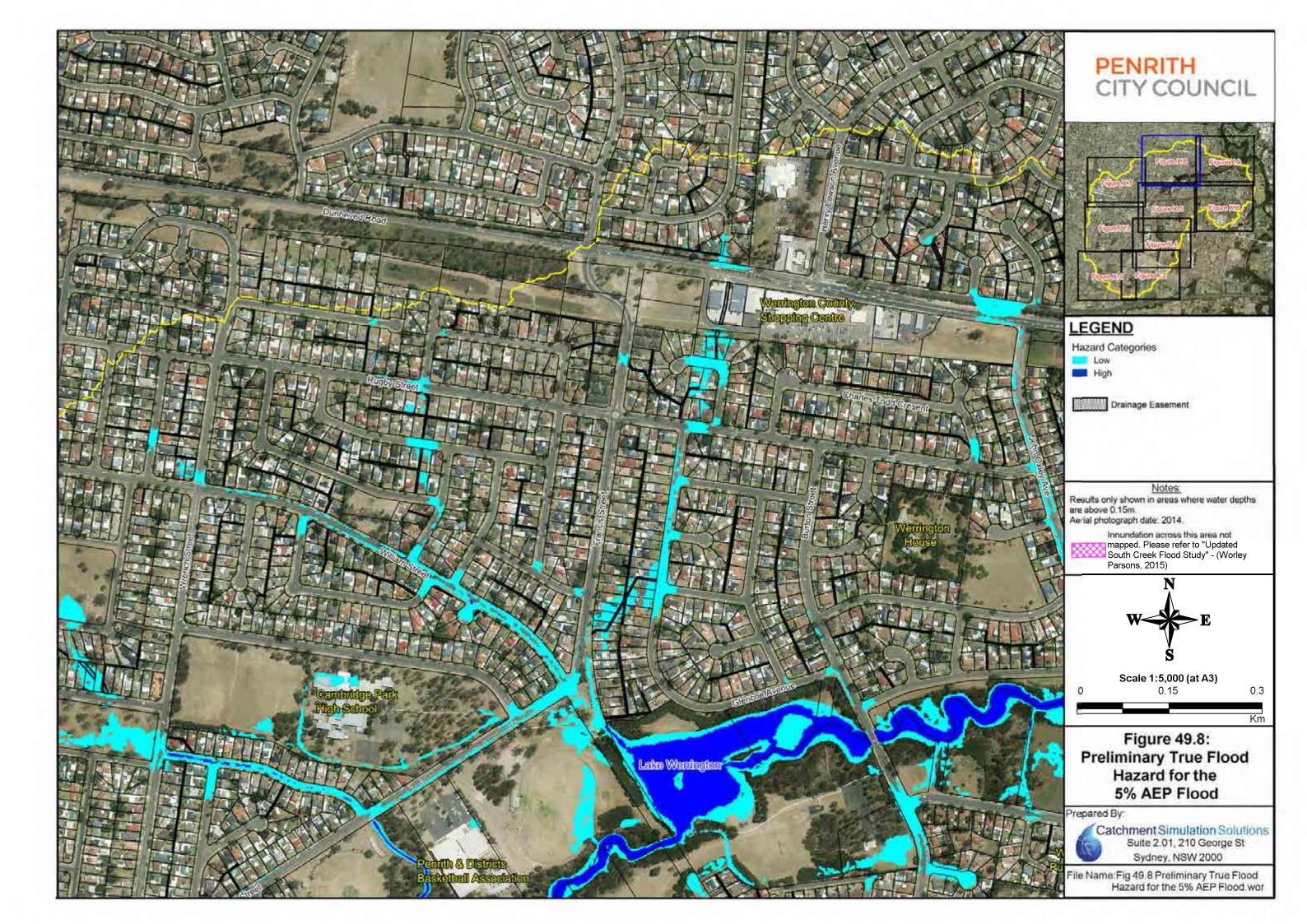


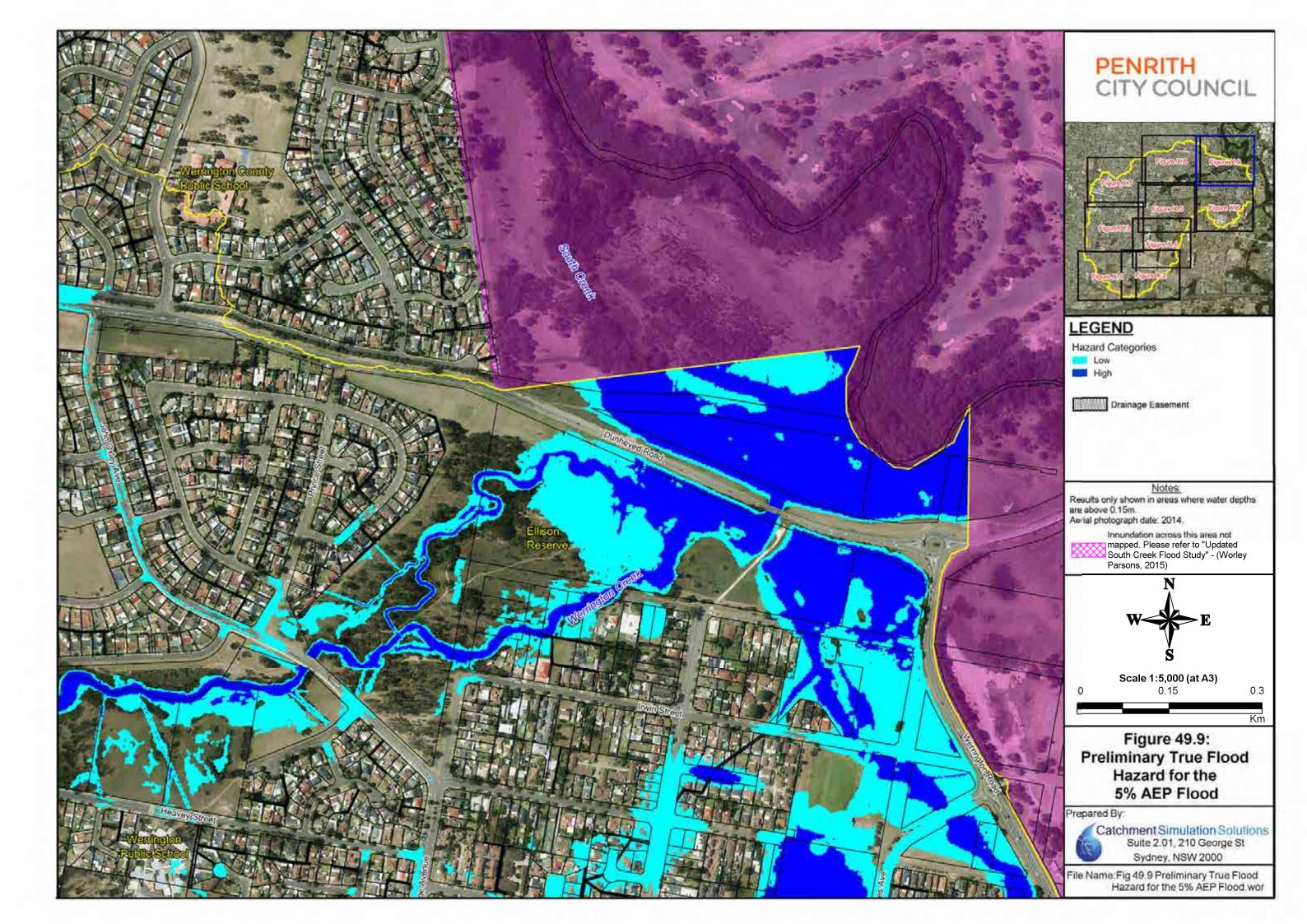


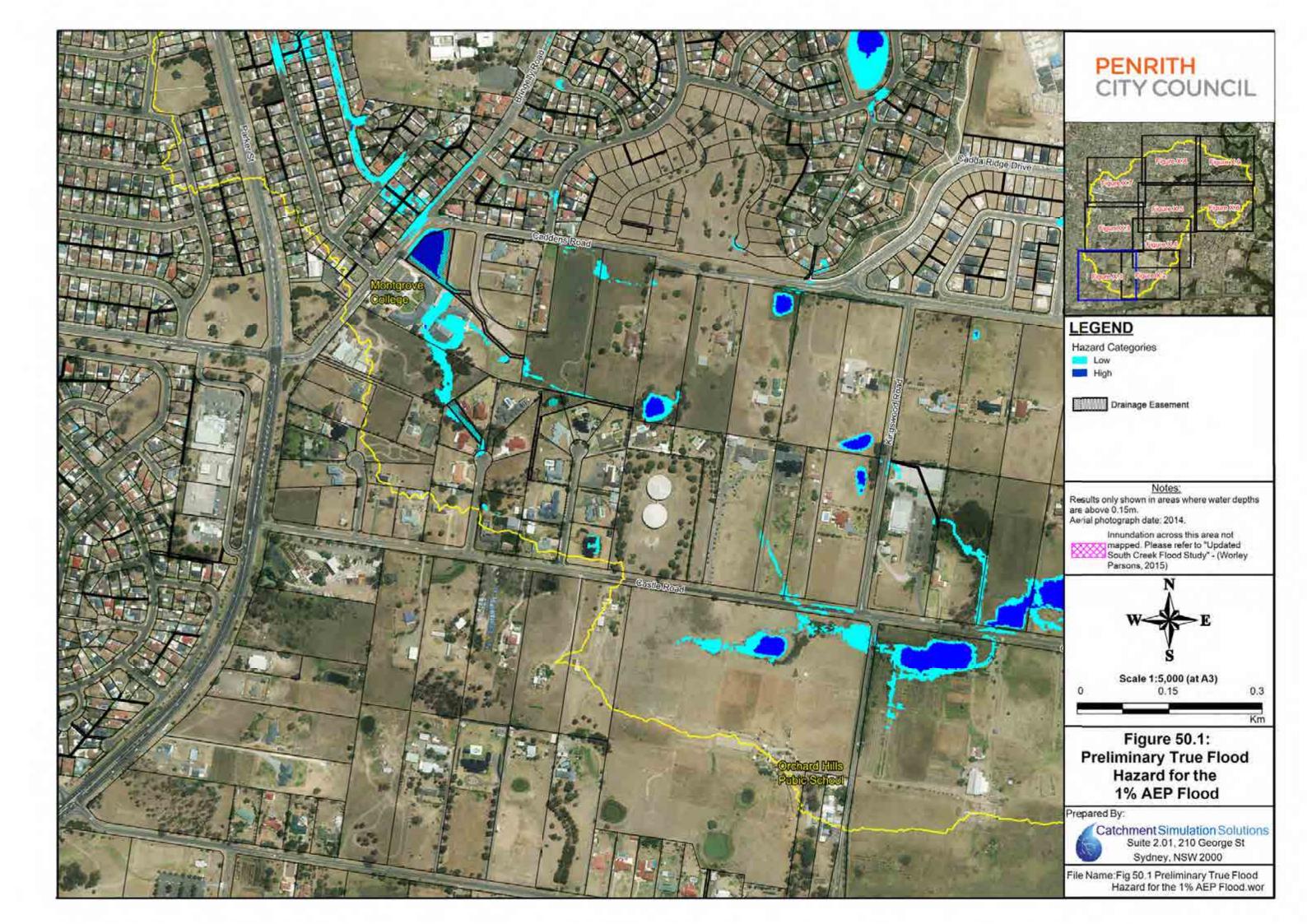


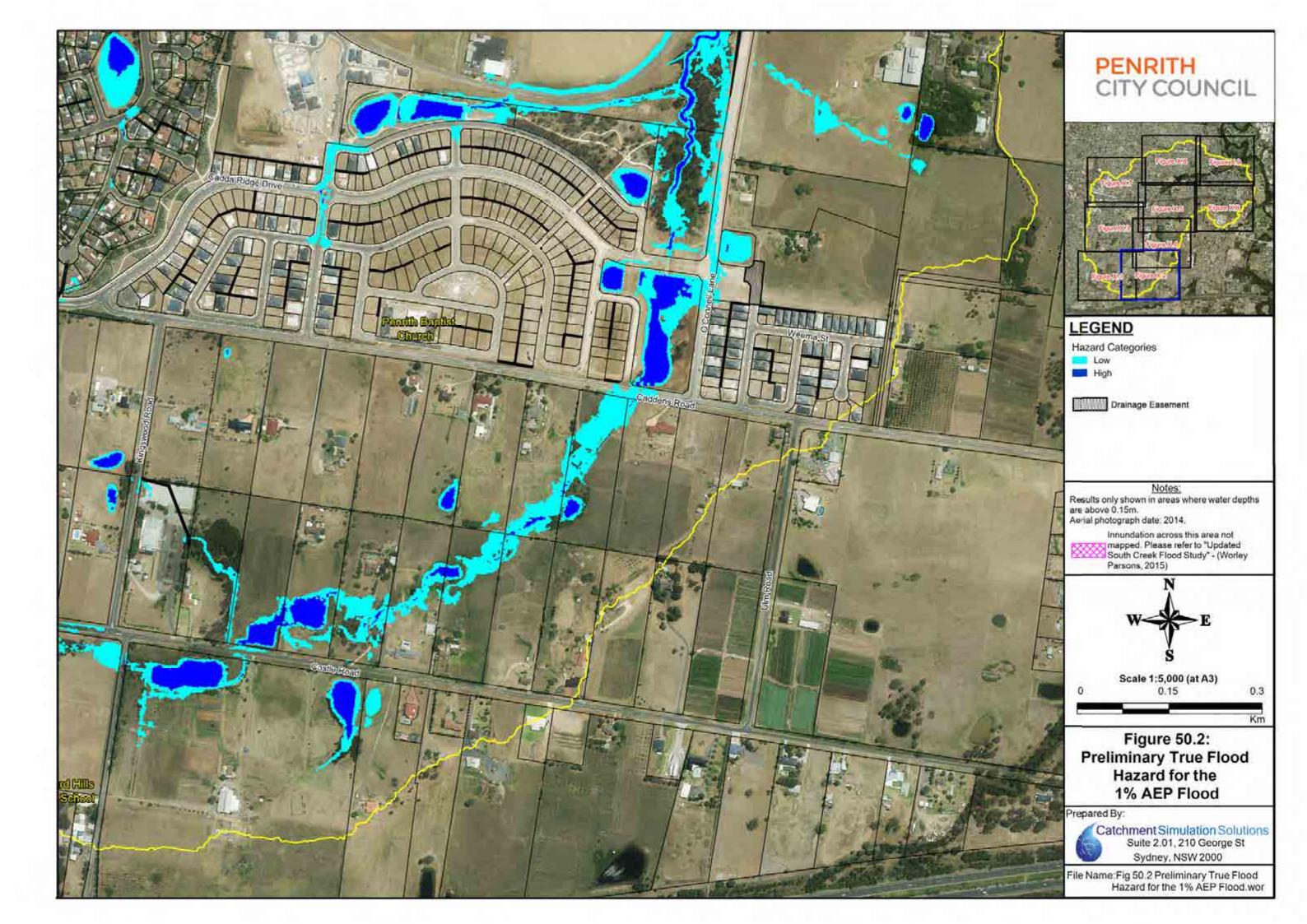


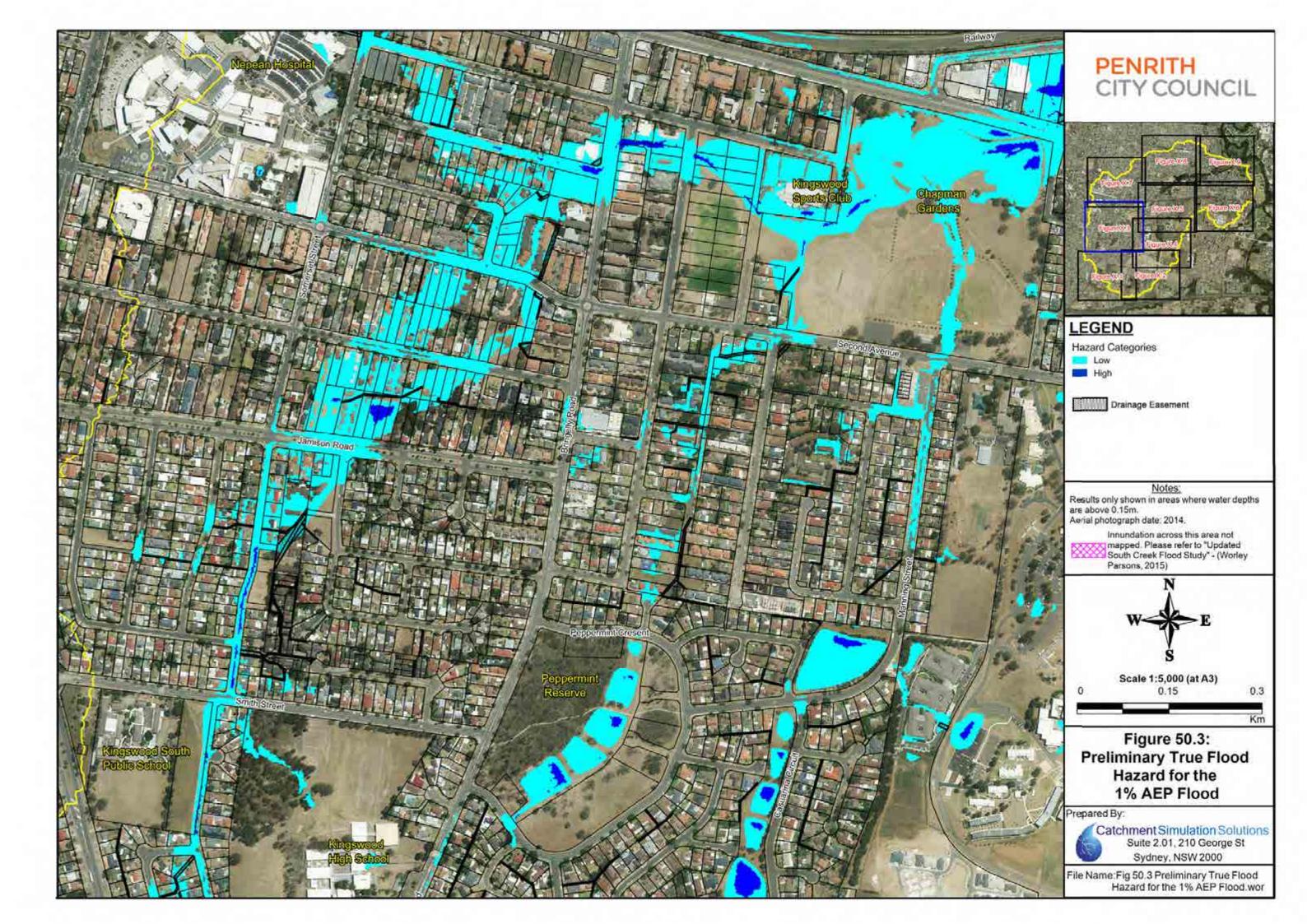


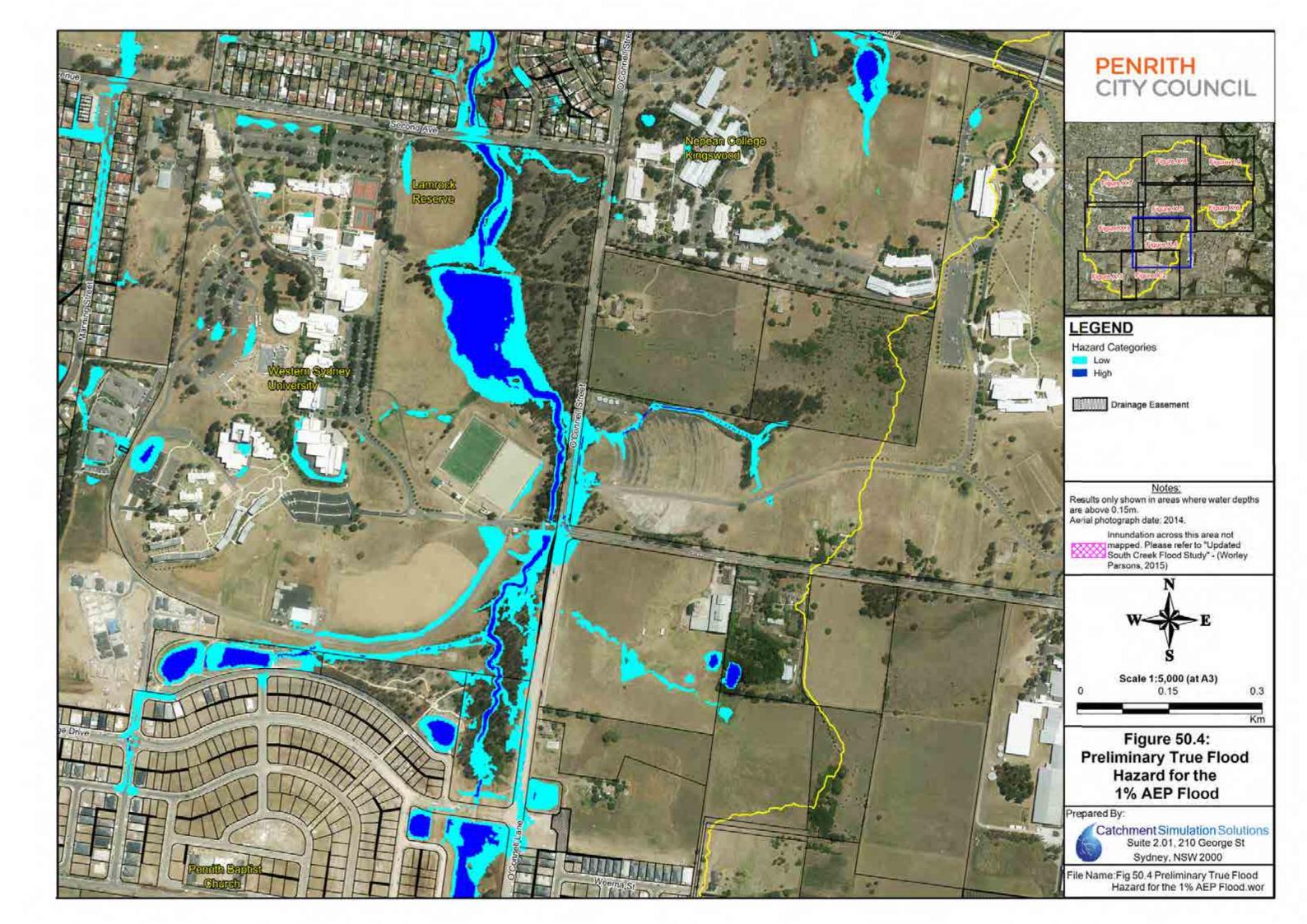


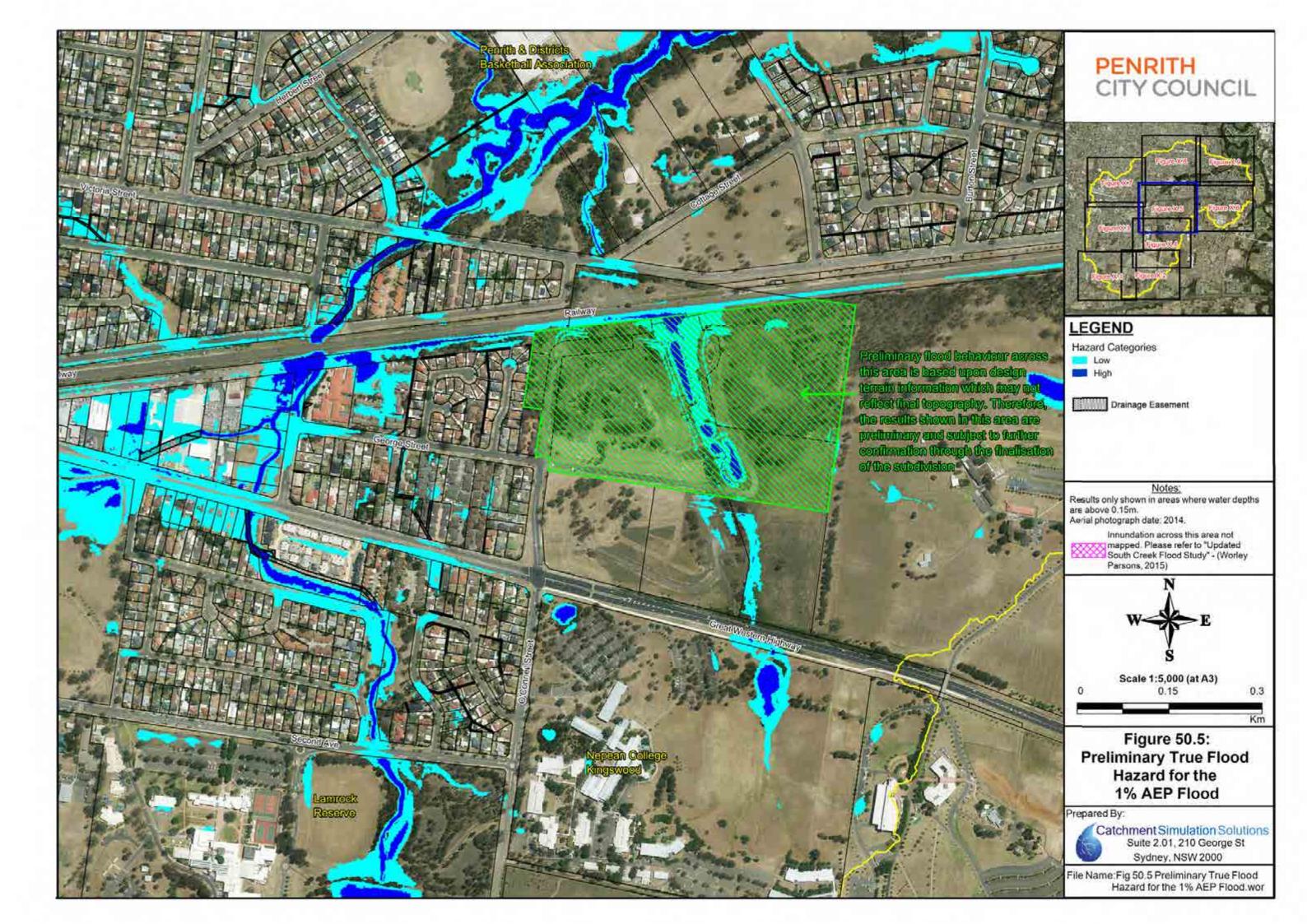


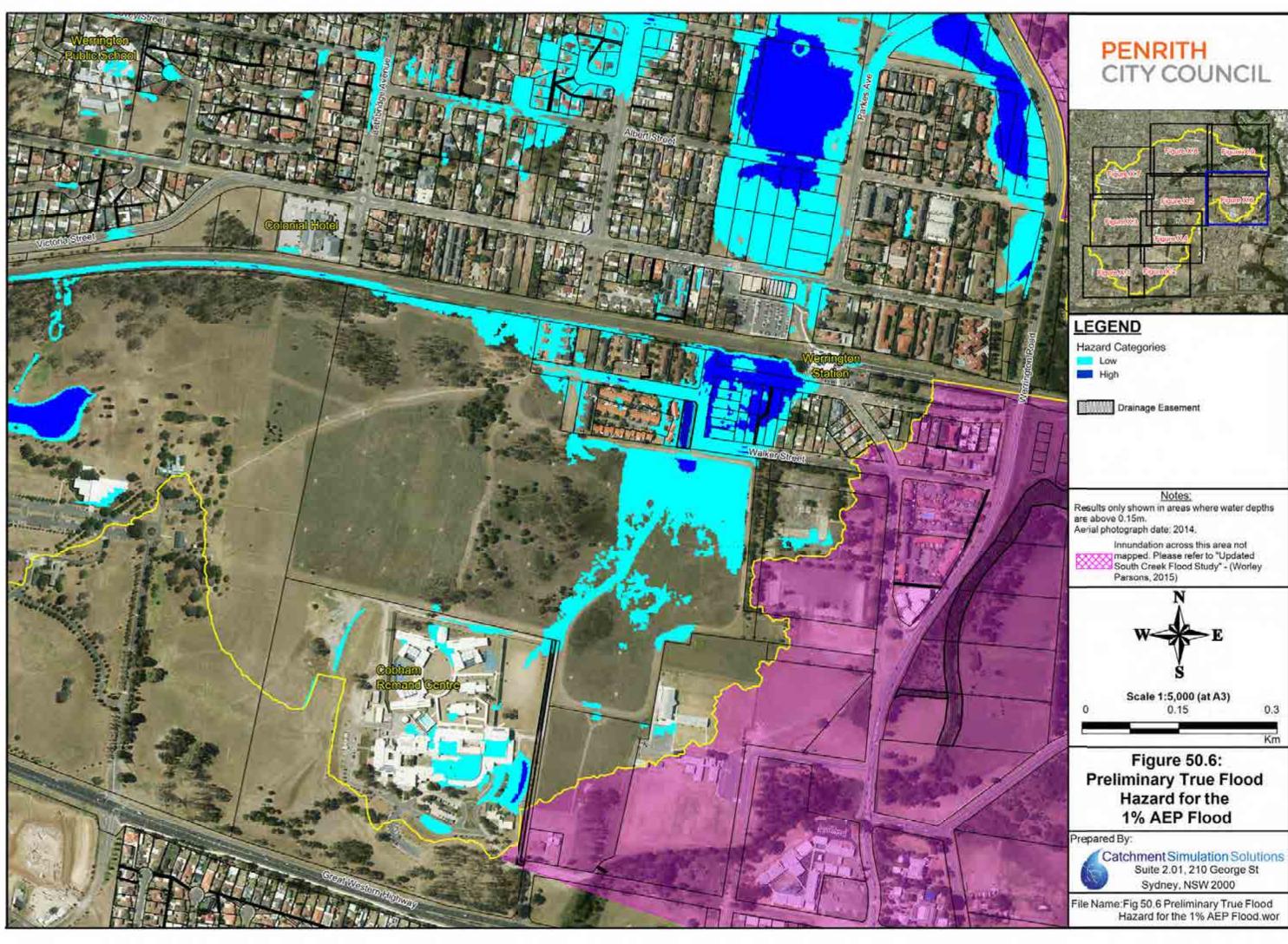




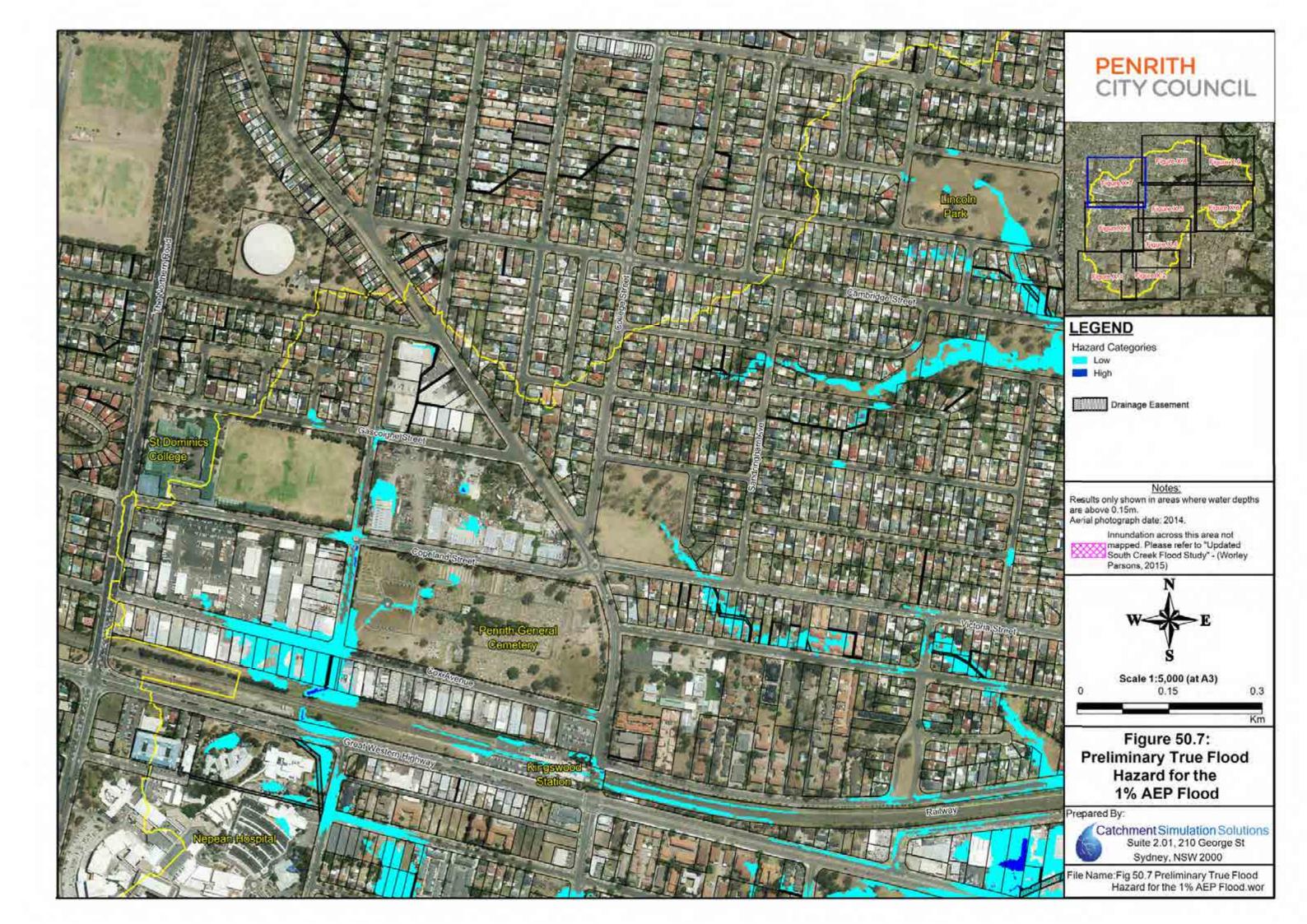


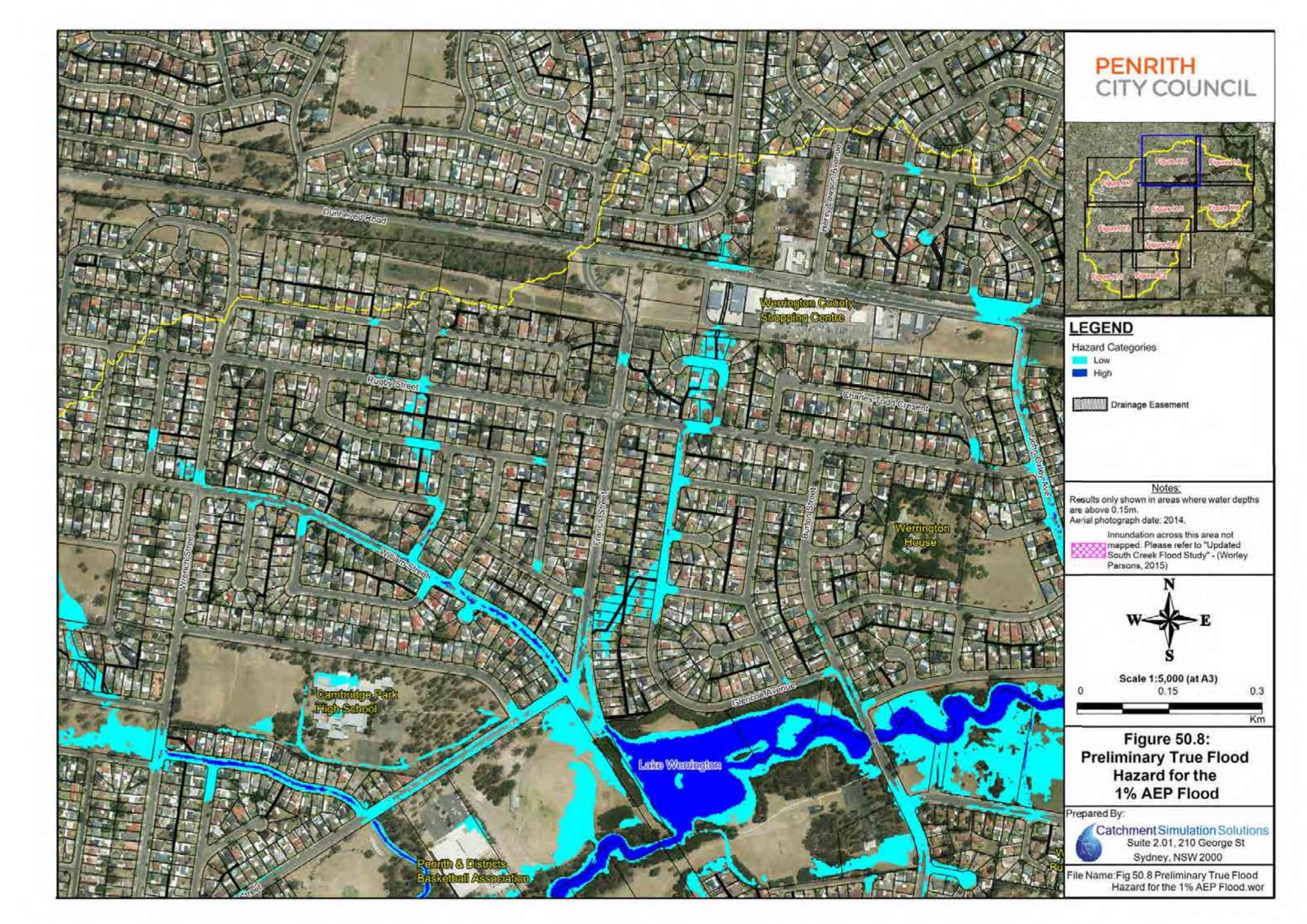


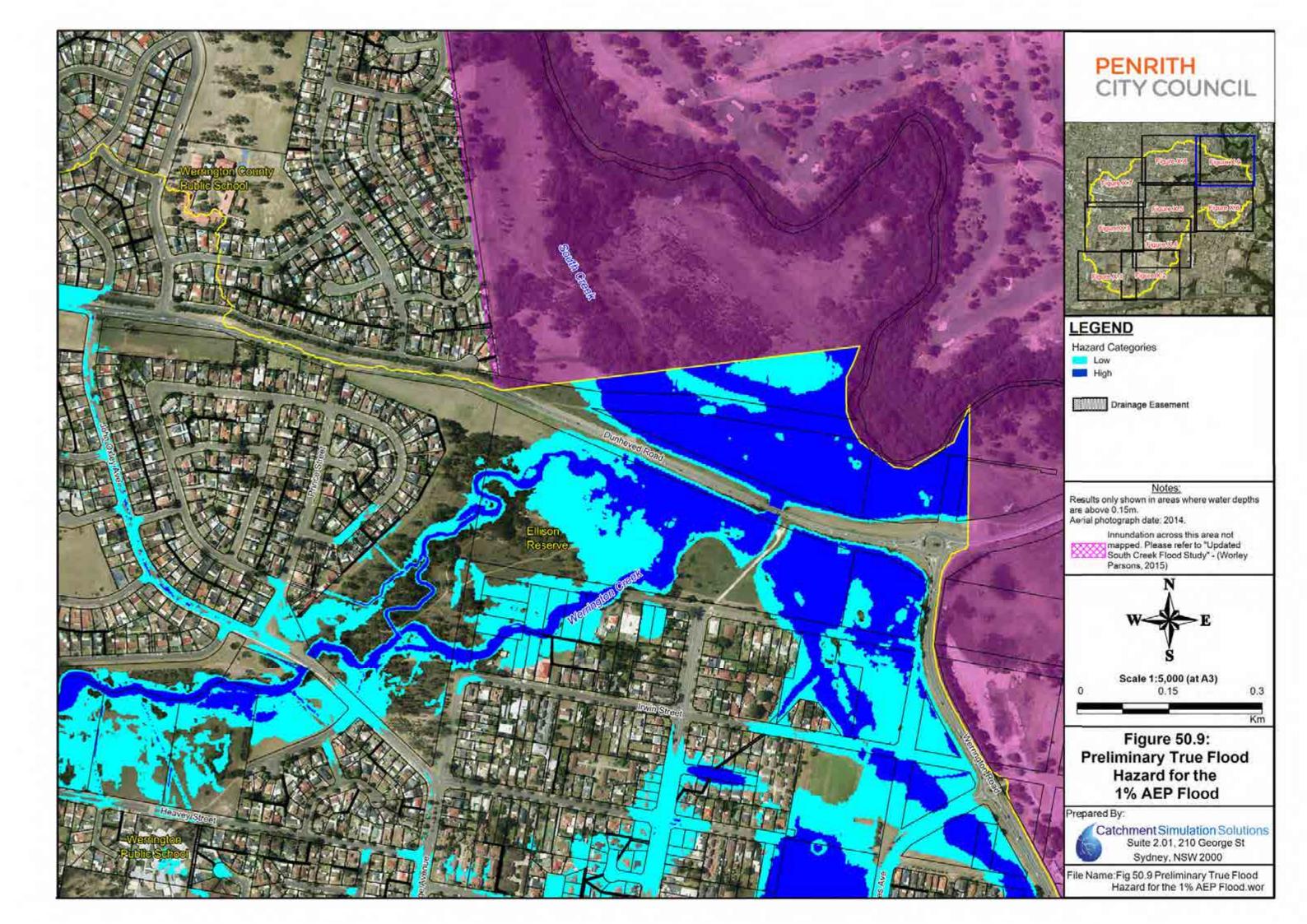


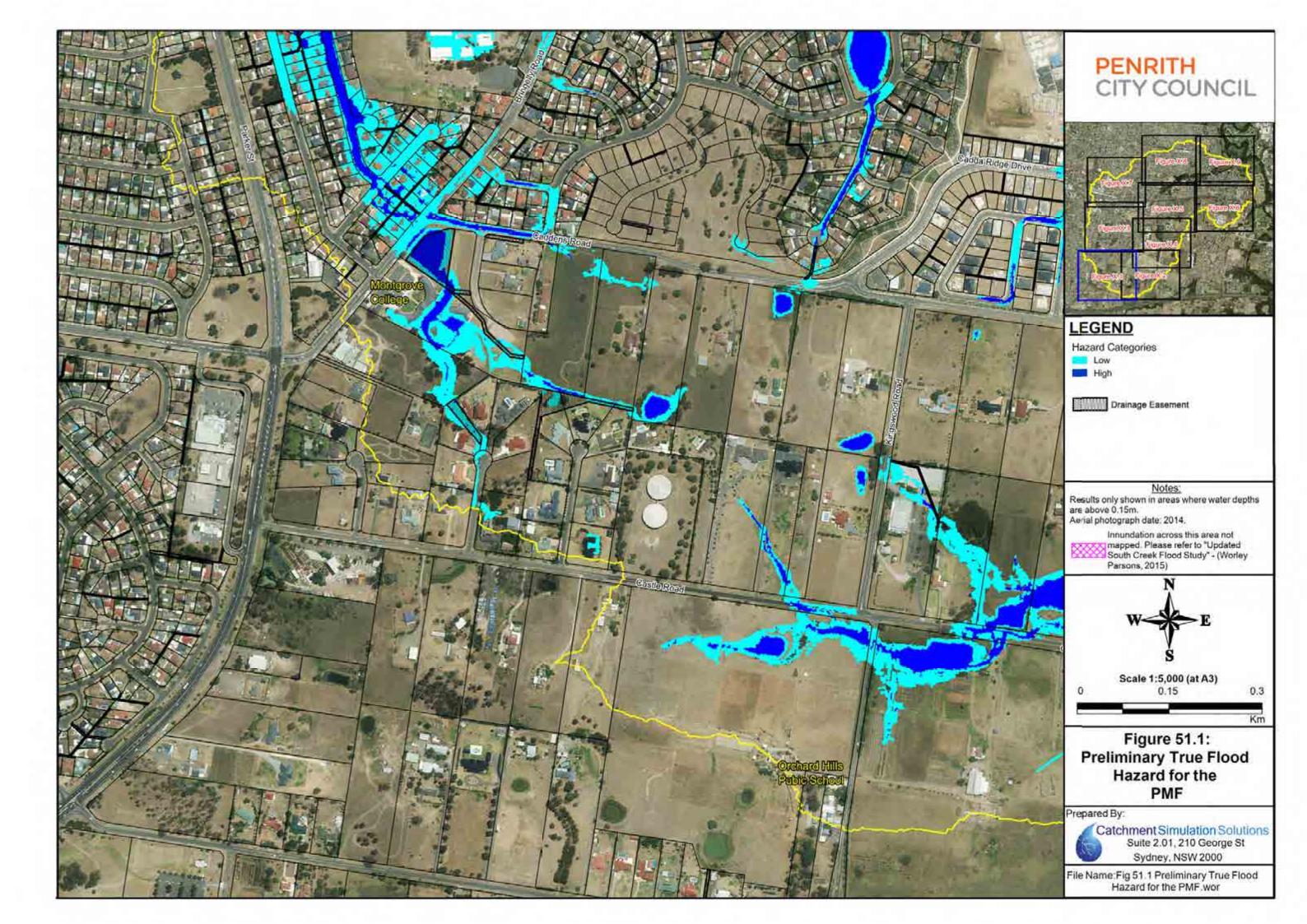


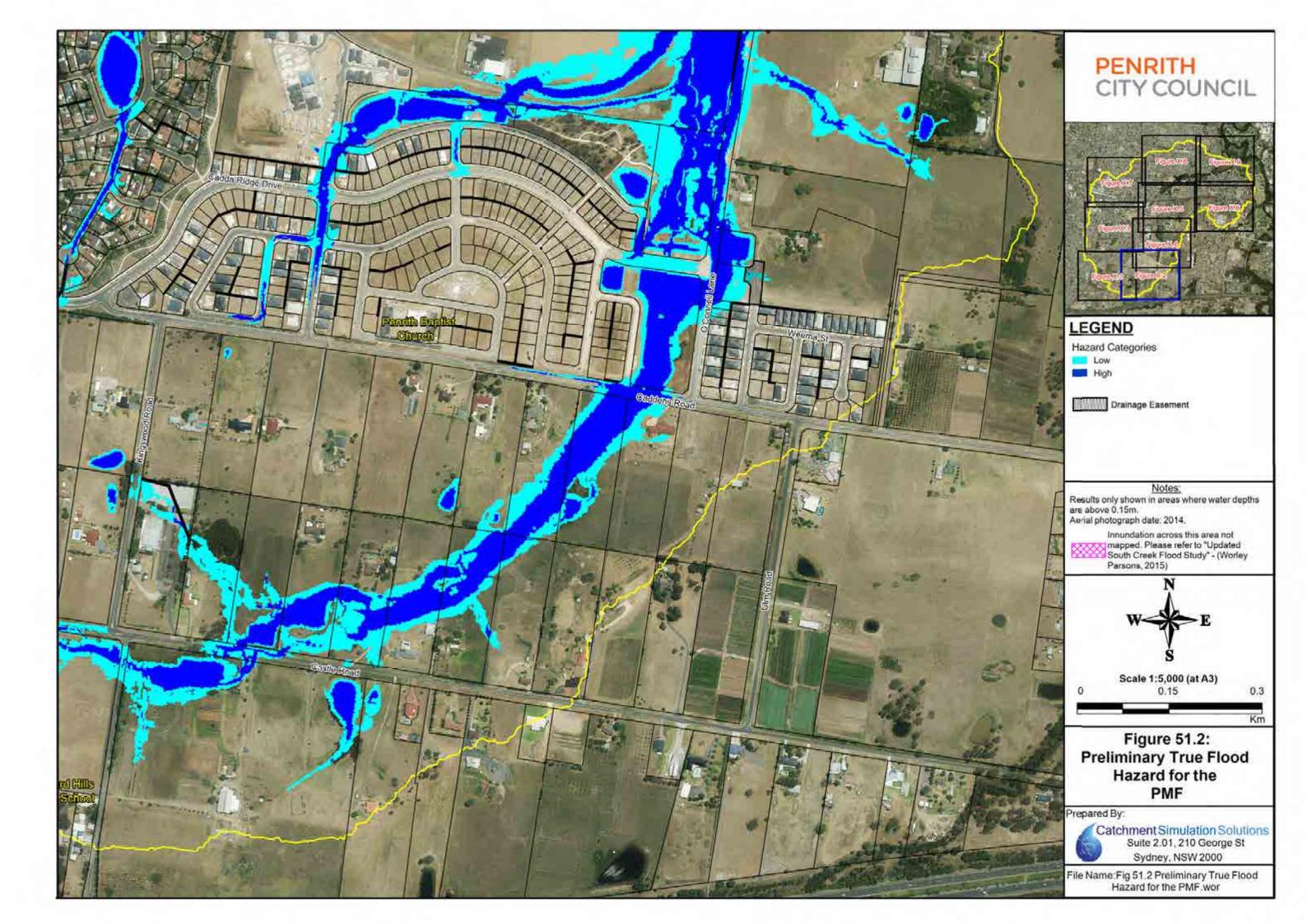


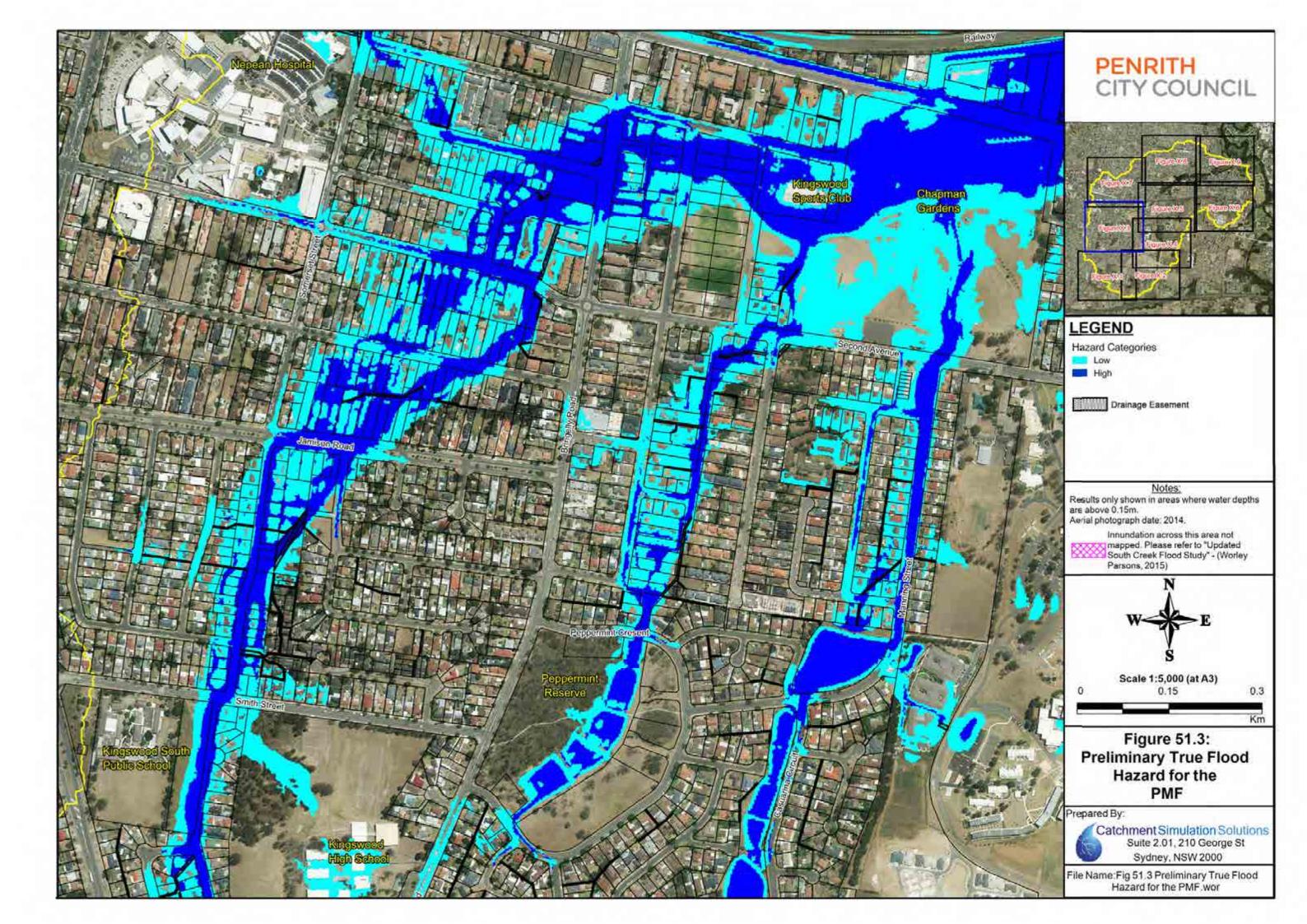


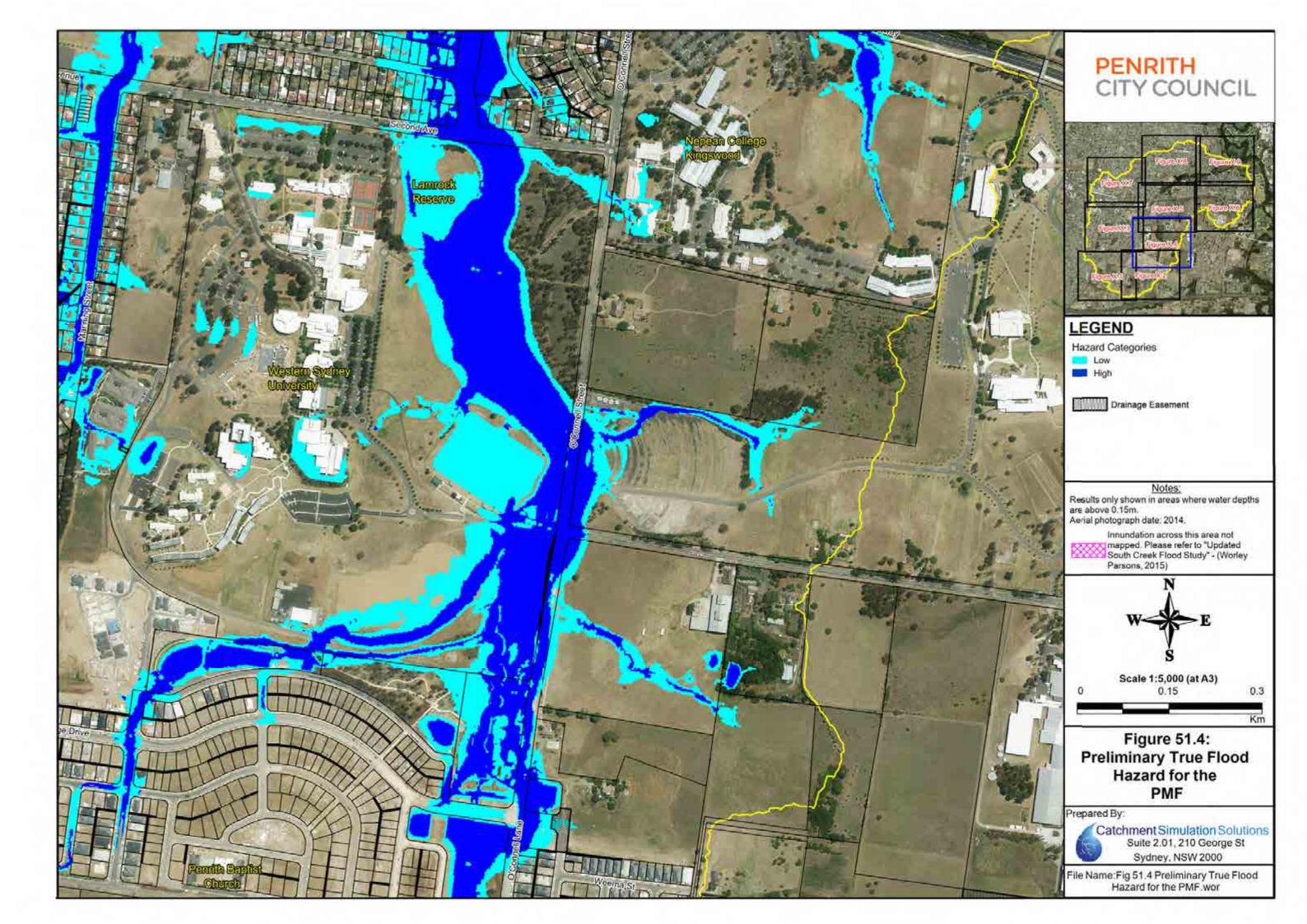


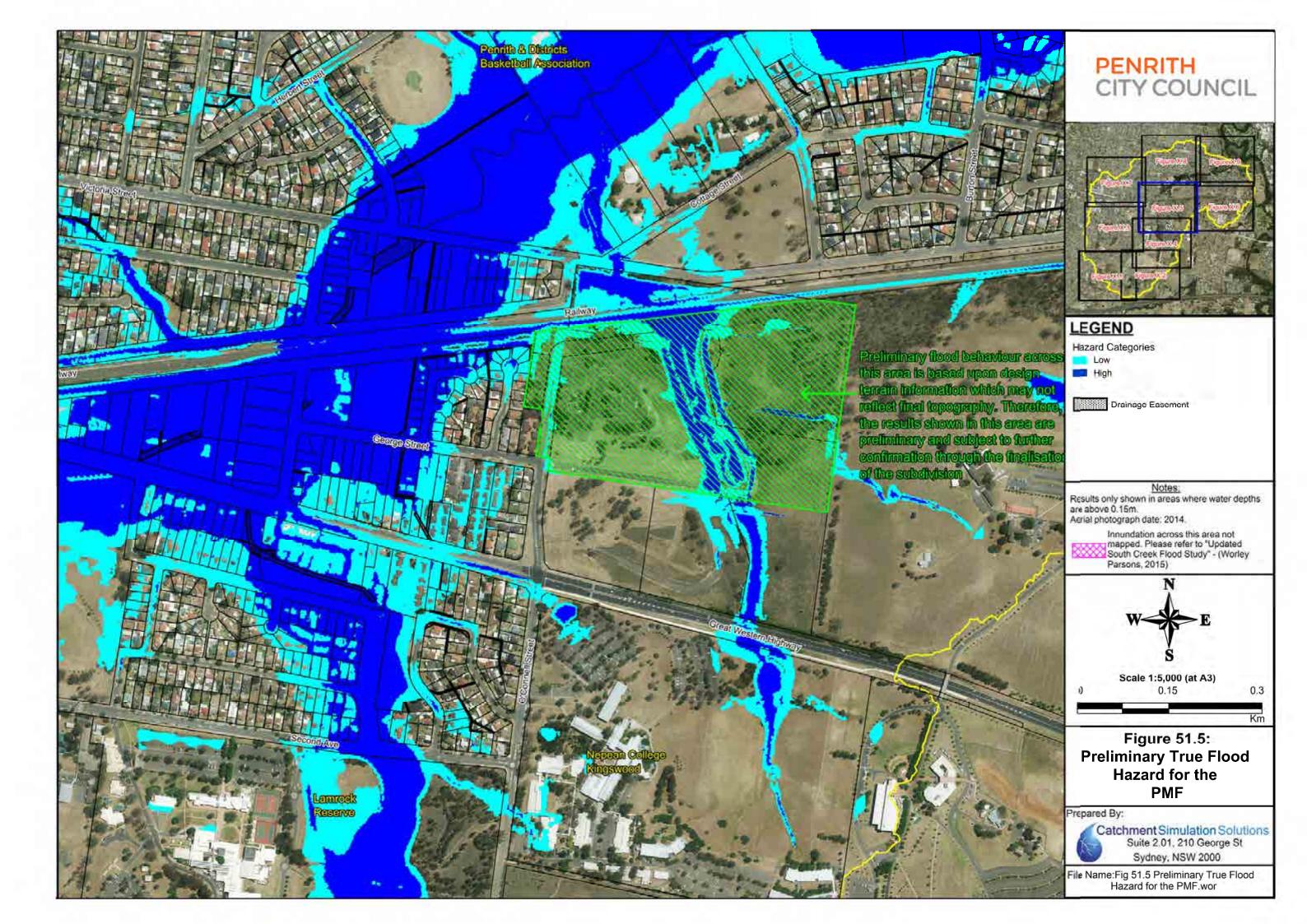


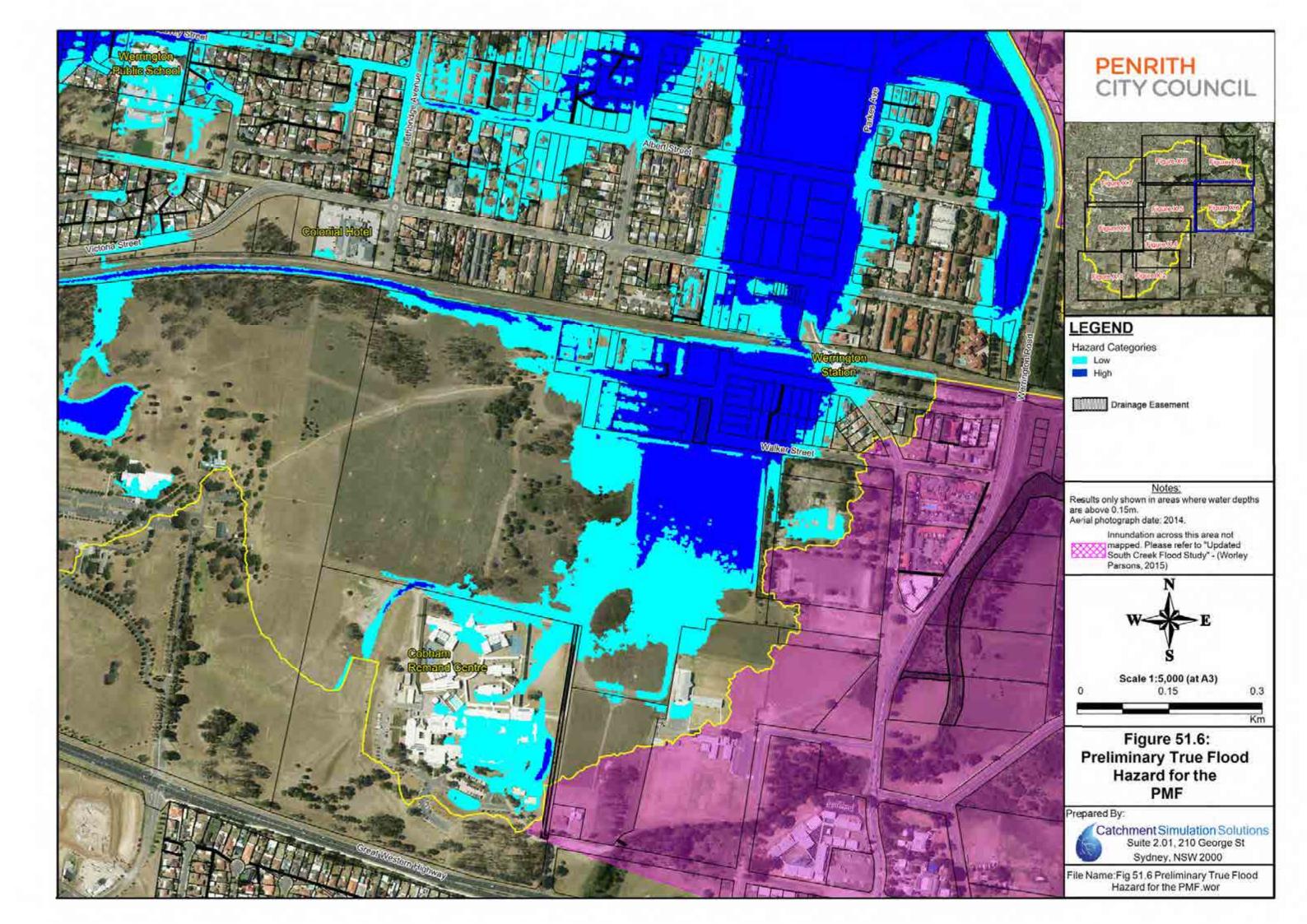


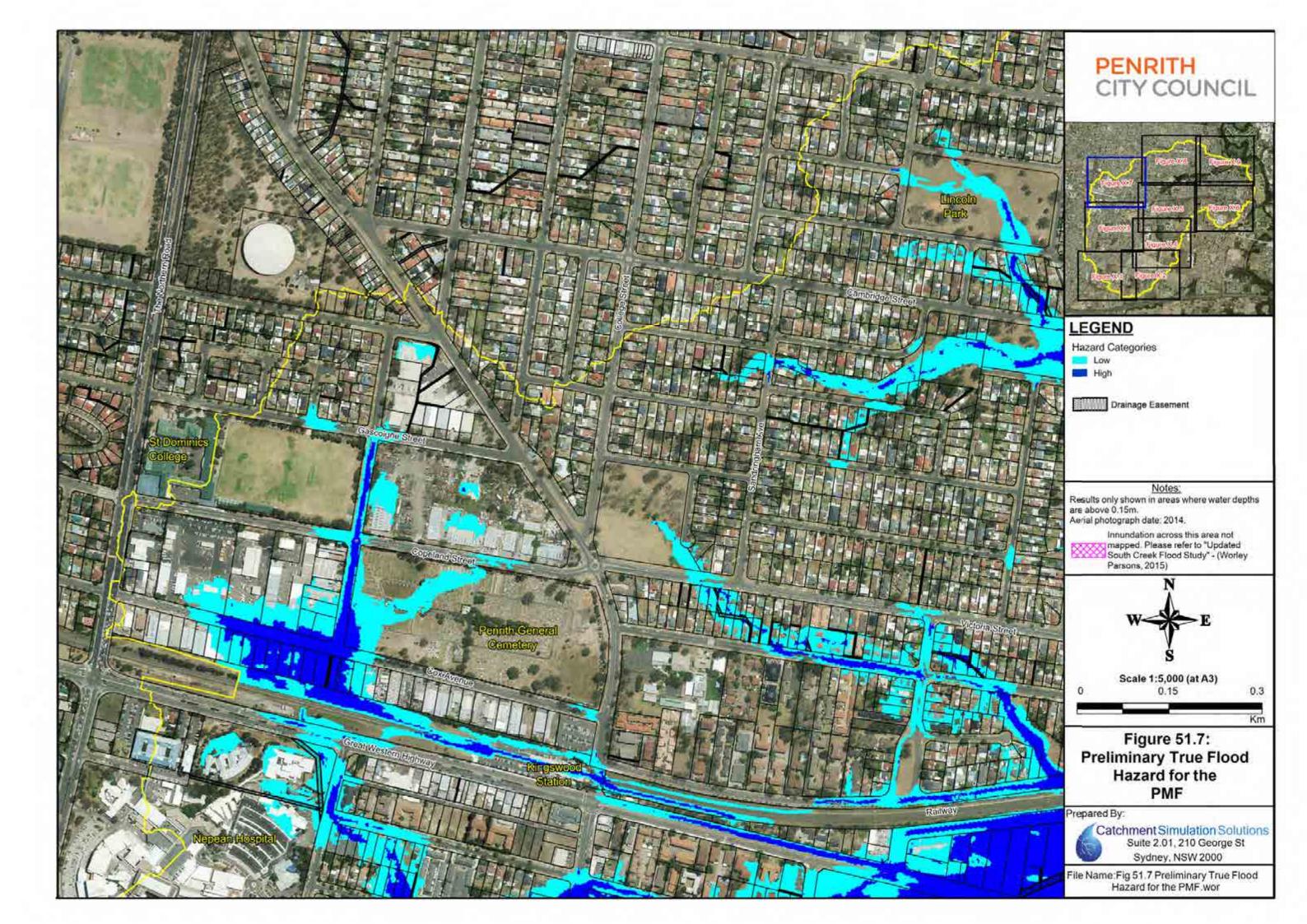


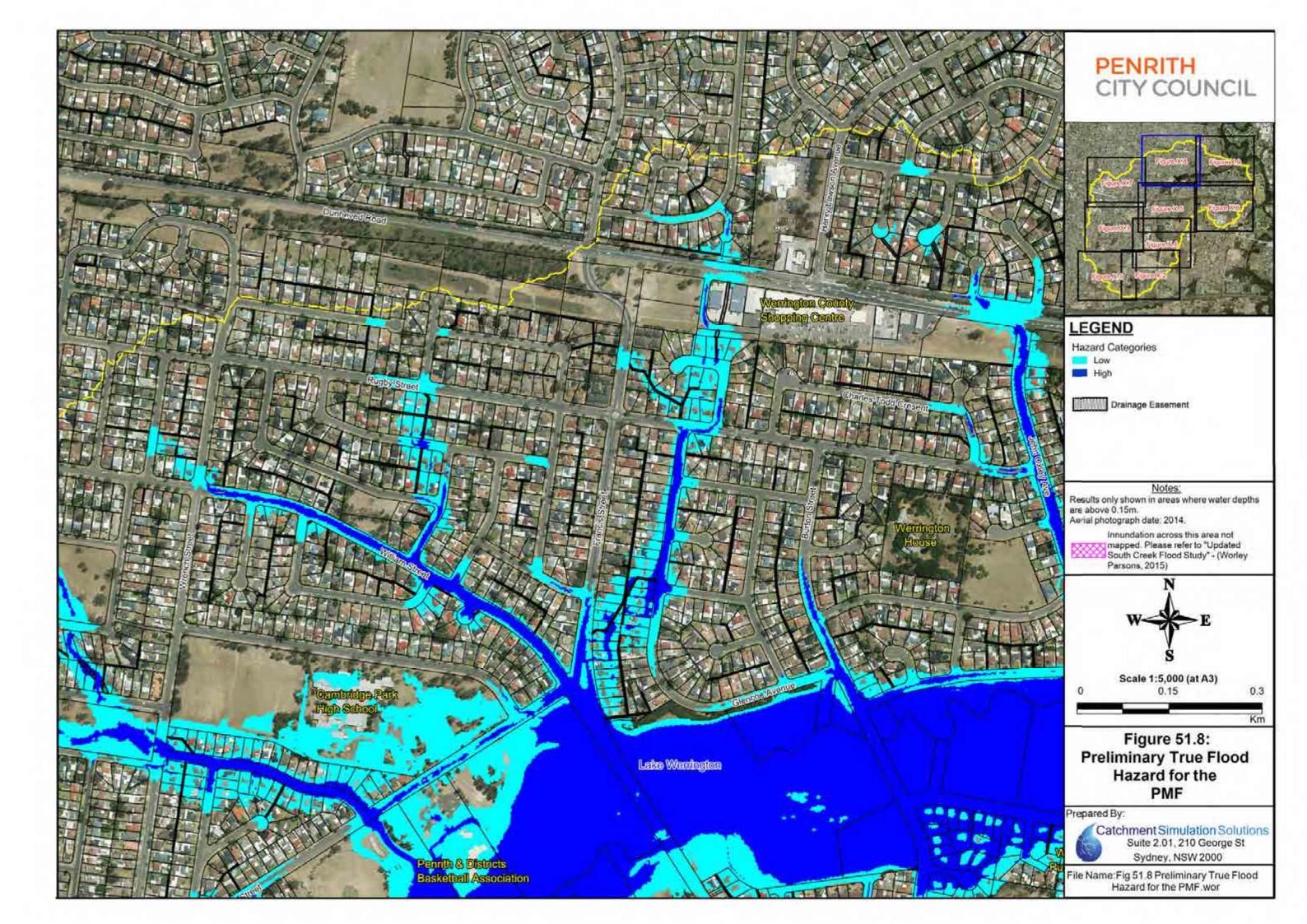


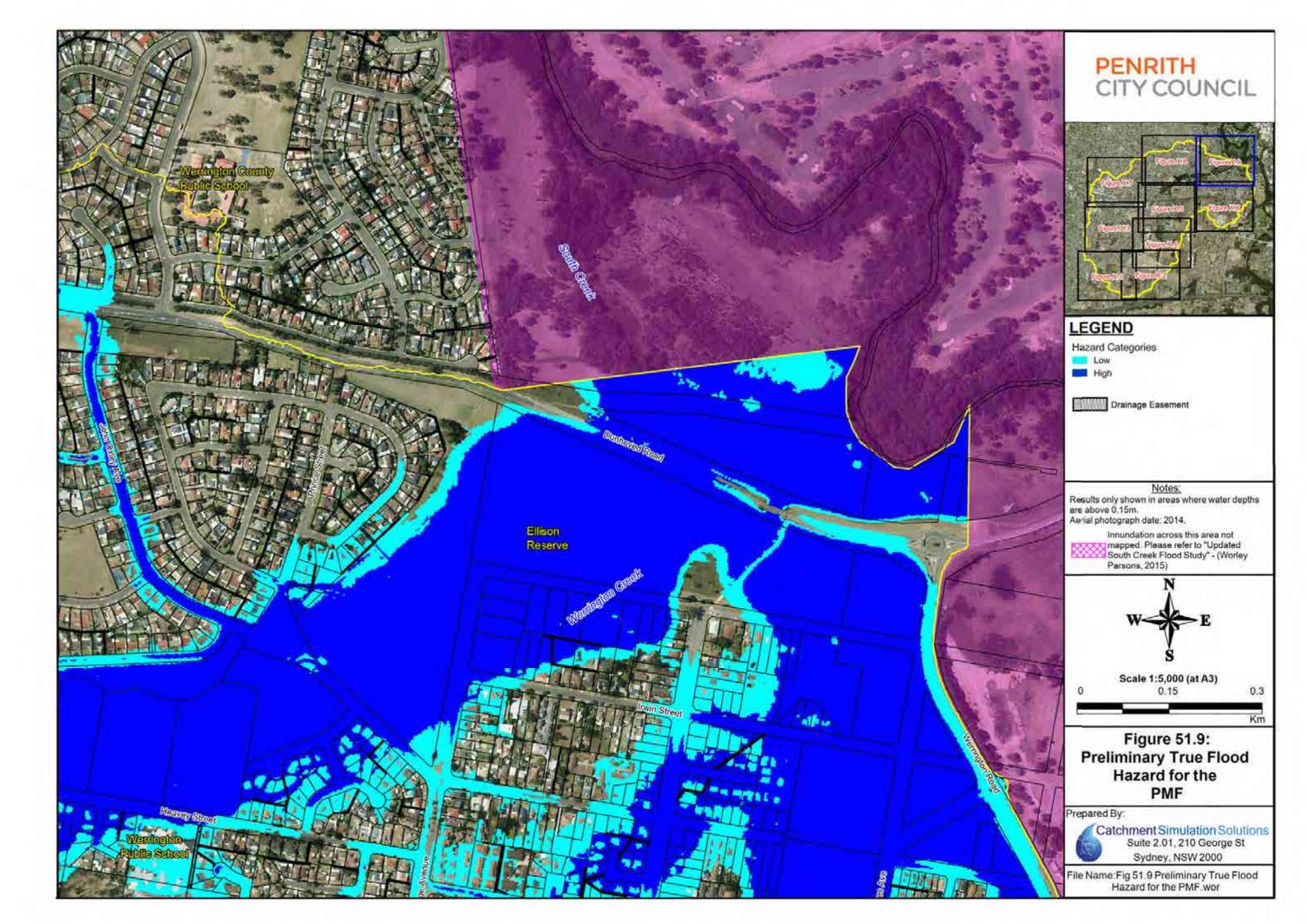


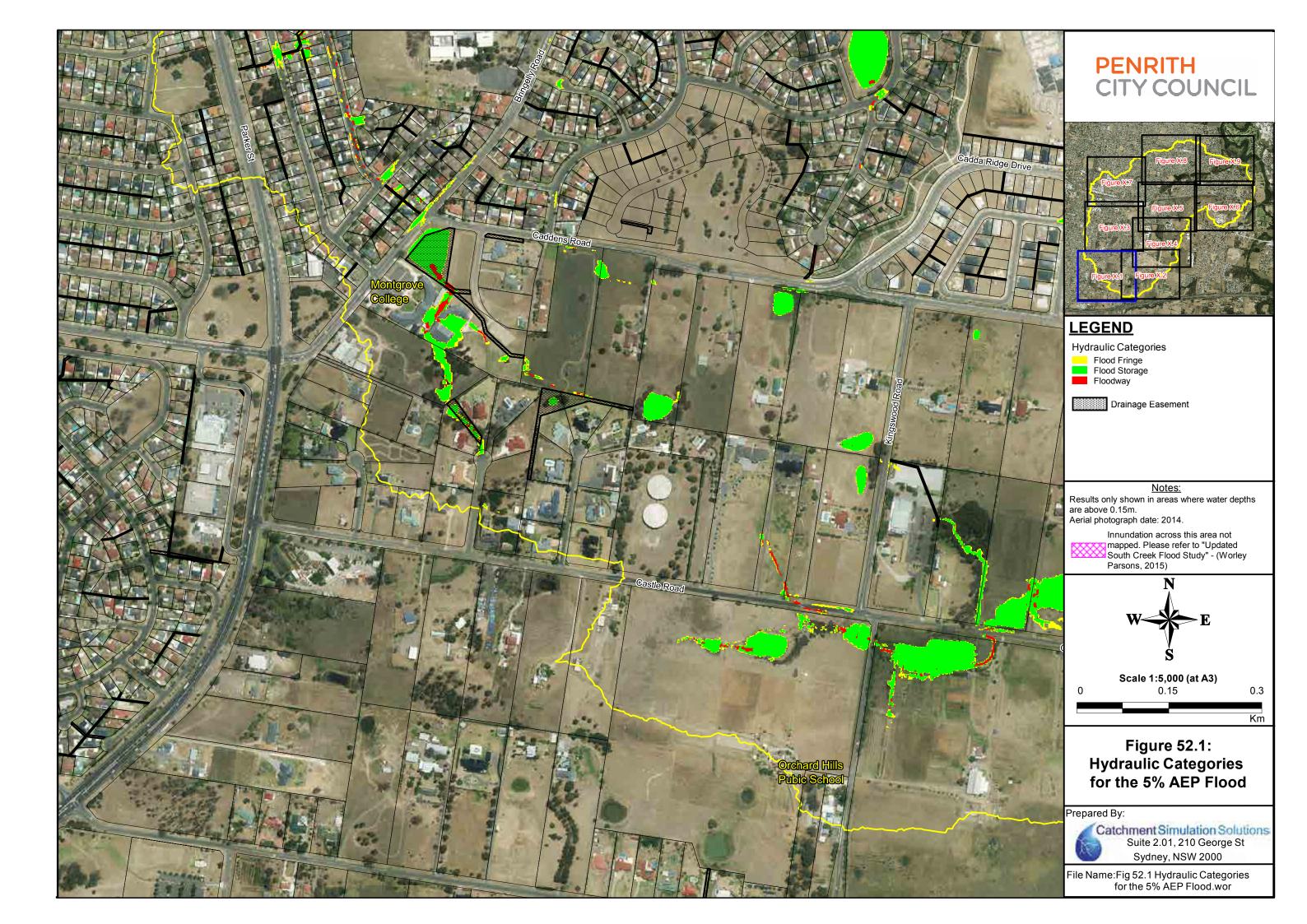


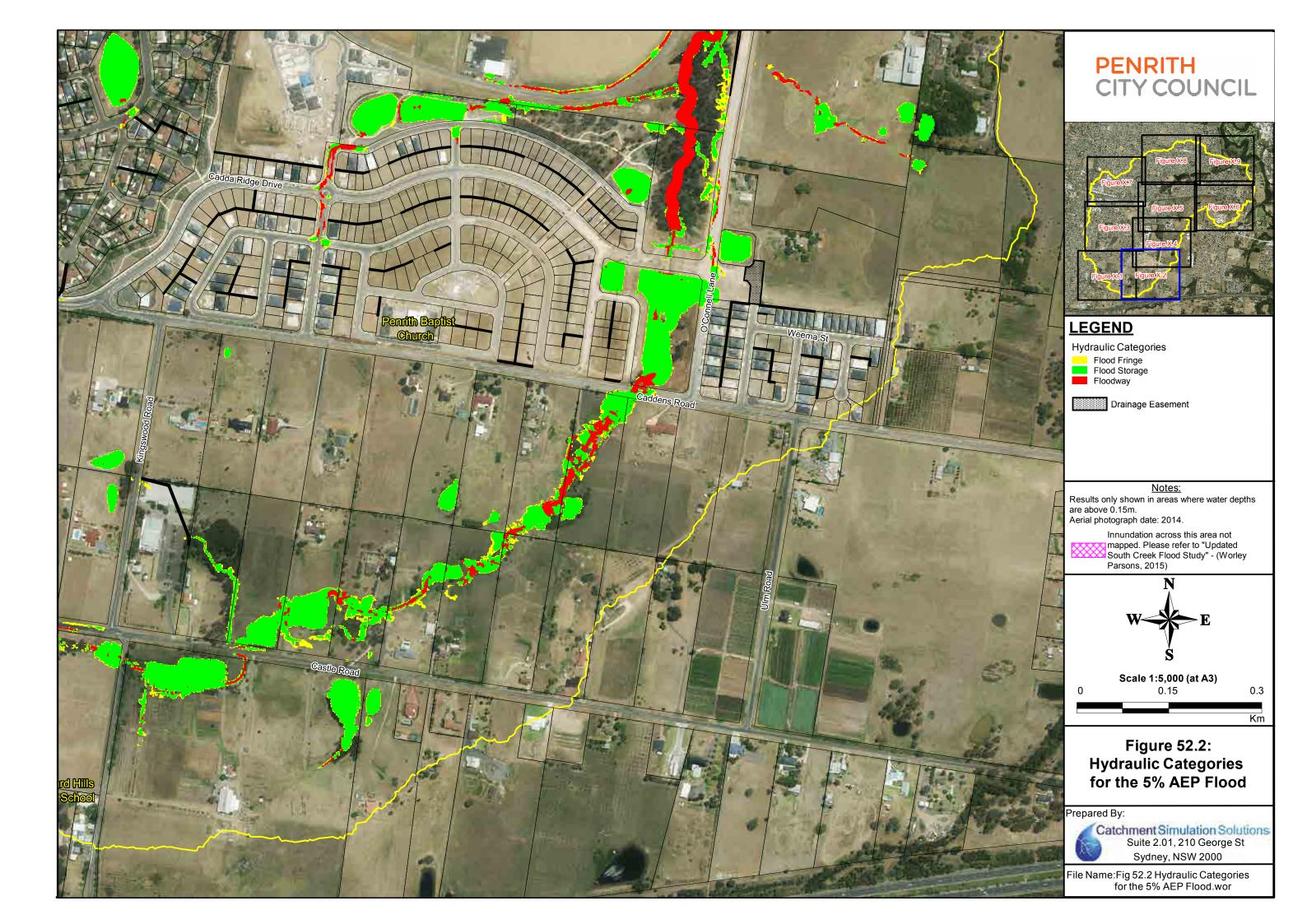




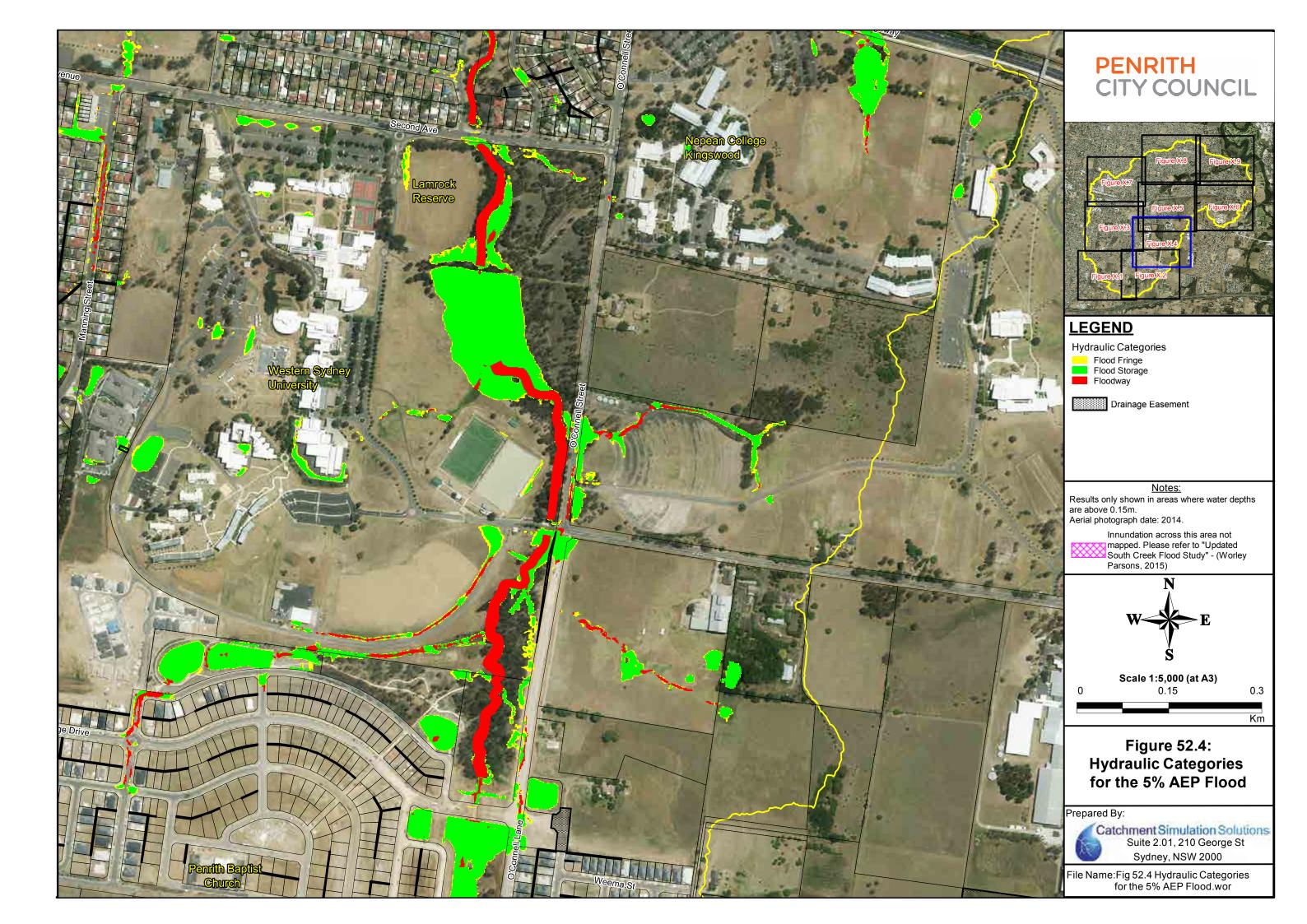


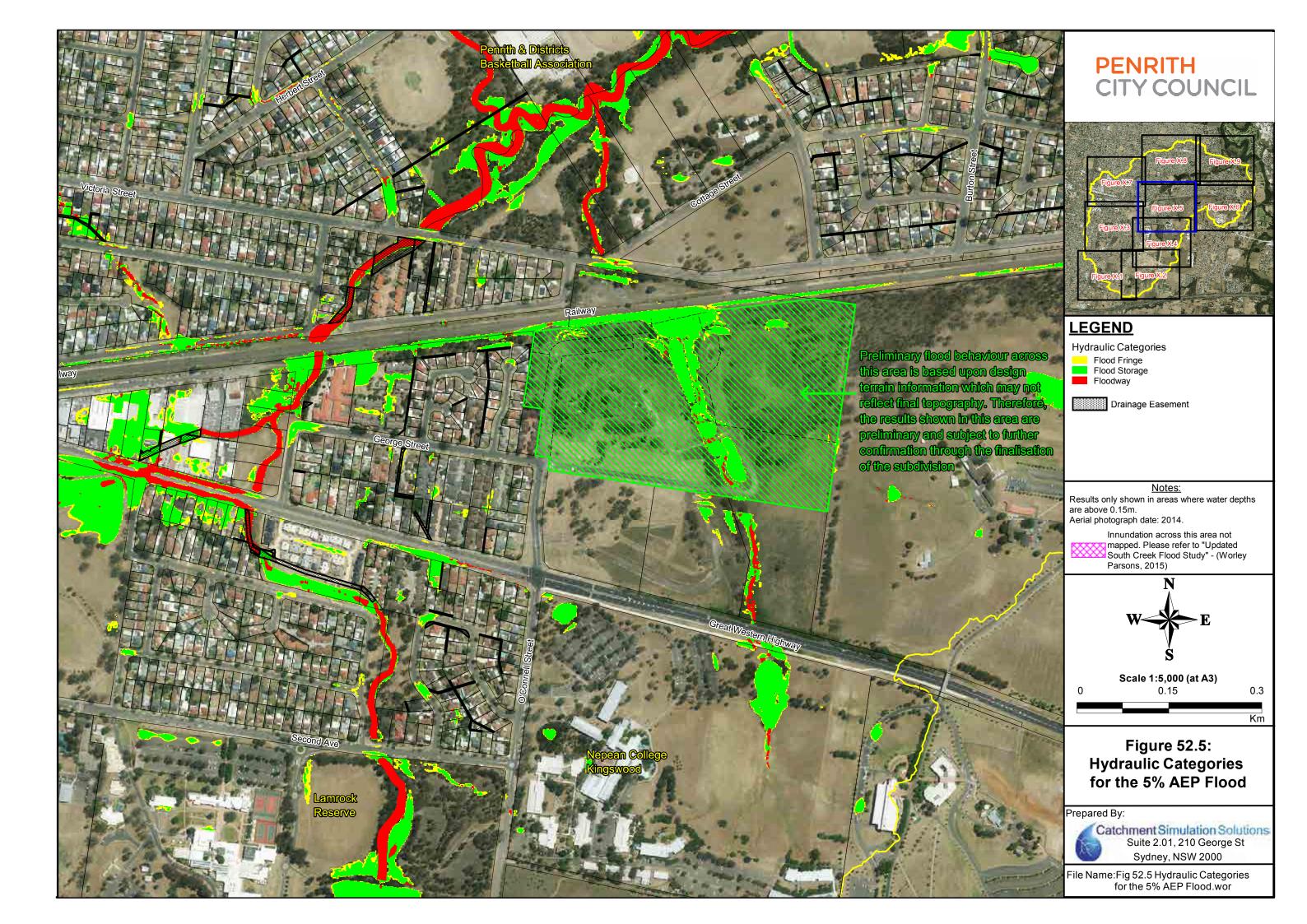


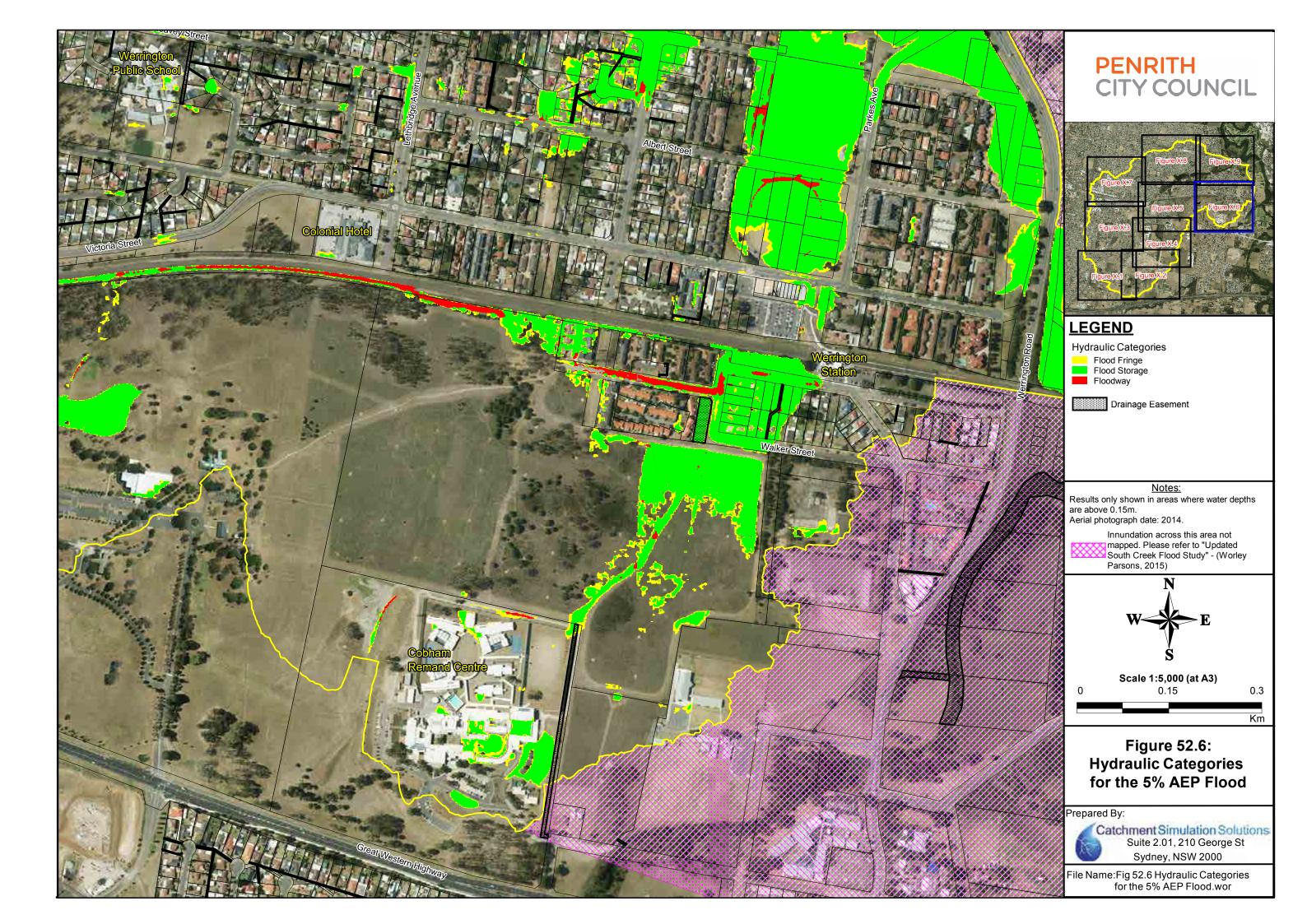




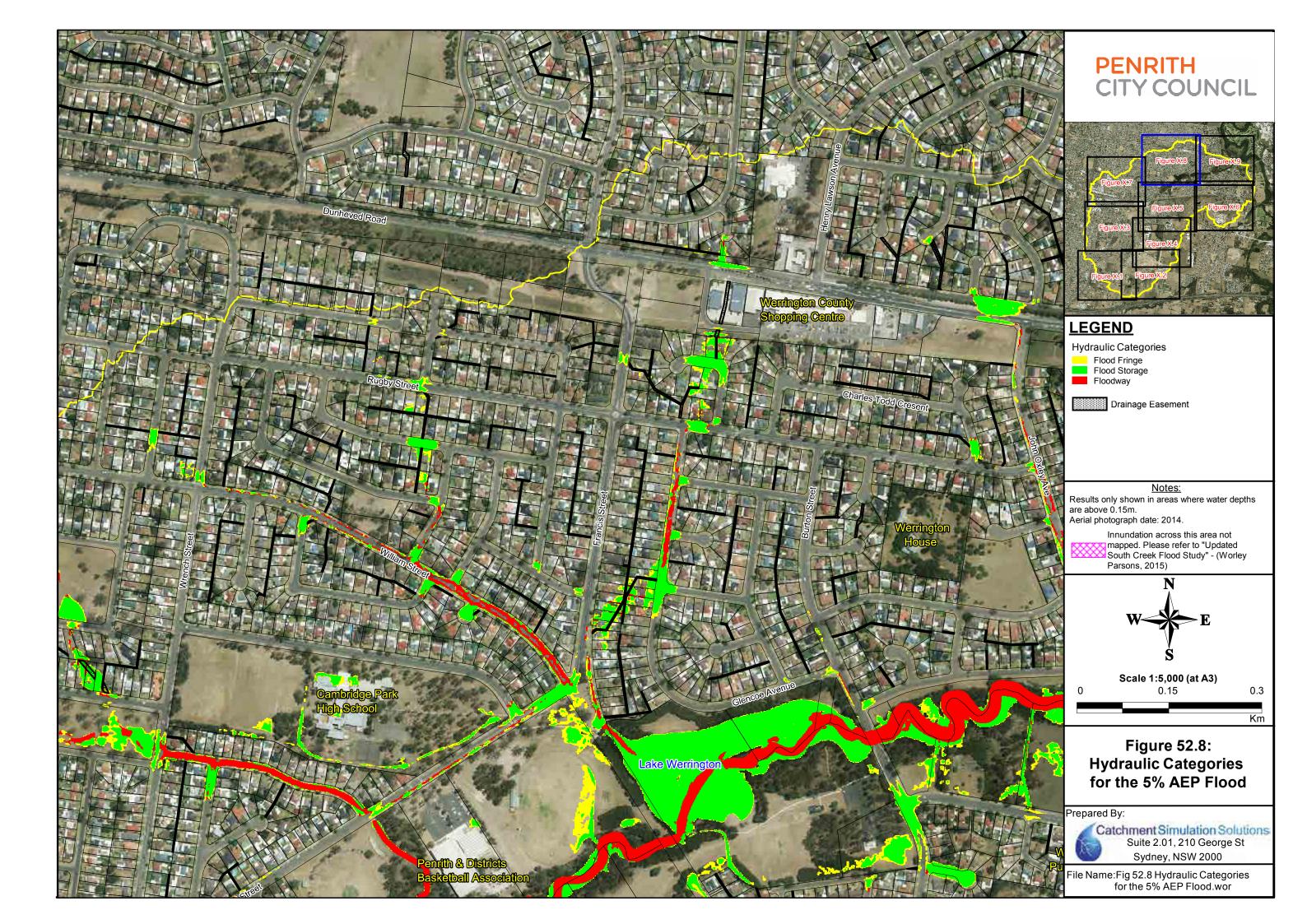


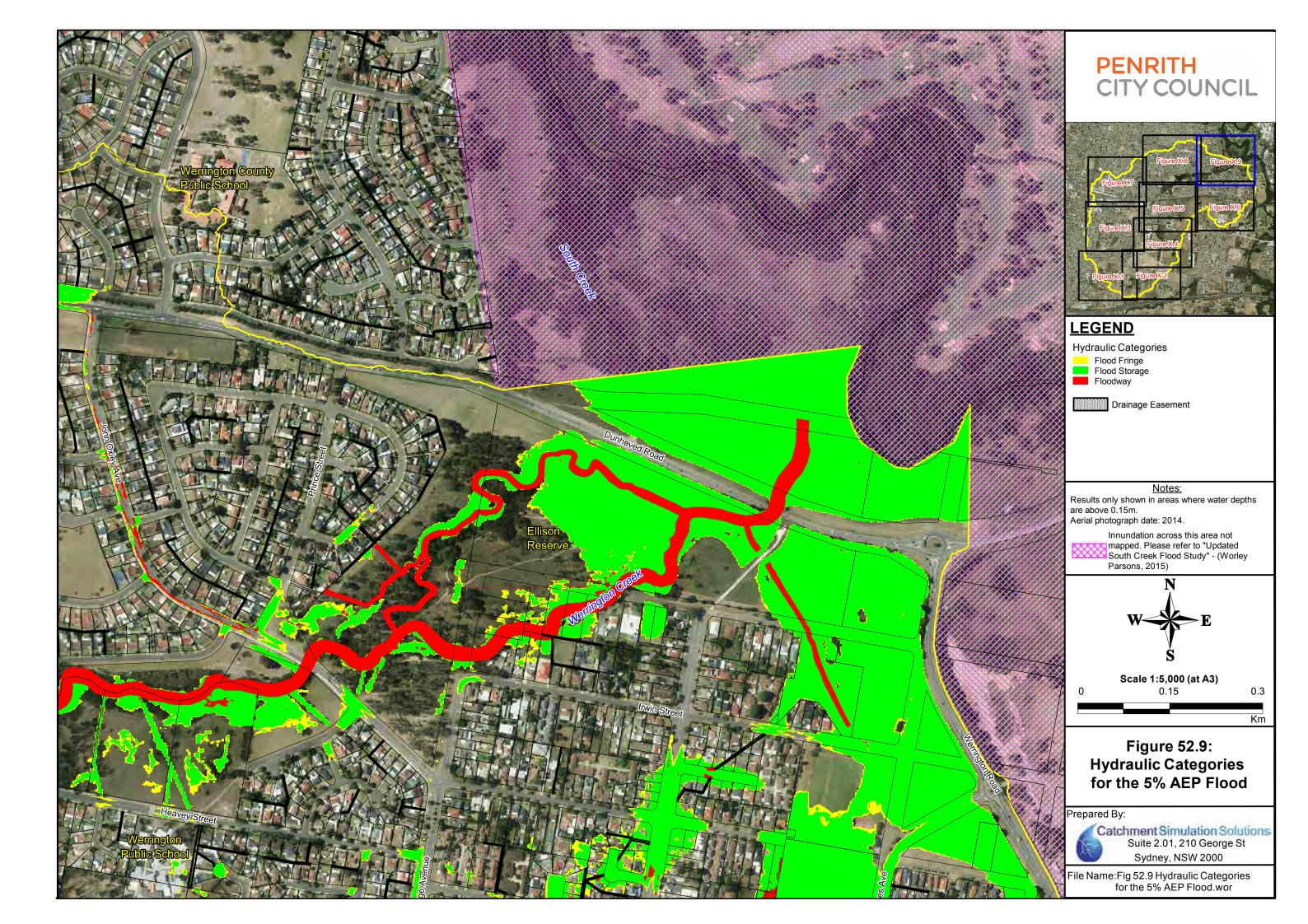


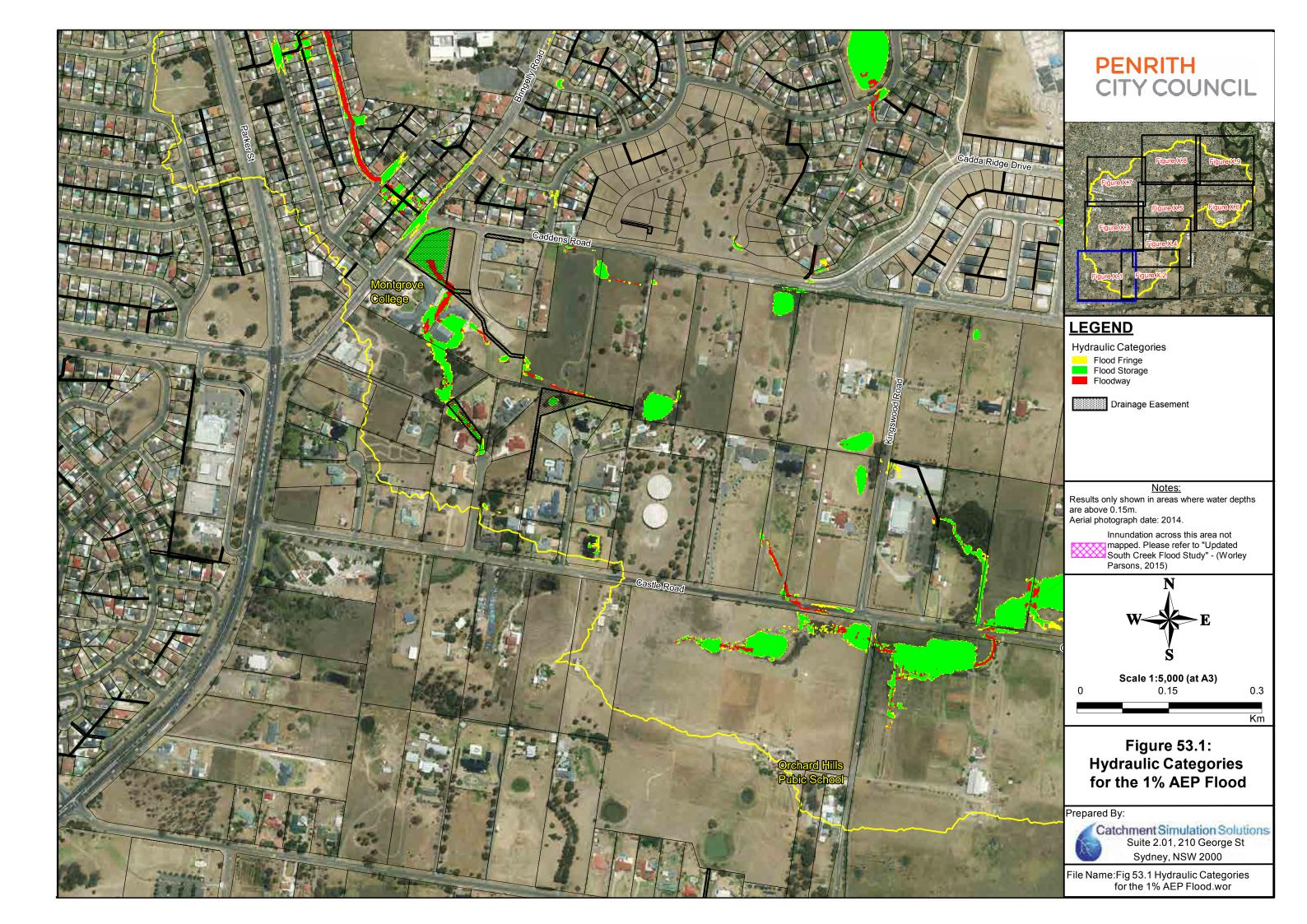


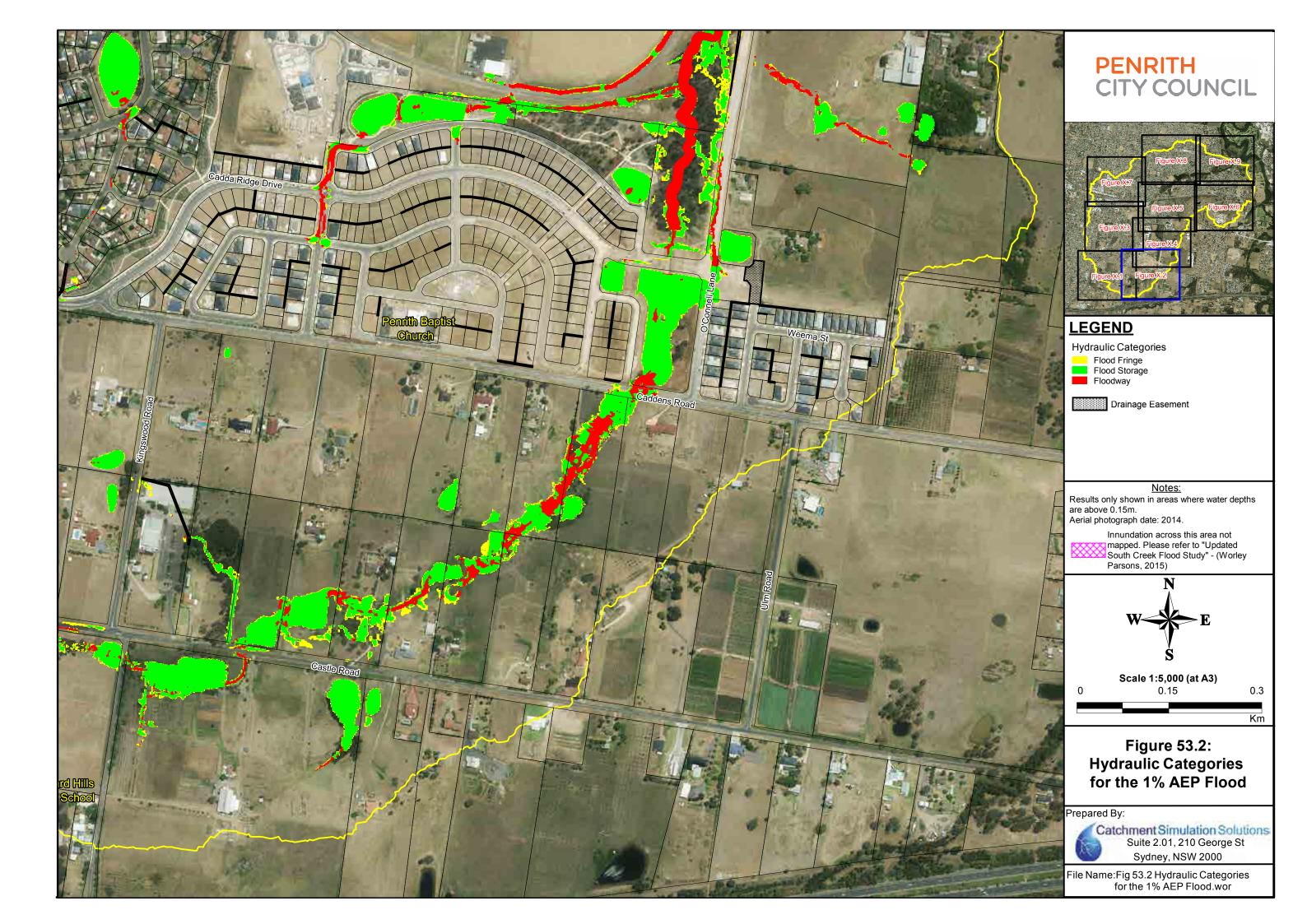


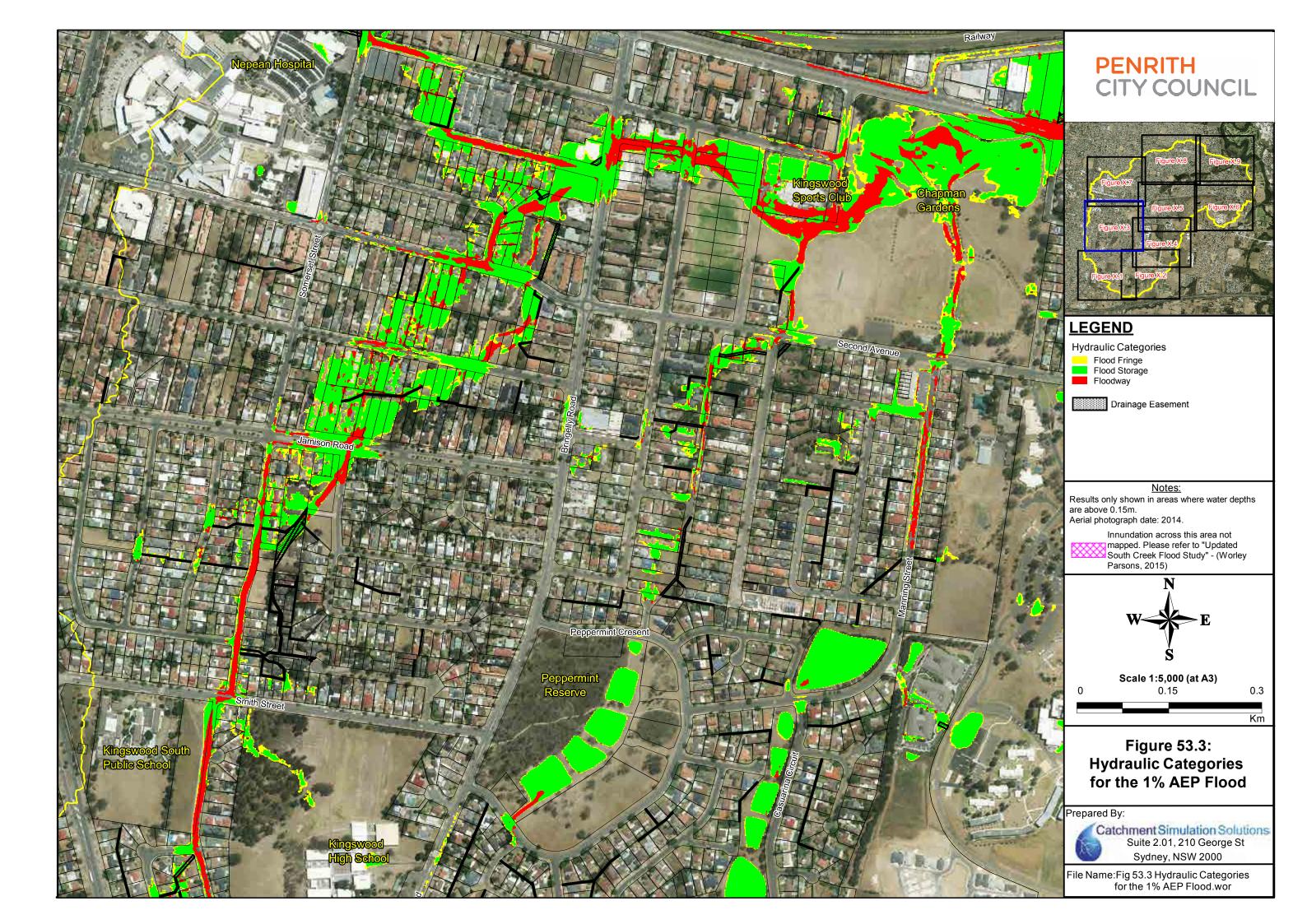


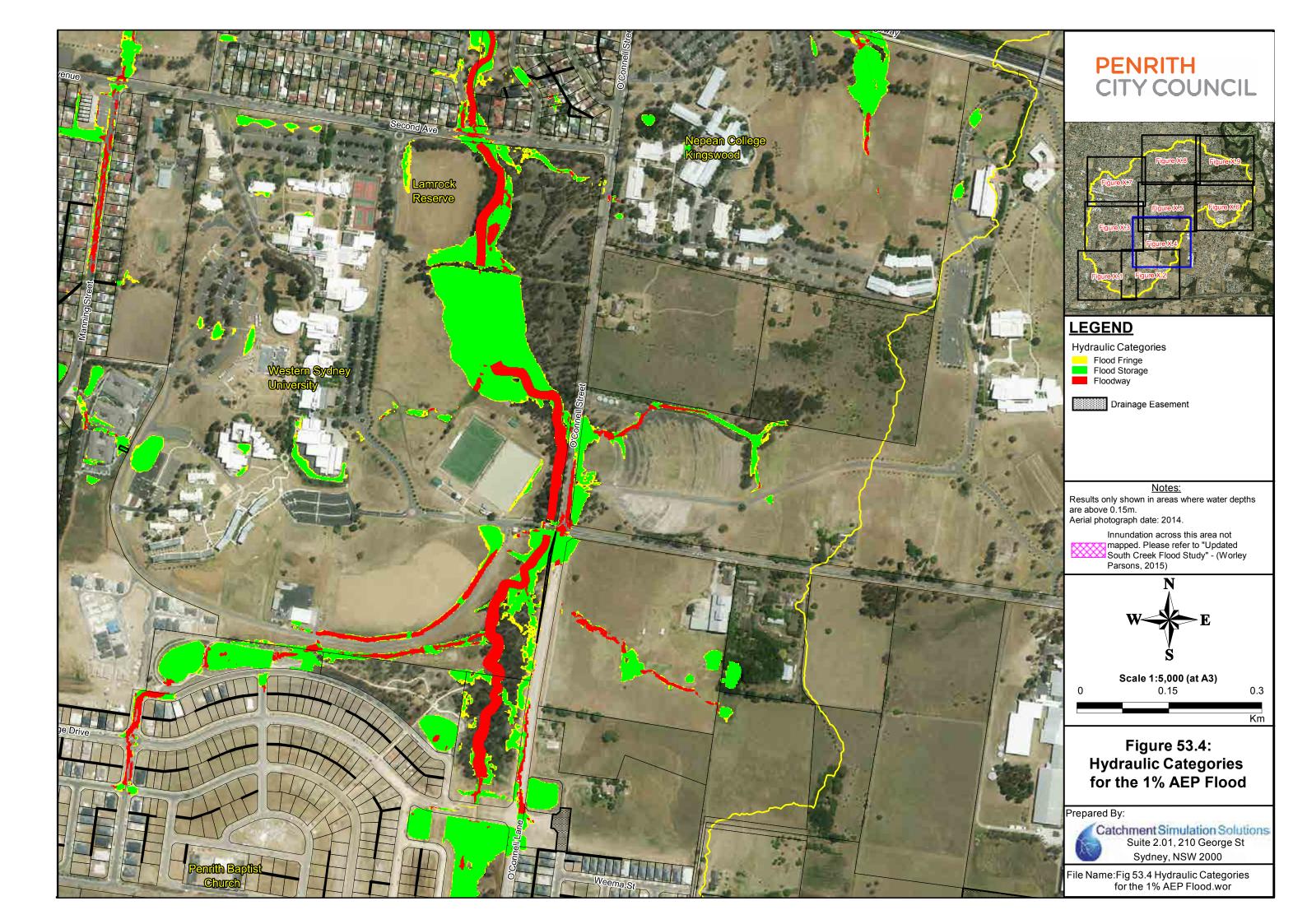


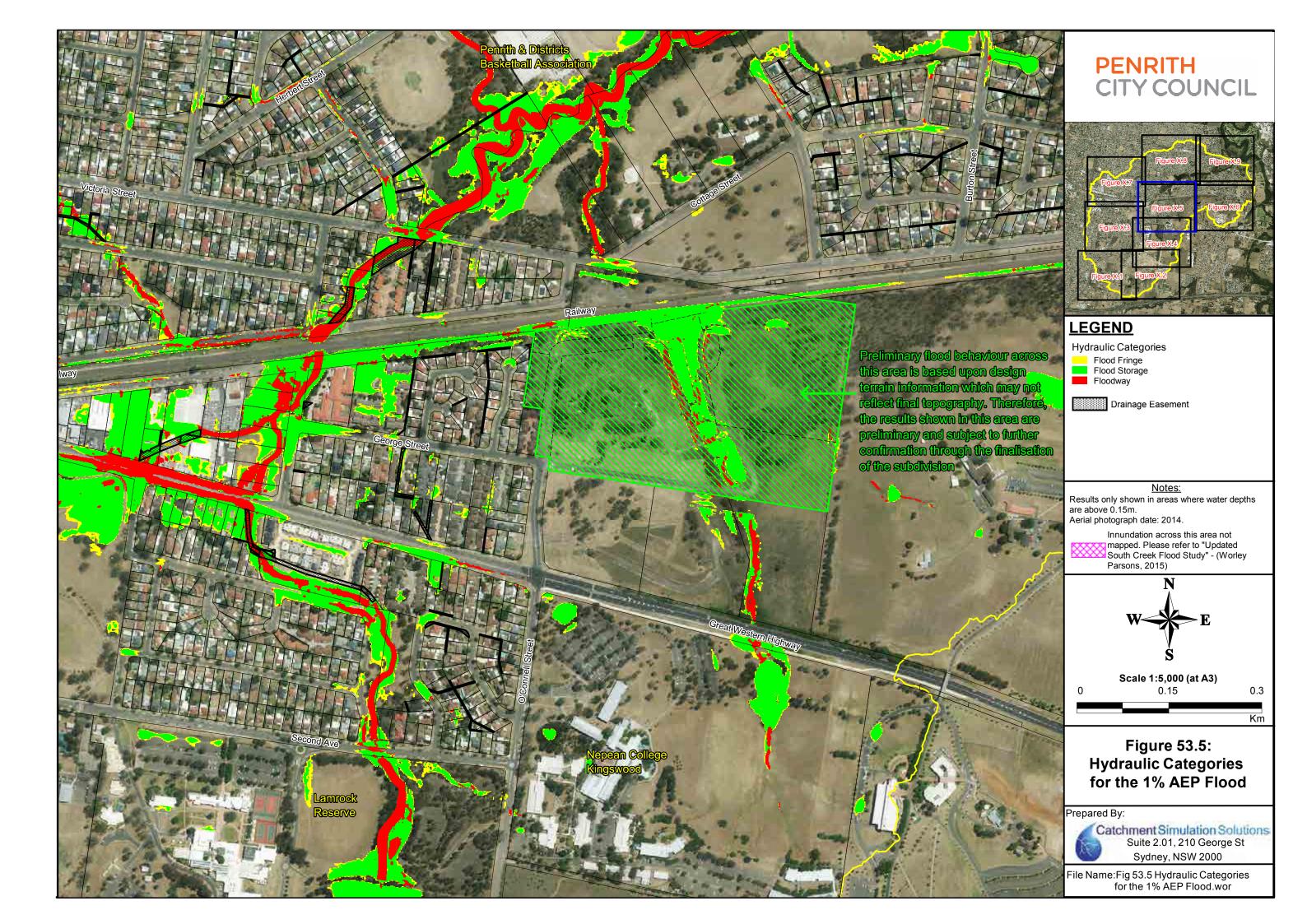


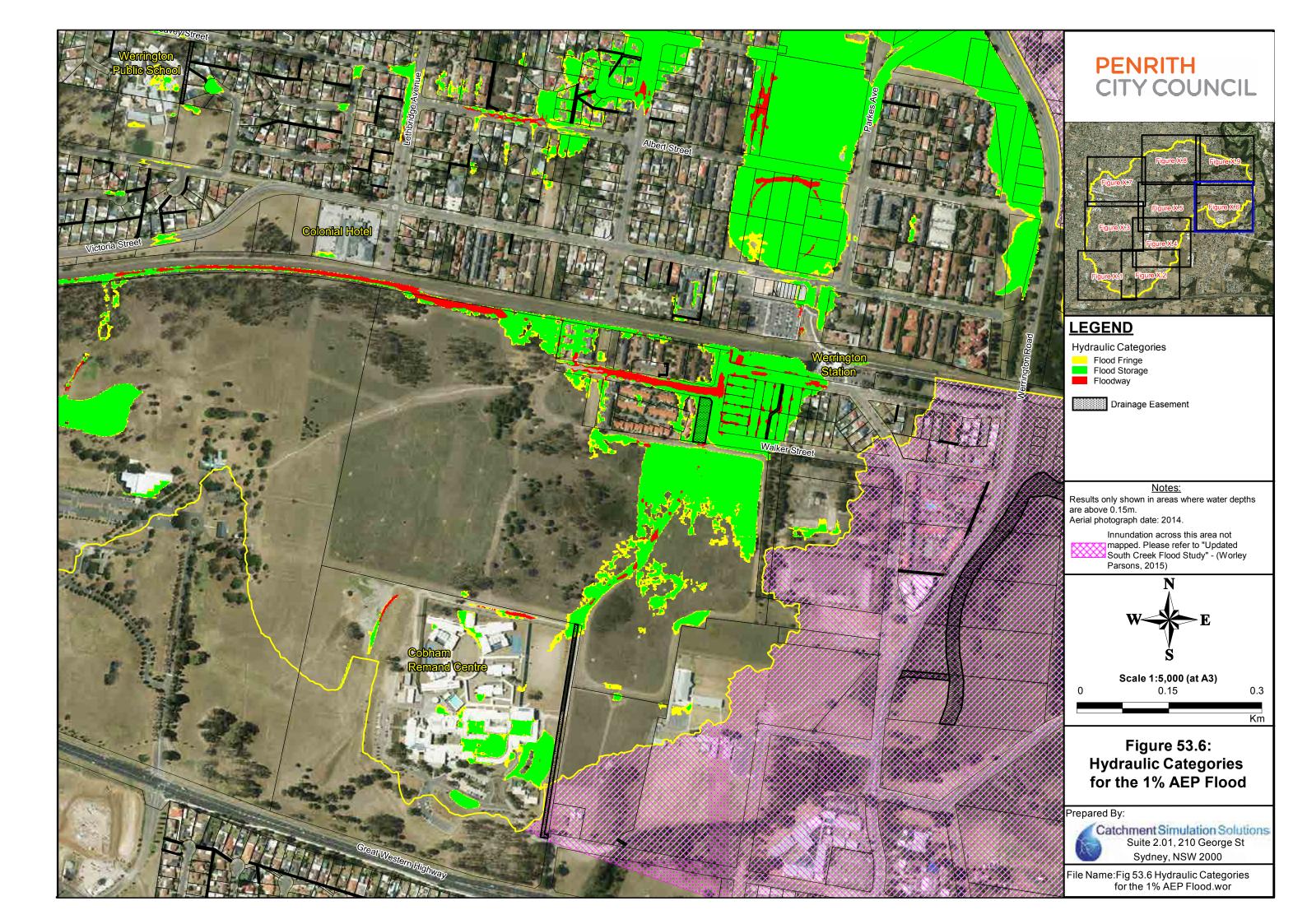




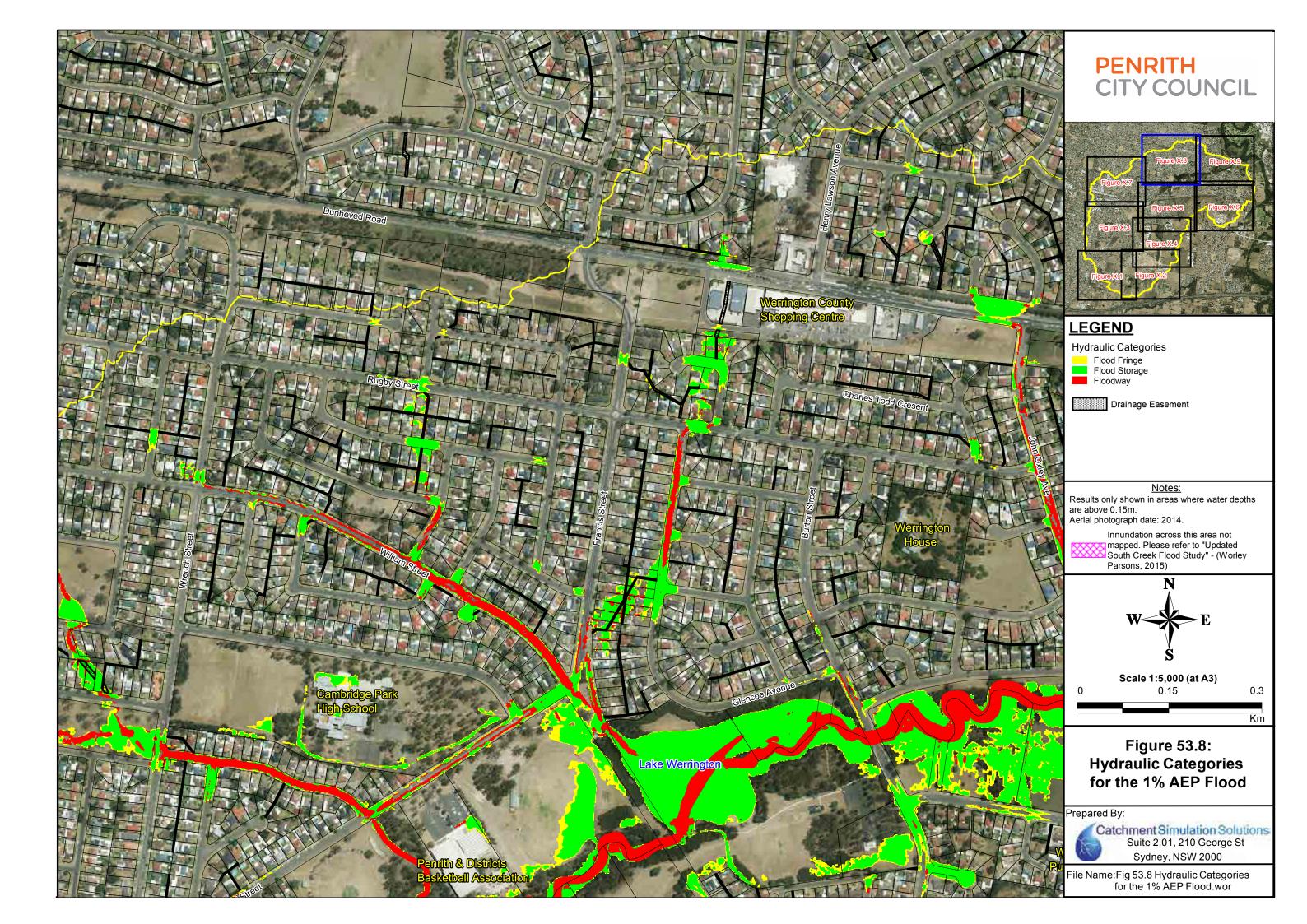


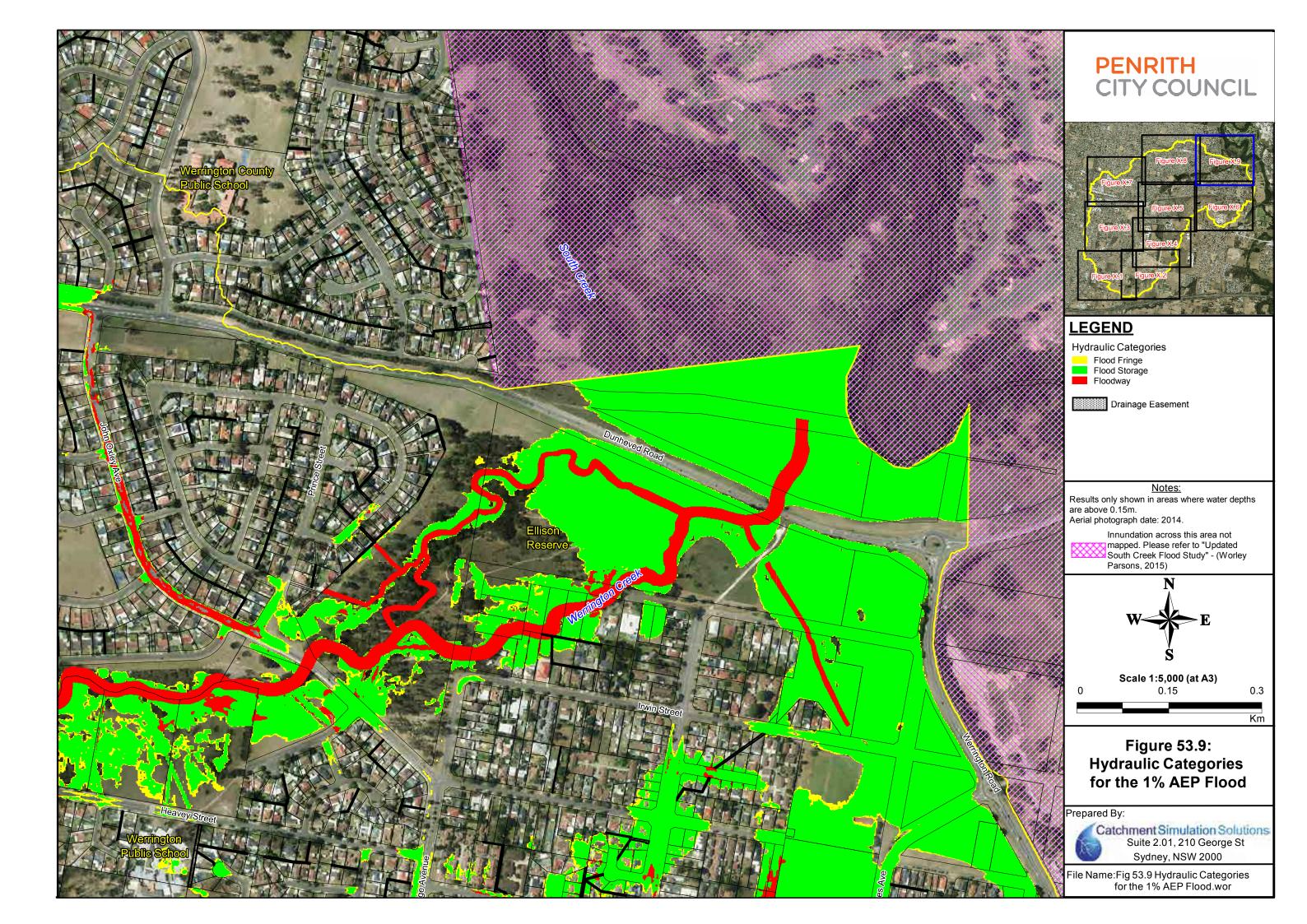


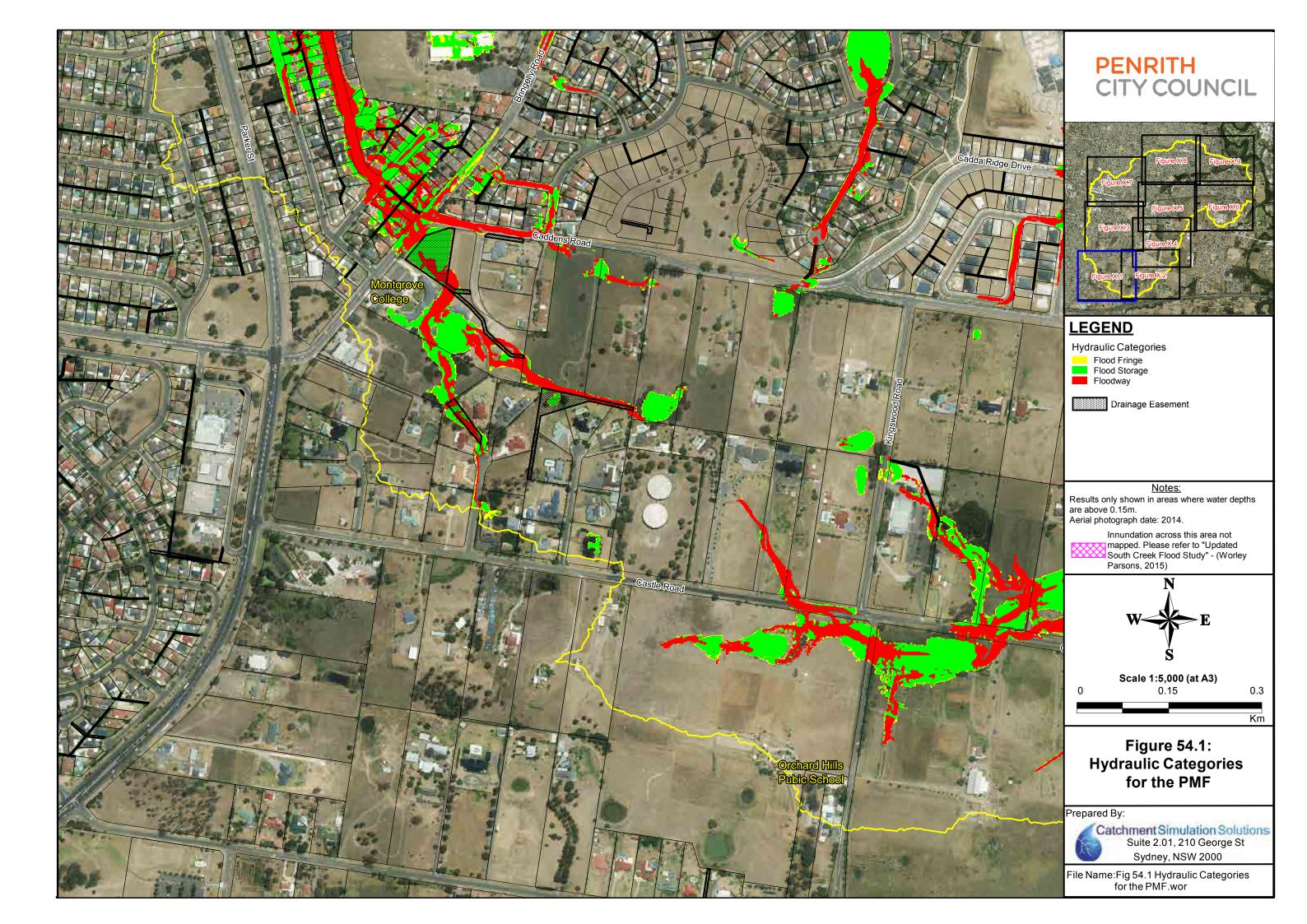


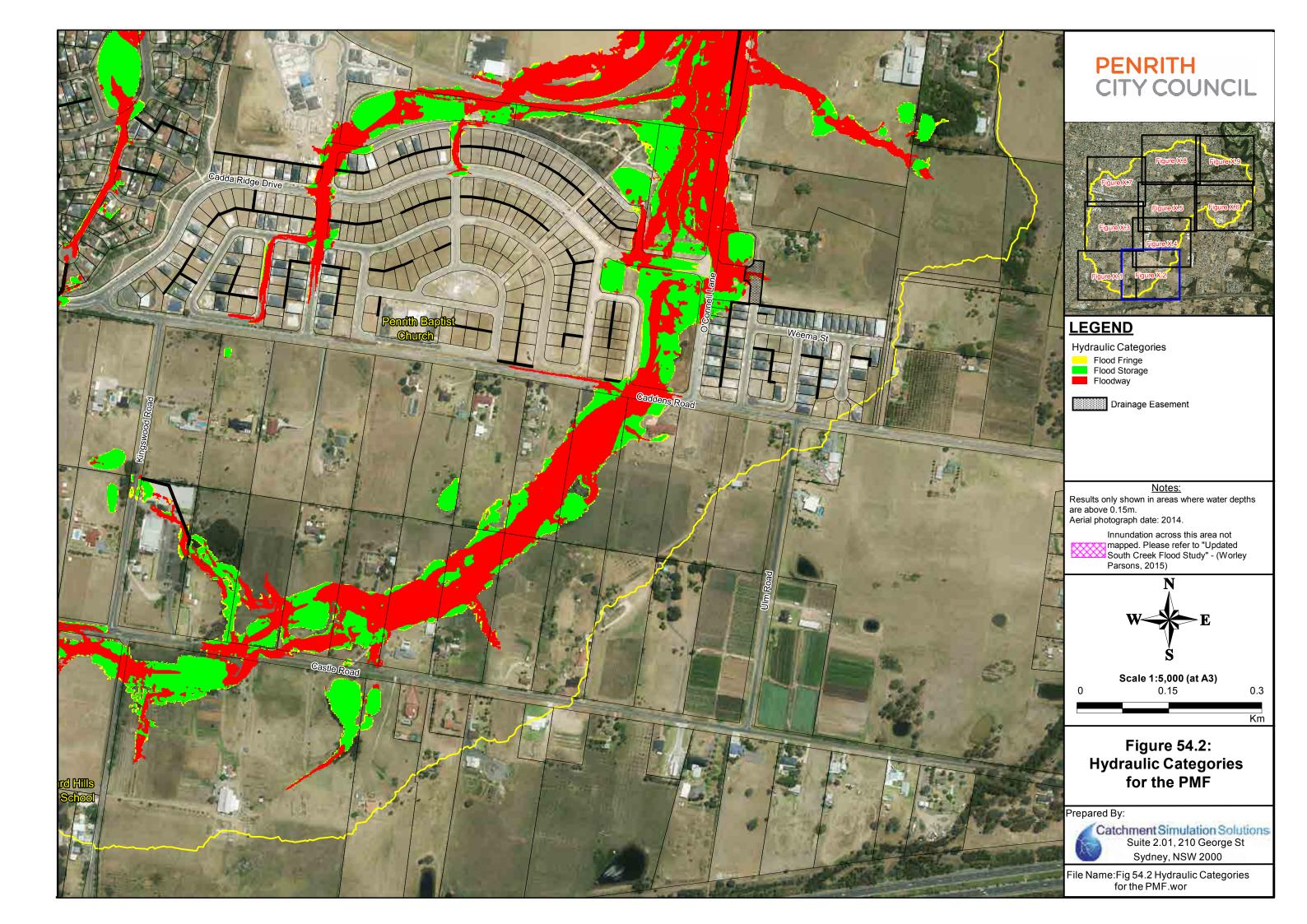


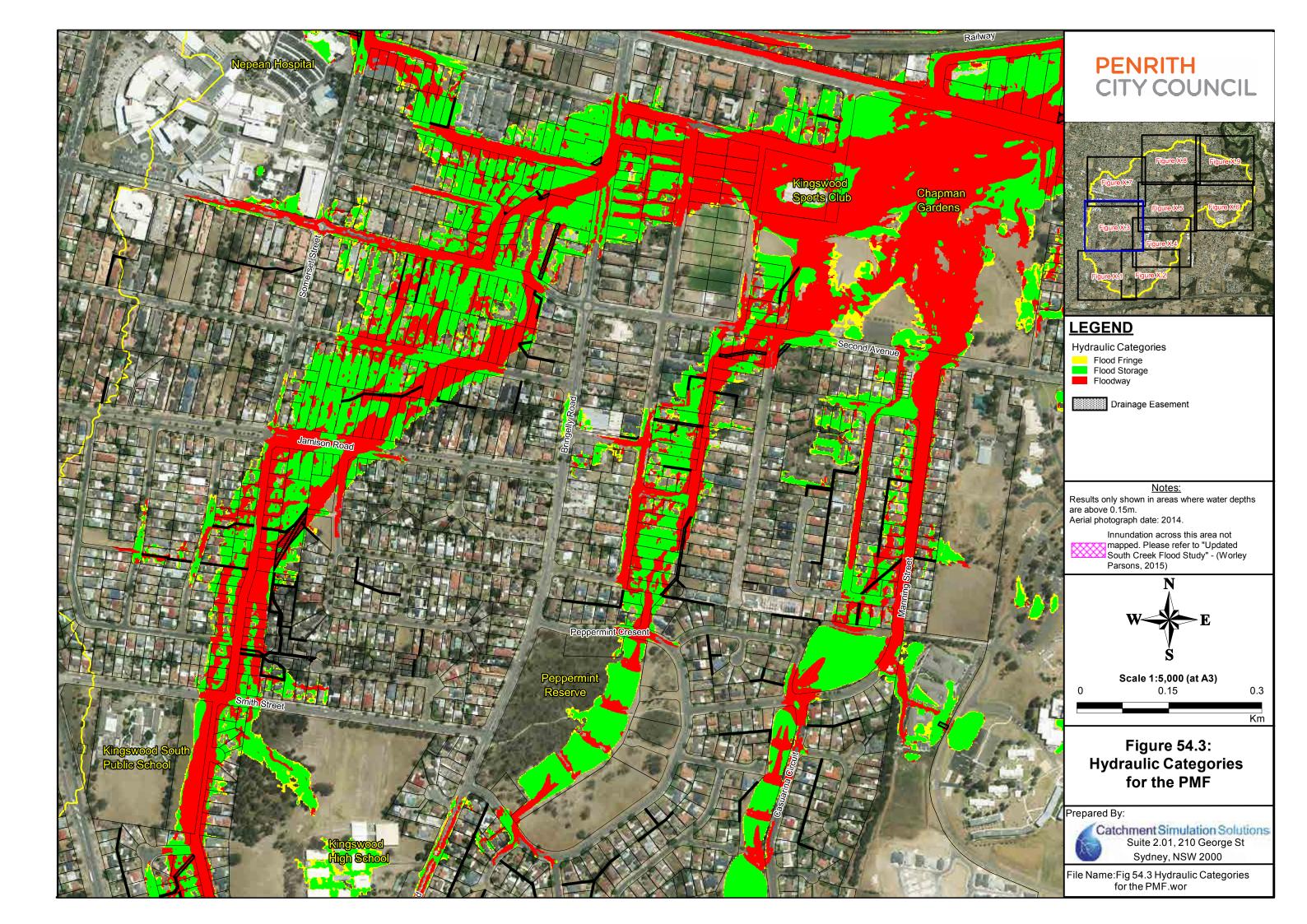


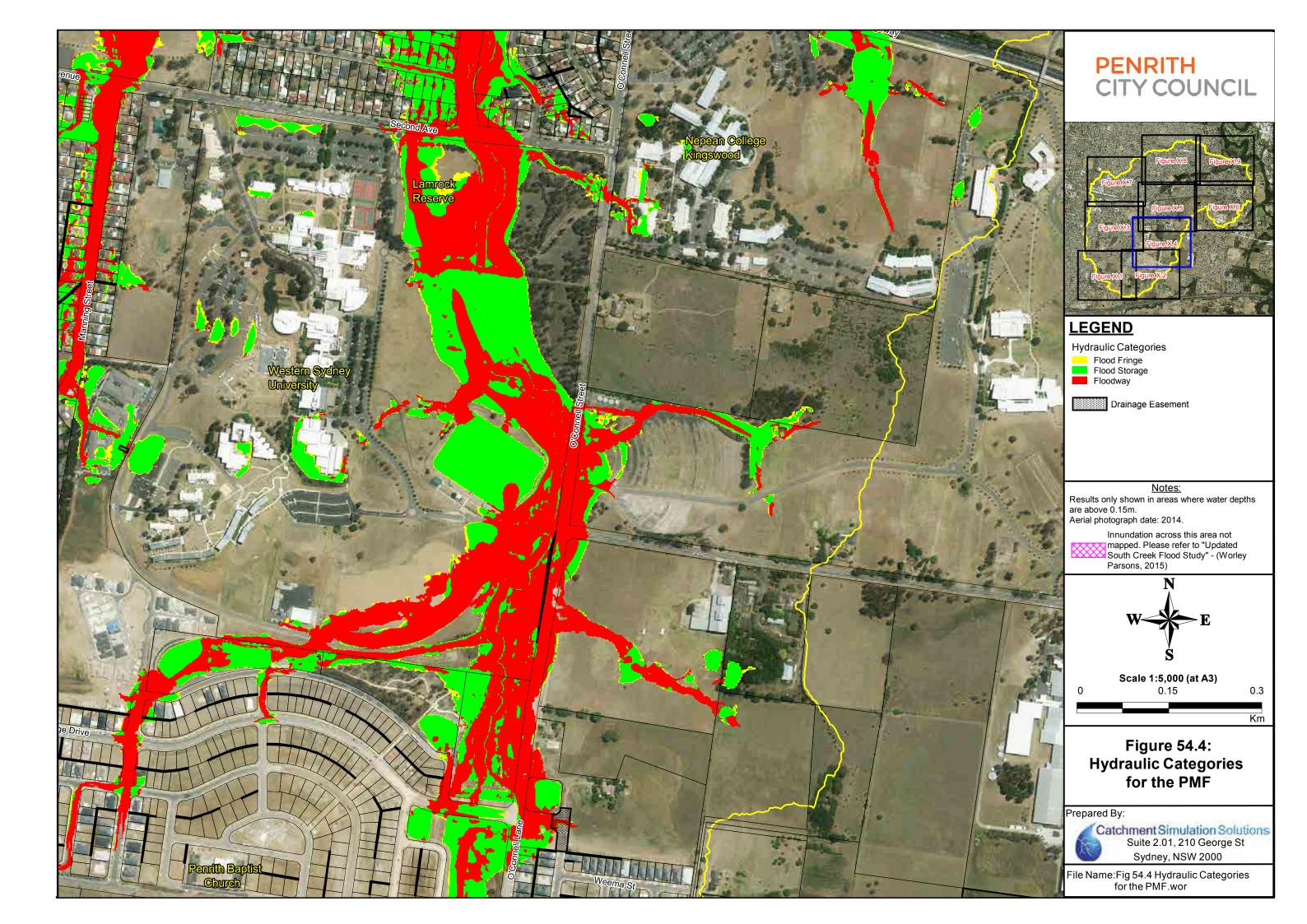


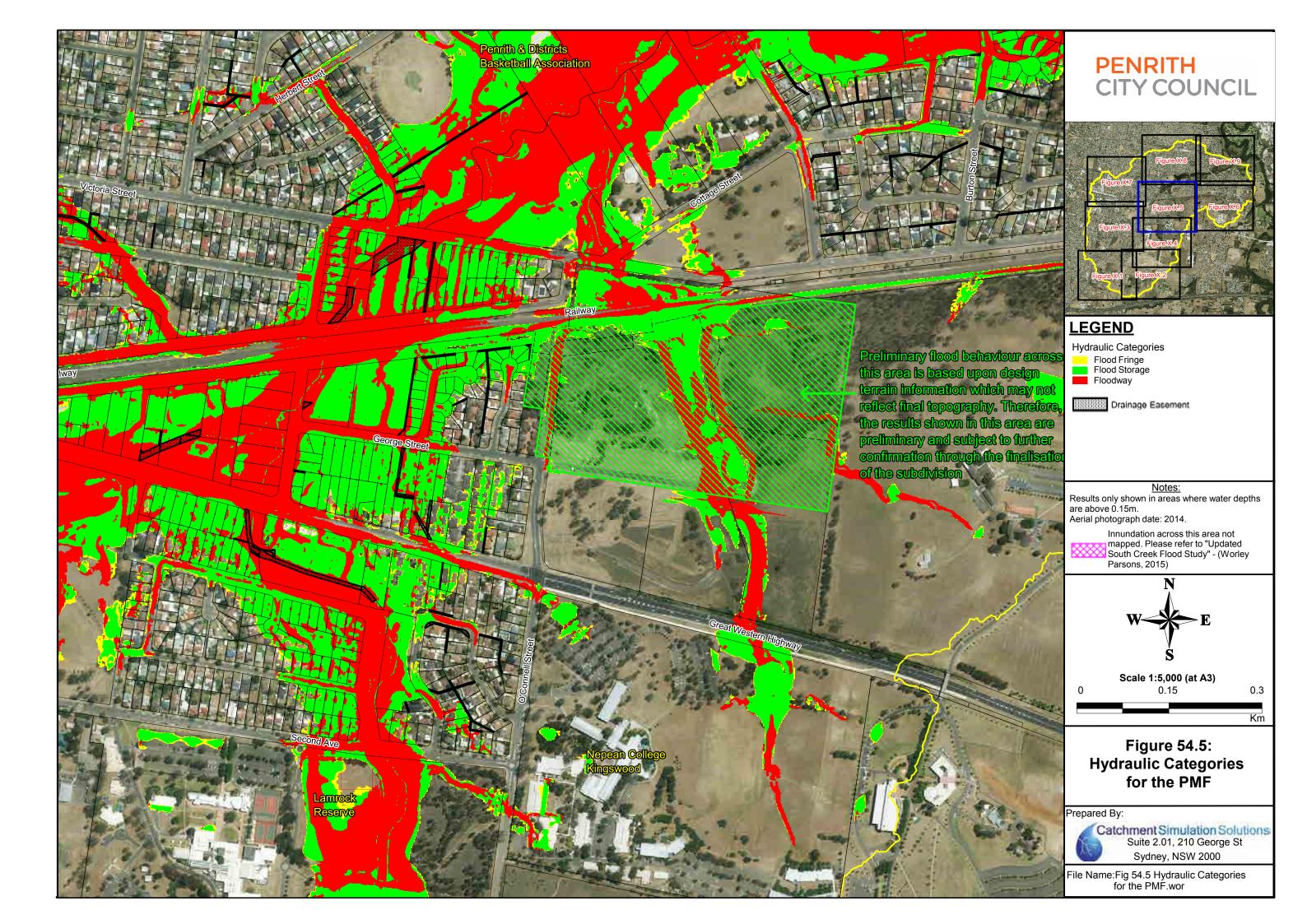


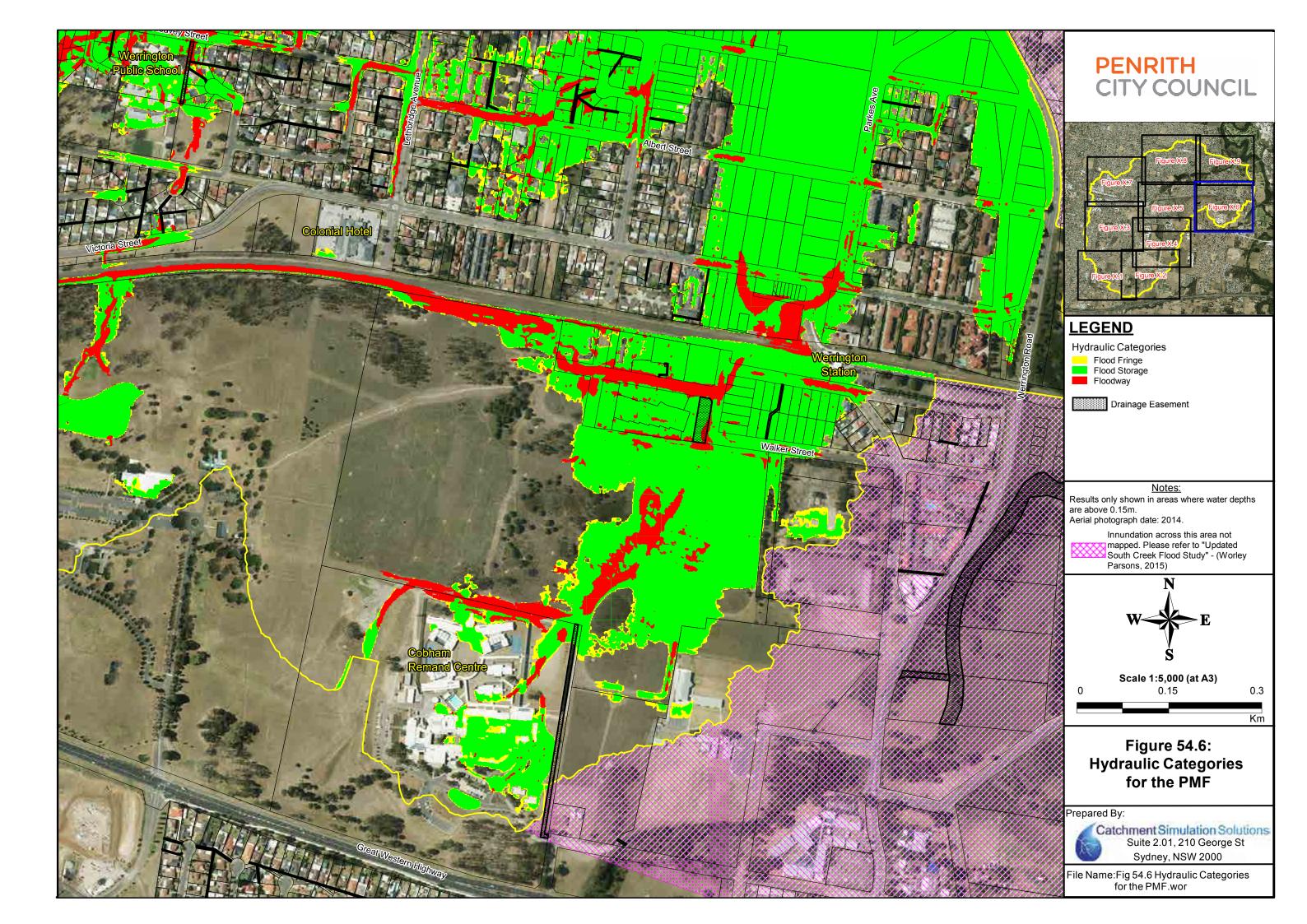


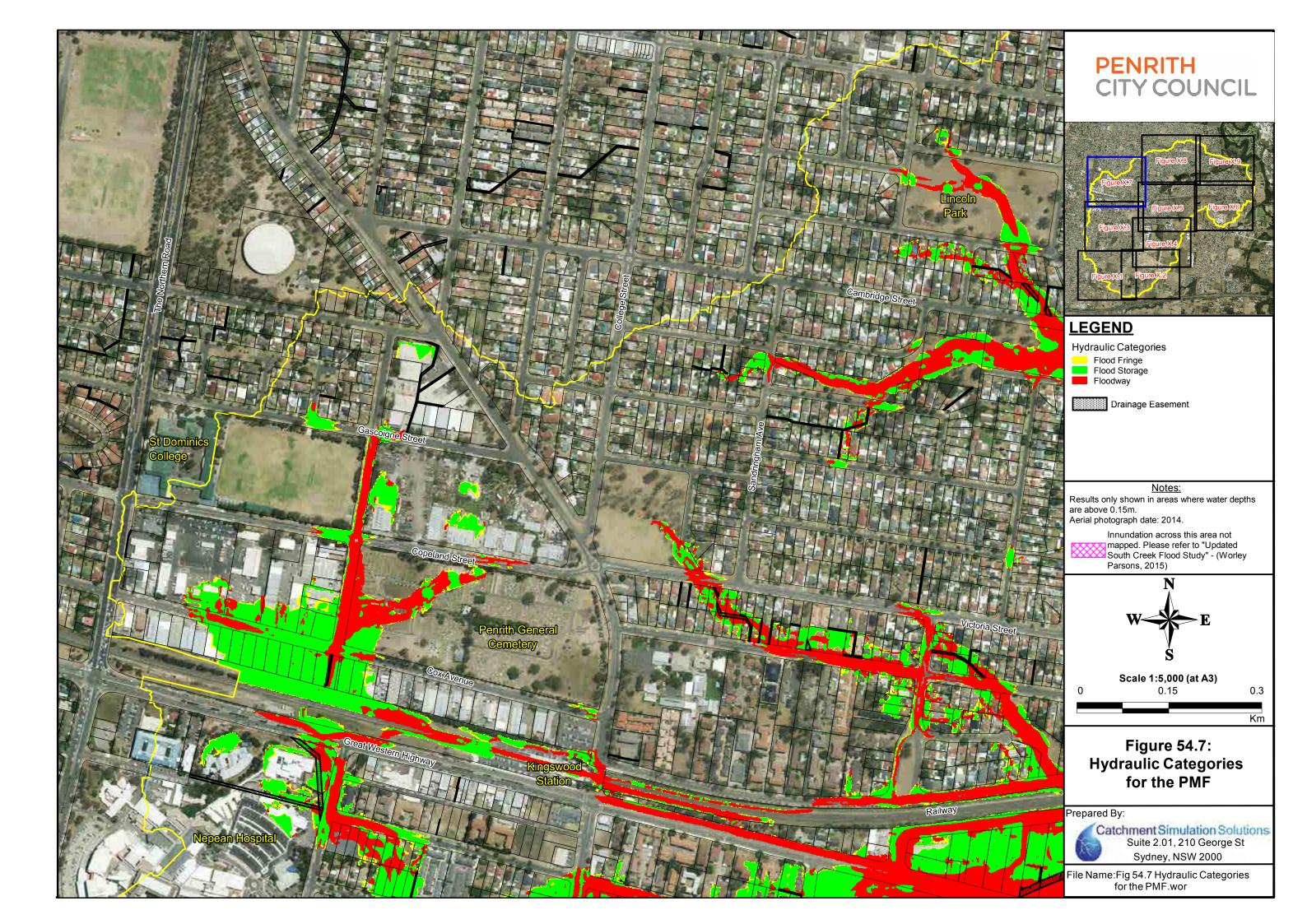


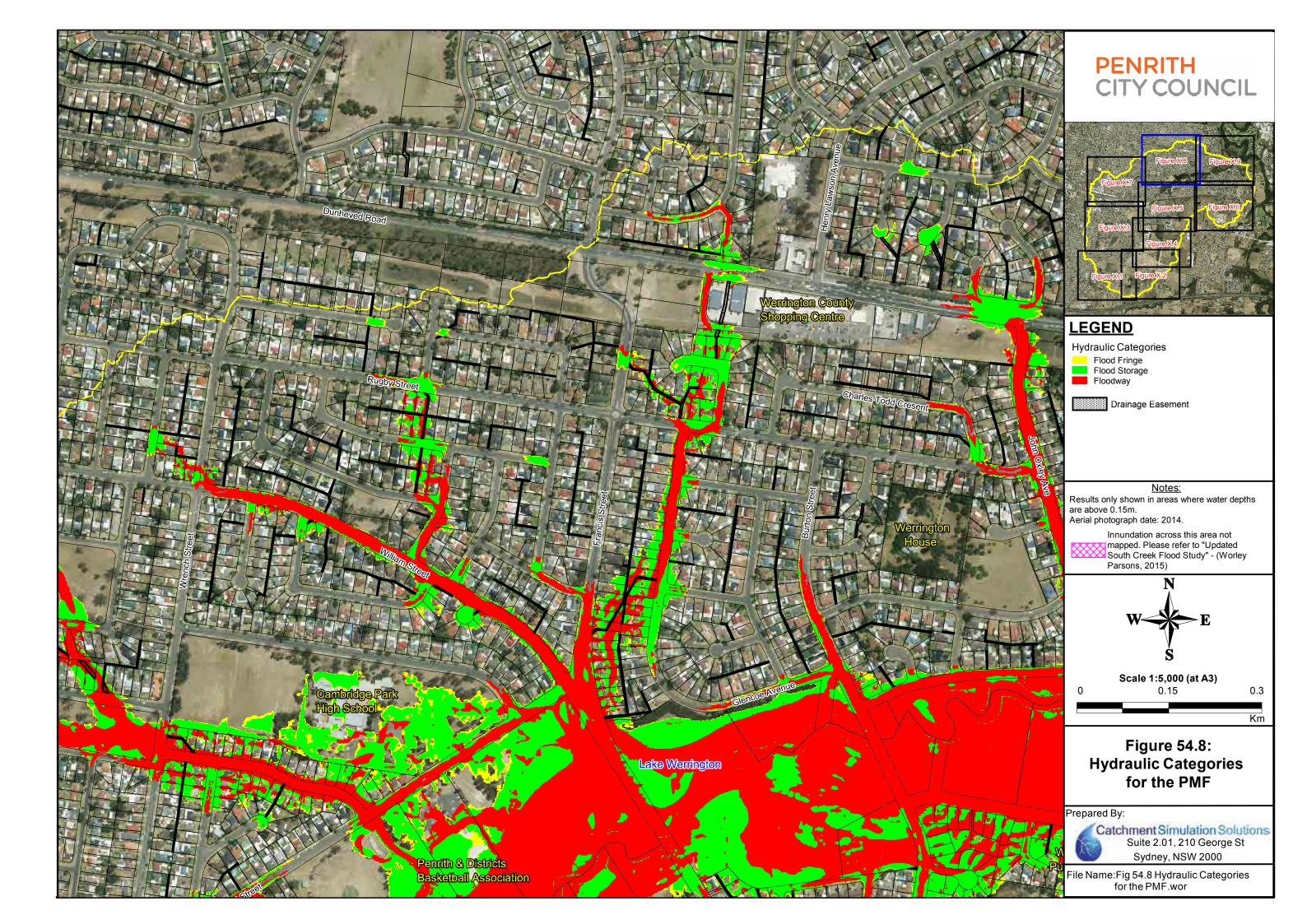


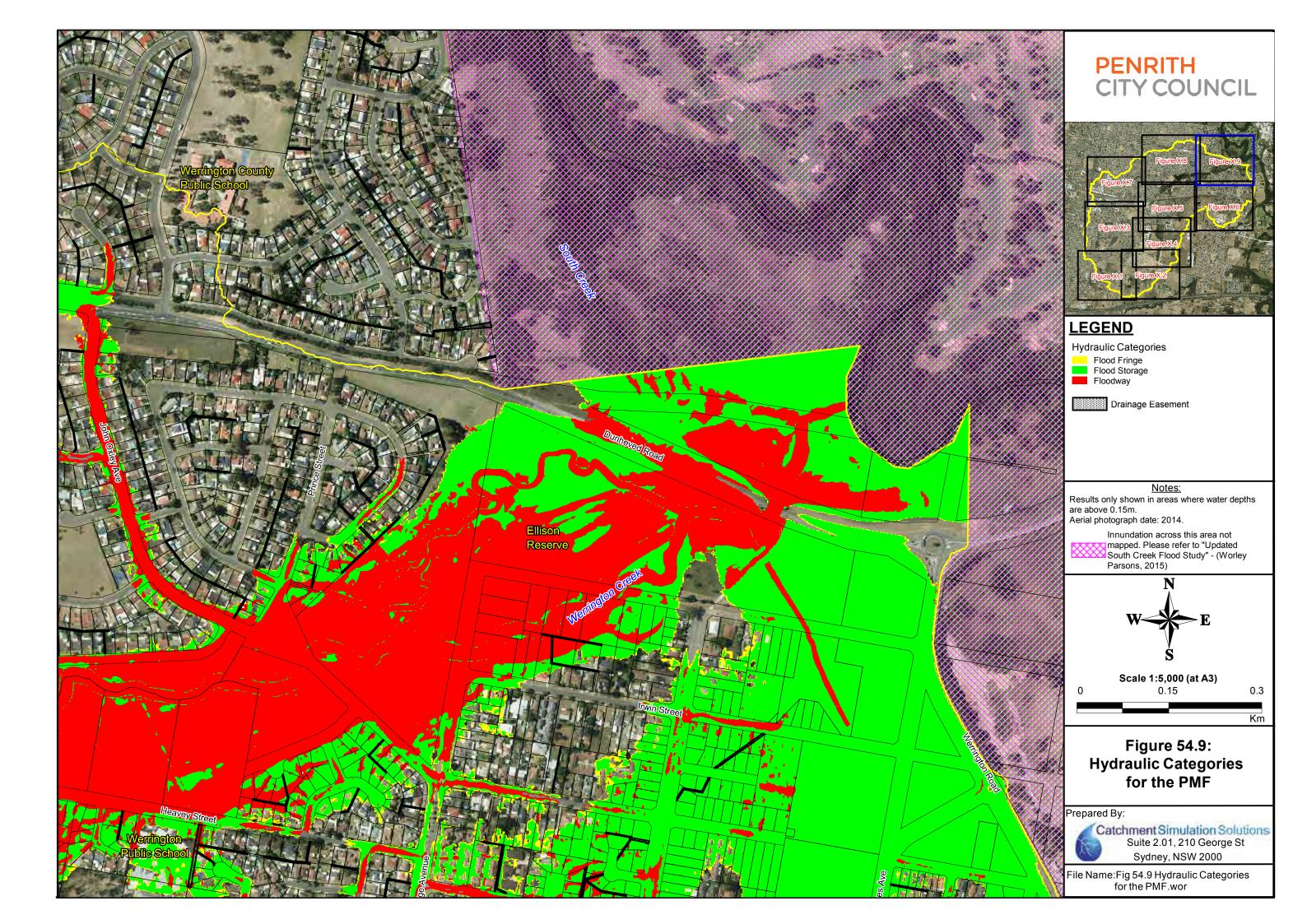


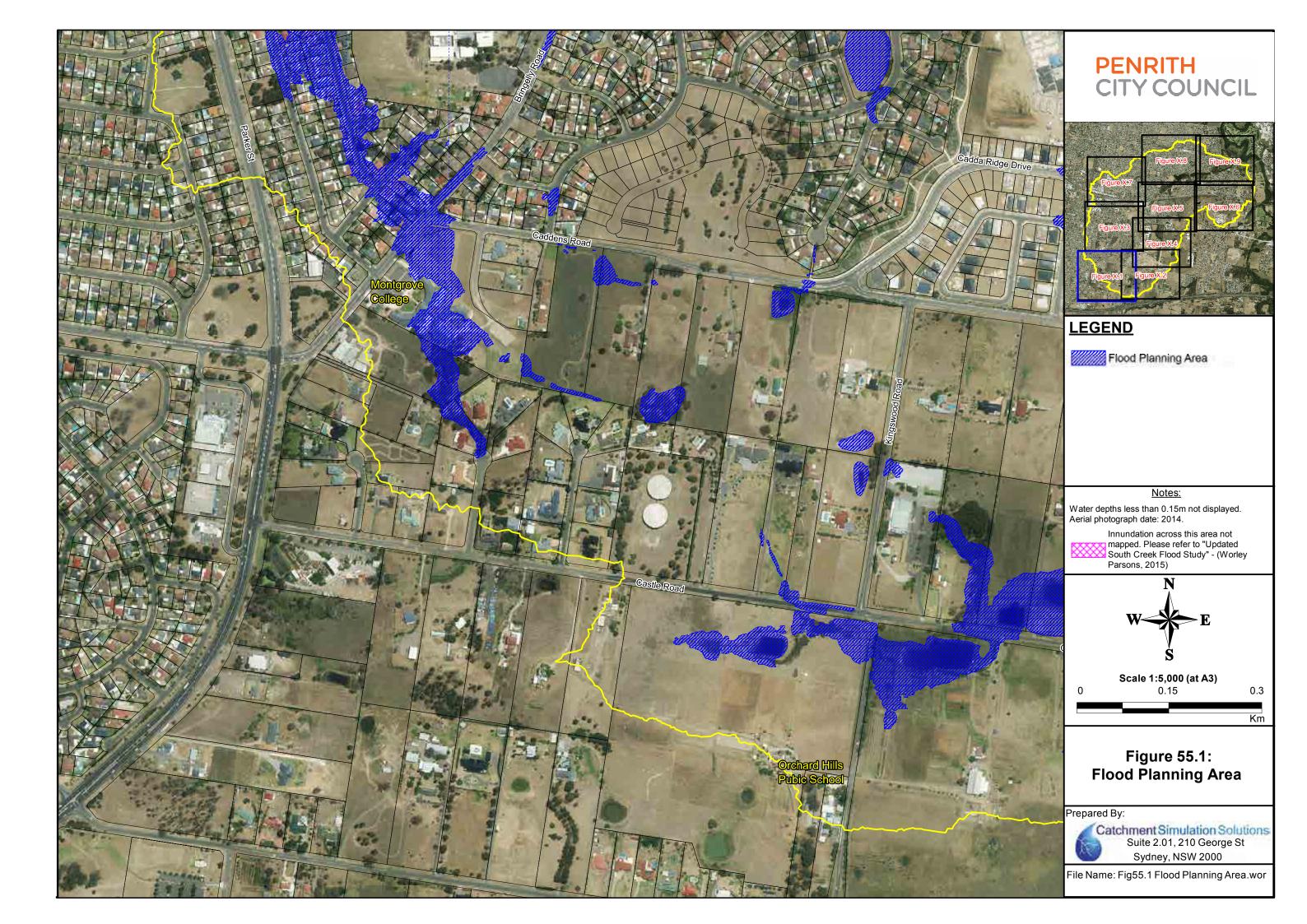


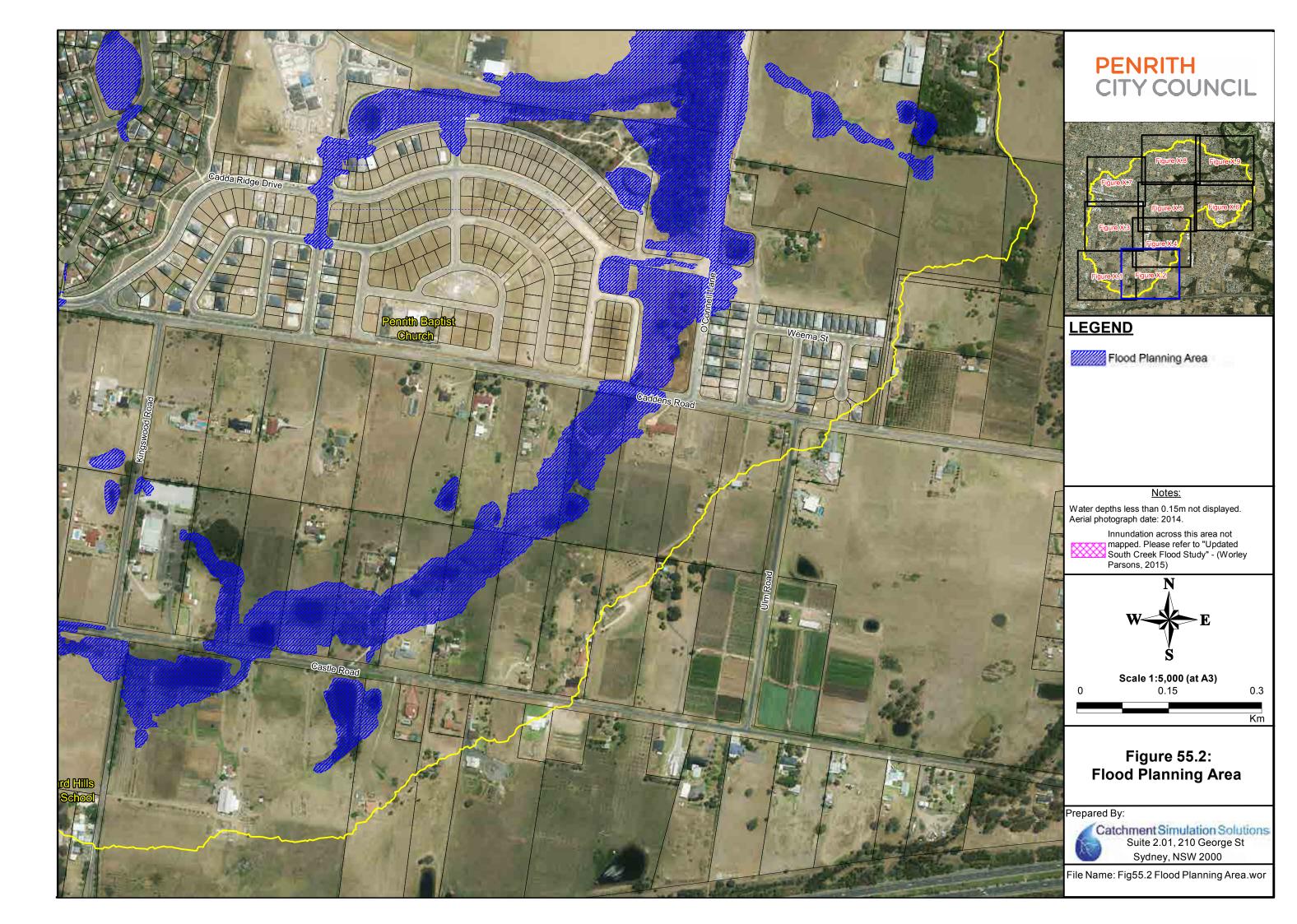


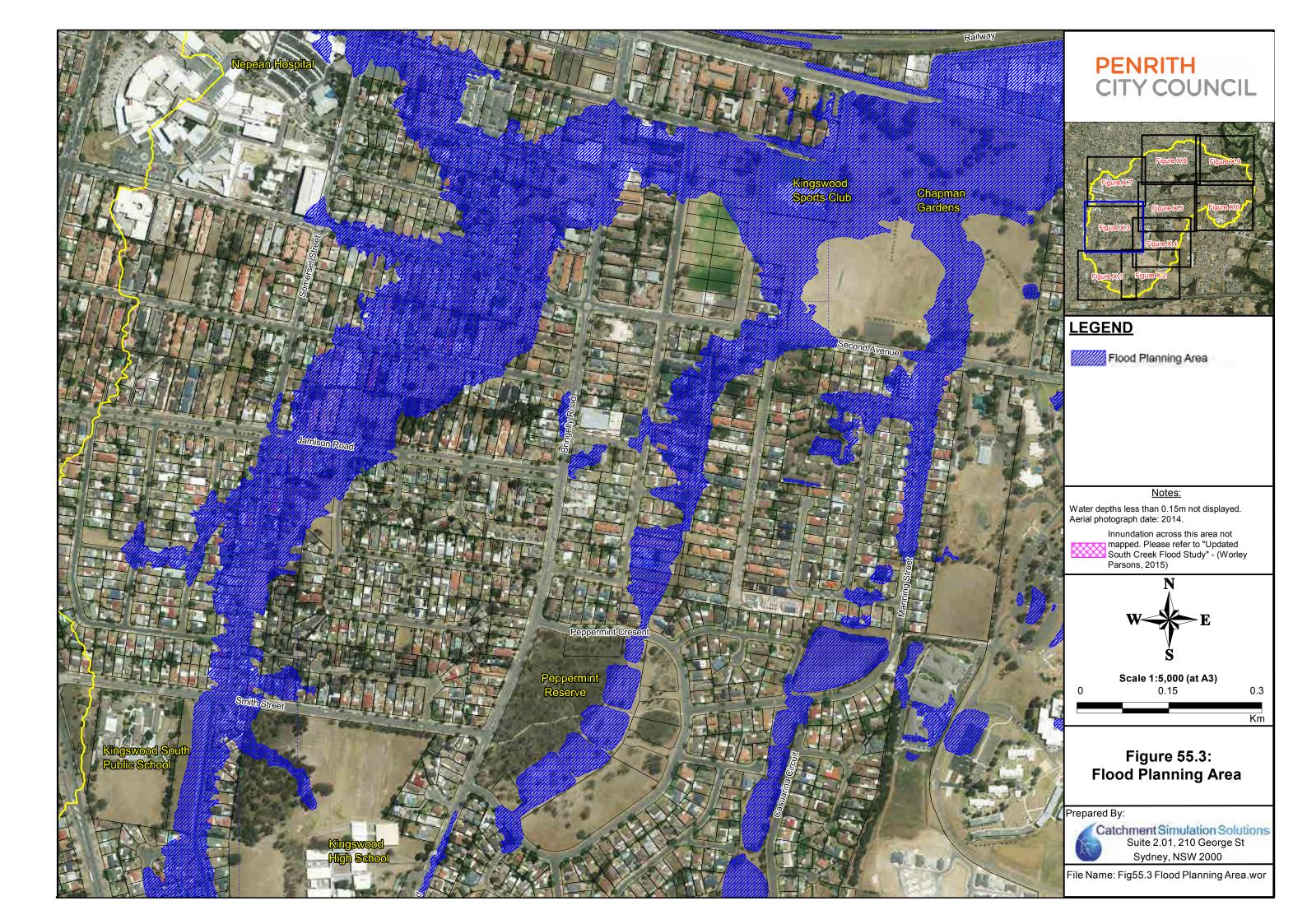


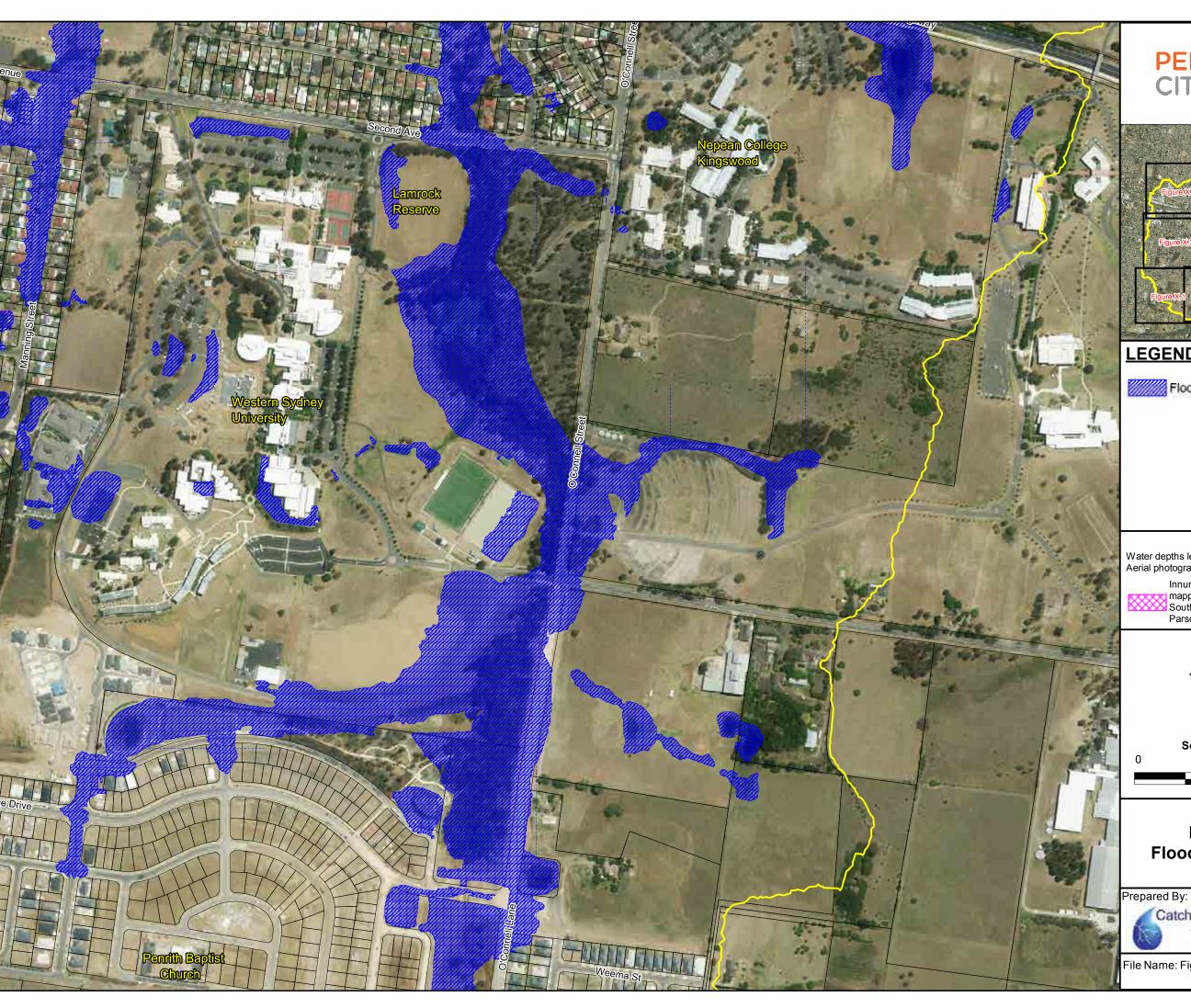












PENRITH CITY COUNCIL



LEGEND



Notes:

Water depths less than 0.15m not displayed. Aerial photograph date: 2014.

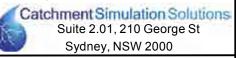
Innundation across this area not mapped. Please refer to "Updated South Creek Flood Study" - (Worley Parsons, 2015)



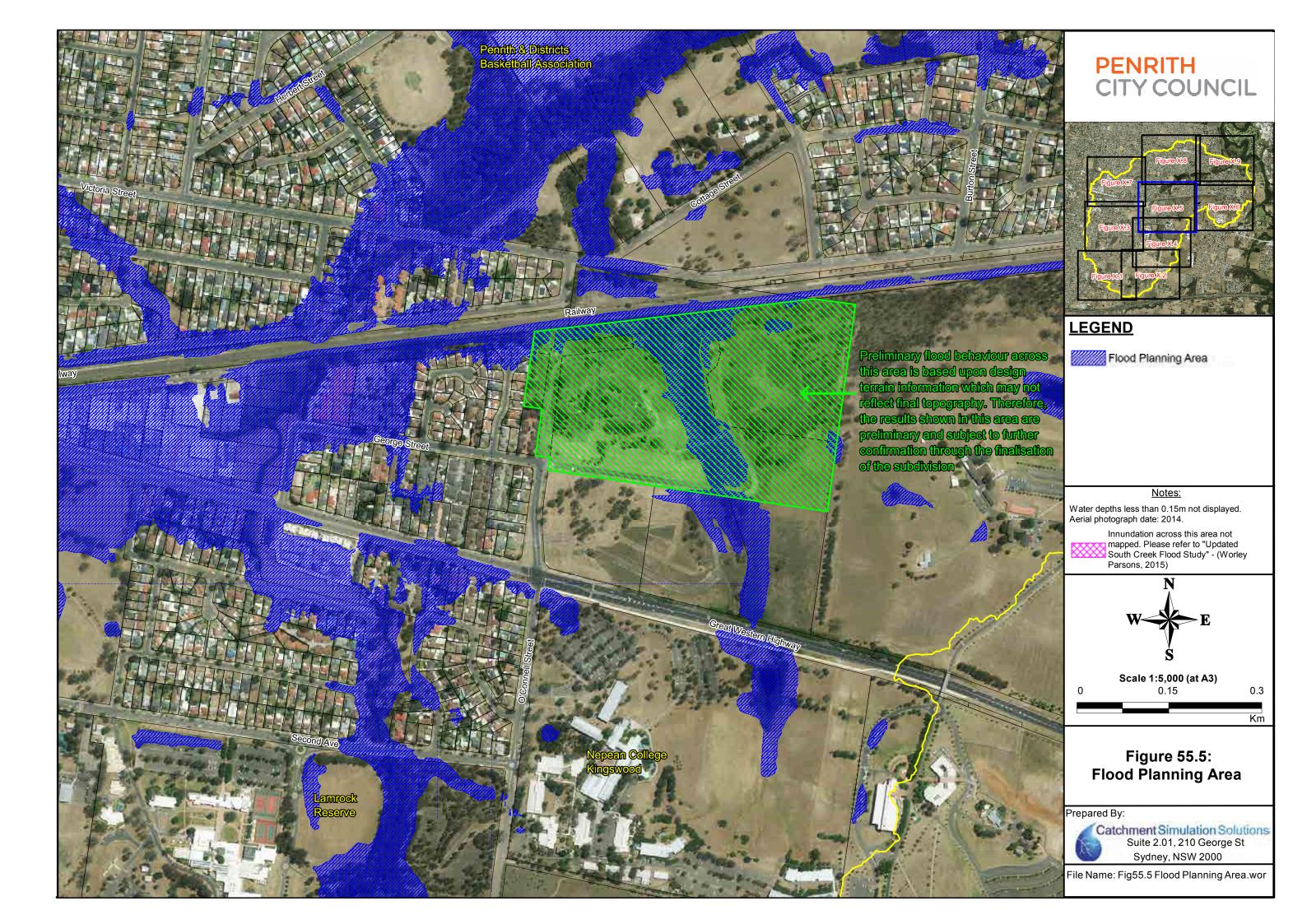
Scale 1:5,000 (at A3) 0.15

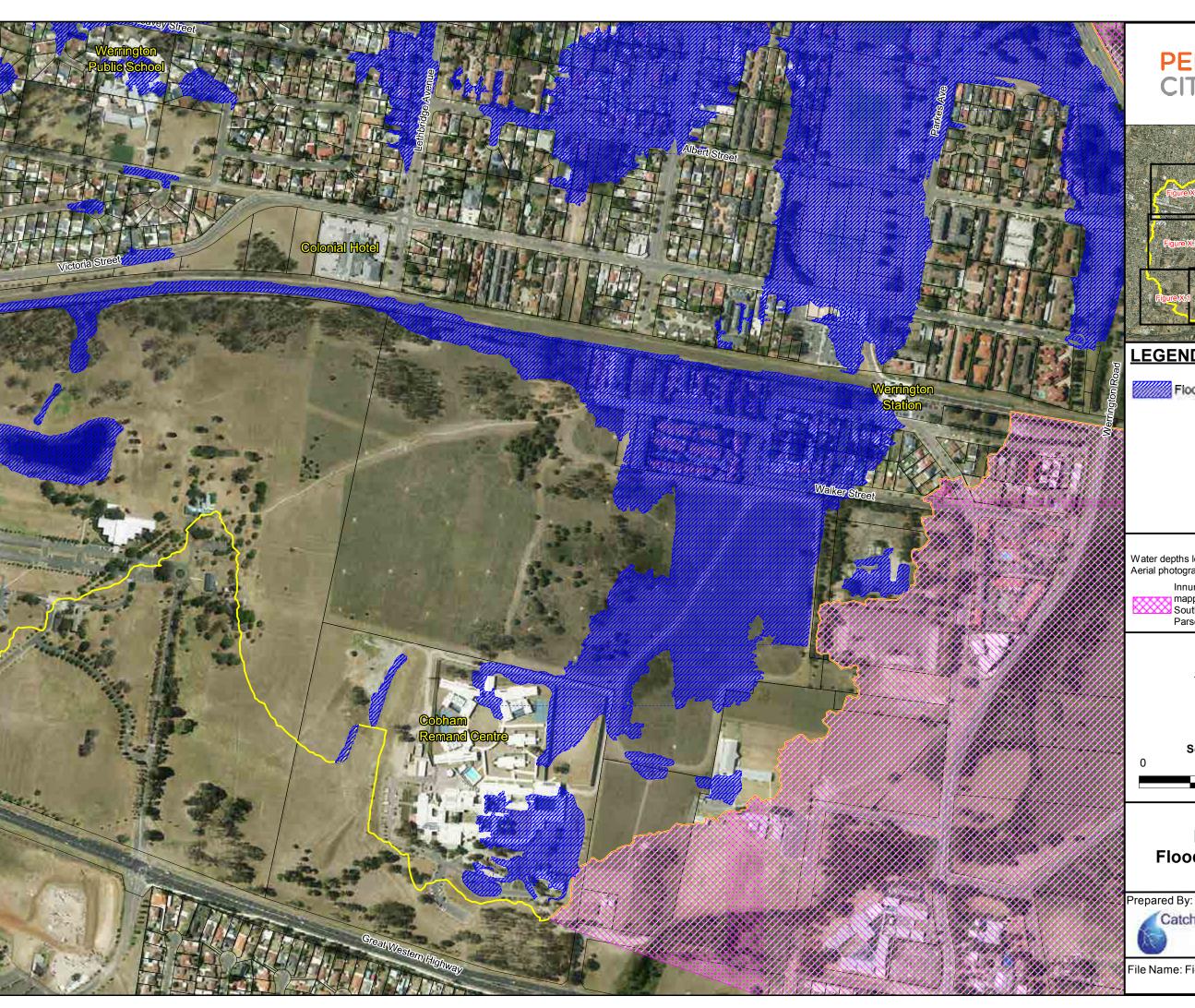
0.3

Figure 55.4: Flood Planning Area

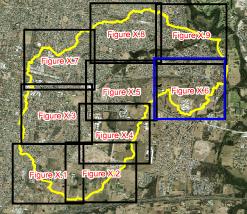


File Name: Fig55.4 Flood Planning Area.wor





PENRITH CITY COUNCIL



LEGEND



Notes:

Water depths less than 0.15m not displayed. Aerial photograph date: 2014.

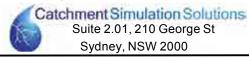
Innundation across this area not mapped. Please refer to "Updated South Creek Flood Study" - (Worley Parsons, 2015)



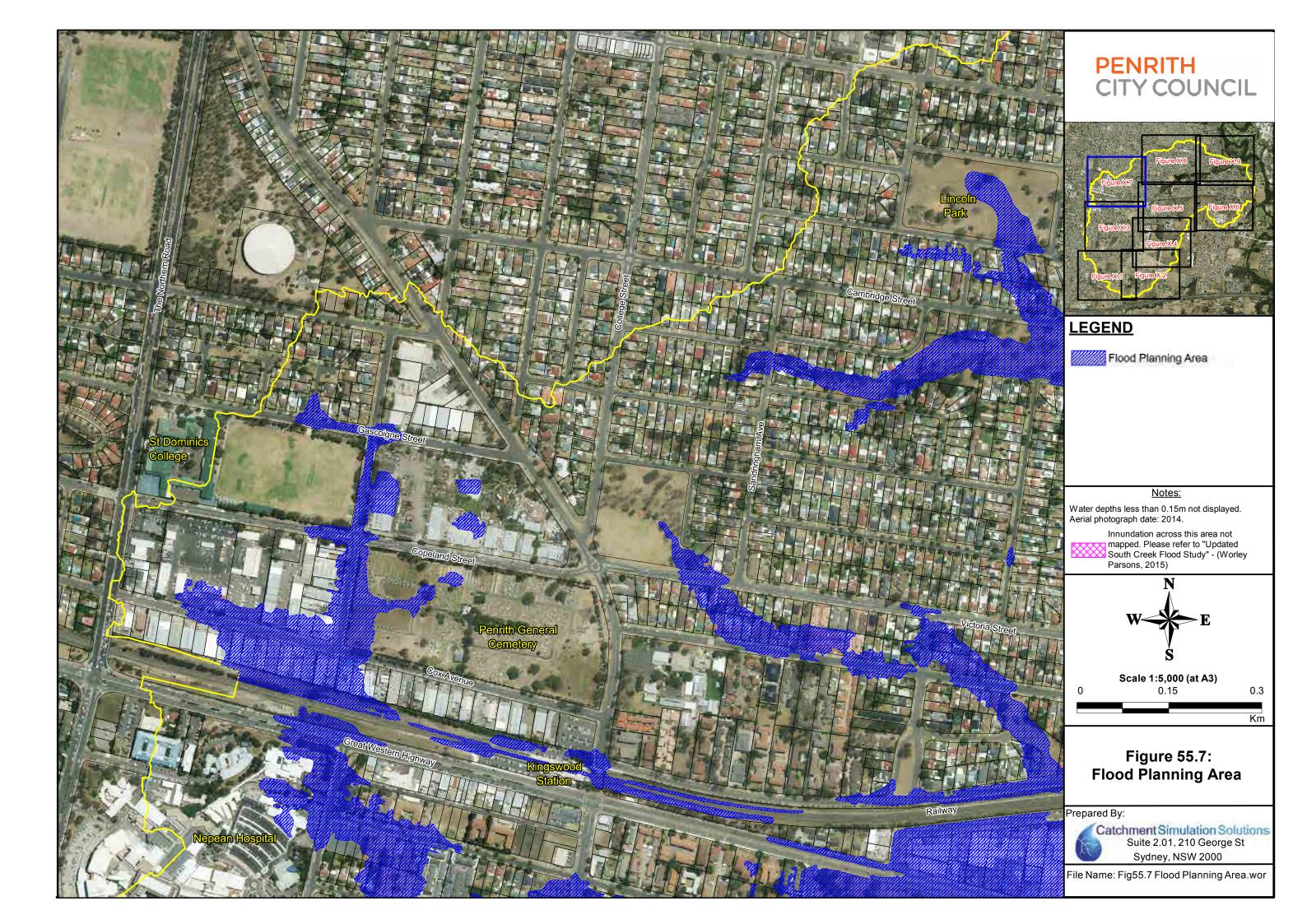
Scale 1:5,000 (at A3) 0.15

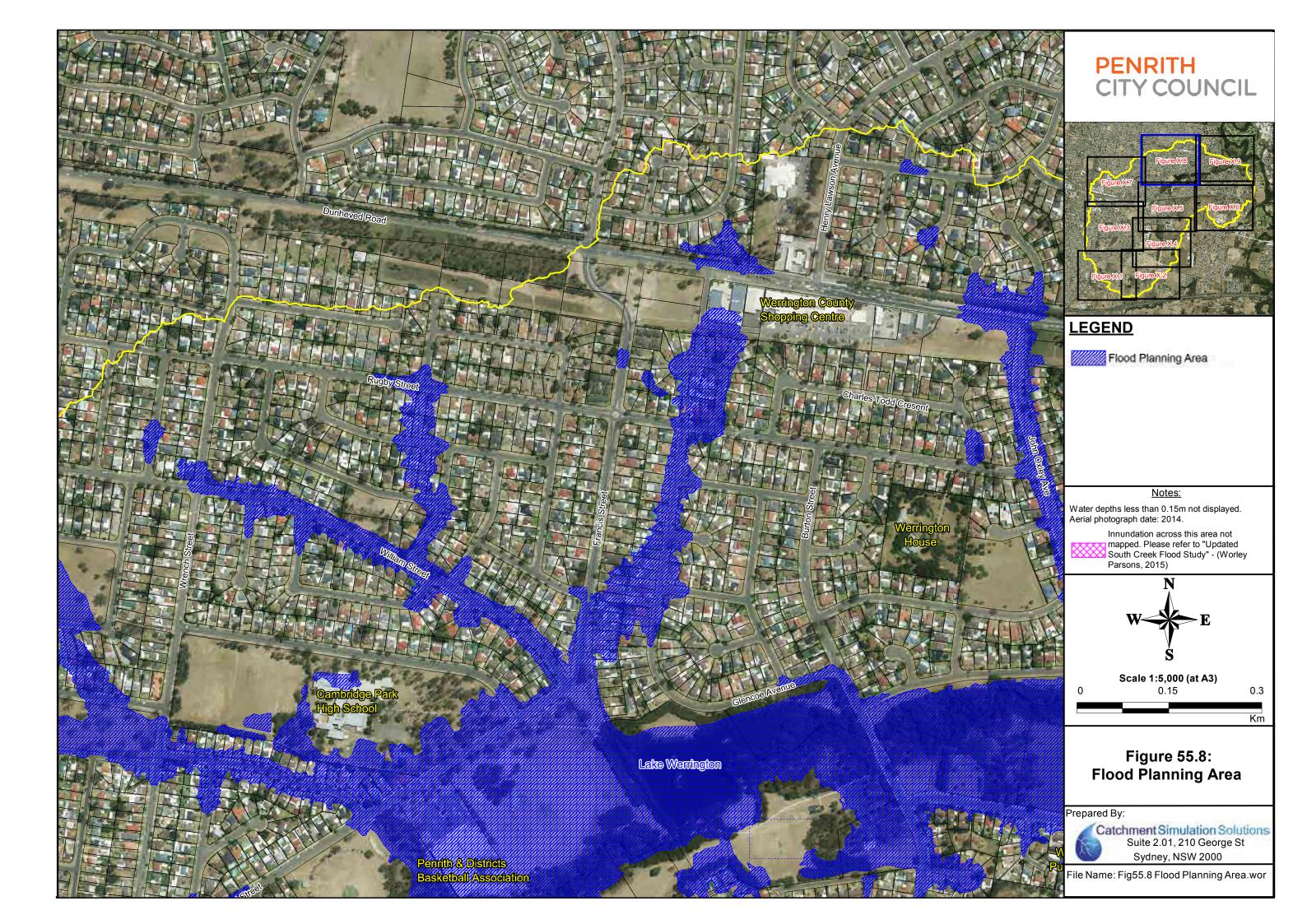
0.3

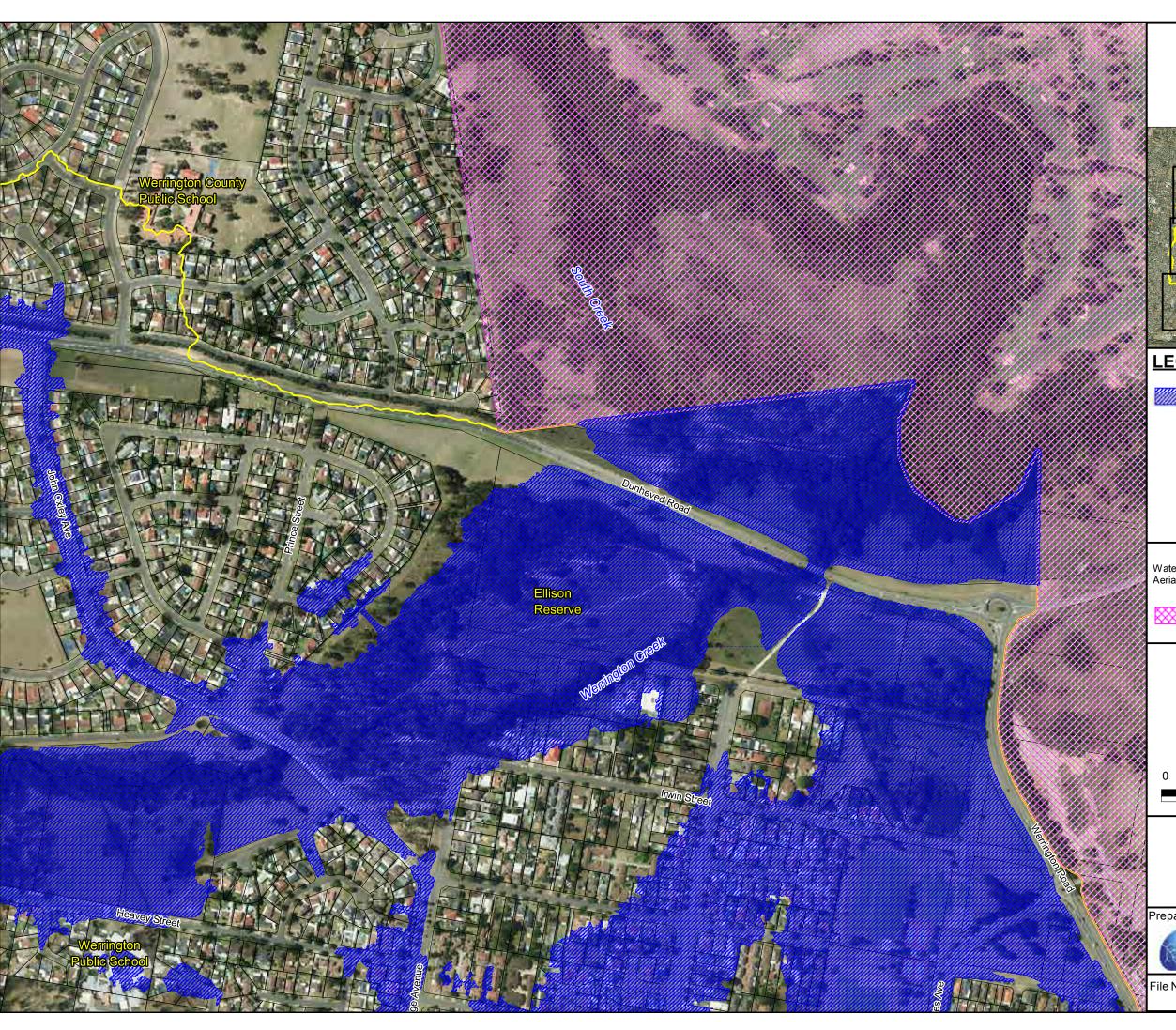
Figure 55.6: Flood Planning Area



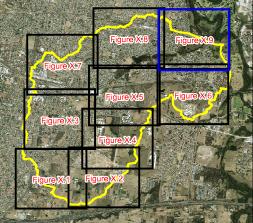
File Name: Fig55.6 Flood Planning Area.wor







PENRITH CITY COUNCIL



LEGEND



Notes:

Water depths less than 0.15m not displayed. Aerial photograph date: 2014.

Innundation across this area not mapped. Please refer to "Updated South Creek Flood Study" - (Worley Parsons, 2015)

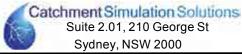


Scale 1:5,000 (at A3) 0.15

0.3

Figure 55.9: Flood Planning Area

Prepared By:



File Name: Fig55.9 Flood Planning Area.wor

