

## FLOOD INFORMATION REQUEST – MULTI-PURPOSE

**Property:** 40 Maxwell Street Mona Vale

**Lot DP:** 9//216532

**Issue Date:** 13/12/2018

**Flood Study Reference:** McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV

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### **Flood Information for lot:**

#### **Flood Life Hazard Category – See Map A**

#### **1% AEP – See Flood Map B**

**1% AEP Maximum Water Level<sup>3</sup>:** 11.52 mAHD

**1% AEP Maximum Peak Depth from natural ground level<sup>3</sup>:** 0.58 m

**1% AEP Maximum Velocity:** 0.87 m/s

**1% AEP Provisional Flood Hazard:** Low **See Flood Map E**

**1% AEP Hydraulic Categorisation:** Floodway **See Flood Map F**

#### **Flood Planning Area – See Flood Map C**

**Flood Planning Level (FPL)<sup>1,2, 3 &4</sup>:** 12.02 m AHD

#### **Probable Maximum Flood (PMF) – See Flood Map D**

**PMF Maximum Water Level<sup>2</sup>:** 11.87m AHD

**PMF Maximum Depth from natural ground level:** 0.77 m

**PMF Maximum Velocity:** 1.10 m/s

**PMF Flood Hazard:** High **See Flood Map G**

**PMF Hydraulic Categorisation:** Floodway **See Flood Map H**

## **Flood Risk Precinct – See Map K**

### **Flooding with Climate Change (See Flood Map I)**

The following is for the 30% Rainfall intensity increase and 0.9m Sea Level Rise Scenario:

**1% AEP Maximum Water Level with Climate change<sup>1&3</sup>: 11.53 m AHD**

**1% AEP Maximum Depth with Climate Change<sup>3</sup>: 0.61 m**

**1% AEP Maximum Velocity with Climate Change<sup>3</sup>: 0.80 m/s**

**PMF Maximum Water Level from natural ground level with SLR<sup>3</sup>: 11.90 m**

**PMF Maximum Depth from natural ground level with SLR<sup>3</sup>: 0.98 m**

<sup>1</sup>The flood information does not take into account any local overland flow issues nor private stormwater drainage systems.

<sup>2</sup>Overland flow/mainstream water levels may vary across a sloping site, resulting in variable minimum floor/flood planning levels across the site.

<sup>3</sup>Intensification of development in the former Pittwater LGA requires the consideration of climate change impacts which may result in higher minimum floor levels than those indicated on this flood advice.

<sup>4</sup>Vulnerable/critical developments require higher minimum floor levels using the higher of the PMF or Flood Planning Level

#### **General Notes:**

- All levels are based on Australian Height Datum (AHD) unless otherwise noted.
- This is currently the best available information on flooding; it may be subject to change in the future.
- Council recommends that you obtain a detailed survey of the above property and surrounds to AHD by a registered surveyor to determine any features that may influence the predicted extent or frequency of flooding. It is recommended you compare the flood level to the ground and floor levels to determine the level of risk the property may experience should flooding occur.
- Development approval is dependent on a range of issues, including compliance with all relevant provisions of Northern Beaches Council's Local Environmental Plans and Development Control Plans.
- Please note that the information contained within this letter is general advice only as a detail survey of the property as well as other information is not available. Council recommends that you engage a suitably experienced consultant to provide site specific flooding advice prior to making any decisions relating to the purchase or development of this property.
- The Flood Studies on which Council's flood information is based are available on Council's website.

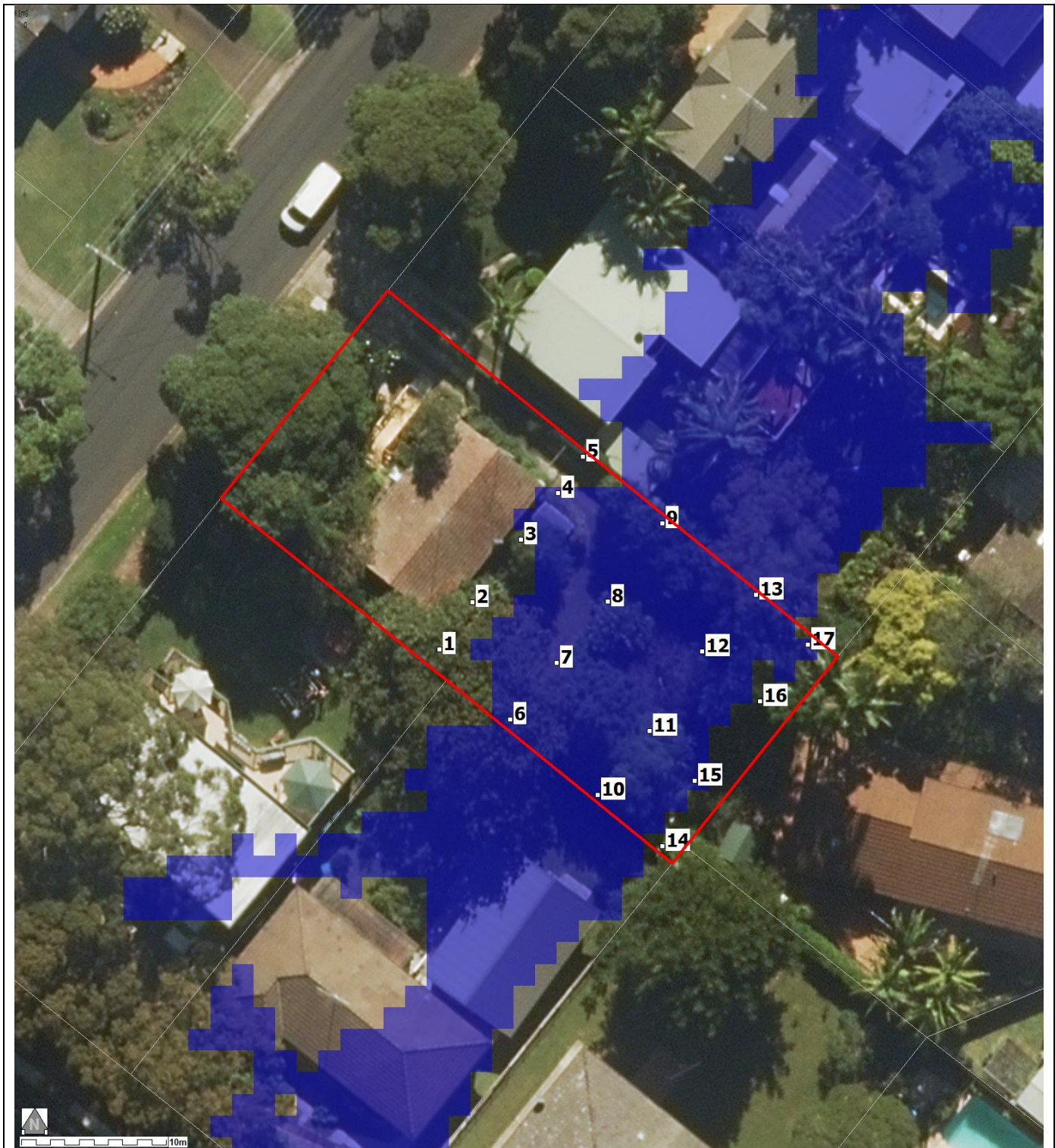
# FLOOD MAP A: FLOOD LIFE HAZARD CATEGORY



## Notes:

- Refer to 'Flood Emergency Response Planning for Development in Pittwater Policy for additional information on the Flood Life Hazard Categories and Pittwater 21 DCP Control B3.25.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source Near Map 2014) are indicative only.

# FLOOD LEVEL POINTS



Note: Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only.

## Flood Levels

ID	5% AEP Max WL (m AHD)	5% AEP Max Depth (m)	1% AEP Max WL (m AHD)	1% AEP Max Depth (m)	1% AEP Max Velocity (m/s)	Flood Planning Level (m)	PMF Max WL (m AHD)	PMF Max Depth (m)	PMF Max Velocity (m/s)
1	N/A	N/A	N/A	N/A	N/A	11.83	11.67	0.21	0.53
2	N/A	N/A	N/A	N/A	N/A	11.55	11.35	0.24	0.60
3	N/A	N/A	N/A	N/A	N/A	11.16	10.92	0.41	0.62
4	N/A	N/A	10.46	0.16	0.32	10.94	10.71	0.41	0.68
5	N/A	N/A	N/A	N/A	N/A	10.65	10.44	0.28	0.78
6	N/A	N/A	11.46	0.24	0.43	11.96	11.76	0.54	0.81
7	N/A	N/A	11.24	0.19	0.46	11.72	11.49	0.44	0.83
8	N/A	N/A	10.75	0.33	0.48	11.26	11.01	0.59	0.83
9	N/A	N/A	10.21	0.23	0.60	10.69	10.43	0.45	0.96
10	N/A	N/A	11.52	0.32	0.52	12.05	11.84	0.64	0.81
11	N/A	N/A	11.35	0.58	0.55	11.81	11.61	0.84	0.88
12	N/A	N/A	10.71	0.30	0.87	11.20	10.92	0.52	1.10
13	N/A	N/A	10.05	0.30	0.63	10.57	10.31	0.56	0.94
14	N/A	N/A	N/A	N/A	N/A	12.08	11.87	0.52	0.61
15	N/A	N/A	11.44	0.31	0.25	11.86	11.69	0.56	0.48
16	N/A	N/A	N/A	N/A	N/A	11.11	10.84	0.31	0.78
17	N/A	N/A	10.33	0.24	0.38	10.80	10.55	0.46	0.48

WL – Water Level

PMF – Probable Maximum Flood

N/A = no peak water level/depth/velocity available in flood event

**Climate Change Flood Levels** (30% Rainfall intensity and 0.9m Sea Level Rise)

<b>ID</b>	<b>CC 1% AEP Max WL (m AHD)</b>	<b>CC1 % AEP Max Depth (m)</b>
<b>1</b>	N/A	N/A
<b>2</b>	N/A	N/A
<b>3</b>	10.58	0.20
<b>4</b>	10.42	0.16
<b>5</b>	N/A	N/A
<b>6</b>	11.52	0.32
<b>7</b>	11.09	0.20
<b>8</b>	10.78	0.34
<b>9</b>	10.23	0.25
<b>10</b>	11.48	0.46
<b>11</b>	11.37	0.61
<b>12</b>	10.72	0.33
<b>13</b>	10.26	0.31
<b>14</b>	11.53	0.33
<b>15</b>	11.47	0.28
<b>16</b>	10.78	0.18
<b>17</b>	10.28	0.24

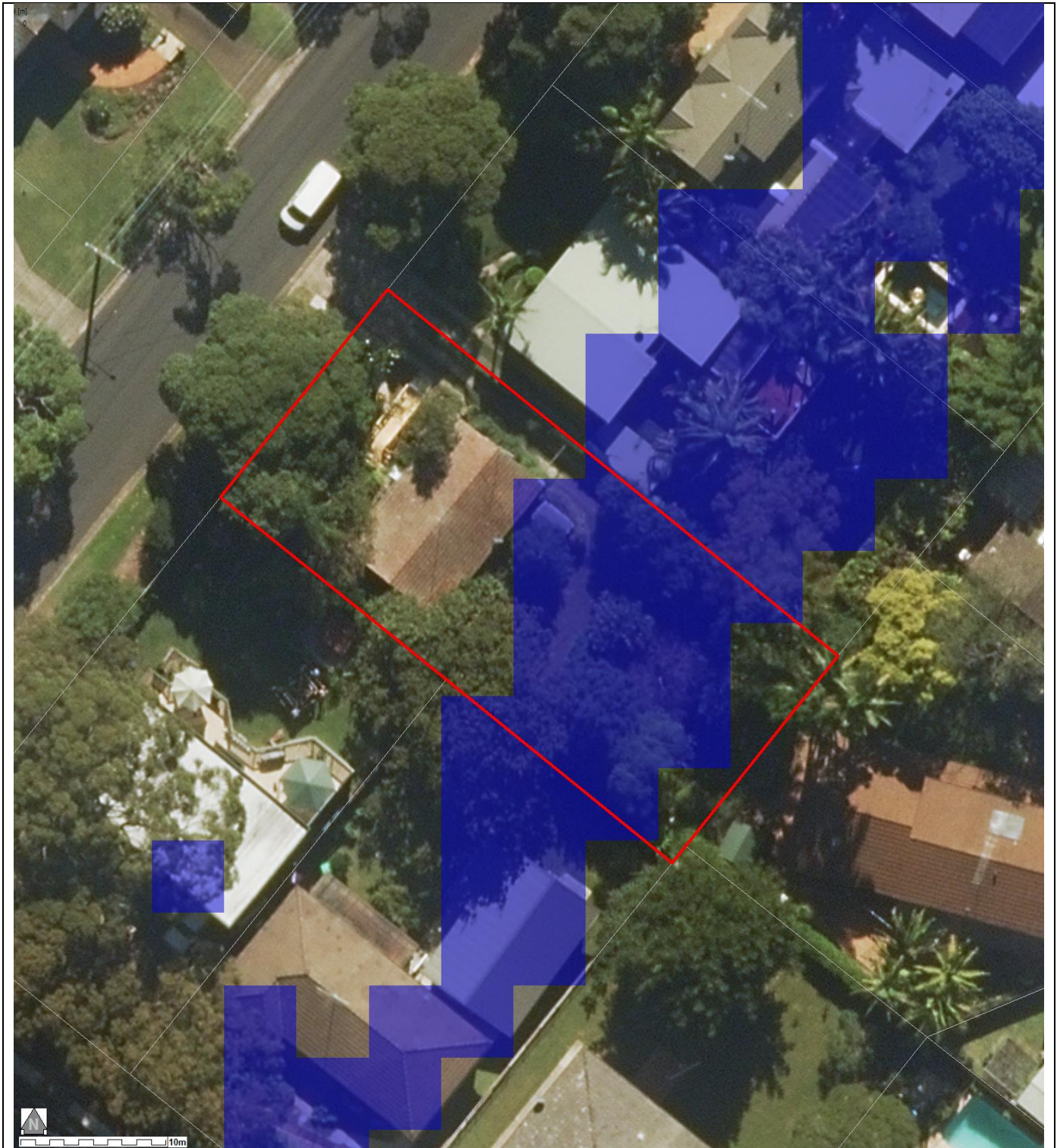
A variable Flood Planning Level might apply - 0.5m above 1% AEP max water level (for Mainstream flooding) or 0.5m above the 1% AEP max water level flow path extent with depth greater than 0.3m and 0.3m above the 1% AEP max water level flow path with depth 0.3m and less (for overland flow)

WL – Water Level

PMF – Probable Maximum Flood

N/A = no peak water level/depth/velocity available in flood event.

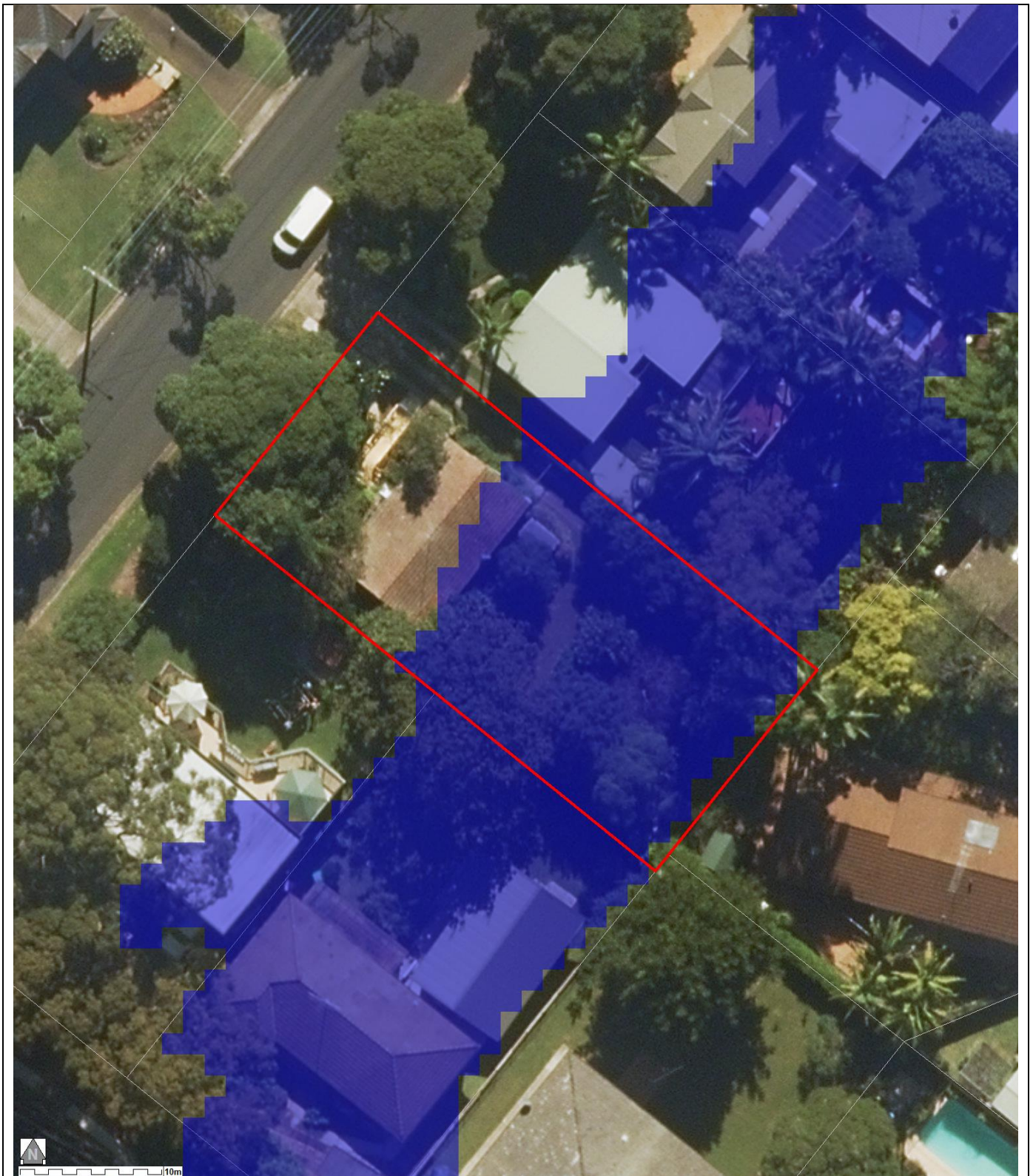
## FLOOD MAP B: FLOODING - 1% AEP EXTENT



### Notes:

- Extent represents the 1% annual Exceedance Probability (AEP) flood event.
- Flood events exceeding the 1% AEP can occur on this site.
- Extent does not include climate change.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source Near Map 2014) are indicative only.

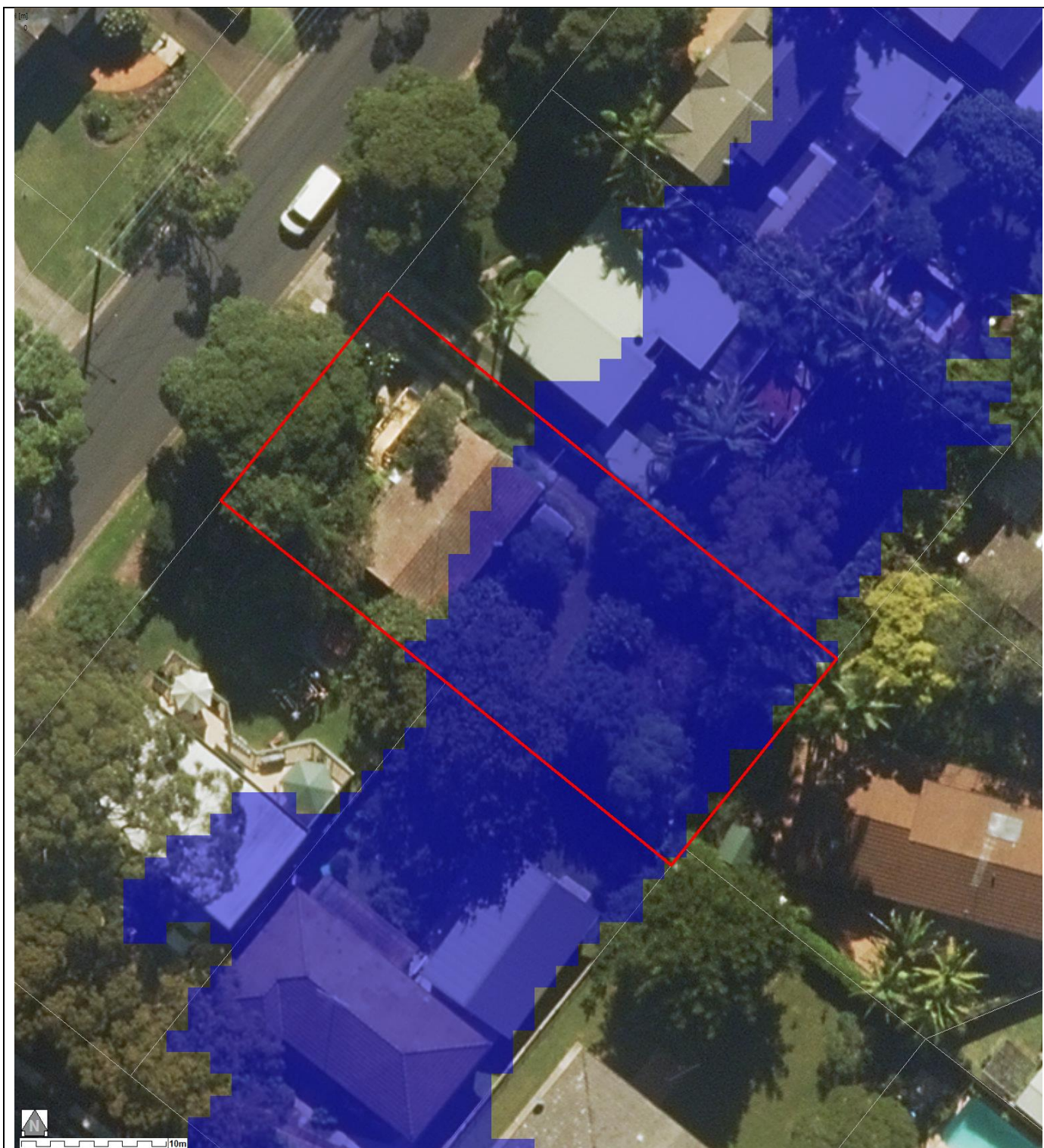
## FLOOD MAP C: FLOOD PLANNING AREA EXTENT



### Notes:

- Extent represents the 1% annual Exceedance Probability (AEP) flood event + freeboard.
- Extent does not include climate change.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source Near Map 2014) are indicative only.

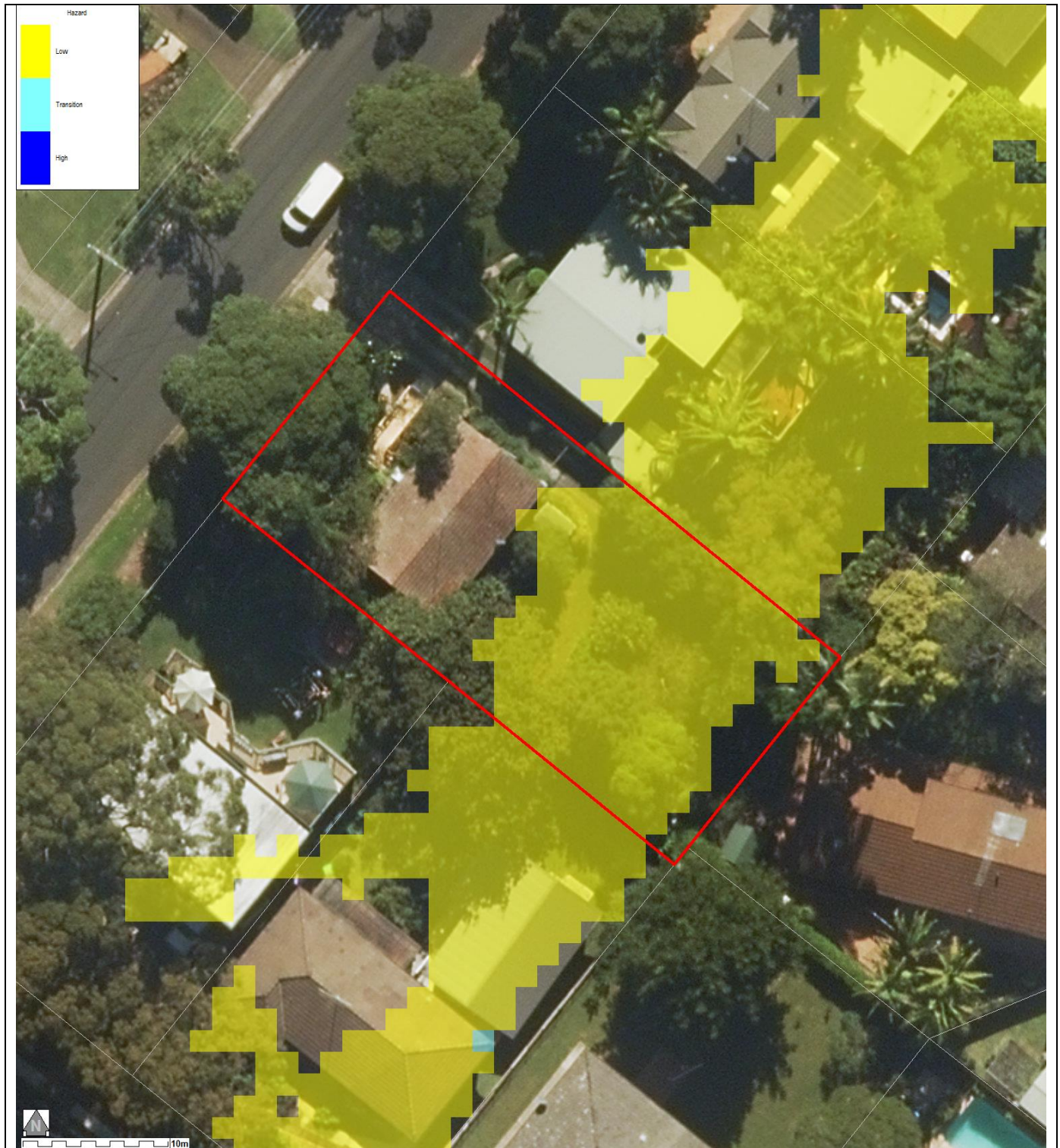
## FLOOD MAP D - PMF EXTENT MAP



### Notes:

- extent represents the Probable Maximum Flood (PMF) flood event
- extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only

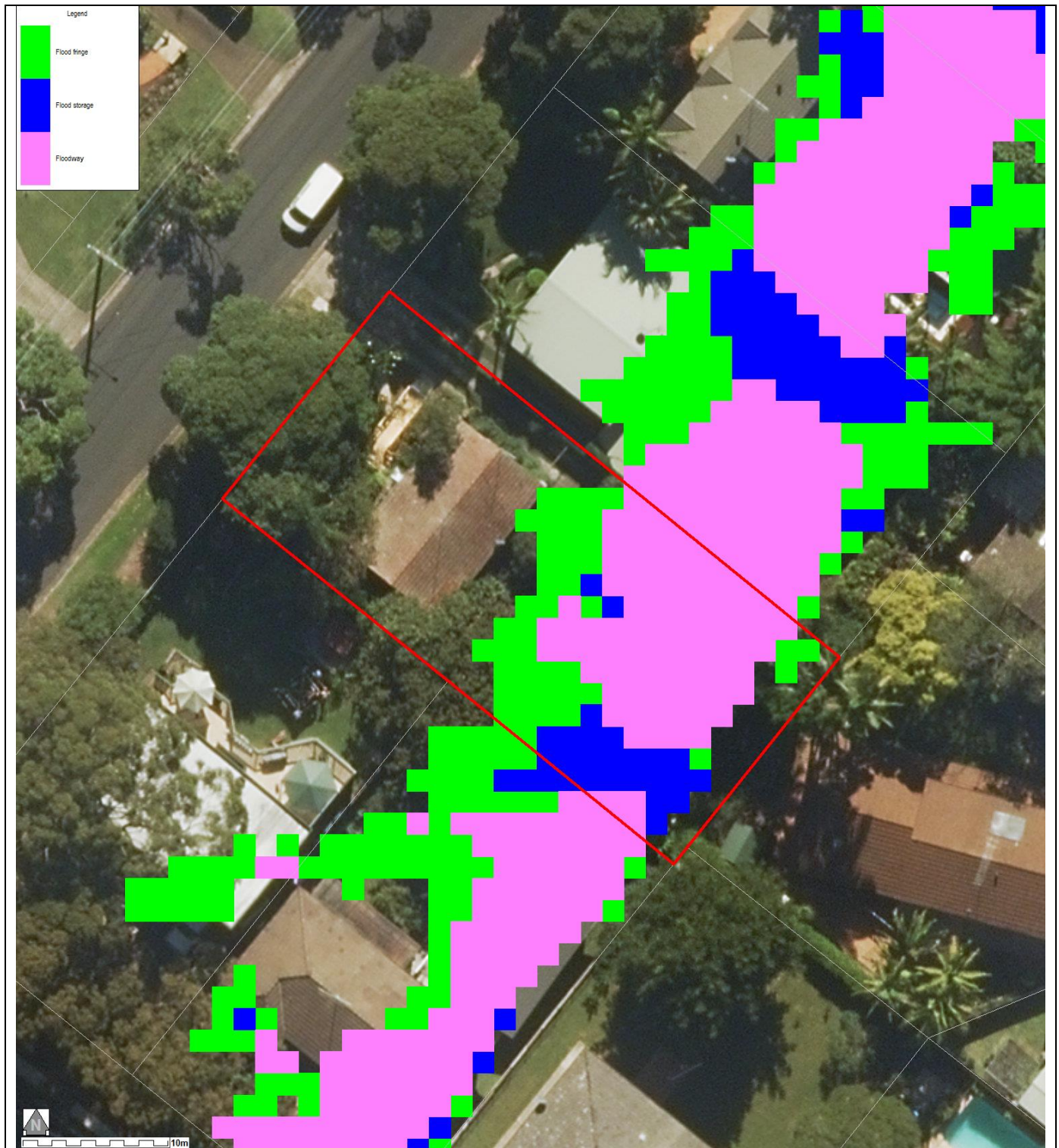
# FLOOD MAP E – 1% AEP FLOOD HAZARD EXTENT MAP



## Notes:

- extent represents the 1% annual Exceedance Probability (AEP) flood event
- extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only

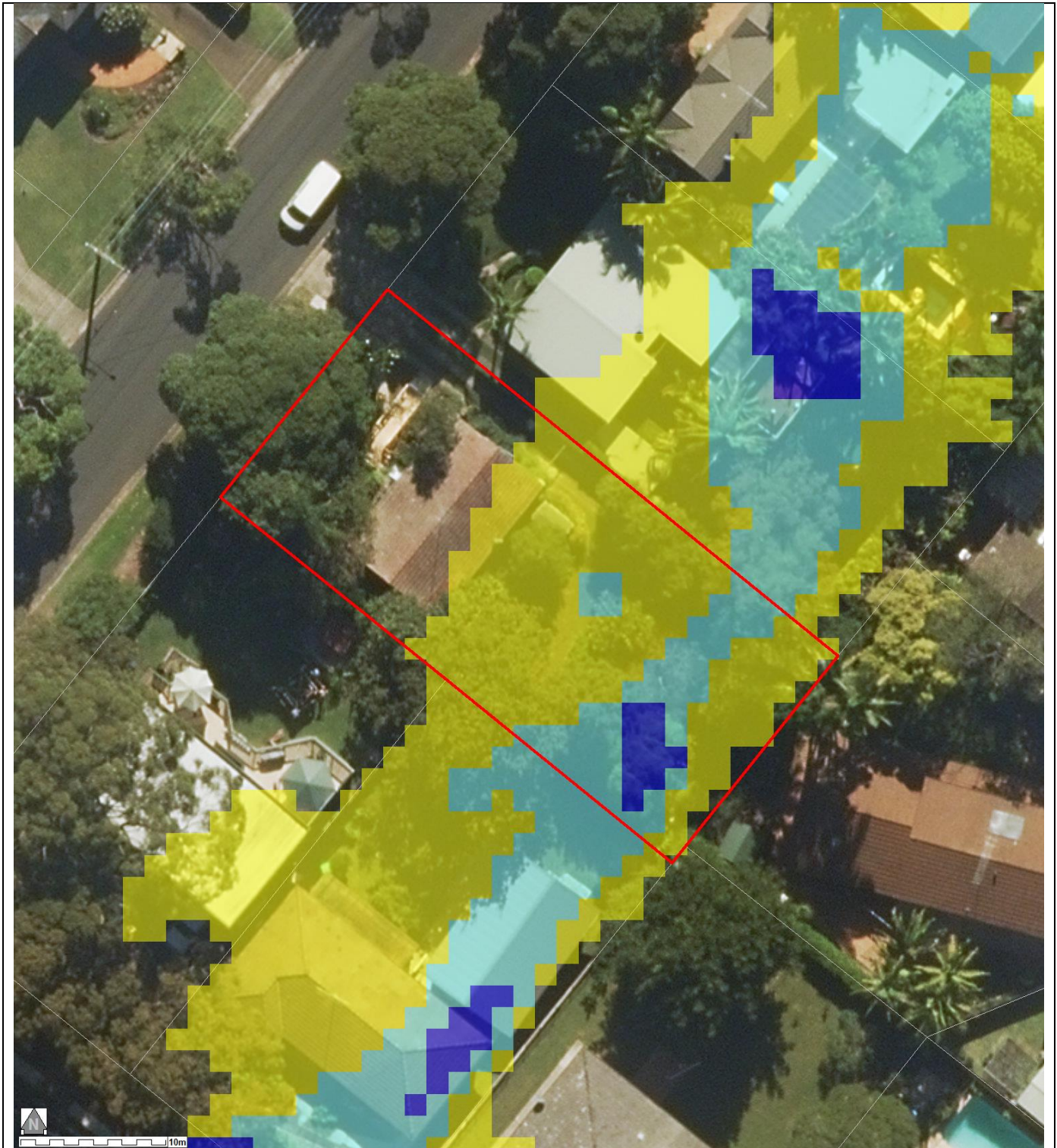
# FLOOD MAP F – 1% AEP FLOOD HYDRAULIC CATEGORY EXTENT MAP



## Notes:

- extent represents the 1% annual Exceedance Probability (AEP) flood event
- extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only

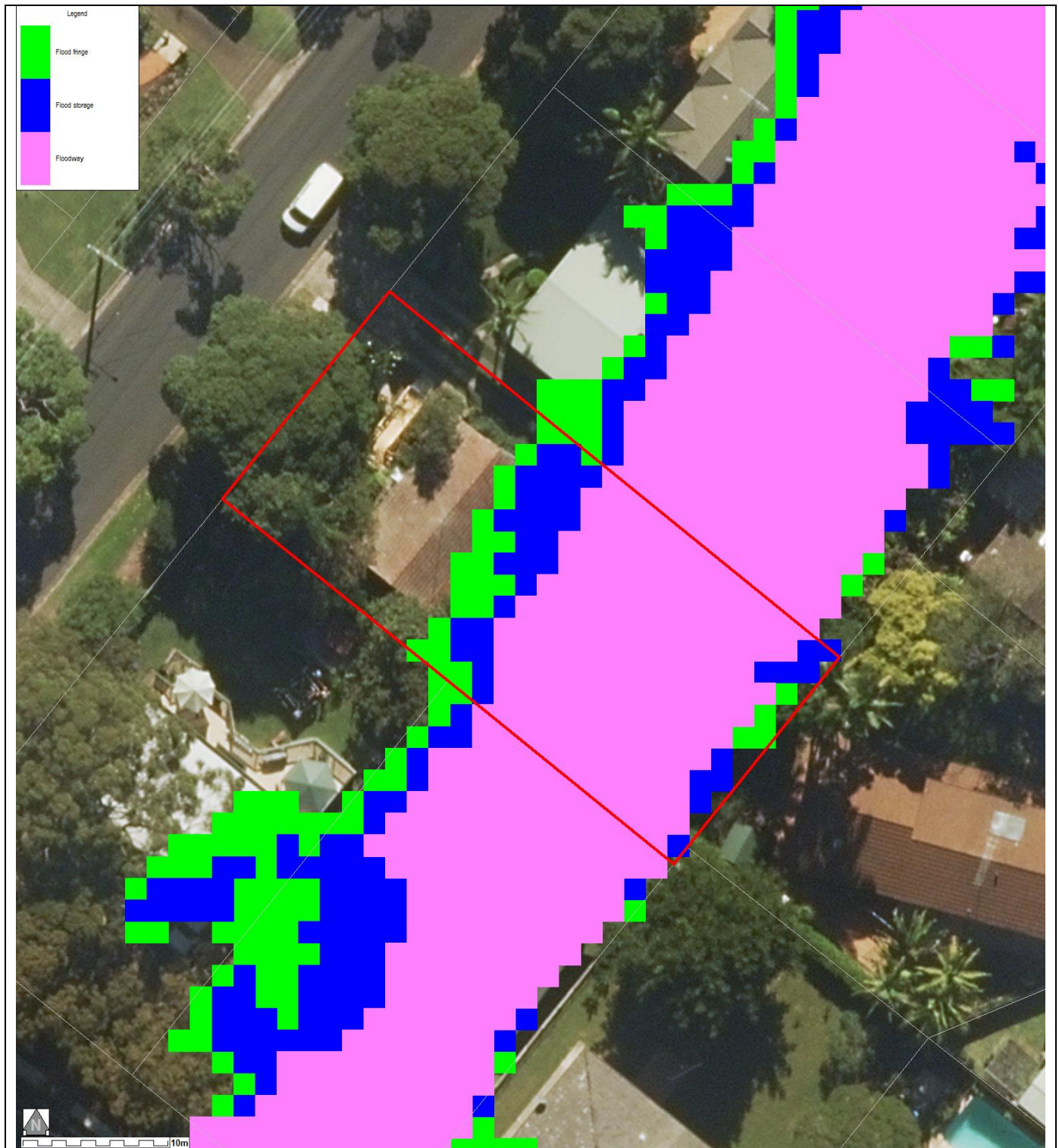
## FLOOD MAP G – PMF FLOOD HAZARD EXTENT MAP



### Notes:

- extent represents the 1% annual Exceedance Probability (AEP) flood event
- extent represents the Probable Maximum Flood (PMF) event
- extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only

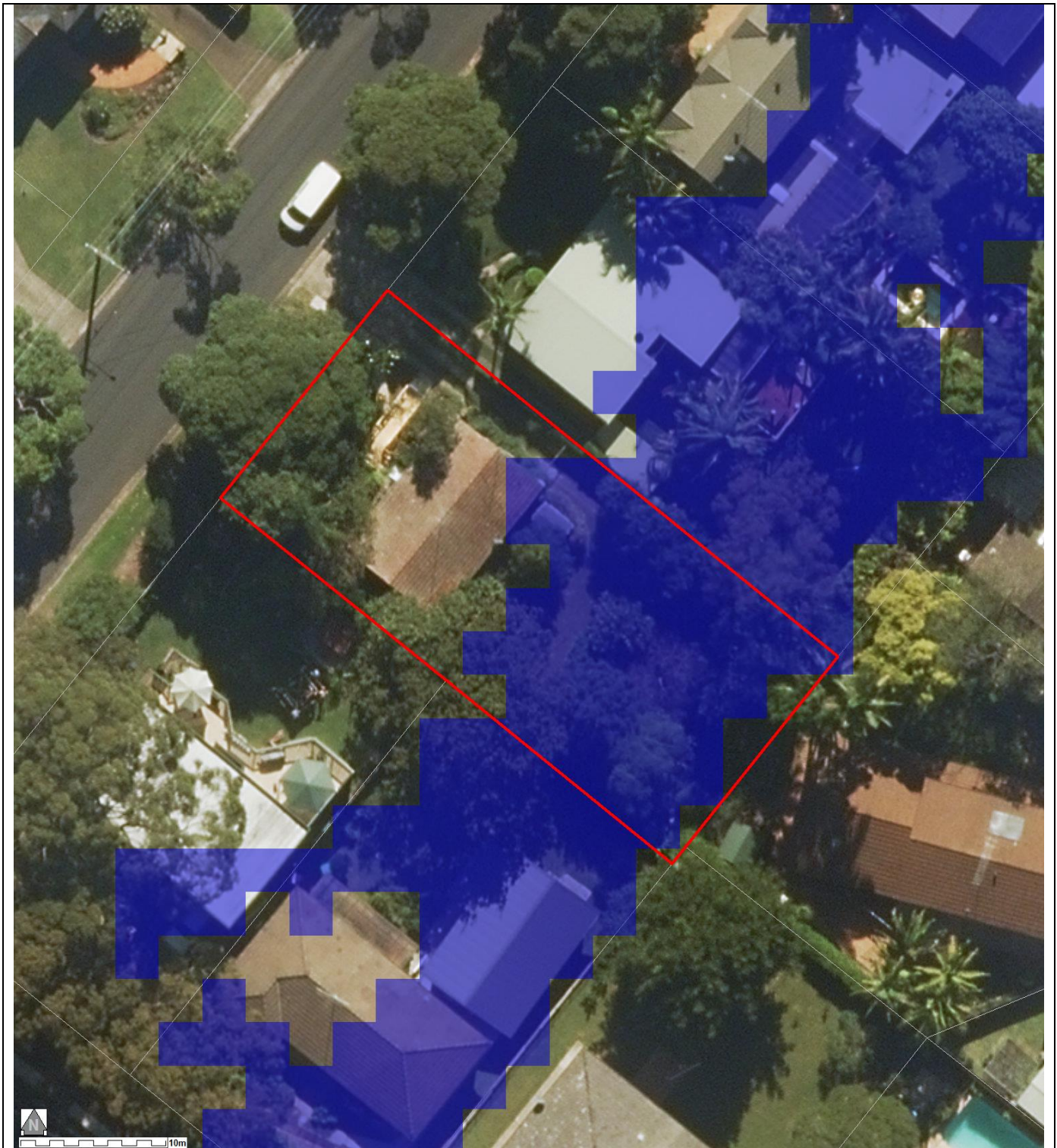
# FLOOD MAP H – PMF FLOOD HYDRAULIC CATEGORY EXTENT MAP



## Notes:

- extent represents the Probable Maximum Flood (PMF) event
- extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only

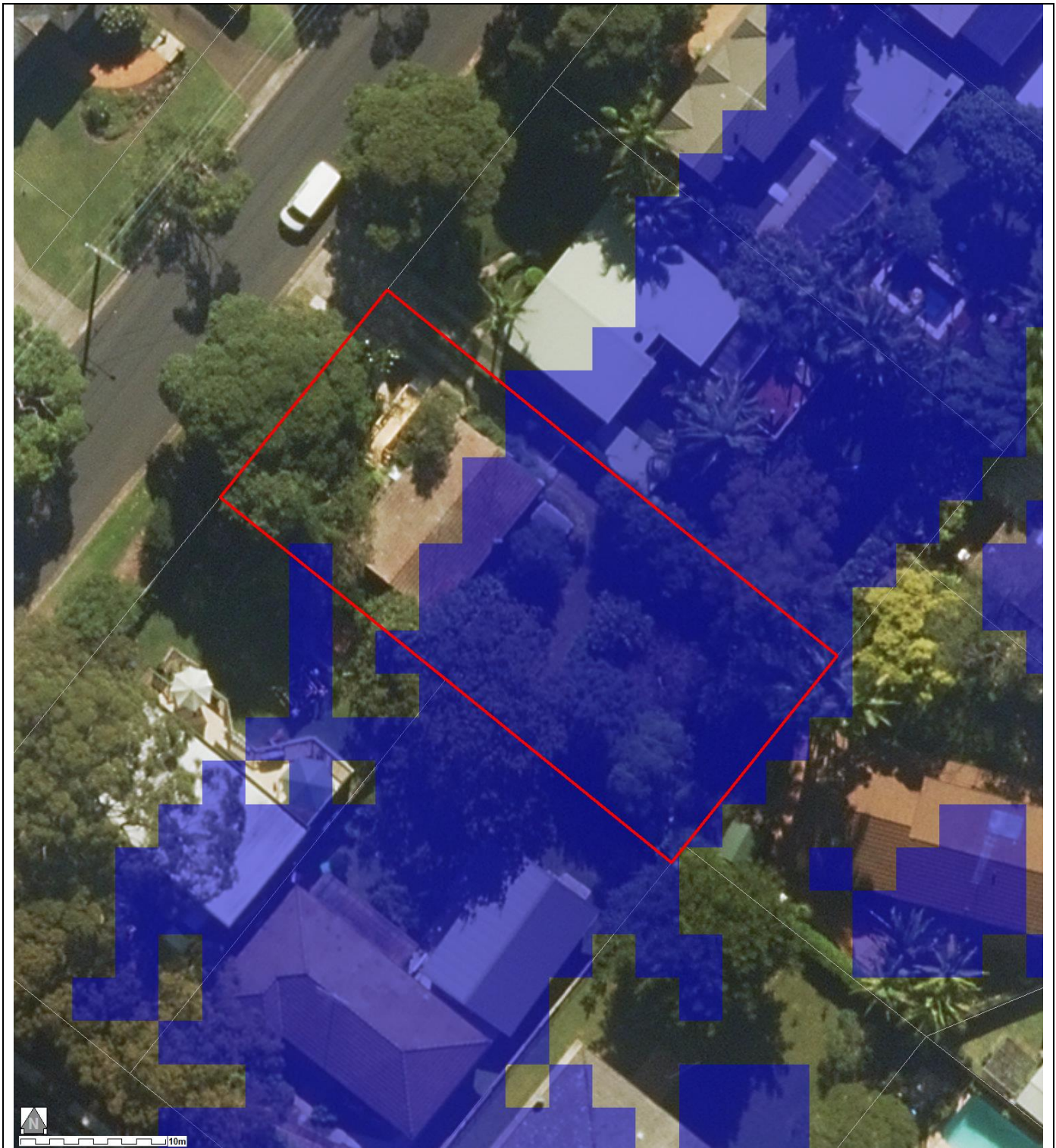
# FLOOD MAP I: FLOODING – 1% AEP EXTENT PLUS CLIMATE CHANGE



## Note Notes:

- extent represents the 1% annual Exceedance Probability (AEP) flood event
- includes 30% rainfall intensity and 0.9m Sea Level Rise climate change scenario
- Flood events exceeding the 1% AEP can occur on this site.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only

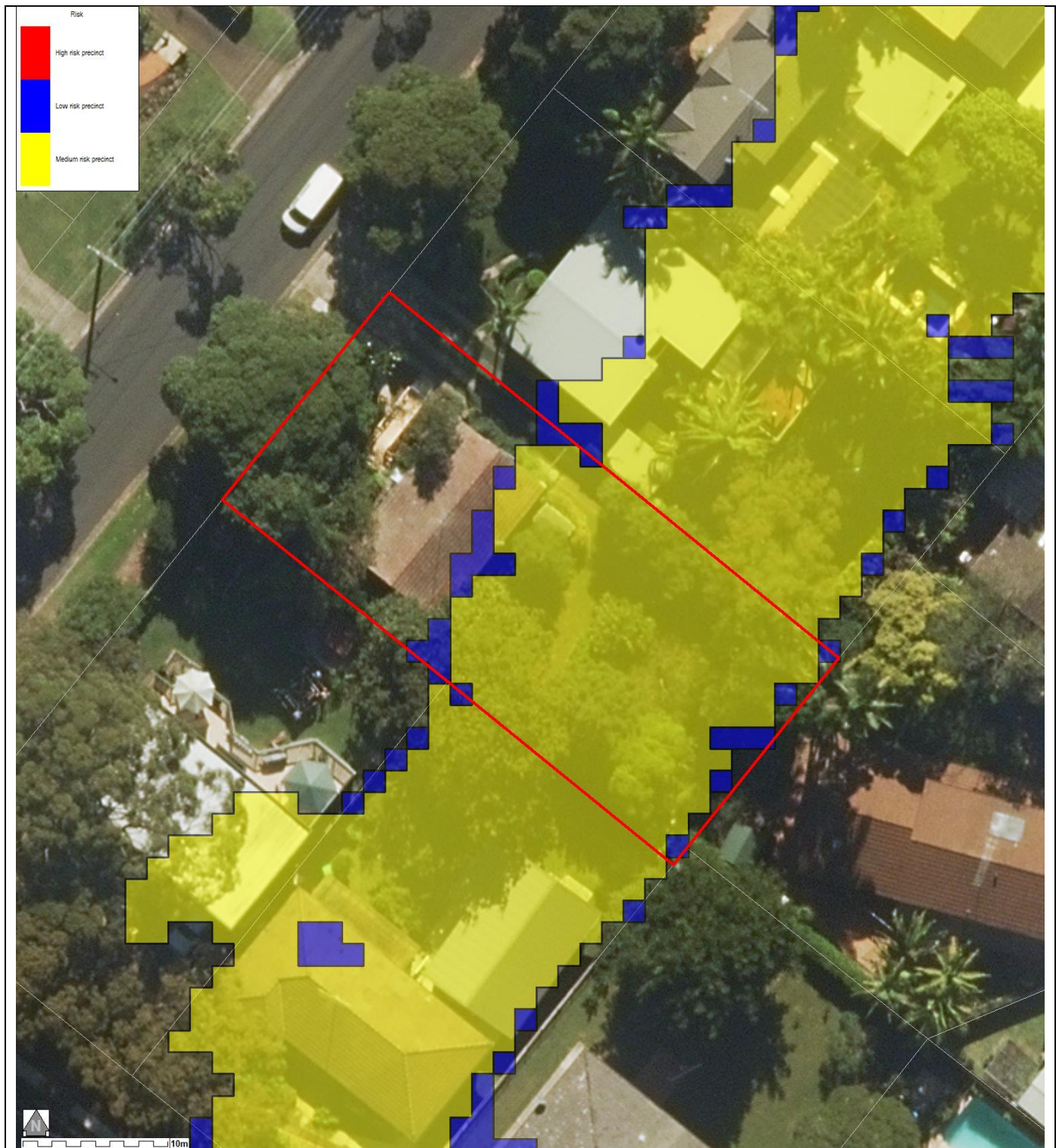
# FLOOD MAP J: FLOODING – PMF EXTENT PLUS SEA LEVEL RISE



## Note Notes:

- extent represents the PMF flood event
- includes 0.9m Sea Level Rise climate change scenario
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: McCarrs Creek, Mona Vale and Bayview Flood Study Review 2017, Royal HaskoningDHV) and aerial photography (Source: NearMap 2014) are indicative only

# FLOOD MAP K – FLOOD RISK PRECINCT MAP



## Notes:

- **Low Flood Risk precinct** means all flood prone land not identified within the High or Medium flood risk precincts.
- **Medium Flood Risk precinct** means all flood prone land that is (a) within the 1% AEP Flood Planning Area; and (b) is not within the high flood risk precinct.
- **High Flood Risk precinct** means all flood prone land (a) within the 1% AEP Flood Planning Area; and (b) is either subject to a high hydraulic hazard, within the floodway or subject to significant evacuation difficulties (H5 and or H6 Life Hazard Classification).
- Does not include climate change