



Shore School

Shore Physical Education Centre

Preliminary Construction

Management Plan

Revision: C

Revision Date: 6 April 2016

EC1512 Shore Physical Education Centre Preliminary Construction Management Plan	Document No.	P02-TEM-011
	Effective Date	17/06/2013
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epm Projects Pty Ltd
Suite 2, Level 5, 655 Pacific Hwy
ST LEONARDS NSW 2065
☎ (02) 9452 8300
www.epmprojects.com.au

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Project Revision History:

Date	Author	Rev. No.	Scope of Revision
24/05/16	NDA	A	First Draft
25/05/16	NDA	B	Issue for review by Shore & RUP
06/06/16	NDA	C	Final for DA Submission

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1. Introduction

This preliminary Construction Management Plan (**CMP**) has been prepared for Sydney Church of England Grammar School, North Sydney (**Shore**) by epm Projects Pty Ltd (**EPM**). The purpose of this report is to support the submission of a State Significant Development Application to the Department of Planning & Environment. The Development Application seeks approval for the demolition of existing buildings and construction of new facilities to be known as the Shore Physical Education Centre (**SPEC**).

This preliminary CMP shall be used as guidance for construction contractors to undertake the works in an orderly and safe manner.

2. Site & Location

The Shore School North Sydney Campus is located on Blue Street, North Sydney. The campus is approximately 8 hectares in size and consists of multiple buildings of varying ages and materials.

The SPEC project site is located in the south east corner of the North Sydney Campus, fronting William Street and Hunter Crescent. Three adjacent residential flat buildings at 4 and 5 Hunter Crescent and 16 William Street, also owned by Shore, form part of the site for the SPEC. Figure 1 shows the location of the Shore North Sydney Campus and the SPEC project site.

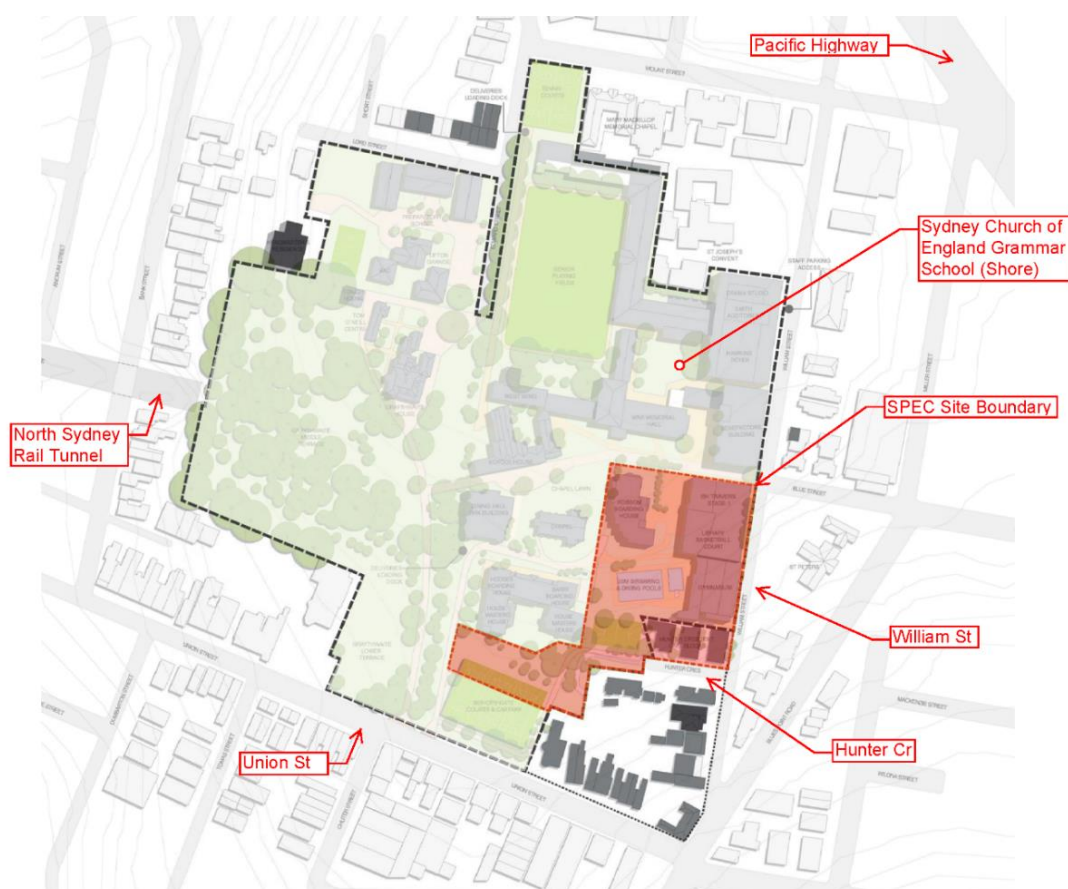


Figure 1 - Shore School Site Plan & Proposed Development Location

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3. Description of the Works

The Environmental Impact Statement (EIS) prepared by Robinson Urban Planning and the Architectural Drawings prepared by Cox Richardson, submitted with the Development Application describe in detail the proposed development. The site plan is attached at Appendix A.

Generally, the SPEC project will involve the following works and buildings:

- a. Site establishment; including site accommodation, temporary services and site security
- b. Demolition of the existing gymnasium and 25m outdoor swimming pool and three (3) residential flat buildings.
- c. Augmentation of existing services infrastructure
- d. Excavation in sandstone bed rock, overlain by material other than rock.
- e. Construction of new buildings and alterations/additions to existing buildings comprising:
 - (i) Aquatic Centre accommodating a 50m indoor swimming pool
 - (ii) Multipurpose Sporting Complex including three basketball courts, gymnasium, weights rooms and other training facilities, change rooms, reception area, staff facilities and amenities
 - (iii) Additional classrooms, flexible learning spaces, seminar rooms, other teaching and staff spaces
 - (iv) Alterations to BH Travers Stage 1 including change room and other upgrades
 - (v) Fifty-nine (59) new car parking spaces located as follows:
 - (vi) Six (6) spaces on the Ground Floor of the proposed Shore Physical Education Centre
 - (vii) Fifty-three (53) spaces within an extension to the existing Bishopsgate car park
 - (viii) Loading facilities on the Ground Floor of the proposed Shore Physical Education Centre

3.1. Construction Methodology & Timeframe

The construction methodology is intended to generally follow the order set out in section 4. The construction program will be managed in order to:

- Maintain the operation of Shore School in its primary use as an educational establishment.
- Minimise disruption to neighbours, local residents and businesses.
- Ensure safe and efficient delivery of the project

The construction phase is currently expected to be in the order of 23 months. During the procurement of the Principal Contractor, the construction program and staging will be reviewed in order to best achieve the objectives set out above.

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4. Construction Methodology Principles

4.1. Site Security & Public Safety

Safety of the Shore community, construction workers and the general public is of primary importance. The site will be bounded by temporary fencing with shade cloth and maintained by the Principal Contractor. Site personnel and visitors to the site are expected to enter via Hunter Crescent. All entrances to the site will have appropriate signage and be secured by locked gates attended by a gate keeper. An induction and sign in procedure will be adopted by the Principal Contractor.

All works must be in accordance with Workcover NSW requirements and other relevant standards and codes of practice. The Head Contactor will be responsible for compliance with these requirements on the construction site for the duration of the works.

4.1.1. Operational School

The proposed development site is located within an operational school and therefore creates a number of unique situations that require careful management. Shore School will not compromise on the safety of its students, staff or external community and will require the Principal Contractor to ensure compliance with the following:

- Conduct Working with Children checks on all site personnel.
- Regular informal meetings between Shore and site management.
- No smoking, drinking or drug use on site.
- No construction personnel access to School grounds outside of the fence line without prior approval of Shore.
- Segregated site access from the main student access at Blue Street.

4.1.2. Complaint Management

Effective communication and a strong relationship with the local residents and local precincts is of high priority to Shore School. A robust complaint management system will be developed by the Principal Contractor. Complaints will be recorded in a register and investigated by the site management team. The appropriate response will then be actioned by the Principal Contractor. This complaint process will be observed in all cases, irrespective of the origin of the complaint.

4.2. Operating Hours

To minimise the impact on the immediate neighbourhood, the hours of operation for general construction activities will be in accordance with North Sydney Council's Permitted Hours of Work:

Monday to Friday	7:00am to 5:00pm
Saturday	8:00am to 1:00pm
Sunday / Public Holidays	No work permitted

Some works may be required to be undertaken outside of these hours, including large concrete pours or infrastructure shutdown periods. If these works are required, the Principal Contractor will liaise with North Sydney Council and any impacted neighbours.

4.3. Site Management

The site boundary is confined in such a way that places pressure on the ability of the Principal Contractor to manage the works wholly within the construction site bounds. The proximity of the operating boarding houses on the northern and western edge of the site is such that the site boundary cannot be extended further into the School to create additional space for site

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accommodation or materials handling. At this preliminary stage the following potential options have been identified to manage the construction works:

4.3.1. Materials delivery & handling

Materials handling on site is expected to be via the use of a tower crane located centrally to service the full extent of the site (not including the Bishopsgate Car Park extension). It will be the responsibility of the Principal Contractor to develop the detailed site management plan for the location of the crane and materials storage areas.

Access to the site from the major roads network is expected to be via Lavender Street, turning right into Blues Point Road and accessing William Street from the south. General construction vehicle access to the site will be via Hunter Crescent. Vehicles exiting the site will be required to head north on William Street as it is a one way street. It is anticipated that a construction works zone will be required along some length of William Street adjacent to the site boundary, to allow for delivery of larger materials. For this reason, the western footpath of William Street may need to be closed from time to time, or a class B hoarding erected. It will be the responsibility of the Principal Contractor to confirm the vehicular access routes and any construction works zones prior to commencement on site. Any traffic control requirements as a result of construction traffic will be the responsibility of the Principal Contractor.

During the construction of the Bishopsgate Car Park extension, some construction traffic is expected to access the site via Union Street. In order to manage the construction of this portion of the works a mobile crane will be required.

In general, construction activities will be coordinated with the operations of Shore. Truck movements will be restricted on William Street during the morning (approx. 7:45am – 8:30am) and afternoon (approx. 3pm – 3.45pm) peak periods, in which significant numbers of students traverse William Street at the Blue Street pedestrian crossing. It is anticipated that localised works will, at times, require the school drop-off / pick up facility at Union Street to be closed for safety. An alternate arrangement during these times will be determined in consultation with Shore.

4.3.2. Site Accommodation

Site accommodation and amenities will be provided and managed by the Principal Contractor. Shore is currently reviewing its preferred location for these facilities for agreement with the Principal Contractor. Due to the confines of the site, an option for the location of accommodation may be on Class B hoarding structures over the William Street footpath.

4.4. Demolition & Excavation Methods

4.4.1. Demolition

The proposed development requires the demolition of an existing 25m outdoor pool, an existing gymnasium and three (3) existing residential flat buildings. These existing structures were built in the mid 1970's and are therefore likely to contain bonded asbestos. A hazardous materials investigation will be scheduled to determine the extent of asbestos in the building. It is recognised that hazardous materials investigations prior to demolition are somewhat limited due to the inability to access all possible areas in the building. All hazardous materials identified by investigation or during demolition will be managed in accordance with WorkCover NSW requirements.

General demolition will also be conducted with WorkCover NSW requirements and other applicable standards and regulations. The Principal Contractor will be responsible for managing the procurement of safe work method statements from its demolition subcontractor. It is expected that the demolition will involve the use of excavators with a concrete crusher attachment.

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As the existing gymnasium is located above the William Street western footpath, perimeter scaffolding will be required. It may be appropriate that pedestrians are directed to the eastern side of William Street during these works for safety.

Existing services will be located and either capped or augmented prior to the commencement of works on site.

4.4.2. Excavation

A Stage 1 Environmental Site Assessment has been prepared by Environmental Investigation Services (EIS) indicating elevated lead and B(a)P TEQ readings above Health Investigation Levels (HILs) in some areas of fill. A Remediation Action Plan (RAP) will be prepared to control the excavation and disposal of the fill. The Principal Contractor will be required to comply with the RAP.

The Geotechnical Report prepared by JK Geotechnics (Ref: 27283SDrpt) describes the subsurface conditions expected to be encountered during excavation. Significantly, the proposed development includes approximately 38,000m³ of excavation in sandstone. It is expected that this will include the use of hard rock excavation techniques including rock hammers, rotary grinders, rock saws and ripping tynes.

A large excavation was previously undertaken beneath the BH Travers Stage 1 Building, at the time of its construction. This excavation shows that the sandstone is expected to be of high quality with some potential for reuse. As there is a significant demand for high quality Sydney Sandstone, Shore is currently investigating whether this rock can be quarried and reused. This opportunity reflects a potential to align with the sustainability initiatives of the project.

4.5. Noise & Vibration Management

Noise and vibration during construction works are regularly the most significant impact on neighbouring receivers. A Construction Noise and Vibration Management Plan shall be prepared by the Principal Contractor prior to commencement on site, addressing all key issues identified in the Acoustic Report prepared by Wilkinson Murray in support of the Development Application. Where noise and vibration levels must be achieved, the Principal Contractor will be required to implement a program of ongoing monitoring and community consultation.

Vibration will be of key concern during the excavation of the rock. Dilapidation reports of adjacent buildings shall be prepared to assess the sensitivity of the structures to transmitted vibrations. The Principal Contractor will be required to prepare a detailed excavation work methodology to reduce the likelihood of transmitted vibrations using percussive excavation techniques or alternatively use non-percussive techniques.

4.6. Air & Water Quality

4.6.1. Dust Suppression

All construction works will be undertaken in accordance with relevant codes of practice relating to the generation of dust from demolition and construction activities. Where required, wet demolition practices encapsulation of areas will be used to reduce dust. All construction personnel working in high dust environments will be required to wear appropriate PPE. Where additional mitigation or monitoring is required it will be undertaken on an as needed basis.

A detailed Air Quality Management Plan will be prepared by the appointed Principal Contractor prior to the commencement of the works.

4.6.2. Ground & surface water

The Geotechnical report indicates that some groundwater seepage can be expected, particularly after periods of heavy rain. The seepage will be controlled through a sump and pump system with appropriate filtration.

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It is expected that the potential for sediment generation will be greatest during the excavation of rock on site. Surface water runoff will be controlled via the implementation of the Erosion & Sediment Control Plan (Drawing Number C03), prepared by TTW Civil and submitted with the Development Application.

The Principal Contractor will be required to prepare a Construction Stormwater and Erosion Management Plan prior to commencement on site. It will generally be in accordance with the Stormwater Report prepared by TTW.

4.7. Construction Waste Management

EPM have prepared a Waste Management Plan (WMP), on behalf of Shore, relating to the development. The report has been prepared in accordance with Section 19 of North Sydney Council's Development Control Plan 2013. The WMP details expected demolition and construction waste materials and quantities. It defines protocols for the sorting and storage of waste onsite and subsequent disposal.

Waste categories expected to be generated during construction include:

- Metals
- Concrete
- Masonry & tiles
- Green Waste
- Spoil
- Sandstone
- Timber
- Glazing
- Plasterboard

The appointed Principal Contractor will be responsible for the management and disposal of all waste generated on the site, separate from Shore's own operations, and will be required to prepare a detailed waste management plan prior to commencement on site.

4.8. Construction Traffic Management

A detailed Transport and Accessibility Report (141522 UT) has been prepared by TTW Traffic, supporting the Development Application for the proposed development. The report includes a preliminary Construction Traffic Management Plan detailing recommended travel routes for construction vehicles. Following the appointment of a Principal Contractor, the Construction Management Plan will be prepared, in accordance with Section 11.3 of North Sydney Council's Development Control Plan.

The Principal Contractor will consult with Shore to integrate any management the School is required to undertake in its regular operations with the Construction Traffic Management Plan.

4.8.1. Pedestrian Management

The construction site is located in the south eastern corner of Shore Campus and is therefore expected to have minimal impact on the student movements via Blue Street between the main school gate and North Sydney Train Station & Bus Interchange.

Pedestrians will need to access William Street during the construction period. It is expected that there will be periods where pedestrian access to the western footpath may need to be closed. Foot traffic would be directed to the eastern side of William Street which provides safe pedestrian access past the site.

Pedestrian access into Hunter Crescent will be maintained on the northern footpath. When required traffic controllers will guide pedestrians safely past the construction access gate. It is noted that Hunter Crescent is a cul-de-sac that does not allow public access through the Shore Campus. Further, Shore School is the owner of the residential flat building at 1 Hunter Crescent. Occupants of 14 William Street are able to access their place of residence via William Street. Therefore, general public access to Hunter Crescent will be very limited.

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4.9. Construction Traffic Management

The proposed development will employ one hundred and thirty seven (137) construction workers across varying trades. Over the course of the project, the attendance on site will vary with an estimated peak site workforce of 110 workers.

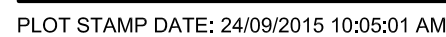
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☎ (02) 9452 8300
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APPENDIX A – A-DA-0012 Site Plan Proposed (Cox Richardson)



COX

PROJECT MANAGEMENT

NAME: EPM PROJECTS
ADDRESS: SUITE 2, L5, 859 PACIFIC HIGHWAY, ST LEONARDS, NSW 2065
TELEFAX: 02 9452 8300 / 02 9452 8388

TOWN PLANNER

NAME: ROBINSON URBAN PLANNING
ADDRESS: 83 FLETCHER ST, TAMARAKA, NSW 2026
TELEFAX: 02 9330 1453 / 02 9330 2962

STRUCTURAL CIVIL & TRAFFIC ENGINEERS

NAME: TAYLOR THOMSON WHITING (TTW)
ADDRESS: L3, 48 CHANDOS ST, ST LEONARDS, NSW 2065
TELEFAX: 02 9437 7220

MECHANICAL ELECTRICAL, COMMS, LIGHTING & ESO ENGINEERS

NAME: STEENSEN VARING
ADDRESS: 19 CASTLEREAGH ST, SYDNEY, NSW 2000
TELEFAX: 02 9667 2201

HYDRAULIC, VERTICAL TRANSPORT & FIRE DETECTION PROTECTION ENGINEERS

NAME: ERBAS
ADDRESS: L1, 15 ATCHISON ST, ST LEONARDS, NSW 2065
TELEFAX: 02 9437 1022

ACOUSTIC ENGINEERS

NAME: TBA

LAND SURVEYOR

NAME: RYGAATE SURVEYORS
ADDRESS: SUITE 904, L8, 89 YORK ST, SYDNEY, NSW 2000
TELEFAX: 02 9582 8890

QUANTITY SURVEYOR

NAME: MBM Pty Ltd
ADDRESS: 16 FT FRIT ST, SYDNEY, NSW 2000
TELEFAX: 02 9270 1000

GEO TECHNICAL CONSULTANT

NAME: JK GEOTECHNICS
ADDRESS: 115 WICKHAM RD, MACQUARIE PARK, NSW 2113
TELEFAX: 02 9888 5000

HERITAGE CONSULTANT

NAME: GODDEN MACKAY LOGAN (GML)
ADDRESS: 16, SCULLERIE ST, SURRY HILLS, NSW 2010
TELEFAX: 02 9319 4811

LANDSCAPE ARCHITECT

NAME: OCULUS
ADDRESS: L1, 5/90 CANT ST, NEWTOWN, NSW 2042
TELEFAX: 02 9577 5533 / 02 9519 8323

POOL & AQUATICS DESIGN

NAME: GEOFF NINNES FONG & PARTNERS
ADDRESS: TO CROWN ST, WOOLMOODLOO, NSW 2011
TELEFAX: 02 9332 5190 / 02 9330 0290

BICA & ACCESS CONSULTANTS

NAME: PHILIP CHUN
ADDRESS: SUITE 404, 44 HAMPSHIRE RD, ARTARMON, NSW 2064
TELEFAX: 02 9452 2322

Project

SHORE PHYSICAL
EDUCATION CENTRE

BLUE ST, NORTH SYDNEY, NSW, 2060

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DRAFT DA APPLICATION

Cox Architecture Pty Ltd ACN 002 535 891

 SCHOOL BOUNDARY
 SITE BOUNDARY
 EXTENT OF WORKS