

AUSTRALIAN MUSEUM

Project Discover Construction Management Plan (Preliminary)



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1. INTRODUCTION

The Australian Museum is proposing to carry out alterations and additions to the William Street complex to expand its existing Temporary Exhibition Gallery, to enable the Museum to attract and mount major international touring exhibitions.

The proposed development is shown within draft site plans for the Australian Museum Project Discover, prepared by Hames Sharley and Neeson Murcutt, architects in association, dated September 2018.

The proposed works generally involve the conversion of an existing store (currently accommodating the Museum's Pacific Collection) into a new exhibition gallery, and connecting it via new escalators and a new lift to the existing temporary exhibition gallery located immediately above it.

The existing public entry to the Museum – the Crystal Hall – will be extended to the east, and a new opening will be made through the Parkes Farmer wing to create a wider entry point, with amenities and a Museum Shop located within the Parkes Farmer wing.

A small mezzanine gallery will be demolished to provide a consistent ceiling height throughout the major exhibition space, and the existing education facilities located on Level 2 of the Still Building will be re-purposed to provide an updated education experience, and a small, family oriented café.

This Construction Management Plan has been prepared to support a State Significant Development Application for this development to the Department of Planning and Environment.

This preliminary Construction Management Plan (CMP) has been prepared to address management of construction works associated with the proposed development in accordance with SSSDA and relevant standards. The CMP will outline procedures that are intended to be implemented to manage construction activities ensuring that unacceptable high levels of environmental or community disturbance do not occur throughout the duration of the works.

The final Construction Management Plan will be completed by the Building Contractor, who will be appointed at the conclusion of a select tender process.

The location plan below depicts the site.

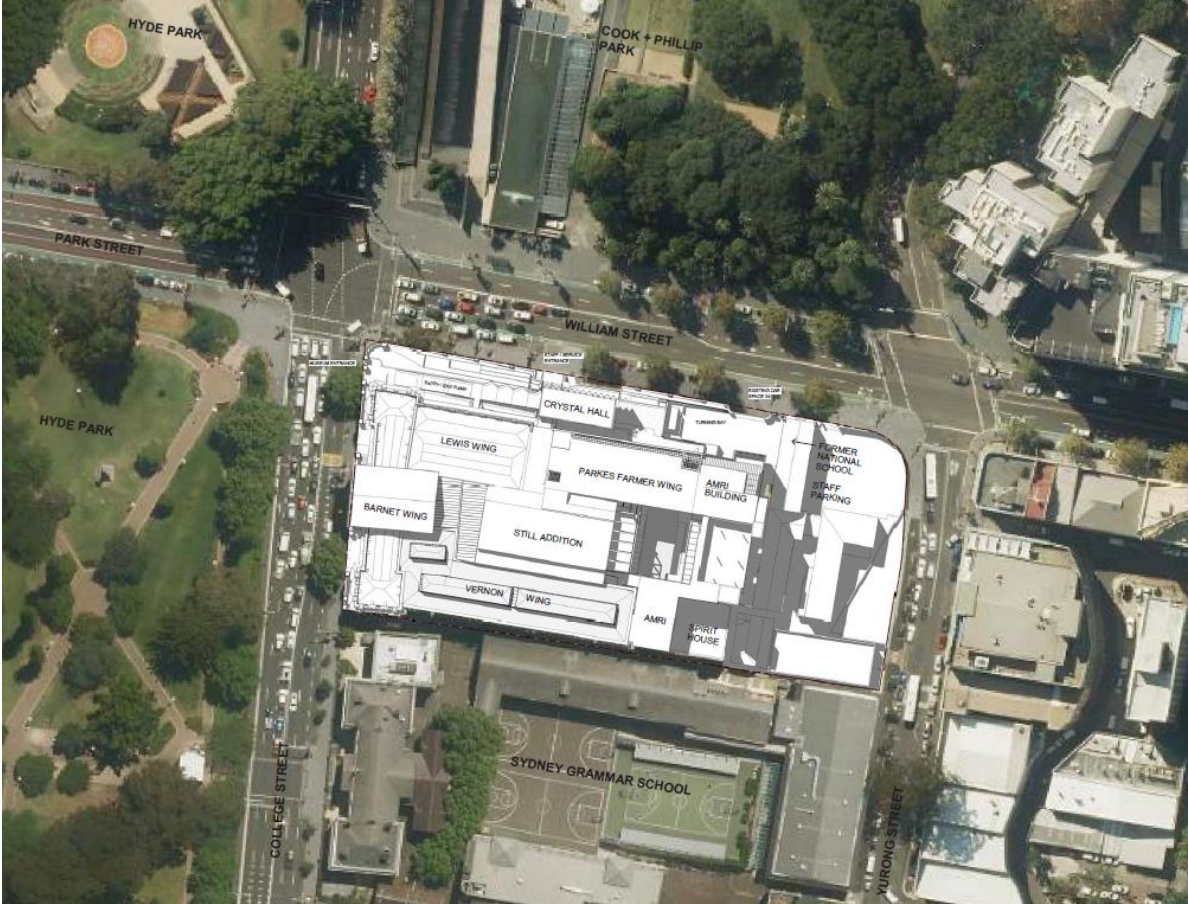


Figure 1 - Location Plan

2. OBJECTIVES

The objectives of the CMP are to address the following items within Sections 2 – 7 of the plan.

- a) Site Safety Issues
- b) Method of access to and from the site by construction plant and vehicles.
- c) Provisions to ensure traffic flow to public roads surrounding the site are maintained at all times.
- d) How access to neighbouring properties will be maintained at all times.
- e) The proposed method of pedestrian management.
- f) The proposed order in which works on the site will be undertaken, and the method statements on how various stages of demolition and construction will be undertaken.
- g) The proposed manner in which adjoining property owners will be kept advised of the timeframes for completion of each phase development / construction process.
- h) The proposed method of loading and unloading construction plant and equipment, building materials and erection of any part of the structure within the site.
- i) The proposed area within the site to be used for storage of construction and waste materials.
- j) Waste Management

2.1. REFERENCES

- Local Council Regulations;
- Relevant Australian Standards;
 - AS1742.3
 - AS1742.10
 - AS2601 – Demolition
- Environment Protection Legislation
- Clean Waters Act 1970;
- Clean Air Act 1961;
- Waste Minimisation Act 1995 (NSW);

2.2. Consultation

The planning and implementation of the construction works will be completed by the selected Building Contractor in consultation with all relevant statutory authorities including:

- Department of Planning & Environment
- City of Sydney Council
- Sydney Water
- Energy Australia
- Roads & Marine Services
- Work Cover Authority;

2.3. Construction Hours

The intended hours of work for construction, to be confirmed by the Building Contractor in consultation with relevant statutory authorities are:

Monday to Friday	7.00am to 7.00pm
Saturday	7.00am to 5.00pm
Sundays and Public Holidays	No Work

These hours are in-line with the NSW EPA, Environment Noise Control Manual. A noise management methodology, during these working hours, is addressed in this CMP.

3. SCOPE OF CONSTRUCTION ACTIVITIES

Key components of the proposed development include:

- Retention of the existing access ramp on College Street servicing the main Ground Floor entry in the Crystal Hall and the capacity to muster school and other large groups on the Lower Ground Floor;
- Extension of the Crystal Hall (the modern addition on William Street) to create a larger ticketing hall;
- Creation of new openings in the William Street façade of the Parkes Farmer Building Ground Level (within Crystal Hall) to facilitate new entries into the Museum;
- Various internal works including:
 - Demolition of internal elements within the Touring Exhibition Hall including structure, plant, the existing storage space at Basement Level and the existing mezzanine floors at Lower Ground Level and Level 1 to facilitate new exhibition spaces;
 - Reorientation of stairs connecting William Street to Lower Ground Level and new group facilities;
 - Construction of new facilities for groups on the Lower Ground Level entering off William Street including toilets, lockers, an education room and a member's lounge / community room;
 - Installation of new escalators to the Touring Exhibition Hall / Great Hall and a new passenger lift to provide access between the Basement Level (William Street) and Ground Level;
 - Relocation of the museum and exhibition shop to near the Crystal Hall entrance at Ground Level;
 - Construction of a new café and commercial kitchen, toilets, a new education space and a new kids' space on Level 2;
- New photovoltaic cells on the Lewis Wing and Vernon Wing rooftops;
- New landscape works, including a Biodiversity Garden, to the undercroft of the extended Crystal Hall; and
- Removal of trees and the introduction of a bus bay within the adjacent William Street public domain.

4. Safety

Safety of the public, Museum personnel and construction personnel will be the highest priority on the project.

Generally, the majority of the works will be carried out within “hoarding zones” that are separated from the building occupants and general public by “A” class hoardings, “B” class hoardings and fencing.

A site-specific Safety Plan will be formulated for the project which lists the specific safety procedures for the project.

This document is always on site and is regularly updated with:

- High Risk Construction Work Safe Work Method Statements.
- Site Inspections.
- Site Inductions
- Roles and Responsibilities
- Other approved safety documentation

The site-specific Safety Plan will be updated and revised as necessary as the project progresses to suit the current onsite conditions.

The site-specific Safety Plan will set out the procedures for the management of safety on the project and is supplemented by a number of specific safety forms and procedures that are part of an accredited site safety system.

5. Pedestrian Management during Construction

A Preliminary Construction Pedestrian Traffic Management Plan has been prepared by the Consultant Traffic Engineer (Taylor Thompson Whitting) and is included in the SSDA submission.

6. Site Establishment

Site Establishment Plans indicating the proposed position of Hoarding types and locations, Scaffolding, Site Amenities, Site Access and Exit Routes and Driveways and other general site establishment items will be prepared by the selected Building Contractor.

7. Construction programme

7.1. Demolition and construction sequencing

The selected Building Contractor will prepare a comprehensive Construction Programme detailing proposed demolition and construction methodologies and sequencing, however, in general terms it is envisaged that the major components of the project will proceed as follows, as recommended by the consultant Structural Engineer:

- a. the works on the “heart” – i.e., within the Still Addition would be done 1st, as these works would be on the “critical path”
- b. the new steel beams will be brought in from the William St loading dock and erected into place.
- c. cut the hole for the new escalator installation, and use that hole to remove spoil from the demolition of the old mezzanine floor level slab. This could all be done whilst the rest of the museums operation continued with as little disruption as possible.
- d. remove the Level 1 mezzanine slab, then works within the Parkes Farmer building could be commenced – still leaving the Crystal hall operational as long as possible.
- e. in respect of demolition of the old mezzanine floor, this structure is of pre-stressed beam construction, and would require the erection of a temporary catch frame structure followed by “pre-cutting” of the floor. Sections would then need to be progressively removed. The pre-stressed ducts have been grouted, so cutting the beams will be safe.
- f. the additions to the eastern end of the Crystal Hall could be underway independently as those works are really an “add on” to the existing structure.
- g. the last items to connect and link the extend Crystal Hall with what’s there now could be done near the end of the works cycle.
- h. Control of dust would be critical during all works, and I would recommend that all the “noisy work” is done outside of normal museum operating hours to avoid alienating visitors and museum staff. The use of crunchers and pneumatic breakers should be avoided, and vibration monitors should be set up to ensure that no damage will be caused to sensitive building fabric or exhibits.

7.2. Existing services

Each existing service affected by the construction work will be disconnected, capped off, removed, altered or redirected, as necessary for the completion of the works. Any redirection or capping of any services required will not affect any surrounding property.

7.3. Storm and waste water management plan methodology during construction

- Storm water – The stormwater management philosophy for the site is to collect and treat all stormwater runoff, construction and wash down water prior to it draining to the street stormwater drainage system. Treatment of the runoff and construction wash water will consist of
- Provision of silt fences, swales and sediment traps along property boundaries and around stormwater inlet drains within the site as required
- Provision of a paint wash out area in the Australian Museum will be established for the cleaning of painting materials.

7.4. Waste management

All waste materials will be managed and recycled in accordance with the Australian Museum's Refurbishment Waste Management Plan, which is included in the SSDA submission.

The management of the Waste on Site is to principally maximize recycling, minimization of waste generation, and safe loading and removal from site.

The quantities of construction waste will be determined by the selected Building Contractor, and will be defined and quantified by the following table:

Material / Type of Waste	Estimated Quantity	Method of Disposal
Concrete	TBA m ³	Crushed off site and Recycled
Paving and Mortar Beds	TBA m ³	Crushed off Site and Recycled
Plasterboard	TBA m ³	Recycled off site and landfill
Timber and Wood Product	TBA m ³	Recycled off site
Glass	TBA m ³	Recycled off site
Metal – Ferrous and Non-Ferrous	TBA m ³	Recycled off site
General Waste and Petruscible items	TBA m ³	Taken to landfill

The principle of the site waste management is to provide the facility to separate waste on site and allow for the appropriate method of disposal. We intend to establish one area for the handling of rubbish.

Material Handling Positions are to be located at the upper level of the works face where the materials are to be loaded directly into trucks. The likely distribution of materials to this scenario, by weight is as follows:

- Toppings and paving
- Concrete
- Furniture fittings and equipment
- General Waste and Petruscible items
- Glass

Storage Location on Site of Construction Waste

The waste loading location and pick up areas will be defined in consultation with the Australian Museum, but will most likely be restricted to existing areas used for these purposes.

The waste loading location is a single point where materials are loaded by hand and machine (i.e. bobcat). Bulky and heavy materials are distributed in moderately sized piles over the upper area to distribute the point load and transferred by machine at regular frequency onto trucks at the waste loading locations. Smaller items, manageable by hand, shall be sorted and collected into waste bins as the works progress. These bins are then emptied into trucks, as required, at the waste loading locations.

Methods of Removal of Waste from Site

All waste shall be removed from site using suitably covered trucks in the form of skip type bins and tippers. No double bogey vehicles are to be used on this site. The waste loading locations are achieved from the loading dock off the William Street entry with 2 Tonne Trucks and Small Chain Lift Skips, completing a full turn within the site compound and driving out onto William St. The vehicles shall be moving in a forward direction both entering and exiting the site. The appropriate signage and traffic control shall be implemented. Vehicular traffic flows onto and from site are indicated in the Construction Traffic Management Plan.

Recycling and Disposal

The recycling and disposal is as per the Schedule of Approximate Quantities at the beginning of this section. The specific methods of treatment are as follows:

- Concrete, paving materials and toppings are shipped to concrete recyclers where they are processed for re-use as road base and drainage layers primarily in civil works.
- Plasterboard recycling service is provided by CSR Gyprock on their own products. The balance of the items, typically ex demolition, is sorted and taken to landfill.
- Timber is taken to waste processing and transferred for paper production, etc.
- Glass and Metals are well established industries for the re-use of disposed and redundant materials.
- General and Petruscible waste is loaded into bins and taken to waste transfer stations where they are sorted and disposed of for maximum disposal efficiency.

7.5. Air quality management during construction

An air quality management plan will be prepared by the selected Building Contractor to ensure that demolition and construction activities do not lead to the generation of unacceptably high levels of dust or other air pollution. The plan will include methodologies with respect to:

- All construction plant, equipment and vehicles are to be properly maintained and operated so as to alleviate excessive exhaust emissions;
- Waste loads leaving the site are to be covered at all times;
- All dust generating construction activities are to cease during high wind conditions unless such operations can be controlled by containing wind from the site with hoardings.
- The burning of waste materials and the lighting of fires will be strictly prohibited on the site at all times;
- Continual visual monitoring of the site will be undertaken by site management to ensure that works do not generate unacceptably high levels of dust;
- Wherever practical, materials and processes that are non-toxic will be employed to minimize possible harmful effects to air quality;
- Wherever practical any ozone depleting gases in building services installations will be removed prior to deconstruction works;

7.6. Noise and vibration management during construction

A separate Noise and Vibration Assessment has been prepared by consultant Engineers EMM Consulting, and is included in the SSDA submission.

7.7. Site management

7.7.1. Site induction

All personnel involved in the construction process will undergo both Building Contractor and Australia Museum site induction processes.

- The Site Manager will ensure that all employees and sub- contractors are advised of the procedures under the 'Noise Management Methodology' during each Site-Specific Safety Induction prior to commencement of work on the site.
- The Site Induction will:
 - Explain the safety and security protocols relevant to the site and the project
 - Explain employee's responsibilities as outlined in the Noise and Vibration Management Plan
 - Highlight the sensitivity of the issue of power tool noise to adjoining residents.
 - Explain the restrictions of the usage of any equipment or device on site.
 - Notify approved hours of work.

7.7.2. Site communication

- A site contact phone number will be issued via the site contact signage displayed on the site hoardings to surrounding neighbours so they can immediately discuss any concerns they may have regarding noise associated with construction activities on site.
- Any unavoidable upcoming noisy works will be reported by the selected Building Contractor to the Australian Museum and Building Management so that appropriate notices can be given to staff occupying the building.
- Regular briefing meetings will be conducted by the Building Contractor to advise the Museum of the programmes of upcoming works and potential impacts on public and staff circulation, noisy works or works that result in vibration, disruption to building services or potential disruption to Museum operations.