Walsh Bay Arts Precinct

CONSTRUCTION WASTE MANAGEMENT PLAN

1136

RICHARD CROOKES CONSTRUCTIONS

Delivering Certainty

Contents

1 Introduction

This Construction Waste Management Plan forms part of the Project Management Plan for Project Walsh Bay Arts Precinct. This report has been produced in response to the Secretary's Environmental assessment requirements (SSD 7561) and (SSD 8671) in support of the state Development Application (SSDA) for the Walsh Bay Arts and Cultural Precinct (WBACP) Project.

1.1 Purpose of the Plan

Richard Crookes Constructions (RCC) recognises the importance of promoting building design and construction techniques which minimise waste and provides an efficient recycle procedure for all waste material.

The purpose of this plan is to outline processes for:

- a) demonstrate that an appropriate area will be provided for the storage of garbage bins and recycling containers and all waste and recyclable material generated by the works;
- b) provide details demonstrating compliance with the relevant legislation, particularly with regard to the removal of asbestos and hazardous waste, the method of containment and control of emission of fibres to the air;
- c) require that all waste generated during the project is assessed, classified and managed in accordance with the EPA's "Waste Classification Guidelines Part 1: Classifying Waste";
- d) require that the body of any vehicle or trailer used to transport waste or excavation spoil from the Subject Site, is covered before leaving the Subject Site to prevent any spill, or escape of any dust, waste, or spoil from the vehicle or trailer;
- e) require that mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the Subject Site, is removed before the vehicle, trailer or motorised plant leaves the Subject Site;
- f) require that concrete waste and rinse water are not disposed on the site and are prevented from entering Sydney Harbour;

1.2 Project Overview

The site generally comprises of Pier 2/3, Wharf, and Wharf 4/5 including Shore sheds. The site has a street frontage to Hickson Road as shown in figure 1 below. The site is part of the WBAP area, which is located adjacent to Sydney Harbour within the suburb of Dawes point.

Pier 2/3

- The adaptive re-use of the building for new arts facilities including performance venues for the Australian Chamber Orchestra (ACO), Bell Shakespeare (Bell) and Australian Theatre for Young People (ATYP); and office accommodation;
- Retaining a large heritage commercial events/art space for events such as Sydney Writers Festival, Biennale of Sydney and a wide range of commercial and artistic events;
- A series of stairs, external lifts and balconies designed as a contemporary interpretation of the original gantries reflecting the precinct's former industrial heritage; and
- Modifications to the roof.

Wharf 4/5 (including Shore Sheds)

- Refurbishment of Sydney Theatre Company's (**STC**) premises to upgrade theatres with flexible seating configurations, improved rehearsal spaces and upgrades and reconfiguration to STC's workshop, costume, production and office accommodation;
- Refurbishment of the ground floor arts facilities and associated Shore Sheds for Bangarra Dance Theatre, Sydney Dance Company (**SDC**), Sydney Philharmonia, Gondwana and Song Company;
- New commercial retail opportunities;
- A series of stairs, external lifts and balconies designed as a contemporary interpretation of the original gantries reflecting the precinct's former industrial heritage;
- Modification to the roof; and
- New electrical switch room and plant room.

Precinct

- Use of the precinct for arts festivals, events and pop ups.

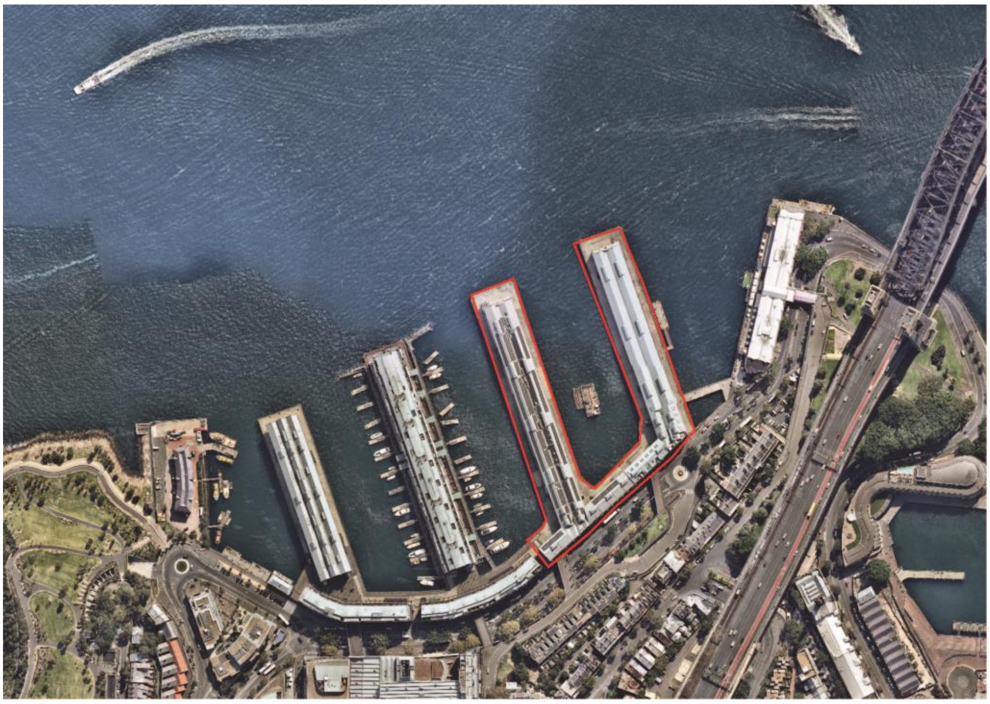


Figure 1Project overview

2 Construction Waste

The Walsh Bay Arts Precinct will transition from the various stages;

- Site Establishment
- Demolition
- Structural
- Internal fitout
- External
- The nature of the Waste Management Plan will be reviewed and updated regularly to cater for any significant changes as the site alters and develops. Being located on Sydney harbour waste management will need to be scrutinised and managed affectively.

All waste generated during the project will be assessed, classified and managed in accordance with EPA's – Waste Classification Guidelines Part – Classifying Waste.

2.1 Early Works and Demolition Waste Management

During the initial site establishment phase there will be the following in place;

- 6m metre General waste Skip Bins will be placed as close as possible to the material hoists and demolition locations, eliminating the travel distance.
- RCC have assumed 2 x located on Wharf 4/5 and 2 x located on Pier 2/3
- The locations of these bins will be reachable by the Skip trucks ensuring a safe and easy means of delivery and pick up as per Appendix 1 (Early Works External/Internal Waste Management Plan).
- Water sprinkler system will be installed to minimise any potential dust.
- During the demolition phase there will be a number of environmental and waste management controls in place i.e. Traffic Control, Localised Waste Zones, Waste Register.
- Any plant and equipment needing diesel will require a collection tray to stop any spillage.

2.2 Structure and Fitout

- 3m Bins (1x metal, 1x gyprock (similar compound), 1x general waste)
- RCC proposing to use a 6m Bin with a compactor attached to minimise waste and breakdown as much of this material as possible.
- Geosentinel washout Bins will be located inside the building envelop close to access pick up points (Sliding doors).

2.3 Storage and Location of building materials

- The external aprons are to be kept clear. The primary objective of the aprons is for vehicle movement and material handling.
- Heavy material will need to be stored on concrete apron.
- All light and bulky materials will be stored on timber flooring
- Materials will be sorted and zoned according to there properties.
- Materials will be fenced off using crowd barriers and or ATF fencing.
- Structural steel will be sorted on the concrete apron loaded as required
- Roof Cladding, Windows and External Elements will be store inside
- All service trade and PC items will be stored inside.
- Location of waste bins is highlighted on both the external and internal waste management plans (appendix 1)

2.4 Storage of Construction Waste

- RCC will be providing a materials handling coordinator
- Refer to external and internal waste management plans in Appendix 1
- 3 types of Bins will be provided
- (1x metal, 1x gyprock (similar compound), 1x general waste)
- The various bins will be segregated and labelled to minimise any confusion

2.5 Sorting of Construction Waste

- RCC will be providing a materials handling coordinator to deal with all materials and waste management
- 3 types of Bins (1x metal, 1x gyprock (similar compound), 1x general waste)
- Waste monthly reports will be issued by the Bin Company to ensure RCC comply with EPA regulations.
- General waste created from lunch rooms, facilities and office spaces will be removed each day from the site sheds.
- Monthly waste reports will be issued to RCC site team giving a breakdown on the percentage of waste was removed from site.
- The site team can assess these reports and identify any potential impacts or trends that could be managed better.
- All waste generated during the project will be assess, classified and managed in accordance with EPA's – Waste Classification Guidelines Part – Classifying Waste.

2.6 General waste

- All general waste created by site facilities, amenities, lunch rooms, office waste will be separated in a concealed skip bin during the cleaning process.
- The bins will be locked and sealed daily ensuring no rubbish can blow away or accessed by potential wildlife.
- Waste created by the subcontractor site sheds will be sealed and bagged nightly

Figure 2 - General Waste

Figure 3 - General Waste

2.7 Removal of Construction Waste

- Refer to external and internal waste management plans in Appendix I

- External waste will be removed by a skip bin trucks controlled by RCC traffic control and supervision.

- Trucks will be guided to the bins needing removed to pick up and drop off.

- All waste bins will be covered before leaving to prevent any spill, or escape of any dust, waste, or spoil from the vehicle or trailer.

- RCC will provide adequate supervision to ensuring that any truck that doesn't have a cover for their particular load will be removed off site.

Figure 4 - Skip Bin Covers

2.8 Removal of Asbestos and Hazardous Waste

- In the event of Unexpected Contaminated Finds, RCC will refer to the Unexpected Contaminated Finds Protocol (UFP) in Appendix 2
- Contaminated and Hazardous Waste that is found will be segregated from regular waste as per the Hazardous Waste Separation plan in Appendix I
- RCC will engage qualified persons to assess/classify the waste
- Suitably trained and qualified subcontractors will be engaged to ensure safe removal and disposal
- Monthly waste reports will be issued to RCC site team giving a breakdown on the percentage of waste was removed from site
- The site team can assess these reports and identify any potential impacts or trends that could be managed better
- Refer to Asbestos Management Plan in the PMP and the UFP for further in-depth information and management of the removal of such waste.

2.9 Concrete Waste and Water Management

- RCC will be ensuring concrete pumps are checked for diesel/oil leaks to ensure no spillage into the harbour
- Skid pans will be used under the concrete pump and under concrete hose joints to control potential leakage
- Concrete waste will be segregated and bunted off for ease of management
- Monthly waste reports will be issued to RCC site team giving a breakdown on the percentage of waste was removed from site
- The site team can assess these reports and identify any potential impacts or trends that could be managed better

2.10 Wet Trade GeoSentinel's WashBoxes

- RCC will be implementing Washbox stations onsite for the treatment of wash water.
- All wet trades are available to use this machine to eliminate any waste water contaminating the ocean.
- Waste inputs are captured by the filtration system
- Virtually all the washwater is recycled by the WASHBOX process.
- No sewer or ground discharge is required.
- System is portable to be located where the work is taking place away from any potential environmental impacts.
- Capture and reporting of water use, savings and recycling metrics
- Capture and reporting of Waste metrics
- Significant reduction in compliance risks
- Community benefit derived from reduction in waste to the environment through ground and sewer discharge

Figure 5 – GeoSentinel Washbox

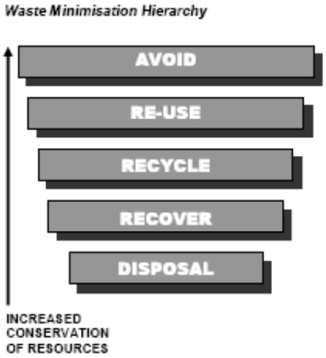
Figure 6 – Vs Traditional Washout

2.11 RCC Objectives and Targets

RCC's overall objective is to achieve a minimum of (80%) for recycled waste (by weight) generated by the Project.

The Operational Controls implemented to achieve this include:

Table 1- Objectives and Targets

Operational Controls		**Method of Recording**
General	Identify any hazardous and toxic materials (e.g. asbestos) and comply with WorkCover requirements. Implement project Waste Management Plan Try not to over-order on materials (initial waste avoidance). Communicate housekeeping & litter reduction rules with subcontractors during contract letting and site inductions.	Hazardous substance survey Waste Records Inductions
Implement the waste hierarchy – avoid, reuse, recycle and lastly minimise disposal to landfill.		
		
Demolition Plan	Demolition disposal for concrete, bricks, plasterboard, timber, tiles, PVC, metal, paper & cardboard, glass, appliance, carpet, vegetation, soil – to Recycled Facility Asbestos ACM to be removed by a licenced contractor & managed in accordance with WHS Act & Regulation 2012 and EPA requirements. Lead paints & dusts will be removed using sanding and vacuum techniques (cleaners which comply with AS/NZS 3544 Industrial vacuum cleaners for particulates hazardous to health). Waste will be contained within sealed plastic bags for disposal. Clean up with a wet mop.	Monthly Waste Report Disposal dockets
Consider recycling reprocessing	Where practicable: Paper and cardboard Timber for reuse or mulching Aluminium wall frames – reprocess Plasterboard – recycled or use as soil improvers Steel – reprocess Toughened Glass – reprocess	Monthly Waste Report

Operational Controls		**Method of Recording**
	Carpet & underlay – reprocess & mulch mats	
Product Stewardship	Investigate returning waste to the supplier? (e.g. plasterboard, packaging)	Contract/ Supply agreem'ts
Putrescibles Waste	Putrescible waste is to be contained in bins and collected by licenced contractor for disposal	Invoices
Contaminated Soils	Contaminated soils will be excavated and classified in accordance with EPA guidelines "Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes" (June 2004) – www.environment.nsw.gov.au/waste/envguidlns/index.htm.	RAP Reports Test Reports Waste Records Disposal Dockets
Virgin Excavated Natural Materials (VEMN)	VENM excavated from site with suitable compaction qualities will be beneficially re-used on other construction sites whenever possible. Disposal to landfill will be the last option. No fill will be received on site that does not comply with EPA guidelines i.e. Contamination limits appropriate to the development.	Test Reports Waste Records Disposal Dockets
Acid Sulphate Soils (ASS)	Potential for acid sulphate soils ASS will be assessed based on the sites proximity to low-lying coastal areas e.g. coastal plains, wetlands and mangroves where the surface elevation is less than five metres above mean sea level. If suspected, consultant to prepare Acid Sulphate Soil Management Plan (ASSMP). Excavation and neutralisation to be supervised by consultants as per ASSMP.	ASSMP Test Reports Product delivery (lime) dockets Site Plans
Monitoring	Bin(s) with heavy lids shall be provided for putrescibles waste Daily inspections shall be carried out to ensure the worksite is litter free.	Env. Inspection Checklist
Reporting	Waste reports/management plans indicate estimated waste min (80%) of accumulated totals for the project.	Monthly Reports
Non-Compliance	Generation of water pollution and/or air pollution from onsite waste storage Inappropriate/illegal off-site disposal of waste materials Asbestos & CCA treated timber contamination of recoverable waste stream thereby requiring landfill disposal.	Env. Inspection Checklist Incident Report, NCRS
Emergency Response	Scenarios such as spill, fires, explosions covered by the project emergency response plans.	Incident Report

3 Reporting

General waste reporting:

Nominated member of the project team will be responsible for collecting monthly waste reports and issuing them to the Project Manager and Client Representative.

These reports will measure the weight of waste generated of material by classification, total weight of waste, percentage by weight recycled and percentage by weight to landfill.

4 Estimated Quantities

The Waste management plan – Construction chart (Form 18.2b) is an estimate of the core waste streams that will be removed from the Wharf 4/5 and Pier 2/3.

Project waste to be removed will be assessed for the Reuse & recycling content and the Disposal to landfill.

5 Appendix 1

RCC General 6m Waste Management Plan

🟧 ATF Fencing + Road Barrier/

A class hoarding

Boom Gate

🟩 Waste Compactor

🟥 Stretcher Stair

Material Only Hoist

🟨 6m Skip Bins

6m Skip Bin Truck

Truck Paths

● Traffic controller

Forklift

Forklift Small Skip Bin Path

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RCC Internal Waste Management Plan

🟩 Waste Compactor

🟥 Stretcher Stair

🟪 Material Hoist

🟨 6m Skip Bins

🟩 2m Skip Bins

➤ Forklift Paths

● Traffic controller

▬ ATF Fencing + Road Barrier/

▬ A class hoarding

Forklift

▬ Boom Gate

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RCC Hazardous Waste Separation Plan

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6 Appendix 2

Unexpected Finds Protocol

JBS&G 55279-117718 Rev A
L01 (Walsh Bay Unexpected Finds Protocol) Rev A

4 September 2018

Unexpected Finds Protocol, Walsh Bay Arts Precinct, Pier 2/3 and Wharf 4/5, Hickson Road, Walsh Bay, NSW

Dear Mr

1. Introduction

JBS&G Australia Pty Ltd (JBS&G) has been engaged by Richard Crookes Construction Pty Ltd (RCC, the client) to prepare an Unexpected Finds Protocol (UFP) for the construction works associated with the Walsh Bay Arts Precinct located at Pier 2/3 and Wharf 4/5, Hickson Road, Walsh Bay, NSW (the site).

The UFP is required to satisfy development consent condition C23 of State Significant Development (SSD) 7561 and condition B70 of SSD 8671, which requires establishment of a suitable framework for appropriately managing potential, environmental unexpected finds encountered during construction works. The UFP is required to be implemented for the duration of the construction works.

It is noted that condition B70 of SSD 8671 also requires the UFP to include measures to deal with unexpected finds of asbestos containing materials (ACM) and lead-based paint for the existing buildings and their curtilage. Review of a Hazardous Materials Management Plan (HMMP[1], EMS 2016) prepared for Wharf 4/5 indicates the HHMP includes appropriate management procedures for unexpected occurrences of ACM and lead based paint within the existing structures of this part of the site.

An Environmental Site Assessment (ESA) (JBS&G 2017[2]) was previously conducted at the site to assess the contamination status of the site as associated with its current and former land-use. It was concluded that the site is suitable for the continued commercial land use as proposed by the SSD Application, subject to the implementation of an UFP to be implemented during development works.

This correspondence details the required measures to be implemented as part of construction works in the event of an Unexpected Find. The UFP has been developed in general accordance with guidelines made or approved by the NSW Environment Protection Authority (EPA) and relevant Australian Standards.

2. Unexpected Finds Protocol

It is acknowledged that previous investigations of the site have been undertaken to assess the identified contaminants of potential concern. However, ground conditions between sampling points may vary, and further hazards may arise from unexpected sources and / or in unexpected locations

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[1] *Hazardous Materials Management Plan*, Walsh Bay Properties, Environmental Monitoring Services Pty Ltd (EMS 2016).

[2] *Phase 2 Environmental Site Assessment*, Proposed Walsh Bay Arts and Cultural Precinct Redevelopment, Walsh Bay Wharves Dawes Point, JBS&G Australia Pty Ltd (19 September 2017).

during construction works. The nature of any residual hazards which may be present at the site are generally detectable through visual or olfactory means, for example:

- The presence of significant aggregates of friable asbestos materials (visible) as ACM and or AF/FA impacted material;
- Bottles / containers of chemicals (visible);
- Ash and/or slag and/or tar contaminated soils / fill materials (visible);
- Drums, waste pits, former pipework or unrecorded USTs (visible); and
- Volatile organic compound (VOC) contaminated soils (odorous) and vapours.

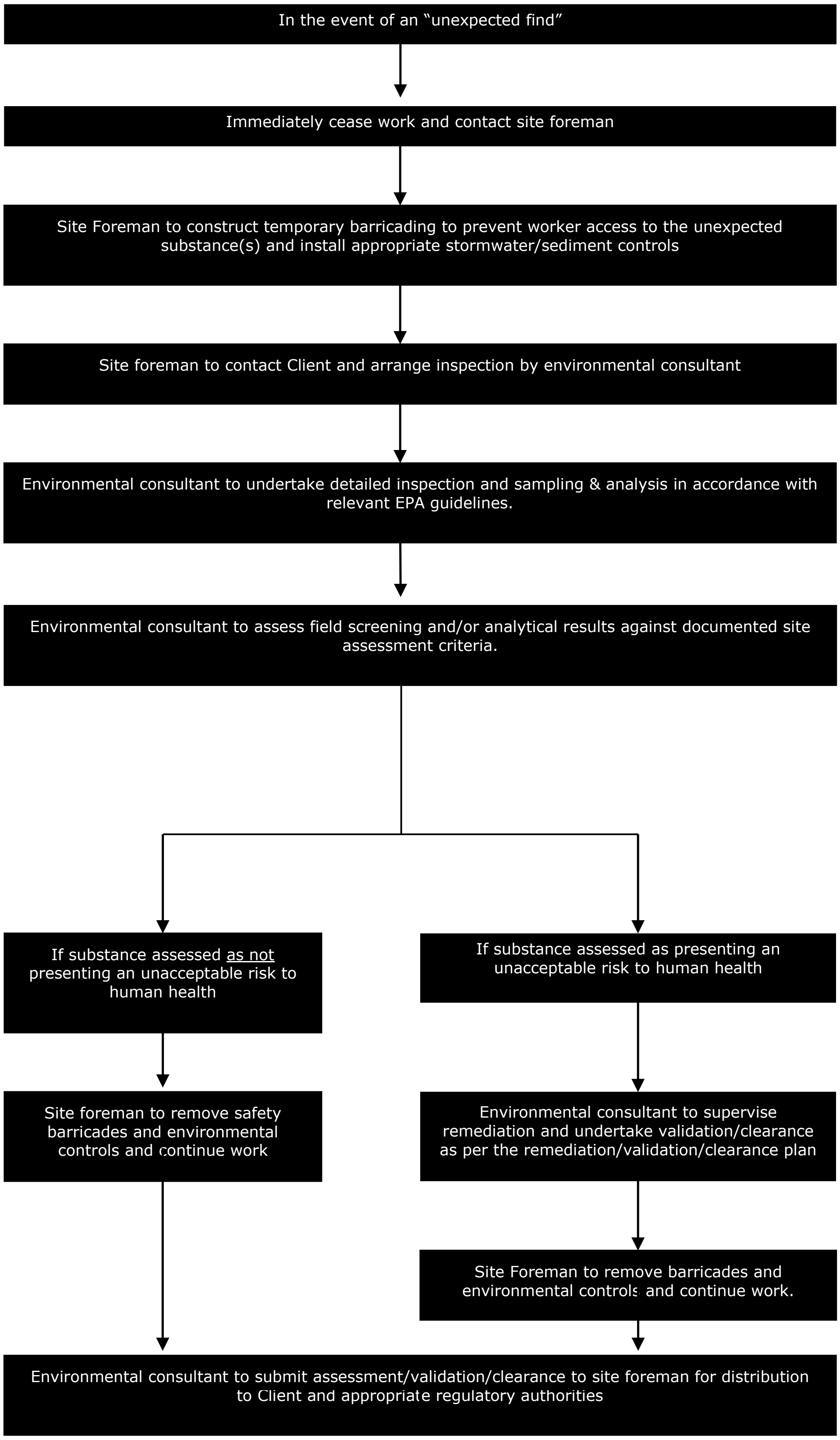
As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances be identified (or any other unexpected potentially hazardous substance), the procedure summarised in **Flowchart 2.1** is to be followed.

Where ACM and lead-based paint for the existing buildings and their curtilage are encountered on Wharf 4/5, the procedures provided in the relevant sections of the HMMP (EMS 2016) should be implemented.

An enlarged version of the unexpected finds protocol included as **Attachment 2**, should be posted in the site office and referred to during the site specific induction by the principal contractor. .

The sampling strategy for each “unexpected find” shall be designed by a suitably qualified environmental consultant. The strategy will, however, be aimed at determining the nature of the substance – that is, is it hazardous and, if so, is it at concentrations which pose an unacceptable risk to human health or the environment.

Flowchart 2.1: Unexpected Finds Protocol



Should you require clarification, please contact the undersigned on 02 8245 0300 or by email cbielby@jbsg.com.au.

Yours sincerely:

C. Bielby

J. De Martin

Chris Bielby
Senior Environmental Consultant
JBS&G Australia Pty Ltd

John De Martin
Principal, Contaminated Land
JBS&G Australia Pty Ltd

Attachments:

(1) Limitations
(2) Unexpected Finds Flowchart for Site Office

Attachment 1– Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

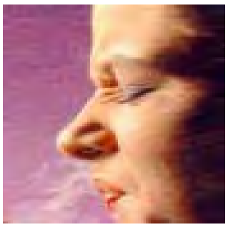
Attachment 2 – Unexpected Finds Flowchart for Site Office

BE AWARE
UNEXPECTED HAZARDS MAY BE PRESENT

drums

asbestos

chemical bottles



odour

ash / slag

demolition waste

if you SEE or SMELL anything unusual

STOP WORK & contact the Site Foreman

do not restart working before the area has been investigated and cleared by an Environmental Consultant