

Sydney Port Botany Terminal 3 Project

Bird Hazard Management Plan

Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
SPBT3	Sydney Port Botany Terminal 3
CEMP	Construction Environmental Management Plan
BHMP	Bird Hazard Management Plan
EM	Environmental Manager
EPA	Environmental Protection Agency
ERAP	Environmental Risk Action Plan
OEH	Department of Climate Change and Water
EIS	Environmental Impact Statement
MCoA	Ministers Conditions of Approval

Distribution

The master 'controlled' Bird Hazard Management Plan (BHMP) document forms part of the project's CEMP as an Appendix. The controlled copy will be retained in TeamBinder, the Laing O'Rourke document management system, where it can be accessed by personnel as necessary.

All paper copies of this BHMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

The client representative will be provided with a copy in conjunction with the submission of the CEMP.

Issue, Revision and Re-issue

The initial issue of this BHMP has been reviewed by Laing O'Rourke's Regional Environmental Manager to ensure it meets the requirements of the current EMS and policy, contract, specifications and standards. The plan is approved for use on the project by the Project Director. Evidence of initial review and approval is by signatures on the cover sheet.

In conjunction with the submission of the BHMP, Laing O'Rourke will coordinate and facilitate an initial BHMP Workshop with representatives from the client and Laing O'Rourke to discuss the contents and application of the BHMP to facilitate the approval of the BHMP and agree the proposed management measures and controls.

Revisions of this BHMP may be required throughout the duration of the project to reflect changing circumstances or identified opportunities for improvement.

Revisions may result from:

- Management Review
- Changes to the Company's standard system
- Audit (either internal or by external parties)
- Client complaints or non-conformance reports.

Revisions shall be reviewed and approved by the Project Manager prior to issue. Updates to this BHMP are numbered consecutively and transmitted to holders of controlled copies.

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1. Introduction

This Bird Hazard Management Plan (BHMP) has been developed to address the construction activities associated with the Sydney Port Botany Terminal 3 (SPBT3) Project. In particular, the plan has been developed to address the requirement of the project Environmental Impact Statement for a Bird Hazard Management Plan.

Development of Sydney Port Botany Terminal 3 will involve the construction of onshore civil infrastructure including container stacking areas. The proposed Terminals have four berths with a total length of 1,180 m. The approximate Terminal area, excluding the Wharf area is 46 ha.

The key components of the Sydney Port Botany Terminal 3 include:

- Ground treatment and consolidation measures
- Drainage, utilities, services
- Container yard
- HV & LV electrical
- Buildings
- Rail yard.

1.1 Objective

The objective of this BHMP is to ensure that all risks associated with bird hazard management are considered and managed effectively during construction to avoid any incident.

Appropriately trained personnel and experience gained from previous projects will be used to achieve high environmental performance on the SPBT3 Project.

It is recognised that during construction some specific areas will require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities. These alterations are expected to primarily involve erosion and sediment control issues and will be documented as updated erosion and sediment control plans for different stages of the construction works.

This SWQMP aims to satisfy the following objectives:

- Address the requirements of the planning approval for the SPBT3 Project
- Address the requirements of the Environmental Impact Statement (EIS) for the Port Botany expansion
- Address the requirements outlined in the Aurecon Framework Construction Environmental Management Plan
- Address the requirements of the relevant environmental legislation as it applies to this project
- Address the requirements of the Environment Protection Licence issued for the works undertaken for the SPBT3 Project
- Summarise potential impacts on the environment from the proposed works
- Document environmental procedures to control potential environmental impacts.

Responsibilities for the implementation and management of this BHMP are in accordance with the Project's Construction Environmental Management Plan.

1.2 Commitment

It is the commitment of Laing O'Rourke to implement all measures discussed in this BHMP and to meet all relevant criteria to ensure the safety of the airport is not compromised in relation to bird hazards associated with SPBT3 construction works.

1.3 Targets

The following targets have been identified in terms of soil and water management for the project:

- Reduce target bird attraction to construction and estuary sites.
- Ensure bird strike does not increase as a consequence of construction activities.
- Prevent unnecessary harm to target bird species
- Monitor the effects of activities and the effectiveness of mitigation measures
- Ensure all personnel are appropriately trained in environmental awareness and the significance of the ongoing health of the surrounding Bay.
- Control activities likely to attract target bird species to construction sites.
- If required, minimise numbers of target bird species by using deterrents such as flagging material and appropriate lighting

1.4 Statutory provisions and guidelines

The following statutory provisions and guidelines are applicable to the Project, with regards to water quality:

- *National Parks and Wildlife Act 1974 (NSW)*
 - A Section 120 licence is required to harm or obtain any protected fauna for any specified purpose (excluding threatened species/endangered ecological communities)
- *Threatened Species Conservation Act 1995 (NSW)*
 - The Taren Point shorebird community has been determined as an Endangered Ecological Community under Part 3 of the Act. This community utilises foraging and roosting habitats at Penrhyn Inlet.
 - Many shorebirds and seabirds within Botany Bay are directly protected as listed threatened species under this Act
- *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
 - Many shorebirds and seabirds within Botany Bay are directly protected as listed threatened species and listed migratory species under the EPBC Act.

2. References

- Port Botany Expansion Environmental Impact Statement
- Aurecon Framework Construction Environmental Management Plan Sydney Terminal 3 Sydney International Container Terminals Pty Limited, Revision 3
- Penrhyn Estuary Habitat Enhancement Plan (PEHEP)
- Reference is also made to the NSW Protection of the Environment Operations Act which integrates into one Act all of the controls necessary to regulate pollution and reduce degradation of the environment. The Act also provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act

3. Strategic Approach

3.1 Existing Environment

From the Project EIS, large numbers of birds, or any number of large birds, flying close to or across an airport on a regular basis are considered to be a bird hazard because of the potential for “bird strike”.

It has been shown that the most common species involved in bird strike at Sydney Airport are Silver Gull, Nankeen Kestrel, Feral Pigeon, Galah and Fruit Bat. Other species account for the rest of the incidents, including Black Swan, Australian Pelican, Australian White Ibis, Black-Shouldered Kite, White-Bellied Sea Eagle, and a range of species associated with grasslands and/or buildings.

3.2 Potential Impacts

From the project EIS, the reclaimed area on the SPBT3 project will provide a large expanse that may prove attractive as a roost site for birds such as Silver Gulls. Species such as Cormorants are also likely to use the edges of the reclamation as convenient roosting sites close to deep water. These undisturbed open spaces have the potential to attract significant numbers of birds to the site, thereby potentially increasing the risk of bird strike at Sydney Airport.

Pooling of water may occur on the reclaimed land from uneven surfaces. Birds may be attracted to the pools for bathing, especially if close to a roost site or feeding area. Pooling of water can attract birds to congregate and form large flocks.

Construction sites may attract birds if workers feed birds and leave food scraps.

Areas illuminated at night are likely to attract birds, especially Silver Gulls. Lit areas help to provide a secure roosting environment where potential predators, such as foxes or feral cats can be seen. Additionally, lights may also attract insects such as moths and other large insects, which in turn attract Silver Gulls.

3.3 Mitigation Measures

Mitigation measures for bird hazard management for the construction phase of the project are outlined below.

Mitigation Measures	Responsibility	Source of Requirement	Timing
Design rubbish bins to be bird and animal proofed	Environment Manger Superintendent	EIS Ch 37.2	Throughout construction
Utilise tinted lights at construction sites to minimise attraction of insects, to reduce risk of attracting target birds.	Project Engineer	EIS Ch 29.4.1	Throughout construction
Restrict public access to the estuary using fencing & signs to reduce litter and limit food scraps and fish/bait that may attract target bird species	Environment Manger Superintendent	Best Practice	Throughout construction
Prevent persistent ponding on reclamation areas, and fill hollows on other parts of the sites after rain to minimise attraction of birds	Environment Manger Superintendent	EIS Ch 37.2	Throughout construction
Collect and dispose of litter daily to reduce attraction of target bird species	Project Manager	EIS Ch 37.2	Throughout construction
Cover sediment basins and other temporary construction-related ponds with a net to minimise attraction of birds.	Superintendent	EIS Ch 37.2	Throughout construction

Mitigation Measures	Responsibility	Source of Requirement	Timing
If target birds are attracted to construction sites, including rooves of construction buildings, trial and operate bird deterrents such as bunting, tape, sirens, scare guns, mock hawks, or bio-acoustics (natural predator and distress calls) to reduce attraction	Environment Manger Project Engineer	EIS Ch 29.4	Throughout construction
In the event that all deterrents are trialled and prove to be ineffective, apply for a license to harm from the DECC and engage a qualified pest controller to remove birds under this license. It is not envisaged that this response will be required given the range of proposed housekeeping measures	Environment Manger	EIS Ch 29.4	Throughout construction

3.4 Monitoring

Monitoring will be undertaken during the construction phase of SPBT3 for bird hazard management and is outlined in the table below.

Monitoring Item	Frequency	Source	Responsibility
Monitor numbers of target bird species on construction sites to determine whether deterrents are required to preclude birds from feeding and roosting.	Daily check, during daylight and evening Weekly check and count, during daylight and evening	Locations to be defined in conjunction with SACL. EIS Ch 38.5	Environmental Manager Avian Ecologist – if required
Monitor effectiveness of bird deterrent measures	Daily, if/when required	Measures consistent with all legislative and ethical requirements.	Environmental Manager Avian Ecologist - if required
Monitor to determine whether an application to OEH to harm or obtain protected fauna is required in managing the risk of bird strike	Daily, if/when required	NPW Act section 120/121 Permit required if harm or obtain native fauna criteria exists.	Environmental Manager
Monitor target birds attraction to waste bins, ponding, lighted areas and estuary roosts.	Daily check	Site Practice	Environmental Manager

3.5 Training

All site personnel shall undergo site specific induction training which will include environmental awareness. It will also include training in effective bird hazard management on site. The need for these controls will be emphasised.

Toolbox meetings will also be undertaken as and when required. They will cover specific environmental issues and shall include bird hazard control measures.

Personnel directly involved in implementing bird hazard controls on site will be given specific training in the construction, operation and maintenance of the various measures to be implemented. Training of site personnel will be ongoing through the project to ensure environmental awareness and competency is incorporated into all work during the project.

Personnel conducting sampling, measuring, monitoring and reporting activities are to be suitably trained or experienced in the activity. Records of all training are to be filed in accordance with the project filing system.

3.6 Emergency Response

All incidents will be recorded on the Laing O'Rourke F 1222 Environmental Incident Complaint Report form. An investigation will be undertaken into the causes of the incident, potential environmental and safety impacts, improvements that can be made to the construction methodology and actions given to personnel. The incident investigation is outlined further in the CEMP.

Training will be given to site personnel in spill response and reporting. The training will focus on safety of all personnel, which spill materials are to be used for land and marine spills, the most effective way of stopping further contamination and who to report the incident too.

3.7 Monitoring of Controls

A detailed inspection will also be conducted three to four days prior to long weekends, RDO weekends or other periods when the site will be shut down for a lengthy time period. This will enable items requiring attention to be identified, raised on an Environmental Improvement Request (EIR) (Form F 1228) and implemented. An example of an EIR is seen in the CEMP.

The Superintendent will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Inspections to be recorded on Form 1227 Weekly Environmental Inspection Checklist. If deemed necessary, additional sedimentation control measures will be implemented to ensure that water quality is maintained throughout the works.

Improvement requests received from the Client's Environmental Representative or other appropriate agencies shall be assessed and responded to within 24 hours if the issue is not environmentally threatening.

The following forms and check sheets shall be utilised to inspect, monitor and record erosion and sediment controls and water quality on this project and filed in accordance with the project filing system.

- Form F 1227 Weekly Environmental Checklist
- Form F 1228 Environmental Improvement Request