**ENVIRONMENTAL MANAGEMENT PLAN**

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| --- |
| **Project Details** |
| **Project Name:** | Chau Chak Wing Museum |
| **Project Number:** |  |
| **Project Location:** | F21 Chau Chak Wing Museum, Sydney University, University Avenue, Camperdown Campus |
| **Client:** | University of Sydney |
| **Senior Project Manager:** | Branko Mihaljevic |
| **Date work is to commence (approx.):** | 15/04/2018 |
| **Estimated duration of work:** | 23 Months |
| **Name of principal contractor:** | FDC Construction |
| **Company address:** | 22-24 Junction Street Forest Lodge |
| **ABN:** | 72608609427 |
|  |  |
| **Approvals** |
| **Senior Project Manager:** | Branko Mihaljevic | **Signature:** |  | **Date:** |  |
| **General Manager:** | Sean Gibbeson | **Signature:** |  | **Date:** |  |
| **Divisional IMS Manager:** | Joe Abraham | **Signature:** |  | **Date:** |  |
|   |
| **Distribution:** | Client, Project Manager, Site Manager, Subcontractors |
| **Management Plan Revision:** | Revision A – Project start up |

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| --- | --- | --- |
| **Rev Date** | **REVISION DESCRIPTION** | **PM’s INITIALS(acceptance of changes)** |
| 9/04/18 | Revision A – Project start up | BM |
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This Project Management Plan should be modified to suit the requirements of each project. Instructions in blue indicate changes to the template which may be required for the specific project.

# Overview

## Project Scope

##### Construction of a Museum at the University of Sydney. The building is a 6 level building with 7,740 sqm of gross floor area comprising of gallery space, education areas, research areas, collection storage space, workshop areas, offices study rooms, a 130 seat auditorium, café, museum shop, terrace areas, loading dock and plant rooms.

##### There will bulk excavation and civil works including piling and removal of 18 trees.

## Project Details

Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

* Between 7 am and 6 pm, Mondays to Fridays inclusive and between 7.30 am and 3.30 pm, Saturdays.
* No work may be carried out on Sundays or public holidays.

Activities may be undertaken outside of these hours:

* if required by the Police or a public authority for the delivery of vehicles, plant or materials; or
* if required in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or
* works are inaudible at the nearest sensitive receivers; or
* if a variation is approved in advance in writing by the Secretary or her nominee.

Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards."

"Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

* 9 am to 12 pm, Monday to Friday;
* 2 pm to 5 pm Monday to Friday; and
* 9 am to 12 pm, Saturday."

In accordance with condition C9 of development consent SSD7081 rock breaking, rock hammering or sheet piling & driven piling will occur during the following hours;

• Monday to Friday 9am to 12pm

• Monday to Friday 2pm to 5pm

• Saturday 9am to 12pm

24 Hour contacts

* **Project Manager** - Branko Mihaljevic 0408 486 970 brankom@fdcbuilding.com.au
* **Site Manager -** Garrett Cassettari 0400 477 419 garrettc@fdcbuilding.com.au

Provide a brief description of the project including

* The timing and duration of the Project;
* The locations of all work sites, offices, compound areas and stockpile sites; and
* A description of the site and surrounds, especially areas of environmental sensitivity

## Environmental Management Plan

##### This Environmental Management Plan describes the environmental strategy, methods, controls, and requirements for the execution of the project. It stands alone as the master document for site environmental activities, and refers to company procedures.

##### The Environmental Management Plan defines how the environmental aspects of the project will be run. It complements the Management System and in some cases may override it.

##### This Environmental Management Plan should be read in conjunction with the Project Management Plan and the Site Safety Plan.

## Purpose of the Environmental Management Plan

##### The purpose of this Environmental Management Plan is to:

###### Identify the environmental issues (aspects and impacts) for this project;

###### Establish, communicate and implement environmental operational controls to reduce any adverse impacts on the environment from the company’s activities, products and services;

###### Ensure compliance by FDC and its suppliers and subcontractors with all relevant environmental legislation, any applicable licence, approval and permit, regulatory requirements and this EMP;

###### Ensure that works are managed to reduce adverse impacts on the environment;

###### Action any outcomes from incidents or accidents, project audits or other identified non-conformances and to continually improve the Environmental Management System.

## Environmental Objectives

Edit this clause with the project requirements

##### The objectives for the project are:

|  |  |
| --- | --- |
| **Aspect** | **Objective** |
| Waste | To minimise waste going to landfill |
| Sediment & Erosion Control | To prevent sediment from entering waterways or stormwater |
| Water Quality | To prevent contamination of water ways |
| Noise & Vibration | To minimise noise and vibration |
| Dust | To limit dust |

## Key Environmental Issues

Edit this clause with the project requirements

##### The key environmental issues on the project are:

###### Noise and vibration

###### Water management

###### Stormwater

###### Erosion and sediment control

###### Air quality

###### Asbestos

###### Waste

###### CIS Sustainability Bronze Rating

## Environmental Rating Tools

### CIS Sustainability Standard

#### Overview

The FASS project is targeting a minimum Bronze rating in the CIS Sustainability

Framework tool. The CIS Sustainability Standard sets out the minimum requirements for achieving sustainable design of major building projects at the University of Sydney.

The requirements of this Standard are met by completing the University’s Sustainability

Framework which is a dynamic Microsoft Excel based tool used by project teams to benchmark sustainability performance for a particular project.

Within the Sustainability Framework individual measures define the specific design and infrastructure requirements to enhance sustainability of the project. Measures are grouped into the following categories within the framework:

* Place making and Landscape
* Leadership, Communication and Community Benefit
* Healthy Environment
* Resource Efficiency
* Materials
* Climate change and Infrastructure

Each sustainability measure is awarded a number of points, proportional to the sustainability benefit delivered by it.

The Sustainability Framework benchmarks sustainability across different building types by using common sustainability ambition levels. There are four ambition levels available:

* Bronze – corresponds to 65-69% of the total points available
* Silver – corresponds to 70-74% of the total points available
* Gold – corresponds to 75-79% of the total points available
* Platinum – corresponds to >80% of the total points available

The Sustainability Framework includes a number of mandatory measures and discretionary measures. The total points needed to meet the project sustainability ambition level are achieved by implementing mandatory measures plus additional discretionary measures.

**The target for the FASS project is to achieve a Bronze rating** and a number of initiatives are proposed by the design team to meet this target which is defined with respective consultant specifications.

# Internal and External Communication

## Project Organisational Chart

##### The Project Organisational Chart (F102) is included in the Appendices of the Project Management Plan.

## Responsibilities & Authorities

##### Position descriptions and skills register of each member of the project team are included in the Appendices of the Project Management Plan.

## Contact Details

##### Contact details of Key Personnel, Stakeholders and Environmental Agencies are included in the Appendices of the Project Management Plan.

# Environmental Actions

## Environmental Risks / Environmental Aspects

##### Potential environmental obligations and risks associated with the project shall be identified prior to the start of the project by the Project Manager on the FDC Site Risk Assessment.

##### The Environmental Risk Assessment will be provided to subcontractors and suppliers as part of the subcontract and supply contracts.

##### Where risks are identified as medium to high in the matrix, the impacts associated with FDC’s activities, products and services will be deemed as “significant” and require operational controls that shall be described on the Environmental Actions & Monitoring Table (F070). Refer to Appendix 3.

##### Significant aspects may impact on the environment positively (e.g. recycling) or negatively (e.g. pollution).

## Environmental Impacts and Controls

### Project Environmental Management Plans

##### The Environmental Actions & Monitoring Table (F070) describes operational controls used to manage environmental issues. Refer to Appendix 3.

##### The Foreman will ensure that environmental controls are inspected in accordance with these plans.

##### Information of hazardous materials, including each material’s potential impact on the environment and measures to be taken in the event of accidental release will be managed via the Hazardous Substances Register.

### Supplementary Environmental Plans

Edit this clause in line with project requirements. Supplementary plan requirements are normally identified in the DA or contract.

##### Supplementary Plans required by the contract, Development Application or as deemed necessary by the Project Manager will be attached to this plan.

##### Supplementary Plans required are:

##### Noise Management Plan

##### Traffic Management Plan

##### Waste Management Plan (including a waste management register)

##### Supplementary plans are to be submitted individually as required by the PPR

### Subcontractors and Suppliers

##### Subcontractors, and suppliers shall meet the environmental management requirements specified in the EMP.

##### Subcontractors shall be made aware of their responsibilities under the terms of the applicable environmental legislation, by being provided a copy of this Environmental Management Plans and by participating in site induction.

##### Subcontractors will be requested to submit Safe Work Method Statements (SWMS), ITPs or environmental procedures with details of how they manage any environmental aspects and impacts associated with their activities.

##### Consideration of **normal** and **abnormal** operations, along with **emergency** scenarios will be included in ITPs as required.

##### Subcontractor performance will be monitored to ensure that contracts are being fulfilled and appropriate environmental management practices are being followed.

## Legal & Other Requirements

### Legislative Compliance

Edit this clause with the project requirements

##### Legislative requirements that apply to the project are detailed in Appendix 5.

##### Where Development Consents permits or approvals relate specifically to the project, these issues will also be deemed as “significant” and will be included in the project environmental risk assessment, Environmental Actions & Monitoring Table & environmental procedures.

### Licenses & Approvals

Edit this clause with the project requirements

##### Licences and approvals required for the project are listed below:

|  |  |
| --- | --- |
| **Licence / Approval** | **Number** |
| OEH |  |
| Sydney Water |  |
| RTA |  |
| Energy Australia |  |
|  |  |

## Contaminated Site Procedure

Edit this clause with the project requirements

##### Projects undertaken on contaminated sites will undergo a Contaminated Site Assessment (CSA). CSA reports shall be provided as part of planning approvals process of a proposed development.

##### The CSA and associated approvals shall be reviewed by the Project Manager.

##### All relevant CSA reports, documents and relevant approvals will be obtained and reviewed prior to site activities commencing. Operational controls will include any specific procedures described in the report or approvals.

##### Where required, ITPs and/or SWMS will be developed to address requirements of CSAs and to ensure verification of the works being completed as described.

##### The Site Manager will also ensure that the site workforce are made aware of potential contamination issues associated with the contaminated site development. Advice shall be provided should problems be identified.

##### The Site Manager will maintain spoil disposal records.

## Monitoring

##### The Environmental Management Plan shall be monitored following implementation to ensure that:

###### Environmental operational controls are being effectively applied.

###### Project specific environmental monitoring targets specified in the Development Consent or other planning permits for air, water and noise are met.

###### Unpredicted impacts are identified and remedial action is taken; and

###### The project objectives listed above are being met.

##### Responsibilities for monitoring and compliance requirements are detailed in the Project Environmental Plans and the Environmental Actions & Monitoring Table.

##### Monthly reports are provided to the General Manager for review. The performance of projects against company environmental objectives and targets is reviewed on a quarterly basis.

## Communication and Consultation

### Training

##### Prior to the commencement of project activities, all site personnel (including sub-contractors) will attend site induction.

##### Site Induction shall include an outline of the requirements of this EMP and the responsibilities and accountabilities of all site personnel.

##### The project environmental site rules will be included in the induction session.

##### Training records will be kept to verify who has attended the training.

### Community Consultation

##### The Foreman shall conduct and encourage employees and subcontractors to conduct tool box meetings to address safety and environmental hazards in and around the site, safe work practices, coordination and responsibilities.

Edit this clause with the project requirements

##### The Project Manager will advise relevant residents of the nature and scope of works.

Add consultation methods

### Community Complaints

##### Community complaint shall be recorded on an Incident/Community Report.

##### Remedial action must be taken as soon as practical. Any action taken shall be recorded on the form

## Emergency Planning & Response

##### Refer to the Critical Incident & Emergency Response Plan.

## Incident Investigation & Reporting

### Internal Requirements

##### The Foreman shall ensure that all incidents occurring in or around the site, involving company personnel, subcontractors, visitors or passers-by, are investigated and reported regardless of how minor they appear at the time of the occurrence.

##### A Non-Conformance Report shall be completed for each incident that cannot be immediately rectified and has no ongoing environmental impact.

### University requirements

* + - * + The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident.
				+ A written incident notification must also be emailed to the Department at the following address: compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant forms the view that an incident has not occurred

Written notification of an incident must:

1. identify the development and application number;
2. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
3. identify how the incident was detected;
4. identify when the Applicant became aware of the incident;
5. identify any actual or potential non-compliance with conditions of consent;
6. describe what immediate steps were taken in relation to the incident;
7. identify further action(s) that will be taken in relation to the incident; and
8. identify a project contact for further communication regarding the incident.
	* + - * Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Secretary, the Applicant must provide the Secretary and any relevant public authorities (as determined by the Secretary) with a detailed report on the incident addressing all requirements for such reporting set out in A15(b), and such further reports as may be requested.
				**The Incident Report must include:**i) a summary of the incident;
				ii) outcomes of an incident investigation, including identification of the cause/s of the incident;
				iii) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
				iv) details of any communication with other stakeholders regarding the incident.

### Duty to Notify Office of Environment and Heritage (OEH) of Pollution Incident

##### FDC shall notify the OEH Pollution Line, 131 555, regarding pollution incidents that have occurred in the course of its activities, if the following apply:

###### The actual or potential harm to the health or safety of human beings or ecosystems is not trivial.

###### The actual or potential loss or property damage (including clean-up costs) associated with a pollution incident may exceed $10,000.

######

## Non Conformance

##### In the event of breach in the requirements of the EMP, a Non Conformance Report will be completed and issued to the offending party.

##### Non Conformances will be registered in the Non Conformance Report Register.

##### A copy of the Non Conformance Notice will be forwarded to the Project Manager and the subcontractor, who will implement appropriate corrective action.

##  Aboriginal artefact discovery protocol

Aboriginal objects are physical evidence of the use of an area by Aboriginal people. They can also be referred to as 'Aboriginal sites', 'relics' or 'cultural material'.

Aboriginal objects include:

1. physical objects, such as stone tools, Aboriginal-built fences and stockyards, scarred trees and the remains of fringe camps
2. material deposited on the land, such as middens
3. the ancestral remains of Aboriginal people.

If you find an Aboriginal artefact on site, you must:

* Cease work immediately and barricade of the area.
* Notify the Project Manager who will notify a representative from the University.
* Report the artefact and its location to the Office of Environment & Heritage. Even if you believe the artefact is in danger of being damaged the best thing to do leave it alone and report it immediately.

##  Tree Protection

Trees outlined for retention and protection within the arborist report are to be identified on procession of the site. Adequate measures to be taken to protect the trees specifically outline within the report.

Method of protection will be done in consultation with The University of Sydney

Refer to Arboriculture impact assessment

##  Traffic

The traffic management will be carried out in accordance with the Traffic Management Plan in consultation with council.

## Dust Management

The management of dust on site will be in accordance with the monitoring table provided in **Appendix 3**

The main methods to reduce risk will be as follows;

* Install misting system to permitter fencing to provide dust suppression. Operation of misting will be at the direction of the Project manager or site manager
* Shade cloth on site gates.
* Vehicle corridors will be clearly identified and restricted to control vehicle access onsite.
* Limit vehicle speed onsite to 10km/hr
* Fixed and mobile (water tanker) water sprays
* Reduce work activities /stop work during moderate to high wind velocity periods.
* Maintain equipment. Smokey plant to be stopped until repair works completed.
* Turn off vehicle engines whilst not in use (no long periods of idling).

FDC will carry out regular inspections of adjoining buildings to monitor and ensure if/when dust is being generated that the above measure are being implemented or are being effective. Where the above methods are not being effective in duct control then FDC will further consult the stakeholders and subcontractors to develop other methods.

## External Lighting

All external lighting will be in accordance with AS 4282:1997 and will not be intrusive to neighbouring properties. FDC will carry out works with the all neighbouring properties in mind and where possible will carry out visual test from select vantages in the neighbourhood where possible intrusions could occur.

Generally speaking the use of external flood lights will be limited in use and where required for safe work will be carried out in a sensitive fashion.

The external lighting will continue to be monitored throughout the project to ensure compliance is being maintained.

## Unexpected Finds Protocol

Refer to appendix 7 for unexpected finds protocol

## Audits

##### Projects audits shall be scheduled by the National EHS Systems Manager and form part of the company’s audit schedule. Refer Audit procedure Cor-8.2-001.

##### Audits shall address the requirements of ISO9001, ISO4801, FDC’s Management System and the various Management Plans.

# Appendices

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| --- | --- | --- |
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| 2 | Drawing |  |
| 3 | Environmental Actions & Monitoring Table (F070) |  |
| 4 | Additional Management Plans |  |
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