Unexpected Contaminated Land and Asbestos Finds Procedure

Coffs Harbour Bypass

Transport for NSW | December 2020

Document control

File name	Unexpected contaminated land and asbestos finds procedure Rev 2
Report name	Coffs harbour Bypass – Unexpected Contaminated Land and Asbestos Finds Procedure Rev 2

Approval and authorisation

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Revision history

Revision	Date	Description
0	10/12/2020	Preliminary draft for internal TfNSW review
1	10/12/2020	Submission to Department of Planning, Industry and Environment for information
2	21/12/2020	Resubmission to Department of Planning, Industry and Environment for information, addressing review comments
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Contents

Glossary/ Abbreviations

Term	Expanded text
ACM	Asbestos Containing Material
ASS	Acid Sulfate Soil
CHB	Coffs Harbour Bypass
EWMS	Environmental Work Method Statement
PASS	Potential Acid Sulfate Soil
RAP	Remediation Action Plan
UCLAF	Unexpected Contaminated Land and Asbestos Finds

1 Introduction

This Unexpected Contaminated Land and Asbestos Finds Procedure (UCLAFP) provides management measures for unexpected potential contaminated land and asbestos finds during the pre-construction phase of the Coffs Harbour Bypass (CHB) project. The Procedure may be used independently where no Construction Environmental Management Plan is proposed, such as for low impact work.

This UCLAF Procedure contains two sections which cover the unexpected discovery of contaminated land, and management of asbestos (including unexpected asbestos finds). This procedure addresses the requirements of the project Conditions of Approval (SSI-7666) relevant to preconstruction activities in Table 1.

Table 1 - Conditions of Approval relevant to the UCLAF

CoA No.	Condition Requirements
E79	The **Site Contamination Report** must provide details on: (a) the outcomes of Stage 1 and Stage 2 contamination assessments; (b) nature and extent of any existing remediation (such as impervious surface cappings); (c) measures to identify handle and manage potential contaminated soils, materials and groundwater; (d) whether the land is suitable (for the intended final land use) or can be made suitable through remediation and/or **(e)** potential contamination risks from the SSI to human health and receiving waterways.
E80	Should remediation be required to make land suitable for the final intended land use, a **Remediation Action Plan** must be prepared and implemented and submitted to the Planning Secretary for information prior to undertaking remediation. The plan must detail how the environmental and human health risks will be managed during the disturbance, remediation and/or removal of contaminated soil or groundwater.
E81	If remediation is required, a Section A Site Audit Statement and Site Audit Report, must be prepared by a Site Auditor accredited by the EPA under the Contaminated Land Management Act 1997 (NSW). Nothing in this condition prevents the Proponent from engaging the Site Auditor to prepare Site Audit Statements for individual work sites.
E82	A Section A Site Audit Statement and its accompanying Section A Site Audit Report, which state that the contaminated land disturbed by the work has been made suitable for the intended land use, must be submitted to the Planning Secretary and Council after remediation and no later than prior to the commencement of operation of the CSSI. Contaminated land must not be used for the purpose approved under the terms of this approval until a Section A Site Audit Statement is obtained which states that the land is suitable for that purpose and any conditions on the Section A Site Audit Statement have been complied with.
E83	An Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared and submitted to the Planning Secretary before the commencement of work and must be followed should unexpected contaminated land or asbestos (or suspected contaminated land or asbestos) be excavated or otherwise discovered. The requirements of Conditions E79 to E82 must be incorporated into this Procedure**.**

CoA No.	Condition Requirements
E84	The Unexpected Contaminated Land and Asbestos Finds Procedure must be implemented throughout work.

2 Unexpected Discovery of Contaminated Land

2.1 Introduction

2.1.1 Purpose

This Procedure details the actions to be taken when potential contaminated soil/material is encountered during excavation/construction activities. In the event that hazardous materials are discovered, this Procedure should be implemented.

This Procedure has been developed in accordance with best practice EPA contamination management guidelines and Transport for NSW specifications.

2.1.2 Scope

This Procedure is applicable to all activities conducted by site personnel (including sub-contractors) for CHB preconstruction activities that have the potential to uncover/encounter contaminated soil/material. This Procedure is not applicable to the identification of soils suspected to be contaminated with plant pathogens.

2.1.3 Induction / training

Where required, all site personnel (including sub-contractors) are to be inducted on the identification of potential contaminated soil/material along with the requirements of this Procedure during inductions and/or regular toolbox talks. Site personnel should be informed of the potential sources of contamination within the project boundary and indications of contamination in soil and groundwater, such as:

- odour
- discolouration/staining of soils
- evidence of landfilling/discarded drums.

2.1.4 Roles and responsibilities

The TfNSW Environmental Manager will ensure that this Procedure is effectively implemented and all site personnel are aware of the requirements of this Procedure.

The Contractor's Supervisor will be responsible for ensuring that in the event that contaminated land is discovered, site personnel are informed immediately and all work in the vicinity of the find ceases. The Contractor's Supervisor will be advised of any required actions for the control of discovered contamination on site, such as implementation of exclusion zones and signage, and will be responsible for ensuring the actions are undertaken.

The TfNSW Environmental Manager (or delegate) will liaise with the relevant authorities (such as EPA, DPIE and a Contaminated Land Specialist) where required, and will approve the recommencement of works following any remediation undertaken.

2.1.5 Review

This Procedure will be updated to facilitate continuous improvement by the TfNSW Environmental Manager as required and reviewed quarterly to ensure adequacy and relevance. A copy of the updated plan and changes will be distributed to all relevant stakeholders.

2.2 Procedure

The steps to be followed in the event that contaminated material is encountered during construction are outlined below. Indicators of contamination in soils include:

- discolouration of the soil, including staining and horizontal layers of discolouration
- odours from soil
- oily sheen on water leaving soils.

Step 1. Potential contaminated soil/material encountered during Construction activities

If potential contaminated soil/material is encountered during excavation/construction activities:

- **cease work** in the immediate/affected area
- The Contractor's Foreman will immediately notify the TfNSW Environmental Manager (or delegate)
- install environmental controls around the site to contain the contaminated material, including diversion of water to minimise potential spread via surface water runoff
- if it is determined that there is a risk of environmental harm from the potential contamination, the EPA will be notified immediately in accordance with the TfNSW Environmental Incident and Classification Procedure
- recommence works in an alternative area where practicable.

Step 2. Environmental management and work health safety management

Prior to any contamination investigation, management or remediation activities, appropriate Safe Work Method Statements (SWMS) and EWMS will be prepared for review and approval by the TfNSW Environmental Manager (or delegate).

Personal Protective Equipment (PPE) will be worn as per the relevant Material Safety Data

Sheet/s. This may include, but not be limited, to:

- eye goggles
- face mask
- rubber boots
- rubber gloves
- work clothes (i.e. long sleeve shirt/pants and steel capped boots)

Step 3. Undertake a site contamination investigation

The TfNSW Environmental Manager (or delegate) will assess the situation and if considered necessary, commission a suitably qualified contamination specialist to undertake a contamination investigation in the area of the find.

The material will be classified in accordance with the *Waste Classification Guidelines* (EPA, 2014).

If necessary, the TfNSW Environmental Manager (or delegate) will liaise with the relevant authorities to determine the appropriate management options.

The TfNSW Environmental Manager (or delegate) (in consultation with specialists) will determine the appropriate management measures to be implemented. This may include leaving contamination undisturbed, capping of contamination, treatment or off- site disposal. Material to be disposed of off-site will be transferred to an appropriately licensed waste facility.

If the material is determined to be acid sulfate soil or potential acid sulfate soil, the management procedures outlined in the *Acid Sulfate Soil Manual* (Acid Sulfate Soil Management Advisory Committee, 1998) will be followed.

Step 4. Remedial action

Remedial actions will be incorporated into specific Remediation Action Plans (RAPs). RAPs will be prepared by a suitably qualified and experienced person and in accordance with all guidelines under the *Contaminated Land Management Act* (NSW).

RAPs will be verified by a Contaminated Land Specialist and the TfNSW Environmental Manager (or delegate) and submitted to the DPIE Planning Secretary for information prior to commencement of remediation in accordance with CoA E80.

Following remediation, a Section A Site Audit Statement and its accompanying Section A Site Audit Report, which state that the contaminated land disturbed by the work has been made suitable for the intended land use, must be submitted to DPIE and Council after remediation and no later than prior to the commencement of operation of the CSSI in accordance with CoA E82.

Relevant EWMS or SWMS will be reviewed and updated when required.

Step 5. Recommence works

Recommence works once remedial works have been implemented and sampling has validated that the remediation strategy has been successful. The TfNSW Environmental Manager (or delegate) will grant approval to recommence works.

2.3 Records

The Contractor will maintain a register of any unexpected contamination finds, including a map of all contaminated and/or remediated sites. The register will be made available to the TfNSW Environmental Manager (or delegate) on request for inclusion in Project reporting.

3 Asbestos Management Plan

3.1 Introduction

3.1.1 Purpose

This Asbestos Management Plan has been prepared to document the procedure to be undertaken in the event that potential asbestos containing material (ACM) or actual asbestos is uncovered when carrying out work or construction. Implementation of this Plan will ensure that asbestos is managed in such a way as to avoid harm to site personnel, visitors and the community.

Asbestos / ACM fragments that are remnant from previous activities may be scattered throughout the project area or present in existing stockpiled material. Asbestos-contaminated ground may be encountered when undertaking excavation for roadworks and/ or property adjustments at unknown locations. It may also be encountered during demolition works or removal of structures. Disturbance of ground and/or pits associated with utilities creates the potential for exposure to airborne asbestos fibres.

This Plan has been developed in accordance with relevant legislation, EPA-endorsed guidelines (including the waste guidelines), industry codes of practice, Roads and Maritime draft *Asbestos Management Procedure* (Coffey, 2018) and TfNSW specifications.

3.1.2 Objectives

The key objectives of this Plan are to:

- provide the procedure for assessment of asbestos / ACM in the project area
- maintain accurate records of the location of asbestos in an Asbestos Register
- avoid or minimise asbestos-related risks by implementing environmental control measures
- ensure control measures are effectively implemented
- ensure asbestos removal is performed by a licensed asbestos removalist under the direction / recommendation of an accredited occupational hygienist.

3.1.3 Scope

Work involving, or likely to involve the disturbance of asbestos is considered a high risk construction activity. Implementation of this Plan does not replace the need for the Contractor to prepare EWMS and Safe Work Method Statements (SWMS) for the management of materials containing asbestos. EWMS and SWMS will be completed and reviewed by the TfNSW Environmental Manager (or delegate) and ER prior to the commencement of activities to which they apply. EWMS and SWMS will support the implementation of this Plan.

3.1.4 Induction / training

All site personnel (including sub-contractors) will undertake an induction to ensure that they understand the types and location of ACM/potential ACM on site and control measures and safe work methods before they commence work. Site personnel will be adequately trained to recognise the health risks of asbestos, use of the Asbestos Register, processes and safe work procedures to be followed to prevent exposure and correct use of PPE

Prior to commencement of each shift, or change in shift, all site personnel are to be informed of any planned asbestos removal work on site.

A copy of the Plan will be kept at the construction work site where the work is being carried out.

3.1.5 Roles and responsibilities

All site personnel are responsible for ensuring they are familiar with the Asbestos Register and the locations where asbestos / ACM is identified. Any suspected asbestos / ACM finds will be reported to the TfNSW Environmental Manager.

The TfNSW Environmental Manager (or delegate) will be responsible for arranging sample collection of suspected asbestos / ACM, air monitoring and testing and engaging an asbestos removalist.

Removal of asbestos must be undertaken by the holder of a Class A or Class B Asbestos Removal Licence issued by WorkCover NSW, as required.

3.1.6 Review

This Plan will be updated throughout construction of the project to document the location of any asbestos / ACM discovered on site and any changes to construction methodologies and subsequent additional management measures. This Plan will be updated to facilitate continuous improvement by the TfNSW Environmental Manager as required and reviewed quarterly to ensure adequacy and relevance. A copy of the updated plan and changes will be distributed to all relevant stakeholders.

3.2 Unexpected asbestos / ACM find procedure

In the event that a person on site identifies or disturbs asbestos / ACM that is not already identified in the Asbestos Register, the Contractor will follow all reporting and notification requirements in TfNSW Environmental Incident Classification and Reporting Procedure, including notifying the ER. The following action will be undertaken:

1. Stop work in the area potentially impacted by ACM as soon as it is safe to do so and move to the upwind side of the area, or away from the area. Recommence works in an alternative area where practicable.
2. Assess the potential immediate risk to human health posed by the unexpected find and assess if evacuation is necessary.
3. Delineate an exclusion zone around the affected area using fencing and/or appropriate barriers and signage. Keeping soil damp will minimise the release of fibres to air.
4. Contact the TfNSW Environmental Manager for advice and request a site visit to undertake a risk assessment of the unexpected find and determine what further assessment and/or remediation works are required.
5. Implement advice provided by TfNSW Environmental Manager. Document outcome and complete necessary reporting requirements, presenting recommendations to the TfNSW Project Manager.
6. The TNSW Project Manager to confirm that works may resume in the affected area, in consultation with the ER.

Note: Where a NSW EPA Accredited Site Auditor has been engaged, TfNSW in consultation with the specialist Contaminated Land Consultant, will inform the Site Auditor of the unexpected find and proposed measures to remediate/manage risks from ACM. These measures should be endorsed by the Site Auditor before implementation.

3.3 Asbestos management principles

3.3.1 Risk control

Asbestos-contaminated material encountered during construction of the project will be identified, managed, encapsulated on site, or removed and disposed off-site at a suitably licenced waste facility. The Contractor will engage only appropriately licensed, accredited and insured asbestos removalists to handle, remove, encapsulate and/ or dispose of asbestos / ACM in accordance with legislation.

The following risk control methods for asbestos / ACM will be used during construction of the project:

- removal and disposal of ACM
- encapsulation of ACM
- safe work practices, tools and equipment
- Personal Protective Equipment (PPE)
- decontamination process.

3.3.2 Management of ACM

Factors that influence how ACM in soil is managed include:

- the form of the ACM and the likelihood that it will release fibres into the air
- the location, lateral extent and depth of ACM-impacts within the project and
- the current and future uses of the project, and whether these uses could affect the risk posed by ACM.

The Contractor's Project Manager will seek advice from TfNSW Environmental Manager (or delegate), the ER and a specialist Contaminated Land Consultant to assess these factors.

3.3.3 Source removal and off-site disposal

Table 3-1 outlines the techniques which may be used to remove ACM in soil.

Table 3-1: ACM removal techniques, applications and limitations

Removal Technique	Applicability and Limitations
Hand Picking	• suitable for bonded ACM in near surface soils only (i.e. <10 cm) • raking may enhance removal, although only in sandy soils • not applicable for friable asbestos • less effective in areas of dense vegetation
Tilling	• mechanical tilling to turn over soil followed by hand picking • suitable for bonded ACM in soils to approx. 30 cm in sandy soils • not applicable for friable asbestos • less effective in areas of dense vegetation, or clayey soils
Mechanical screening	• suitable for large volumes of soil impacted by Bonded ACM • susceptible to generate fibres requiring effective dust/fibre control • not applicable for friable asbestos
Mechanical excavation	• physical excavation of soil containing ACM where impact extends beneath surface soils • generates larger volume of soil that requires further management (i.e. off-site disposal, screening, spreading and handpicking/tilling)

The Contractor's Supervisor will attend and monitor any asbestos / ACM removal works or remediation measures undertaken for treatment of asbestos / ACM on site.

The Contractor will provide appropriate validation to demonstrate removal of ACM using the above techniques has been successful.

3.3.4 Signage

The Contractor will install warning signs and labels to clearly identify asbestos affected areas and where asbestos related work is being carried out. Protective barricades will be installed to delineate the asbestos related area/s and restrict unauthorised persons from entering the asbestos removal work. Stockpiles will be covered and labelled.

Signage and barricades will stay in place until all licensed asbestos removal work is complete and a clearance certificate is provided.

3.3.5 Control of airborne asbestos

An asbestos removalist may use techniques to eliminate or minimise the generation of asbestos fibres if required. The techniques include wet spraying method, saturation and water injection method and the dry method (only used if the wet spray method is not suitable

due to safety reasons). The Contractor will follow any directions provided by the asbestos removalist.

3.3.6 Removal of asbestos / ACM

A licensed asbestos removalist will be required for removal works where there is friable asbestos, or the contaminated area is greater than 10 m^2. There are two types of asbestos removal licences: Class A and Class B. The type of licence required depends on the type and quantity of asbestos or ACM to be removed, as outlined in Table 3-2.

Table 3-2: Asbestos removal licence classes

Licence type	What asbestos can be removed
Class A	Can remove any amount or quantity of asbestos or ACM, including: • any amount of friable asbestos or ACM • any amount of asbestos-contaminated dust or debris (ACD) • any amount of non-friable asbestos or ACM.
Class B	Can remove: • any amount of non-friable asbestos or ACM Note: A Class B licence is required for removal of more than 10 m^2 of non-friable asbestos or ACM but the licence holder can also remove up to 10 m^2 of non-friable asbestos or ACM. • ACD associated with the removal of non-friable asbestos or ACM Note: A Class B licence is required for removal of ACD associated with the removal of more than 10 m² of non-friable asbestos or ACM but the licence holder can also remove ACD associated with removal of up to 10m² of non-friable asbestos or ACM
No licence required	Can remove: • up to 10 m^2 of non-friable asbestos or ACM • ACD that is: • associated with the removal of less than 10 m^2 of non-friable asbestos or ACM • not associated with the removal of friable or non-friable asbestos and is only a minor contamination.

The licensed asbestos removalist will prepare an Asbestos Removal Control Plan prior to the removal of any asbestos / ACM. The Asbestos Removal Control Plan documents the specific control measures to be implemented to ensure site personnel and others are not at risk when asbestos removal work is being conducted. It includes how the asbestos removal will be carried out, including the method, tools, equipment and PPE to be used and the asbestos / ACM to be removed, including the location, type and condition of the asbestos / ACM.

The TfNSW Environmental Manager (or delegate) and TfNSW Project Manager will be informed prior to excavation or removal of asbestos or ACM. If the

removal activity is to occur in the vicinity of any occupied residence or business, the TfNSW Community Liaison Officer will notify the affected resident/s or business owner/s in accordance with the CHB Community Communication Strategy.

3.3.7 Clearance

Following removal of asbestos / ACM, the licensed asbestos removalist will arrange for a clearance inspection of the area to facilitate the issue of a clearance certificate and allow construction to recommence in the affected area. The clearance inspection is conducted by:

- an independent licensed asbestos assessor, for work that was carried out by a Class A licensed asbestos removalist
- an independent competent person, for asbestos work that is not required to be carried out by a Class A licensed asbestos removalist

To be independent, the licensed asbestos assessor must not be involved in the removal of asbestos for that specific job and is not involved in a business or undertaking involved in the removal of the asbestos for that specific job.

A clearance certificate will be issued if the independent licensed asbestos assessor or competent person is satisfied that the asbestos removal area and the immediate area are free from visible asbestos contamination. Entry to the area will be permitted following confirmation of certification.

3.3.8 Disposal

The Asbestos Removal Control Plan prepared by the licensed asbestos removalist will include a waste disposal program that will detail the method of transport and location of disposal of asbestos / ACM removed from site and any other asbestos waste.

The licensed asbestos removalist will dispose of any asbestos waste at a licensed asbestos waste disposal site in accordance with NSW EPA guidelines (including *Waste Classification Guidelines* (EPA, 2014)) and relevant industry codes of practice. Disposal of ACM will be to an approved asbestos waste facility listed on the NSW EPA website (http://www.epa.nsw.gov.au/waste/asbestos/). The Contractor will notify the TfNSW Environmental Manager (or delegate) and TFNSW Project Manager at least 24 hours prior to removal of ACM from site and will provide details of the proposed method and location of disposal.

The Contractor will maintain records of all asbestos / ACM disposed of off-site, the location of the facility at which it was disposed, and any receipt/certificate issued by the facility/disposal authority.

3.3.9 Decontamination

Decontamination of site personnel, PPE and tools used in asbestos removal work will minimise exposure and spread of asbestos outside of the removal area.

Personal decontamination will occur every time a worker leaves the asbestos removal work area and involves removal of all visible asbestos dust/residue from PPE and Respiratory. Protective Equipment using an asbestos vacuum cleaner and /or wet wiping with a damp cloth. Disposable PPE is considered asbestos waste and will be disposed of at an

appropriate waste facility. Non-disposable protective clothing will be laundered in a suitable laundering facility that is equipped to launder asbestos-contaminated clothing.

Workers must be aware of personal hygiene and ensure that they carefully wash when leaving an asbestos removal area, paying particular attention to hands, fingernails, face and head.

Tools will be dismantled (where appropriate), cleaned under controlled conditions and decontaminated prior to removal from the area, or disposed of at a suitable off site location.

3.4 Monitoring, reporting and records

3.4.1 Monitoring

The TfNSW Environmental Manager may recommend that, as a precaution during asbestos removal works, continuous asbestos fibre monitoring be carried out at the perimeter of the area, and if deemed necessary, personal exposure asbestos fibre air monitoring for workers in area. Monitoring will be undertaken daily in accordance with *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC: 3003(2005)]* (National Occupational Health and Safety Commission, 2005) and *How to Safely Remove Asbestos Code of Practice* (Safe Work Australia, 2011).

3.4.2 Reporting

Reporting will be carried out in accordance with the requirements of the Asbestos Management Plan.

Any asbestos finds will be reported by the Contractor's Supervisor to the TfNSW Environment Manager (or delegate) and the EPA in accordance with the TfNSW Environmental Incident Classification and Reporting Procedure (RMS, 2018).

3.4.3 Asbestos register

The Contractor will maintain an Asbestos Register that documents all identified or potential asbestos-containing material in the Project area as follows:

- identification of any potential or asbestos-containing material
- location, type and condition of the asbestos-containing material
- date when the asbestos was identified
- labelling of the asbestos
- maps, photographs or diagrams detailing the location of the asbestos within the Project area.

The Asbestos Register will be made available to the TfNSW Environmental Manager on request for inclusion in Project records and reporting.