SMART STRUCTURES AUSTRALIA

Consulting Engineers

Flood Risk Management Report for the proposed development at 171 Weston Street & 2-6 Hinemoa Street, Panania, NSW

Prepared for: Morson Group

Reference: 210604 – REV02

02/09/2024

DOCUMENT HISTORY

REVISION	DATE	DESCRIPTION	PREPARED BY	AUTHORISED BY
Rev01	06./08/24	Draft	Fatemeh Emaeili	Kamyar Eivazzadeh B.E. (Civil) M.E.(Civil) M.I.E. (AUST) NER
Rev01	02/09/24	Issued for DA	Fatemeh Emaeili	Kamyar Eivazzadeh B.E. (Civil) M.E.(Civil) M.I.E. (AUST) NER

DISCLAIMER

1. Content of this report have been based on available information as noted in the report and its appendices, thus this report should be read in conjunction with the referenced reports.
2. The limitations present in any of the referenced reports will be inherent in this report.
3. This report and associated documents have been prepared for the proposed development at 171 Weston Street & 2-6 Hinemoa Street, Panania, NSW. No responsibility will be accepted for the use of any part of this report in any other context or for any other purposes.
4. This report shall not be construed as relieving any other party of their responsibilities, liabilities, or contractual obligations.
5. Even though every effort has been made to accurately model the item(s) in question, Smart Structures Australia cannot guarantee that model is fully accurate due to lack of data.
6. The results are subject to the scope, assumptions and limitations as set out in this report and the information that has been disclosed by the client.
7. The authors best professional opinion is represented in the conclusions drawn and is based on his experience and on previous results from other investigations on similar materials. The conclusions and any recommendations made are based on the condition of the item(s) in question as portrayed in the data provided by the client.

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

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E: info@smartstructs.com.au

1. INTRODUCTION

Smart Structures Australia has been engaged to conduct the flood risk management plan for the proposed residential flat building development at 171 Weston Street & 2-6 Hinemoa Street, Panania, NSW.

The aim of this plan is to provide suitable strategies and recommendations to control the impact of flood risks on the proposed development, to ensure the safety of residents or public using the area and to minimise the significant effect to the local community. The following documentation and information have been relied upon in preparation on this letter:

- Stormwater system report, 2-6 Hinemoa Street & 171 Weston Street, Panania NSW 2213 from City of Canterbury Bankstown Ref# WP-SIA-2391/2021 dated 18/11/2021 (Appendix A)
- Canterbury-Bankstown Development Control Plan 2023, Chapter 2, Section 2.2 Flood Risk Management
- Kelso Stormwater Catchment Flood Study, December 2009, conducted by Bewsher Consulting Pty Ltd for Bankstown City Council
- Survey plan (Appendix B)
- Architectural plans, (Appendix C)

2. SITE DETAILS

2.1 Location

The proposed development site is located within the City of Canterbury Bankstown and is identified as No. 171 Weston Street & No 2-6 Hinemoa Street, Panania, NSW. The site lies within the Kelso Swamp Catchment area.

Figure 1: Proposed site location

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

2.2 Proposed Development

The site measures 2264.75 m^2 and has street frontage along Weston Street and Hinemoa Street. The proposed development is a 5-storey residential flat building with 42 units over basement carparking.

Figure 2: Proposed ground floor plan

3. ASSESSMENT OF FLOOD RISK

3.1 Flood Classification/Risk

Consideration of the depth and velocity of floodwater is referred to the provisional flood hazard as stated in NSW Floodplain Development Manual, 2005. Flood hazard relates to the magnitude of a specific flood. The provisional flood hazard at a particular area of a floodplain can be established from Figure 3 (Floodplain Development Manual, 2005). Flood risk is a combination of the probability (likelihood or chance) of an event happening and the consequences (impact) if it occurred. Flood risk is dependent on the source of flooding, such as a river, a route for the flood water to take (pathway), and something that is affected by the flood, such as a housing estate. In other words, flood risk precincts consider the probabilities and consequences of flooding over the full spectrum of flood frequencies that might occur at a site.

The flood risk categorisation for Kelso Catchment was determined by Bewsher in 2009 based on the provisional hydraulic hazard categorisation. They defined high, medium, and low risk zones as follows:

High Flood Risk: land below the 100year ARI flood that is either subject to a high hydraulic hazard (as defined in Figure 3) or where there are significant evacuation difficulties.

Medium Flood Risk: land below the 100year ARI event that is not subject to a high hydraulic hazard and there are no significant evacuation difficulties.

Low Flood Risk: all other land within the floodplain (i.e., within the PMF extent) but not identified as either in a high flood risk or medium flood risk category.

Based on this classification, Weston Street in front of the subject site falls under Low and Medium Flood Risk category, and Hinemoa Street along the eastern boundary of the subject site falls under Medium Risk category, as shown in Figure 4.

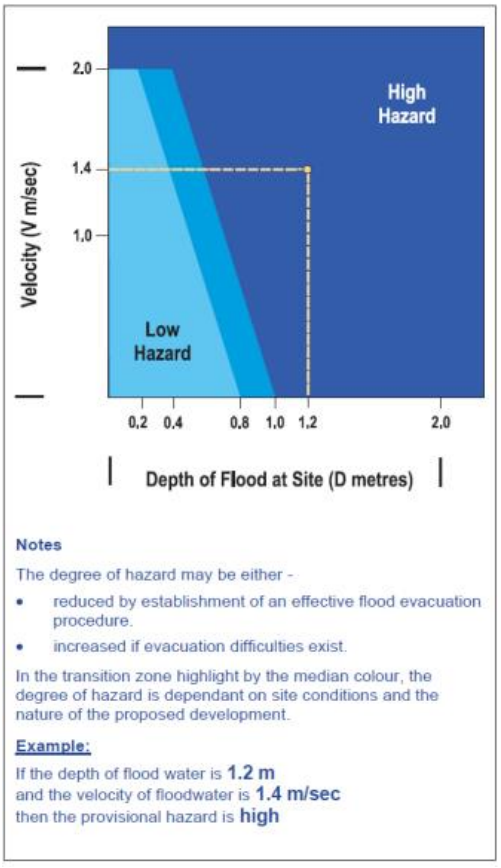


Figure 3: Provisional Flood Hazard Categories

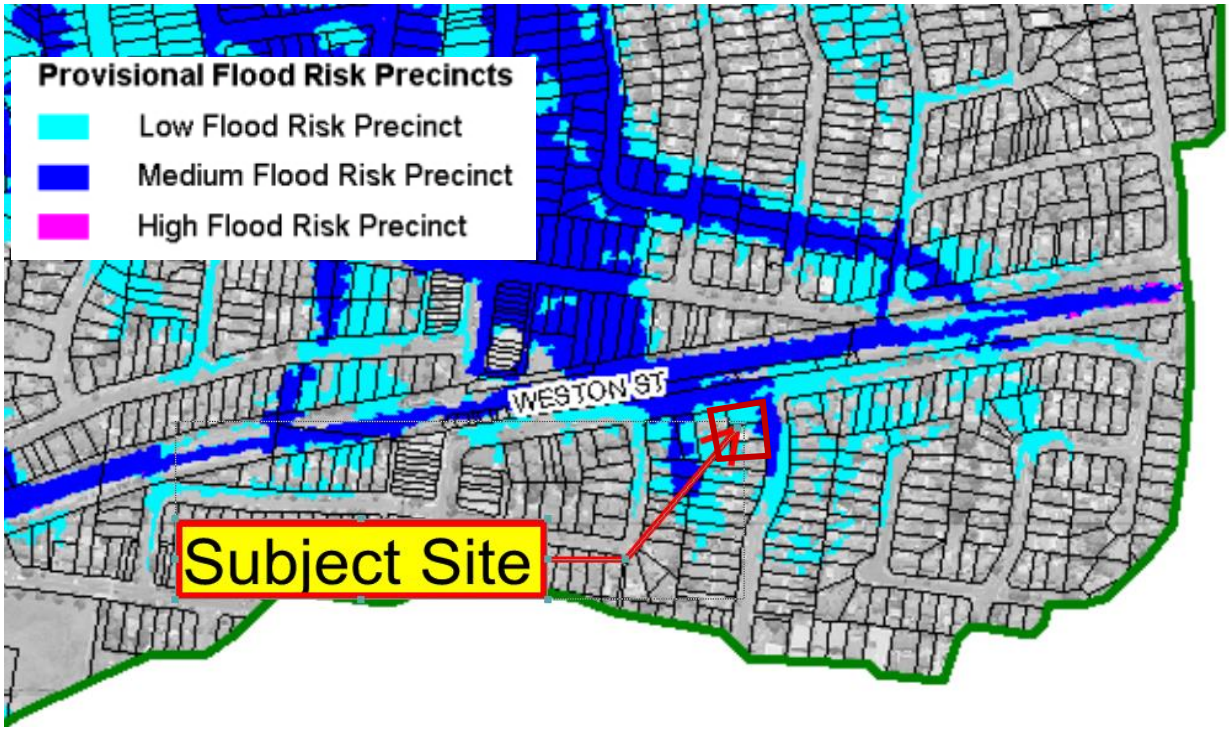


Figure 4: Flood Risk for the subject site (Bewsher, 2009)

3.2 Flood Characteristics of Site

The behaviour of the 100 Year ARI (1% AEP) event in the Kelso Catchment was studied by Bewsher and the results presented in Kelso Stormwater Catchment Flood Study, 2009. Figure 5 received from City of Canterbury Bankstown illustrates the extent of inundation in the 100 Year ARI at the vicinity of the subject site. This figure shows that the100 Year ARI floodwaters within Hinemoa Street along the eastern boundary of the subject site and within Weston Street in front of the subject site is around 0.1m.

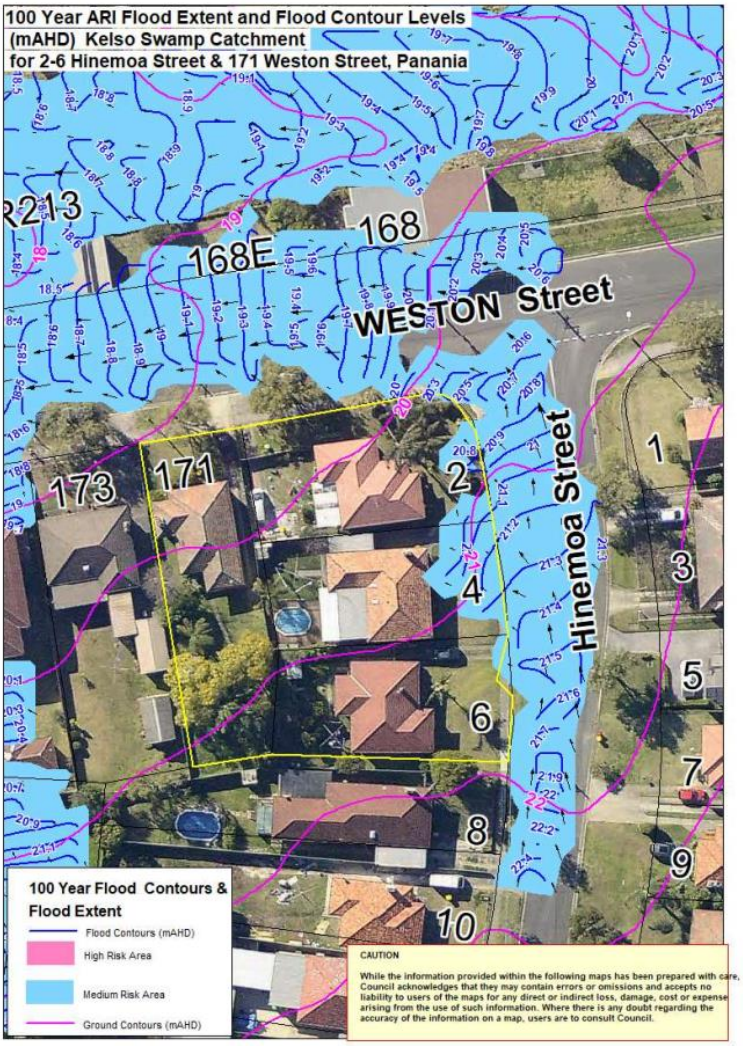


Figure 5: Characteristics of the 100 Year ARI (1% AEP) event around the subject site

4. FLOOD PROTECTION MEASURES

Based on the foregoing, and flood risk management controls presented in Chapter 2, section 2.2, Schedule 5 of the Canterbury-Bankstown Development Control Plan (DCP) 2023, the following responses are offered to protect the development against the stormwater and flood risk.

4.1 Floor Level

According to the Canterbury-Bankstown Council's Flood Risk Management Controls specified in chapter2.2, schedule 5, the habitable floor levels to be generally equal to or higher than the 100-year ARI (1% AEP) flood level plus 0.5m freeboard; and the non-habitable floor levels should be no lower than the 20-year ARI flood. In addition, during development stage, Council's development engineer, Mr. Monir Korkis, was consulted to seek advice on the flood control measures required for the subject development based on the nature of the overland flow paths along adjoining Roads. Based on our consultation with the Council's development engineer, it was agreed to consider minimum 300mm freeboards from 100-year ARI flood level to set a Flood Planning Level (FPL) on habitable floor levels at corresponding cross

sections and 150mm freeboard from 100-year ARI flood level to set a Flood Planning Level on the crest of the driveway ramp accessing the basement car parks.

Basement Vehicular Driveway Access

The proposed vehicular driveway entry is in Hinemoa Street. The maximum flood level during a 100 Year ARI flood event in Hinemoa Street in front of the vehicular driveway entry is expected to occur at around RL 21.80m. Therefore, proposed below ground car park to be protected by creating a crest at min. RL 21.95m AHD as shown in the following figure to achieve minimum freeboard of 0.15m required for non-habitable floor area.

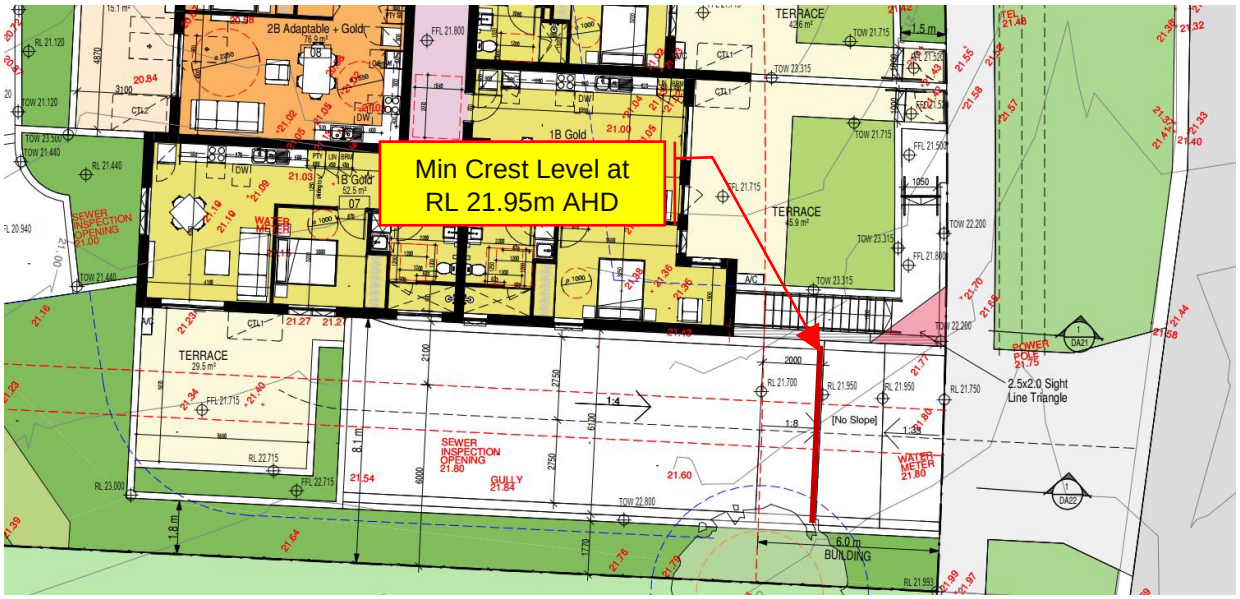


Figure 6: Position and Min level of the crest to protect basement carpark level against 100 Year ARI flood event

Habitable Floor level

The habitable floor levels are lower than the flood planning level. In order to achieve targeted flood controls, series of elevated flood deflection walls act as planter boxes walls have been introduced along Eastern and Northern boundaries of the development to adequately achieve Flood Planning Levels (100-year ARI flood level + 300mm freeboard) across the site. Also required landings with corresponding FPLs are introduced at connection points to the building to provide required foot accesses as intended by the design as demonstrated in Figure 7and table below:

Figure 7: location of connection points

Location	Existing kerb Invert level at Hinemoa street	1% AEP Flood level at Hinemoa street	Required FPL (1%AEP Flood Level +0.3m Freeboard)	Proposed level
A	21.55	21.65	21.95	21.95
B	21.29	21.39	21.69	21.715
C	21.30	21.40	21.70	21.715
D	21.06	21.16	21.46	21.62
E	20.90	21.00	21.30	21.40
F	18.90	19.00	19.30	20.215

Above proposal has been documented on Architectural drawing No DA12 - Ground Level prepared by Morson Group -Revision P8 dated 2024-06-05 (Appendix C).

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

4.2 Building Component

The proposed development is to be constructed from flood compatible materials below elevation RL 22.3m AHD (maximum 100-year ARI flood level around the site at RL 21.8m AHD + 0.5m freeboard). A list of flood compatible material is provided in Appendix D.

4.3 Structural Integrity

A structural engineer must assess the structural soundness of the building to ensure that the existing structure will be adequate when the building structure is subject to the 100-year ARI flood event. The structure must be assessed against hydrostatic and hydrodynamic forces, buoyancy and debris impact up to and including the 100 Year ARI level plus 0.5m freeboard (RL 22.3m AHD).

4.4 Flood Evacuation Strategy

The State Emergency Service of New South Wales (SES) is responsible for providing flood updates and issuing Flood Evacuation Warnings and Flood Evacuation Orders. Flood information issued by the SES may be received by local, radio and television news, SMS messaging, social media and door knocking in affected communities. The timing for evacuation of persons is to be established in consultation with the SES.

To increase the flood-readiness of the occupants of the site, owners/occupiers of the site should be made aware of Flood Safe kits developed by the SES which aid household development of a Flood Emergency Plan. Information regarding Flood Safe kits is available from http://www.floodsafe.com.au/. Future owners/occupiers of the site should prepare, regularly review, and update a household Flood Emergency Plan. A copy of the household Flood Emergency Plan should be kept on the residential entry, basement carpark and on other common areas. In the event that the 100 Year ARI (1% AEP) flood event is expected to be exceeded, strategies should be adopted in accordance with NSW Government operational guidelines and SES Emergency Evacuation operational guidelines.

5. FLOOD RISK MANAGEMENT PLAN

1. Storms leading to major flooding are typically 2 hours long, however shorter storms can produce overland flows. Once the storm passes, overland flows drain rapidly.

2. During floods many major and minor streets and roads may be inundated by floodwaters. Traveling through floodwaters by foot or by vehicle can be dangerous due to rapid currents, pollution, or hidden obstructions. It is recommended to remain in-doors (dwellings) as much as practical and as directed by the responsible authorities.

3. Develop your own family flood plan and be prepared if flooding should occur whilst any residents are commuting to and from work or school. Contact Council /SES for information about safer travel routes that are less likely to be cut by floodwaters.

4. As the flood level approaches the residential and basement entries:

- Gather medical supplies, special needs of any residents, mobile phones, important documents, and any valuables to one location inside the building above ground floor.

- Move any items that can be damaged by water to higher positions and place electrical items at the very top. For larger items (i.e., TV and washing machine) that cannot be moved, switch them off and disconnect them from the power points.

- Do not evacuate the building unless instructed to do so by the SES or the police. Keep in mind that floodwater may be deeper and flow faster than what is apparent.

5. In case of a medical emergency, call 000 and explain the situation with regards to the flooding.

6. This Flood Risk Management Plan should be reviewed every 5 years, particularly if there have been any major changes to climate conditions or weather patterns.

7. Flood education programs should be undertaken by residents to assist the community in commencing and maintaining flood preparations, as well as how to respond in the event that flooding occurs.

8. A laminated copy of this flood plan should be permanently attached to an area where all residents frequently access such as in the residential entry, basement carpark or other common areas, and to the inside of the electrical meter box.

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

6. CONCLUSION

Weston Street in front of the subject site falls under Low and Medium Flood Risk category, and Hinemoa Street along the eastern boundary of the subject site falls under Medium Flood Risk category. These two Streets on both frontages of the proposed development are impacted by the 100 Year ARI floodwaters and inundating the street to a maximum depth of 0.1m. The subject site is not impacted by flood waters within the lot boundaries and flood waters are mainly contained within the road reserve.

Driveway entry at Hinemoa Street is proposed to have a crest level at RL 21.95m AHD at the driveway entry before transitioning down to RL 17.74m AHD to protect the basement carpark ramp.

The habitable floor levels are lower than the flood planning level. Therefore, to achieve targeted flood controls, series of elevated flood deflection walls have been introduced along Eastern and Northern boundaries of the development to adequately achieve Flood Planning Levels (100-year ARI flood level + 300mm freeboard) across the site. Also required landings with corresponding FPLs are introduced at connection points to the building to provide required foot accesses as intended by the design. Above proposal has been documented on Architectural drawing No DA12 -Ground Level prepared by Morson Group -Revision A dated 2024-08-26 (Appendix C).

The proposed development is to be built of flood compatible materials below the FPL (RL 22.30m AHD). The structure must be built to withstand the hydrostatic and hydrodynamic forces, buoyancy and debris impact up to RL 22.30m AHD.

From the measures taken above, it can be concluded that the proposed development will comply with requirements of Flood Risk Management policy.

7. REFERENCES

1. Stormwater system report, 2-6 Hinemoa Street & 171 Weston Street, Panania NSW 2213 from City of Canterbury Bankstown Ref# WP-SIA-2391/2021 dated 18/11/2021 (Appendix A)
2. Canterbury-Bankstown Development Control Plan 2023, Chapter 2, Section 2.2 Flood Risk Management
3. Kelso Stormwater Catchment Flood Study, December 2009, conducted by Bewsher Consulting Pty Ltd for Bankstown City Council
4. NSW Floodplain Development Manual, 2005

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

8. APPENDIX A

Stormwater system report

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

Level 1, 66 - 72 Rickard Road, Bankstown NSW
PO Box 8, Bankstown NSW 1885
Tel: (02) 9707 9010 - Fax: (02) 9707 9408
DX 11220 BANKSTOWN
council@cbcity.nsw.gov.au

CITY OF CANTERBURY BANKSTOWN

To: Peter Morson
UNIT 2 / 263 George St
SYDNEY NSW 2000

STORMWATER SYSTEM REPORT
2-6 Hinemoa Street, PANANIA NSW 2213

Date: 18-Nov-2021
Ref: WP-SIA-2391/2021
Development type: **Residential Flat Building**

NO	FLOOD/OVERLAND FLOW STUDY REQUIRED

The site is affected by the following Council Private stormwater system components:

- An unknown diameter stormwater pipeline and associated 1.83m wide Private drainage easement located within the site.

- Stormwater inundation from excess stormwater runoff from the upstream catchment and associated with the drainage system through Hinemoa St & Weston Street.

The site will be subject to stormwater inundation from this overland flowpath during large storm events. Refer to the attached **"100 Year ARI Flood & PMF Extent Map from Kelso Swamp Catchment Study"** showing the flood contours to m AHD. Provision should be made on site, and at boundary fences, for this stormwater runoff to pass unobstructed over the site. Stormwater flowing naturally onto the site must not be impeded or diverted.

The Development Application submission shall be based on an AHD datum for levels where sites are affected by overland flow / flooding. Refer Bankstown Council's *Development Engineering Standards**.**

The proposed development including floor levels, shall comply with the development controls specified in Part B12 Schedule 5, of Bankstown's Development Control Plan 2015 - Catchments Affected by Stormwater Flooding.

Runoff on the site, and naturally draining to it is to be collected and disposed of to Council's requirements detailed in Bankstown Council's *Development Engineering Standards****.

All structures and buildings must be located clear of pipelines and easements. Proposed structures may require special footings due to their proximity to stormwater easements and pipelines. Refer to Bankstown Council's *Development Engineering Standards**.**

This report is given without the benefit of development plans or a site survey.

This report relates to the exposure of the subject site to Council's & Privat] stormwater system, both underground and overland. It does not assess the suitability or otherwise of this site for the proposed development.

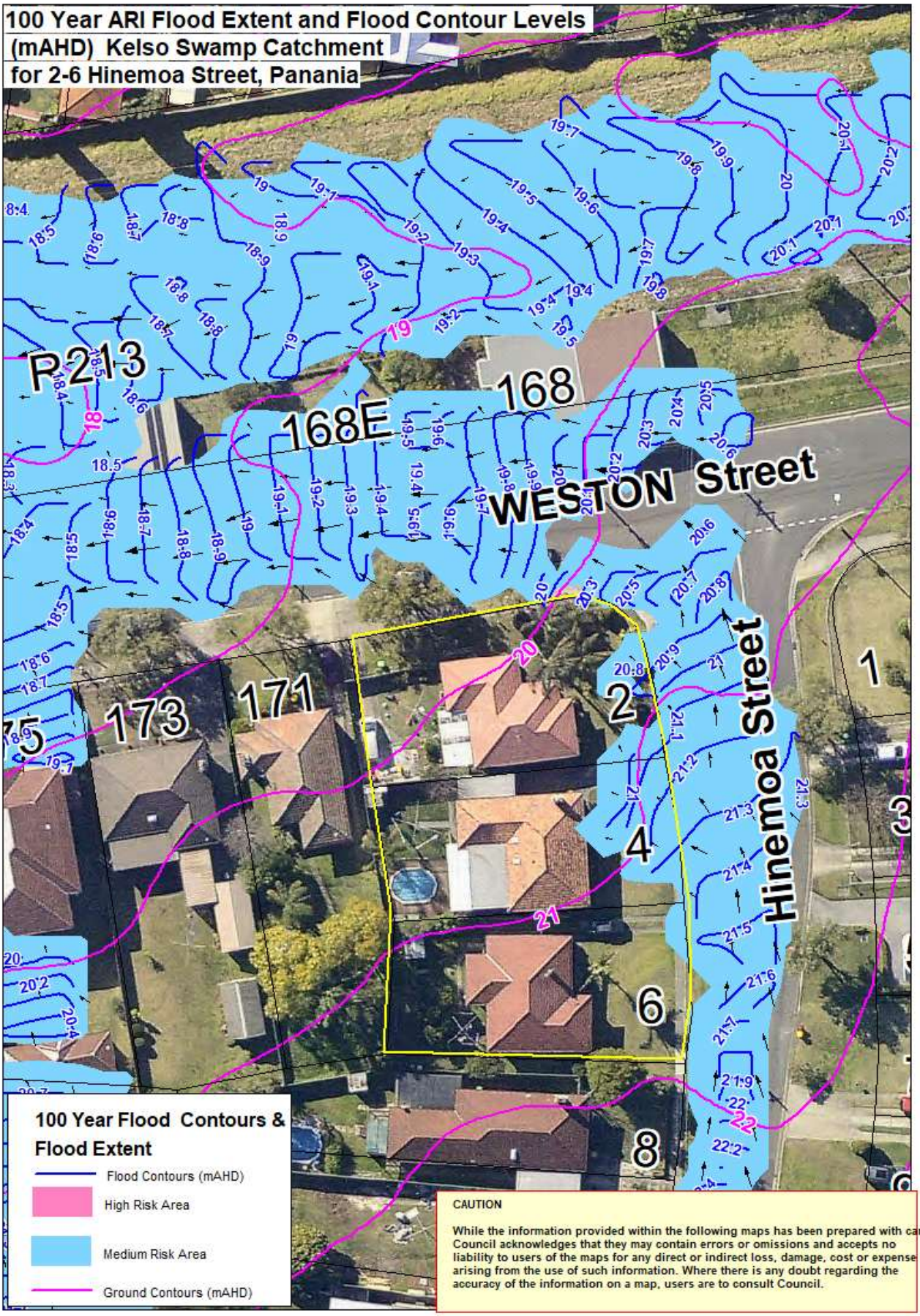
* Average Recurrence Interval

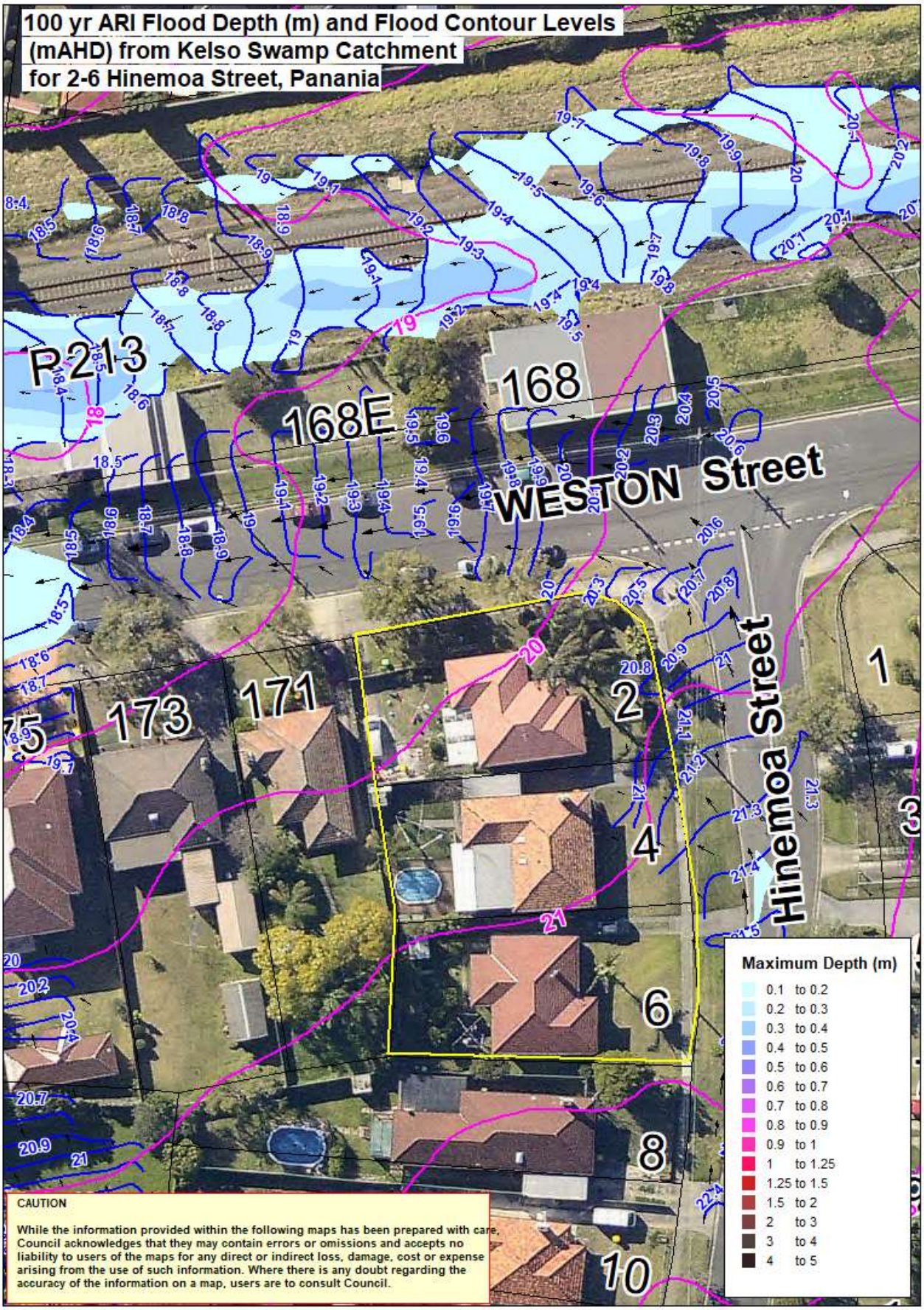
** Australian Height Datum

*** Bankstown Council's *Development Engineering Standards* and *Bankstown's Development Control Plan 2015* is available from Council's Customer Service Centre.

PMF Probable Maximum Flood

Pushpa Goonetilleke
ENGINEER


100 Year ARI Flood Extent and Flood Contour Levels (mAHD) Kelso Swamp Catchment for 2-6 Hinemoa Street, Panania
P213
168
168E
WESTON Street
Hinemoa Street
173
171
175
1
2
4
6
8
100 Year Flood Contours & Flood Extent
Flood Contours (mAHD)
High Risk Area
Medium Risk Area
Ground Contours (mAHD)
CAUTION
While the information provided within the following maps has been prepared with care, Council acknowledges that they may contain errors or omissions and accepts no liability to users of the maps for any direct or indirect loss, damage, cost or expense arising from the use of such information. Where there is any doubt regarding the accuracy of the information on a map, users are to consult Council.


100 yr ARI Flood Depth (m) and Flood Contour Levels (mAHD) from Kelso Swamp Catchment for 2-6 Hinemoa Street, Panania
P213
168
168E
WESTON Street
Hinemoa Street
173
171
2
4
6
8
10
1
3
Maximum Depth (m)
0.1 to 0.2
0.2 to 0.3
0.3 to 0.4
0.4 to 0.5
0.5 to 0.6
0.6 to 0.7
0.7 to 0.8
0.8 to 0.9
0.9 to 1
1 to 1.25
1.25 to 1.5
1.5 to 2
2 to 3
3 to 4
4 to 5
CAUTION
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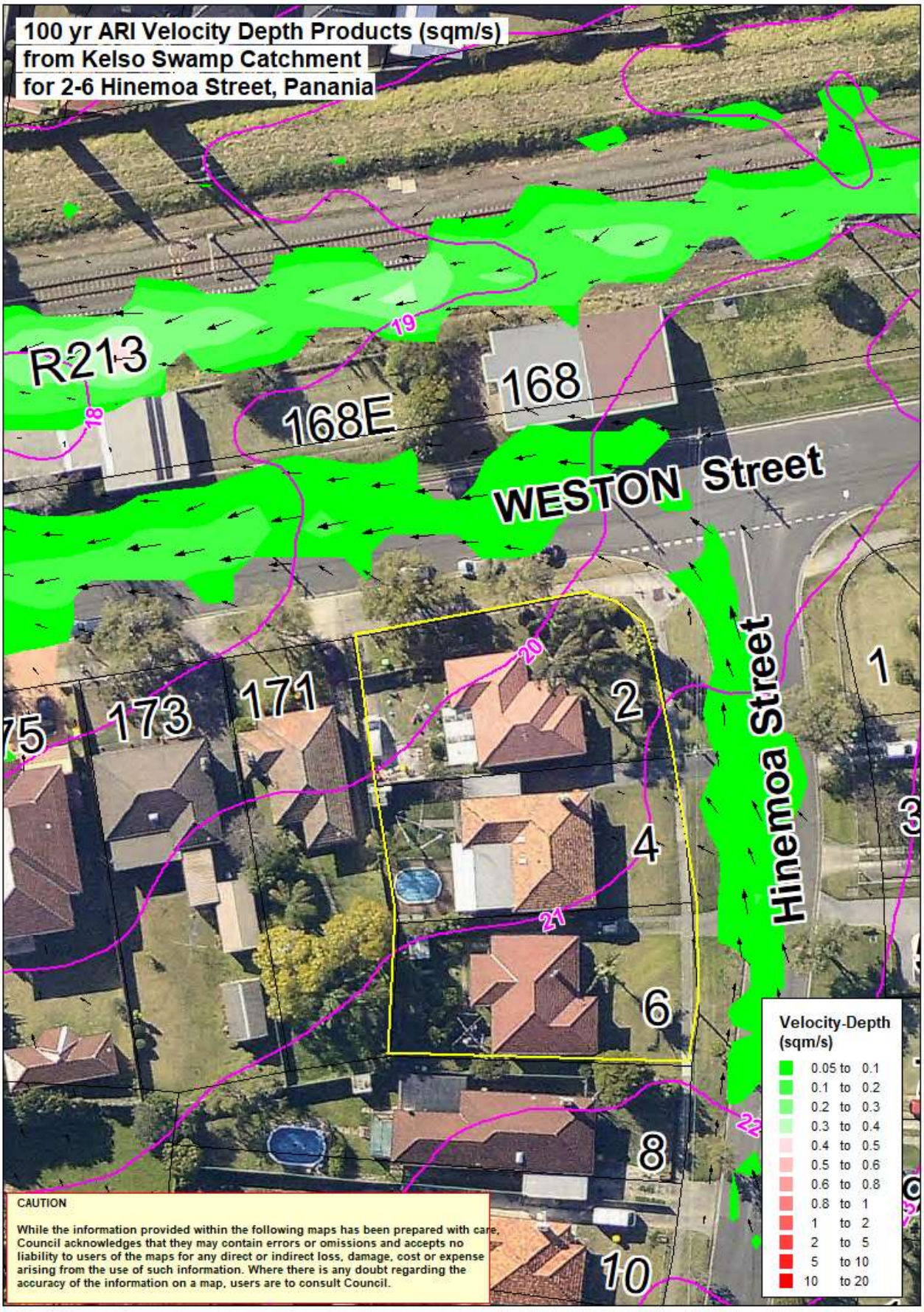
100 yr ARI Velocity Depth Products (sqm/s)
from Kelso Swamp Catchment
for 2-6 Hinemoa Street, Panania
R213
168E
168
WESTON Street
Hinemoa Street
173
171
2
4
6
8
10
1
19
18
20
21
22
Velocity-Depth (sqm/s)
0.05 to 0.1
0.1 to 0.2
0.2 to 0.3
0.3 to 0.4
0.4 to 0.5
0.5 to 0.6
0.6 to 0.8
0.8 to 1
1 to 2
2 to 5
5 to 10
10 to 20
CAUTION
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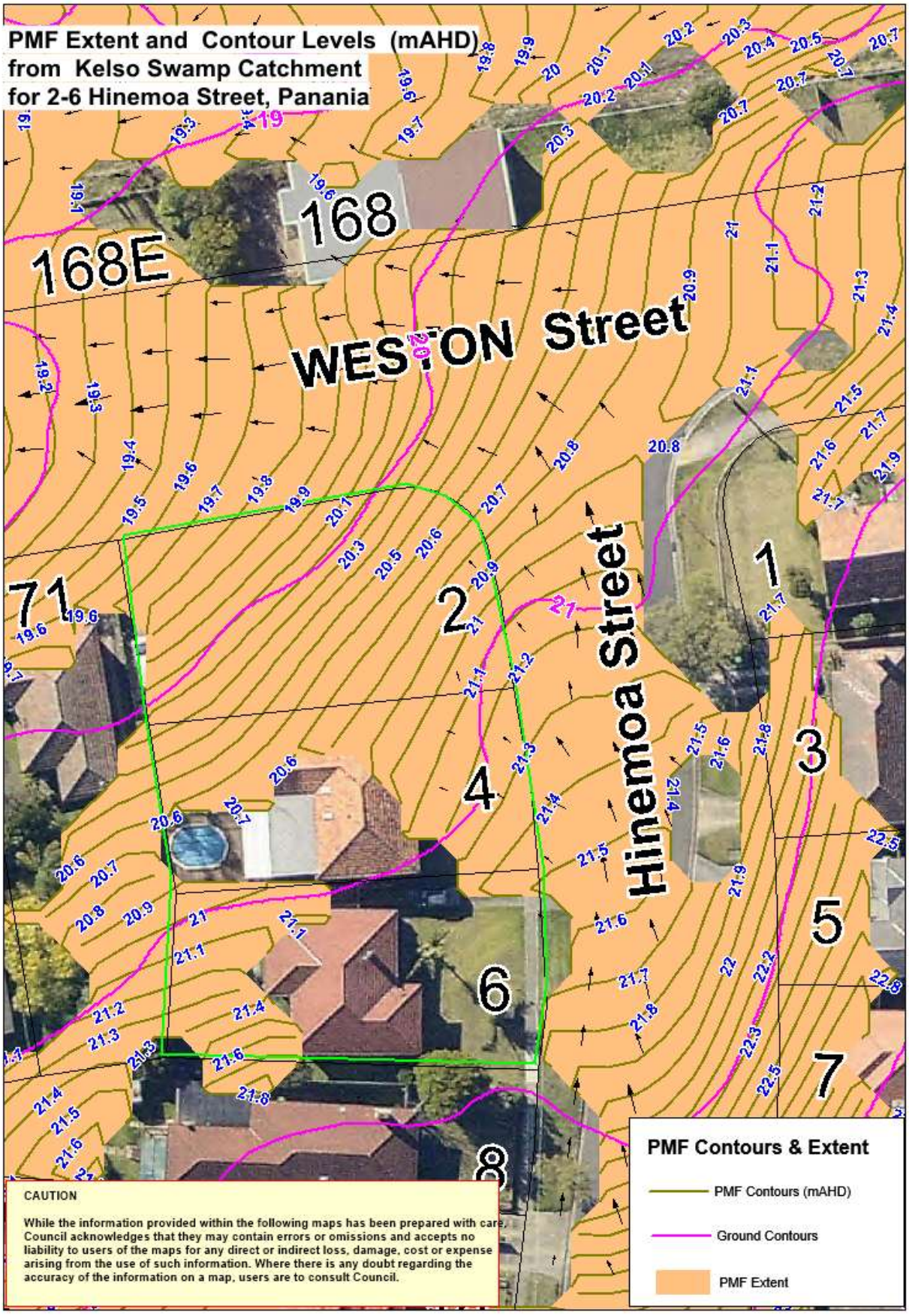
PMF Extent and Contour Levels (mAHD)
from Kelso Swamp Catchment
for 2-6 Hinemoa Street, Panania
168
168E
WESTON Street
Hinemoa Street
71
1
2
3
4
5
6
7
8
CAUTION
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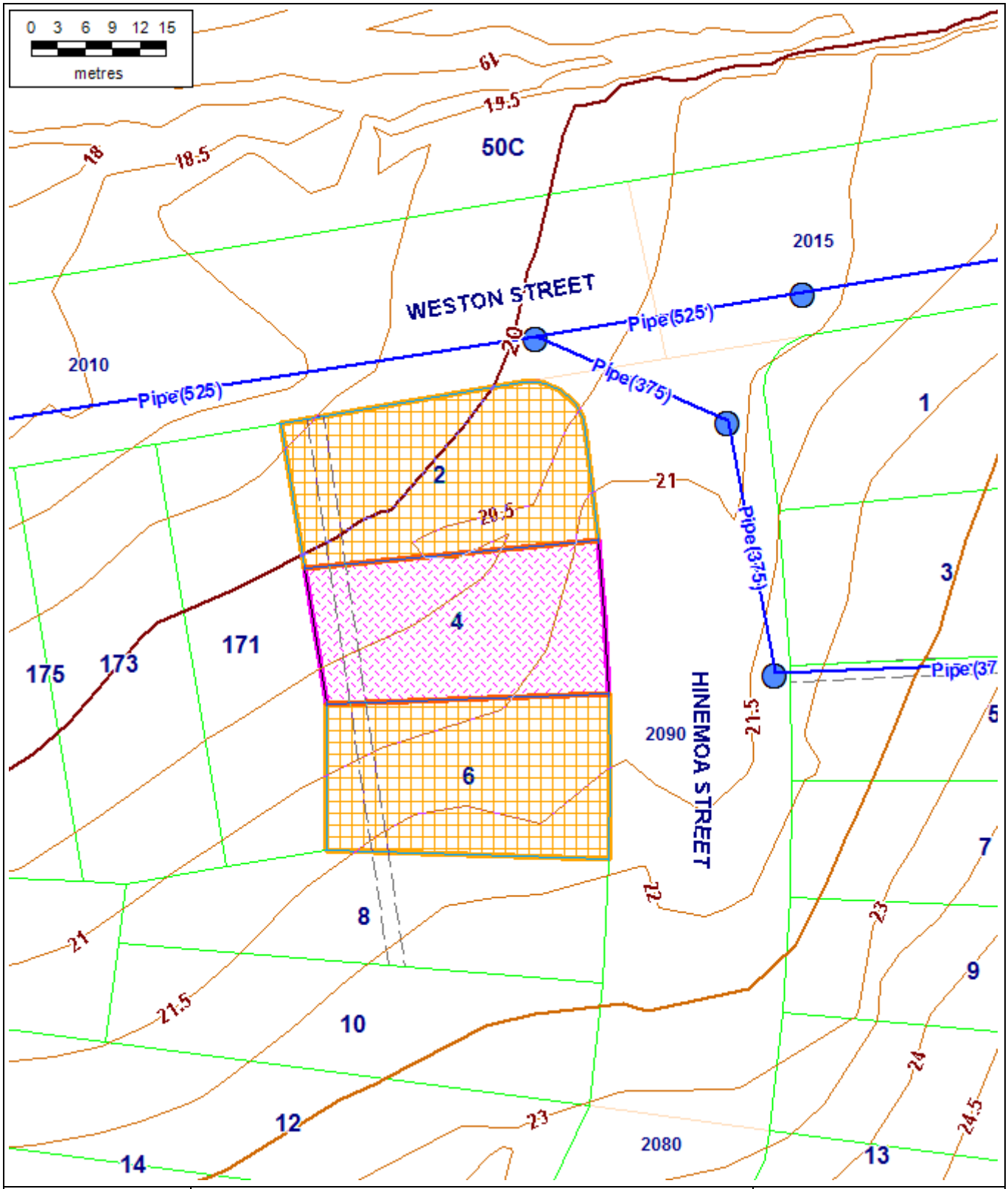
PMF Contours & Extent
PMF Contours (mAHD)
Ground Contours
PMF Extent



1:616.9
18 November 2021

2-6 Hinemoa Street, Panania

GIS Map

DISCLAIMER: COUNCIL EXPRESSLY DISCLAIMS ALL LIABILITY FOR ERRORS OR OMISSIONS.
THIS PLAN HAS NO LEGAL STANDING

CANTERBURY BANKSTOWN

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18 November 2021

2-6 Hinemoa Street, Panania

Aerial Map

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CANTERBURY BANKSTOWN

Legend

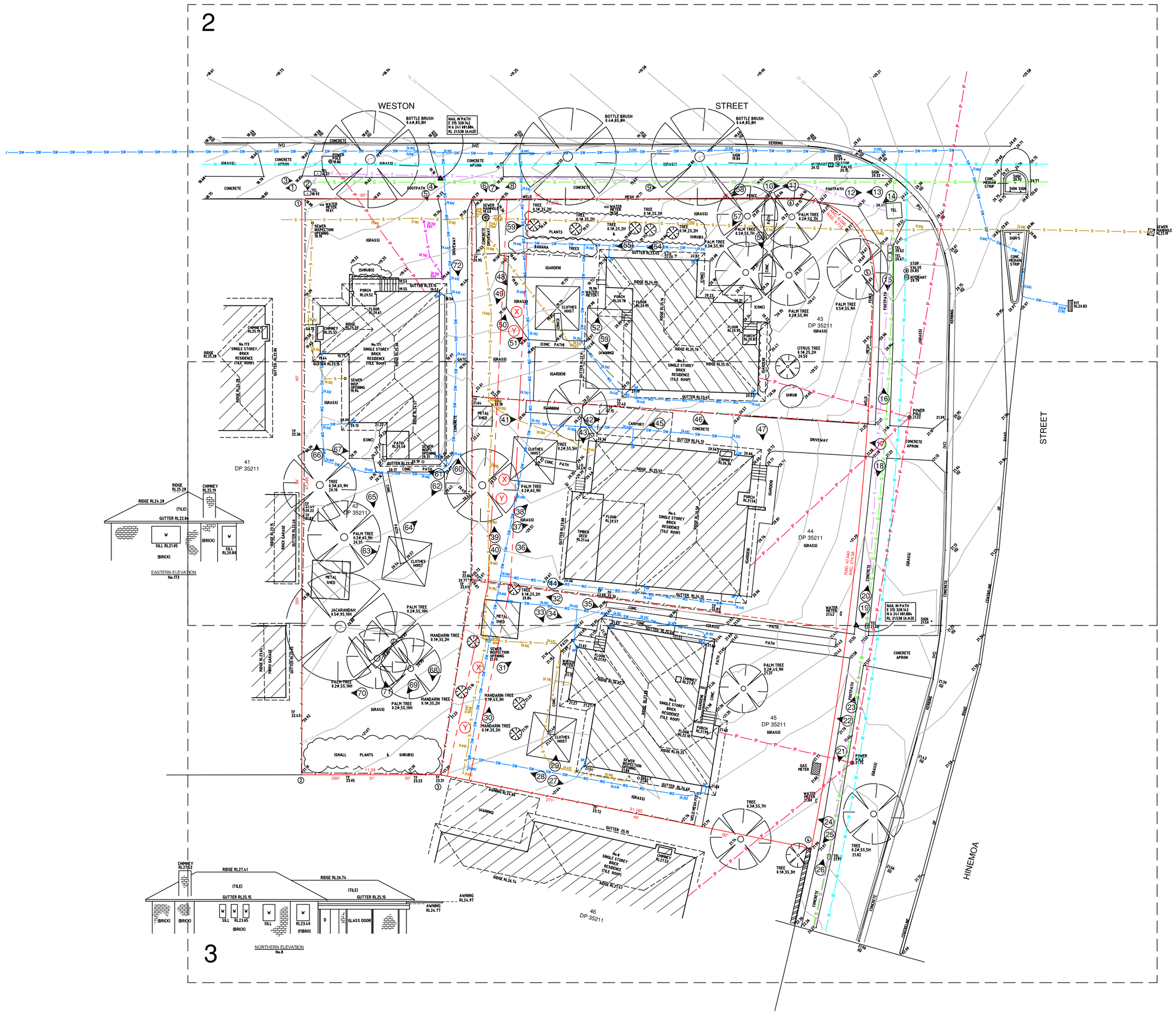
- Suburb
- Stormwater Drains MD
- Stormwater Pits MD
- Sydney Water
- Contour Major 5m
- Contour Intermediate 2.5m
- Contour Minor 0.5m
- _25cm Contour Interval (Major)
- _25cm Contour Interval (Basic)
- _25cm Contour Interval (Minor)
- Parcel
- Parcel Associate
- Parcel Vinculum
- Jetty
- Easements
- Road Boundaries
- Aerial Photo 14052019
- Road Names
- Airport Internal Road
- Water Boundary
- Airport Taxiway

9. APPENDIX B

Survey Plan

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

L.G.A. CANTERBURY-BANKSTOWN



MGA

BOUNDARY CO-ORDINATES

	EASTING	NORTHING
1	315 277.325	6 241 109.078
2	315 285.095	6 241 062.259
3	315 296.330	6 241 064.134
4	315 327.496	6 241 063.144
5	315 324.879	6 241 110.651
6	315 317.846	6 241 115.803

LEGEND :

- TF - DENOTES TOP OF FENCE LEVEL
- (PC) - DENOTES PRAM CROSSING
- (VC) - DENOTES VEHICLE CROSSING
- SIO - DENOTES SEWER INSPCTION OPENING
- ◀1 - DENOTES PHOTO LOCATION
- — ? — - DENOTES UNKNOWN SERVICE LOCATED BY "DURKIN CONSTRUCTION"
- EOT - DENOTES END OF TRACE
- [0.50] - DENOTES UNDERGROUND SERVICE DEPTH.

DIAL BEFORE YOU DIG www.1100.com.au

NOTES:

1) TITLE BEARINGS AND DIMENSIONS ARE SHOWN. BOUNDARIES DETERMINED BY SURVEY
2) ORIGIN OF LEVELS: SSM 167401 RL25.049 (A.H.D.) SCIMS
3) SITE COMPRISES LOTS 42-45 D.P.35211
4) SITE AREA 2265.0m² BY TITLE DIMENSIONS.
5) UNDERGROUND SERVICES HAVE NOT BEEN INVESTIGATED.
6) TREE SIZES ARE INDICATIVE 0.3Ø,10S,8H DENOTES TREE SIZE 0.3 TRUNK DIAMETER, 10 SPREAD, 8 HIGH. (G) - DENOTES KERB GUTTER LEVEL.
7) TREE NAMES SHOWN CONSTITUTE OUR OPINION ONLY IF TREE SPECIES IDENTIFICATION IS IMPORTANT THEY SHOULD BE DETERMINED BY A QUALIFIED ARBORIST.
8) UNDERGROUND (NON VISIBLE) SERVICE LINES HAVE BEEN SHOWN FROM "DIAL BEFORE YOU DIG" SERVICE AUTHORITY RECORDS & ARE DIAGRAMMATIC ONLY IN REGARD TO THEIR POSITION & WIDTH UNLESS STATED OTHERWISE.
9) SERVICE PIT LOCATIONS HAVE DETERMINED BY SURVEY. LOCATION OF SEWER & STORMWATER HAVE BEEN DETERMINED ONSITE BY DURKIN CONSTRUCTION PTY LTD, USING HAND WAND UNDERGROUND DETECTION AND GROUND PENETRATING RADAR (GPR). DUE TO SITE SOIL DENSITIES AND CONDITIONS SOME SERVICES WERE UNTRACEABLE AT POINTS. NON-SIGNAL PRODUCING SERVICES MAY EXIST AND ARE NOT SHOWN. PRIOR TO ANY CONSTRUCTION OR DEMOLITION, THOROUGH SEARCH OF ALL AUTHORITIES SHOULD BE MADE TO DETERMINE THE EXTENT AND NATURE OF SERVICES POT HOLING AND HAND AUGERS SHOULD BE USED WHEN EXAMINING SERVICES.
10) (X) EASEMENT FOR DRAINAGE (DEALING No.G126381)
(Y) EASEMENT FOR DRAINAGE (DEALING No.G591748)

No.	DATE	NOTATION/AMENDMENT	No.	DATE	NOTATION/AMENDMENT

FILE	FILE SIZE (MB)	CHECKED BY

CONTOUR INTERVAL: 0.2m
DATUM: A.H.D.
ORIGIN OF DATUM: SSM 167401 25.049 SCIMS
100 YEAR FLOOD RL: N/A
RECOMMENDED MINIMUM FLOOR RL: N/A
SOURCE OF FLOOD INFO: N/A

LEGEND OF COMMONLY USED SYMBOLS

WATER (DBYD)
SEWER
ELECTRICITY O/H
ELECTRICITY U/G
TELECOM (DBYD)
GAS (DBYD)
STORMWATER
BENCH MARK
SURVEY CONTROL MARK PM SSM

REDUCTION RATIO 1 : 200 (A1)
0 10 5 10

LAND TITLE INFORMATION
LOTS: 42, 43, 44, 45
PLAN NOs : D.P 35211
OTHER:
AREA: TOTAL 2265.0m²

DATE OF SURVEY: 23/08/2021
SURVEY CONSULTANT: MA

Norton Survey Partners
SURVEYORS & LAND TITLE CONSULTANTS
PH +61 2 9555 2744
office@nspartners.com.au
SUITE 1 /505 BALMAIN ROAD
LILYFIELD N.S.W. 2040

REF: 52042.DWG

NSW GOVERNMENT Planning, Industry & Environment

DRAWING TITLE
DETAIL & LEVEL SURVEY

LOCATION
PANANIA

STREET ADDRESS
171 WESTON STREET
2-6 HINEMOA STREET

TYPE
S

JOB NUMBER
52042

SHT. 1
OF 3

L.G.A. CANTERBURY-BANKSTOWN

WESTON STREET

STREET

NAIL IN PATH
E 315 328.142
N 6 241 081.884
RL 21.538 (A.H.D)

NAIL IN PATH
E 315 328.142
N 6 241 081.884
RL 21.538 (A.H.D)

No.173 SINGLE STOREY BRICK RESIDENCE (TILE ROOF)

No.171 SINGLE STOREY BRICK RESIDENCE (TILE ROOF)

No.2 SINGLE STOREY BRICK RESIDENCE (TILE ROOF)

No.4 SINGLE STOREY BRICK RESIDENCE (TILE ROOF)

41 DP 35211

42 DP 35211

43 DP 35211 (GRASS)

44 DP 35211 (GRASS)

EASTERN ELEVATION
No.173

DIAL BEFORE YOU DIG
www.1100.com.au

No.	DATE	NOTATION/AMENDMENT	No.	DATE	NOTATION/AMENDMENT

FILE	FILE SIZE (MB)	CHECKED BY

CONTOUR INTERVAL: 0.2m
DATUM: A.H.D.
ORIGIN OF DATUM: SSM 167401 25.049 SCIMS
100 YEAR FLOOD RL: N/A
RECOMMENDED MINIMUM FLOOR RL: N/A
SOURCE OF FLOOD INFO: N/A

LEGEND OF COMMONLY USED SYMBOLS

WATER, SEWER, ELECTRICITY O/H, ELECTRICITY U/G, TELECOM (O/H, U/G), GAS, STORMWATER
BENCH MARK
SURVEY CONTROL MARK
PM SSM

REDUCTION RATIO 1 : 100 (A1)
0 10 5 10
LAND TITLE INFORMATION
LOTS: 42, 43, 44, 45
PLAN NOs : D.P 35211
OTHER:
AREA: TOTAL 2265.0m²

DATE OF SURVEY: 23/08/2021
SURVEY CONSULTANT: MA

Norton Survey Partners
SURVEYORS & LAND TITLE CONSULTANTS
PH +61 2 9555 2744
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SUITE 1 /505 BALMAIN ROAD
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REF: 52042.DWG

NSW GOVERNMENT Planning, Industry & Environment

DRAWING TITLE
DETAIL & LEVEL SURVEY

LOCATION
PANANIA

STREET ADDRESS
171 WESTON STREET
2-6 HINEMOA STREET

TYPE
S

JOB NUMBER
52042

SHT. 2
OF 3

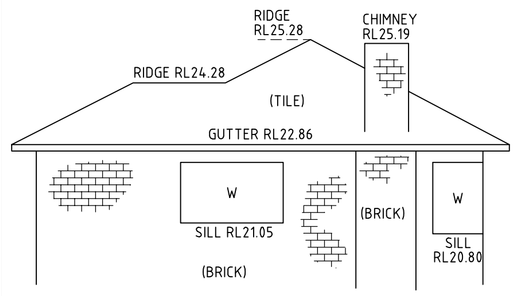
L.G.A. CANTERBURY-BANKSTOWN

STREET

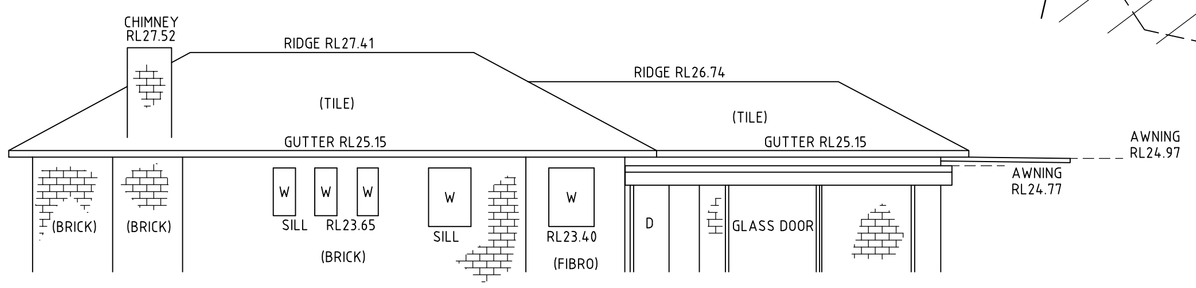
HINEMOA

MGA

EASTERN ELEVATION
No.173



NORTHERN ELEVATION
No.8



No.	DATE	NOTATION/AMENDMENT	No.	DATE	NOTATION/AMENDMENT

FILE	FILE SIZE (MB)	CHECKED BY

CONTOUR INTERVAL: 0.2m
DATUM: A.H.D.
ORIGIN OF DATUM: SSM 167401 25.049 SCIMS
100 YEAR FLOOD RL: N/A
RECOMMENDED MINIMUM FLOOR RL: N/A
SOURCE OF FLOOD INFO: N/A

LEGEND OF COMMONLY USED SYMBOLS

WATER — W — W — W — W
SEWER — S — S — S — S
ELECTRICITY O/H — P — P — P — P
ELECTRICITY U/G — E — E — E — E
TELECOM O/H U/G — T — T — T — T
GAS — G — G — G — G
STORMWATER — SW — SW — SW — SW
BENCH MARK ▲ SURVEY CONTROL MARK ■ PM SSM

REDUCTION RATIO 1 : 100 (A1)
0 10 5 10

LAND TITLE INFORMATION
LOTS: 42, 43, 44, 45
PLAN NOs : D.P 35211
OTHER:
AREA: TOTAL 2265.0m²

DATE OF SURVEY: 23/08/2021
SURVEY CONSULTANT: MA

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REF: 52042.DWG

NSW GOVERNMENT Planning, Industry & Environment

DRAWING TITLE
DETAIL & LEVEL SURVEY

LOCATION
PANANIA

STREET ADDRESS
171 WESTON STREET
2-6 HINEMOA STREET

TYPE
S

JOB NUMBER
52042

SHT. 3
OF 3

DIAL BEFORE YOU DIG www.1100.com.au

10. APPENDIX C

Architectural Plans

A: Suite2.04, 35-41 Waterloo Rd, Macquarie Park NSW 2113
E: info@smartstructs.com.au

ISSUE	DATE	AMENDMENT
A	2024-08-26	DA ISSUE

GENERAL LEGEND:

BR	Bedroom	FFL	Finished Floor Level	RWO	Rainwater Outlet
BRM	Broom Cupboard	LIN	Linen Cupboard	SWP	Storm Water Pit
CTL	Clothesline	MBX	Mailbox	TOW	Top of Wall
DW	Dishwasher	PTY	Pantry	TGSI	Tactile Indicators
ex.	Existing	RL	Relative Level		

TRUE NORTH

0 1 2 3 4 5 7 10m
SCALE 1:100@A1 (1:200@A3)

PROJECT
PANANIA - LAHC 2021/505
ADDRESS
171 Weston St & 2-6 Hinemoa St, Panania, NSW, 2213
LOT 42, 43, 44, 45 / DP35211

CLIENT
NSW LAHC
LOCKED BAG 5022
PARRAMATTA NSW 2124
PHONE 1800 738 718

PROJECT No. **21042**
CLIENT LAHC

MORSON GROUP
NOMINATED ARCHITECT - P F MORSON REGISTRATION NUMBER 8100
ACN 139 480 056, ABN 41 139 480 056
www.morsongroup.com.au
(02) 9380 4946
PO Box 170, Potts Point, NSW 1335

SHEET SIZE: A1
SCALE: As indicated

SHEET NAME: **GROUND LEVEL PLAN**

DRAWING No. **DA12**
ISSUE No. **A**

25/08/2024 3:40:35 PM C:\MG Dropbox\Morson Group\PROJECTS\PANANIA\21042 - LAHC GH\Architecture\CAD\21042_171 Weston St, Panania General Housing_20240824_LE.rvt

11. APPENDIX D

Flood compatible materials

Component	Flood Compatible Material
Flooring and Sub-floor	▪ Concrete slab-on-ground monolith construction ▪ Suspended reinforced concrete slab
Wall Structure	▪ Solid brickwork, blockwork, reinforced, concrete or mass concrete
Wall and Ceiling Linings	▪ Fibro-cement board ▪ Brick, face or glazed ▪ Clay tile glazed in waterproof mortar ▪ Concrete ▪ Concrete block ▪ Steel with waterproof applications ▪ Stone, natural solid or veneer, waterproof grout ▪ Glass blocks ▪ Glass ▪ Plastic sheeting or wall with waterproof adhesive
Roof Structure	▪ Reinforced concrete construction ▪ Galvanised metal construction
Doors	▪ Solid panel with water proof adhesives ▪ Flush door with marine ply filled with closed cell foam ▪ Painted metal construction ▪ Aluminium or galvanised steel frame
Insulation	▪ Closed cell solid insulation ▪ Plastic/polystyrene boards
Windows	▪ Aluminium frame with stainless steel rollers or similar corrosion and water resistant material.
Nails, Bolts, Hinges and Fittings	▪ Brass, nylon or stainless steel ▪ Removable pin hinges ▪ Hot dipped galvanised steel wire nails or similar
Main Power Supply	▪ Subject to the approval of the relevant authority the incoming main commercial power service equipment, including all metering equipment, shall be located above the designated flood level. Means shall be available to easily disconnect the dwelling from the main power supply.

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Component	Flood Compatible Material
Wiring	▪ All wiring, power outlets, switches, etc., should be located above the designated flood level. All electrical wiring installed below this level should be suitable for continuous underwater immersion and should contain no fibrous components. ▪ Earth leakage circuit-breakers (core balance relays) or Residual Current Devices (RCD) must be installed. ▪ Only submersible type splices should be used below maximum flood level. ▪ All conduits located below the relevant designated flood level should be so installed that they will be self-draining if subjected to flooding.
Electrical Equipment	▪ All equipment installed below or partially below the designated flood level should be capable of disconnection by a single plug and socket assembly.
Heating and Air Conditioning Systems	▪ Heating and air conditioning systems should be installed in areas and spaces of the house above the designated flood level.
Fuel storage for heating purposes	▪ Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off. ▪ The heating equipment and related fuel storage tanks should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. The tanks should be vented to an elevation of 600 millimetres above the designated flood level.
Ducting for heating/cooling purposes	▪ All ductwork located below the relevant flood level should be provided with openings for drainage and cleaning. Self-draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a water-tight wall or floor below the relevant flood level, a closure assembly operated from above relevant flood level should protect the ductwork.

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