15 May 2020
Ref 1925FRMP

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ABN 86 121 756 527
77 Mann St, Gosford NSW 2250
4322 6517 www.cohortengineering.com.au
Civil & Structural Engineering
Hydraulics & Flood Consultants
Local Government Engineering

Sydney Catholic Schools
c/o JDH Architects
44 Little Oxford Street
Darlinghurst NSW 2010

Attention: Mr Steven Haratsis

FLOOD RISK MANAGEMENT PLAN FOR
St Mary St Joseph Catholic Primary School, Maroubra
266-280 Fitzgerald Ave, Maroubra

Dear Steven,

We have been engaged to prepare a Flood Risk Management Plan (FRMP) that will outline a strategic approach to managing flood impacts in relation to a proposed development at the abovementioned address, further referred to as the Site. An aerial photograph of the Site and its surrounding streets and neighbours is presented in **Appendix A**. The FRMP has been prepared as a support document to the Development Application submitted for the proposed development illustrated in **Appendix B**.

This FRMP relates to this Site zoned "SP2 Educational Establishment" and should not be used for any other location, client or purpose. This report outlines;

a) a review of the flood characteristics from modelling undertaken for Randwick Council in 2017 prepared by WMA Water with the release of the Maroubra Bay Floodplain Risk Management Study and Plan;
b) a summary of the development controls that have been implemented through the Randwick Comprehensive DCP2013; and
c) an assessment of the flood mitigation and adaption measures required to limit the risk of identified flood impacts relevant to the Site in respect to the proposed development.

The implementation of flood mitigation measures will significantly reduce the risk of flood inundation, property damage and human injury from potential floods impacting the proposed development and the existing activities on the Site.

The Site and Flood Context

The Site is approximately 8,613sqm in area and is located approximately 370m to the west of Maroubra Beach. The Site is a rectangular parcel of land bordered to the;

- north by Mons Ave with a road boundary level ranging between 10.85AHD and 7.00AHD;
- south by Fitzgerald Ave with a road boundary levels ranging between 7.74AHD and 7.23AHD;
- east by Broadarrow Reserve with a boundary levels ranging between 7.17AHD and 6.87AHD; and
- west by Malabar Rd with road boundary levels ranging between 10.92AHD and 7.69AHD, the latter being the highest on the Site.

A portion of the Site is isolated from the School surrounded with fencing in the south east corner and measures an area of approximately 832sqm. This area generally varies in level between 6.90AHD and 7.23AHD.

The proposed development incorporates the new construction of a two-storey Staff, Admin and GLA building with associated landscaping and playgrounds, refurbishment of an existing Block D and Block E buildings and demolition of Block A, Block B and Block C buildings.

The proposed total building roof area will occupy approximately 3,128sqm, 36% of the Site area, with the existing total building roof having an approximate area of 3,213sqm, 37% of the Site area. The new Staff, Admin and GLA building ground floor will be constructed with a split finished floor level of 8.43AHD and 9.68AHD. The existing building of Block D and Block E will be retained and refurbished at a varying existing finished floor levels of 7.90AHD, 7.94AHD, 7.95AHD and 8.05AHD.

Randwick Council's Flood Report of August 28 2019 presents flood levels across the Site based on the Maroubra Bay Floodplain Risk Management Study and Plan, which in summary included;

i. The Site being affected by a 5% AEP (Annual Exceedance Probability) flood level of between 7.53AHD at the southwest corner [Fitzgerald Ave/Malabar Rd] and 6.99AHD at the southeast corner [Fitzgerald Ave];
ii. The Site being affected by a 1% AEP (Annual Exceedance Probability) flood level of between 6.87AHD at the northeast corner [Mons Ave], 7.12AHD at the southeast corner [Fitzgerald Ave] and 7.70AHD at the southwest corner [Fitzgerald Ave/Malabar Rd];
iii. The Site being affected by a PMF (Probable Maximum Flood) flood level of between 8.97AHD at the northwest corner [Mons Ave/Malabar Rd], 7.40AHD at the northeast corner [Mons Ave], 7.69AHD at the southeast corner [Fitzgerald Ave] and 8.93AHD at the southwest corner [Fitzgerald Ave/Malabar Rd]; and
iv. The Site experiences approximate 1% AEP maximum flood depths of 0.30m along the east boundary midblock and 0.22m along the south boundary.

On 26 September 2019, we visited the Site to determine its flood context following a review of Maroubra Bay Floodplain Risk Management Study and Plan, and the following observations and opinions have been derived.

1. The Site and neighbouring, Broadarrow Reserve, is located on lands affected by the 1% AEP flood event and are flood control lots.
2. Fitzgerald Ave carriageway forms a floodway for upstream flows and flood depths do enter the Site across this road property boundary, in the order of 200mm. These flood flows are contained up to the existing building line of Block C, Block D and Block E, along Fitzgerald Ave.
3. Broadarrow Reserve forms a flood storage area for a flood event.
4. The eastern and southern portions of the Site are located on the flood fringe during an event.
5. The Site and Broadarrow Reserve exhibit sandy soils and would characteristically have high soil infiltration rates being located on the back slope of a coastal sand dune.

The Site will continue to be inundated because of this proposed development as no filling or Site level alterations are proposed within the Site flood extent. The Site will be inundated in the 1% AEP flood event and PMF with approximate maximum depths estimated at 0.3m and 0.8m, respectively.

Estimated peak flow velocities on the Site are generally less than 0.7m/s in the 1% AEP and accelerating off site within Fitzgerald Ave carriageway to 1.6m/s. Reviewing the NSW Floodplain Development Manual 2005 and based on Council's flood modelling, a preliminary assessment of the Site is that it is categorised as a provisional low hydraulic hazard.

Inundation depths during these storm events can exceed these estimated depths across the road property boundary from incidental wave action from passing vehicles and is not the result of a hydraulic flood conveyance. The modelling undertaken has analysed the catchment in some rare specific adverse circumstances, such as conveyance blockages and rainfall conditions. It is possible that these flood depths may not represent a specific rainfall event and the rarity of these assumptions cannot be

guaranteed and therefore caution should always be exercised from event to event. The chances of all these risks occurring is unlikely but should be planned for as the consequences can be catastrophic.

Floodways are defined as those areas where significant volume of water flows during floods and often aligned with obvious gullies and channels. They are areas that even if partially blocked would cause significant increase in flood levels and redistribution of flood flows which in turn adversely affect other adjacent areas. They are generally areas with deeper flood flows and higher flow velocities. Fitzgerald Ave has been defined as the only floodway adjacent and within the zone of influence of the Site.

Flood storage areas are defined as parts of the floodplain where temporary storage of floodwaters during the passage of flood occurs. If the capacity of flood storage is substantially reduced, flood levels in adjacent properties may rise and peak flowrates downstream will increase. They are areas that even reduced in capacity would cause significant redistribution of flood flows and levels. A small portion of Broadarrow Reserve along the eastern Site boundary is categorised as flood storage.

Flood fringe is the remaining area within the land affected by flooding.

Flood Requirements

Randwick Comprehensive Development Control Plan 2013, Part B8 Water Management; further referred to as the DCP, requires all new development to;

- control development at risk of flooding in accordance with the NSW Government's Floodplain Development Manual.
- ensure that the economic and social costs which may arise from damage to property due to flooding is minimised and can be reasonably managed by the property owner and general community.
- reduce the risk to human life and damage to property caused by flooding by controlling development on land impacted by potential floods.
- ensure that development is appropriately sited and designed according to the site's sensitivity to flood risk.

The proposed School development is categorised as a critical facility.

The Flood Planning level (FPL) is defined as the minimum floor level allowed within a particular catchment that is deemed to establish an acceptable risk between probability of a flood event and extent of flood damage, directly related to development type. As the development is a critical facility, the FPL is defined as the PMF (Probable Maximum Flood) level with a 500mm freeboard.

Outlined below is a summarised extract of the flood planning control requirements from the DCP.

Controls for Critical Facilities

Flood Studies and Plans

1. DAs are to identify any flood related information including flood levels, locations of floodways or overland flow paths impacting the site.

Flood effects

2. The development shall not increase flood effects elsewhere, having regard to loss of flood storage, changes in flood levels and velocities and the cumulative impact of multiple potential developments, for floods up to and including the 1% AEP flood.
3. Floodways and overland flow paths must not be obstructed or diverted onto adjoining properties.
4. Areas identified as flood storage areas must not be filled unless compensatory excavation is provided to ensure that there will be no net loss of floodplain storage volume below the 1% AEP flood.

Controls for Critical Facilities

Habitable floors

5. Inundated by flooding - PMF and 0.5m freeboard will be the FPL
6. Inundated by overland flow path - two times the depth of flow in the PMF with a minimum of 0.3m above the surrounding surface
7. Material storage – 1% AEP and 0.5m freeboard.

Building Components

8. All development shall have flood compatible building components below the FPL.
9. All structures shall be constructed to withstand the forces of floodwater, debris and buoyancy up to and including the FPL.

Driveway access and car parking

10. Open car parking spaces will be at or above the 5% AEP flood level.
11. Enclosed parking spaces will be at or above the 1%, but not less than 0.15m above surrounding ground level.
12. Locate vehicular access where the road level is greater than or equal to the required floor level for the car park. Where road access above the required floor level is not available, locate vehicular access at the highest feasible location.
13. The level of the driveway between the road and car park shall be no lower than 0.3m below the 1% AEP flood or such that the depth of inundation during the 1% AEP flood is not greater than the depth of flooding at either the car park or the road where the site is accessed.
14. Underground car parking accommodating more than three vehicles shall have warning systems signage and exits to ensure adequate warning and safe evacuation.
15. Barriers shall be provided to prevent floating vehicles leaving the site during the 1% AEP flood if the depth of flooding at the car space exceeds 0.3m.

Safety and evacuation

16. All developments will include the provision of reliable and safe egress for inhabitants from the lowest habitable floor level to a publicly accessible location above the PMF level.
17. All developments will include the provision of access for emergency personnel.

Management and design

18. The development shall not cause or increase erosion, siltation or destruction of natural or modified watercourses, wetlands or coastal areas.
19. Fencing within a floodway or overland flow path shall be of permeable open type design, and be constructed to withstand the forces of floodwaters or to collapse in a controlled manner.
20. Any proposed storage area shall be constructed and located to prevent stored materials or goods becoming hazardous during a flood.

Flood Risk Management Measures

Randwick's DCP requires all critical facility floor levels to be at or above the FPL. Applying a 500mm freeboard to the estimated PMF level allows the respective ground floor level of the new Staff, Admin and GLA building to be no lower than FPL7.90AHD. As the new building is proposed above this FPL, this requirement is satisfied.

The refurbishment of existing Block D and Block E will retain the existing floor levels of 7.90AHD, 7.94AHD, 7.95AHD and 8.05AHD. Applying a 500mm freeboard to the estimated impacting PMF level allows the respective ground floor level to be no lower than 8.60AHD. As the existing floor level is to be retained, this requirement is not satisfied. To address this issue alternate solutions are proposed below.

The risk of flood on this Site is low but it can be mitigated and therefore warrants appropriate flood management measures to reduce the risk of flood inundation, property damage and human injury from potential impacting floods.

To address Block D and Block E floor level noncompliance, it is proposed to incorporate into the new road boundary fencing a 1.8m to 0.2m high flood protection wall to remove road flood inundation from the Site. The wall will be at a level of 9.50AHD along Malabar Road for 39m from the boundary tangent point, continuing for a length of 62m along Fitzgerald Avenue between levels 9.30AHD and 8.50AHD. The wall can be either a blockwork retaining wall or a post and panel wall. This mitigating measure further prevents incidentally wave action created from passing vehicles and avoids flood nuisance into the Site from smaller more frequent floods.

As the Site inundation is categorised as flood fringe with only low flow flood velocities and shallow flood depths, there will be insignificant impacts on flood levels off Site. Access gates into the Site should be limited to the east end of Fitzgerald Ave, the north end of Malabar Rd and the west end of Mons Ave.

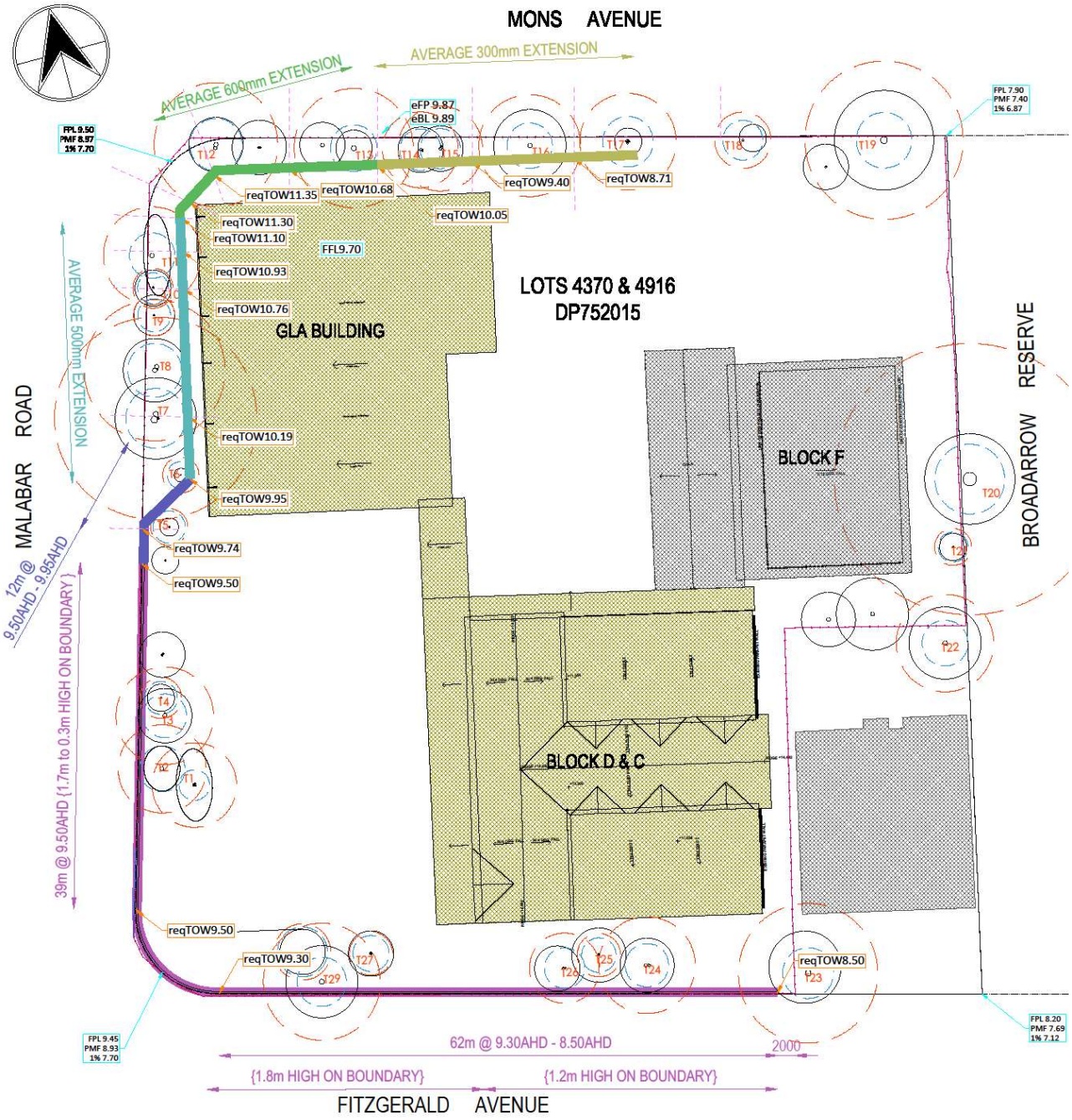

Plate 1 – Flood Protection Wall Layout

Providing this permanent road boundary wall solution provides Block D and Block E buildings with additional flood protection from the resulting impacting PMF7.90AHD, that being equivalent or less than the existing finished floor levels. No windows or vents along the south and east face of Block D and Block E buildings are to be located below FPL8.40AHD without confirmation of flood risk impacts.

To further improve the flood risk of the new Staff, Admin and GLA building along the remaining road boundaries of Malabar Rd and Mons Ave it is proposed to extend the height of the existing blockwork retaining wall to ensure that the top of the wall is 0.6m above the existing road gutter invert. This will require the wall to be structurally extended by an average height of 0.5m, between 0.2m and 0.6m.

A 12m transition length of flood protection wall will be required to join the existing blockwork wall to the new flood protection wall in Malabar Rd. No further new flood protection wall is required in Mons Ave as no buildings is proposed immediately adjacent, however, future development may require the installation of a similar wall configuration.

Plate 1 illustrates the flood protection wall layout proposed and the improvements required on the extension of the existing blockwork retaining wall.

No vehicle parking is proposed on Site and the proposed vehicle entry off Mons Ave is located above the 1% AEP flood level, so satisfies all the 'Driveway access and car parking' flood planning controls outlined in the DCP.

As the Site will continue to be impacted by flood events, further measures are required to satisfy the objectives of this investigation, which include;

a) all structures located below the FPL are to be made of flood compatible building components, including electrical junctions/switches for lighting;
b) all structures located below the FPL are to be able to withstand the forces of floodwater, debris and buoyancy with certification required by an Engineer; and
c) all furniture and gas bottles will be secured within a steel mesh cage to limit flood damage to downstream neighbouring properties.

No excessive filling of the Site is proposed and will be permitted; therefore, no loss of flood storage and flood conveyance capacity will occur from that which has been modelled to date by Council and as a result of the development. The proposed development will not increase flow velocities or redirect flood waters onto neighbouring upstream or downstream properties as the major flood components of the existing flooding regime is to be retained.

A Flood Emergency Response Plan (FERP) to educate staff, students and visitors, further referred to as the stakeholders, on flood risks and protocols is required. With the above flood risk mitigating measures in place, all principle entries to all buildings are located above the PMF and all have an evacuation route that is clear of the floodway. The primary flood emergency strategy for the Site is to ensure that all stakeholders are safe. The recommended Site flood evacuation strategy will be to remain within the School buildings.

Recommendations and Conclusion

The proposed development will collect and convey small frequent flows from the Site via a small pipeline network discharging into the existing drainage system of the Site. Larger infrequent flows from the Site will be allowed to overflow into overland flow paths. The development works will be protected with appropriate sediment erosion control measures, such as inlet gravel bag traps, during construction. The stormwater drainage design for the Site will be detailed in concept for this Development Application submission.

All property overland flow paths will be designed to convey the 1% AEP storm overflows considering the design constraints of pedestrian safety and vehicle stability in accordance with the Floodplain Development Manual. The requirements of the NSW Floodplain Development Manual 2005 regarding pedestrian safety and vehicle stability design guidelines are relevant to this development and need to be certified as part of the design process.

We wish to outline our professional opinions and recommendations on the flood management implications and strategies required to progress the proposed development at the abovementioned property.

a) The FPL for the new two-storey Staff, Admin and GLA building is 7.90AHD.
b) The FPL for Block D and Block E buildings is 8.40AHD.
c) The Site is currently flood affected with a maximum 1% AEP flood depth of 300mm and will retain this inundation post development.
d) It is our opinion the proposed new two-storey Staff, Admin and GLA building satisfies its FPL requirements and all pedestrian access requirements.
e) It is our opinion that to further address the flood risk of flood inundation from incidentally wave action from Malabar Rd and Mons Ave and floodwaters leaving the road carriageway, the implementation of the recommended extension in height of the existing blockwork wall will protect the new two-storey Staff, Admin and GLA building from flood damages and impacts.
f) It is our opinion that whilst Block D and Block E currently does not satisfy its FPL requirements, the implementation of the recommended flood protection wall measure will protect the existing floor level up to the PMF.
g) It is our opinion the proposed development on this Site will have an insignificant flood impact on neighbouring properties from flood conveyance or loss in flood storage.
h) We recommend that the proposed development on this Site be approved, with the following flood risk management measures implemented;
    i. all structures outside of the building footprints and located below the FPL to be flood compatible building components;
    ii. all structures outside of the building footprints and located below the FPL to be able to withstand the hydraulic forces of the PMF at the Site;
    iii. all goods and materials that may cause pollution or are potentially hazardous must be stored above the FPL; and
    iv. an informal Site Flood Response Plan be implemented for both dwellings.

The presented flood risk mitigation measures are based on Council's flood risk management protocols and our knowledge and experience to limit the flood impacts on adjoining lands and subject Site so that a proposed development can proceed.

Should you have any queries on the presented information or wish for any further clarification, please do not hesitate to call us.

Yours sincerely
Stefani Group Pty Ltd
David Stefani
0414 894 121


Site
Broadarrow Reserve
MONS AVENUE
MALABAR ROAD
CAMIRA STREET
FITZGERALD AVENUE
BROOME LANE
DP 776582
DP 501599
DP 541115
DP 712697
DP 398592
DP 213669
DP 752015
DP 93738
DP 1157205
DP 36217
DP 135213
DP 792550
SP 6314
DP 1127275
DP 230604
DP 339672
3240
3241
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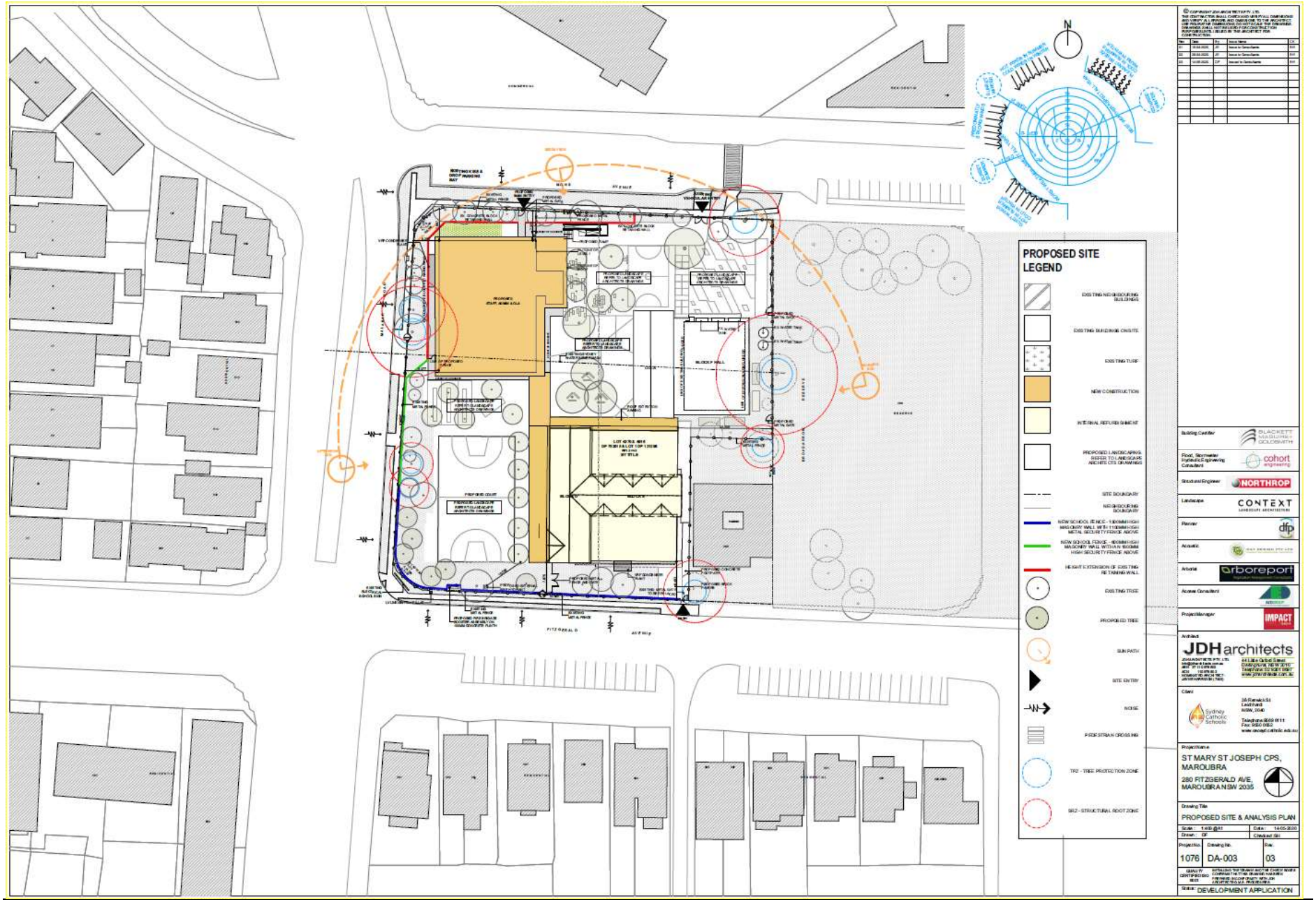
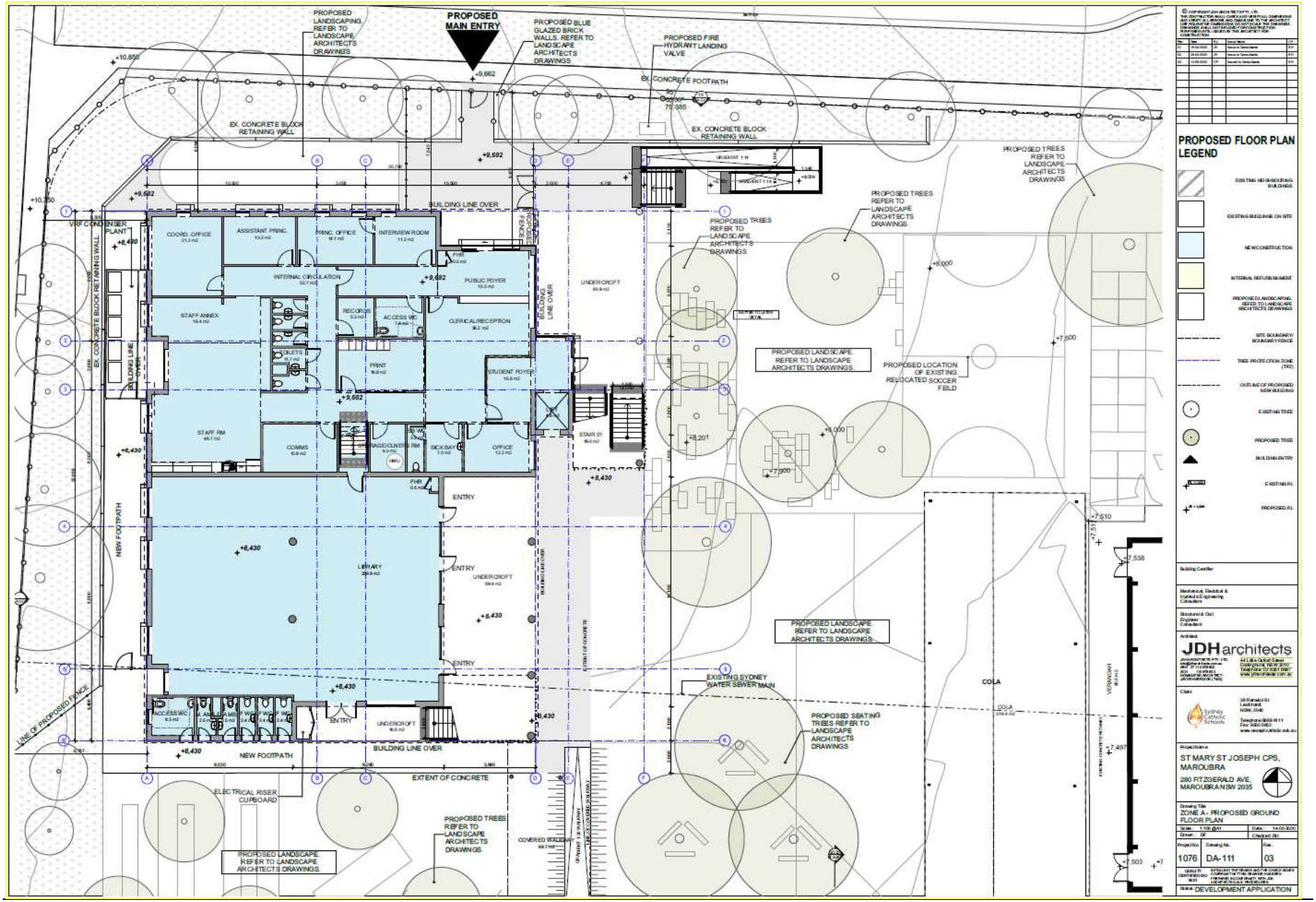
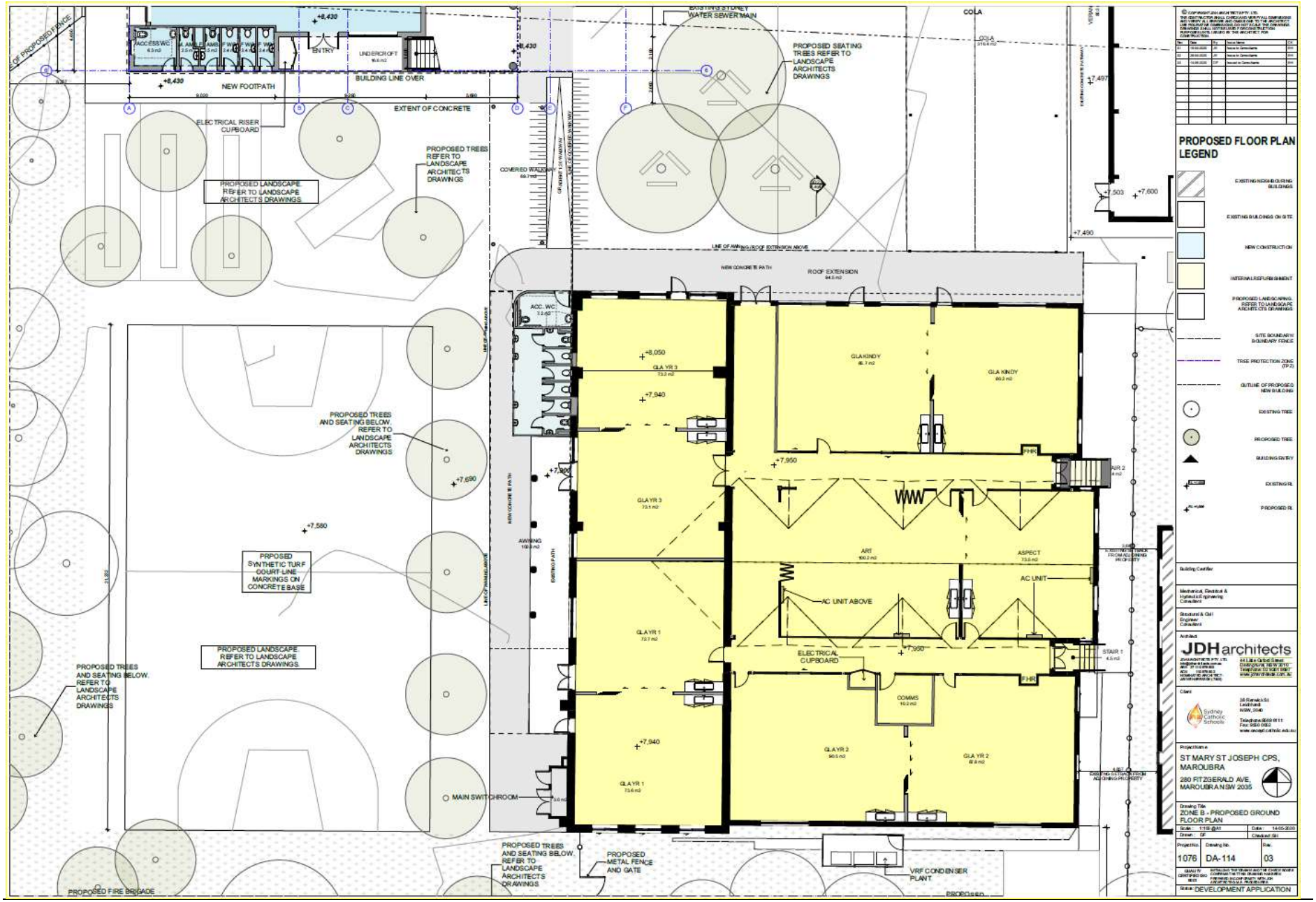

PROPOSED SITE
LEGEND
EXISTING NEIGHBOURING BUILDINGS
EXISTING BUILDINGS ONSITE
EXISTING TURF
NEW CONSTRUCTION
INTERNAL REFURBISHMENT
PROPOSED LANDSCAPING REFER TO LANDSCAPE ARCHITECTS DRAWINGS
SITE BOUNDARY
NEIGHBOURING BOUNDARY
NEW SCHOOL FENCE - 1800MM HIGH MASONRY WALL WITH 1100MM HIGH METAL SECURITY FENCE ABOVE
NEW SCHOOL FENCE - 1800MM HIGH MASONRY WALL WITH A 1800MM HIGH SECURITY FENCE ABOVE
HEIGHT EXTENSION OF EXISTING RETAINING WALL
EXISTING TREE
PROPOSED TREE
SUN PATH
SITE ENTRY
NOISE
PEDESTRIAN CROSSING
TPZ - TREE PROTECTION ZONE
SRZ - STRUCTURAL ROOT ZONE
JDHarchitects
ST MARY ST JOSEPH CPS, MAROUBRA
280 FITZGERALD AVE, MAROUBRA NSW 2035
PROPOSED SITE & ANALYSIS PLAN
1076
DA-003
03
DEVELOPMENT APPLICATION


PROPOSED MAIN ENTRY
PROPOSED LANDSCAPING REFER TO LANDSCAPE ARCHITECTS DRAWINGS
PROPOSED BLUE GLAZED BRICK WALLS. REFER TO LANDSCAPE ARCHITECTS DRAWINGS
PROPOSED FIRE HYDRANT LANDING VALVE
EX. CONCRETE FOOTPATH
EX. CONCRETE BLOCK RETAINING WALL
PROPOSED TREES REFER TO LANDSCAPE ARCHITECTS DRAWINGS
BUILDING LINE OVER
VRF CONDENSER PLANT
COORD. OFFICE
ASSISTANT PRINC.
PRINC. OFFICE
INTERVIEW ROOM
INTERNAL CIRCULATION
PUBLIC FOYER
STAFF ANNEX
RECORDS
ACCESS WC
CLERICAL/RECEPTION
TOILETS
PRINT
STUDENT FOYER
STAFF RM
COMMS
STAIR 01
SICK BAY
OFFICE
ENTRY
LIBRARY
UNDERCROFT
NEW FOOTPATH
PROPOSED LANDSCAPE. REFER TO LANDSCAPE ARCHITECTS DRAWINGS.
PROPOSED LOCATION OF EXISTING RELOCATED SOCCER FEILD
EXISTING SYDNEY WATER SEWER MAIN
PROPOSED SEATING TREES REFER TO LANDSCAPE ARCHITECTS DRAWINGS
COLA
VERNON ST
LINE OF PROPOSED FENCE
ELECTRICAL RISER CUPBOARD
EXTENT OF CONCRETE
COVERED WALKWAY
PROPOSED FLOOR PLAN LEGEND
EXISTING NEIGHBOURING BUILDINGS
EXISTING BUILDING ON SITE
NEW CONSTRUCTION
INTERNAL REFURBISHMENT
SITE BOUNDARY/ BOUNDARY FENCE
TREE PROTECTION ZONE (TPZ)
OUTLINE OF PROPOSED NEW BUILDING
EXISTING TREE
PROPOSED TREE
BUILDING ENTRY
EXISTING RL
PROPOSED RL
JDH architects
ST MARY ST JOSEPH CPS, MAROUBRA
280 FITZGERALD AVE, MAROUBRA NSW 2035
ZONE A - PROPOSED GROUND FLOOR PLAN
1076
DA- 111
03
DEVELOPMENT APPLICATION


PROPOSED FLOOR PLAN LEGEND
EXISTING BUILDINGS ON SITE
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ACCESS WC
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PROPOSED LANDSCAPE. REFER TO LANDSCAPE ARCHITECTS DRAWINGS
PROPOSED SEATING TREES REFER TO LANDSCAPE ARCHITECTS DRAWINGS
EXISTING SYDNEY WATER SEWER MAIN
COVERED WALKWAY
ROOF EXTENSION
NEW CONCRETE PATH
ACC. WC
GLA KINDY
GLA YR 3
GLA YR 1
GLA YR 2
ART
ASPECT
AC UNIT
AC UNIT ABOVE
ELECTRICAL CUPBOARD
COMMS
STAIR 1
AWNING
EXISTING PATH
PROPOSED TREES AND SEATING BELOW. REFER TO LANDSCAPE ARCHITECTS DRAWINGS
PRPOSED SYNTHETIC TURF COURT LINE MARKINGS ON CONCRETE BASE
MAIN SWITCHROOM
PROPOSED METAL FENCE AND GATE
VRF CONDENSER PLANT
PROPOSED FIRE BRIGADE
JDHarchitects
Sydney Catholic Schools
ST MARY ST JOSEPH CPS, MAROUBRA
280 FITZGERALD AVE, MAROUBRA NSW 2035
ZONE B - PROPOSED GROUND FLOOR PLAN
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DEVELOPMENT APPLICATION

Plate 1 South west corner looking north

Plate 2 Southern floodway looking east

Plate 3 South east corner looking east

Plate 4 Floodway southern view

Plate 5 Floodway northern view

Plate 6 Western view north boundary

Plate 7 Eastern view north boundary

Plate 8 Southern view east boundary

Plate 9 Northern view east boundary

Randwick City Council
a sense of community

Randwick City Council
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Phone 1300 722 542
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ABN: 77 362 844 121

council@randwick.nsw.gov.au
www.randwick.nsw.gov.au

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File No: F2012/00106
Doc No: D03633085

Wednesday, 28 August 2019

77 Mann Street
Gosford
2250

Dear Cohort Engineering,

RE: 268 – 272, 274 - 280 Fitzgerald Avenue Maroubra NSW, 2035

I refer to your recent application for a flood report. Flooding advice is provided as follows.

Property Details

Title Refs:	Lot 4370 DP 752015, Lot 4916 DP 752015, Lot 1 DP 121298
Address	268 – 272, 274 – 280 Fitzgerald Avenue Maroubra NSW, 2035

Calculated Flood Level

Flood Event	Northern Boundary Level	Southern Boundary Level (W –> E)	Western Boundary Level (N –> S)	Eastern Boundary Level (N –> S)
PMF	7.40 AHD	8.93 to 7.69 AHD	8.97 to 8.93 AHD	7.40 to 7.69 AHD
1% AEP Flood	6.87 AHD	7.70 to 7.12 AHD	7.70 AHD	6.87 to 7.12 AHD
5% AEP Flood	N/A	7.53 to 6.99 AHD	7.53 AHD	6.99 AHD

Refer to glossary for definitions

As per Table A - *Floor Levels for Buildings* from the Randwick City Council Development Control Plan 2013, Section B8, 5 – Flooding, the floor levels regarding different developments are:

- 1 % AEP + 0.5m freeboard for residential purposes
- PMF +0.5m freeboard for critical facilities (including schools)

The floor planning levels provided above are based on councils existing flood study and the existing building footprints. Applicants may have to conduct their own detailed flood study to in order to ensure that the proposed development will not impact flood levels, flood hazard or floor categorisation of these properties or properties upstream or downstream from the site. Applicant should contact council development engineering team to discuss the matter.

Hazard and Hydraulic Categorisation
The table below contains hazard and hydraulic categorisation of the property in accordance with the NSW Floodplain Development Manual April 2005.

1% AEP flood hazard	☐	Property is categorised as high hazard
	☐	Part of Property is categorised as high hazard
	☒	Property is adjacent to a high hazard area
	☒	Part of Property is categorised as Low hazard
	☐	Property is categorised as low hazard
	☐	Property does not have a hazard categorisation
Hydraulic categorisation	☐	Property is located in a floodway
	☒	Part of Property is located in a floodway
	☐	Property is located in a flood storage area
	☒	Part of Property is located in a flood storage area
	☐	Property is located in a flood fringe
	☒	Part of Property is located in flood fringe

Source of Flooding Information

Maroubra Bay Floodplain Risk Management Study and Plan 2017

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

Council's flooding information indicates that a whole or part of the property is located within at least one of the exclusionary categories in Clause 3.5 (1) of the State Environmental Planning Policy (Exempt and Complying Development Codes) 2017 and therefore complying development may not be permitted.

Council policy regarding flooding

The Randwick City Council Flooding Advice and Flood Related Development Controls Policy sets out flood planning levels and development principles for this property.

Validity

This report is valid for a period of six months from the date of issue. It should be noted that flood studies, legislation, manuals and policy documents may change in the future. Changes to these documents or the built form may impact on the information provided.

Flood Report D03633085 – 268 – 272, 274 - 280 Fitzgerald Avenue Maroubra NSW, 2035