Temporary School Facilities
Mulgoa Rise Public School
Stormwater Management Report [B]

Site Information

Development Description: Construction of the temporary buildings.
Total Works Area =2000m^2 (Approximately)
Increase in Impervious Area = 2000m^2 (Approximately)

Flood and Overland Flow

- The site grades gently from a high point in the south-west corner, to a low point in the northeast corner. An existing grassed batter (approximately 1V:10H) is located along the southern site boundary. Remaining gradients within the site, from the toe of the batter to the northwest corner of the site, varies between 1% to 4%.
- The Site is subjected to overland flow flooding during the 1% Annual Exceedance Probability (AEP) storm event and Probable Maximum Flood.
- The TUFLOW model by GRC Hydro indicated that overland flow flooding occurred in the north-western corner during the 1% AEP storm event, and eastern portion of the Site. This flooding was shallow (less than 300mm) and has a hazard classification of H1, which is the lowest level of hazard and is generally safe for people, vehicles, and buildings -see figure 1. The flood levels vary from 63m AHD in the south-east corner of the site to 59m AHD in the north-east corner of the site.

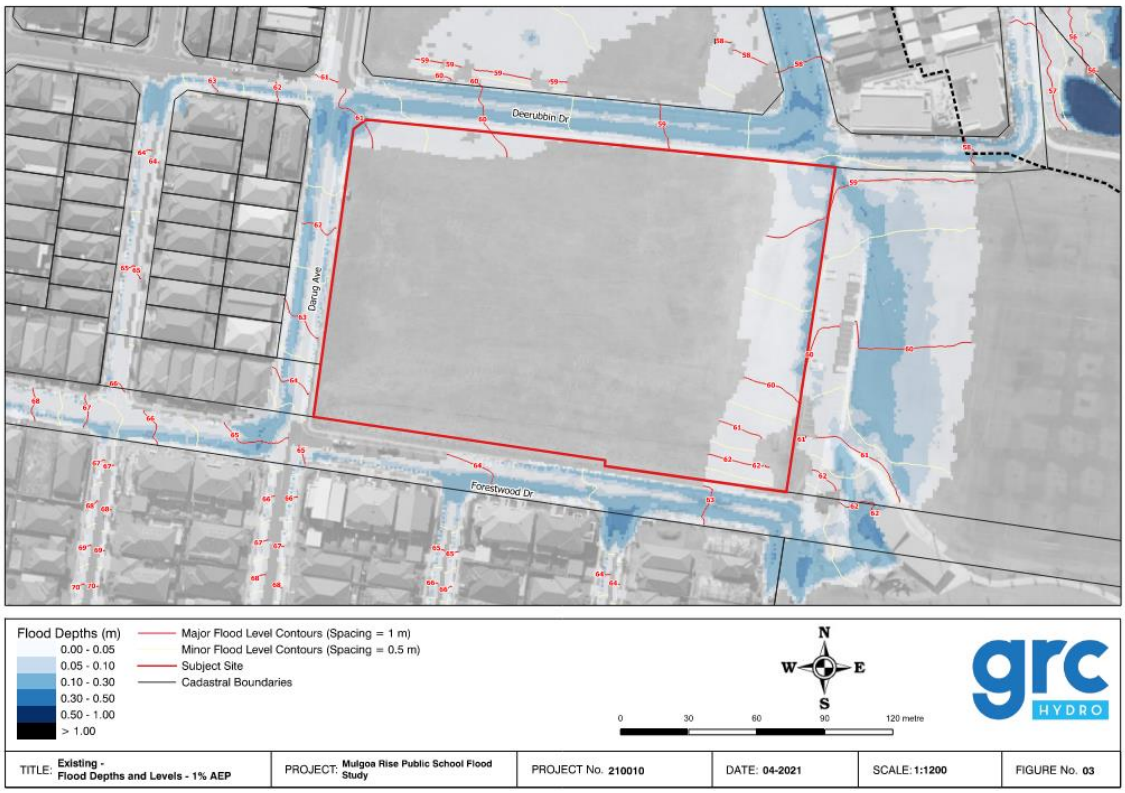


Figure 1: 1% AEP Flood Depth and Levels

- Most of the temporary buildings are located outside of the flood zone. Buildings HB5 and HB4 are partially obstructing the overland flow path. To maintain the current overland flow regime, it is recommended to allow flood water to flow freely underneath the buildings, therefore will be constructed on piers. The building HB6 and the adjacent lavatory are also recommended to be raised on piers since their locations are close to the flood overland flow path.

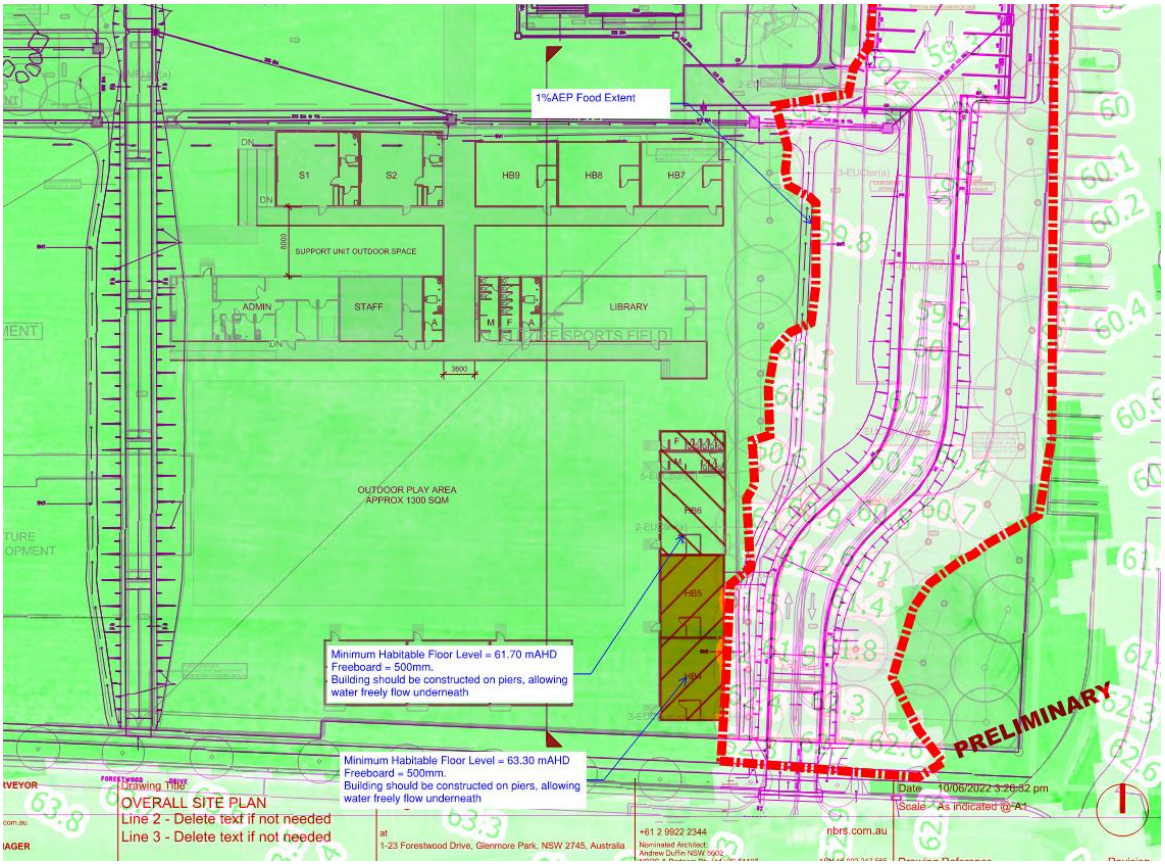


Figure 2: Proposed Development.

<u>Rainwater, On-site Detention and WSUD Requirements</u>

Reference: Penrith City Council's Stormwater Drainage Guidelines for Building Development 2016

- The subject site is located outside of Penrith City Council's identified On-Site Detention areas within the Stormwater Drainage Guidelines for Building Developments. Thus, OSD is not required for the proposed development. This has been confirmed in previous email correspondence between ACOR and Penrith City Council.

- Additionally, it has also been confirmed with Penrith City Council that the downstream receiving stormwater system (both minor and major) has sufficient capacity to convey unattenuated flows from the site. Refer Appendix E of ACOR's concept report.
- Penrith City Council's Water Conservation objectives requires 80% of potable demand to be met by non-potable sources.
- The council confirmed that a regional bio-retention basin will be constructed for the area, negating WSUD requirements for the development.

Stormwater Discharge Point

Refer attached marked up plan drawings for potential stormwater strategy for each Option

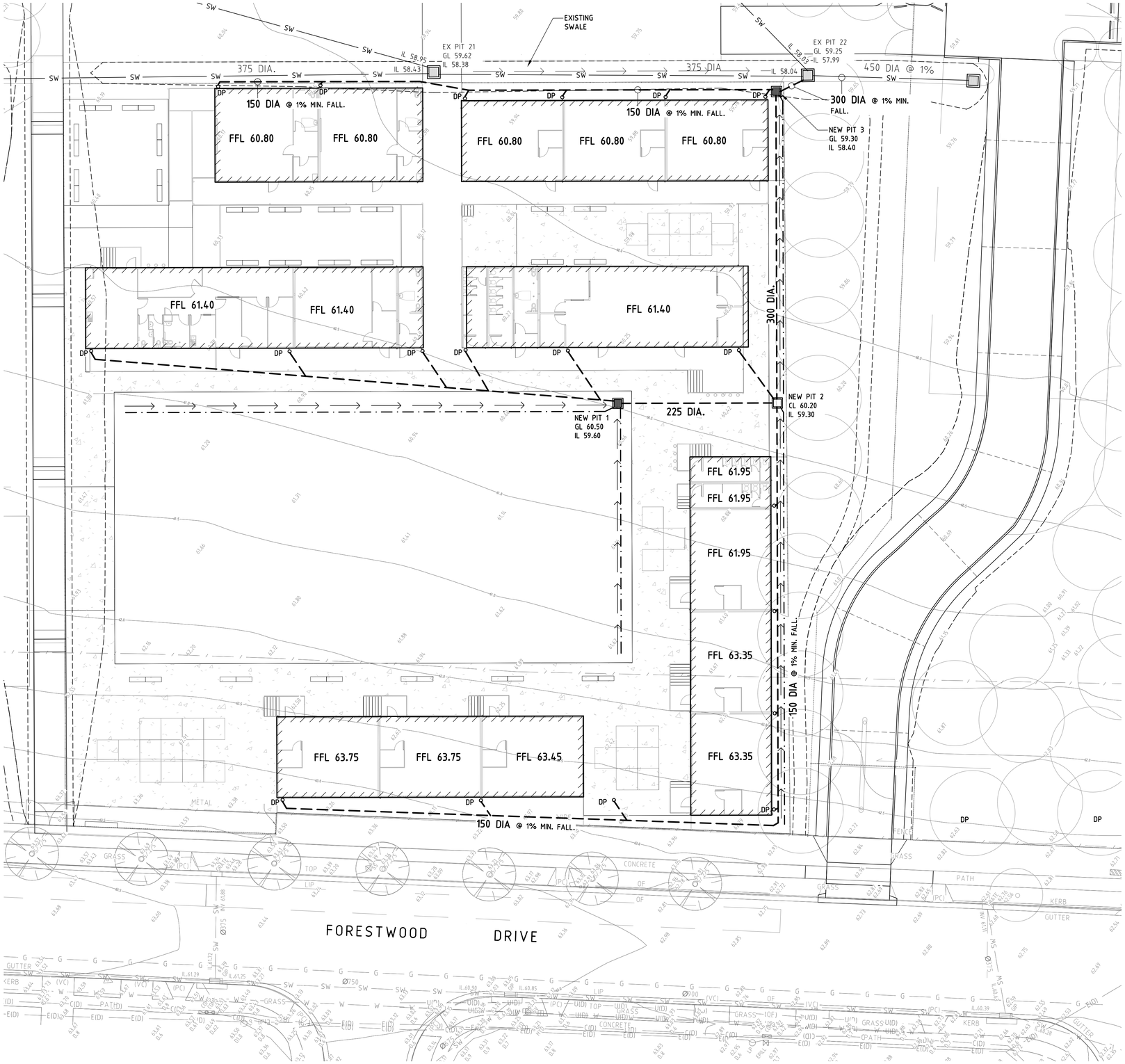
- There are multiple existing stormwater pits near the proposed development area within the school site.
- The downpipes from the temporary buildings are to be connected to an existing rainwater tank and surface runoff is captured in several pits proposed around the site. The outlet pipe of the proposed system is connected to the nearest existing pit with the constructed grass swale – see attachment.

Minimum Habitable Floor Levels

The site is affected by the overland flow travelling from the north-east corner of the site to the southeast corner of the site. Therefore, some buildings' finished levels need to comply with the council's floodplain management policy. Buildings HB4 and HB5 will require a minimum floor level of RL 63.30 mAHD while the floor level of HB6 building and the adjacent lavatory should be constructed at RL 61.70mAHD. Remaining bulding's FFL will be determined by the architect.

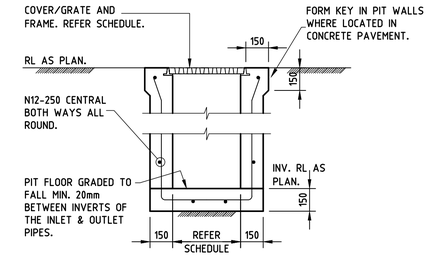
Appendix A

Stormwater Management Plan



LEGEND

— — —	NEW STORMWATER PIPE 1% MIN FALL (UNO)
— · — · —	NEW SUBSOIL DRAINAGE PIPE 1% MIN FALL (UNO)
→	NEW SWALE
▣	NEW STORMWATER PITS
oDP	NEW 150 DIA. DOWNPIPE
GL	GRATE LEVEL
CL	COVER LEVEL
IL	INVERT LEVEL

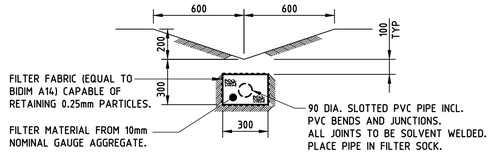


NEW STORMWATER PIT

NOTE:
INSTALL ENVIRPOD INSERTS TO ALL GRATED STORMWATER PITS.

PIT SCHEDULE

PIT No.	SIZE	GRATE/COVER & FRAME TYPE
1	900 x 900	CLASS 'B' HEELGUARD STYLE GRATE AND FRAME
2	900 x 900	CLASS 'B' COVER AND FRAME
3	900 x 900	CLASS 'B' HEELGUARD STYLE GRATE AND FRAME



SWALE DETAIL

NOTE:
ALL SUSPENDED BUILDINGS/WALKWAYS TO BE CONSTRUCTED ON PIERS TO ALLOW FOR STORMWATER OVERLAND FLOW TO FREELY DRAIN UNDERNEATH, MAINTAINING EXISTING CONDITIONS.

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Job No.	Approved	Verified	Prepared
20-306	J.C. 04.07.22	L.N. 04.07.22	T.D.C. 04.07.22

Issue

No.	Date	Description	Ver.	Appr.
P1	04.07.22	PROGRESS ISSUE		

RICHARD CROOKES CONSTRUCTIONS

Architect
NBRS ARCHITECTURE.

Sydney
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Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW PRIMARY SCHOOL IN MULGOA RISE

at
1-23 FORESTWOOD DRIVE GLENMORE PARK NSW 2745

for
School Infrastructure NSW

Drawing Title
TEMPORARY SCHOOL FACILITIES STORMWATER MANAGEMENT PLAN AND DETAILS

Date NOVEMBER 2021
Scale 1:100

Drawing Reference
20-306_SW-TEMP_001

Revision
P1

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