

Alexandria Park Community School

Stormwater Management Report

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Contents

Contents	2
Document control	3
1.0 Introduction.....	4
2.0 Existing Site	6
3.0 Proposed Development.....	9
3.1 Proposed Stormwater Drainage System	9
3.2 Water Sensitive Urban Design	9
3.2.1 Rainwater Reuse	9
3.2.2 Stormwater Quality / Treatment.....	9
4.0 Flood Planning Level.....	9
5.0 Erosion and Sediment Control	9
6.0 Conclusion	10
Appendix A Drawings.....	11
Appendix B Calculations	12

Document control

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1.0 Introduction

This Stormwater Management Report has been prepared by Woolacotts Consulting Engineers on behalf of the NSW Department of Education (the 'Applicant'). It accompanies an Environmental Impact Statement (EIS) prepared in support of State Significant Development Application SSD 17_8373 for the redevelopment of 'Alexandria Park Community School' at 7-11 Park Road, Alexandria (the 'Site'). The EIS seeks development consent for the following works:

The redevelopment of the Alexandria Park Community School ('the School') will address issues of capacity for schools in the inner city areas of Sydney and is also driven by the population growth resulting from the large number of residential developments that are transforming the former industrial precincts of Zetland, Waterloo and Alexandria.

The new school has been briefed to accommodate up to 1,000 primary school students and up to 1,200 secondary school students on one campus in an integrated and fully connected school building.

Specifically, this project includes:

- Demolition of all existing buildings on-site, including the temporary pop-up schools;
- Remediation of specific areas of the site containing contaminated fill;
- Construction of multiple school buildings of up to five stories, arranged along the western and southern parts of the site comprising:
 - Classroom home bases;
 - Collaborative learning spaces;
 - Specialist learning hubs;
 - Learning support spaces;
 - Offices for teachers and administrative staff;
 - Library; and
 - Student canteen.
- Construction of a sports hall and multiple outdoor sports courts;
- An all-weather multipurpose synthetic sports field;
- Informal play spaces and Covered Outdoor Learning Space or COLA;
- A community centre;
- A pre-school for 39 children;
- Site landscaping including green links, community garden and open space;
- Construction of a new on-site car park and associated vehicular access point off Belmont Street; and
- Augmentation and construction of ancillary infrastructure and utilities as required.

Delivery of the project will be undertaken in sequential phases to maintain an operational school on the Park Road Campus and will involve enabling works separate to this application followed by three main construction phases for the new building and external works.

The purpose of this report is to provide an assessment of the proposal as described above and detailed within the EIS.



Figure 1 – Site location

2.0 Existing Site

The site is currently developed, with buildings and paved areas associated with the public school. A grassed playing area is located in the north eastern end of the site. Temporary school is located in the north western end of the site. Refer to Figure 2 for an aerial photo of the site.



Figure 2 – The Site

The site is identified as flood affected by 1% AEP and PMF event by the Council. Refer to Figures 4 & 5 for flood extents. The site has a sports field which falls towards the south and the rest of the site is relatively flat. The site has Sydney Water easement running from Park Road to Belmont Street. It has an existing connection to Sydney Water easement. Refer to figure 3 for the location of the existing Sydney Water easement.



Figure 3: Location of Sydney Water Easement

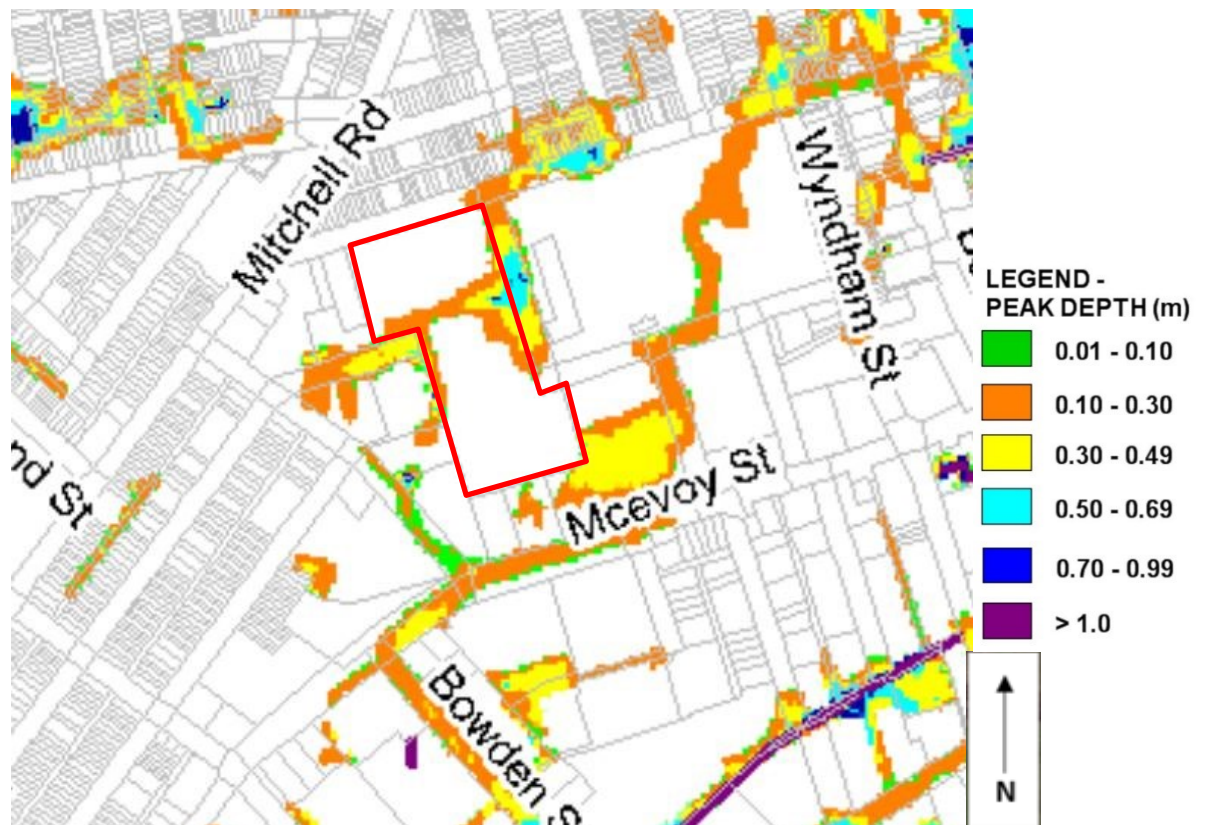


Figure 4: 1% AEP Flood Extent

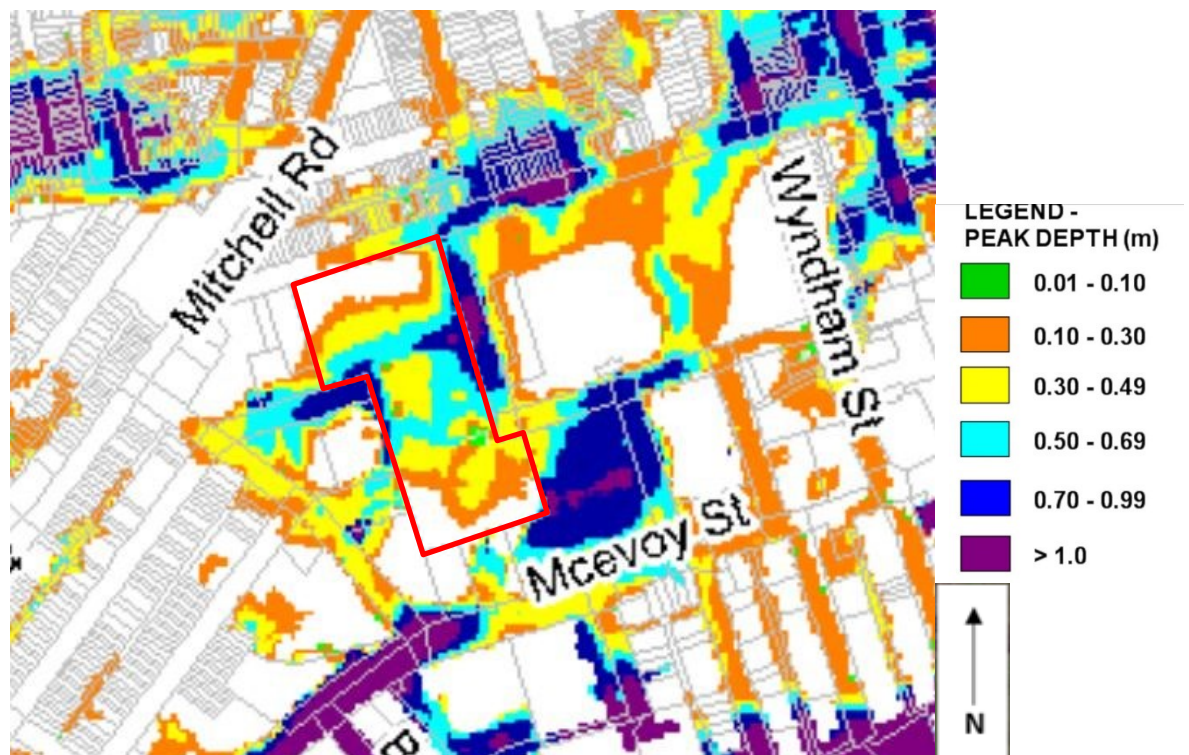


Figure 5: PMF Extent

3.0 Proposed Development

The existing school buildings are proposed to be demolished and replaced with new three and four storey buildings including classrooms, a new covered outdoor area, a gym and a courtyard.

3.1 Proposed Stormwater Drainage System

All of the existing drainage system will be demolished and made redundant including the existing connection to the Sydney Water easement.

A new piped stormwater drainage system will be provided to carry runoff from storms up to and including the 5% AEP event, with pipes graded at a minimum fall of 1 in 100 to an on-site detention system. External surfaces will be graded at a minimum fall of 1 in 100 to the on-site detention system.

The proposed stormwater drainage system has been designed in accordance with Sydney Council's DCP 2012 and Sydney Water's on-site detention requirements.

As the site proposes to connect to Sydney Water stormwater easement, it is subject to Sydney Water on-site detention requirements. Sydney Water requires on-site detention volume of 459 m³ for the site area of 20,740 m². This volume is proposed to be provided in an above ground detention basin, which extends to parts of sports field and pavement area when at maximum capacity. As the site is flood affected by both 1%AEP and PMF storm events, the detention system will cater for all storms up to and including 5% AEP storm events. Refer to Appendix B-Calculations for additional details.

3.2 Water Sensitive Urban Design

3.2.1 Rainwater Reuse

Clean rainwater from the new roof will be collected in rainwater tank(s) for reuse in irrigation of landscape areas. The rainwater tank will overflow into the stormwater drainage system and then to the on-site detention system.

3.2.2 Stormwater Quality / Treatment

Above ground on-site detention basin and rainwater tank improve stormwater quality before discharging to Sydney Water stormwater system.

4.0 Flood Planning Level

1% AEP and PMF levels have been extracted from City of Sydney Council's "Alexandra Canal Flood Study". 1% AEP flood and PMF levels are 13.33 and 13.77 respectively. Freeboard of 500mm has been provided on top of 1% AEP flood level and therefore flood planning level for the site is minimum 13.83.

5.0 Erosion and Sediment Control

During construction, erosion and sediment control measures will be provided in accordance with the "Blue Book" (*Managing Urban Stormwater – Soils and Construction*) and *Guidelines for developments*

adjoining land managed by the Office of Environment and Heritage. Measures will include silt fences on the low side of the works and construction exits for vehicles. Refer to Drawing ES1 & ES2 in Appendix A for a plan detailing the measures proposed.

6.0 Conclusion

Stormwater drainage from the site will be collected and treated before discharging to the existing Sydney Water stormwater drainage system. Water quality improvement measures will ensure compliance with Sydney Water requirements. The on-site detention system will cater for all storm events up to and including 5% AEP storm events in accordance with Sydney Water on-site detention requirements.

The site is flood affected by both 1%AEP and PMF storm events. The flood planning level has been determined in accordance with Alexandra Canal floodplain risk management plan, risk management study and flood study.

Erosion and sediment control measures will be provided in accordance with the “Blue Book” (*Managing Urban Stormwater – Soils and Construction*).

Within the development, water saving measure will be provided. Water collected in the rainwater tanks will be used for irrigation.

Appendix A

Drawings

