Structural
Civil
Traffic
Façade

1 October 2019 191571 CAAA

EPM Projects
Level 2
146 Arthur Street
North Sydney NSW 2060

Attention: Marcus Bankowski

OXFORD FALLS GRAMMAR SCHOOL - OVAL KIOSK

Civil Engineering Statement

Dear Marcus,

This letter aims to provide a review of overland flow and flooding requirements in the context of the proposed Oval Kiosk at Oxford Falls Grammar School. Concept drawings are attached in Appendix A.

Oxford Falls Grammar School is located within the bounds of Northern Beaches Council in Oxford Falls. The proposed Oval Kiosk is proposed in the south-west of the site near the corner of Dreadnought Road and Wakehurst Parkway as indicated within Figure 1.

Figure 1: Oval Kiosk Location

Flood planning advice received from Northern Beaches Council indicates a flood planning level at the Oxford Falls Grammar School site of 75.25m AHD with a Probable Maximum Flood (PMF) level of 75.34m AHD.

The location of the Oval Kiosk is located outside of the Flood Planning Area as shown in Council's flood mapping and therefore will not be affected during the 1% AEP storm event and PMF. The location of this kiosk in relation to the proposed flood levels is detailed in Appendix B. The proposed finished floor level of the kiosk is equal to 76.40 AHD which is above the maximum water level in the PMF.

There are no significant overland flow paths being blocked by the kiosk as indicated on the site survey. Localised overland flow is proposed to be directed around the kiosk through a spoon drain that will be appropriately sized for the upstream catchment during detailed design.

Due to the location of the Oval Kiosk and its proposed height, the proposal is satisfactory with regards to flooding and overland flow.

Should you require anything further please contact the undersigned.

Yours faithfully,
TAYLOR THOMSON WHITTING (NSW) PTY LTD
in its capacity as trustee for the
TAYLOR THOMSON WHITTING NSW TRUST

PAUL YANNOULATOS
Technical Director

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Appendix A

Concept Drawings prepared by Allen Jack and Cottier

DRAWING LIST - OVAL KIOSK	
DRAWING NO.	SHEET NAME
REF0000	COVER SHEET
REF1000	SITE PLAN
REF2000	FLOOR PLAN
REF3100	ELEVATION
REF3200	SECTION
REF4000	DRAINAGE & SEDIMENT CONTROL PLAN

FOR REVIEW OF ENVIRONMENTAL FACTORS

OFGS Oval Kiosk

1078 Oxford Falls Road,
OXFORD FALLS NSW 2100

Revisions

No.	Date	Description	Chk'd	Appr'd
1	24/09/19	DRAFT FOR COMMENT	NZ	JW
2	26/09/19	ISSUE TO CIVIL FOR REVIEW	NZ	JW
3	1/10/19	ISSUE TO REF	NZ	JW

Key

Client
Oxford Falls Grammar School

Architect
AJ+C Allen Jack+Cottier
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ABN 53 003 782 250

Project
OFGS Oval Kiosk
1078 Oxford Falls Road,
OXFORD FALLS NSW 2100
Proj. No. 00000

Drawing Title
COVER SHEET

Project Status
NOT FOR CONSTRUCTION

Scale

Drawing No. REF0000 Issue 3

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Project
OFGS Oval Kiosk
1078 Oxford Falls Road,
OXFORD FALLS NSW 2100

Proj. No. 00000

Drawing Title
SITE PLAN

Project Status
NOT FOR CONSTRUCTION

Scale
1 : 500
@A3

Drawing No.
REF1000

Issue
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Author

PLOTTED & CHECKED BY:

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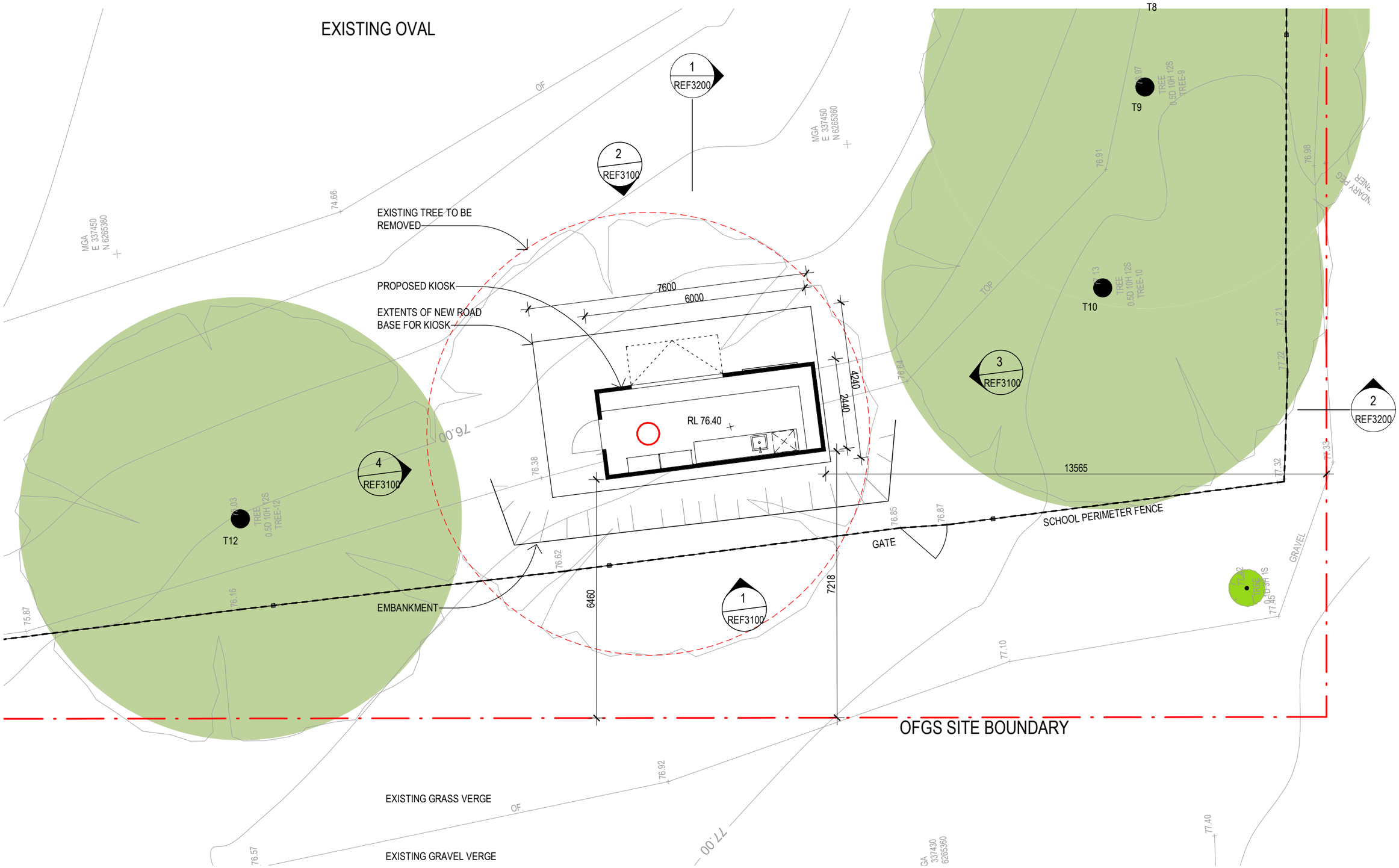

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ABN 53 003 782 250

Project
OFGS Oval Kiosk
1078 Oxford Falls Road,
OXFORD FALLS NSW 2100
Proj. No. 00000

Drawing Title
FLOOR PLAN

Project Status
NOT FOR CONSTRUCTION

Scale
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@A3

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REF2000 | 3

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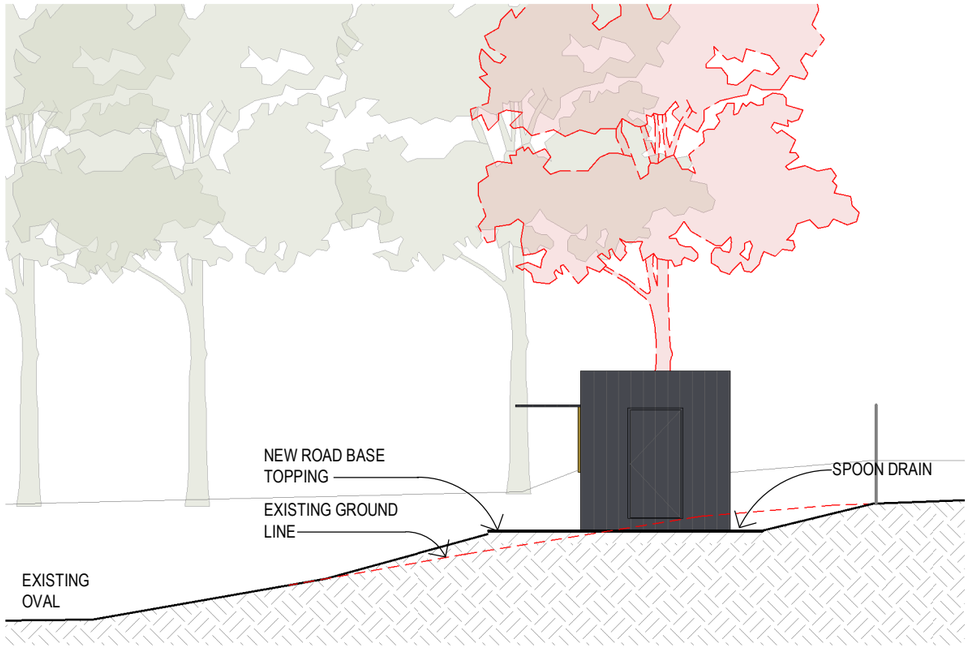

4 KIOSK NORTH ELEVATION

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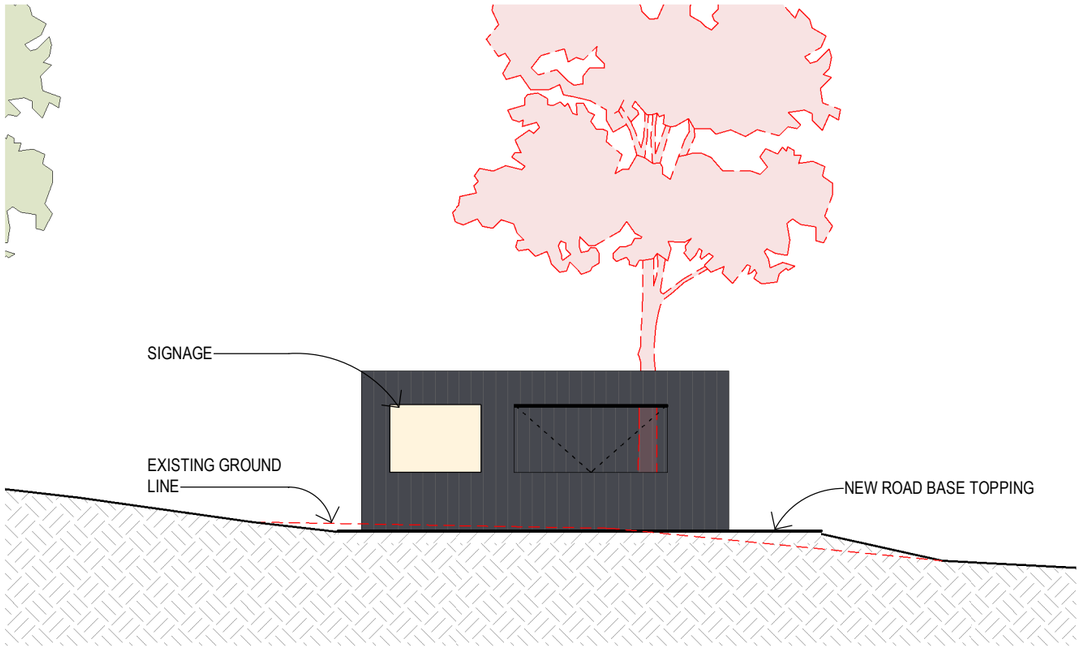
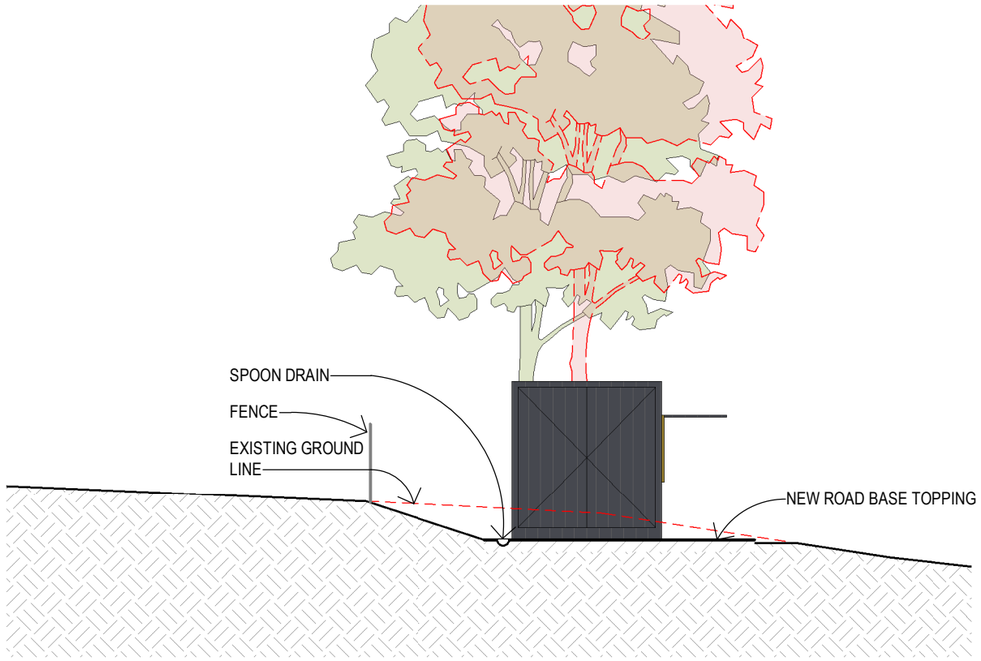


2 KIOSK EAST ELEVATION

1 : 100

MATERIALS AND COLOURS

SHIPPING CONTAINER STEEL,
CHARCOAL PAINT FINISH



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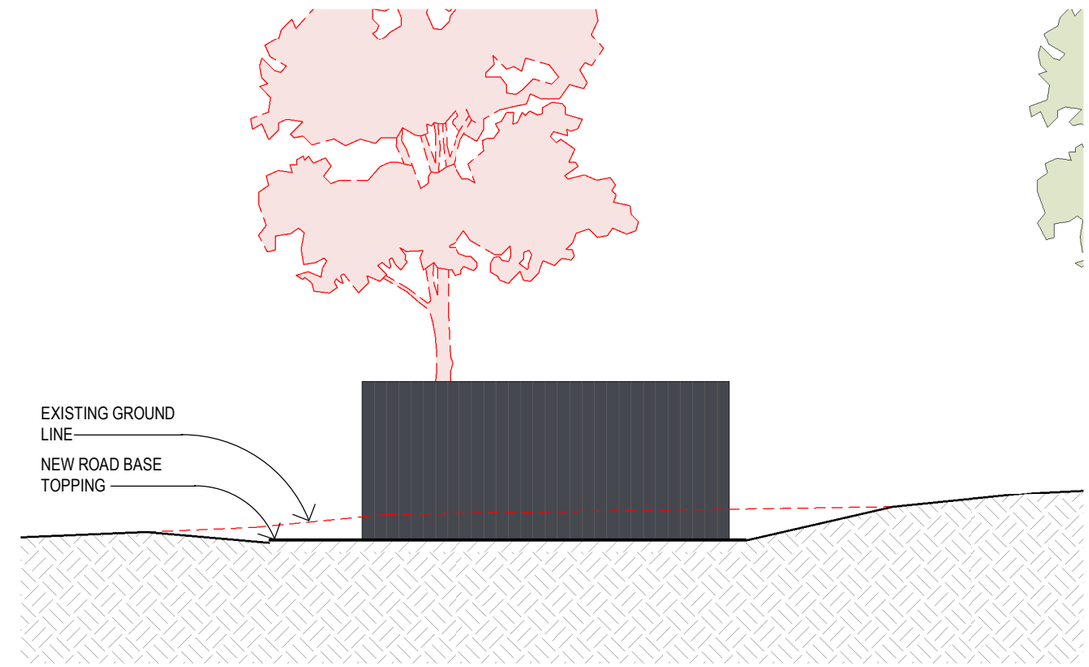

1 KIOSK WEST ELEVATION

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ABN 53 003 782 250

Project
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OXFORD FALLS NSW 2100
Proj. No. 00000

Drawing Title
ELEVATION

Project Status
NOT FOR CONSTRUCTION

Scale
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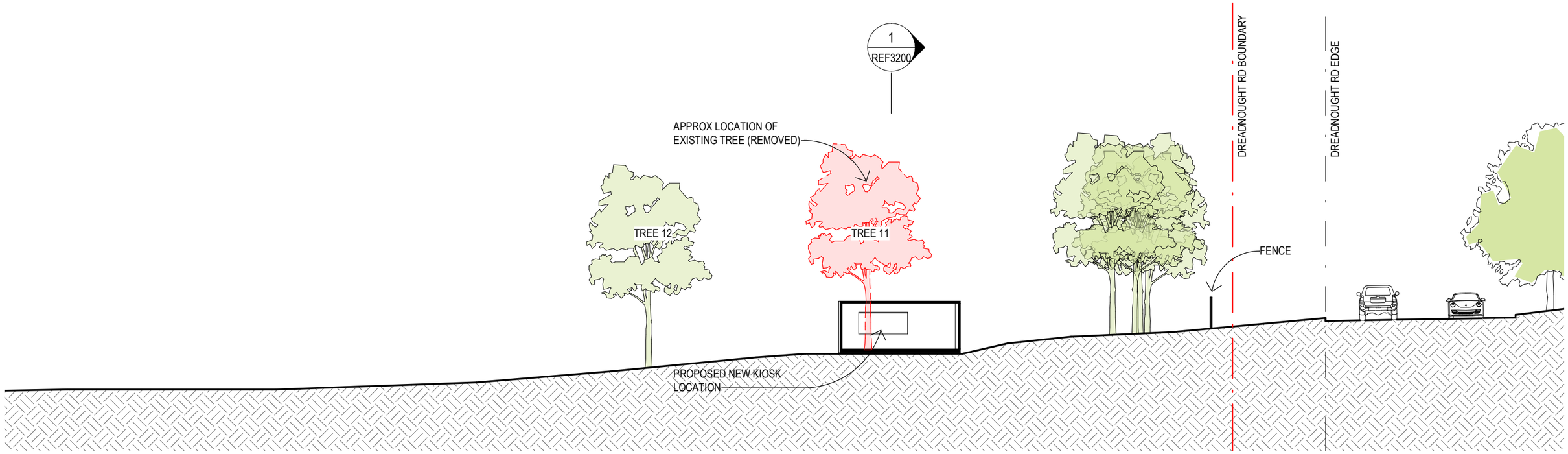

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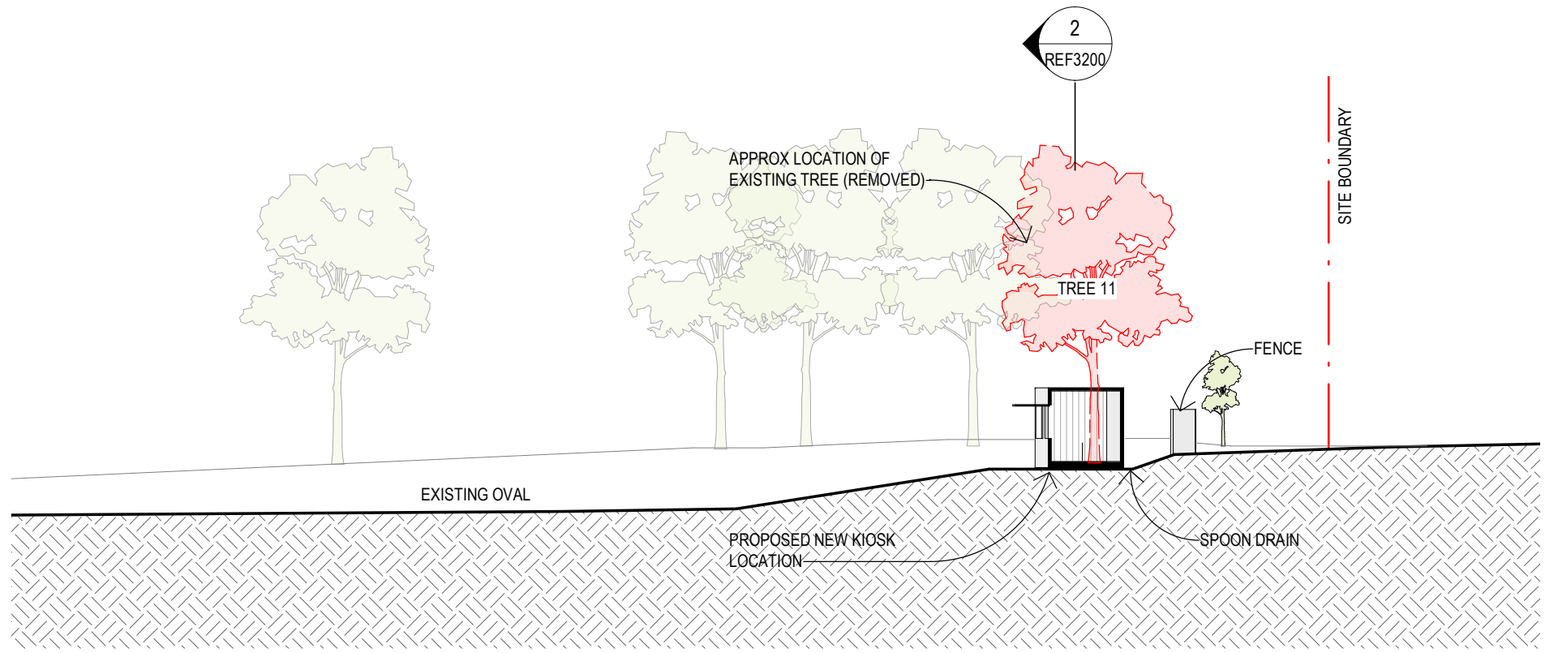

1 OVAL KIOSK SITE SECTION

1 : 200

Revisions				
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OXFORD FALLS NSW 2100
Proj. No. 00000

Drawing Title
SECTION

Project Status
NOT FOR CONSTRUCTION

Scale
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@A3

Drawing No.
REF3200

Issue
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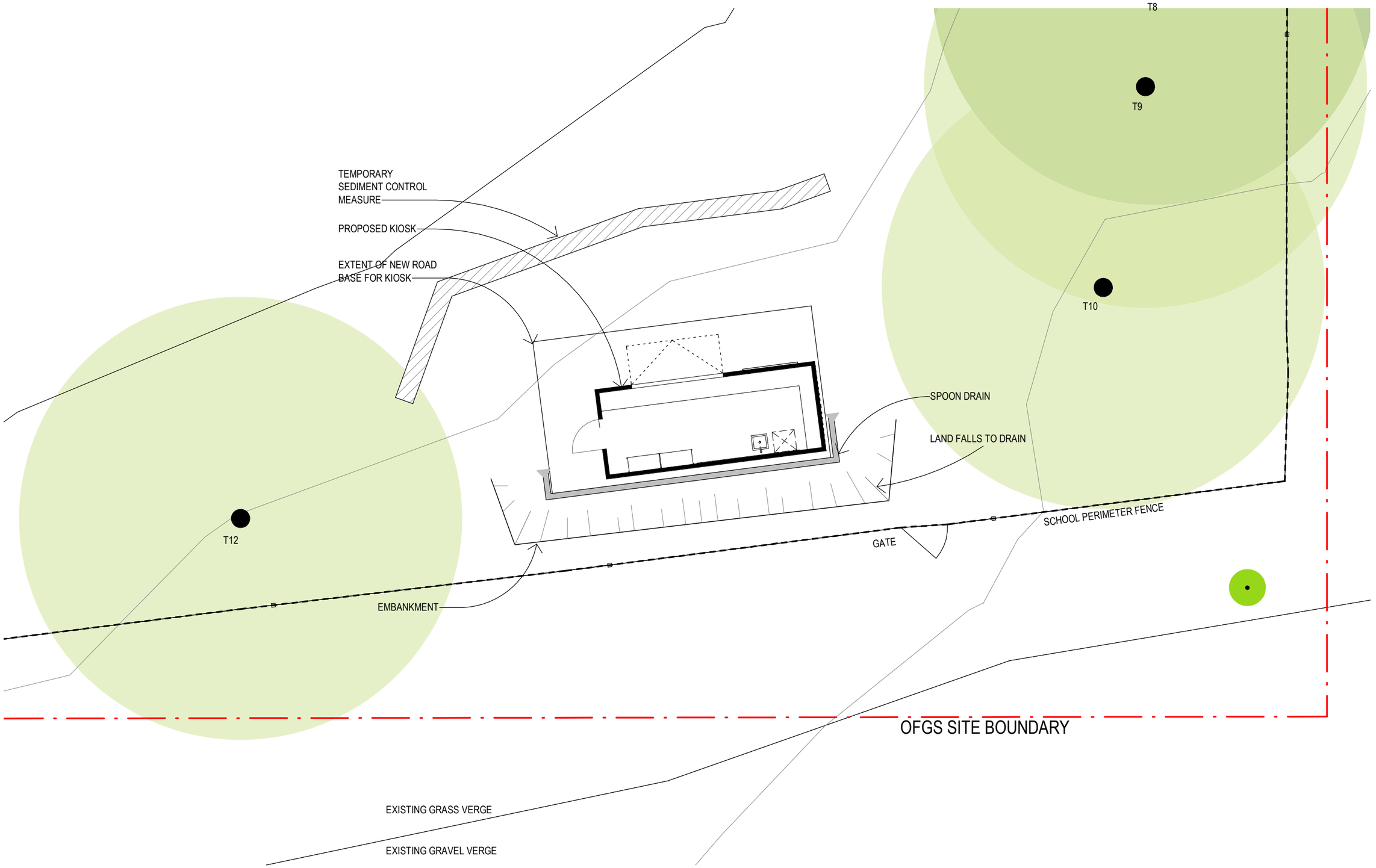

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OXFORD FALLS NSW 2100
Proj. No. 00000

Drawing Title
DRAINAGE & SEDIMENT CONTROL PLAN
Project Status
NOT FOR CONSTRUCTION

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Appendix B

Northern Beaches Council Flood Planning Advice

NORTHERN BEACHES COUNCIL

FLOOD INFORMATION REQUEST – MULTI-PURPOSE

Property: Oxford Falls Grammar School
Lot DP:
Issue Date: 17/08/2018
Flood Study Reference: Narrabeen Lagoon Flood Study, 2013

Flood Information for lot:

1% AEP – See Flood Map B

1% AEP Maximum Water Level[3]: 74.75 mAHD

1% AEP Maximum Peak Depth from natural ground level[3]: 2.95 m

1% AEP Maximum Velocity: 2.93 m/s

1% AEP Provisional Flood Hazard: High See Flood Map E

1% AEP Hydraulic Categorisation: Floodway See Flood Map F

Flood Planning Area – See Flood Map C

Flood Planning Level (FPL)[1,2, 3 &4]: 75.25 m AHD

Probable Maximum Flood (PMF) – See Flood Map D

PMF Maximum Water Level[2]: 75.34 m AHD

PMF Maximum Depth from natural ground level: 4.07 m

PMF Maximum Velocity: 4.74 m/s

PMF Flood Hazard: High See Flood Map G

PMF Hydraulic Categorisation: Floodway See Flood Map H

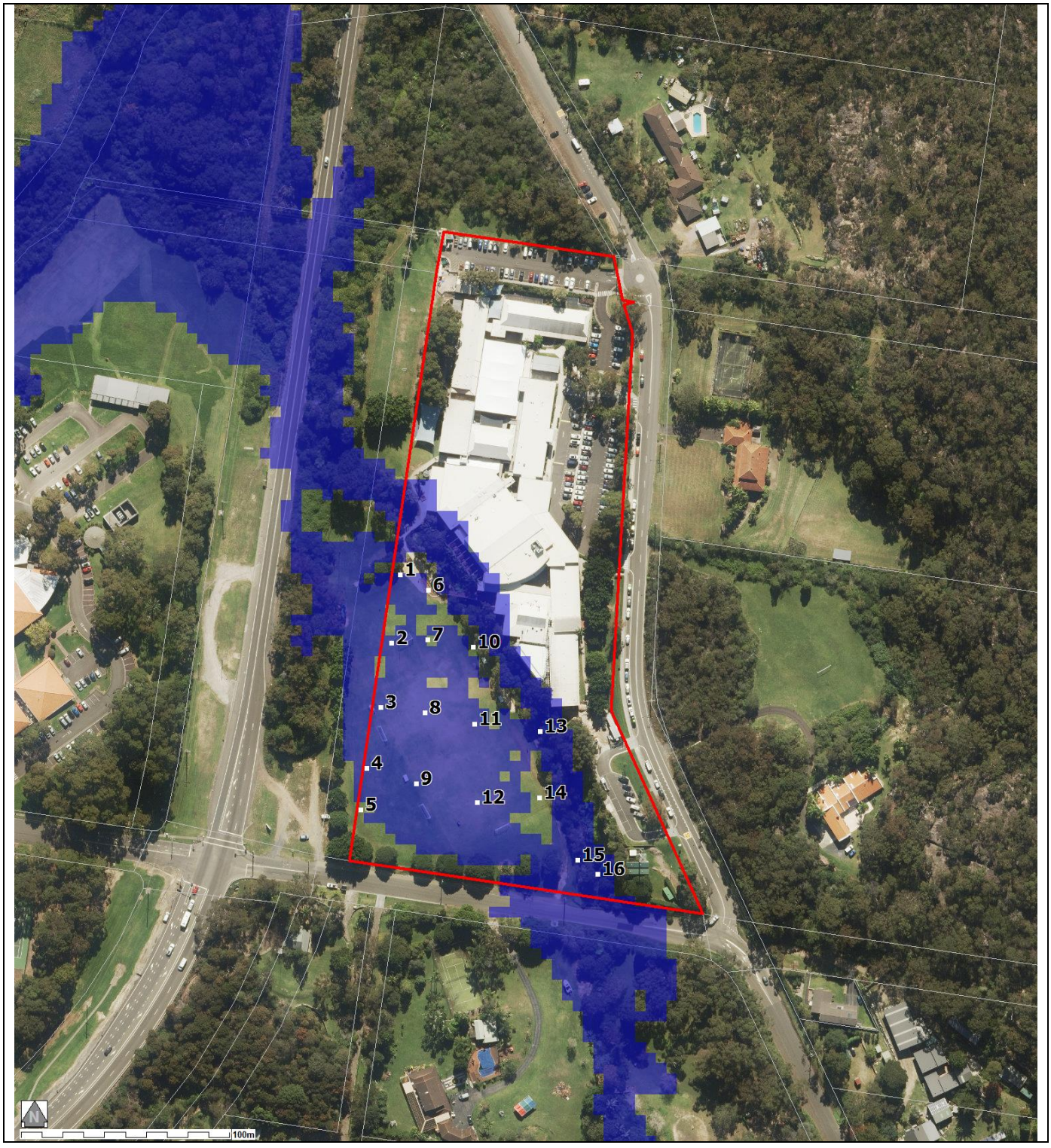
Flood Risk Precinct – See Map K

[1]The flood information does not take into account any local overland flow issues nor private stormwater drainage systems.
[2]Overland flow/mainstream water levels may vary across a sloping site, resulting in variable minimum floor/ flood planning levels across the site.
[3]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.
[4]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 LEVEL POINTS



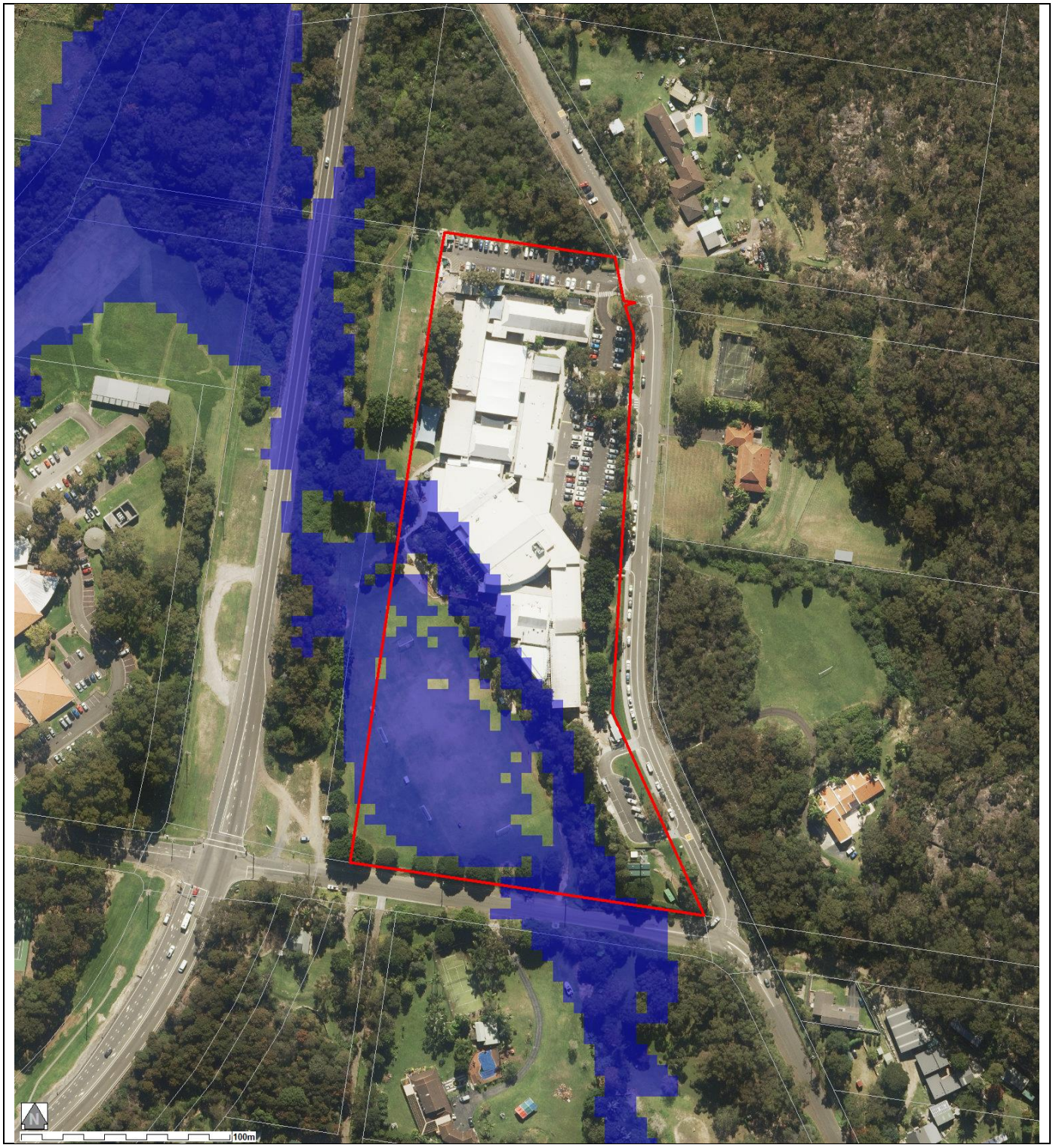
Note: Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: N/A) and aerial photography (Source: NearMap 2014) are indicative only.

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	73.90	0.02	0.51	74.21	74.04	0.16	1.95
2	N/A	N/A	74.16	0.02	0.00	74.65	74.42	0.28	1.04
3	N/A	N/A	74.34	0.04	0.46	74.82	74.63	0.33	0.73
4	N/A	N/A	74.45	0.12	0.54	74.95	74.77	0.44	0.72
5	N/A	N/A	N/A	N/A	N/A	75.04	74.82	0.19	0.54
6	N/A	N/A	N/A	N/A	N/A	73.96	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A	74.58	74.44	0.35	1.48
8	N/A	N/A	74.43	0.06	0.63	74.92	74.72	0.35	0.97
9	N/A	N/A	74.62	0.09	0.62	75.11	74.87	0.34	0.86
10	N/A	N/A	N/A	N/A	N/A	74.44	74.53	0.55	1.93
11	N/A	N/A	74.38	0.07	0.49	74.88	74.80	0.49	0.98
12	N/A	N/A	74.67	0.06	0.67	75.19	74.98	0.37	1.32
13	N/A	N/A	73.81	0.06	0.66	74.36	74.90	1.15	1.30
14	N/A	N/A	N/A	N/A	N/A	74.76	75.00	0.67	1.76
15	74.00	0.46	74.27	0.73	1.04	74.82	75.20	1.66	1.31
16	74.03	1.99	74.32	2.29	0.80	74.88	75.23	3.19	1.01

WL – Water Level
PMF – Probable Maximum Flood
N/A = no peak water level/depth/velocity available in flood event

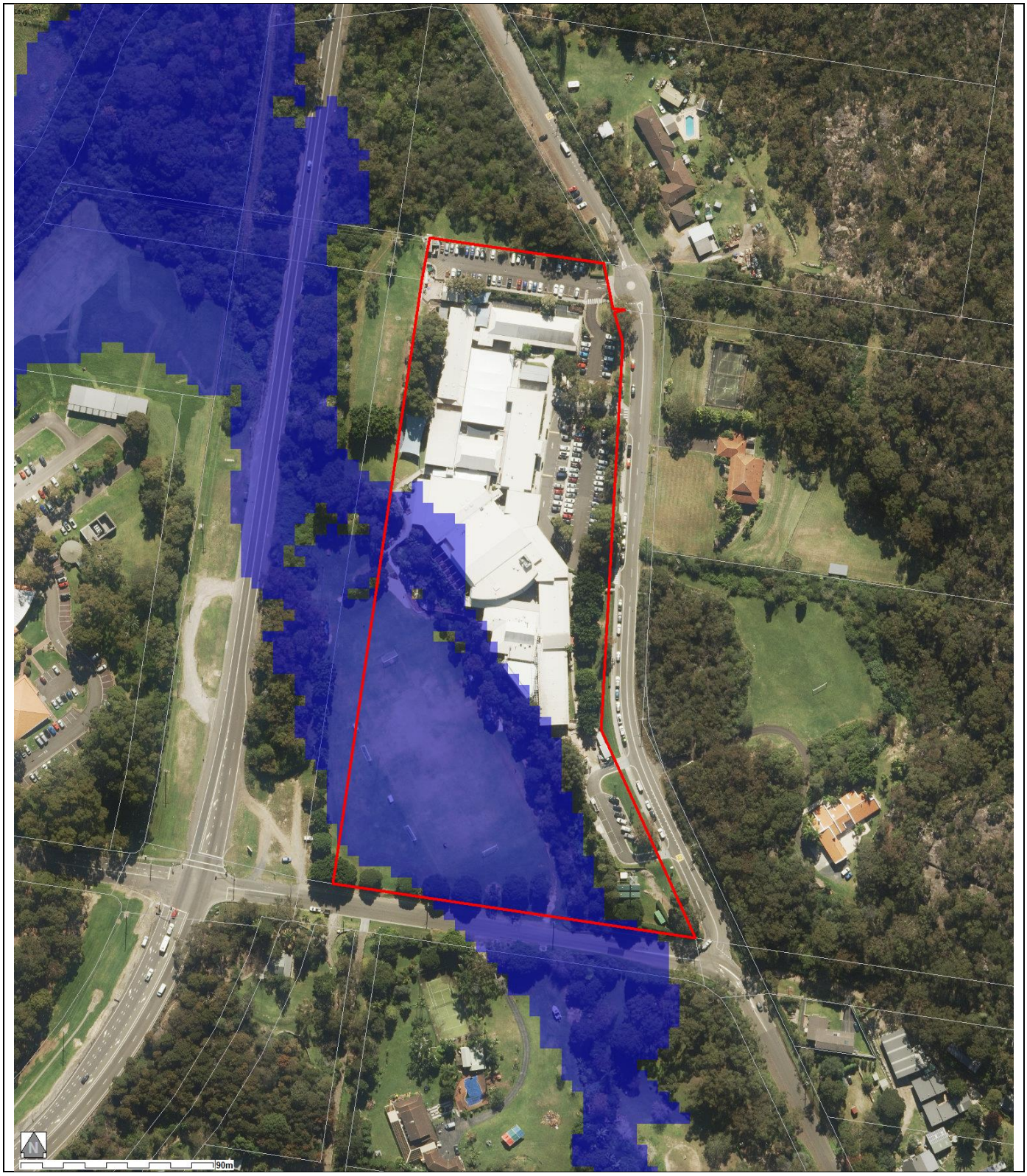
FLOOD MAP B: FLOODING - 1% AEP EXTENT



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: N/A) and aerial photography (Source Near Map 2014) are indicative only.

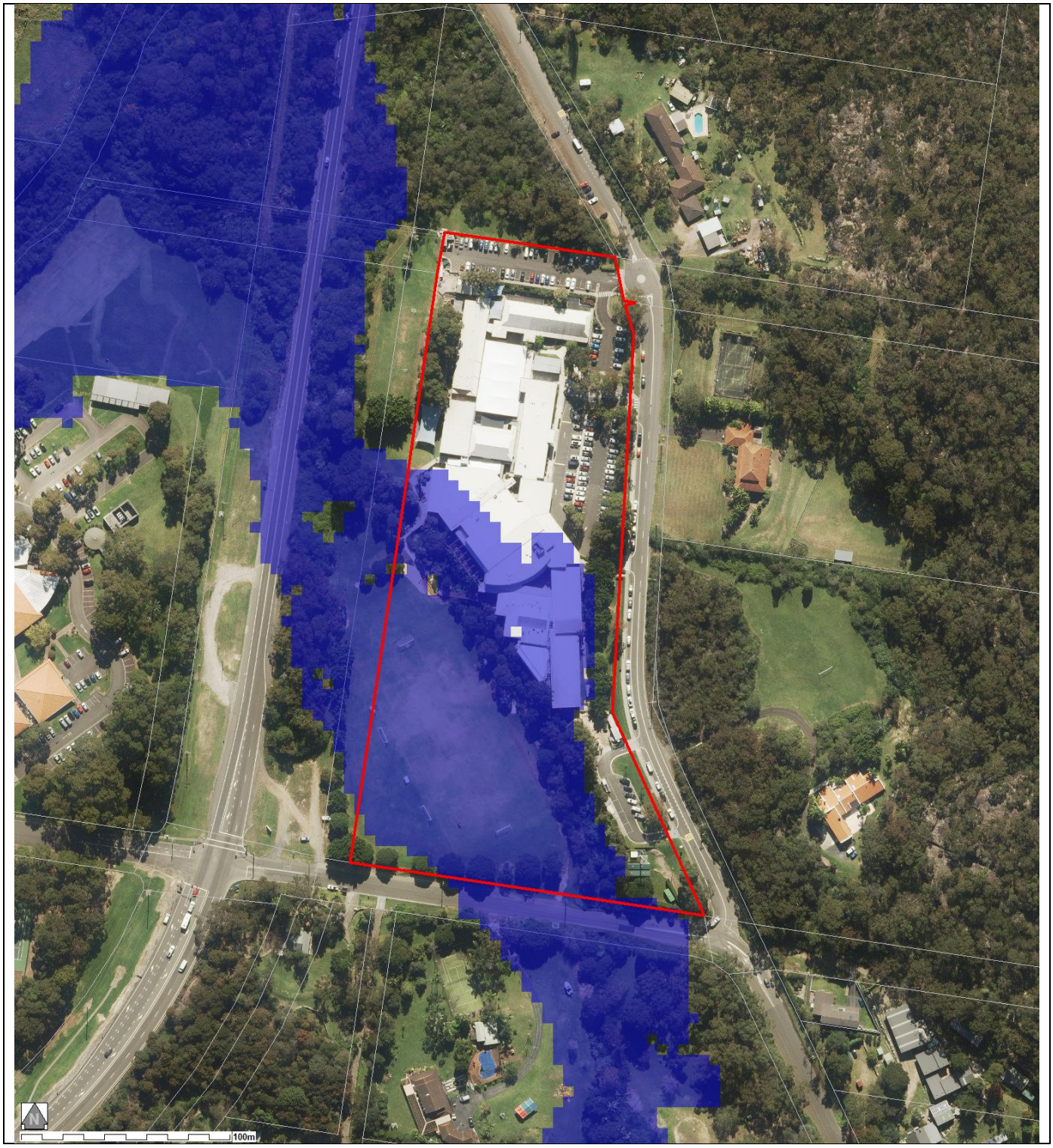
FLOOD MAP C: FLOOD PLANNING AREA EXTENT



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: N/A) and aerial photography (Source Near Map 2014) are indicative only.

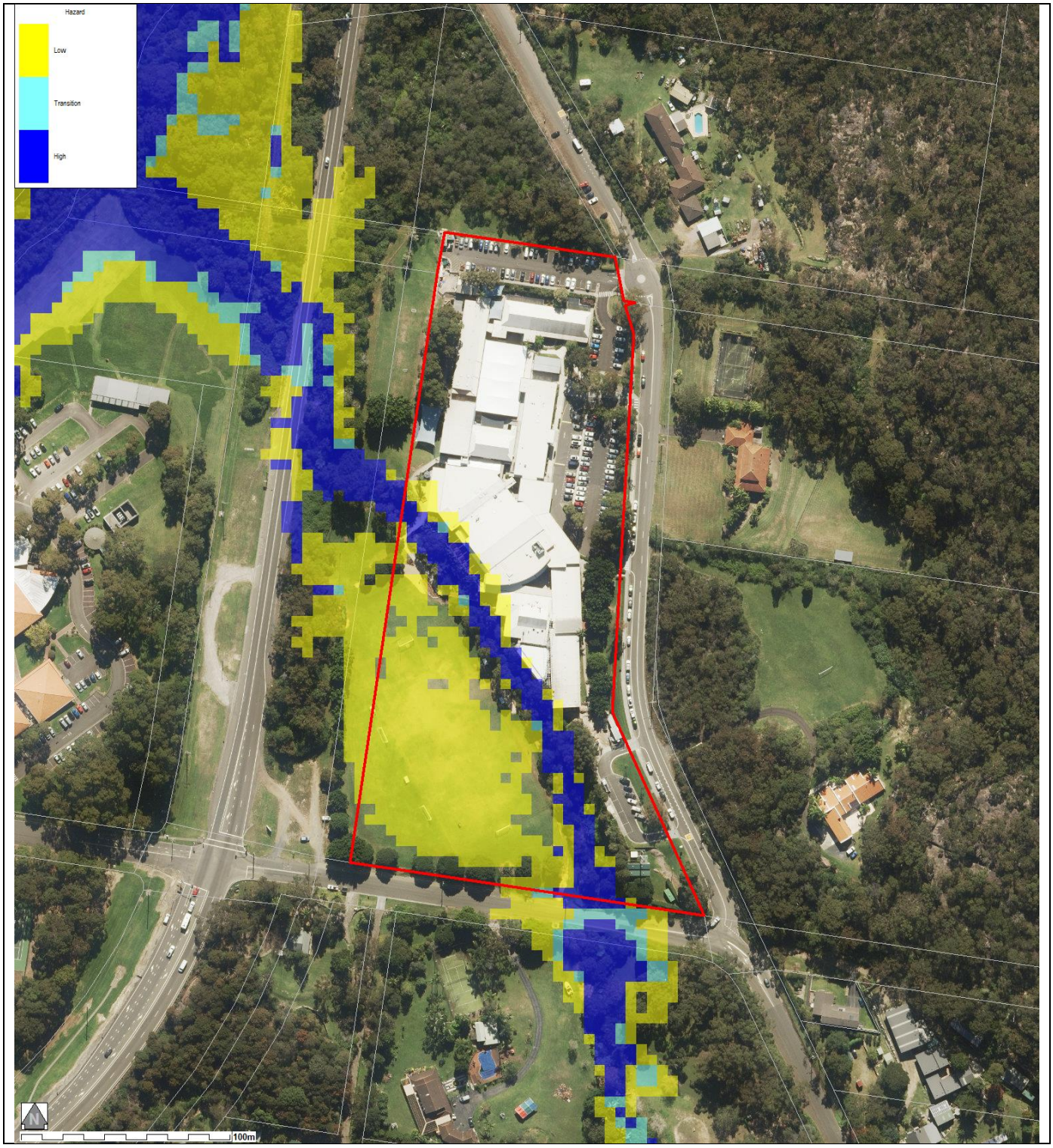
FLOOD MAP D - PMF EXTENT MAP



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: N/A) and aerial photography (Source: NearMap 2014) are indicative only

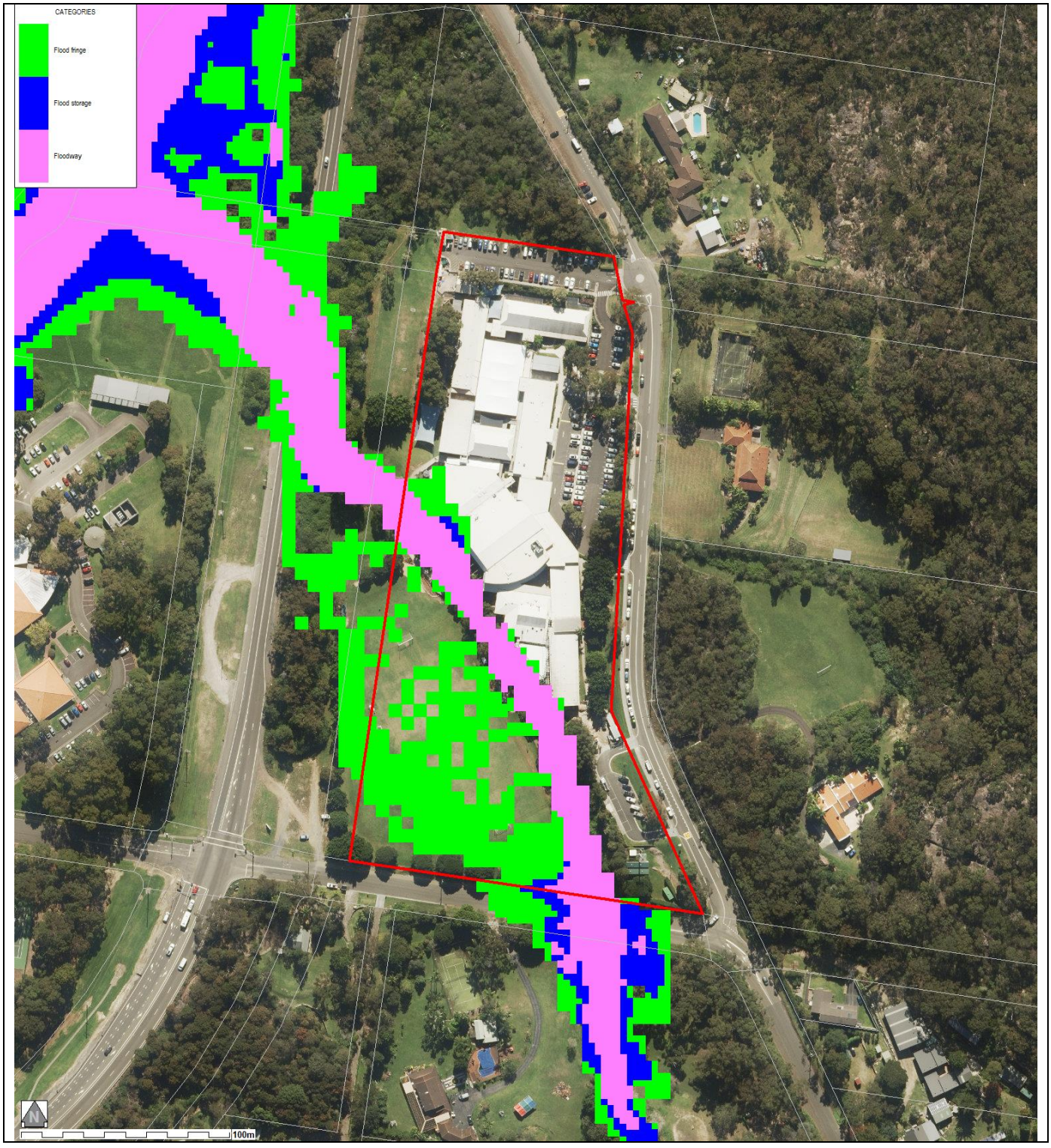
FLOOD MAP E – 1% AEP FLOOD HAZARD EXTENT MAP



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: N/A) and aerial photography (Source: NearMap 2014) are indicative only

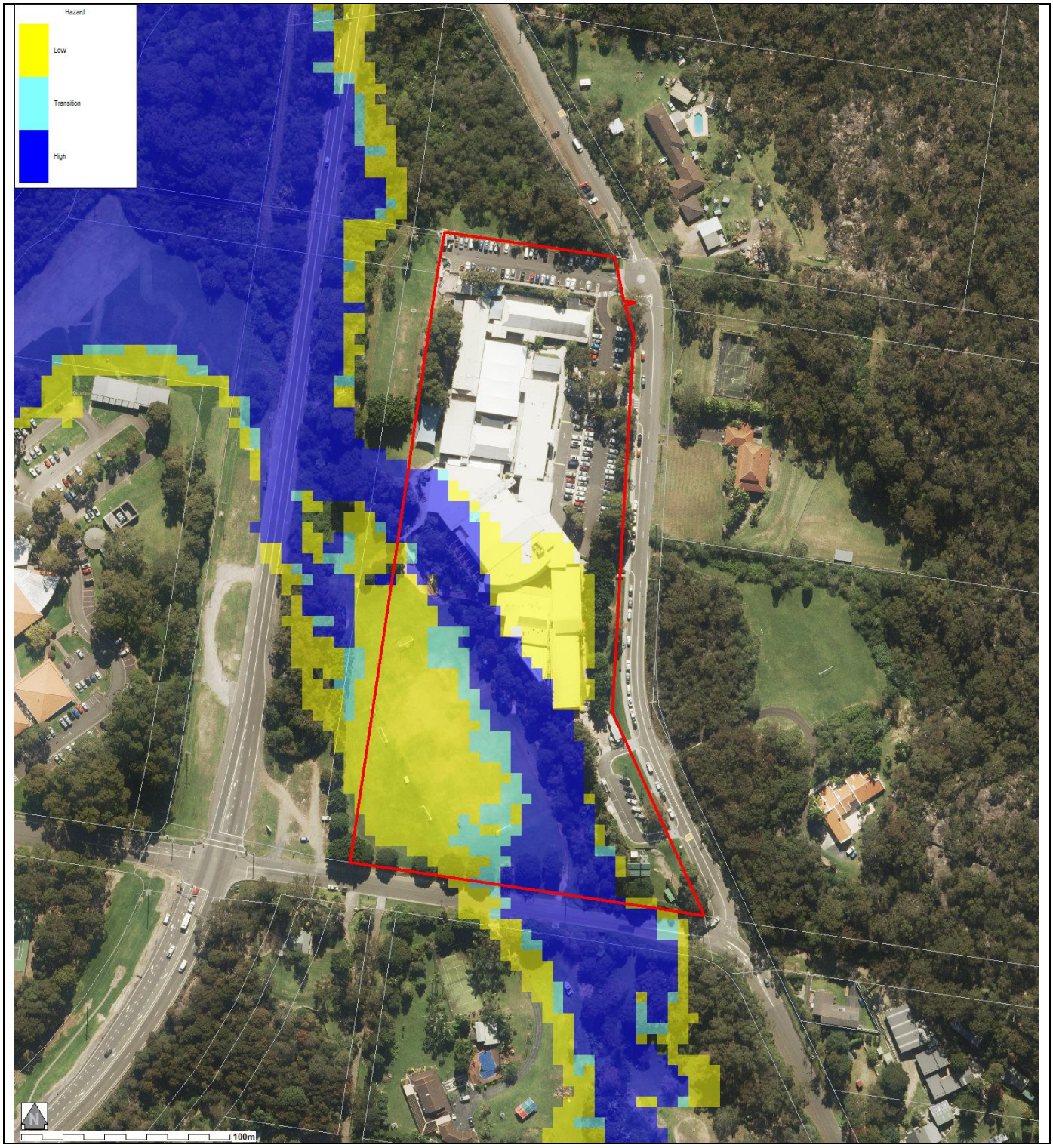
FLOOD MAP F – 1% AEP FLOOD HYDRAULIC CATEGORY EXTENT MAP



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: N/A) and aerial photography (Source: NearMap 2014) are indicative only

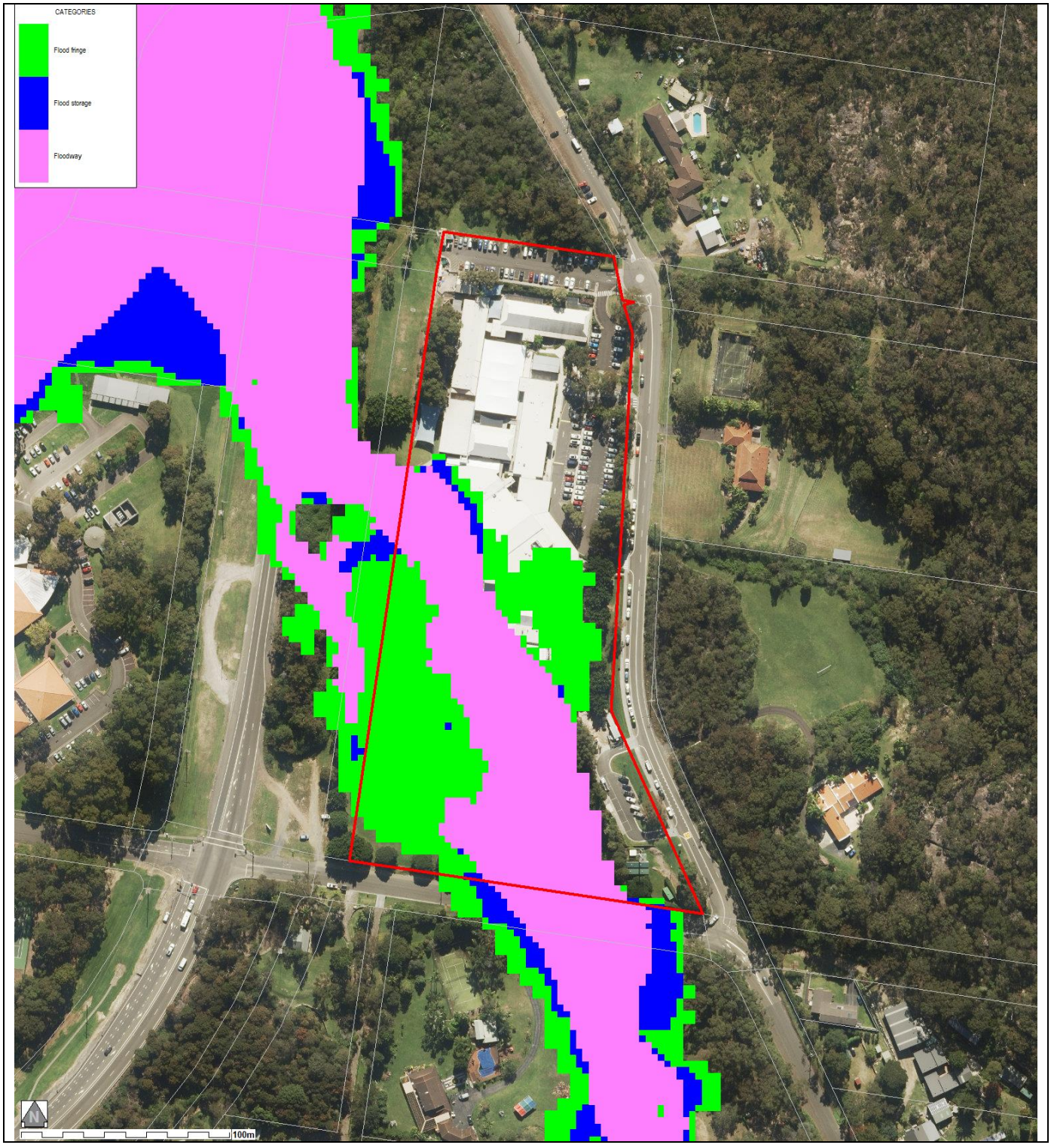
FLOOD MAP G – PMF FLOOD HAZARD EXTENT MAP



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: N/A) and aerial photography (Source: NearMap 2014) are indicative only

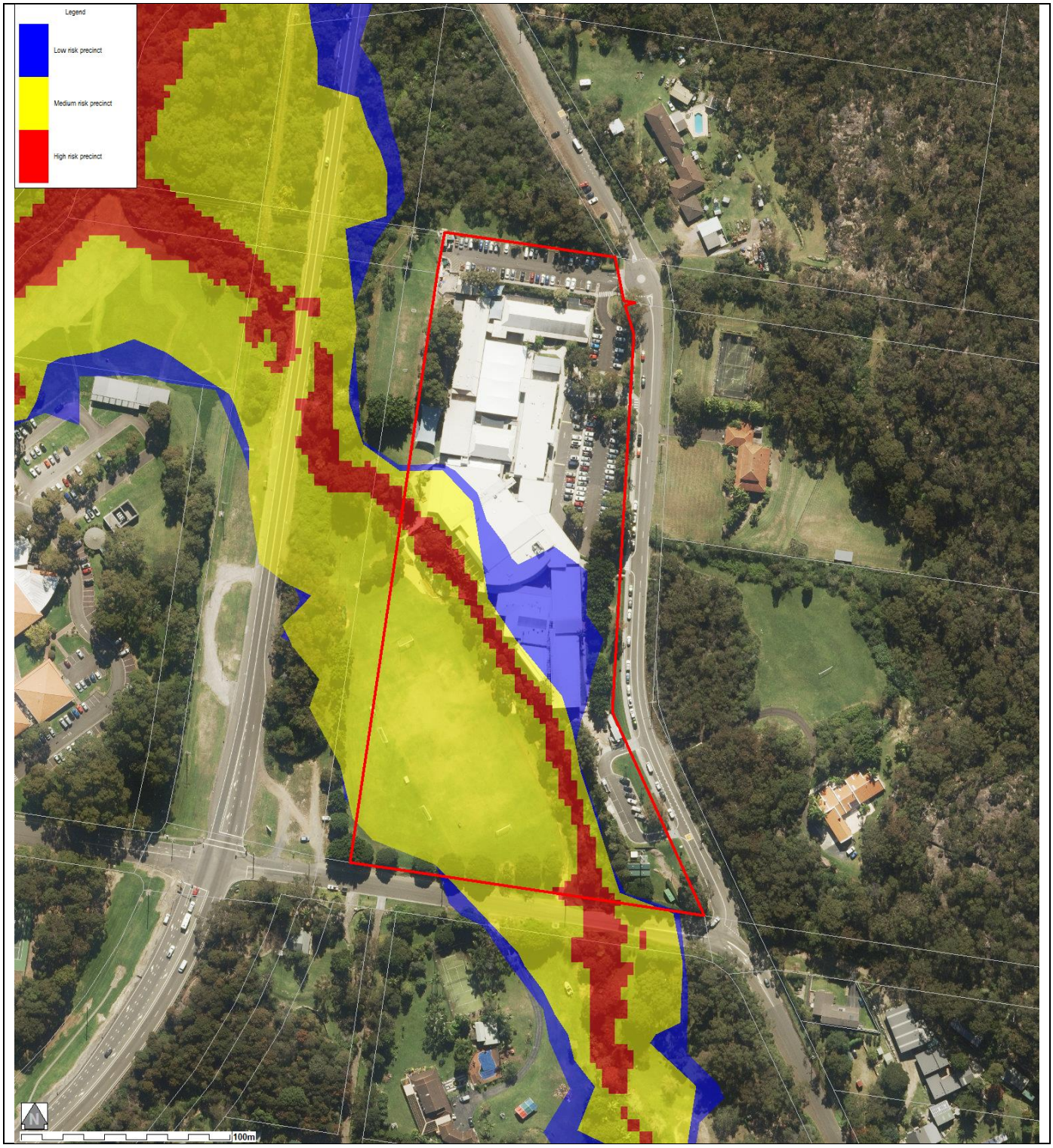
FLOOD MAP H – PMF FLOOD HYDRAULIC CATEGORY EXTENT MAP



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: N/A) 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