



Outline Construction Management Plan

Project Wahroonga Adventist School
Fox Valley Road, Wahroonga NSW
Job No 1318.10
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1.0 Introduction

This Outline Construction Management Plan has been prepared for the proposed Wahroonga Adventist School in support of the project's State Significant Development Application submitted to the Department of Planning & Infrastructure.

This Plan describes the overall approach and processes to be implemented for the construction of the new school campus. All statements and proposals documented in this Plan will be reviewed at the time of the awarding of the contract for the Works, to ensure alignment with the proposed methodologies, staging and sequencing of the preferred Contractor.

1.1 Proposed Works

The Project comprises the construction of a new K-12 school campus and playing fields area, to be procured in stages. The School is proposed on two separate parcels of land being; School Lot 1 (the main campus) on Fox Valley Road, and School Lot 2 (the playing fields area) to the north.

Staging for the new School is proposed as follows;

STAGE 1 (Middle School):

Construction of a Middle School facility for the accommodation of Prep to Year 6 students, including;

- New Middle School building;
- Associated outdoor play space;
- Basement car parking and 'kiss & drop' facilities;
- Temporary PE courts;
- Landscaping works.

STAGE 2 (Junior School):

Construction of a Junior School facility for the accommodation of Prep to Year 12 students, including;

- New Junior School building;
- Associated outdoor play space;
- Basement car parking and 'Kiss & Drop' facilities;
- New access road adjoining Fox Valley Road;
- Landscaping works.

STAGE 3 (Playing Fields):

Construction of a new playing fields area, including;

- Turfed playing fields;
- PE courts;
- Stores and amenities building;
- Associated retaining wall works;
- Landscaping works.

STAGE 4 (Senior School):

Construction of a School facility for the accommodation of Prep to Year 12 students, including;

- Removal of existing demountable classroom buildings;
- Construction of new Senior School building;
- Associated outdoor space;
- Basement car parking and 'Kiss & Drop' facilities;
- Landscaping works.

The proposed works comprise a total gross floor area of 8,158 sqm. The combined works have a capital investment value of \$39,327,000. The project is expected to generate a significant number of employment opportunities, including an additional 37 staff at the School.

1.5 Main Contractor

The main Contractor has not yet been appointed. As part of the tender process, the Contractor's ability and experience in dealing with projects of the size, scale and complexities proposed will be reviewed. Only contractors with proven records in site safety, planning and coordination will be considered.

1.6 Construction Management Plan

Following the awarding of the contract, the main Contractor will prepare a Construction Management Plan to manage the occupational health and safety of the project during construction. It should be based around the Contractor's systems and comply with the Australian Standards, Workplace Health and Safety Act, Workplace Health and Safety Regulation and the Code of Practice. A copy will be retained on site and issued upon request.

2.0 Site Management Operations

It is envisaged that the Works will be undertaken under a “Principal Contractor” arrangement.

All statements and proposals documented in this Outline Construction Management Plan will be reviewed at the time of contract award for the Works to ensure alignment with the proposed preferred methodologies, staging and sequencing of the preferred Contractor.

2.1 Legislative Requirements

The Works will be undertaken in accordance with the relevant legislative requirements that must be complied with in carrying out of the works as required.

2.2 Establishment / Commencement

The following key activities are to be considered by the Contractor when mobilising on site:

- Stakeholder liaison;
- Site traffic interface;
- Site personnel interface;
- Communications protocols;
- Site access;
- Site security and fencing;
- Site buildings and facilities;
- Temporary site services;
- Traffic management, vehicle identification and control;
- Pedestrian Management;
- Control of personnel;
- Emergency procedures;
- Safety procedures;
- Dangerous, prohibited and hazardous materials and goods procedures;
- Recycling and waste management.

At the commencement of the construction works, a programme or schedule will be established to address the systematic implementation of activities and tasks.

The program/schedule will be reviewed regularly to ensure that the activities and tasks nominated in the program have been progressively implemented.

2.3 Public and Property Protection

Appropriate hoarding/fencing to Australian Standards and Workcover requirements will be installed to prevent public access and to maintain security for the various areas of the Works. Access to public car park areas will be maintained, as far as feasible, to maximum capacity during the works.

Vehicular access/egress gates will be erected internally as required. These gates will be manned by qualified traffic supervisors at the times of vehicular access and egress to the Site.

These measures may be staged during the works. At various times, different portions of the site may be fenced.

These public and property protection measures will be reviewed at the time of contract award for the Works to ensure alignment with proposed preferred methodologies, staging and sequencing of the preferred Contractor, and to ensure that the safety of the general public is maintained at all times during the Works.

2.4 Hours of Operation

The hours of operation for the Works, including delivery of materials, will be in accordance with the development consent.

Out of hours works may be required from time to time and will be coordinated with Wahroonga Estate requirements. Deliveries of heavy machinery may be required out of the proposed hours of operation to conform to the overriding requirements of the Roads & Maritime Services (RMS).

2.5 Site Accommodation

The site supervisor will be accommodated in a site office to be located in the vicinity of the entrance to the site area. The site office will include provision for induction activities, and reporting of all visitors and workers upon arrival at the site.

2.6 Contractor and Sub Contractor

Contractors and sub contractors engaged will be appropriately site inducted prior to commencing work. All relevant documents for building in NSW will apply to all personnel on the site to include insurance, OH&S documentation and trade licenses.

2.7 Specialist Plant and Equipment

The principles of code compliance will apply to plant hire to all manned equipment.

For cranes used in the construction works, a work method report will be required including drawings showing weights and extent of reach, and be required to be code compliant.

The use of forklifts is subject to a work method report being approved, and may be utilised to transfer smaller supplies from the loading area to site and its surrounds.

Subcontractors will be required to provide scaffolding for their exclusive use. Scaffolds used by more than one subcontractor (typically to the building exterior) will be provided under a separate subcontract and will be required to be code compliant.

2.8 Dilapidation Survey / Existing Conditions

Prior to the Works commencing on site, a dilapidation report of buildings and structures adjacent to the construction works will be completed by a suitably qualified structural engineer.

2.9 Survey / Setting Out

Height datum points and grids will be set out by a surveyor for common use by subcontractors at each level of individual buildings. Subcontractors will be responsible for setting out and marking out from grid lines and datums.

2.10 Testing

Testing is to be carried out as the work progresses and results/certificates submitted before work is covered or concealed.

2.11 Services Disconnection

In general terms the following principles will be adopted when disconnecting services:

- Services impacts on existing facilities will be done with full coordination, input and approval with/from the relevant stakeholders;

- All Service authorities will be consulted prior to the works commencing to ascertain lead times and correct termination locations;
- All termination works will be undertaken in accordance with design engineers' specifications and instructions;
- All termination works will be undertaken by suitably licensed contractors; and
- Any termination works that impact on adjoining owners will be notified and will be undertaken out of hours to minimise impact.

2.12 Safety and Incident Reporting

A safety committee is to be established and comprise a range of sub contractors on site.

All project and sub contracting personnel will be responsible for the reporting on all incidents and near misses to their supervisors and will complete a log of such incident. This will allow the incident to be addressed and measures put in place to ensure no repeat occurs.

2.13 Disruption Notices

Any planned Disruptions to the operations of the surrounding Estate will be managed through the process of Disruption Notices (DNs). For such stoppages, the DN will describe the applicable works, timetable, issues and contingency plans.

DNs are to be submitted by the Contractor to the project manager and relevant stakeholders for approval. Depending on the nature of the works, these may be required between 48hrs and 6 weeks prior to commencement of works.

3.0 Environment and Amenity

The Contractor undertaking the Works will be required to prepare an Environmental Management Plan (EMP) to ensure that all elements of the plan meet all statutory requirements. The environmental performance of the contractor will be monitored throughout the Works.

The following environmental management principles will be considered in the EMP for implementation on site.

3.1 Noise and Vibration

Note: This section is to be read in conjunction with the Acoustic Report appended to the Environmental Impact Statement prepared by Cardno.

Noise sources will be identified and controlled to meet legislative requirements and ensure that activities do not cause an environmental nuisance to users and occupants of surrounding properties during construction. Noisy site work, including vehicle movements, is to be restricted to hours of operation within the nominated site hours of operation. Work outside these hours shall be subject to the approval of the Project Manager in conjunction with the relevant stakeholders.

The determination of noise control methods will be dependent on the particular activity and construction equipment being used at that time. Where a particular activity is found to be generating an unacceptable noise, alternative means of construction may be sought. The following measures will be considered for reducing noise and vibration:

- Construction plant and equipment to be used on the project must be fitted where possible with appropriate noise control / attenuation devices (for example including high efficiency mufflers) and maintained and operated to ensure that noise emissions are minimised.
- Where possible equipment shall be turned off until use / movement is required.
- A regular inspection and maintenance checklist for all plant and equipment is to be implemented to ensure construction plant is running optimally and free from oil leaks or the like.
- Where safe, warning lights rather than audible sirens or beepers are to be fitted to mobile equipment.
- Where noisy equipment is being used (for example a rock breaker or the like in noise levels), sensitive receptors are to be informed at least two days prior to commencing the activity by approved consultation methods
- Where possible site work should be conducted behind natural barriers / physical barriers or screening. Where possible as much distance is to be allowed between sensitive receptors and the operation of noisy construction activities
- Undertake spot check monitoring on commencement of vibration activities to ensure compliance with nominated peak particle velocities.
- Monitor noise objectively of plant and sensitive receptors.

3.2 Dust Control / Air Quality

Appropriate measures will be implemented to manage dust control and air quality by minimising the release of emissions or particulate matter to the atmosphere during construction. Management and contingency plans will be developed by the Contractor and consider the following measures to manage dust prevention and maintain air quality:

- The primary method for controlling dust generated by construction operations will be water sprayed by water tankers or similar methods. An adequate supply of water shall be made available for dust suppression activities.
- Trucks importing or removing fill from site shall be covered at all times or watered prior to leaving the site. Additional precautions will include the monitoring of weather conditions (including wind) and helicopter down draft if applicable.
- Speed limits will be imposed on all roads and disturbed work areas to minimise dust nuisance. All materials (e.g. mud, sand etc) spilt onto external and internal roads are to be cleaned and removed.
- Mobile plant movements are to be restricted to designated routes and standing areas.
- Stockpile heights are to be minimised as much as possible. Stockpiles are to be oriented and located in areas that limit exposure to adverse wind conditions, and away from sensitive receptors. Long standing stockpiles (greater than 1 month) should be seeded to provide both wind and water erosion protection
- Vegetation clearing and earthworks should be restricted to the minimum areas necessary.

- Where practical, earthworks operations should be limited during unfavourable wind conditions. Dust producing activities during adverse weather conditions (e.g. dry, windy etc) should cease when uncontrollable dust emissions are directed towards sensitive receptors.
- Cooling systems used in site facilities are to be CFC free. Vehicles and plant are to be well maintained to reduce air emissions

3.3 Odour Control

The scope for demolition activity for the Site will be minor and odour problems will be minimal. All plant and machinery involved in the Works will be regularly serviced and checked for exhaust emissions and catalytic converters.

3.4 Protection of Trees

Note: This section is to be read in conjunction with the Tree Report appended to the Environmental Impact Statement prepared by Treescan.

The Contractor undertaking the Works will be required to comply with Australian Standard 4970-2009: Protection of Trees on Development Sites to include tree management guidelines for the proper care and protection of trees retained and integrated into construction projects.

The Contractor will be required to put in place procedures to protect trees at every stage of the development process.

The Contractor undertaking the Works will be required to prepare a comprehensive plan outlining the means of protecting those trees to be retained during construction work, including; how to calculate the tree and crown area requiring protection, isolation from construction activities and the use of tree protection measures such as barriers and protectors.

3.5 Erosion and Sediment Control / Water Quality

Note: This section is to be read in conjunction with the Stormwater and Water Quality Engineering Report appended to the Environmental Impact Statement prepared by Cardno.

Appropriate measures will be implemented to ensure that soil conservation practices (management of erosion and sedimentation) are planned and implemented and that stormwater run-off is effectively controlled during the construction phase. The following measures will be considered to maintain erosion and sediment control, and water quality as required:

- Where possible works will be staged to minimise exposure of soils to erosion.
- The site is to be progressively stabilised to limit the exposure to erosion and continually cleaned of rubble to minimise possible sediment flow during rainfall periods.
- Where possible catch drains and banks are to be installed upstream of construction works to divert clean water around, and to ensure minimal erosion and sedimentation.
- Sediment controls are to be installed in accordance with relevant guidelines and standards and regularly checked, particularly during heavy rainfall periods. Control devices may include silt fences, bales, sedimentation socks, geotextile fabric and the like as required.
- Dewatering is to be done through sediment controls.
- Rumble pads and wheel wash areas to be provided at site exit points to ensure minimisation of debris moving off site.
- Vegetation will be retained as much as possible. No clearing will be allowed outside the limits of the works.
- Stockpile material is to be kept away from waterways and drainage, and surrounded with sediment fences. Long standing stockpiles (greater than 1 month) to be seeded to provide both wind and water erosion protection.

3.6 Environmental Site Inspections

Environmental site inspections will take place as required and observations will be reported to the Site Manager.

4.0 Traffic Management

Note: This section is to be read in conjunction with the Traffic Report and Construction Traffic Management Plan appended to the Environmental Impact Statement prepared by Transport and Traffic Planning Associates.

4.1 Traffic Management Plan

As part of its Construction Management Plan, the Contractor will be required to submit a Traffic and Pedestrian Management Plan for approval prior to commencement of the Works.

4.2 Site Access

Site access may take place from Fox Valley Road (primarily), or from within the adjacent hospital grounds (if required). The Main Contractor, once appointed, will be responsible for the siting the access points in consultation with the relevant stakeholders.

4.3 Traffic Management / Construction Entry and Exit

Appropriate traffic management procedures will be adopted for entry to and exit from the Site, in consultation with the relevant stakeholders.

Access/egress gates will be erected at construction entry and exit points. These gates will be manned by qualified traffic supervisors during site operation hours and locked shut when site is closed.

Appropriate traffic controls will be put in place during construction to separate construction activities from the public. In addition, traffic controllers will be engaged to manage pedestrian movement and to direct vehicles entering and leaving the site.

4.4 Construction Equipment

It is likely the following construction equipment may be used:

- Articulated vehicles for delivery of excavation machinery;
- Heavy and medium rigid trucks for construction material delivery;
- Rigid trucks for removal of excavated material;
- Mobile cranes;
- Concrete delivery trucks & concrete pumps;
- A vehicle wash-down will also be placed adjacent the site to prevent construction vehicles tracking dust onto public roads.

4.5 Construction Compound and Parking

A contractor's compound will be provided in close proximity to the construction site, and be located subject to the requirements of each stage of the works. An area for construction worker parking will also be provided. Due to site constraints such as limited open space, area for vehicles and compound may also need to be staged as the work on site progresses.

4.6 Pedestrian Protection

Pedestrian and vehicular passage to and around the site will be maintained, or alternate routes determined where necessary, and be defined by clear signage.

Temporary hoarding appropriate to the interaction between pedestrians and construction works (to Australian Standards and Workcover requirements) will be constructed to prevent unauthorised access to the Site. These hoardings and fences will be staged to allow access to in-use areas during the Works.

4.7 Signage

All signage on site and off site, for traffic issues, shall be large enough to be clearly understood and will be fit for purpose.

5.0 Waste Management

5.1 Waste Management / Recycling Principles

Appropriate measures will be implemented to ensure that waste generated as a result of the construction works are minimised and the management of wastes are undertaken in accordance with waste legislation. The following measures will be considered to manage waste within the project:

- Assessment of possible wastes to be generated during the construction phase;
- All waste where possible will be segregated and recycled;
- Waste collection and disposal to be discussed with waste transporter;
- Provision will be made for correctly signed bins or skips for collection and storage of all wastes (e.g. bricks, concrete, timber, plasterboard, metals and other materials), other than natural earth, rocks or vegetation;
- Waste locations and the requirements for site waste management will be provided in the Environmental Induction;
- Material dropped on the ground is to be recovered after it occurs;
- Locations and setup will be determined taking into account the following:
 - Protection from weather
 - Accessibility for removal
 - Type of waste
- Cleared vegetation, where suitable, shall be mulched and stockpiled for reuse in rehabilitation activities;
- Wastes are to be disposed of to approved / licensed treatment and/or disposal facilities;
- Where no contaminants are present, de-watering from excavations shall be reused where possible for dust control;
- No wastes shall be burnt on site.

5.2 Demolition

A number of existing residential dwellings had been previously demolished and removed from the site prior to the construction of the temporary demountable classroom buildings currently occupying the proposed site.

Other demolition works on site are anticipated to be minor or negligible. The removal or diversion of existing inground services is also anticipated to be required as part of the construction works.

Prior to the commencement of Stage 4 (Senior School), the demountable classroom buildings currently occupying the southern end of the site will be removed.

5.3 Contamination

Note: This section is to be read in conjunction with the Phase 1 (Desktop) Contamination Assessment Review and Phase 2 Contamination Assessment appended to the Environmental Impact Statement prepared by Douglas Partners.

A Phase 1 site contamination report has been undertaken by Douglas Partners which recommended that a Phase 2 contamination assessment be carried out prior to any works occurring on site. The Department of Planning & Infrastructure has requested that the Phase 2 Assessment be carried out as part of the approval process.

These reports will be used as the basis for identifying and managing the removal of any contaminated materials identified during the Works. 'Unexpected finds' protocols will be implemented to manage any materials identified during works.

5.4 Storage of Dangerous Goods

Dangerous goods (such as petrol, diesel, oxy-acetylene, oils etc) will be stored in a lockable compound with sufficient ventilation in accordance with relevant codes of practice and standards. Material safety data sheets for flammable and potentially harmful liquids will be provided by the Contractor undertaking the Works.

6.0 Conclusion

This Outline Construction Management Plan has been prepared in response to the Director General's requirements for the submission of a State Significant Development Application to the Department of Planning & Infrastructure for the proposed Wahroonga Adventist School.

As the main Contractor has not yet been appointed the Plan outlines the anticipated methodology for the Works and how considerations of the construction may be dealt with.

All statements and proposals documented in this Plan will be reviewed at the time of the awarding of the contract for the Works, to ensure alignment with the preferred proposed methodologies, staging and sequencing of the Contractor. The Contractor will further develop this Plan and tailor it to meet their requirements and systems.