New Zealand DEFENCE FORCE
Te Ope Kātua O Aotearoa

DEFENCE ESTATE ASBESTOS MANAGEMENT PLAN

NZDF - Defence Estate and Infrastructure

August 2024

A FORCE FOR NEW ZEALAND

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DOCUMENT CONTROL

This document is to be maintained and reviewed in accordance with the requirements of Section 1.3.
Revision history:

Prepared By	Description	Version	Date
Sally Dymond Jack Adlam Simon Paykel David Dangerfield Matt Wrigglesworth Julie Irvine	Defence Estate - Asbestos Management Plan (DE-AMP)	Final draft	09 Dec 2022
Matt Wrigglesworth	Various minor updates	1	26 July 2024

DOCUMENT DEVELOPMENT

The following were consulted as part of the development of this DE-AMP and have endorsed final version 1.

Endorsed By	Description	Date
Angela Rego	General Manager Assets and Environment	July 2024
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The Defence Estate Asbestos Management Plan is authorised by DFI 43.4 Chapter 2 (Asbestos Management on the Estate). The DE-AMP should be read in conjunction with the DFI.

Nothing in this plan is to be construed as prevailing over any relevant Act of Parliament or Regulations made under it, or Defence Force Orders and Directives issued by the Chief of Defence Force.

Any conflict between the requirements stated in this plan and any other policy, order, rule or procedure issued within the New Zealand Defence Force is to be reported to the Custodian without delay.

MARK BRUNTON

Head, Defence Estate and Infrastructure **13 August 2024**

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Definitions and Abbreviations

ACDust	Settled dust that is or is suspected of being contaminated by asbestos fibres.
ACD	Asbestos Containing Dust or Debris.
ACM	Asbestos Containing Material(s).
Airborne Contamination Standard	The maximum allowable concentration of airborne asbestos fibres in a workplace. It is the average concentration over any eight-hour period of 0.1 respirable asbestos fibres per mL of air. This concentration is also the current Workplace Exposure Standard (WES)[1].
Air Monitoring	Air monitoring involves using a small pump to filter air through a membrane at a known rate to sample the airborne fibres and calculate the airborne fibre concentration. Typical undertaken within or adjacent to occupied workplaces, this assists in assessing potential exposure to asbestos and the effectiveness of control measures.
Asbestos Removal Scope of Works (ARSoW)	Technical document setting out the requirements for safe and compliant removal of asbestos and ACM's, including requirements for reoccupation following the removal of asbestos with consideration for ongoing management of any remaining risks. Often supplied as a tender document to contractors.
Respirable Asbestos Fibres	An asbestos fibre that: (a) is less than 3 micrometres wide; and (b) is more than 5 micrometres long; and (c) has a length to width ration of more than 3:1
Approved Code of Practice (ACOP)	The WorkSafe Approved Code of Practice for the Management and Removal of Asbestos, 2016 sets out industry standards in relation to the identification, management and removal of asbestos at the workplace, in order to help PCBU's and workers achieve compliance with the Health and Safety at Work (Asbestos) Regulations 2016.
Asbestos Management Survey	Is a report on the presence and extent, as far as reasonably practicable, of asbestos at the property which could be accessed and disturbed during normal occupancy (including foreseeable maintenance and installation) and to assess the condition of such ACM.
Asbestos Refurbishment and Demolition Survey	Required before any refurbishment or demolition work is carried out. This type of survey is intrusive and used to locate and describe, as far as reasonably practicable, all ACM in the area(s) where the work will take place.
Asbestos Regulations 2016	Health and Safety at Work (Asbestos) Regulations 2016 - Mandatory regulations governing all work involving asbestos in the workplace in New Zealand.
Asbestos-related Work	Encompassing a large array of activities, these are minor and low risk tasks that involve disturbance of asbestos but can be controlled by use of Safe Work Practices and therefore do not require a licensed asbestos removal contractor.
Asbestos Removal Control Plan (ARCP)	A plan that must be prepared by the licensed asbestos removal contractor in accordance with Section 32 of the Asbestos Regulation. This plan must demonstrate

[1]Effective from November 2023 and current as at April 2024. Refer to the Workplace Exposure Standard and Biological Indices, Edition 14, WorkSafe New Zealand.

	compliance with all applicable duties related to licensed asbestos removal, as well as detail all risk assessments, methods and control measures involved in completing the works.
Asbestos Work Area	The immediate area where work on ACM is occurring.
AQAA	Asbestos Quality Assurance Advisor.
CAPEX	Capital Expenditure.
CHESS	DEI Construction Health, Environment and Safety Specifications. CHESS sets out DEI requirements and expectations of contractors in terms of health, safety and Environment, with emphasis on high risk and notifiable work types, including asbestos.
CHIPS	Construction Health and Safety Indicative Performance System. A performance scoring system that regularises health and safety performance scoring in the DEI contract management process by assigning scores to health and safety outputs and outcomes over the course of a project.
Clearance Inspection	An inspection done by an independent Licensed Asbestos Assessor or competent person to verify that an asbestos enclosure or work area is safe to reoccupy following asbestos removal work.
Clearance Air Monitoring	A type of air monitoring specifically used to investigate airborne fibre levels following removal of asbestos (typically used following removal of friable asbestos). Other clearance requirements must also be met. For clearance, the airborne fibre levels must be less than trace (0.01 fibres/ml).
Control Monitoring	A type of air monitoring used to verify the effectiveness of control measures (air monitoring in itself is not a control).
CLS	Contaminated Land Specialist.
CSI	Contaminated Site Investigation.
DDMS	Defence Document Management System.
DE-AMP	Defence Estate - Asbestos Management Plan.
DEI	Defence Estate and Infrastructure.
DFI 43.4	Defence Force Instruction for Asbestos Management on the Estate.
DFO 43	Defence Force Order Estate and Infrastructure.
DIXS	Defence Information Exchange System.
DSI	Detailed Site Investigation – an intrusive ground investigation to identify potential land contamination.
Exposure Monitoring	A type of air monitoring undertaken within the breathing zone of a person undertaking works that may expose them to an airborne asbestos, usually undertaken within a work area whilst wearing RPE.
GPG	WorkSafe. (2016, October) Conducting Asbestos Surveys (Good Practice Guide).
Friable	In relation to ACM, in a powder form or able to be crumbled or pulverised, or reduced to a powder by hand pressure when dry.
HSWA 2015	Health and Safety at Work Act, WorkSafe New Zealand 2015.
Health Monitoring	In relation to an individual, monitoring of the individual to identify any changes to

	health status because of exposure to certain health hazards.
HEPA Filter	High Efficiency Particulate Air filter is at least 99.97% efficient at collecting an aerosol particulate 0.3 micrometre in size, meeting requirements of the ACOP for vacuum filtration performance.
ILFMS	Integrated Land and Facilities Maintenance System.
Licensed Asbestos Assessor (LAA)	Person licensed by WorkSafe to provide asbestos assessor services including air monitoring during Class A asbestos removal work, clearance inspections for Class A asbestos removal work and issue clearance certificates for Class A asbestos removal work.
Licensed Asbestos Removal Contractor (LARC)	A PCBU whose business or undertaking includes asbestos removal work and holds a current (either Class A, Class B, or both) Asbestos Removal Licence issued by WorkSafe.
Licensed Asbestos Removal Work	Asbestos removal work for which a Class A asbestos removal license or a Class B asbestos removal license is required.
NES-CS	Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011.
Non-friable Asbestos	Material where the asbestos fibres are bound by cement, vinyl, resin or other similar material matrix where fibres can't easily become airborne. Also commonly referred to as 'bonded' asbestos.
NZDF	New Zealand Defence Force.
OPEX	Operational Expenditure.
PCBU	Person Conducting Business or Undertaking.
PM	Project Manager. For the purposes of this DE-AMP, a PM includes any member of the NZDF responsible for the planning, scoping, commissioning, oversight, review and close-out of any work or undertaking on the NZDF estate. DEI can delegate PM duties to persons outside of NZDF but all DE-AMP requirements still apply.
PPE/RPE	Personal Protective Equipment / Respiratory Protective Equipment, which refers to anything used or worn by a person (including clothing) to minimise risks to the person's health and safety.
PSI	Preliminary Site Investigation – a desktop study that compiles a summary of site history relating to contaminated land.
RAP	Remedial Action Plan – for managing the remediation of a contaminated site.
SEMT	Safety Event Management Tool – an NZDF-wide tool for identifying and managing workplace safety risk.
SFARP	So Far As is Reasonably Practicable.
SMP	Site Management Plan – for managing contamination remaining on a site.
SWP	Safe Work Practice.
Trace Level	In air, an average concentration of less than 0.01 respirable asbestos fibres per millilitre of air.
Unlicensed Asbestos Removal Work	Asbestos removal work that does not require a Class A asbestos removal license or a Class B asbestos removal license.

CHAPTER 1 - INTRODUCTION

1.0 INTRODUCTION

DEI manages a large and complex property portfolio for NZDF, made up of thousands of buildings and structures across the NZDF estate. NZDF has carried out limited removal and replacement of its original built infrastructure meaning the majority of NZDF's built infrastructure was established prior to the year 2000. Given the age of the NZDF estate, NZDF operates under the assumption that asbestos is present in many of its buildings, other infrastructure and soils, unless confirmed otherwise. This Defence Estate - Asbestos Management Plan (DE-AMP) applies to all camps, bases, training areas, ranges and sites where property, plant, other infrastructure or equipment is owned, stored, maintained or operated by NZDF. This DE-AMP must be read in conjunction with DFO 43 *Estate and Infrastructure*, DFI 43.4 *Estate: Managing Hazards* and DFI 0.81 *Risk Management* Instructions.

The overarching purpose of this DE-AMP is to document the procedures that are to be used to safeguard the health of the people who occupy, maintain and/or visit the NZDF estate against the health risks associated with airborne asbestos exposure.

This DE-AMP sets out the organisation specific procedures that enable NZDF to comply with its legal obligation to identify and manage asbestos in the workplace under the following New Zealand workplace regulations, codes of practise and guideline documents:

- *Health and Safety at Work Act 2015 ("The act")*
- *Health and Safety at Work (Asbestos) Regulations 2016 ("The regulation")*
- *Management and Removal of Asbestos, Approved Code of Practise Sept' 2016 ("The ACOP")*
- *New Zealand Guidelines for Assessing and Managing Asbestos in Soil 2017 ("BRANZ Guidelines")*
- *Good Practice Guidelines: Conducting Asbestos Surveys 2016 ("The GPG")*

It is essential that all those listed in the roles and responsibilities section become familiar with this DE-AMP as it applies to their work and the work of those they manage or otherwise instruct.

RNZAF Air Base Ohakea. Source: NZDF.

1.1 *Application*

This DE-AMP applies at all times to all personnel that visit, or operate on, the NZDF estate, including NZDF personnel, DEI contractors, third parties and occupants of buildings where asbestos and / or ACM may be present in the workplace (refer to roles and responsibilities in Section 2.0).

This DE-AMP only applies to NZDF estate assets and infrastructure and does not apply to military capability assets. This DE-AMP specifically excludes any buildings and structures on the NZDF estate that are not owned by NZDF (unless otherwise stated).

Other NZDF units may choose to adopt the standards and requirements within this DE-AMP as part of their procurement and management of external contractors, but may choose to develop their own standards and requirements which at minimum must be complaint with the Asbestos Regulations 2016. If other units plan intrusive works to a building or structure that is managed and maintained by DEI, they must consult, cooperate and coordinate activities with DEI.

The asbestos regulations apply to workplaces so this DE-AMP applies to the management of asbestos during occupational activities only. It therefore excludes all activities not instructed (or for the direct purpose of fulfilling an instruction) by the NZDF. Non-occupational exposure risks are not a duty of the NZDF to prevent. However, where an incident or emergency within an NZDF owned building or structure results in a disturbance to asbestos, the response must be in accordance with this DE-AMP.

The NZDF supply housing to some personnel for the purpose of fulfilling their duties. The NZDF are also responsible for the management and maintenance of these assets. For this reason all housing is treated as an occupational setting within this DE-AMP with the same processes applied.

Current asbestos regulations within New Zealand are robust but prior to 2016, historically sub-standard asbestos regulations have allowed the presence of uncontrolled or poorly controlled legacy issues on the NZDF estate. This DE-AMP describes how we manage asbestos risks under the current regulations from February 2016, but cannot account for historical incidents or poor work practices that may have resulted in historical exposures to NZDF personnel.

Where any part of this DE-AMP is inconsistent with the current version of the asbestos regulations, the requirements of the current asbestos regulations must prevail.

1.2 *Authorising Authority, Approving Authority and Custodian*

DFI 43.4 *Estate: Managing Hazards* authorises this DE-AMP.

The Approving Authority for the DE-AMP is the Head of Defence Estate and Infrastructure (HDEI) in consultation with other unit Commanders as required.

The Custodian for the DE-AMP is the DEI Asbestos Manager. The DEI Asbestos Manager is responsible for ensuring this DE-AMP is reviewed in accordance with the asbestos regulations, and remains fit-for-purpose.

1.3 *Requirement to Prepare and Maintain an Asbestos Management Plan*

Since asbestos has been identified on the NZDF estate, DEI has prepared this DE-AMP in accordance with the requirements of the Asbestos Regulations 2016, Regulation 13, “Duty to prepare asbestos management plan”.

Health and Safety at Work (Asbestos) Regulations 2016 (Asbestos Regulations, 2016)

13 Duty to prepare asbestos management plan

- *This regulation applies if asbestos or ACM is –*
  - *(a) Identified at a workplace under regulation 10; or*
  - *(b) Likely to be present at a workplace from time to time.*
- *A PCBU with management or control of the workplace must ensure that a written plan (an **asbestos management plan**) for the workplace is prepared.*
- *A PCBU with management or control of the workplace must ensure that the information in the asbestos management plan is kept up to date.*

The following relates to the requirement to review and maintain the DE-AMP:

Health and Safety at Work (Asbestos) Regulations 2016 (Asbestos Regulations, 2016)

14 Duty to review asbestos management plan

- *A PCBU with management or control of a workplace that has an asbestos management plan must ensure that the plan is reviewed and, if necessary, revised if:*
  - *(a) There is a review of control measure(s).*
  - *(b) Asbestos is removed from, disturbed, sealed or enclosed at the work place.*
  - *(c) The plan is no longer adequate for managing the risk arising from asbestos or ACM at the workplace.*
  - *(d) A representative for workers requests a review.*
  - *(e) 5 years has passed since the plan was last reviewed.*

This DE-AMP will be reviewed at least every five years to reflect any legislative changes, WorkSafe publication or advice, and any changes to NZDF's systems and processes. Each new revision of this DE-AMP will be issued on the DEI Knowledge Portal and the Directorate of Safety intranet site, and will be shared with contractors. The revision number can be found on the front cover of this DE-AMP and has been included at the footer on each page.

1.3.1 *NZDF Asbestos Register*

The ACOP states that an asbestos management plan must include information about how asbestos and ACM is identified in the workplace, as well as decisions and the reasons for the decisions about how the asbestos risks are managed. NZDF have developed a data collection and management system to record, and provide access to, asbestos information across the NZDF estate. To make this information centrally available to stakeholders, asbestos records are stored in the NZDF Asbestos Register. The NZDF asbestos register details whether asbestos/ACM identified in a building or structure has been confirmed through testing or is assumed, its location, condition, recommended actions, asbestos removal records, and links to any validating documentation. More detail on the NZDF asbestos register is provided in Chapter 5.

The condition monitoring of all confirmed (and some assumed) ACM on the NZDF estate will be undertaken by the FM Providers in conjunction with building condition assessments. The NZDF Asbestos Register is a living database and is kept up to date as new data is recorded and asbestos management or removal occurs across the NZDF estate.

NZDF are in the process of designing a cloud based Asbestos Register that will supersede the current Asbestos Register once all data and documentation can be incorporated. However to ensure complete risk assessments

can be undertaken during the course of maintenance, refurbishment and demolition works, whilst the cloud based register is developed the NZDF Asbestos Register will continue to be held on DDMS, and must be used as the primary source of information for asbestos on the NZDF Estate.

1.4 *Obligation to Inform Occupants / Workers of Asbestos Presence*

DEI must provide, on request, to any occupant of an NZDF owned building and any other stakeholder who may be required to work in or on an NZDF building, a copy of the asbestos records for that building from the NZDF Asbestos Register. This DE-AMP must also accessible to all personnel working on the NZDF estate.

Where asbestos air monitoring is carried out in an NZDF owned building, the results should be made available to the building occupants within 24 hours of the DEI PM receiving the results, wherever possible.

In accordance with the act and the regulations, NZDF requires all third parties working on the NZDF estate to know their responsibilities and to ensure they take all reasonable steps to fulfil those responsibilities at all times.

Refer to Section 4.14 for more information on notifications to, and consultation with, stakeholders and building occupants.

1.5 *Asbestos on the NZDF Estate*

Asbestos is one of many legacy contaminants on the NZDF estate. It can generally be found in pre-2000 buildings, horizontal infrastructure and in soil near existing or historical asbestos containing infrastructure. Asbestos is therefore likely to be discovered during asset maintenance, refurbishment, demolition and earthworks on the NZDF estate. ACMs present an exposure risk if disturbed, damaged, degraded and encountered without adequate safe work practices in place.

There are a number of adverse health effects associated with exposure to elevated levels of airborne asbestos, especially where the exposures are prolonged or frequent. Asbestos only becomes a significant risk to human health when fibres are inhaled when airborne. Everyone is typically exposed to low levels of asbestos as a result of background levels of airborne asbestos fibres being present in and around the built environment. Although there is no recognised safe level of exposure to asbestos fibres, occasional minor exposures present a low risk to human health.

1.6 *How to use this plan*

This DE-AMP defines the legal and NZDF specific obligations and actions required by all personnel operating on the NZDF estate in relation to the safe management of asbestos.

The chapters of this plan have been colour-coded to help users differentiate between chapters. The colours shown in Figure 1 below border each page of the corresponding chapter.

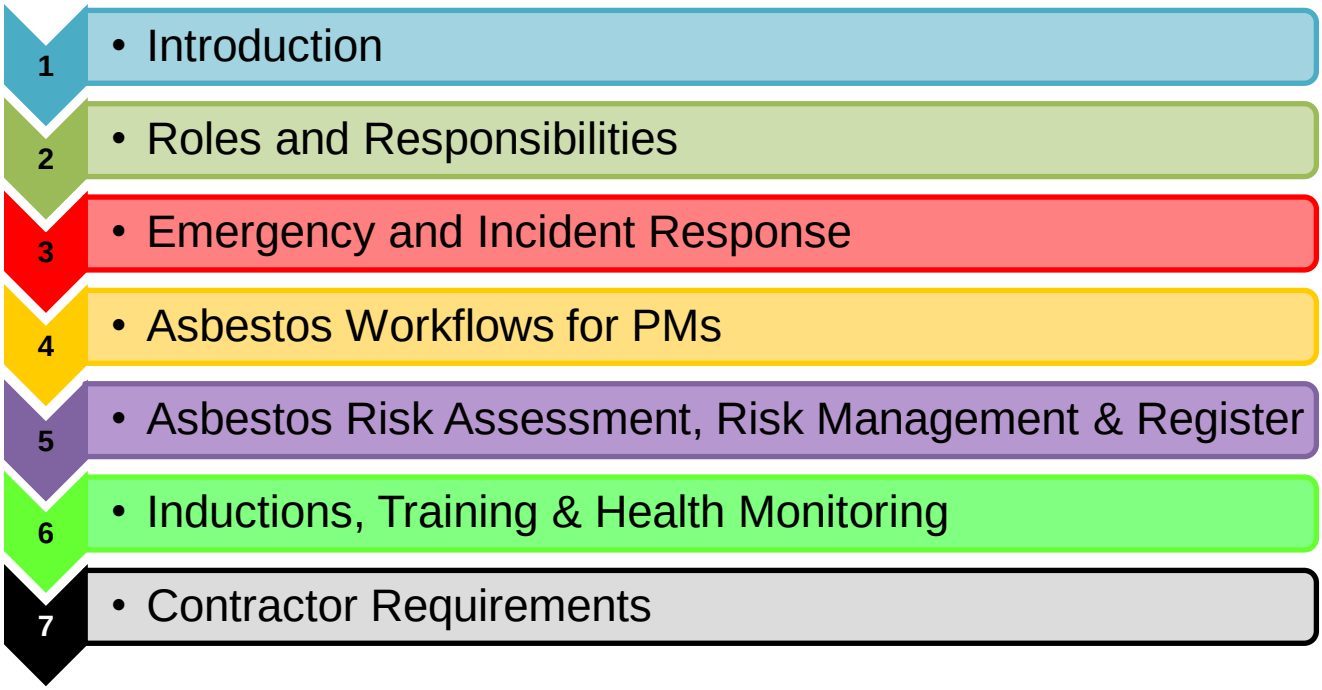


Figure 1. Colour Codes for AMP Chapters

1.7 *Workflows for Project Managers*

Where references within this document, Project Manager or “PM” refers generally to those with responsibility for the planning, resourcing and scheduling of projects including maintenance tasks, that may involve an elements of asbestos risk management. The responsibilities listed may therefore fall into a variety of roles both internally and externally to the NZDF.

All Project Managers must check and follow the processes set out in this plan. To assist, a series of workflow diagrams are provided that summarise the steps for each process and the parties involved in each step.

All PMs should start by reviewing **Workflow 1** in Appendix A to identify which detailed workflow/s apply to their proposed works. The subsequent detailed workflow/s must then be followed and read in conjunction with the relevant sections noted in each workflow step.

1.8 *NZDF Objectives and Policies for Asbestos Management*

1.8.1 *Objectives*

The objectives of this Asbestos Management Plan are to:

1.8.1.1 Ensure NZDF complies with the requirements of the current version of the New Zealand Asbestos Regulations.

1.8.1.2 Develop an effective strategy for asbestos management across the NZDF estate that:

a. Ensures everyone on the NZDF estate is kept safe from the risks of asbestos exposure

b. Mitigates potential reputational risks to NZDF from asbestos exposure; and

c. Prevents further asbestos contamination of NZDF sites and neighbouring land.

1.8.1.3 Ensure the risk of asbestos exposure across the NZDF estate is eliminated or minimised so far as is reasonably practicable (SFARP).

1.8.1.4 Ensure asbestos management initiatives are implemented in a consistent manner across the NZDF estate.

1.8.1.5 Ensure this plan aligns with, and complements, the broader NZDF initiatives and policies for health and safety, quality assurance and risk management.

1.8.1.6 Provide clear lines of responsibility in regards to the management of asbestos and ACM across the NZDF estate so that everyone involved understands their role.

1.8.1.7 Provide practical tools to enable work to be completed to the standard required by NZDF and the Asbestos Regulations.

1.8.1.8 Promote the provision of advice, information, education, collaboration and training in relation to asbestos health and safety on the NZDF estate.

1.8.2 *General Policies for Asbestos Management on the NZDF Estate*

1.8.2.1 NZDF must apply a precautionary approach of assuming all buildings, structures and plant constructed prior to the year 2000 contains asbestos, unless otherwise confirmed by an asbestos surveyor or assessor as being clear of asbestos.

1.8.2.2 NZDF must ensure asbestos is not disturbed, damaged or deteriorates to such an extent that asbestos fibres become airborne and exceed the airborne contamination standard.

1.8.2.3 Project Managers are to assume the presence of asbestos in soils unless proven otherwise and in consultation with DEI Environmental Services, assess the risk to ensure all disturbances are appropriately controlled.

1.8.2.4 NZDF must carry out asbestos risk assessments on all identified or assumed ACM on the NZDF estate. Where ACMs are identified through an asbestos survey, the location must be identified and recorded in the NZDF Asbestos Register.

1.8.2.5 NZDF as a PCBU must not permit any person to undertake any activities on the NZDF estate that could disturb asbestos without prior written permission from DEI.

1.8.3 *Specific Policies for Identification, Removal and Management of Asbestos on the NZDF Estate*

1.8.3.1 Whenever practicable, asbestos surveying should be used as the method for identifying asbestos items on the NZDF estate.

1.8.3.2 All asbestos surveying on the NZDF estate must be scoped, conducted and reviewed in accordance with the requirements of this DE-AMP and NZDF's health and safety requirements.

1.8.3.3 ACM on the NZDF estate must be removed or remediated when:

- A high risk has been identified during an asbestos survey and the risk can't be reduced below the high risk category by use of other controls such as access restrictions, encapsulation or enclosure; or
- So far as reasonably practicable when an asbestos refurbishment / demolition survey has identified ACM that is likely to be disturbed during planned works.

1.8.3.4 Preference should be given to removal of asbestos rather than encapsulation, enclosure or sealing during refurbishment and maintenance works, so far as reasonably practicable.

1.8.3.5 The sampling of asbestos must be undertaken by competent persons only, but must not be undertaken by Licensed Asbestos Removal Contractors.

1.8.3.6 Asbestos air monitoring on the NZDF estate must be carried out in accordance with the approach set out in this DE-AMP.

1.8.3.7 Consultants and contractors performing asbestos assessment, management and removal activities on the NZDF estate must meet the requirements of this DE-AMP.

1.8.3.8 Asbestos containing dust (ACDust) must be assessed and managed in accordance with requirements of this DE-AMP.

1.8.3.9 All stakeholder consultation and communications regarding asbestos should follow the requirements of this DE-AMP.

1.8.3.10 All asbestos consultants (including surveyors and assessors) operating on the NZDF estate must be financially and commercially independent from the contracted removalist when working on the site they are assessing.

1.9 *NZDF Framework for Managing Asbestos*

This section and Figure 2 below outline the NZDF framework for compliance with the NZ Asbestos Regulations.

This **Defence Estate - Asbestos Management Plan (DE-AMP)** serves as the overarching framework document for the management of all asbestos on the NZDF estate.

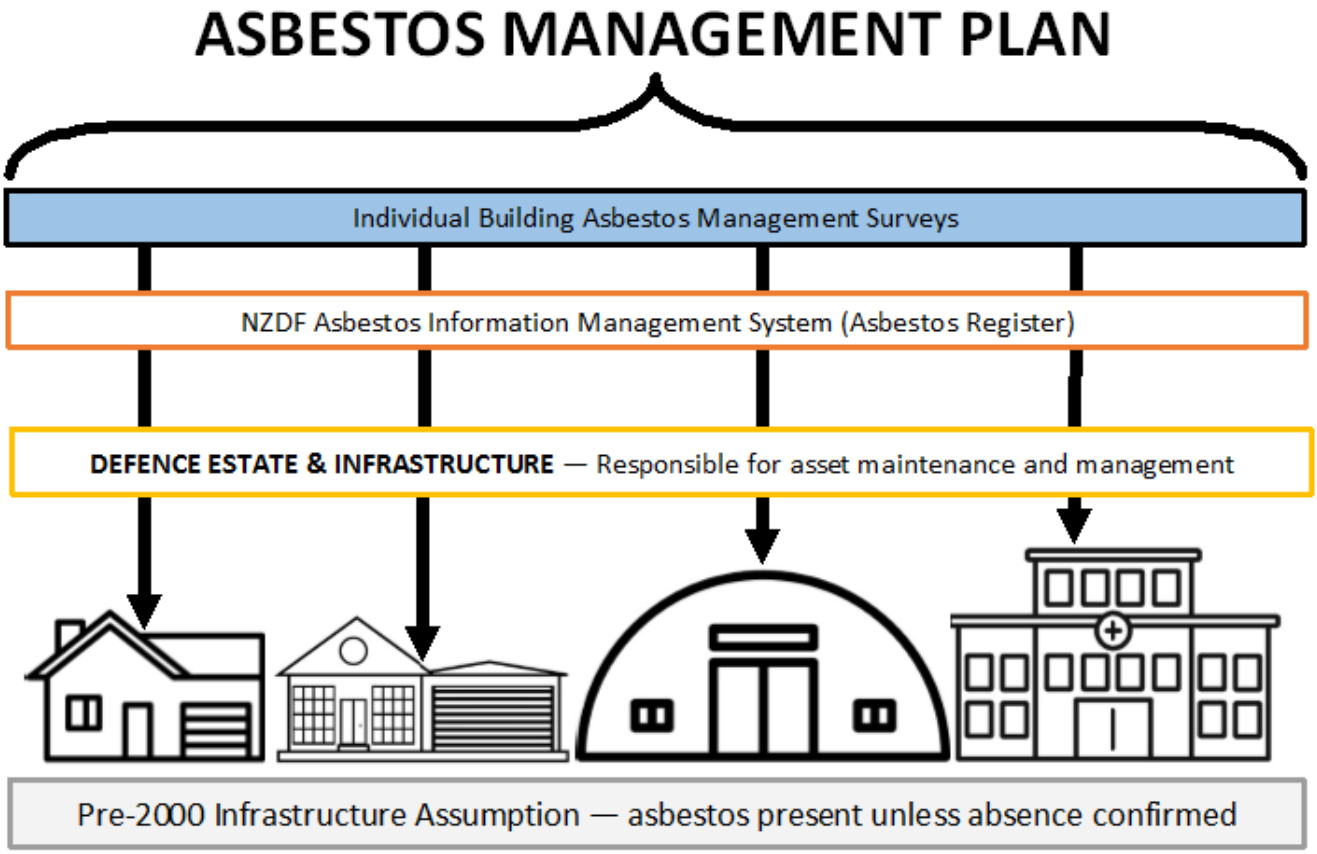


Figure 2. NZDF Asbestos Management Framework

Asbestos Management Surveys (AMS) investigate individual buildings/structures for asbestos items and provide specific recommendations for any risks presented by the asbestos items identified. This information is entered into the **NZDF Asbestos Information Management System (the Asbestos Register),** which provides workers, contractors and NZDF with up to date information on the location, condition, type and risk score of all identified asbestos across the NZDF estate.

In addition to AMS, other types of records are used to maintain an up-to-date Asbestos Register; these include Asbestos Refurbishment Surveys (ARS), Asbestos Demolition Surveys (ADS), air monitoring reports and clearance certificates. These records are used to either create new items within the register or to update existing items.

The DE-AMP, findings of the AMS and the Asbestos Information Management System are then used by DEI and the FM providers to manage all identified asbestos across the NZDF estate in accordance with the Asbestos Regulations.

Table 1 below outlines the NZDF specific doctrine and data management tools that ensure asbestos on the NZDF estate is appropriately considered and managed. Note that table 1 is not a comprehensive outline of all H&S tools and databases used on the NZDF estate.

Table 1: NZDF *Framework for Managing Asbestos*

Framework Tool	Description
Defence Estate Asbestos Management Plan (this document)	Sets out the framework within which DEI will manage asbestos on the NZDF estate and the associated risks.
Asbestos Surveys	Management. refurbishment and demolition surveys. A visual inspection and (where necessary) sampling within individual buildings / structures for asbestos containing materials.
DEI Construction Health Environment and Safety Specifications (CHESS)	Sets out the specifications and requirements for construction (and construction-related) activities on the NZDF estate.
NZDF DOCTRINE	
Defence Force Orders: Estate and Infrastructure, (DFO 43) **Defence Force Orders for the Management of Hazardous Substances (DFO 41)** **Defence Force Safety (DFO 071)** **Defence Force Orders for Managing Risk (DFO 81)**	Principle means of issuing and promulgating Defence Force policies.
Defence Estate Knowledge Portal **DFI 43.4 Asbestos Management on the Estate** **DFI 41.2 Safe Management of Hazardous Substances: Class 2–9**	Procedures to be applied by members of the NZDF in the course of their work. Contains authorised instructions to direct the Defence Estate Asbestos Management Plan. Sets out NZDF's requirements for policy, management, operation, transport, storage, disposal and maintenance of class 2–9 hazardous substances under the control of the Defence Force.

Framework Tool INFORMATION MANAGEMENT	Description
ARCGIS Online (AGOL)	Cloud-based software platform for mapping and recording data on asbestos across the NZDF estate. This data informs the NZDF Asbestos Register. The asbestos data is collected using a survey form through AGOL – referred to as Survey 123. Within AGOL, a dashboard presents the current status of asbestos on the NZDF estate. A web-app enables editing of the asbestos database. Information is displayed on all active asbestos work on the NZDF estate within another dashboard. When an application for PTW that involves asbestos is raised, an alert is sent to asbestos@nzdf.mil.nz.
Asbestos Specific Documents	- Asbestos management survey reports. - Asbestos refurbishment or demolition survey reports. - Asbestos Removal Scope of Works (ARSoW). - Results: air monitoring reports/bulk sample reports. - WorkSafe notifications. - Safe work practices (SWP) / Asbestos Removal Control Plans (ARCP). - Clearance certificates. **Asbestos in Soils (ASBINS)** - Preliminary Site Investigations (PSIs). - Detailed Site Investigations (DSIs). - Remedial Action Plans (RAPs). - Site Validation Reports (SVRs).. - Site management plans (SMPs). - Resource consents.
NZDF asbestos email address	(asbestos@nzdf.mil.nz) for all asbestos queries and for review and approval of asbestos related documentation.
DDMS	Defence Document Management System. All documents produced relating to asbestos management are stored on this system.
ILP page	NZDF asbestos information sharing platform.

Framework Tool	Description
ILFMS	Integrated Land and Facilities Management System. An Asset Management Database that records the location and characteristics of all built assets on the NZDF estate. Asbestos presence is flagged on this database.
IMS	Incident Management System.
INForm	Incident Notification form, an accidental discovery notification.
JARS	Joint Assurance Reporting System. An encrypted web based database that NZDF Contractors use to provide DEI with specific worksite health and safety data such as reporting health and safety events. DEI uses it to generate analyses and measure the effectiveness of worksite safety performance.
NZDF Asbestos Register	The primary means by which NZDF personnel, our contractors and partners can access detailed information pertaining to asbestos risk in a given building or area. Information is stored and shared in various ways but the primary Asbestos Register exists within DDMS (Sharepoint).
Permit to Work (PTW)	The system by which all high risk works on the Estate are managed.

1.10 *Assuming Asbestos Presence*

In the following circumstances, asbestos must be assumed to be present in structures and buildings constructed prior to the year 2000 on the NZDF estate:

- The structure, plant or soil on-site has not have been surveyed/assessed in accordance with the "Good Practice Guidelines, Conducting Asbestos Surveys" (GPG) (WorkSafe, 2016A) or NES-CS (for soil contamination); and/or
- A building material has not been sampled but assumed to be ACM by an asbestos surveyor; and/or
- An area was not accessible at the time of the asbestos survey, requiring the area to be assumed as containing ACM (non-access is typically due to height restrictions or live electrical hazard).

1.11 *Assessing Other Hazardous Materials, Substances and Contaminants*

In general, other than the NZDF training areas, the NZDF estate should be considered and treated as a potentially contaminated site due to the legacy of activities and land uses that have released contaminants over many years. New Zealand legislation often requires other hazardous materials, substances and contaminants to be considered when scoping work for buildings, structures and soil disturbance activities on sites. DEI Environmental Services (ES) holds the portfolio responsibility for contamination management on the NZDF estate. Programme and Project Managers must ensure they seek early input from ES in the scoping phase of all projects to ensure all legislative requirements regarding hazardous materials, substances and contaminants have been considered appropriately.

1.11.1 *Lead Paint*

Lead paint is often found on buildings that contain asbestos. Disturbance of lead paint can generate lead paint dust, and contaminate soil near lead-painted exterior walls, which can create an exposure risk to workers and building occupants.

The NZDF Lead Paint Management Plan can be found here (internal link). All PMs are responsible for ensuring their works are compliant with the requirements set out in the document.

DEI's CHESS document contains specific requirements in relation to lead paint disturbance activities.

1.12 *Business Continuity Management*

This DE-AMP outlines how NZDF will proactively address and reduce the risks and hazards posed by asbestos items in/on NZDF estate assets and infrastructure, including the actions to be taken when an asbestos-related emergency or incident occurs (see Chapter 3). This DE-AMP does not address how NZDF and third parties operating on the NZDF estate will prepare Business Continuity Plans to ensure the uninterrupted availability and functionality of their operations in the event of an asbestos-related incident or emergency.

Similar to the event of a fire or flood or natural emergency, NZDF units and third parties on the NZDF estate should proactively plan for the event of a major disruption caused, in whole or in part, by asbestos, to ensure a rapid return to Business as Usual (BAU) is achieved. Proactive planning for business continuity management should incorporate:

1. Reduction of the effects of asbestos hazards so far as is practicable;
2. Readiness to respond when an asbestos-related emergency or hazardous event occurs;
3. A response appropriate to the event; and
4. Recovery as soon as possible after an event.

CHAPTER 2 – ROLES AND RESPONSIBILITIES

ROLES & RESPONSIBILITIES

Health and Safety at Work (Asbestos) Regulations 2016 (Asbestos Regulations, 2016)

Subpart 1 – Conduct and general duties

7 Prohibition on carrying out, directing, or allowing work involving asbestos or ACM

- *A PCBU must not carry out, or direct or allow a worker to carry out, work involving asbestos.*
- *Sub clause (1) does not apply if the work involving asbestos is any of the following:*
  - *(a) Genuine research and analysis.*
  - *(b) Sampling and identification in accordance with these regulations.*
  - *(c) Removal or disposal of asbestos or ACM, including demolition work, in accordance with these regulations.*
  - *(d) The transport and disposal of asbestos or asbestos waste in accordance with these regulations.*
  - *(e) Demonstrations, education, or practical training in relation to asbestos or ACM.*
  - *(f) Fire-fighting.*
  - *(g) A response to an emergency.*
  - *(h) Maintenance and servicing work involving ACM in accordance with these regulations.*
  - *(i) Rectifying work to ACM undertaken in accordance with these regulations.*
  - *(j) Display, or preparation or maintenance for display, of an artefact or thing that is, or includes, asbestos or ACM.*
  - *(k) Work that disturbs asbestos during mining operations that involve the extraction of, or exploration for, a mineral other than asbestos.*
  - *(l) Laundering asbestos-contaminated clothing in accordance with these regulations.*

2.0 PERSONNEL WITH RESPONSIBILITIES UNDER THIS PLAN

The responsibility to ensure asbestos on the NZDF estate is managed in accordance with this plan is shared across many roles. The responsibilities for the roles identified below have been developed in accordance with the following approach:

1. Asbestos management responsibilities form part of all health and safety management roles.
2. Those with asbestos related responsibilities:
   a) Are to have their responsibilities clearly outlined,
   b) Are to be made aware of their responsibilities and any applicable time frames,
   c) Are helped to develop the skills necessary to carry out their responsibilities,
   d) Have their responsibility performance reviewed regularly as part of project and individual performance reviews,
   e) Understand the relationship between their responsibilities and those of others.
3. Contractor performance in relation to asbestos works will be monitored in line with other types of high risk work as part of the Construction Health and Environment Safety Specification.
4. Asbestos inductions and periodic training will be provided as required to ensure all those in an identified role are informed of their asbestos responsibilities and enabled to meet them.

2.1 *PCBU – NZDF*

NZDF, as a PCBU, has a legal obligation under the Asbestos Regulations 2016 to provide a safe work environment for its personnel (both civilian and military), contractors, subcontractors, tenants and visitors within its control. To achieve this, NZDF is required to put in place systems and controls to manage asbestos and other workplace hazards.

As far as reasonably practicable, every precaution must be taken to ensure that exposure to asbestos fibres in the workplace is eliminated or, where elimination is not possible, controlled using suitable and sufficient measures.

2.2 *NZDF and Officers of the PCBU*

Section 18 of the HSWA 2015 defines what constitutes an Officer of the PCBU. DFO 071 outlines who the Officers of the PCBU in the NZDF are.

All Officers of a PCBU must exercise due diligence to ensure that the Asbestos Regulations 2016 and measures contained within this DE-AMP are being met. Officer duties pertaining to asbestos include gaining an understanding of the hazards and risks associated with asbestos, as well as ensuring appropriate resources and processes are available and used to minimise asbestos health and safety risks. All workers must support these Officers in performing their duty. Examples of duties owed to workers and others in relation to asbestos management include:

a) Minimising the risk of exposure to airborne asbestos (as far as reasonably practicable) and ensuring the exposure standard for asbestos is not exceeded in the workplace.

b) Providing suitable and specific information, training and instructions to workers, including contractors and sub-contractors.

c) Implementing assurance activities to verify all workers, contractors and sub-contractors are complying with their legislative obligations.

2.3 *Chiefs of Service*

Chiefs of Service are accountable to the Chief of Defence Force for ensuring the duties imposed by DFO 41 with regards to asbestos are implemented within their respective Service and complied with. Chiefs of Service are responsible for:

a) Ensuring their units are aware of and comply with the requirements of this DE-AMP.

b) Ensuring asbestos management plans are developed for capability assets where asbestos may be or is present, including training materials used for capability functions.

c) Ensuring their Service H&S teams are aware of and promote the requirements of this DE-AMP.

d) Ensuring any suspected asbestos exposure events are reported appropriately on internal and (where accessible) external systems to ensure appropriate response and ongoing monitoring.

2.4 *Director of Defence Health*

The NZDF Director of Defence Health is responsible for providing the necessary resources and support for the following:

a) Promoting the successful implementation of the DE-AMP throughout NZDF.

b) Providing support to DEI personnel for investigating an incident or near miss when unprotected exposure has occurred, where required.

c) Liaising with Service Chiefs and Director of Safety where required for asbestos related matters.

d) Health responses to actual asbestos exposure of NZDF uniformed personnel on the NZDF estate. Where necessary, in conjunction with DOS, this extends to supporting DEI in relation to communicating risk of asbestos exposure to other PCBU's and members of the public.

e) Ensuring NZDF personnel have known asbestos exposures appropriately documented on their health record.

f) Facilitation of appropriate health monitoring for all NZDF uniformed personnel undertaking asbestos removal or asbestos related works (occupational) in accordance with Regulation 15 (Duty to Provide Health Monitoring) of the Health and Safety at Work (Asbestos) Regulations 2016. For civilian members of the NZDF, this may include referral to public healthcare providers.

g) When appropriate provide health support to non-occupational accidental exposures for NZDF uniformed personnel as part of their primary health care provision, including documenting known exposures of concern.

2.5 *Director of Safety*

The NZDF Director of Safety is responsible for providing the necessary resources and support for the following:

a) Promoting the successful implementation of the DE-AMP throughout NZDF.

b) Facilitating efficient triaging, investigation and response to asbestos related incidents including liaison with the regulators.

c) Ensuring that training and education on health and safety risk management in the workplace includes appropriate messaging for the management of asbestos related matters.

d) Ensure that learnings from accidents, incidents and near misses reported on SEMT are fed into the NZDF safety risk management approach to encourage continual improvement, and support DEI as required with the development of a system to allow visibility within SEMT of external contractor reported accidents, incidents and near misses.

2.6 *Officers in Charge of Defence Areas and Activities*

DFO 071 Defence Force Safety describes the responsibilities of the Officers in charge of a Defence Area or an activity including; that they demonstrate a commitment to health and safety, ensure all people in their Defence Area are warned of the presence of hazards, ensure coordination of activities between other PCBU's and NZDF units, and provides the authority to issue a stop works order in the event that a safety issue is raised.

This means in order to eliminate or minimise the risk of exposure to asbestos within their Defence Area, they are responsible for the following:

a) Ensuring all safety inductions on their sites meet the requirements of Chapter 6 of this DE-AMP.

b) Ensuring all people in, or near, their area of command and control are warned of the potential presence of asbestos through inductions and awareness training (including those who may be in the area without the consent of the Officer in Charge).

c) Ensuring no one within their Defence Area conducts intrusive maintenance or refurbishment works on NZDF buildings, infrastructure or sites without the awareness and approval of DEI, and ensuring the DEI risk assessment and permit to work processes are being followed.

2.7 *Head of DEI*

The Head of DEI (HDEI) is accountable through the Vice Chief of Defence Force for the safe management of the NZDF estate. HDEI has a duty to gain an understanding of the hazards and risks associated with asbestos as well as ensuring appropriate resources and processes are available and used to minimise risks to health and safety associated with asbestos. Further to the responsibilities within DFI 43.4 Section 2.3, HDEI is responsible for:

a) Ensuring that an Asbestos Management Plan is established and implemented for the management of asbestos on the NZDF estate.

b) Providing the necessary resources for successful implementation of the DE-AMP.

c) Delegating the performance of the DE-AMP through DEI's management structure and contractual arrangements, while retaining accountability under the HSWA, 2015 and the Asbestos Regulations 2016.

d) Ensuring an appropriate level of monitoring and review for the effectiveness of the DE-AMP is in place.

e) Ensuring that a framework is in place for managing health, safety and environmental risks posed by asbestos within the NZDF estate.

2.8 *General Manager Estate Delivery*

The GM Estate Delivery is responsible for ensuring asbestos management and remediation carried out as part of any project at a camp or base is consistent with the requirements of this DE-AMP. The GM Estate Delivery, through the Director of Delivery, will ensure all Delivery teams' support the strategic and regulatory requirements of this DE-AMP and applicable legislation. Further to the responsibilities within DFI 43.4 Section 2.3, GM Estate Delivery is responsible for:

a) Ensuring budgets adequately provide for asbestos control, management and remediation on the NZDF estate.

b) Ensuring decisions related to asbestos risk abatement are informed using the risk assessment methodologies set out in this DE-AMP.

c) Ensuring funding approval for the decommissioning and demolition of NZDF assets demonstrably considers the recommendations and estimates provided by asbestos SMEs.

d) Ensuring contracts between DEI and the FM providers encourage and promote effective health and safety risk management, including on issues related to asbestos.

e) Ensuring that notifiable asbestos incidents are reported.

2.9 *General Manager Assets and Environment*

Further to the responsibilities within DFI 43.4 Section 2.3, GM Assets and Environment is responsible for:

a) Ensuring strategic programmes and plans are developed and implemented for the management of contamination risks and data across the NZDF estate, including asbestos contamination.

b) Advocating for the incorporation of sound and accurate asbestos data to inform, where applicable, the delivery and coordination of portfolio/programme/project approaches for asset delivery and maintenance with a focus on benefits planning, capacity planning and resourcing.

c) Define the requirements and information needs of Assets and Environment for inclusion in the DEI information management strategy and where necessary provide analysis support and advice across DEI to inform NZDF investment.

2.10 *General Manager Estate Strategy*

The GM Estate Strategy is responsible for:

a) Ensuring asbestos risk on the NZDF estate is accounted for and included where appropriate in the development and review of Estate and Infrastructure strategic plans and programmes.

b) Ensuring asbestos risk on the NZDF estate is considered in the development and execution of Estate and Infrastructure strategy (including Strategic Asset Management and NZDF tenure).

c) Ensuring Estate and Infrastructure policy avoids conflict with and where applicable reinforces the requirements of this DE-AMP.

2.11 *General Manager Estate Performance*

The GM Estate Performance is responsible for:

a) Providing assistance to the development and implementation of ongoing business improvement initiatives for asbestos risk identification and management on the NZDF estate, including all business excellence, change management and innovation initiatives for asbestos management across DEI.

b) Ensure that contamination risks (including asbestos) are included within the DEI information management strategy and provide analysis support and advice across DEI to inform NZDF investment.

2.12 *Director Environmental Services*

The Director Environmental Services is responsible for:

a) Ensuring that environmental risks that arise from past and current NZDF activities on and off the NZDF estate are identified, investigated, and where necessary, mitigated (including asbestos risks).

b) Ensuring accurate and timely advice regarding the management of contamination (including asbestos) is provided to all NZDF personnel with the responsibility for preventing and managing contamination on the NZDF estate.

2.13 *Director Estate Tenure*

The Director Estate Tenure is responsible for:

a) Ensuring an asbestos management plan is obtained for existing leases and prior to entering into a new lease of premises constructed prior to 1 Jan 2000 for NZDF occupation.

b) Ensuring any asbestos risks identified in an asbestos survey for a property leased by NZDF are managed by the landlord prior to building occupation.

c) Ensuring that asbestos risks are identified and mitigated prior to licencing leasing any NZDF property to non-Defence parties.

d) The establishment and maintenance of an asbestos information management system, data and meta-data standards to enable effective data management in accordance with this DE-AMP.

2.14 *Deputy Director Asset Information*

The Deputy Director Asset Information is responsible for:

a) The establishment and maintenance of an asbestos information management system, data and meta-data standards to enable effective data management in accordance with this DE-AMP.

2.15 *DEI Deputy Director of Health and Safety*

The DEI Deputy Director of Health and Safety (DDH&S) is responsible for:

a) In conjunction with the Asbestos Manager, undertaking a review of the DE-AMP every 5 years, or earlier should an asbestos-related incident trigger investigation and DE-AMP review.

b) Ensuring all Contractor Health Environmental and Safety Specifications are consistent with the requirements of this DE-AMP and the Asbestos Regulations.

c) Ensuring contractor inductions are consistent with the requirements of this DE-AMP.

d) Including asbestos risks within more general health and safety performance monitoring and reporting.

e) Working with the Asbestos Manager to establish policy direction for asbestos related health and safety.

f) Monitoring legal compliance with the Health and Safety at Work Act (2015) and working with the Asbestos Manager to achieve the same for the Asbestos Regulations 2016.

g) Monitoring, and advising DEI leadership team of (where necessary) asbestos related accidents, near misses and other safety related information for each camp and base.

h) Including asbestos-related incidents in monthly health and safety performance reports to DEI leadership.

i) Oversight of investigations into asbestos-related incidents including the monitoring and management of corrective actions identified during the investigation.

2.16 *DEI Regional Health and Safety Specialists*

DEI Regional Health and Safety Specialist (RHSS) are responsible for the following:

a) Supporting PMs and Estate Delivery Directors to implement the requirements of this DE-AMP for asbestos-related activities where required.

b) Inspecting and auditing asbestos activities (eyes and ears / support).

c) Monitoring legal compliance with the Health and Safety at Work Act (2015) and working with the Asbestos Manager to achieve the same for the Asbestos Regulations 2016.

d) Recording asbestos related accidents, near misses and other safety related information for each camp and base.

e) Contributing to and where necessary leading investigations into asbestos-related incidents including the monitoring and management of corrective actions identified during the investigation.

f) Conducting and / or providing support during investigations.

g) Liaison with contractors on asbestos-related events.

2.17 *Asset Management Officers*

Asset Management Officers are responsible for:

a) Providing advice to the Contamination Management Programme to align data capture methodologies and data management practices for contamination data with the approved Data Capture Framework and Master Data Management principles.

b) Being aware of the format, type and limitations of data available on asbestos risks on pre-2000 buildings when utilising asbestos data.

c) Ensuring that asbestos data is utilised alongside other asset data when relevant within digital asset management tools, processes and initiatives.

d) Maintaining building information within asset information systems to support the collection of data that can be easily integrated across multiple systems and platforms.

e) Actively contribute expert advice for the development and maintenance of asset management plans including aspects relevant to contamination risk.

2.18 *Contamination Programme Manager*

The Contamination Programme Manager (CPM) is responsible for:

a) Developing and delivering the programme of continuous improvement in contamination identification, management and mitigation across NZDF.

b) Overseeing the NZDF framework for managing asbestos and the DEI Asbestos Manager.

c) Communicating key framework milestones, challenges, risks and advice to the DEI leadership team.

2.19 *DEI Asbestos Team*

The DEI Asbestos Team are subject matter experts in the field of asbestos identification, management and removal who are responsible for ensuring DEI manage and maintain the estate in such a way as to minimise asbestos exposure risks as far as reasonably practicable. The following two roles constitute the Asbestos Team as referred to throughout this DE-AMP.

2.19.1 *Asbestos Manager*

Further to the responsibilities within DFI 43.4 Section 2.3, the Asbestos Manager is responsible for:

a) Managing the implementation of the DE-AMP across NZDF.

b) Managing the NZDF National Asbestos Surveying Programme (NASP).

c) Ensure the FM provider contracts are adequate to support the safe work practices required for successful implementation of the DE-AMP.

d) Contributing to and where necessary leading investigations into asbestos-related incidents including the monitoring and management of corrective actions identified during the investigation.

e) Assist the Deputy Director of Health and Safety with the development and introduction of asbestos related health and safety policy.

f) Monitoring effectiveness of the NZDF framework for managing asbestos and providing advice regarding liability and corrective action(s) to the Contamination Programme Manager.

g) Advising stakeholders on the NZDF estate on the best course of action to eliminate and mitigate asbestos risks.

h) Managing the NZDF Asbestos Register is up to date and ensuring that asbestos data is maintained and available for others in DEI to utilise.

2.19.2 *Asbestos Quality Assurance Advisor*

The Asbestos Quality Assurance Advisor (AQAA) is responsible for providing strategic asbestos risk management oversight and support to all DEI projects where it is applicable, and reporting all issues and arising organisational risks to the Asbestos Manager. The DEI Asbestos QA Advisor is primarily responsible for:

a) Reviewing and approving acceptance of asbestos documentation for all asbestos related works and activities across the NZDF estate.

b) Providing asbestos best practice and compliance advice and support to all asbestos related works and activities across the NZDF estate.

c) Providing advice regarding the requirements of this DE-AMP.

d) Responding to asbestos related enquiries received through the asbestos email address.

2.20 *Estate Delivery Directors*

The Estate Delivery Directors are responsible for:

a) Ensuring all asbestos works undertaken on the areas of the estate under their control are in compliance with this DE-AMP.

b) Ensuring appropriate safety inductions are delivered to contractors, subcontractors, their workers and visitors (including mandatory DEI contractor inductions for contractors) when entering a Defence Area prior to commencement of their employment, work or visit in accordance with the requirements of Chapter 6 of this DE-AMP, CHESS and DFI 0.71 NZDF Safety Management System Framework.

c) Cooperating, consulting and coordinating efforts regarding all asbestos related issues with the FM providers and NZDF units operating on their sites.

d) Ensuring the most current version of the DE-AMP is available to all camp / base stakeholders on their site.

e) Ensuring all concerns about asbestos on sites that fall under their oversight are dealt with appropriately.

f) Ensuring notifiable and non-compliance asbestos incidents are reported appropriately and independent advice on remedial action is followed and, where appropriate, reported to the Asbestos Manager and DEI Deputy Director of Health and Safety for further action.

g) Ensuring that risks identified on the NZDF Asbestos Register are addressed through appropriate management and / or remediation actions and documenting actions undertaken.

h) Raising concerns regarding this DE-AMP directly with the Asbestos Manager.

2.21 *Project Managers – Internal and External*

Project Management may be undertaken by a variety roles. They are responsible for:

a) Ensuring their projects adequately plan for and follow the asbestos workflow processes set out in this DE-AMP.

b) Checking the Asbestos Register for any project that involves the disturbance of pre 2000 vertical or horizontal infrastructure.

c) Ensuring all asbestos surveying work is commissioned using the Statement of Work (SoW) template and process set out in this DE-AMP.

d) Ensuring all contractors involved in the mitigation or removal of asbestos meet the requirements of this DE-AMP.

e) Ensuring the appropriate reviews of contractor Safety Plans, ARCPs and Safe Work Practices are completed prior to being accepted as final.

f) Ensuring when specialist asbestos services are procured either directly or through an FM provider that the requirements and processes set out in this DE-AMP are followed.

2.22 *FM Site Managers and FM Site Supervisors*

DEI Site Manager and Supervisors are responsible for:

a) Assisting FM Providers with access to asbestos survey reports and information to review prior to works.

b) Ensuring asbestos risks are communicated with contractors and appropriate management actions are performed to minimise risk.

c) Ensuring that infrastructure identified on the NZDF Asbestos Register is appropriately managed with labels, signage and locks in accordance with this DE-AMP.

d) Ensuring that new asbestos information collected by the FM Providers is provided to the Asbestos Team for storage on the asbestos register.

2.23 *Defence Officers of Compliance*

Defence Officers of Compliance (DoCs) are responsible for:

a) Issuing permits to work for asbestos undertakings.

b) Delivering DEI inductions that include relevant asbestos elements.

c) Assisting with health and safety investigations when required for asbestos undertakings.

d) Ensure site compliance with all relevant legislation, regulations and codes of practice for the industry and conduct site inspections to ensure compliance with Permitting requirements.

e) Reporting and recording of non-compliance / transgressions for asbestos undertakings.

f) Assisting with site specific Health and Safety communications where required for asbestos management.

g) Supporting auditing and assurance processes for NZDF asbestos processes.

h) Using their experience and observations to assist with identifying Health and Safety management development and/or training requirements for all Defence Estate and Infrastructure organisation staff, which includes any asbestos related training and development.

2.24 *Facilities Management Providers*

The NZDF Facilities Management (FM) providers are separate PCBUs operating on the NZDF estate and are therefore required to be familiar and remain up to date with their responsibilities under the Asbestos Regulations. Specifically in relation to this DE-AMP, the FM providers are responsible for the following:

a) Conducting their works in a manner that is cognisant of the asbestos hazards present on the NZDF estate, eliminating or (where not possible to eliminate) minimising asbestos exposure risks to themselves and others,

b) Remaining compliant with the Asbestos Regulations as well as the requirements of this DE-AMP and the Construction Health, Environment and Safety Specification (CHESS) during the undertaking of all maintenance and project tasks,

c) Creating safe work practices and Standard Operating procedure (SOPs) which are to be developed in collaboration with DEI in fulfilment of their overlapping duties with the NZDF,

d) Ensuring all their staff engaged to perform maintenance tasks are appropriately trained and qualified for any work where an asbestos risk is or may be present, and must maintain records of training,

e) Conducting health monitoring if and when the requirements under Asbestos Regulations are triggered,

f) FM Providers may have their own Asbestos Management Plan (AMP) but whilst working on the NZDF estate the AMP must meet or exceed the expectations detailed within this DE-AMP, or the requirements within this DE-AMP will prevail,

g) Consultation, cooperation and coordination of asbestos related activities with the NZDF and other parties operating on the NZDF estate.

The FM Providers are also primarily responsible for asbestos item condition monitoring on the NZDF estate. Asbestos item condition monitoring includes, but is not limited to the visual (and photographic) assessment of the physical condition of all items identified or assumed to contain asbestos within the NZDF Asbestos Register, and any associated control measures such as locks, signage and labels.

The required outcomes of the FM Providers' responsibility to carry out asbestos item condition monitoring are:

h) Checking and recording (including photos) each items condition rating periodically according to the timescales identified within the DEI asbestos priority assessments,

i) Recording information in such a way as to facilitate the ongoing update and management of the NZDF Asbestos Register,

j) Providing all information to the DEI Asbestos Team in order to undertake their quality assurance checks.

2.25 *Contractors*

DEI, the FM Providers and some tenants / occupiers of NZDF owned buildings manage a broad range of contractors and consultants (contractors) to deliver minor and major works across the NZDF estate. In some cases, the FM Provider is also the Contractor. All contractors that operate on the NZDF estate are required to:

a) Ensure that their employees and sub-contractors are aware of their responsibilities regarding asbestos management and comply with the asbestos regulations and this DE-AMP when providing services on the NZDF estate.

b) Comply with all requirements within CHESS which details procedures for communication, notification and other essential health and safety elements in case of unexpected discoveries or accidental disturbances.

c) Complete DEI's mandatory health and safety induction prior to conducting work on the NZDF estate. The induction will include a summary of how asbestos is managed on the NZDF estate.

d) Ensure all asbestos work on the NZDF estate is permitted by DEI.

e) Report to the local Delivery team before commencing work on any site containing ACM.

f) Ensure that their workers and sub-contractors are appropriately qualified/licenced and aware of their responsibilities with regards to asbestos management requirements, and can provide proof of qualification/licences on request by NZDF.

g) Ensure their workers and sub-contractors engaged in asbestos related work have received appropriate and current asbestos awareness training, and can provide records of training on request by NZDF.

h) Ensure that this DE-AMP and the relevant records of the NZDF Asbestos Register is reviewed by all contractors and sub-contractors prior to any works commencing on the NZDF estate.

i) Satisfy all requirements of the SOW or work order when completing any works directly or indirectly for DEI, and agree any variations to scope with relevant parties to inform and clearly communicate project outcomes.

j) Report incidents, discoveries, or potential hazards pertaining to asbestos appropriately and in a timely fashion.

k) Share their Safe Work Practices with DEI prior to commencing works.

l) Provide all necessary PPE, RPE and consumable for use of their workers to complete the works.

Contractors responsible for carrying out asbestos-related work or unlicensed asbestos removal work must also:

m) Undertake asbestos-related work or unlicensed asbestos removal work in accordance with safe work practices as set out in Appendix F and G of the Approved Code of Practice for the Management and Removal of Asbestos (ACOP) (WorkSafe, 2016B) or as issued and approved by NZDF. All health, safety

and environment safe work practices must be conducted in accordance with industry accepted best practice, including meeting the requirements of CHESS.

n) Complete any asbestos related work in accordance with the ACOP (WorkSafe, 2016B) or demonstrate alternative work practices and methods that achieve compliance.

o) Prior to works starting, identify any asbestos that workers may encounter when doing asbestos-related work, and if it is not possible to identify, they must assume asbestos is present.

p) Meet the requirements of Section 7.3.5.

Contractors carrying out licensed asbestos removal work must also:

q) Hold the appropriate current WorkSafe Licences, complete an Asbestos Removal Control Plan and follow all legislative requirements.

r) Ensure decontamination facilities are available wherever required.

s) Ensure items contaminated with asbestos are decontaminated or safely contained and labelled before they leave the work area.

t) Ensure asbestos waste is disposed of safely, regularly and lawfully.

u) Ensure the asbestos work area is separated from the rest of the workplace.

v) Ensure the asbestos work area is sign-posted and barriers put in place to make sure other workers and people do not enter the area.

w) Ensure, if there is uncertainty about whether the airborne contamination standard for asbestos might be exceeded, an independent Licensed Asbestos Assessor carries out air monitoring of the work area where asbestos work is being carried out.

x) Meet the requirements of Section 7.3.

2.26 *Non-NZDF Tenants / Occupiers*

All Non-NZDF tenants / occupiers of NZDF owned buildings are required to:

a) Unless by prior agreement with DEI, submit all maintenance and property related requests through either DEI or the local FM provider to ensure works are carried out in accordance with this DE-AMP.

b) Report all damage to buildings and structures to DEI as soon as reasonably practicable, and report all incidents as soon as reasonably practicable via the approved incident reporting system.

c) Consult, cooperate and coordinate asbestos related activities with the NZDF and other parties operating in the area.

d) Prepare their own asbestos policies and procedures if operating in a building / area where asbestos is confirmed or assumed to be present.

e) Prepare their own Business Continuity Plans for events where operations are disrupted due to asbestos finds or incidents.

f) Where the tenant / occupier is also an FM Provider or other contractor, adhere to the applicable requirements listed in Sections 2.24 and 2.25.

2.27 *Members of the NZDF*

All members of the NZDF (both civilian and military) are required by DFO 071 to report all asbestos incidents or potential hazards through the NZDF-approved incident reporting system as soon as reasonably practicable after the incident occurs or the hazard/s are identified.

No member of the NZDF is permitted to carry out or direct any modification or maintenance work on any part of an NZDF-owned building or structure without prior approval from the local DEI Delivery office.

2.28 *Overlapping PCBU Duties*

Under the HSWA, where overlapping duties are identified, such as where two or more businesses are working together in the same location, the joint PCBUs must facilitate the consultation, cooperation and coordination of their activities to meet their health and safety responsibilities to workers and others.

This DE-AMP outlines the specific requirements to address NZDF's obligations in relation to overlapping duties relating to asbestos on the NZDF estate. All third parties operating on the estate undertaking asbestos related work or any type of asbestos removal are required to develop their own Safe Work Practices that must include their obligation to consult, cooperate and coordinate their activities with NZDF as the primary PCBU as well as other PCBUs present. For further explanation of the DEI requirements on this matter, see the DEI CHESS document.

For more information and guidance from WorkSafe regarding overlapping duties and contractor management (external links):

Overlapping Duties Quick Guide
PCBUs Working Together: Advice when Contracting

CHAPTER 3 – EMERGENCY AND INCIDENT RESPONSE

EMERGENCY & INCIDENT RESPONSE

3.0 OVERVIEW OF EMERGENCY AND INCIDENT RESPONSE

An **emergency** event relates to an uncontrolled circumstance or event where potential for significant loss of life or property is likely without immediate intervention.

An **incident** event is an event that is either unplanned or unusual. Without urgent action, an incident can become an emergency. In the context of this chapter, an incident is one that has or may have resulted in an uncontrolled release of asbestos fibres into the air within an occupational setting.

Some events require notification to WorkSafe, but all events (including a **near miss** event) require internal NZDF reporting.

For all works that do not meet the definitions above, see Section 4.0.

If in doubt as to whether these provisions are applicable to a situation, the PM should consult with the Asbestos Team as soon as practicable.

Where emergencies or incidents occur outside of normal working hours or where the Asbestos Team are not contactable, notify the Asbestos Team by email and undertake works in accordance with the below procedures and ensure the works are undertaken in accordance with the Asbestos Regulations.

3.1 *Emergency Scenario 1 – Urgent Demolition of a Structure Containing Asbestos*

Health and Safety at Work (Asbestos) Regulations 2016

23 Emergency procedure: workplace

(1) This regulation applies if -

(a) An emergency occurs at a workplace other than a home; and.

(b) A structure or plant at the workplace must be demolished; and

(c) Asbestos is fixed to or installed in the structure or plant before the emergency occurs.

- *The PCBU with management or control of the workplace must ensure, so far as is reasonably practicable, that, before demolition is commenced, a procedure is developed that will, so far as is reasonably practicable, reduce the risk of workers and persons in the vicinity of the demolition site being exposed to asbestos that is in concentrations that exceed the airborne contamination standard for asbestos.*

- *The PCBU must not commence demolition until after the PCBU has notified WorkSafe about the emergency in accordance with section 56 of the Act.*

…

- *For the purposes of sub clause (1)(a) and regulation 24(1)(a), an **emergency** occurs if-*
  (a) A structure or plant is structurally unsound; and
  (b) The collapse of a structure or plant is imminent.

The Asbestos Regulations make provision for licensed asbestos removal to occur in an emergency situation to allow urgent demolition where a structure or plant containing asbestos is unstable and at risk of collapse, provided a procedure is developed that will, SFARP, reduce the risk of workers and persons in the vicinity of the demolition site being exposed to asbestos that may exceed the airborne contamination standard for asbestos. Refer to Regulations 23 and 24 of the Asbestos Regulations for more information. These regulations allow for

buildings/structures to be demolished with asbestos still present, provided WorkSafe is notified under Section 56 of the HSWA.

In the event that emergency demolition of a pre-2000 building/structure is required, the following procedure is to be followed to ensure asbestos risk is accounted for during the works:

Table 2. Asbestos Emergency Procedure - Urgent Demolition (pre-2000 structure)

Step	Action	Description	Responsibility
1.	Make area safe	Follow procedures set out in Emergency Management Plan for base/camp. Notify and seek advice from the Asbestos Team and DEI RHSS. Inform stakeholders, remove personnel from the vicinity. Make area safe, restrict access and install warning signage.	FM Site Supervisor / PM and FM provider
2.	Check asbestos register	Asbestos Team to provide interpretation of asbestos records as required. *Note that absence of available records does not confirm absence of asbestos. If absent, works should be treated as 'asbestos related works' at a minimum.	FM Site Supervisor / PM and Asbestos Team
3.	Engage demolition and / or licensed contractor	Review Section 4.2 to clarify licensing requirements. If unlicensed / asbestos related works, every effort should be made to have a licensed supervisor present during the demolition as a minimum control.	FM Site Supervisor / PM and FM provider
4.	Develop safe work practise for demolition / ARCP	The procedure should outline the known and unknown risks and related controls and equipment that will be used (e.g. application of water, PPE, exclusion zones, shutting off services to the structure, dust controls and any air monitoring provisions). The procedure should describe at what point the project transitions to a non-emergency project once the imminent risks have passed. Asbestos Team to approve procedure prior to use.	Contractors and Asbestos Team
5.	Notify WorkSafe	Ensure WorkSafe is notified about the proposed emergency demolition as soon as possible and prior to the demolition commencing. Notification can be by phone, email or other electronic means. WorkSafe may require additional details of the incident and this may include written notice within 48 hours.	FM Site Supervisor / PM
6.	Permit to work	Apply for and receive permit to work from Defence Officer of Compliance	Contractors and DoC
7.	Undertake demolition	Implement controls and methodology as per approved safety documentation.	Contractors
8.	Transition to normal asbestos-removal project	If it becomes possible to inspect the area and safely remove any remaining asbestos risks without complete demolition, the project should transition into a normal asbestos removal project utilising survey reports to fully assess and control the risks (See Section 4.8).	FM Site Supervisor / PM

3.2 *Emergency Scenario 2 – Fire-damaged Building Known or Suspected to Contain Asbestos*

In the case of a fire within a pre-2000 building, check the asbestos register and if necessary, immediately notify the fire crew of any documented asbestos risk prior to or during their presence on site. Before they leave the site, enquire about the observed structural integrity of the structure unless otherwise already known. Until the fire risk is under control, the asbestos risk is secondary.

Once the area is cleared by the fire crew, restrict access to the area with barriers and warning signage immediately whilst assessing follow up actions.

Notify Environmental Services, and the Asbestos Team of the event to seek guidance on the ongoing management of asbestos risk. Actions may include an environmental investigation, asbestos survey, and air monitoring, which may extend beyond the boundary line of the affected property and may result in an increase or a reduction in the area isolated. This is no longer an emergency scenario so refer to Section 4.0 for further actions.

Refer to the Guidance note on the management of fire damaged asbestos, Western Australian Department of Health (WA DOH), 2012[2] for further guidance.

3.3 *Emergency Scenario 3 – Evacuation of an Asbestos Removal Area*

If an emergency occurs during asbestos removal or asbestos related works, and the emergency requires an immediately evacuation of the asbestos work area or enclosure, normal decontamination and isolation procedures required under the Asbestos Regulations may be temporarily waived to allow for emergency evacuation.

Licensed contractors must include site specific emergency procedures within their ARCP's which should include emergency evacuation procedures and alternative muster points. Storing additional coveralls and wipes outside of an asbestos work area can allow personnel to place clean coveralls over their 'dirty' coveralls and to partially decontaminate to reduce the risk at the alternative muster point. Notify the Asbestos Team of the potential for an uncontrolled release of asbestos fibres into the air.

Dependant on the nature of the emergency, the decontamination facilities may become available. However, if the emergency prevents use of decontamination facilities alternative controls must be used e.g. hiring a decontamination trailer or asking for assistance from a licensed asbestos removalist.

[2] https://ww2.health.wa.gov.au/Articles/F_I/Fire-damaged-asbestos

3.4 *Asbestos Incidents*

Health and Safety at Work (Asbestos) Regulations 2016

34 Duty to notify WorkSafe of asbestos removal

(1) A licensed asbestos removalist must give written notice to WorkSafe at least 5 days before the removalist commences licensed asbestos removal work.

(2) Despite sub clause (1), licensed asbestos removal work may be commenced immediately if there is—

(a) A sudden and unexpected event, including a failure of equipment, that may cause persons to be exposed to respirable asbestos fibres; or

(b) An unexpected breakdown of an essential service that requires immediate rectification to enable the service to continue.

(3) If the asbestos must be removed immediately, the licensed asbestos removalist must give notice to WorkSafe—

(1) Immediately by telephone; and

(2) In writing within 24 hours after notice is given under paragraph (a).

Asbestos incidents covered in this section are as follows;

- **An accidental disturbance** occurs as a result of a sudden or unexpected event, that requires immediate actions to assess, control and monitor asbestos exposure risks. See section 3.4.1.
- **An unexpected breakdown of an essential service** that requires immediate asbestos removal works. See section 3.4.2.
- **Elevated air monitoring results.** See section 3.4.3.

3.4.1 *Incident Scenario 1 – Accidental Disturbance*

In the event of a sudden and unexpected event that disturbs asbestos that potentially requires immediate actions from a licenced asbestos removalist, the following procedure is to be followed:

Table 3. Incident Scenario 1 - Accidental Disturbance

Step	Action	Description	Responsibility
1.	Potential ACM disturbance identified	Observer to notify DEI as soon as reasonably practicable and stop work. Notify and seek advice from the Asbestos Team and DEI RHSS. Lodge incident through SEMT or JARS.	Observer FM Site Supervisor / PM
2.	Make area safe and minimise further movement of asbestos fibres.	Inform stakeholders, remove personnel from the immediate area and restrict access with barriers and warning signage. If internal, shut off / disable any air handling system as a precaution. If external, dampen any asbestos impacted soils to minimise risk.	FM Site Supervisor / PM and FM provider
3.	Manage potentially exposed personnel	Seek advice from Defence Health and DEI / NZDF Health and Safety.	FM Site Supervisor / PM and FM provider

Step	Action	Description	Responsibility
		Ensure any exposed persons decontaminate, safely store or dispose of asbestos exposed clothing.	
4.	Check Asbestos Register	Or other sources of information on asbestos presence. For soils seeks advice from Environmental Services. Asbestos Team to provide interpretation of asbestos records as required. If no records available, engage an asbestos surveyor to carry out localised sampling to confirm asbestos presence. *Note that absence of available records does not confirm absence of asbestos.	FM Site Supervisor / PM and Asbestos Team
5.	Evaluate the risk	Consider air monitoring to verify risk of exposure in surrounding areas. Determine if licensed asbestos removal is required, and if immediate asbestos removal is permitted / required under the Asbestos Regulations. - If immediate asbestos removal is not required, see Section 4.9 and follow advice from Asbestos Team. - If immediate asbestos removal required, continue with the following steps.	FM Site Supervisor / PM and Asbestos Team
6.	Engage appropriate contractors	Appoint an appropriately licensed contractor and licensed asbestos assessor / competent person (where applicable) to complete the work.	FM Site Supervisor / PM and FM provider
7.	Develop safe work practise / ARCP	The procedure should outline the known and unknown risks and related controls and equipment that will be used (e.g. application of water, PPE, exclusion zones, shutting off services to the structure, dust controls and any air monitoring provisions).	Contractors and Asbestos Team
8.	Inform stakeholders	Communicate planned actions to building stakeholders prior to commencing asbestos removal.	FM Site Supervisor / PM and contractor
9.	Notify WorkSafe of immediate licensed asbestos removal	If the proposed works are licensed, the licensed contractor is responsible for ensuring that WorkSafe is given notification of the works. Notification must be immediate by phone, followed up within 24hrs in writing. Confirmation must be provided to DEI.	Licensed contractor
10	Permit to work	Apply for and receive permit to work from Defence Officer of Compliance	Contractors and DoC
11	Undertake asbestos works	Implement controls and methodology as per approved safety documentation.	Contractors
12	Clearance	Asbestos air monitoring may be conducted during removal to verify that the controls are adequate. For all licensed asbestos removal a clearance certificate must be provided by the assessor prior to reoccupation of the area.	FM Site Supervisor / PM and FM provider, Asbestos Team and contractors.

3.4.2 *Incident Scenario 2 – Unexpected Breakdown of Essential Service*

In the event of an unexpected breakdown of an essential service that contains asbestos or may involve disturbance to asbestos in order to reinstate the service (such as a water mains pipe bursting that contains ACM), and potentially requires immediate rectification, the following procedure is to be followed.

Table 4. Incident Scenario 2 – Unexpected Breakdown of Essential Service

Step	Action	Description	Responsibility
1.	Essential service breakdown observed	Observer to notify DEI as soon as reasonably practicable and stop work. Notify and seek advice from the Asbestos Team and DEI RHSS. Lodge incident through SEMT or JARS.	Observer FM Site Supervisor / PM
2.	Check Asbestos Register	Or other sources of information on asbestos presence. For soils seeks advice from Environmental Services. Asbestos Team to provide interpretation of asbestos records as required. If no records available, engage an asbestos surveyor to carry out localised sampling to confirm asbestos presence. *Note that absence of available records does not confirm absence of asbestos.	FM Site Supervisor / PM and Asbestos Team
3.	Evaluate the risk	Determine if licensed asbestos removal is required, and if immediate asbestos removal is permitted / required under the Asbestos Regulations. - If immediate asbestos removal is not required, see Section 4.9 and follow advice from Asbestos Team. - If immediate asbestos removal required, continue with the following steps.	FM Site Supervisor / PM and Asbestos Team
4.	Engage appropriate contractors	Appoint an appropriately licensed contractor and licensed asbestos assessor / competent person (where applicable) to complete the work.	FM Site Supervisor / PM and FM provider
5.	Develop safe work practise / ARCP	The procedure should outline the known and unknown risks and related controls and equipment that will be used (e.g. application of water, PPE, exclusion zones, shutting off services to the structure, dust controls and any air monitoring provisions).	Contractors and Asbestos Team
6.	Inform stakeholders	Communicate planned actions to building stakeholders prior to commencing asbestos removal.	FM Site Supervisor / PM and contractor
7.	Notify WorkSafe of immediate licensed asbestos removal	If the proposed works are licensed, the licensed contractor is responsible for ensuring that WorkSafe is given notification of the works. Notification must be immediate by phone, followed up within 24hrs in writing. Confirmation must be provided to DEI.	Licensed contractor
8.	Permit to work	Apply for and receive permit to work from Defence Officer of Compliance	Contractors and DoC
9.	Undertake asbestos works	Implement controls and methodology as per approved safety documentation.	Contractors

Step	Action	Description	Responsibility
10.	Clearance	Asbestos air monitoring may be conducted during removal to verify that the controls are adequate. For all licensed asbestos removal a clearance certificate must be provided by the assessor prior to reoccupation of the area.	FM Site Supervisor / PM and FM provider, Asbestos Team and contractors.

3.4.3 *Incident Scenario 3 – Elevated Asbestos Air Monitoring Results*

Asbestos airborne fibre monitoring is undertaken throughout the NZDF estate for a variety of reasons. Action levels are assigned to air monitoring results in accordance with the Asbestos Regulations, and these vary considerably depending on what type of works are being undertaken at the time of the monitoring. Testing and analytical limitations of the methods for air monitoring also mean that the results must sometimes be heavily interpreted and often supported by other indicators such as visual evidence or secondary analysis.

See Appendix C for a full how to interpret air monitoring results according to the type of works or scenario where the air monitoring is taking place. However the most significant actions during an incident are related to whether the incident is Worksafe notifiable. The following asbestos air monitoring incidents are notifiable to WorkSafe:

1. **All types of asbestos air monitoring**– air monitoring results above the airborne contamination standard (greater than or equal to 0.1 fibres/mL in air – measured over an 8 hour Time Weighted Average) are notifiable under Section 24 of the HSWA.

2. **During Class A asbestos removal only** – air monitoring results for Class A licensed removal works equal to or above 0.02 fibres/mL in air are notifiable under Part 4, Regulation 45(1)(b) of the Asbestos Regulations.

3.5 *Near Miss Reporting*

All of the scenarios listed above, as well as scenarios where exposure was narrowly avoided (a near miss event), are considered a workplace health and safety incident and must be reported in accordance with CHESS Section 9.2 *DEI Incident Management System*, including as follows:

a. If raised by DEI personnel; reported on NZDF's approved incident reporting system; or

b. If raised by a DEI contractor; reported via the Joint Assurance and Reporting System (JARS).

CHAPTER 4 - ASBESTOS WORKFLOWS FOR PROJECT MANAGERS

ASBESTOS WORKFLOWS

4.0 WORKFLOW OVERVIEW

This section summarises the workflow protocols required when commissioning works and undertakings on the NZDF estate.

All works on pre-2000 structures or infrastructure trigger consideration of the workflows in this section. A detailed description of the requirements for different undertakings is described in the sub-sections and shown in the workflow figures in Appendix A.

4.1 *Using the Workflow Diagrams*

1. All project managers should start by reviewing **Workflow 1** in **Appendix A** to determine which specific workflow(s) they should follow for their proposed works. Section 4.2 and 4.3 below should also be read.

2. Once the appropriate workflow(s) have been identified, follow each workflow through to completion and refer to the specific sub-sections of this chapter for explanations and guidance.

4.2 *Determining the Category for Work Involving Asbestos*

This section applies to all asbestos works commissioned by a DEI PM (including FM contractors and Alliance partners) that involves, or may impact upon, asbestos and demonstrates the differentiation between 'asbestos related work' and 'asbestos removal work' as defined by the asbestos regulations. Section 7.0 outlines the requirements for all contractors or FM providers completing asbestos works or activities on the NZDF estate including asbestos removal and asbestos-related work.

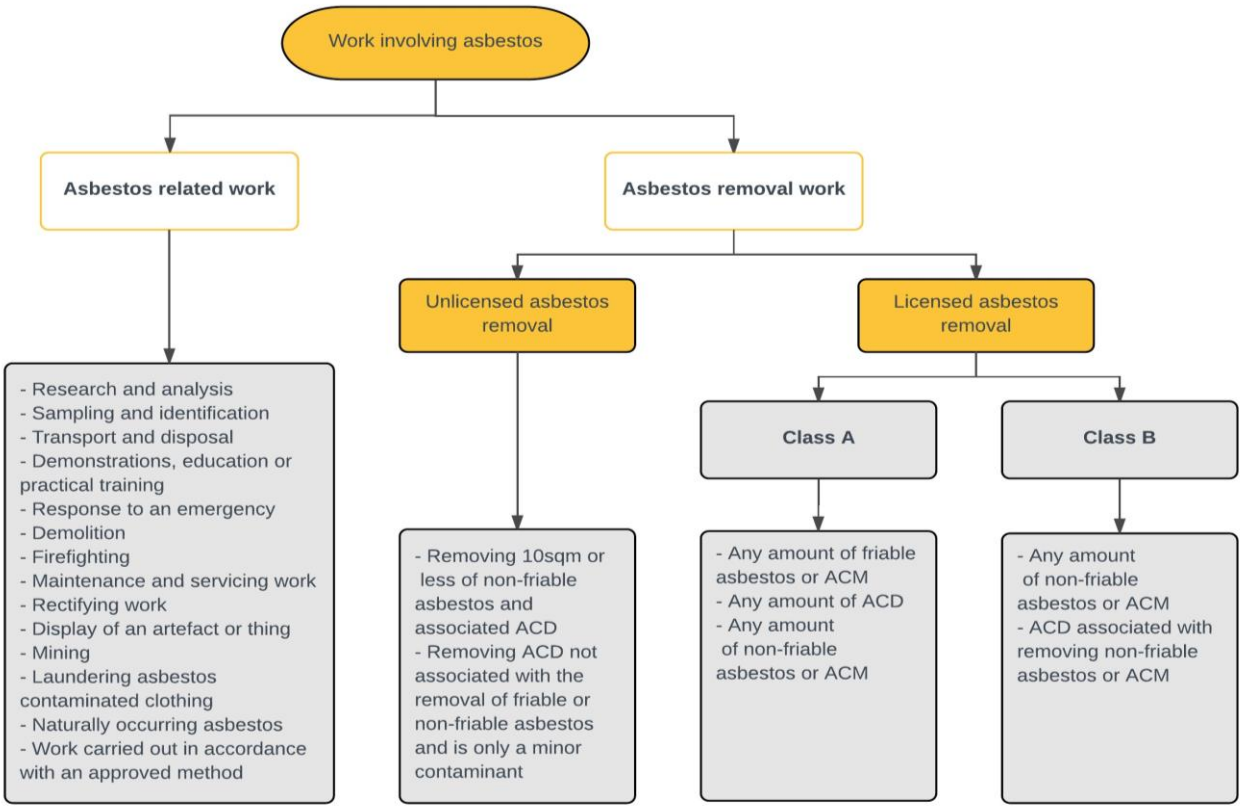


Figure 3. Work Streams Involving Asbestos (WorkSafe, 2016B)

4.3 *Determining the Nature of the Undertaking*

The definitions in Table 5 explain the different type of planned work that may result in disturbance to asbestos materials. The definitions in Table 6 define and describe asbestos-specific tasks that may be required as part of these planned works. Both tables include references to the relevant DE-AMP sections and workflows.

Table 5: Undertakings that may disturb asbestos

Undertaking	Definition	Workflow and Description
Maintenance	Maintenance works are defined as **'care and/or upkeep that is planned, routine or urgent that keeps the building or structure in a proper condition or working order'.** Maintenance includes servicing, and minor intrusive works **if the sole focus of the activity is the installation, reconfiguration, or repair of a service.**	Refer to Section 4.10 and Workflow 4. Note: Maintenance works within an asbestos contaminated area or an area assumed to contain asbestos will trigger the requirements outlined within Section 7.0
Refurbishment	Refurbishment works are defined as **'carrying out work in a building or structure with the purpose of changing and/or upgrading it.** Refurbishment works can include the total removal of a building element as long as the works do not affect the physical integrity of the building.	Refer to Section 4.8 and Workflow 3
Demolition	Demolition works are defined as **the 'total or part destruction of a building or structure'**. This includes the total or partial destruction of any load bearing element forming the buildings physical integrity.	
Subsurface Infrastructure Works	Planned ground disturbance which may disturb buried ACM's or asbestos contaminated soils.	Refer to Section 4.13

Refer to Appendix E for additional clarification on what is considered maintenance versus refurbishment versus demolition.

4.4 *Asbestos Quality Assurance Oversight*

The Asbestos Team must be consulted prior to any of the activities described in Table 6 being undertaken. The extent of their involvement will be determined on a project specific basis depending on the experience of the PM with the process, the contractors involved and the complexity of the activity.

4.5 *Permit to Work Process*

No part of this DE-AMP overrides the necessity to ensure the appropriate Permit to Work (PTW) processes are followed. This DE-AMP does not go into the detail of the PTW system. A PTW is required to be completed on a daily basis for all contractor work on the NZDF estate under DEI's CHESS document. The PTW system is managed by the DEI H&S team and permits are administered by the on-site DEI Defence Officer of Compliance. Permits for all asbestos works described in Table 6 will require all asbestos-related documentation (Asbestos Removal Control Plan and/or any applicable Safe Work Practices) to be in place.

4.6 *Storing Finalised Asbestos Documentation*

All asbestos surveys and asbestos related documentation is to be stored in DDMS as part of the NZDF Asbestos Register. Any update to the status and condition of an asbestos item identified on the NZDF asbestos register must be submitted to the asbestos email address asbestos@nzdf.mil.nz for upload. The PM is responsible for ensuring these documents are forwarded to the NZDF Asbestos Register with the appropriate context provided in the content of the email.

Table 6: Asbestos-specific task definitions

Undertaking	Definition/Description	Workflow & Description
Asbestos Air Monitoring	Sampling airborne asbestos fibres to assist in assessing exposure to asbestos and the effectiveness of implemented control measures.	Section 4.11 Workflow 5
Asbestos Dust Sampling	Policy for the assessment of asbestos containing dust to ascertain presence and extent under certain specific conditions (only).	Section 4.15 Section 4.7.1 Appendix F
Asbestos Management Survey	The standard asbestos survey carried out to support the workplace PCBU in identifying asbestos in the workplace in accordance with the GPG (WorkSafe 2016A). Its purpose is to identify, SFARP, the presence and location of any asbestos or assumed ACM in a building which could give rise to a risk of exposure to respirable asbestos fibres. This includes ACM that could be damaged or disturbed during normal occupancy, including foreseeable maintenance and installation.	Section 4.7 Workflow 2

Undertaking	Definition/Description	Workflow & Description
Asbestos Refurbishment and Demolition Surveys	An intrusive/ semi-destructive asbestos survey that is required by the Asbestos Regulations to be carried out prior to conducting refurbishment or demolition works that may disturb asbestos as described in the GPG (WorkSafe 2016A).	Section 4.8 Workflow 3
Class A Asbestos Removal	Removal of any quantity of friable Asbestos Containing Materials (ACM's) and/or any quantity of asbestos containing dust (ACD) related to removal of friable asbestos. Contractors undertaking the work must hold a Class A asbestos removal license issued by WorkSafe. Note: Contractors that hold a Class A license can also remove any quantity of non-friable ACM or ACD.	Section 4.9 Workflow 6
Class B Asbestos Removal	Removal of any quantity of non-friable ACM's exceeding 10 m² (cumulatively over the whole course of the removal project for the site); and/or removal of ACD associated with the removal of non-friable ACM's exceeding 10 m² (cumulatively over the whole course of the removal project for the site). Contractors undertaking the work must hold a Class B or Class A Asbestos removal license issued by WorkSafe.	Section 4.9 Workflow 6
Unlicensed Asbestos Removal	Removal of 10m² or less of non-friable asbestos and/or ACD associated with removal of <10m² non-friable ACM (cumulatively over the whole course of the removal project for the site). As an isolated one-off task, can be completed under an approved SWP by trained personnel.	Section 4.9 Workflow 6
Asbestos Related Works	Encompassing a large array of activities, these are minor and low risk tasks that involve disturbance of asbestos but can be controlled by use of Safe Work Practices and therefore do not require a licensed asbestos removal contractor.	Described throughout
Contaminated Site Investigations (CSI)	An environmental investigation to assess asbestos and / or other contaminants in soils.	Section 4.13
Labelling	Means of identifying asbestos or suspected asbestos items in the workplace.	Section 4.12

Undertaking	Definition/Description	Workflow & Description
Localised sampling of suspected asbestos containing material	Describes the protocol for sampling an item suspected to contain asbestos that is not part of any of the above.	Section 4.8.4
Planned horizontal infrastructure disturbance	Describes the protocol for completing soil disturbance where ACM pipework may be present.	Section 4.13

4.7 *Asbestos Management Surveys*

Health and Safety at Work (Asbestos) Regulations 2016

Subpart 2 – Management of asbestos risks

10 Duty to ensure asbestos identified at workplace

- *A PCBU with management or control of a workplace who knows or ought reasonably to know that there is a risk of exposure to respirable asbestos fibres in the workplace must ensure, so far as is reasonably practicable, that all asbestos or ACM giving rise to the risk at the workplace is identified.*

This section is to be read in conjunction with Workflow 2, Appendix A.

Asbestos Management Surveys (AMS) will be completed on all pre-2000 buildings across the NZDF estate. All AMS are procured through the National Asbestos Survey Programme to ensure consistency. In exceptional circumstances where an AMS is procured through other projects, the SOW template in Appendix A.2 must be used. The surveyor(s) used must be trained in the use of the NZDF asbestos surveying Survey123 form and undertake the survey in accordance with the NASP Surveyors Manual.

The surveyor(s) must meet the relevant requirements outlined in Section 7.0.

The purpose of an AMS is to locate, as far as reasonably practicable, the presence and extent of any suspected ACM at the property which could be damaged or disturbed during normal occupancy (including foreseeable minor and routine maintenance and installation) and to assess ACM condition. Where more extensive maintenance or repair work is required, an AMS may not contain sufficient information and an Asbestos Refurbishment/Demolition Survey will be needed (refer to Section 4.8). The AMS report will identify and assess the risk posed by any asbestos identified or assumed, and will include recommendations to eliminate or minimise the risk. It focuses on areas that can be readily accessed without causing permanent damage. The building or structure can usually be occupied at the time of the AMS.

Areas that cannot be accessed (such as beyond the reach of a ladder, or components within live services or equipment) are assumed and documented as containing asbestos, unless proven otherwise. Where an AMS has not been completed on a pre-2000 building/structure, the building must be assumed to contain asbestos until an

AMS has been completed. To identify whether asbestos has been confirmed as present in a building, structure or site, check the Asbestos Register.

For additional information on the NZDF asbestos risk assessment methodology, see Section 5.2.

For any asbestos removal activities required as a result of the AMS, refer to Section 4.9.

4.7.1 *ACDust Assessments for AMS*

Generally, ACDust sampling should not be incorporated into an AMS in most circumstances. However, during the AMS, important information should be collected to assist in developing the scope of any ACDust investigation that may be necessary to determine either; the extent of spread of asbestos fibres from a recent and significant disturbance to an ACM; or to assist with the development of an Asbestos Removal Scope of Works (ARSoW). This includes identifying likely sources of asbestos (current or historic), extent of building occupation and type of activities undertaken in the work environment that may disturb ACDust. Interim controls may need to be put in place by NZDF to ensure that activities in the vicinity of an area of suspected ACDust do not create an unacceptable exposure risk. The Asbestos Team may authorise ACDust samples to be collected during an AMS, however this must be on a case by case basis. Refer to Section 4.15 for more information on completing a more detailed assessment of risk.

There may be additional exceptions that allow for ACDust sampling to go ahead, for example if following a specific and recognised sample collection and analysis method like TEM with careful interpretation of results.

4.7.2 *AMS Workflow Summary*

The following is a summary of the key workflow requirements the PM is responsible for when following **Workflow 2, Appendix A**.

1. Check for available asbestos records on the Asbestos Register.

2. If asbestos records are not available or insufficient and the works are considered maintenance (see definition in Table 6), Then an AMS must be commissioned. Contact the DEI Asbestos Manager to discuss options. The AMS must be completed under a PTW. In some cases it may be more effective to not undertake an asbestos survey and instead use an SOP or safe work practise to undertake simple maintenance tasks. This workflow task ends if it is determined that an AMS is not needed.

   For refurbishment and demolition works a more intrusive survey is required (see Section 4.8) but a management survey can be used as an interim tool to assist with the design and planning of these works.

3. Consult with building stakeholders prior to commissioning the survey and arrange an appropriate time and date. Check for any additional security requirements for Surveyors who will need to collect information including photos of the building.

4. During and after the survey, any particular asbestos risk items identified will be notified to the PM as soon as possible by phone, and by email to the PM and asbestos email address within 24 hrs of identification. See Particular Asbestos Risk notification form in Appendix G.

5. The Asbestos Team are responsible for reviewing asbestos survey reports for formal acceptance by NZDF prior to upload to the Asbestos Register. PM's must send reports to asbestos@nzdf.mil.nz for review.

6. If no asbestos is identified or assumed, the data will be updated in the NZDF Asbestos Register, noting any limitations of the survey.

7. If asbestos is identified or assumed from the survey, the PM will need to review the report recommendations and if necessary discuss and agree on approach to completing the scope of works with the Asbestos Team. This may mean the activity will expand into additional workflows based on the nature of the undertaking required (e.g. refurbishment or maintenance) to address particular asbestos items.

8. On completion of all tasks, all project closeout procedures should be followed and all asbestos documentation sent to the asbestos email (asbestos@nzdf.mil.nz).

4.8 *Refurbishment and Demolition*

Health and Safety at Work (Asbestos) Regulations 2016

Subpart 4 – Demolition and refurbishment of a structure or plant

19 Application of this subpart

(1) This subpart applies to the demolition or refurbishment of a structure or plant –

(a) That was constructed or installed before 1 January 2000; or

(b) In which asbestos has been identified; or

(c) In which asbestos is likely to be present from time to time.

*(2) For the purposes of this subpart, **demolition or refurbishment** does not include minor or routine maintenance work, or other minor work.*

20 Determining presence of asbestos or ACM

(1) This regulation applies if demolition or refurbishment of a structure or plant is to be carried out at a workplace.

(2) The PCBU who intends to carry out the demolition or refurbishment must not carry out the demolition or refurbishment until the structure or plant has been inspected to determine whether asbestos or ACM is fixed to or installed in the structure or plant.

(3) The PCBU who intends to carry out the demolition or refurbishment must ensure that the determination is undertaken by a competent person.

This section is to be read in conjunction with **Workflow 3, Appendix A**.

An asbestos refurbishment / demolition survey is required before any refurbishment or demolition work is carried out on a building built prior to the year 2000. Asbestos refurbishment and demolition surveys are used to locate, as far as reasonably practicable, all ACM in the area where the proposed work will take place.

Please note that buildings and structures constructed after 2000 are very unlikely to contain asbestos but some exceptional cases have been noted within the public sector. It is currently only considered practical by NZDF to survey pre-2000 buildings but to account for this risk all contractors operating on site are encouraged to get asbestos awareness training and all contractors must include asbestos risk as part of their risk assessment for proposed works.

To procure refurbishment and demolition surveys, use the Statement of Work (SOW) template from Appendix A.2. The Surveyor used must be familiar with the requirements of this DE-AMP. The PM must observe any procurement requirements of the SoW.

Note that:

- Refurbishment and demolition asbestos surveys involve destructive access techniques that require the affected part of the building to be vacated. In some cases “making good” will be required if the affected part of the building is to be reoccupied. Making good to a professional standard is usually unachievable by Surveyors, so it is the responsibility of the PM to arrange this.

- Service isolations must be considered when planning any form of intrusive investigation. Failing to account for this may result in health and safety incidents and / or unnecessary limitations within survey reports.

- Section 7.0 outlines the requirements for consultants and contractors completing asbestos activities on the NZDF estate, including training, record keeping and other requirements.

- NZDF do not recognise speculative dust sampling as part of an asbestos survey and specific permission should be sought through the NZDF Asbestos Team in order to take asbestos dust samples. Section 4.15 and Appendix F provide specific direction on Asbestos Contaminated Dust (ACDust) sampling.

4.8.1 *Survey Process and Requirements*

The survey usually will not always provide a material assessment score (risk assessment for ACM’s) for each item identified, but may indicate areas of damage or where asbestos debris was found. If the works are not proposed for within three months of the survey, the Surveyor should provide a risk assessment so that the materials can be managed in the interim.

1. Check for available asbestos records on the Asbestos Register.

2. Using the available data, commission the survey using the SOW template provided in Appendix A.2. A detailed scope of the proposed refurbishment (if applicable) must be provided to the Surveyor to enable a comprehensive survey to be completed. The SOW must be reviewed by the asbestos team before being issued to a surveyor. The survey must be completed under a PTW.

3. Consult with building stakeholders throughout. Where possible buildings should be vacant, and where necessary services disconnected or isolated when completing this type of survey (unless unhindered, safe access is available throughout). The number of inaccessible areas identified in a refurbishment or demolition survey should be minimal, but further inspections are often required as inaccessible areas progressively become accessible during the proposed works.

4. The Surveyor will issue a proposal and methodology which should be shared with the Asbestos Team.

5. During the survey, any high risk asbestos items identified should be notified to the PM immediately by phone, and by email to the PM and Asbestos Team the within 24 hrs of identification using the Particular Asbestos Risk notification form (See Appendix G).

6. The Asbestos Team are responsible for reviewing asbestos survey reports for formal acceptance by NZDF prior to upload to the Asbestos Register. PM’s must send reports to asbestos@nzdf.mil.nz for review. The report can be used before final acceptance at the discretion of the PM with consultation with the Surveyor to ensure actions taken account for any unknown risks.

7. If no asbestos is identified or assumed, the project can commence but must note any survey limitations detailed within the report which may require monitoring to ensure no disturbances take place to areas of unknown risk.

8. If asbestos is identified or assumed as present and will be disturbed during the project, the PM is ultimately responsible for deciding whether the asbestos needs to be removed, and can consult with the Asbestos Team where required to explore options based on survey findings.

9. Preference is given to removal of ACM's as far as reasonably practicable prior to works commencing, but minor disturbances can often be managed with localised controls using competent persons to carry out the disturbance safely. Where this is the case, these works can only take place with a Safe Work Practice in place, which must be approved by the Asbestos Team in advance of the undertaking.

10. Where asbestos removal (of any kind or type) is required, see Section 4.2 to identify the category of asbestos work; and Workflow 6 to view the requirements before during and after asbestos removal.

4.8.2 *Quality of Survey Report*

Whilst it is the responsibility of the PM to ensure the survey report is fit for purpose, the Asbestos Team will provide further insight and clarity on any remaining risks and ensure it meets the standards of the NZDF.

An intrusive survey report is specific to the scope of works and therefore may not include other asbestos materials that fall outside of the scope. PM's must be aware of this and account for the risk by procuring additional surveys or implementing precautionary control measures if the scope of works changes. For this reason, it is essential that the reports detail the specific scope of works provided within the SoW.

Reporting must comprise a detailed register, photos, laboratory results, site plans and survey limitations. An assessment of risk is not necessarily required for this type of survey, although prescriptive recommendations for removal are needed. Although every effort is made to identify all asbestos materials with the proposed work areas, it is recognised in GPG (WorkSafe, 2016A), that even with 'complete' access of the workplace, it is possible that not all ACM will be identified and other ACM may only become apparent during the project.

4.8.3 *Survey Recommendations and Actions*

Where an asbestos survey identifies that asbestos is present within or nearby the proposed work area, actions are required to ensure the asbestos items either remain undisturbed for the duration of works, or removed by an appropriately licensed contractor. The survey report must always be provided to the contactors undertaking the works to inform them fully of any risks.

Where asbestos is found but it can be managed in-situ, the contractors undertaking the works will become responsible for managing this risk, which therefore must be included within their risk assessments for the works. At a minimum, the contractors must monitor the condition of any known asbestos items and ensure no accidental disturbances take place.

Where removal is required prior to commencement of works, see Section 4.9 below and Workflow 6 in Appendix A.

4.8.4 *Localised sampling of suspected ACM's*

Occasionally, routine or planned works may result in the discovery of an unknown material suspected to contain asbestos outside of those already identified during previous surveys. This is typically found during intrusive works but may happen in other scenarios e.g. during maintenance of equipment or other types of mobile assets.

Where a material is identified the Asbestos Team must be notified and a clear instruction should be provided to a surveyor to sample the material to confirm asbestos presence prior to any other disturbances taking place. The material and area must remain isolated until a risk assessment has taken place.

For instances where a refurbishment or demolition survey is already in place for the works, wherever possible the same consultancy should be contracted to undertake this sampling and the original survey report should be updated and re-issued to account for this additional risk to the works.

For all other localised sampling, a summary report must accompany the certificate of analysis and this must explain the scope of the investigation as well as the limitations of the result to ensure it is not applied to other materials. The report must include a photo of the samples material(s) and a floor plan to identify location and extent (at minimum).

4.9 *Asbestos Removal*

This section is to be read in conjunction with **Workflow 6, Appendix A**. See Chapter 7 for information on requirement for workers carrying out asbestos work.

During emergency demolition scenarios involving structures containing asbestos see Section 3.1.

Asbestos removal may be triggered by the findings of an asbestos survey, concerns from building occupants, or during planned remediation activities throughout the Estate. The following outlines the key workflow requirements when planning to remove asbestos or remediate asbestos impacted areas.

Whatever the trigger for asbestos removal, the full process from scoping to undertaking must consider the desired outcome and proposed use of the building or area following reoccupation. Where not thoroughly planned, outcomes will often not be fit for purpose and result in further disruption, complex management processes or repeated cycles of remediation.

Control of asbestos removal projects often requires SME input with an end-to-end view of inputs and outcomes; for this reason all project related documentation - including proposals – must be sent to the Asbestos Team for review and filing.

4.9.1 *Determining Project Risk*

The level of success of an asbestos removal project is directly related to the level of planning undertaken.

Section 4.2 should be used to determine the category of asbestos work. The category will be used to determine legislative requirements as well as many of the required controls and precautions during removal.

Other parameters are also used to determine controls and precautions during removal, and are considered within the Workflow and Section 4.9.2 below. For example an occupied building with concerned tenants will require additional steps to ensure all controls are in place to manage the works, whilst an unoccupied remote building will not require as many. Financial risk must also be accounted for by the PM; a high value project requires more thorough scoping to provide the contractor with enough detail to avoid projects overrunning and unforeseen costs which very commonly determine overall project success and outcomes.

The approach NZDF have taken is based on best practise and is not over and above the existing industry standard. The Asbestos Team have developed a project risk evaluation tool to assist PM's with undertaking independent assessments of the regulatory and DE-AMP requirements of their projects (in line with the below description and Workflow 6), but the Asbestos Team should always be consulted where uncertainty remains.

4.9.2 *Scoping the works*

1. For lower risk asbestos removal works where an asbestos survey has identified the full extent of the asbestos item(s) that require removal, the survey report can be supplied to the contractors

undertaking the works. However, a survey report is procured for the purpose of asbestos identification, not removal, so the contractors undertaking the works will be required to verify the findings of the report and take responsibility for ensuring they undertake an adequate scoping exercise prior to pricing.

2. For medium and high risk asbestos removal works an additional step is recommended to account for the increased risk of undesirable project outcomes. An Asbestos Removal Scope of Works (ARSoW) should be procured in some circumstances in order to provide the contractor with a full and detailed specification on the requirements of the project. Where this is the case, the PM must meet with the Asbestos Team to discuss and define the project objectives (this may include consideration for the ongoing / future occupation of the building). The Asbestos Team will prepare the SOW (using the template in Appendix A.3) to be used to engage a consultant. Consultants must be engaged by Delivery.

3. Production of an ARSoW can be complex and must only be done by Senior Consultants with adequate experience of surveying and assessing; this task may also require experience of building construction, maintenance and other health and safety risks in addition to knowledge of safe and practical asbestos removal methodologies. PM's should consider carefully who to contract for ARSoW's.

4. When scoping the works, it is expected that consultants will require ongoing consultation with NZDF, it is recommended that the Asbestos Team are able to provide input to these discussions. The final ARSoW must then be reviewed and approved by both the PM and the Asbestos Team.

5. The scoping documentation should then be sent to contractors with an appropriate license to undertake the works.

6. During the tender period the prospective contractors must be provided access to view the work areas in as much detail as possible for the purpose of producing accurate price estimates. It is recommended that the PM and consultant host a site meeting with the contractors in order to clarify the scope of works and answer questions. In some cases it will not be possible for anyone other than the consultant to attend this site visit due to access limitations on asbestos impacted areas.

4.9.3 *Documentation, Approval and Commencement*

7. Once a contractor has been selected they will need to be instructed to produce the relevant safety documentation.

   i. For unlicensed asbestos removal a Safe Work Practise is required.

   ii. For Class A and B licensed asbestos removal an Asbestos removal Control Plan (ARCP) is required.

   iii. A 5-day WorkSafe notification is also required for all Class A and B licensed asbestos removal.

8. During this period the PM should engage a consultant to undertake air monitoring and clearance inspections (if required during project). For licensed asbestos removal the consultants must also include an allowance to review and feedback on the ARCP. Where a consultant has been involved in scoping the works, preference can be granted to them for filling the role of Assessor during and post works, due to their familiarity with the project and work areas.

9. The consultants / assessors role in the asbestos removal / remediation process is to provide independent verification that the works are being completed in accordance with the supplied scope of works, the asbestos and other health and safety regulations, best practise and according to any other NZDF procedures. Consequently they should be granted uninhibited access to the work areas in agreement with the contractors, and should have the ability to make decisions that affect the course of the works (in consultation with the PM).

10. In all instances where work involves disturbance to asbestos, the safety documentation **must** be reviewed and approved by the Asbestos Team and must only proceed once the relevant asbestos permit has been granted by the Defence Officer of Compliance for the camp / base. Approval will involve Environmental Services and the regional Health and Safety Specialist where necessary. Works that proceed without authorisation will be shut down.

11. Once the ARCP or Safe Work Practise has been approved, the commencement date can be finalised and a pre-start meeting must be held in advance of works commencing; this may involve other stakeholders dependant on the nature and impact of works (consider other trades that may be involved with isolations, security, access or other interested parties). All occupants of adjacent areas should then be notified of the intention to establish an asbestos removal area.

12. The contractor can then proceed with site establishment. Please note that site establishment must not commence until the 5-day WorkSafe notification period has lapsed, even where establishment does not involve disturbance to asbestos.

4.9.4 *Removal and post-works*

13. For Class A works involving the use of an asbestos enclosure under negative pressure, the consultant engaged for the project **must** witness the enclosure integrity (smoke) test undertaken by the Class A licensed asbestos removal contractor. The findings of the test must be documented. This is not a requirement for all other types of asbestos removal works.

14. Works to remove the asbestos can then proceed, during which the following requirements must be applied:

    i. Static (control) air monitoring is used to verify control measures and;

        - **Must** be undertaken daily for the duration of all Class A works,
        - **Must** be undertaken during any works involving the use of power tools on asbestos,
        - **Must** be undertaken during any works where there is uncertainty that the airborne contamination standard may be breached,
        - Should be undertaken where works are visible to adjacent occupied areas or public spaces,
        - Should be undertaken to verify new procedures including SOP's or use of new equipment.

    ii. Personal (exposure) air monitoring is used to ascertain the level of exposure for those undertaking the works and;

        - **Must** be used where a contractor is required to justify the use of specific types of RPE,

- Should be used during removal works involving friable asbestos and unusual material types or complex removal scenarios,
- Should be considered during all removal works to ensure worker exposure is adequately monitored,
- Should be undertaken to verify new procedures including SOP's or use of new equipment.

iii. Auditing the works provides additional reassurance for NZDF whose PMs cannot fully access the work area. Audits can be undertaken by the Licensed Asbestos Assessors or others authorised by NZDF and the licensed asbestos removalist to access the work areas and;

- **Must** take place at least monthly for any project lasting more than 1 month,
- Should be considered during all removal works to ensure health and safety is monitored inside the work area.

iv. Clearance inspections provide independent verification that the works have been completed and the work areas are safe for reoccupation; they result in the production of a clearance certificate and;

- **Must** be undertaken following all licensed (Class A and Class B) asbestos removal works,
- **Must** include clearance air monitoring and surface tests for all Class A works,
- **Must** take place following the encapsulation or enclosure of any friable asbestos (please note that encapsulated and enclosed asbestos items will require ongoing management so must only take place with explicit permission from NZDF),
- **Must** include confirmation that the contractor has labelled any remaining asbestos items,
- Should be considered (but is not mandatory) for unlicensed asbestos removal especially where being immediately reoccupied and where concerns are present as to the potential for exposure to asbestos following reoccupation,
- Are not required for any non-licensed activities but instead should be confirmed as completed by those undertaking the works by providing evidence of completion including photographic.

15. Licensed Asbestos Assessors must not direct contractors to undertake any additional works that do not fit within their scope without first consulting with the PM. Where uncertainty is present, consultation with all parties must take prior to any additional works commencing. Where problems occur with removal the Licensed Asbestos Removalist must first consider other methods to achieve the full scope of works. Where the Licensed Asbestos Assessor or Licensed Asbestos Removalist confirms that they are not able to achieve the full scope of works the PM may need to consider whether a new scope should to be agreed. Where asbestos needs to remain in place, a plan for ongoing management will need to be developed; the Asbestos Team can prepare this plan.

16. Once the Licensed Asbestos Assessor has confirmed that the agreed scope has been fully achieved and the area is safe for reoccupation, they **must** produce a clearance certificate and the PM **must** ensure this is sent to the Asbestos Team for review and upload onto the Asbestos Register.

17. The area can then be reoccupied under the instruction of the PM. Contractors involved in reinstatement works and / or new or returning occupants of the area(s) must be notified of any remaining risk.

4.10 *Maintenance*

This section is to be read in conjunction with **Workflow 4, Appendix A.**

Maintenance is defined as any routine activity that keeps a structure in a 'proper' condition or working order and is incidental work that can be done quickly and safely requiring minimal control measures. Under the Asbestos Regulations, maintenance and servicing is categorised as "Asbestos Related Work" when the work involves handling, treating, disposing of, or disturbing asbestos or ACM (definition limited to typical maintenance activities). Maintenance activities that will disturb asbestos may have potential to expose workers and occupants to airborne asbestos fibres. The PM and the maintenance worker both have a responsibility to review the known or potential asbestos risks present at the site prior to works commencing, to ensure action is taken to eliminate or minimise potential asbestos disturbance and exposure.

The best way to review whether asbestos risks are present at a site (excluding soil) is to check the Asbestos Register and review the most recent survey(s) for the site. PM's should check that information is available for the specific areas and elements of the building subject to disturbance. An asbestos management survey (AMS) is usually sufficient for a maintenance activity, provided the areas or materials that may potentially be disturbed by the maintenance work have been accessed. A targeted inspection or localised refurbishment survey may also be acceptable if there isn't sufficient time to conduct a management survey. If it is not practicable to identify asbestos before undertaking a task, asbestos must be assumed to be present, and the maintenance task undertaken accordingly.

If asbestos is identified or assumed within the work area, the maintenance activity may commence on authorisation from the Asbestos Team on the provision that the work does not require a licensed asbestos removalist. The contractor involved in completing the maintenance work must have an appropriate NZDF approved safe work practice in place, and meet all applicable requirements outlined within Section 7.0. Appendix F of the ACOP provides examples of SWPs for several asbestos-related work activities and Appendix G of the ACOP provides examples of SWPs for several unlicensed removal work activities.

Workers undertaking the maintenance activity must address the risk of asbestos exposure in their risk assessments and notify the Asbestos Team if the condition of any ACMs has changed.

The Maintenance Workflow in Appendix A, and the steps outlined below, have been developed to reflect the potential notice period a PM would typically have to prepare for works, and the nature of maintenance activities they may oversee on the NZDF estate.

For urgent asbestos removal work requiring a licence, or an unexpected breakdown of an essential service that requires immediate asbestos removal to enable the service to continue, please refer instead to Section 3.0.

4.10.1 *Workflow Process – Maintenance*

1. Check for available asbestos records for the affected structure on the NZDF Asbestos Register, with assistance from the Asbestos Team if necessary. If the records show the structure does not have a current

AMS, an AMS/inspection should be commissioned separately using the Statement of Work (SOW) template provided in Appendix A.

2. Where available records confirm that asbestos is not present in or in the vicinity of the proposed works, proceed with the works using an unexpected discovery process to mitigate any remaining risk.

3. Where available records either confirm that asbestos is present in the proposed works location, or cannot confirm that asbestos is NOT present, it must be assumed the works will disturb asbestos.

4. If asbestos has been identified or assumed present from available asbestos records within the proposed works area, and is likely to be disturbed as part of the maintenance undertaking, the PM should decide whether asbestos removal is needed. If asbestos removal is required, the PM should refer to Section 4.9.

5. If the ACMs will not be disturbed, these works are non-asbestos. The PM must ensure all those involved in the works have been made aware of the presence of asbestos in adjacent areas to avoid accidental disturbance.

6. Where disturbance to asbestos is necessary (including accessing areas that have been isolated due to asbestos risk), but the task does not involve asbestos removal, the works are classified as 'asbestos related works' under the asbestos regulations. NZDF requires that a contractor provides a Safe Work Practice that addresses asbestos risks and controls for all asbestos related works. The PM must ensure the contractor is provided with all available asbestos records for the worksite.

7. Before the work commences, the Asbestos Team must review the contractor's safe work practice for asbestos related works prior to the undertaking. The permit issuer can then issue the asbestos permit in accordance with CHESS. The PM should consult with building stakeholders before starting.

8. The maintenance work can then proceed.

9. If the scope of works changes, the PM must account for this additional risk by revisiting the above process.

4.11 *Asbestos Air Monitoring*

Health and Safety at Work (Asbestos) Regulations 2016

9 Duty relating to exposure to airborne asbestos at workplace

(1) A PCBU with management or control of a workplace must ensure that -

(a) Exposure of a person at the workplace to airborne asbestos is eliminated so far as is reasonably practicable; and

(b) If it is not reasonably practicable to eliminate exposure to airborne asbestos, exposure is minimised so far as is reasonably practicable.

(2) A PCBU with management or control of a workplace must ensure that the airborne contamination standard for asbestos is not exceeded at the workplace.

WorkSafe Approved Code of Practice (November 2016)

Section 5.2

The airborne contamination standard for asbestos is an average concentration over any eight-hour period of 0.1 respirable asbestos fibres per millilitre of air.

Its purpose is to identify a limit on the amount of respirable asbestos fibres permitted in a workplace's air.

The airborne contamination standard for asbestos does not replace the requirement to make sure anyone's personal exposure to airborne asbestos at the workplace is eliminated, so far as is reasonably practicable. If it is not reasonably practicable to eliminate personal exposure to airborne asbestos, exposure must be minimised, so far as is reasonably practicable.

In other words, the airborne contamination standard for asbestos is a control limit for the workplace. It does not set an acceptable limit for personal exposure. This means that people (completing asbestos removal work) who are at risk of exposure to airborne asbestos above trace level must wear suitable personal protective equipment (PPE).

4.11.1 *General*

This section is to be read in conjunction with Workflow 5, Appendix A. Asbestos air monitoring can be an effective measure to demonstrate an area is safe to occupy or that asbestos controls have been effective during disturbance activities.

Air monitoring is not a control method for respirable asbestos and is simply a method to verify that existing controls are adequate at a particular time and place.

Air monitoring is generally undertaken at static locations within a prescribed height range. However, static monitoring provides an approximation of exposure only. To obtain air monitoring data representative of worker exposure - and to obtain a result directly comparable to the airborne contamination standard - personal air monitoring (also referred to as 'exposure monitoring') is required which involves collecting air from within a workers breathing zone over a defined period of work.

Whilst the airborne contamination standard (0.1 f/ml) represents the maximum permissible limit for asbestos in air, all relevant parties must seek to achieve (as far as reasonably practicable) a concentration in air that is well below this level in the workplace (e.g. trace or <0.01 f/ml).

4.11.2 *Limitations*

It is important to be aware of the limitations of air monitoring and analytical methods when commissioning this task. Laboratory analysis of asbestos air monitoring filters using the MFM under (NOHSC, 2005) (or equivalent) is required to report all conforming fibres within a certain size range and aspect ratio. **The method is therefore unable to distinguish between asbestos and non-asbestos fibres and laboratories should not attempt to make this distinction with this method.** This also means that air monitors do not report asbestos fibres in real-time. Results may not be available for up to 24 hours using the MFM (or longer if at a remote location). Additionally, as trace level is the same as the detection limit (the lowest possible calculated fibre concentration), so it is not unusual for air monitoring to be influenced by non-asbestos fibres, or to have a one-off / intermittent result that exceeds trace.

When investigating elevated asbestos air monitoring results, consider possible sources of "interfering" fibres such as clothing and textiles (e.g. towels), Synthetic Mineral Fibre (SMF), carpet fibres, etc.

Additionally, air monitor filters can become overloaded with excessive dust, fumes or soot and other particulates and therefore general dust or particulates should be minimised during the undertaking to reduce the risk of voiding the sample.

4.11.3 *Secondary Analysis and Decision Making*

Given the limitations of the initial analytical method (MFM), and if a likely source of asbestos fibres has not been identified during the initial air monitoring exercise, a decision to carry out further monitoring and analysis should be considered before any substantive action is taken. **A minor exceedance of trace from one or two static locations is generally not sufficient grounds to evacuate a building,** particularly since interfering fibres which conform to the geometric requirements of a fibre as defined by NOHSC:3003, 2005 (or equivalent) are often present. Refer to Section 4.11.5 for further direction on action levels.

Where trace is exceeded under the MFM, the laboratory should send the sample for secondary analysis. The most informative type of secondary analysis is TEM which typically takes between 3 to 10 days to complete, but is recommended where time permits. Another type is PLM which is the same method as is used for bulk analysis. This method is not recommended due to its own limitations, but may facilitate a faster risk response which if necessary can be backed up by TEM analysis later.

If the secondary analysis confirms that no asbestos fibres are present, or that asbestos fibres are present in concentrations that are below trace (<0.01 fibres/ml), this represents a normal “background” level of fibres so occupation can continue as normal.

If the secondary analysis results confirm that asbestos fibres are present in concentrations at or above trace, then the PM and consultant must identify what additional work needs to occur – such as further air monitoring, access restrictions and / or remediation, and advise the Asbestos Team. **Significant decisions should be avoided until sufficient evidence is available to prove that the fibres are indeed asbestos. Precautionary localised access restrictions should be considered but must be very carefully communicated.**

4.11.4 *Procurement*

Any asbestos air monitoring activity must be completed in accordance with the Guidance Note on the membrane filter method for estimating airborne asbestos fibres, National Occupational Health and Safety Commission (NOHSC, 2005) or equivalent WorkSafe-recognised method. Consultants completing air monitoring must be trained in the field method requirements of the Membrane Filter Method (MFM) in NOHSC, 2005 or equivalent. Preference should be given to technicians who hold IANZ accreditation for field sampling to ensure they provide defensible results that incorporate accurate flow rates, appropriate durations and location selection/placement, use calibrated equipment and flow rates that account for flow variance.

A PM may need to procure air monitoring services under the following circumstances:

1. There has been an uncontrolled or suspected asbestos disturbance at the workplace and residual airborne fibre concentrations need to be assessed to determine the risk of continuing to occupy an area.

2. If an AMS or other investigation by a competent person identifies an immediate exposure risk within an occupied space.

3. During refurbishment or demolition activities where Class A licensed asbestos removal is occurring (air monitoring is conducted before, during and after the removal tasks).

4. During Class B licensed and unlicensed removal work where there is potential for trace (<0.01 fibres/ml) to be exceeded (refer to Section 30.3.3 of the ACOP (WorkSafe, 2016B)).

When monitoring during asbestos removal work, for consistency throughout the project it is recommended that the consultants used to scope the removal works are used to carry out the air monitoring. Air monitoring consultants must be financially independent of the asbestos removal contractors.

The Asbestos Team can provide advice on when air monitoring is needed, including regulatory requirements, potential exposure environments needing air monitoring and stakeholder considerations. An independent licensed asbestos assessor or qualified occupational hygienist may also provide technical support.

4.11.5 *Air Monitoring for Occupied Buildings / Workplaces (Reassurance Air Monitoring)*

This section is to be read in conjunction with Workflow 5, Appendix A.

The following is a summary of the key workflow requirements that must be followed if asbestos air monitoring is being considered for an occupied workplace where asbestos is present or suspected.

1. A consultant must will be appointed through the SOW template (see Appendix A.2). The same consultant may also have been involved in the decision to monitor.

2. Prior to the undertaking, the PM should contact the POC for the building to inform them that routine air monitoring is proposed for their workspace, explaining the purpose and process of the air monitoring, and that they will be informed of the results.

3. A meeting between the PM, consultant and occupants may be necessary to understand normal work activities in the building prior to conducting the air monitoring. During this meeting, it is important to outline the response strategy (see Appendix C).

4. An air monitoring methodology is to be developed by the consultant. This should comprise the number, general approach of monitor placement and type of monitoring. The report deliverable requirements are listed on the SOW.

5. Accredited laboratory results are to be provided to the PM as soon as possible after the air monitoring is complete.

6. Where results from the initial round of air monitoring are below trace (less than 0.01f/ml), the results are to be communicated to the relevant stakeholders, occupation can continue and routine air monitoring will continue if necessary.

7. Where any results from the initial round of air monitoring are above trace (greater than or equal to 0.01 fibres/ml), the PM should liaise with the Asbestos Team to discuss the agreed response. See Appendix C.1 for actions required for elevated air monitoring results. Results should be conveyed to stakeholders within 24 hours of air monitoring completion, noting this may not be possible in regional areas not serviced by a local accredited laboratory. The PM and consultant should consider whether secondary analysis is appropriate (See Section 4.11.3).

   Consultants must not undertake dust sampling as it is beyond the scope of the investigation and is not a reliable (or recognised) indicator of risk.

For a step-by-step guide on responses to reassurance air monitoring results, see Table C.1, Appendix C.

4.11.6 *Air Monitoring During Asbestos Removal / Disturbance*

The regulatory requirements for air monitoring during asbestos management or removal can be found in Parts G and H of the ACOP (WorkSafe, 2016B). The frequency and extent of air monitoring required will depend on the type of removal or disturbance activities being undertaken and the sensitivity of any surrounding occupied buildings. The requirement for air monitoring can be determined by referring to Section 4.9.4 and in consultation with a Licensed Asbestos Assessor.

Prior to work commencing, monitoring can take place to assess ambient fibre levels in the environment and these are then used to help determine actions based on air monitoring results during works. This is recommended in advance of all Class A works but can be considered for other works undertaken in sensitive worksites. See table in Appendix C for air monitoring trigger levels and related actions during asbestos removal / disturbance.

The following are key regulatory requirements for air monitoring during Class A licensed asbestos removal (only):

- Asbestos air monitoring must be completed by an independent licensed asbestos assessor.
- If a result is 0.01 fibres/ml or above, but less than 0.02 fibres/ml in the vicinity of an asbestos removal work zone, the removal contractor must investigate the cause and implement additional controls to prevent further fibre release.
- If a result of 0.02 fibres/ml or above is reported in the vicinity of an asbestos removal work zone, removal works must stop and it must be notified to WorkSafe by the licensed asbestos removalist.

Air monitoring during Class B, unlicensed asbestos removal work and asbestos-related work is at the discretion of the project and is dependent on the level of uncertainty of fibre release during the proposed works as well as the sensitivity of nearby properties and occupants. For a step-by-step guide on responses to these types of air monitoring results, see Appendix C.2 and C.3.

4.11.7 *Elevated Air Monitoring Results*

Three trigger levels are relevant when deciding on a course of action for airborne asbestos fibres, as below:

- **Below trace (<0.01 fibres/ml of air)** is the background level i.e. it normal.
- **WorkSafe notification level (≥0.02 fibres/ml)** is only relevant to Class A licensed asbestos removal.
- **Airborne Contamination Standard (0.1 fibres/ml)** is the legal limit for asbestos in air. No workplace can legally operate if the levels of asbestos are at or above this level.

Your response to an elevated fibre level will depend on a few factors; the severity of the breach; the type of monitoring undertaken and the type of asbestos being removed. The tables in Appendix C outline the different responses required for each elevated asbestos air monitoring scenario. In general, controls need to be reviewed, additional monitoring and / or analysis is advised, and in some cases works must stop and notification raised internally and externally.

4.11.8 *Laboratory Analysis and Sharing Results*

Sample analysis must be conducted by an International Accreditation New Zealand (IANZ) accredited (or WorkSafe approved) laboratory.

Results should be displayed in the vicinity of the work area or provided to the agreed parties as soon as possible, particularly during asbestos removal.

Share any result that exceeds race level (0.01f/ml or above) with the Asbestos Team.

4.11.9 *Air Monitoring for Asbestos In Soils Projects*

Refer to Section 4.13.8 for information specific to the non-built environment including air monitoring requirements. Sections 5.5.2 and 5.5.3 of BRANZ, 2017 also contains information on requirements and interpretation.

4.12 *Labelling and Signage*

WorkSafe Approved Code of Practice (November 2016)

Section 6.12

The workplace PCBU must clearly indicate the presence and location of identified or assumed asbestos or ACM in the workplace, including places where asbestos is not accessible.

Labelling of ACM is a technique used to support the identification of asbestos and ACM across the NZDF estate. Labelling is not an effective control measure, does not in itself constitute 'clearly indicating the presence and location of asbestos' and is a last line of defence in preventing or minimising exposure – particularly for tradespeople and others who may be working on or near an asbestos item. Labels and signage may also cause unnecessary alarm or confusion where their placement is not carefully controlled.

The presence of labels alone does not replace the responsibility of contractors and personnel to assume the presence of asbestos or to request asbestos records from the Asbestos Register.

The following labelling protocol has taken into account the requirements of Asbestos Regulations and the relevant New Zealand Standard NZ/AS 1319:1994 Safety Signs for the Occupational Environment and Defence signage protocols.

4.12.1 *Labelling and Signage Protocol*

Labelling is typically commissioned when a new item is discovered during a survey, or by various other means by a competent person.

Labelling is to be limited to the following options across the NZDF estate:

1. Labelling of particular items which may be at risk of disturbance with an 'a' label within a workplace or as recommended by an AMS (Template #1, Appendix D).
2. Labelling the exterior of buildings / structures known or presumed to contain ACM items and which are not typically occupied day to day but are occasionally entered. This label can also be used for residential properties known or presumed to contain ACM items – in this scenario the label should be located within the main electrical switchboard for the structure. (Template #2, Appendix D).
3. Labelling the entrance to a space known or presumed to contain a number of hazards (including ACM items) which is not to be entered without prior permission from DEI (Template #3, Appendix D). These spaces will typically be ceiling voids and plantrooms that are accessed mostly for maintenance or servicing purposes. The sign acts as a direct order from the Officer in Charge of the applicable Defence Area, acting as the legal representative of NZDF (IAW DFO 04/16).

4. Labelling the building where asbestos has been identified with a QR code generated through the NZDF Asbestos Information Management system.

Note: Soil and subsurface ACM items will not be indicated on site unless the risk of exposure is high and is confined (restricted entry).

4.12.2 *Labelling Requirements*

Labelling must:

- Adhere to the labelling template attached in Appendix D, or be of a similar appearance (small, black, red and white, using the letter ‘’a’’ and including the words ‘’asbestos’’ and ‘’warning’’.
- Be sufficiently durable (e.g. plastic adhesive indoors, PVC for outdoors).
- Be clear and easy to read.
- Be maintained by the FM provider and remain in good condition.
- Be consistent with the location of any ACM recorded in the Asbestos Register.
- Not be concealed (painted) or covered.
- Not be applied where the items surface condition may lead to a release of airborne fibres.
- Only be applied by workers with asbestos awareness training who are competent to judge correct label placement without compromising the materials integrity.

Different types of labels should not be used unless approved by the Asbestos Team.

4.12.3 *Responsibilities for Labelling Asbestos*

The DEI office at each camp and base is responsible for ensuring labelling is carried out in accordance with this DE-AMP and sourcing the relevant labelling supplies. Labelling must be completed by a trained individual sufficiently experienced in reading asbestos survey reports and adhering to the requirements of this DE-AMP.

DEI and the FM Providers are responsible for ensuring that labels are visible and maintained at all times.

4.13 *Asbestos in Soils*

Asbestos can be present within soils from various sources including undocumented historical buildings and land uses. The duty to identify asbestos does not usually apply to soils but it does apply to NZDF soils because there is reasonable grounds to suspect asbestos in a variety of areas, including (in many cases) direct evidence by previous site investigations. Those planning and undertaking works involving soil disturbance must contact the Environmental Services (DEI ES)Team to discuss requirements, including requirements for soil sampling where potential for soil contamination is uncertain.

If an individual project identifies asbestos contaminated soils, or plans to access subsurface horizontal ACM infrastructure then the Health and Safety at Work (Asbestos) Regulations 2016 applies to that project. This section outlines the procedures and controls required.

4.13.1 *Asbestos in Soils on the Defence Estate*

Asbestos in soils on the Defence estate is typically caused by:

- The presence (or demolition) of a pre-2000 building on-site or nearby;
- Stormwater runoff from ACM roofs/cladding;

- Historic water blasting and/or other maintenance activities on ACM building materials;
- Formwork to concrete slabs; and
- Uncontrolled fill or subsurface ACM pipework.

Sites confirmed or identified as “potential” HAIL sites under subcategory E1 of the MfE’s Hazardous Activities and Industries List (“sites containing asbestos known to be in a deteriorated condition”), have possible asbestos in soil issues.

Soils within the previous footprint of, or within the 1m halo of, pre-2000 buildings known to contain asbestos should be considered as potentially contaminated, and managed appropriately. Soil sampling can confirm the presence / absence of asbestos, however it is often faster and more cost effective to assume the presence of asbestos and either remove or manage the risk conservatively, rather than test the site before disturbing soil.

Asbestos surveys of buildings have limitations and do not always identify all instances of asbestos in a building. They are also unlikely to account for historical uses of ACM’s that have since been removed. For this reason, PMs should check for any information related to previous asbestos installation or removal before proceeding and works must always include an accidental discoveries / disturbances process.

4.13.1 *Asbestos Containing Subsurface Infrastructure on the Defence Estate*

It is not always possible to gather reliable evidence for the presence of asbestos in or surrounding subsurface infrastructure. For this reason the three below controls must be applied to all ground disturbances as a minimum precaution:

1. Workers should hold relevant training or supervision in order to visually identify potential asbestos containing materials uncovered during the works.

2. The contractor must have an accidental discoveries protocol and the ability to record the GPS location and extent of any asbestos containing materials that are discovered.

3. Ground disturbance works are subject to a permit to work. These works must be done in accordance with CHESS.

While investigating the presence of asbestos in and surrounding subsurface infrastructure, the PM must use all available information including HAIL maps / records, DEI ArcGIS and the Asbestos Register to identify the asbestos status of the infrastructure. Where the presence of asbestos in soils has already been ruled out (AFARP), and where no information is available on the *known* horizontal infrastructure, a precautionary approach is required. Asbestos must be assumed to be present and undertaken as asbestos related works as a minimum until the infrastructure is accessible for visual inspection and / or sampling.

Where no asbestos has been found or assumed by following the above steps, and where DEI Environmental Services have been consulted to confirm any other requirements, the works can proceed with the three (above) precautionary controls only.

If works are to take place within 250mm of a known asbestos containing fibre cement pipe **and** no previous sampling in the area has found friable ACM **or** asbestos in soils concentrations exceeding 1% fibrous asbestos / asbestos fines, **either**:

1) Undertake sampling to confirm asbestos concentrations in soils in the ‘halo’ area around the pipe which is likely to contain asbestos, **or**

2) Undertake the works as asbestos related works at minimum.

Where the previous checks for soils and infrastructure have determined an asbestos risk is present, the work category and associated controls used throughout the works will be determined by the highest category presented by either one. This may depend on whether the infrastructure requires removal. The tables below provide details for most foreseeable scenarios.

Table 7: Work Classifications for Contaminated Soil Removal and Horizontal Infrastructure Projects

Scenario for Soils (high to low asbestos content)	Scenario for Infrastructure	Work Classification
>1% w/w Fibrous Asbestos / Asbestos Fines	Any scenario	Class A
>0.01% but <1% w/w Fibrous Asbestos / Asbestos Fines	Fibre Cement Pipe – not to be removed but will be disturbed. **OR** Fibre Cement Pipe – removed but less than 10sqm of asbestos in total. **OR** Fibre Cement Pipe – to be removed (more than 10sqm in total).	Class B
>0.001% but ≤0.1% w/w Fibrous Asbestos / Asbestos Fines	Fibre Cement Pipe – not to be removed but will be disturbed.	Asbestos related work
>0.001% but ≤0.1% w/w Fibrous Asbestos / Asbestos Fines	Fibre Cement Pipe – to be removed (less than 10sqm in total).	Unlicensed asbestos removal work
>0.001% but ≤0.1% w/w Fibrous Asbestos / Asbestos Fines	Fibre Cement Pipe – to be removed (more than 10sqm in total).	Class B
≤0.001% w/w Fibrous Asbestos / Asbestos Fines	Fibre Cement Pipe – not to be removed but will be disturbed.	Asbestos related work
≤0.001% w/w Fibrous Asbestos / Asbestos Fines	Fibre Cement Pipe – to be removed (less than 10sqm in total).	Unlicensed asbestos removal work
≤0.001% w/w Fibrous Asbestos / Asbestos Fines	Fibre Cement Pipe – to be removed (more than 10sqm in total).	Class B
Any scenario	Friable asbestos containing materials are present e.g. lagging.	Class A (CLS may confirm and advise otherwise if risk remains low)

(Please note that the BRANZ guideline values for soils containing ACM fragments are not widely used, for scenarios involving asbestos fragments in soils consult with DEI ES for recommendations).

4.13.2 *Emergency Access to Subsurface Infrastructure*

Table 8 below provides additional scenarios that may be relevant for works in response to an incident or emergency where access to subsurface infrastructure is essential within a short timeframe. In these instances

sampling may not be practical but asbestos risk must still be accounted for by reviewing all available information on the infrastructure and soils, or applying precautionary controls to protect workers from exposure. In response to all incidents and emergencies refer to Chapter 3.

Table 8: Emergency Scenarios Involving Subsurface Infrastructure

Scenario for Soils	Scenario for Infrastructure	Work Classification
Unknown (no sample results but risk eliminated AFARP by desktop study)	Fibre Cement Pipe – not to be removed but will be disturbed. **OR** Fibre Cement Pipe – removed but less than 10sqm of asbestos in total. **OR** Fibre Cement Pipe – to be removed (more than 10sqm in total).	Asbestos related work Unlicensed asbestos removal work Class B
Unknown (but risk cannot be ruled out)	Friable asbestos present in soil or infrastructure e.g. lagging. **OR** All other scenarios.	Class A Class B

Using Table 7 to determine the work classification, the following sections describe additional procedures to be followed by DEI as well as the specific controls that must be applied to these works.

4.13.3 *Resource Consenting and Compliance*

Depending on the scale and volume of soil disturbance works proposed, a resource consent may need to be obtained from the appropriate Council body to authorise the disturbance works. Many camps / bases have site wide resource consents in place which proposed works may be able to operate under. Where there is no site wide consent in place, DEI ES will advise if a Resource Consent is going to be required, and if so, will engage an appropriate consultant to draft and lodge the consent application on behalf of NZDF.

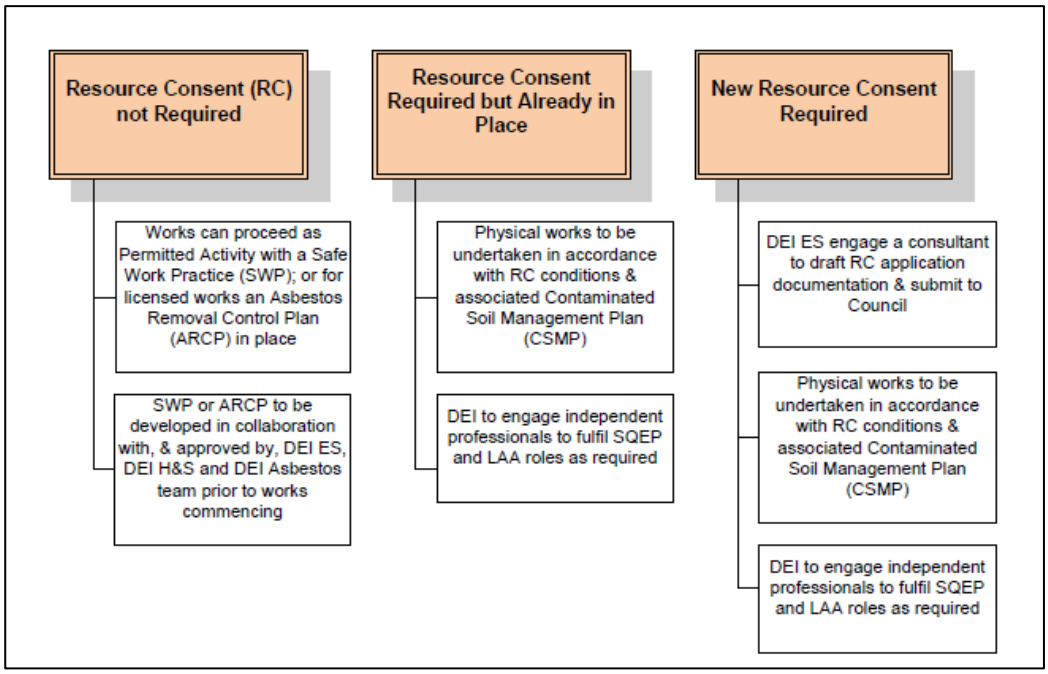


Figure 4. Resource Consent Process

4.13.4 *Health & Safety and Legislative Requirements*

The management of all asbestos risks within New Zealand is regulated under the Health and Safety at Work (Asbestos) Regulations 2016, and supported by the Management and Removal of Asbestos Approved Code of Practice. However, the most widely used guideline values for management of asbestos in soils are presented within BRANZ – New Zealand Guidelines for Assessing and Managing Asbestos in Soils (2017). NZDF currently recognise these 'BRANZ Guidelines' as adequate for managing asbestos in soils risks throughout the Estate, until such time alternative values have been developed / adopted. In general, the following administrative controls must be applied to all projects involving asbestos in soils:

- All workers who plan to or are likely to encounter asbestos as part of their work should have completed an asbestos awareness course as a minimum training standard.
- For licensed asbestos works, the contractor undertaking the asbestos removal works must hold the appropriate license issued by WorkSafe NZ.
- Any workers involved with asbestos impacted soil or material must have appropriate training for handling asbestos materials, and knowledge of the use of asbestos PPE, RPE and decontamination procedures appropriate for the tasks being undertaken. Only those approved by DEI to enter an asbestos removal zone should be permitted entry inside the work area, and only where under the control and supervision of the site supervisor.
- For licensed works, reoccupation of the asbestos removal area will only be allowed following completion of the works, and following receipt of a clearance certificate (and where necessary a site validation report) for the specific work area.
- In cases where there is a lack of existing information about an area of soils subject to a disturbance, and where sampling is deemed impractical due to it being a small scale localised disturbance, asbestos related works controls must be adopted (See Table 9) as a minimum.

Table 9 provides a summary of the requirements for asbestos in soils prior to works commencing.

Table 9: Summary of Asbestos in soil requirements

Asbestos in soil result.	Airborne contamination	Summary of requirements as outlined in the BRANZ Guidelines
> 1% w/w Fibrous Asbestos / Asbestos Fines (FA + AF)	May lead to airborne contamination that exceeds trace level (i.e. >0.01 fibres/ml)	• Class A asbestos removal works. • Work to be undertaken by Class A licenced contractor. • Works subject to an ARCP, air monitoring, and clearance inspection. • Licensed contractor to notify WorkSafe at least 5 days prior to commencing work.
> 0.01% but ≤ 1% w/w Fibrous Asbestos / Asbestos Fines (FA + AF)	May lead to airborne contamination that exceeds trace level (i.e. >0.01 fibres/ml)	• Class B asbestos removal works. • Work to be undertaken by Class A or B licenced contractor • Works subject to an ARCP and clearance inspection. Air monitoring may be included but is not mandatory. • Licenced contractor to notify WorkSafe at least 5 days prior to commencing work.

Asbestos in soil result.	Airborne contamination	Summary of requirements as outlined in the BRANZ Guidelines
> 0.001% but ≤ 0.01% w/w Fibrous Asbestos / Asbestos Fines (FA + AF)	May lead to airborne contamination that exceeds trace level (i.e. >0.01 fibres/ml)	• Asbestos-related works • Work does not need to be carried out by a Class A or B licenced contractor. • Works subject to a Safe Work Practice. Air monitoring and clearance inspections may be included but are not mandatory.
< 0.001% w/w Fibrous Asbestos / Asbestos Fines (FA + AF)	Not likely to lead to airborne contamination that exceeds trace level (i.e. <0.01 fibres/ml)	• Unlicensed asbestos removal work. • Standard earthworks controls required. • No asbestos specific PPE if CLS confirms unlikely to exceed trace levels in air monitoring (<0.01 f/ml) and/or if air monitoring confirms asbestos is <0.01 f/ml. • Air monitoring / clearance not required. • Foot wash and used PPE collection area still required.
Unknown (no sampling and desktop study inconclusive) - assumed positive	Unknown	• Asbestos-related works at minimum (use a risk assessment to check), follow controls listed above.

4.13.5 *Responsibilities*

The responsibilities for any licensed asbestos removal works shall be as follows:

- Contaminated Land Specialist (CLS) shall confirm what class of asbestos works is required, and the associated level of controls needed.
- DEI ES and the CLS shall prepare all necessary documentation required by NES CS resource consents (where applicable).
- The Licensed Asbestos Removalist shall prepare the ARCP if Class A or Class B works are required. The ARCP must meet the requirements of the NZDF ARCP checklist as well as all requirements within Asbestos Regulations, ACOP, and BRANZ guideline values.
- The Licensed Asbestos Removalist shall notify WorkSafe if it is Class A or B works at least 5 days prior to any licensed removal works commencing.
- The Contractor and DEI PM shall ensure the identified controls are implemented.

The responsibilities for any non-licensed asbestos removal works shall be as follows:

- The contractor shall work under a Safe Work Practise (SWP) which must be approved by NZDF and prepared in accordance with the SWP checklist, as well as all requirements within Asbestos Regulations, ACOP, and BRANZ guideline values.
- Those undertaking the work must be trained in accordance with the requirements of this DE-AMP (see Section 7.3.5) or be supervised by trained personnel.
- The Contractor and DEI PM shall ensure the identified controls are implemented.

All asbestos removal works must be undertaken in accordance with the requirements of this DE-AMP (see Asbestos Removal Section 4.9).

4.13.6 *Site Establishment*

The following shall be established prior to works commencing:

- An asbestos exclusion zone shall be clearly defined based on the results of testing and the work that is required to be carried out. This shall be set out clearly in the ARCP or SWP.
- Controls, such as temporary barriers, to segregate the asbestos exclusion zone from the remainder of the site in order to prevent these soils being tracked around the site.
- Warning signage with information pertaining to the presence of asbestos, and barriers erected to prevent unauthorised entry. Entry points to the asbestos exclusion zone should be signposted or labelled, emphasizing any requirements for additional PPE or RPE upon entry.
- Establishment of decontamination facilitates.
- Establishment of a truck loading area and vehicle/equipment wash facility.
- Establishment of dust suppressant controls (e.g., handheld hoses).
- Updating a site Hazard Board.

The extent of controlled areas will be set with the objective of preventing unacceptable exposures to personnel working in other areas of the site and / or adjacent to the site.

4.13.7 *Personal Protective Equipment (PPE)*

The Contractor shall ensure all necessary PPE and RPE is available, and that all relevant workers are familiar with its application and use.

Protective clothing is only for use in the designated work area and must not be used outside this area. Once workers are inside the designated work area, they are not permitted outside of that area without proceeding through the appropriate decontamination procedures. Contaminated coveralls and PPE are to be disposed of as asbestos contaminated waste in appropriately labelled waste bins or bags.

Table 10 summarises the minimum asbestos specific protective equipment to be worn for each work category.

Table 10: Minimum PPE Requirements for removal of contaminated soils

	Class A Works	Class B Works	Asbestos – related Works	Unlicensed Asbestos Works
Personal Protective Equipment (PPE)	Disposable coveralls rated type Cat.3 5/6, nitrile gloves, non-laced safety boots or gumboots.			No asbestos-specific PPE if CLS confirms fibre levels are unlikely to exceed trace levels in air.
Minimum respiratory protective equipment	Face-fitted P3 full or half-face respirator with particulate filter.	Face-fitted P3 half-face respirator with particulate filter.	Face-fitted P3 half face mask with particulate filter.	No asbestos-specific PPE if CLS confirms fibre levels are unlikely to exceed trace levels in air.

4.13.8 *Air Monitoring*

Air monitoring for asbestos is required for Class A Asbestos removal works. Air monitoring for all other classes of asbestos removal works shall be undertaken at the discretion of the independent Asbestos Assessor, CLS, or any PCBU in control of the workplace.

If an asbestos air monitoring programme is implemented for the period of works, it will be to ascertain (as far as reasonably practicable) that the planned works within the designated work area(s) have not resulted in an uncontrolled release of airborne fibres.

Refer to the DEI ES team and the BRANZ guidelines for direction on when air monitoring is appropriate when disturbing asbestos contaminated soils. Air monitoring will be commensurate to the volume of disturbance proposed, however the following is provided as a guide:

- On the first 3 days of soil remediation works.
- Additional daily monitoring may occur if there is a change in wind direction or work method.
- If trace level is breached, work methods shall be reviewed and monitoring continued until trace level isn't breached for 2 consecutive workdays.

In terms of protecting human health, the monitoring trigger level will be the trace level of 0.01 fibres/ml. See Appendix C for information on trigger levels for asbestos air monitoring during licensed and unlicensed asbestos removal works.

All air monitoring results for the removal of asbestos contaminated soils shall be reported daily to the DEI PM, ES team and Asbestos Team who will inform the appointed CLS for inclusion into validation reporting (if required).

4.13.9 *Decontamination and Post-Work Controls*

The PCBU conducting the asbestos work must detail in the ARCP or SWP the decontamination procedures to be adopted throughout the duration of the works, including decontamination of the proposed equipment, and how workers should pass through a dedicated decontamination zone. Decontamination procedures must include:

- The asbestos work area;
- All tools and equipment utilised; and
- Personnel decontamination.

All contaminated materials which cannot be cleaned, including cleaning rags, plastic sheeting, PPE etc. must be disposed of as contaminated waste. Tools that cannot be decontaminated within the asbestos work area, or are to be re-used on another project, should be double bagged and tagged to indicate possible asbestos contamination prior to being removed from the asbestos work area.

Where asbestos containing infrastructure is decommissioned and left in-situ, thelocation must be recorded in DEI's ArcGIS online database (If not already present).

Table 11 outlines the required decontamination controls for vehicles entering the asbestos work area.

Table 11: Vehicle Decontamination Controls

Scenario	Class A works	Class B works	Asbestos-related Works	Unlicensed Asbestos Work
Vehicle (truck) protection	200 µm heavy-gauge polythene wrapped soil/lined trays and truck covered.		Truck lining/soil wrapping depends on the receiving landfill. All trucks should be covered during transportation of waste.	
	HEPA filter system fitted for all occupied vehicles. Filter replaced or cleaned down with HEPA vacuum cleaner post work.	HEPA filter system fitted for all occupied vehicles where friable ACM on site (lagging, insulation, etc).	Standard air conditioning.	
Vehicle washing facilities	No high pressure water spray. Wash down of any visible dust and debris from vehicle including wheels.		No high pressure water spray.	

4.13.10 *Disposal of Asbestos Waste*

Asbestos-contaminated material, including asbestos-contaminated PPE, must be disposed of in accordance with ACOP and BRANZ guidelines. Waste must be disposed of at an appropriately approved facility and in a manner compliant with that facility's requirements.

Documentary evidence of disposal shall be collected by the contractor and provided to the DEI PM & ES, and the appointed CLS. This must include the name of the authorised disposal facility and copies of weighbridge docket(s) for every load disposed. The CLS will be required to present this information within the validation reporting (where required). The licensed facility used for disposal of asbestos waste must be detailed within the ARCP or SWP – changes must be amended within site held copies of these documents.

4.13.11 *Validation and Clearance Certification*

Upon completion of the asbestos removal works, a Site Validation Report (SVR) may be required to be completed by the appointed CLS. This is often a requirement of a resource consent issued by a Regional Council authorising the proposed disturbance of contaminated soil. The scale and content of the SVR will depend on the nature of the site and the remedial goals / objectives. DEI ES are responsible for submitting the SVR to the applicable Council body.

A clearance inspection must also be conducted upon completion of works. This must be by an independent Licensed Asbestos Assessor (LAA) following any class A licensed asbestos removal work, and by a competent person or LAA following any Class B licensed asbestos removal works. Once the independent clearance inspection confirms the area is safe for re-occupation, a certificate stating this should be provided. This includes all test results and should be appended to the SVR (where applicable).

Where unlicensed asbestos removal works occur, see Section 4.9.4 for more details on NZDF requirements.

Where the works involve capping any remaining asbestos contaminated soils, the clearance certificate can only be issued following complete application of the capping to ensure all risks are enclosed.

4.13.12 *Ongoing Site Management*

Should asbestos contaminated soil remain on site as part of a remedial action plan or if full clean-up is not possible, a long-term management plan must be prepared by an appointed SQEP. The purpose of this Plan is to control future activities where remaining asbestos (and other residual contaminants) exist that do not require immediate remedial action.

4.14 *Stakeholder Consultation, Communication and Notification*

As a PCBU with management or control of a workplace, NZDF has a duty under the Asbestos Regulations to inform potentially affected stakeholders of intended asbestos removal or disturbance work. Effective and transparent consultation establishes confidence that works are being carried out in accordance with the Asbestos Regulations and in a manner that will keep people safe. Project Managers are responsible for ensuring consultation occurs.

The level of consultation required depends on the type of activity proposed, and the sensitivity of the site/neighbours. This must be determined at project inception in consultation with the Asbestos Team. For asbestos removal activities, the project risk evaluation tool can also be used to determine the level of communication required by assessing the 'reputational risk', projects with high reputational risk should develop a project specific communications plan.

Communication to potentially affected parties is required under the following scenarios:

- Asbestos Management Surveys (AMS) (Section 4.7).
- Refurbishment and demolition (Section 4.8).
- Licensed and unlicensed asbestos removal work (Section 4.9).
- Maintenance – associated asbestos management and removal activities (Section 4.10).
- Asbestos Air monitoring (Section 4.11).
- Soil disturbance (non de minimis volumes) – including horizontal infrastructure works (Section 4.13).
- Accidental disturbance incidents, incidents related to air monitoring trigger levels, and discovery of asbestos in poor condition during surveys that may pose a risk to human health as described in Section 3.0.

4.14.1 *Stakeholders and Potentially Affected Parties*

PMs must ensure they inform any person who may be affected by any works listed above. This includes:

1. Occupants of the affected structure or site (as applicable).
2. Anyone occupying premises in the immediate vicinity of the affected structure/site or in some cases who may be in view of the proposed work.

Stakeholders who should be involved in consultation may include:

a. NZDF personnel with management responsibilities for occupants of the building.

b. Contractors.

c. Non-NZDF personnel including nearby third-party occupants, community stakeholders such as schools, childcare centres, immediate neighbours and in some cases media representatives for high-profile buildings with public access such as museums, office buildings etc.

Relevant representatives for each party should be identified to enable concise, direct consultation. For occupied buildings/structures, a single liaison POC must be identified to best manage the flow of information.

If asbestos removal work is to occur outside or will be visible to occupied buildings, additional consultation measures must be considered such as informing neighbours, nearby site occupants and wider information bulletins such as Base Routine Orders or newsletters.

Air monitoring results must be made available to identified stakeholders (usually structure/building occupants) in a timely manner (within 24 hours/next business day after receiving results) as per Section 4.11.

Defence Public Affairs and the DEI Communications team should be consulted for all communications to external parties, including media statements.

4.14.2 *Asbestos Communications Plan*

Large scale (multiple camps and bases or multiple large sites over one camp or base) projects and programmes involving asbestos surveys or remediation must have a communications plan prior to project commencement. This must include notification to building occupants or (in the case of residential properties) tenants prior to works, as well as a plan for reporting / notification of findings / outcomes where any particular asbestos risks are identified. Defence Public Affairs and the DEI Communications Advisor may be able to assist with the development of communications plans.

Template notification letters have been developed to assist with communications prior to asbestos removal and to report on survey findings (including if medium and high risk asbestos items are found).

Key messages to convey include:

- The purpose of the proposed work activity.
- Description of what is involved and when the work will start and finish.
- Summary of the safety measures in place.
- Project point of contact (such as the NZDF Project Manager) for any further details.

Communications should be issued as early as possible, between 2-3 weeks ahead of the work commencing for large scale or high profile projects, to 5 working days prior to work commencing for small projects.

SimOps, base-wide communications, daily notices and Hazard ID workshops may also be suitable platforms for the communications of the messages and are to be discussed with the EDD.

4.15 *Asbestos Containing Dust or Debris*

WorkSafe Approved Code of Practice (November 2016)

Appendix D

ACDust at a workplace must be cleaned up by a Class A asbestos removalist unless it is:

- *Associated with Class B asbestos removal work, including ACDust that was present before the work started, or*
- *Generated by a removal job of 10 m^2 or less of non-friable asbestos, or*
- *It is a 'minor contamination' not associated with asbestos removal.*

WHAT IS A 'MINOR CONTAMINATION'?

There is no legal definition of 'minor contamination'. Therefore, to determine whether a contamination of ACDust is a 'minor contamination', the asbestos removalist will need to carry out a risk assessment.

Relevant considerations include:

- *The time it would take for a person to carry out the clean-up job*
- *The size, area and extent of the contamination*
- *The number of workers and persons who will be or are likely to be involved in or exposed to the work*
- *The complexity of the work being undertaken*
- *The knowledge and skills required to complete the work safely, and*
- *The risks associated with the work and the complexity of the risk control measures.*

The amount of ACDust cannot exceed that which would, in other circumstances, be associated with safely removing 10m^2 or less of non-friable asbestos.

A competent person should be engaged to do the risk assessment if the removalist is unsure about what needs to be done or does not have the skills or knowledge to do the assessment.

This section is to be read in conjunction with **Appendix F: NZDF Assessment Process for ACDust.**

NZDF do not authorise random / speculative dust sampling; investigations to determine asbestos exposure risk must be focussed on visual evidence and (where required) air monitoring results.

The presence of erroneous asbestos fibres in low levels in any building where asbestos or ACM's form part of its construction is anticipated. Furthermore the purpose of an asbestos surveys is to identify asbestos containing materials, not to attempt to find all instances of asbestos fibres which are too small to identify visually. By finding all asbestos containing materials within the scope of an asbestos survey and assessing their condition, this information alone is an adequate proxy for asbestos airborne fibre exposure and dust sampling is not required.

NZDF have historically allowed dust sampling to go ahead under a prescribed regime and with oversight of the Asbestos Team. However since 2021 the National Asbestos Survey Programme have not allowed dust sampling to take place during management surveys.

PM's or others responsible for procurement of asbestos surveys and sampling should not request dust sampling from their consultants as part of a standard assessment for asbestos exposure risk. Exceptions are granted by the Asbestos Team where requested, as described within Appendix F and Table 12 below.

Table 12: Circumstances where ACDust Assessments may be permissible on the Defence estate.

Scenario	Description
As part of an assessment to establish appropriate controls during remediation.	Where asbestos containing materials are in poor condition the removal of these items must also consider the likelihood of presence of asbestos in dust in the immediate surrounding area. Dust sampling can be used to support visual observations but the results must be carefully interpreted to ensure the resulting remediation is appropriate and not overly reliant on the sample results.
In response to a significant and recent disturbance of asbestos.	If an accidental disturbance takes place the immediate area will require an access restriction to protect the occupants from exposure however, adjacent areas may require assessment to ensure the area of isolation is adequate i.e. to delineate the risk.
TEM analysis to determine the actual risk of previous dust sampling.	It may be possible to further investigate the risk presented by areas already under close management by the NZDF due to previous presence / absence dust sampling. Where this type of investigations go ahead, a strategy must be developed and agreed with the NZDF for both sampling and interpretation of results, and sample analysis must be based on ASTM-D6480. We encourage the use of Millette and Hays (1994)[3] for interpretation of results, but other guideline values may also be developed to account for differing occupational settings and degrees of tolerance.

4.16 *Notifying WorkSafe*

The following two WorkSafe notification scenarios are covered by in this section:

1.0 Notification of licensed activities under the Asbestos Regulations.

2.0 All other notifiable incidents.

4.16.1 *Notification of Licensed Activities under Asbestos Regulations*

The licensed asbestos removal contractor is responsible for providing notification to WorkSafe for the following licenced activities in accordance with the Asbestos Regulations:

- WorkSafe must be notified at least 5 days prior to any Class A or Class B licensed removal work by the license-holder. This means work cannot start until at least the 6th day from submission of the notification.
- During Class A asbestos removal, if airborne fibre concentrations of ≥0.02 f/ml in air are reported, these results must be notified to WorkSafe by the asbestos removalist.
- To gain approval to waive the 5 day notification period, prior to emergency work, unexpected events or breakdown of essential service notification (24 hour notification). Refer to Section 3.0 for more detail.

[3] Hays, S and Millette, J; Settled Dust Sampling and Analysis 1st Edition, 1994

Note that the WorkSafe MOU provisions do not apply in the above circumstances.

The PM is responsible for ensuring the appropriate notification to WorkSafe occurs.

Any notifications to WorkSafe are to accompany any applicable PTW application.

4.16.2 *All Other Notifiable Incidents*

All incidents requiring notification to WorkSafe on NZDF sites (outside of Section 4.16.1) first require reporting to the PM (by the contractor(s) involved) who are to inform the relevant NZDF Health and Safety representatives. The incident must be notified in accordance with the Memorandum of Understanding (MoU) between WorkSafe and NZDF, May 2019, available here (internal link), and notified in writing electronically via the WorkSafe NZ webpage.

Should exposure to airborne asbestos fibres be strongly suspected or confirmed, WorkSafe must be notified in accordance with Part 1, Schedule 24(a) of HSWA, 2015 as 'an escape, a spillage, or a leakage of a substance'. A concentration threshold for notification is not specified and should be determined with input from the Asbestos Team (likely if exposure suspected above the Airborne Contamination Standard / Workplace Exposure Standard (0.1 fibres/ml, measured as an 8 hour time weighted average)).

Section 3.0 provides more direction on emergency procedures and incident response processes which may also be triggered in the event of an incident or accident.

Notification records and correspondence should be stored on DDMS.

4.17 *Property Due Diligence*

Asbestos must be considered as part of any due diligence process prior to lease, sale or purchase of property by NZDF. In accordance with the Asbestos Regulations, an Asbestos Management Plan which is up to date and compliant with Duties 13 and 14 must be in place for any pre-2000 structure – this must identify and prescribe management actions and timescales to all known and presumed asbestos materials across the site. The AMP may exclude all areas not tenanted by NZDF but must include the tenanted area, any common areas (shared spaces, corridors, lifts and stairwells) and externals as a minimum.

If enabling or refurbishment work is required prior to occupation of a pre-2000 building by NZDF personnel, then a pre-refurbishment or demolition survey is required as outlined in Section 4.8. This may or may not be the responsibility of NZDF to procure but must be done in accordance with the Asbestos Regulations and must meet or exceed the standards detailed within the Management and Removal of Asbestos ACOP.

4.18 *Residential Tenancies of NZDF Properties*

Residential tenants are required to sign a contract prior to commencing a lease which prohibits them from undertaking any work on the property themselves, and to not waterblast any building exteriors known or suspected to contain asbestos. Where residential properties are managed by external parties, such as real estate agents (in some cases to non-NZDF personnel), NZDF must forward any data and information relating to asbestos to the external party. The external party managing the property has a responsibility under the Asbestos Regulations to ensure any PCBU conducting work on a property considers asbestos prior to carrying out any disturbance activity, and have an approved SWP in place to eliminate or minimise exposure. PCBU duties can't be contracted out or passed on to other parties.

CHAPTER 5 – ASBESTOS RISK ASSESSMENT, MANAGEMENT AND REGISTER

ASBESTOS RISK ASSESSMENT, MANAGEMENT & REGISTER

5.0 OVERVIEW

Health and Safety at Work (Asbestos) Regulations 2016

12 Duty to ensure presence and location of asbestos indicated

- *A PCBU with management or control of a workplace must ensure that the presence and location of asbestos or ACM identified at the workplace under regulation 10 are clearly indicated (and in a way that complies with the requirements of any applicable safe work instrument).*

13 Duty to prepare asbestos management plan

- *An asbestos management plan must include information about the following:*
  - *The identification of asbestos or ACM:*
  - *Decisions, and reasons for decisions, about the management of the risk arising from asbestos at the workplace*
  - *The workers who carry out work involving asbestos, including-*
    - *Information and training that has been and will be provided to the workers:*
    - *Roles and responsibilities of the workers:*
    - *Any health monitoring of the workers that has been or will be undertaken.*

This section outlines the processes NZDF will adopt to address the requirements of the Asbestos Regulations for identifying asbestos, assessing asbestos risks, and deciding how the risk posed by identified asbestos will be managed. As the NZDF estate is a complex "workplace", with thousands of buildings and sites, and multiple occupant types, the implementation of the following systems will allow NZDF to centrally control, review and revise the processes it uses to comply with the requirements of the Asbestos Regulations.

5.1 *NZDF Asbestos Register*

WorkSafe Approved Code of Practice (November 2016)

Section 7.2

Asbestos records should list all identified or assumed asbestos in a workplace that present, or is likely to present, a risk of exposure to respirable asbestos fibres

Records should describe all identified asbestos or ACM in the workplace, or likely to be in the workplace occasionally, including:

(1) The date the workplace PCBU identified or assumed the presence of asbestos or ACM

(2) The location, type and condition of asbestos

(3) An estimate of the area or quantity of asbestos

(4) Analysis results confirming whether a material at the workplace is or is not asbestos

(5) Details of inaccessible areas

A requirement of the Asbestos Regulations is that asbestos must either be identified or presumed in the workplace and the information, decisions and reasons for decisions, about the management of asbestos risks must be made

available to all relevant stakeholders. The information must be available to all workers working in or near the areas where asbestos has been identified on the NZDF estate.

All asbestos item records are stored in the NZDF Asbestos Register, and their condition will be monitored and updated on a regular basis through this centralised platform (at frequencies specified by DEI, or when requirements change. DEI manages the NZDF Asbestos Register.

This section explains what and where asbestos information and records must be recorded.

5.1.1 *Asbestos Data*

For all management surveys, asbestos items in buildings and other structures must be surveyed to a standard that meets or exceeds the GPG (WorkSafe, 2016A) via the Survey 123 app which records the location, condition and risk of each item. The information is updated via the Survey 123 asbestos web-app.

For refurbishment and demolition surveys, NZDF currently accept all reports as PDF format and do not own a repository for collection of the associated data. NZDF therefore have manual processes for incorporation of findings into the Asbestos Register.

Data for soil assessments must be collected in accordance with BRANZ 2017 guidelines, and laboratory data for soil results must be generated in ESDAT format.

For all survey types, where asbestos items can't be accessed and a material is to be assumed positive or negative, appropriate justification must be provided by the surveyor. Photos and descriptions of all positive or assumed positive items must be reported in a way that will assist in locating the item, and assessing the condition of the item to record changes in the future.

Site plans must be provided as part of an asbestos survey to show the location of items that are positive, and if negative items are marked, these must be clearly marked in contrast to positive items.

Each survey report must include the following information:

- Type of survey and description of methodology (i.e. intrusive or non-intrusive), FLOC Number and current building name on the cover page.
- Age of building and record of specific observations.
- Building Information Observations for general building information such as construction, general use, site discussions with occupants, likelihood of residual contamination, and soil contamination
- Refurbishment and demolition survey reports must include clear references relating to the scope of the proposed project works and associated design/specification information as provided by the PM.
- Clear recommendations for each positive or assumed positive item (for management surveys these are controlled through the Survey 123 site app and web app).
- Provision of general recommendations summary for each building.
- Reference to all appropriate New Zealand legislation, approved code of practice, guidelines and standards.

- Photos, site plans, laboratory certificates, any clear details on limitations of the survey as well as any specific exclusions.

- Names and Company details of the surveyor, and evidence of internal quality assurance review.

Refer to the NAS Programme Surveyor User Manual for further direction on data collection using this tool during management surveys.

5.1.2 *Asbestos Item Condition Assessment, Management and Remediation Data*

Where the condition of an identified or assumed asbestos item changes, or where asbestos management, remediation or removal occurs, the item's condition status must be updated in the NZDF Asbestos Register. Any supporting information such as reports, certificates, photos and validation reports must be sent to the asbestos email (asbestos@nzdf.mil.nz) for inclusion.

5.1.3 *Air Monitoring Data*

Air monitoring reports related to asbestos removal are not added to the NZDF Asbestos Register but are stored within project documentation.

Workplace / reassurance air monitoring is uploaded to the asbestos investigations, surveys and management, and linked to within the Asbestos Register. All results should be recorded in accordance with the requirements listed on the SOW.

5.1.4 *Clearance Certificates*

All clearance certificates must include clear information what has been inspected and why, a floor plan including any clearance air monitoring and surface testing locations, as well as any locations of remaining asbestos and areas that could not be inspected. Where risk remains in place, ongoing actions to control the risk must be included. Specific requirements are provided by the Asbestos Team at the point of procurement.

5.1.5 *Labelling Data Management*

Where labels are applied to asbestos items (including QR codes), this information must be recorded in the NZDF Asbestos Register.

5.1.6 *Contaminated Site Investigations*

Contaminated Site Investigations (CSIs) and other soil investigations and data relating to asbestos in soil must be recorded in the NZDF Asbestos Register, and in ESDat through the lab responsible for analysing the sample. This includes PSIs, DSIs, remedial action plans (RAPs), Site Validation Reports (SVRs) and Site Management Plans (SMPs) where asbestos has been assessed, managed or remediated.

5.2 *Asbestos Risk Assessment*

WorkSafe Approved Code of Practice (November 2016)

Section 8.2. When managing asbestos-related risks, the workplace PCBU must:

- *Identify or assume the presence of asbestos and ACM at the workplace that the PCBU knows or ought to reasonably know about.*
- *Assess the likelihood of exposure to airborne asbestos from the identified or assumed asbestos.*

- *Eliminate or minimise the risks by putting control measures in place.*
- *Review the control measures to make sure they are effective.*

Asbestos is only dangerous to health when fibres become airborne. Once identified, asbestos does not necessarily pose a health hazard or risk, if it is maintained within a bound matrix to prevent fibre release and is maintained in accordance with this DE-AMP. To avoid disturbance and potential release of asbestos fibres, it is often safer to leave the material in-situ until demolition or refurbishment.

The NZDF Survey 123 ArcGIS tablet-based application provides a risk ranking framework for the material risk assessment of identified asbestos items. Use of the application is mandatory for management surveys undertaken throughout the Estate, but is currently not mandatory for any other type of surveys. The risk assessment methodology for management surveys has been developed in accordance with the Asbestos Regulations and in line with the approach to risk outlined in DFI 081 – Risk Management. There are some minor differences to the scoring mechanism when compared to the GPG (WorkSafe, 2016A). However, these have been developed to simplify and enhance readability of the survey information using a decimal-based algorithm scoring system, while preserving the key parameters for estimating risk.

The specific approach to the risk assessment is detailed within the National Asbestos Survey Programme (NASP) Surveyors User Manual, available here (internal link).

5.3 *Asbestos Management Decisions and Reasons for Decisions*

WorkSafe Approved Code of Practice (November 2016)

Section 9.5

If the asbestos or ACM is in good condition and undisturbed, it is unlikely that airborne asbestos fibres will be released. In this situation, the risk to health is low. It is usually safer to leave it and review its condition over time.

However, if the asbestos or ACM deteriorates, is disturbed, or if ACDust is present, there is an increased likelihood airborne asbestos will be released.

The material binding the asbestos fibres will have an impact on the potential for airborne asbestos to release. For example, a loosely-bound sprayed coating is more likely to release fibres if it is disturbed, compared to asbestos cement with firmly bound fibres.

The workplace PCBU or a PCBU carrying out work involving asbestos should decide if there is a risk of exposure to airborne asbestos.

To enable compliance with the Asbestos Regulations, asbestos surveys must provide recommendations for management or removal of asbestos where asbestos items have been identified or assumed. Recommendations must relate to the risk posed by the item under normal occupation and foreseeable (routine) maintenance, and additional risk presented by planned works in the case of refurbishment and demolition surveys. All risks assessments must relate to the risk of exposure to airborne asbestos. NZDF Project Managers are responsible for ensuring the recommendations in the asbestos surveys are implemented or (where an alternative solution is preferred) another appropriate action is assigned and actioned.

In some instances, asbestos management decisions made by the PM / Asbestos Team will differ from the recommendation provided by the consultant, particularly where recommendations require action. **It is ultimately the responsibility of NZDF to assign a reasonable management or removal approach to all instances of asbestos across the NZDF Estate, with consideration of the survey recommendations as one of several key factors that may influence the outcome / decision.**

5.3.1 *Management and Removal Decisions*

The following basic principles are applied across the NZDF estate when assessing and prioritising asbestos management and removal decision:

1) Elimination (removal) must always be the first option considered but is not always appropriate or reasonably practicable.

2) Asbestos containing materials, whilst in good condition, do not present a risk to human health.

3) The risk of disturbance during normal occupation and maintenance as well as vulnerability to accidental disturbance, must be considered in addition to the parameters detailed within a survey report, when prioritising actions.

4) Asbestos removal temporarily increases risk, particularly for those involved with the physical removal works; a risk which must be accounted for during prioritisation.

5) In the absence of reliable asbestos survey data, decisions and reasons for the management of asbestos are driven by the requirement to assume the presence of asbestos and for conservative measures to be implemented.

NZDF are developing tools in order to assign management actions to each of the items held within the Asbestos Register, but until such time as these tools can be applied throughout the Estate the following considerations will be made for each item requiring action:

Where items require an immediate access restriction due to the imminent risk of exposure to staff and contractors:

- The area will be isolated and warning signage will be installed.
- An assessment will take place to determine the requirement for risk elimination or minimisation; based on whether the area is essential to maintain operations and on the likely frequency, duration and overall risk of exposure when entering for essential maintenance.
- The entries will be periodically inspected to ensure the access restriction remains in place.
- Where applicable, occupants of adjacent areas will be informed of the risks and reassurance air monitoring will take place to verify the access restriction is providing effective control of the risk to adjacent areas.
- An exposure risk assessment will take place periodically to inform of ongoing management actions and plan for any essential access, until the NZDF priorities allow for the area to be remediated, or
- Until the area is due for refurbishment or demolition at which point;
- The asbestos will be removed (i.e. the risk eliminated or minimised AFARP).
- All asbestos removal will take place in accordance with the requirements of this DE-AMP.

Where items do not present an immediate risk of exposure but are at moderate to high risk of future disturbance under normal occupation of the area:

- Access to the immediate area will be controlled if recommended by the surveyor – this will be accounted for whilst risk assessing all future works involving close proximity access to the item.
- The item will be labelled if its condition and surface treatment allows this to be done safely. Consideration will be given to reduce the risk through enclosure or encapsulation.
- The items condition will be monitored periodically (at least annually) to check for deterioration.
- A periodic site-wide assessment of removal priorities (based on exposure risk) will determine when the item should be removed, if damage occurs or its condition deteriorates removal may become a priority but encapsulation and enclosure will also be considered during each review.

- Otherwise, the item will remain in place until the area is due for refurbishment or demolition at which point;
- The asbestos will be removed (i.e. the risk eliminated or minimised AFARP).
- All asbestos removal will take place in accordance with the requirements of this DE-AMP.

Wherever low risk items are reported:

- The items may be labelled where easily accessible unless they are found within a sensitive working environment (e.g. an office space or medical facility).
- The items condition will be monitored periodically (at least annually) to check for deterioration.
- A periodic site-wide assessment of removal priorities (based on exposure risk) will determine when the item should be removed, if damage occurs or its condition deteriorates removal may become a priority but encapsulation and enclosure will also be considered during each review.
- Otherwise, the item will remain in place until the area is due for refurbishment or demolition at which point;
- The asbestos will be removed (i.e. the risk eliminated or minimised AFARP).
- All asbestos removal will take place in accordance with the requirements of this DE-AMP.

For items assumed to contain asbestos based on height access restrictions:

- The items condition will be monitored periodically (at least annually) to check for deterioration.
- The item will remain in place until the area is due for refurbishment or demolition at which point;
- The item will be fully accessed, inspected and (if necessary) sampled to confirm presence of asbestos.
- If found to contain asbestos the item will be removed (i.e. the risk eliminated or minimised AFARP) or disturbed using a Safe Work Practise.
- All asbestos removal will take place in accordance with the requirements of this DE-AMP.
  Please note: assumed items will not typically be labelled.

For items assumed to contain asbestos based on lack of internal access to electrical items, plant and machinery:

- The integrity of the materials encasing the assumed ACM will be monitored periodically (at least annually) to check for deterioration.
- The item will remain in place until the area is due for refurbishment or demolition at which point;
- The item will be wrapped and removed as a whole unit and disposed of as asbestos waste, or;
- The item will be isolated, fully accessed, inspected and (if necessary) sampled to confirm presence of asbestos.
- If found to contain asbestos the item will be removed (i.e. the risk eliminated or minimised AFARP) or disturbed using a Safe Work Practise.
- All asbestos removal will take place in accordance with the requirements of this DE-AMP.
  Please note: assumed items will not typically be labelled.

For soils where asbestos is known (not assumed):

- All potential soil disturbances will be subject to an assessment of risk undertaken by DEI Environmental Services and major disturbances can only take place with a PTW and under controls commensurate to the level of asbestos present within the soils.
- Where a genuine risk to human health is present (accounting for the type and level of occupation), the soils will be enclosed with natural vegetation or where necessary by a physical barrier e.g. geotextile.
- All areas (excluding landfills) will not be subject to periodic monitoring unless a specific concern is raised or a quantifiable assessment of risk has been made.
- When a major disturbance is planned, the area will be remediated (i.e. the risk eliminated or minimised AFARP) in advance of the works.
- All asbestos removal will take place in accordance with the requirements of this DE-AMP.

For sub-surface ACM's (horizontal infrastructure, known and assumed):

- The items will remain in-situ until such time that maintenance or other activities require the item to be accessed or disturbed.
- All potential soil disturbances will be subject to an assessment of risk undertaken by DEI Environmental Services and major disturbances can only take place with a PTW and under controls commensurate to the level of asbestos present within the soils.
- When the infrastructure reaches the end of its life, the NZDF Project Manager should ensure the ACM's are removed if at risk of future disturbance, or
- Where no disturbance is likely, ensure the ACM"s are kept in a safe condition and adequately recorded for future risk assessment.
- Where the risk of future disturbance is low, the preference is for the ACM's to remain buried because the exposure risk is likely to increase during removal.
- All asbestos removal will take place in accordance with the requirements of this DE-AMP.

5.3.2 *Immediate Exposure Risks*

When a Particular Asbestos Risk notification is received the recommended actions must be reviewed and actioned immediately. The following communications process has been developed in order to ensure this is done quickly and consistently across the NZDF estate, as well as to enable effective monitoring of these actions and trigger ongoing management:

1. The consultant undertaking the survey must fill in the PAR Notification form and send to the Asbestos Team at asbestos@nzdf.mil.nz and their NASP POC within 24 hours of the risk becoming evident (this may be prior to or once sample analysis results received). **In a critical situation the issue should immediately be raised by phone.**
2. The Asbestos Team will coordinate exchange of information between the Consultant and DE&I Team. The EDD must be included in comms.
3. DE&I Team to work with respective parties to communicate the requirements of the access restriction to all actual and potential occupants of the affected area(s). For residential buildings DSSG must also be notified.
4. DE&I Team must then isolate the risk by restricting access to the area(s), this can be done directly by locking access routes and affixing warning signage, or by instructing the FM Provider to undertake this on their behalf.
5. Where severe impacts are anticipated, DE&I Team to work with affected building POC's to assist with identifying alternative workspaces and resources.
6. DE&I Team to notify Asbestos Team once the area has been isolated – action to be logged on registers.
7. Once all required information is fully documented; Asbestos Manager to log the incident on S.E.M.T and Asbestos Data Manager to upload the notification and supporting comms to DDMS.

5.3.3 *Asbestos Quality Assurance Process*

To successfully effect implementation of this Asbestos Management Plan, DEI has engaged an Asbestos Quality Assurance Advisor to assist with the implementation of the policies and procedures outlined in this plan, as well as provide SME guidance and practical decision making as NZDF continue to identify an assess asbestos risks across our large estate.

CHAPTER 6 – NZDF INDUCTIONS, TRAINING & HEALTH MONITORING

6.0 INDUCTIONS, TRAINING AND HEALTH MONITORING

6.1 *General Personnel Inductions*

The primary means of educating personnel on the NZDF estate on NZDF's expectations and requirements in regards to asbestos is via a general induction. NZDF and FM Provider personnel responsible for providing building and site inductions are to ensure an asbestos segment is covered in their inductions that includes the following content:

- General obligations and responsibilities relating to asbestos, including reporting damage and incidents.
- Overview of relevant asbestos management principles and policies aimed at keeping people safe.
- Where to go to access information including asbestos register and DE-AMP.

6.2 *NZDF Personnel with DE-AMP Roles and Responsibilities*

All NZDF persons with identified roles and responsibilities in Section 2.0 must familiarise themselves with the relevant parts of this DE-AMP as they relate to the nature of their work. In addition, the following key staff must have the necessary knowledge and experience to perform their roles.

6.2.1 *Requirements of the Asbestos Quality Assurance Advisor*

The Asbestos Quality Assurance Advisor must have sufficient knowledge and experience to guide and direct activities associated with asbestos across the estate. The requirements include:

- Having a thorough working knowledge of the New Zealand regulatory setting for asbestos, history, general asbestos awareness and understanding of the types and condition of asbestos found in New Zealand and especially across the NZDF estate.

- Having an extensive working experience of asbestos removal and management from a consulting perspective, ideally with prior experience consulting for one or more public sector organisations, as well as the following qualifications:
    - IP404 (Air Monitoring, Clearance Inspections and Reoccupations following the removal of asbestos).
    - IP402 (Surveying and Sampling Strategies for Asbestos in Buildings).
    - IP405 (Management of Asbestos in Buildings) is not essential but desirable.

- Be able to work with the DEI Health and Safety Team to ensure asbestos related incidents are investigated and that corrective actions are identified and implemented appropriately.

- Being able to guide and train PM's in the use of the Workflows in this plan as appropriate.

- Being able to documentation received from the PM's in a timely manner and collate available background information on relevant structures as required.

- Completion of desktop audits and assist NZDF with the evaluation and performance monitoring of consultants and contractors.

- Declaring conflicts of interest with any NZDF consultant or contractor.

6.2.2 *DEI Health and Safety Team – Auditing Personnel*

DEI Health and Safety team members who complete worksite audits on projects where asbestos work is taking place must at minimum hold asbestos awareness training but may wish to gain the IP405 Management of Asbestos in Buildings certificate or sit in-house training provided by the Asbestos Team. At minimum they must:

- Have a working knowledge of the New Zealand regulatory setting for asbestos management and a general awareness of the types and uses of asbestos especially where present on the estate, and the safe use of PPE and RPE.

- Be familiar with the contents of this document to the extent where they can guide PMs and contractors to relevant information as required.

- Be able to work with the Asbestos Team to ensure asbestos related incidents are investigated and that corrective actions are identified and implemented appropriately.

6.3 *Asbestos Training Records*

NZDF is required to hold and maintain training records for all NZDF personnel that receive asbestos training. This is a mandatory requirement for all NZDF personnel that carry out asbestos works or asbestos-related works. All units shall keep records of personnel that have received asbestos training recording the name, date, course name, location and trainer.

6.4 *Asbestos PPE and RPE*

Where NZDF requires its own personnel to access an asbestos-restricted area (typically a “competent person” under the Asbestos Regulations), NZDF will provide appropriate PPE, including suitable RPE if deemed necessary. Where PPE is provided and required to be worn, this will be accompanied with training and instruction to personnel in how to appropriately wear, use, store and maintain the PPE.

The minimum requirements for PPE and RPE for access into asbestos contaminated areas (including asbestos work areas) is as follows:

- Half face orinasal (quantitatively face fit tested - every 1-2 years if used repeatedly) respirator with P3 filter,
- Personnel must be clean shaven to ensure effectiveness of respirator,
- Cat III Type 5/6 coveralls (any colour),
- Non-laced footwear or disposable overshoes,
- Entries must only be planned by competent persons and respirator selection must always be supported by an exposure risk assessment accounting for the type of asbestos and its condition. Entry is subject to receipt of an asbestos permit which requires review and approval of a Safe Work Practise. The SWP must include the risk assessment and specific type of RPE selected as the control measure.

Disposable P2 face masks are only adequate for very short term one-off inspections into low risk areas. Full face RPE may be necessary in higher risk scenarios but should be tested prior to ensure vision is not affected during entry. Evidence of the fit testing must be stored with the personnel training records and be available on request.

NZDF is not responsible for the provision and maintenance of PPE or RPE for any contractors, consultants or FM provider personnel on the NZDF estate unless otherwise agreed.

Refer to Section 4.13.7 for PPE and RPE requirements related to asbestos in soils.

Figure 5. Different PPE types. Source: WorkSafe NZ

6.5 *Health Monitoring*

WorkSafe Approved Code of Practice (November 2016)

Section 16.2

Health monitoring must be provided to workers if they are at risk of exposure to asbestos when carrying out any of the following work for a PCBU:

- *Class A licensed asbestos removal work.*
- *Class B licensed asbestos removal, where it involves more than 4-weeks work in any 12-month period.*
- *Licensed asbestos assessor work.*
- *Workers carrying out other ongoing asbestos-related work or unlicensed asbestos removal work and are at risk of exposure to airborne asbestos when doing work.*

Health and Safety at Work (Asbestos) Regulations 2016

Subpart 3 – Health monitoring, training and use of equipment

15 Duty to provide health monitoring

(1) A PCBU must ensure that health monitoring is provided in accordance with regulation 16, and with Part 3 of the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, to a worker carrying out work for the business or undertaking if the worker is –

(a) *Carrying out licensed asbestos removal work at a workplace and is at risk of exposure to asbestos when carrying out the work; or*

(b) *Carrying out other ongoing asbestos removal work or asbestos-related work and is at risk of exposure to asbestos when carrying out the work.*

For the purposes of sub clause (1)(a), the PCBU must ensure that the health monitoring of the worker commences within 4 weeks of the worker starting to carry out licensed asbestos removal work.

This DE-AMP does not apply to military capability assets where the undertaking of asbestos related works by NZDF personnel may be more common on the NZDF estate. For the purpose of clarity, this section therefore only applies to the management and maintenance of our vertical and horizontal infrastructure, as well as the sites (soils) in which they are present. For health monitoring policy information related to other activities that may take place on the NZDF estate, refer to DFO 071 Defence Force Safety.

The NZDF and our personnel do not directly undertake any licensed asbestos removal work, but do own and manage a considerable estate where many licensed, unlicensed and asbestos related activities take place that may present a risk of exposure to NZDF personnel.

No NZDF personnel have a direct duty to undertake any asbestos related works, however some NZDF personnel may on occasion be required to be present within a restricted area (an area requiring respiratory protective equipment due to asbestos exposure risk) for the purpose of fulfilling their duties e.g. as a security escort or to undertake an essential inspection. Where health monitoring becomes a requirement under the Health and Safety at Work (Asbestos) Regulations 2016, Defence Health are responsible for ensuring all applicable NZDF personnel have access to the necessary health resources and practitioners, which for civilian members of the NZDF may include referral to public health providers.

6.5.1 *Exclusions to Health Monitoring Provisions*

These health monitoring provisions are for occupational asbestos exposures only, therefore do not apply to any incidents or emergencies that take place outside the NZDF estate and for reasons outside the instruction of the NZDF.

The NZDF are not responsible for health monitoring requirements of any licensed or unlicensed contractors but may request evidence of health monitoring programmes from licensed and unlicensed contractors to ensure that they are compliant with their duty to provide health monitoring whilst operating on the NZDF estate.

6.5.2 *Health Monitoring Record Keeping*

All health monitoring records shall be kept for the period specified in DFO 071. Due to the sensitive nature of health records, Defence Health are responsible for holding and managing health records for all NZDF personnel.

CHAPTER 7 - CONTRACTOR REQUIREMENTS

7.0 OVERVIEW

For simplicity, consultants and contractors are referred to collectively as 'contractors' within the Chapter.

The NZDF estate has thousands of buildings and large volumes of various other infrastructure types that are either known to or are assumed to contain asbestos. As of August 2022 this includes approximately 60% of the pre-2000 buildings that have not yet been surveyed. Contractors involved in maintenance, refurbishment and demolition works on the estate **must** therefore be aware of the risks involved in disturbance to asbestos, even when asbestos disturbance is not anticipated.

7.1 *Contractor Training Requirement*

WorkSafe Approved Code of Practice (November 2016)

Section 12.2

PCBUs must make sure, so far as is reasonably practicable, every worker who works with asbestos:

- *Is knowledgeable about and experienced with asbestos and other risks the work may present so they are not likely to harm themselves or other people,* ***or***
- *Is supervised by someone with that knowledge and experience,* ***and***
- *Is adequately trained in how to safely use everything they need to work with, including the protective clothing they may need to wear.*

At present, NZDF do not require all contractors operating on the estate to hold asbestos awareness training however training must be provided in accordance with all applicable health and safety legislation which includes the Health and Safety at Work (Asbestos) Regulations 2016 in the case of known and assumed asbestos presence.

In general, contractors are responsible for addressing their own training needs but must keep records available for NZDF if requested during the assessment and approval of works.

7.2 *Site Based (No Known Asbestos) Undertakings*

It is the responsibility of all contractors accessing the workplace to familiarise themselves with the contents of the NZDF Asbestos Register and other asbestos related documentation (request if not already supplied) and conduct their own risk assessment to protect themselves and others from exposure to asbestos during the course of their works.

Prior to commencing any work on the NZDF estate, a contractor must have a number of measures in place to avoid disturbance to asbestos:

1. Before visiting the site, review the relevant asbestos register/survey information for the building or area where work is to be undertaken. If refurbishment or demolition is to occur, obtain relevant destructive / intrusive survey report.

2. All contractors must have attended a DEI contractor induction which includes information on where to access asbestos information.

3. Be aware of the requirements of the Asbestos Regulations including the competencies and licenses involved with asbestos identification, assessment and removal.

4. Hold an accidental discoveries and disturbances protocol (including stop works process) in order to quickly assess any unknown materials encountered during works.

7.3 *Site Based (Asbestos) Undertakings*

Any type of contractor undertaking works involving identification or disturbance of asbestos containing materials must be competent in the tasks proposed, and these tasks can only go ahead with prior assessment and approval from DEI to do so. Standards and expectations for contractors undertaking works on the NZDF estate are set by DEI. For all asbestos works contractors must:

a) (As applicable) undertake their works in accordance with;
   i) Workplace health and safety legislation both specifically and not specifically for the management and removal of asbestos,
   ii) The Management and Removal of Asbestos Approved Code of Practise (standards must meet or exceed "the ACOP"),
   iii) (Where involving soils) the New Zealand Guidelines for Assessing and Managing Asbestos in Soil ("BRANZ Guidelines"), and any Contaminated Site Management Plans specific to the camp / base / region, unless otherwise advised by DEI Environmental Services.
   iv) The DEI Construction Health Environment and Safety Specification.
   v) This DE-AMP.
b) Attend all necessary DEI and site inductions which may include additional requirements where working within specified buildings or areas.
c) Hold the necessary level of clearance to achieve access to the required camp / base or Defence area.
d) Observe all other health, safety, environmental and security compliance requirements.

7.3.1 *Contractor Compliance*

PMs are required to ensure the following contractor requirements from this Chapter are met, with support from the Asbestos Team as requested. Where applicable, documented procedures must be implemented to select, monitor and manage contractors who work with asbestos.

Performance monitoring/auditing of contractors completing asbestos-related activities will be completed in accordance with the Construction Health & Safety Indicative Performance System (CHIPS). This will be undertaken by the NZDF Project Manager on a monthly basis. The review of CHIPS reports will be completed by the Regional Health and Safety Specialists, with assistance on asbestos related matters by the Asbestos Team, as required. The Asbestos Team will also monitor the contractor's technical performance based on quality of deliverables and known project outcomes – information will be shared with the Project Managers as required throughout procurement and delivery of all projects involving asbestos identification or disturbance.

7.3.2 *Declaration of Compliance for Licensed Contractors*

To establish contractor competence and compliance history, several key self-declarations must be considered, and must be requested by the PM prior to formal engagement.

A declaration of compliance history is important for Licensed Asbestos Removal Contractors. A number of different enforcement actions may exist so this request should include the following and cover a 5 year period (maximum license period) even if multiple licenses have been held within that time. These can also be considered during the next review of all pre-existing asbestos contractors operating on the NZDF estate. Items listed below:

In relation to Health and Safety; number of:
b. Improvement Notices
c. Prohibition Notices
d. Non – disturbance notices
e. Infringements
f. Enforceable undertakings
g. Prosecutions
h. Licence suspensions
i. Licence cancellations

In relation to hazardous waste management; number of:
j. Abatement Notices
k. Infringement Notices
l. Enforcement Orders
m. Prosecutions

Where responding to the above, Licensed Asbestos Removal Contractors should be allowed the opportunity to declare further details.

During engagement the appointed contractors should be given timescales for how quickly they must notify the PM of any new enforcement actions taken against them.

7.3.3 *Consultant Independance*

The NZDF recognise that the industry in New Zealand is small which means avoiding conflicts of interest between Asbestos Consultants and Licensed Asbestos Removal Contractors entirely (including contracts that exist outside of the NZDF estate) may not be possible. However as part of accounting for all levels of risk for a project, NZDF Project Managers should always enquire as to the nature of any relationship between a consultant and contractor undertaking works as part of the same project / scope of works. Actual, perceived and potential conflicts of interest should be declared and managed accordingly, as part of the PM's due diligence during procurement, and where necessary during the works.

For Licensed Asbestos Assessors undertaking clearance inspections following licensed asbestos removal works, they must be financially independent of the associated Licensed Asbestos Removal Contractor for that project which means their services must not be paid for by the Licensed Asbestos Removal Contractor. This does not apply to unlicensed removal works.

PM's should consult their Regional Health and Safety Specialist regarding risk appetite and thresholds for penalties for contractors. Refer to CHESS and CHIPS for further information on performance monitoring.

7.3.4 *Other Requirements*

Consultants completing asbestos-related work on the Defence estate will include asbestos surveyors, consultants performing air monitoring, licensed asbestos assessors and contaminated land specialists / SQEP's.

Asbestos consultants and contractors working on NZDF projects must:

1. Hold and maintain current insurances to work with asbestos. Renewal certificates must be provided annually to NZDF, together with evidence showing asbestos **specifically listed** on the policy. Minimum limits for Public Liability and Professional Indemnity insurances must be at least $2 million but this requirement will vary dependant on nature and extent of works.

2. Make training records, evidence of health monitoring and mask fit-testing available on request for relevant staff.

3. Provide risk assessments and evidence of safety management systems as required for the work to be completed.

Specific contractors and third party requirements are as follows:

Licensed Asbestos Assessors or competent persons who undertake air monitoring and clearance inspections must conform to the requirements set out in the Asbestos Regulations 2016. Relevant training should include British Occupational Hygiene Society (BOHS) IP404 Air Monitoring, Clearance Inspections and Reoccupation Following the Removal of Asbestos, or Unit Standard 29768 Conduct asbestos assessment associated with removal. They must also be proficient in the principles and practice of asbestos hygiene, including air monitoring and ACDust outlined in this DE-AMP. Licensed Asbestos Assessors undertaking clearance inspections for Class A works must be listed on the WorkSafe license holder register with a current license and experience applicable to the type of setting required by NZDF (some license holders may only undertake clearance inspections within the residential setting).

In line with Section 4.1 of the GPG (WorkSafe, 2016A), **lead asbestos surveyors** must demonstrate they have sufficient competencies to complete the work. The NZDF specifically expect at least 6 months of supervised experience of residential properties to do any unsupervised surveys on the NZDF estate, and at least 2 years' experience surveying commercial and industrial buildings in order to undertake more complex surveys on NZDF barracks and any operational buildings). Surveyors undertaking refurbishment or demolition surveys must be able to demonstrate competence in undertaking similar surveys in the same setting (residential / operational).

Junior asbestos surveyors must be adequately supervised by the lead surveyor. Examples of suitable entry-level training for all surveyors includes the BOHS Proficiency Module P402 Surveying and Sampling Strategies for Asbestos in Buildings. Additional recognised entry-level training includes BOHS W504 Asbestos and other fibres. All surveyors must be proficient in the principles and practice of asbestos hygiene, including occupational air monitoring and ACDust outlined in this DE-AMP.

Asbestos survey consultancies must be able to provide copies of written procedures (including their risk management and quality control processes) for the asbestos services they provide. They should also be able to provide examples of work on similar portfolios with references or other evidence of similar recent work and a statement of their limitations included in their reports.

Laboratories completing asbestos analysis including fibre counting (excluding TEM analysis):

a. Analysis of air samples and bulk samples of potential asbestos containing ACM must be accompanied by a certified International Accreditation New Zealand (IANZ) result or equivalent. Note that the Asbestos Regulations 2016 also permit WorkSafe to issue interim approval for unaccredited reports where the IANZ accreditation is pending.
b. Certification to ISO/IEC 17025 (optional but preferred).

SQEPs must be a Certified Environmental Practitioner Scheme (CEnvP) Site Contamination Specialist – with sufficient asbestos training and experience.

Licensed Asbestos Removal Contractors must be listed on the WorkSafe license holder register as holding the required license (Class A or Class B) and must provide evidence their supervisors and team holds the necessary training and experience required by the Asbestos Regulations. Class A license holders may undertake the removal of any amount of friable or non-friable asbestos, but Class B license holders must not undertake the removal of any amount of friable asbestos.

Any use of **labour hire companies** by Licensed Asbestos Removal Contractors must be approved by the project team with consultation with the Asbestos Team. Their use must be detailed specifically within the contractors ARCP with a specific assessment on the additional controls put in place to manage the workforce, as well as stating the specific tasks that will be required of them.

7.3.5 *Asbestos Related Works Or Unlicensed Asbestos Removal Works*

Contractors completing unlicensed removal and/or asbestos-related work (where a licensed contractor is not used) must ensure all personnel completing the work have undertaken formal asbestos awareness training relevant for the type of work activities they are completing. Each person involved in these undertakings on an ongoing or prolonged basis must complete health monitoring as described within the Asbestos Regulations (see Section 6.5).

Contractors undertaking asbestos related work or unlicensed asbestos removal work must ensure that that all works are undertaken in accordance with a safe work procedure that has been approved by NZDF before proceeding, and that works do not trigger a licensed activity (i.e. removal of greater than 10 m² of non-friable asbestos removal or any amount of friable asbestos).

7.3.6 *Contractor Documentation*

All documentation provided by contractors must meet the requirements of the Asbestos Regulations 2016 and the ACOP (WorkSafe, 2016B). The documentation will be subject to review by the NZDF Asbestos Team to ensure all NZDF requirements are met prior to approval for work to commence. All documentation will be stored on DDMS.

7.3.7 *Asbestos Removal Control Plans (ARCP)*

All licensed (Class A and Class B) asbestos removal work can only be done with an approved ARCP in place. Asbestos Removal Control Plans (ARCP) must meet all legislative requirements and contain sufficient information for the NZDF Asbestos Team to review and approve all control measures in advance of works commencing. Approval will be dependent on the quality of the documentation presented and approval will not be given until all concerns have been adequately addressed. The Licensed Asbestos Removal Contractor holds the duty to prepare the plan but should work with the Licensed Asbestos Assessor to confirm their scope of works such as air monitoring and clearance requirements. The Licensed Asbestos Assessor must also review the entire contents of the plan as part of their preparations for site work.

7.3.8 *Safe Work Practices (SWP)*

For all asbestos related works and unlicensed asbestos removal works, contractors must use Safe Work Practices to minimize the risk of exposure. **Anyone preparing SWP's should (at a minimum) refer to parts C, E and H (Section 29) of the Management and Removal of Asbestos ACOP. Appendix F and G of the ACOP provide example SWP's that can be used or adapted for similar tasks.**

SWP's must meet all legislative requirements and contain sufficient information for the NZDF Asbestos Team to review and approve all control measures in advance of works commencing. Approval will be dependent on the quality of the documentation presented and approval will not be given until all concerns have been adequately addressed.

For regular tasks, Standard Operating Procedures (SOP's) can be developed which will form part of the documentation of that Safe Work Practise.

WORKS CITED

Asbestos Regulations. (2016). *Health and Safety at Work (Asbestos) Regulations 2016.* Wellington, New Zealand: New Zealand Government.

BRANZ. (2017). Guidelines for Assessing and Managing Asbestos in Soil. *Guidelines for Assessing and Managing Asbestos in Soil*. BRANZ Ltd.

Defence Estate and Infrastructure. (2020). *DEI Construction Health Environment & Safety Specification.* Wellington: New Zealand Defence Force.

Department of Health, Australia. (2013, March 6). *Who is at risk of developing asbestos-related diseases*. Retrieved from Department of Health, Australia: https://www1.health.gov.au/internet/publications/publishing.nsf/Content/asbestos-toc~asbestos-health~asbestos-risk-diseases

Hazardous Activities and Industries List. (n.d.). *Hazardous Activities and Industries List*. Retrieved from https://www.mfe.govt.nz/sotes/default/files/hazards/contamintaed-land/is-land-contaminated/hazardoues-activites-industries-list.pdf

Health and Safety at Work Act (Asbestos) Regulations 2016. (n.d.). *Health and Safety at Work Act (Asbestos) Regulations 2016*. Retrieved from www.legislation.govt.nz/regulation/pulic/2016/0015/latest/DLM6729706.html

Health and Safety at Work Act 2015 (HSWA). (n.d.). *Health and Safety at Work Act 2015 (HSWA)*. New Zealand: Crown. Retrieved from www.legislations.govt.nz/act/public/2015/0070/55.0/DLM5976660.html

NOHSC. (2005). *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* Canberra, Australia: National Occupational Health and Safety Commission.

NOHSC:3003. (2005). *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition.* Canberra: NOHSC.

Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011. (n.d.). *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011*. Retrieved from www.legislation.govt.nz/regulation/public/2011/0361/latest/DLM4052228.html

Resource Management Act 1991. (n.d.). *Resource Management Act 1991*. Retrieved from www.legislation.govt.nz/act/public/1991/0069/latest/DLM230265.html

Standards Australia. (2004). *Method for the qualitative identification of asbestos in bulk samples.* Sydney: Standards Australia International Ltd.

Water New Zealand. (2017). *Good Practice Guide National Asbestos Cement Pressure Pipe Manual.* Water New Zealand.

WorkSafe. (2016A, October). *Good Practice Guidelines, Conducting Asbestos Surveys*. Wellington: WorkSafe New Zealand.

WorkSafe. (2016B). *WorkSafe Approved Code of Practice, Management and Removal of Asbestos.* Wellington: WorkSafe New Zealand.

WorkSafe. (2017, October). *News and Media*. Retrieved from Techical Bulletin, Asbestos refurbishment verbishment versus maintenance: https://worksafe.govt.nz/about-us/news-and-media/technical-bulletin-asbestos-refurbishment-versus-maintenance/

Worksafe, Victoria. (2019). *Compliance Code - Managing asbestos workplaces.*

The above citations have been referenced in part, where applicable, and in places developed for the authorised recipient.

APPENDICES

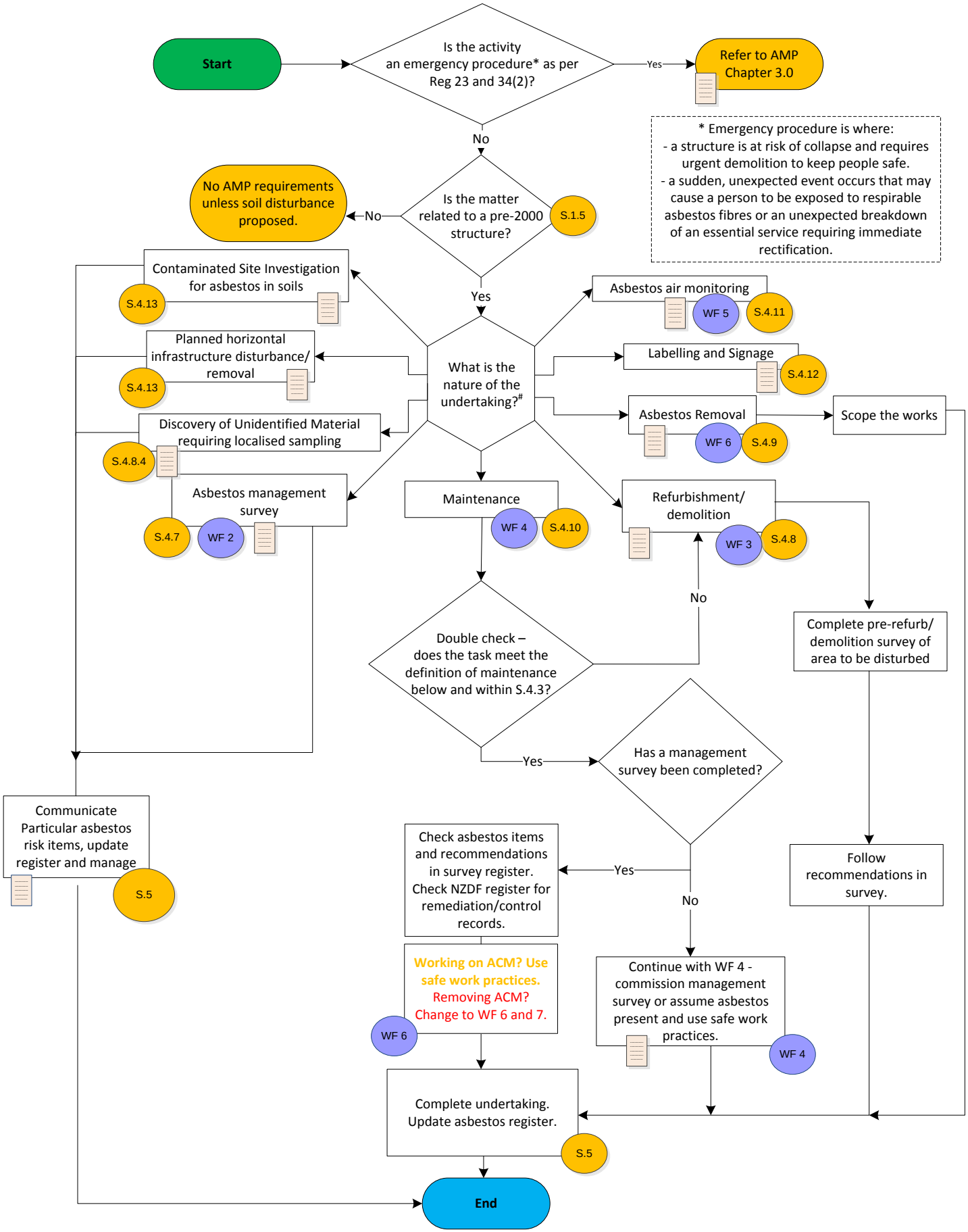
APPENDIX A – NZDF Asbestos Processes

This Appendix provides a series of practical tools to assist NZDF personnel commission projects that involves, or potentially involves, asbestos. The table below outlines the available templates and their uses:

Document	Number	Description
Workflows for Work Involving Asbestos	A.1	Workflows summarising the various tasks related to asbestos management or removal outlined in Chapter 4.0. a. **Workflow 1** – Workflow Overview b. **Workflow 2** – Asbestos Management Survey c. **Workflow 3** – Refurbishment and Demolition d. **Workflow 4** – Maintenance e. **Workflow 5** – Workplace Air Monitoring f. **Workflow 6** – Asbestos Removal
Statement of Work (SOW) Template	A.2.	A single SOW template for procurement of: a. **Management Surveys –** non-intrusive asbestos surveys (see Section 4.7) b. **Refurbishment and demolition Surveys –** Intrusive asbestos surveys (see Section 4.8) c. **Reassurance Air Monitoring –** air monitoring undertaken within occupied buildings (not for use during the course of asbestos removal) (see Section 4.11.3) d. **An asbestos Removal Scope of Work –** a technical document produced by an asbestos consultant to detail the technical requirements of an asbestos removal project (see Section 4.9.2)

NZDF Defence Estate Asbestos Management Plan – Appendix A.1

Workflow 1: Workflow Overview



Definitions:

^ Undertaking relates to activity/process needed to assess or manage asbestos under the Asbestos Regulations, 2016.

- Maintenance: care/upkeep that is incidental work of a short duration, completed with minimal control measures to ensure safety.
- Refurbishment: work on a building or structure that involves changing or upgrading it.
- Demolition: total destruction of all or part of a building or structure.

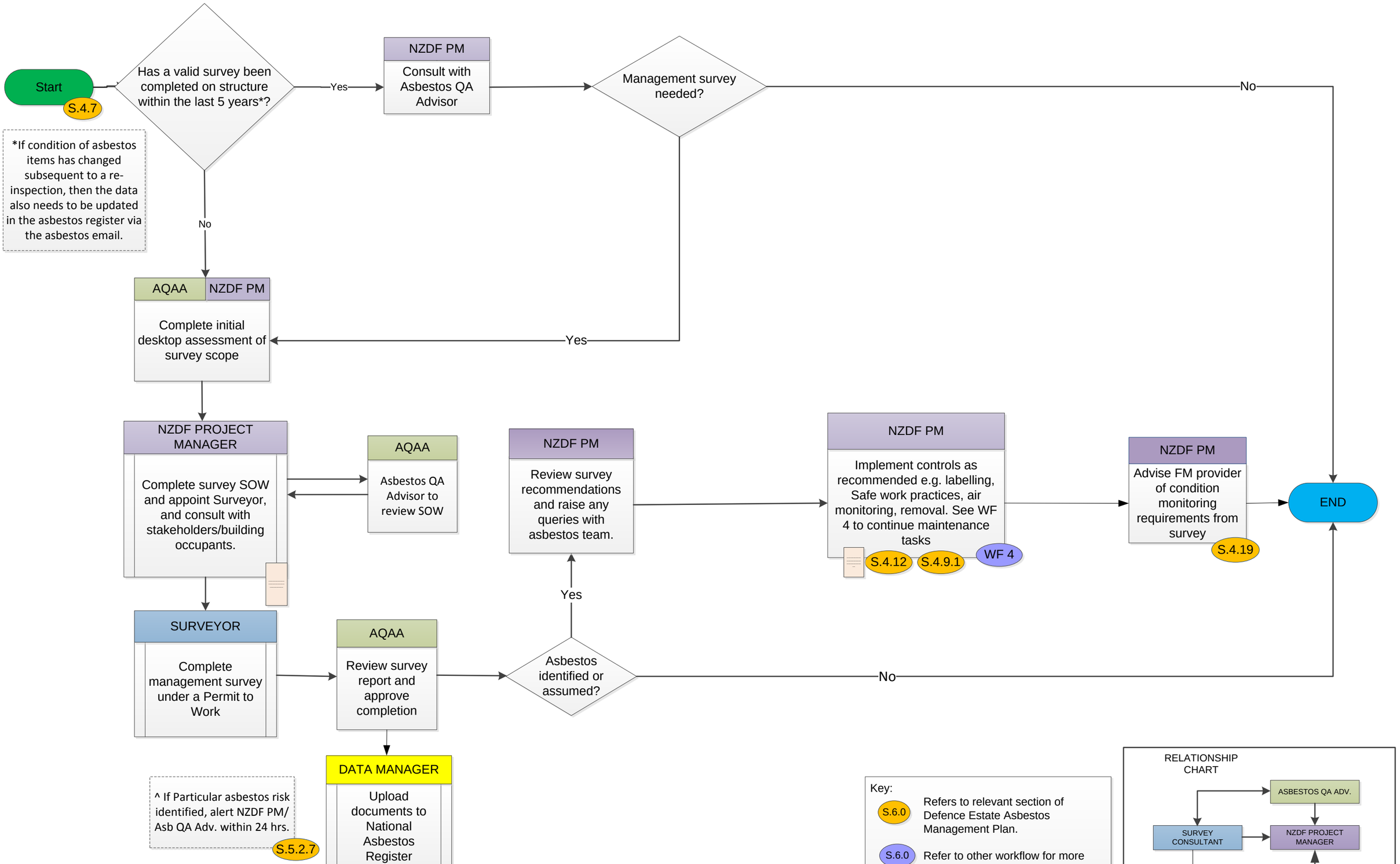
Key:

S.4.6 — Refer to relevant section of Defence Estate Asbestos Management Plan

WF 1 — Refer to other workflow for more info

Supporting document / template available

Workflow 2 - Asbestos Management Survey Undertaking (Pre-2000 Structure/Non-emergency Procedure)



This workflow is triggered by the requirement to identify asbestos in the Asbestos Regulations, 2016.
Refer to Section 4.7 of the AMP for detailed summary of this Workflow.

NZDF Defence Estate Asbestos Management Plan – Appendix A.1
Workflow 3 - Refurbishment and Demolition Project Workflow (+Pre-2000 Structure/#non-emergency)

+ Asbestos risk must still be considered for works on structures constructed on or after 1 January 2000. This is because the importation of ACM was not banned until 2016. A survey is not required in accordance with the Asbestos Regulations (2016) but contractors must be aware of asbestos risk and risk assess during planning of any refurbishment or demolition works. Asbestos awareness training and accidental discovery protocols are adequate controls for post-2000 buildings.

#For emergency situations, refer to Chapter 3.0.

Start

S.4.8

ASBESTOS QA ADV. / NZDF PM

PM to complete initial desktop Assessment with assistance from AQAA if required – check adequacy of asbestos register data for proposed activities.

S.4.8.1

Are asbestos records adequate for proposed tasks?
*refurbishment survey findings must not be transferred between projects.

Yes

No

AQAA

Review and Approve.

NZDF PM

Complete Refurbishment / Demolition SOW.

NZDF PM

Procure Surveyor using SOW.

SURVEYOR

Issue survey proposal.

AQAA / NZDF PM

- AQAA review proposed scope and limitations.
- NZDF PM review price and approve survey to commence

NZDF PM

Consult with building occupants.

SURVEYOR

Complete pre-refurb/demolition survey and issue*

*If high risk identified, alert NZDF PM/Asb QA Adv. within 24 hrs.

DATA MANAGER

Upload documents to DDMS

AQAA / NZDF PM

Review survey and approve completion

Asbestos identified or assumed within proposed work area of Project*?

Yes

No

Does the asbestos require removal?

S.4.8.2

Yes

No

NZDF PM

Confirm asbestos work category - refer to Workflow 7

S.4.3

WF 7

AQAA / NZDF PM

Use project risk evaluation tool to determine requirements for removal – View end-to-end process in Workflow 8. Refer to CSI process in AMP if soil disturbance required.

WF 8

NZDF PM

Inform contractors of presence of asbestos. Contractors will require a Safe Work Practise if any disturbance to the asbestos items is planned.

NZDF PM

Approve Non-asbestos works to commence, noting limitations/ inaccessible areas from survey

END

This Workflow relates to the asbestos elements of a refurbishment or demolition project.
Refer to Section 4.8 of the AMP for detailed summary of this Workflow.
This workflow relates to planned refurbishment / demolition only. See Workflow 1 and DE-AMP Section 4.0 for information on other types of asbestos work categories.

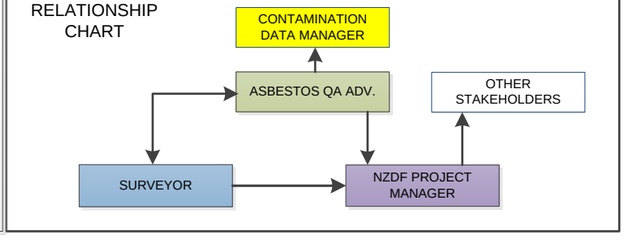
Key:

S.0.0 – Refer to relevant section of Defence Estate Asbestos Management Plan

WF X – Refer to other workflow for more info.

Supporting document / template available.

RELATIONSHIP CHART



NZDF Asbestos Management Plan – Appendix A.1
Workflow 4 - Maintenance Work (Pre-2000/non-emergency)

Start

S.4.10.1

AQAA / NZDF PM

Review NZDF asbestos register to confirm presence and location of ACM

AQAA / NZDF PM

Inform Asbestos Team if a current management survey is not available.
Commission management survey preferably prior to proposed maintenance works (where time allows). Refer to Workflow 2

WF 2

Asbestos identified/ assumed in area and will be disturbed during maintenance?

No

No asbestos controls required for works (unexpected discovery protocol should be in place).

Yes

Does asbestos need to be removed to carry out the task?

Yes

Refer to S4.2 and Asbestos Removal Workflows to determine work category and process

S.4.2 and S.4.9

WF 6

No

Does asbestos need to be disturbed to carry out the task?

No

No asbestos controls required for works (Carefully monitor conditions of ACM's to avoid accidental disturbances).

Yes

AQAA / NZDF PM

Review safe work practice if not already approved

AQAA / NZDF PM

Confirm contractor has appropriate asbestos safe work practice for maintenance task

DEI DOC

Issue Permit to Work Form

DEI DOC / NZDF PM

Undertake site audit and initiate any corrective action. Ensure site activities match SWP

CONTRACTOR

Complete maintenance task

NZDF PROJECT MANAGER

Document any changes to ACM condition to update asbestos register

DATA MANAGER

Upload documents to Asbestos Register

S.5

END

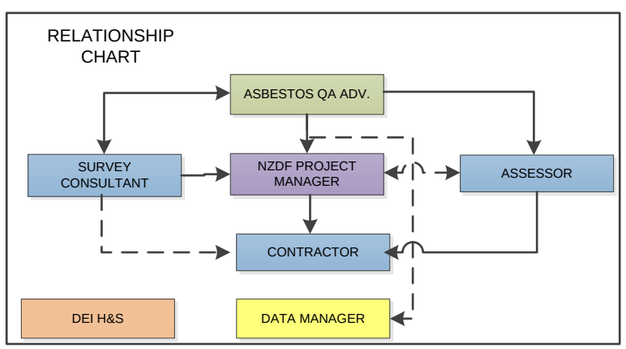
* Considered applicable by WorkSafe for incidental removals. Where multiple removals required over number of sites as part of a project, cumulative total applies.

Planned maintenance = planned work involving care/upkeep that is incidental work of a short duration. See Section 4.3 for a more detailed definition.
Refer to Section 4.10.1 of the DE-AMP for detailed summary of this Workflow.

Key:

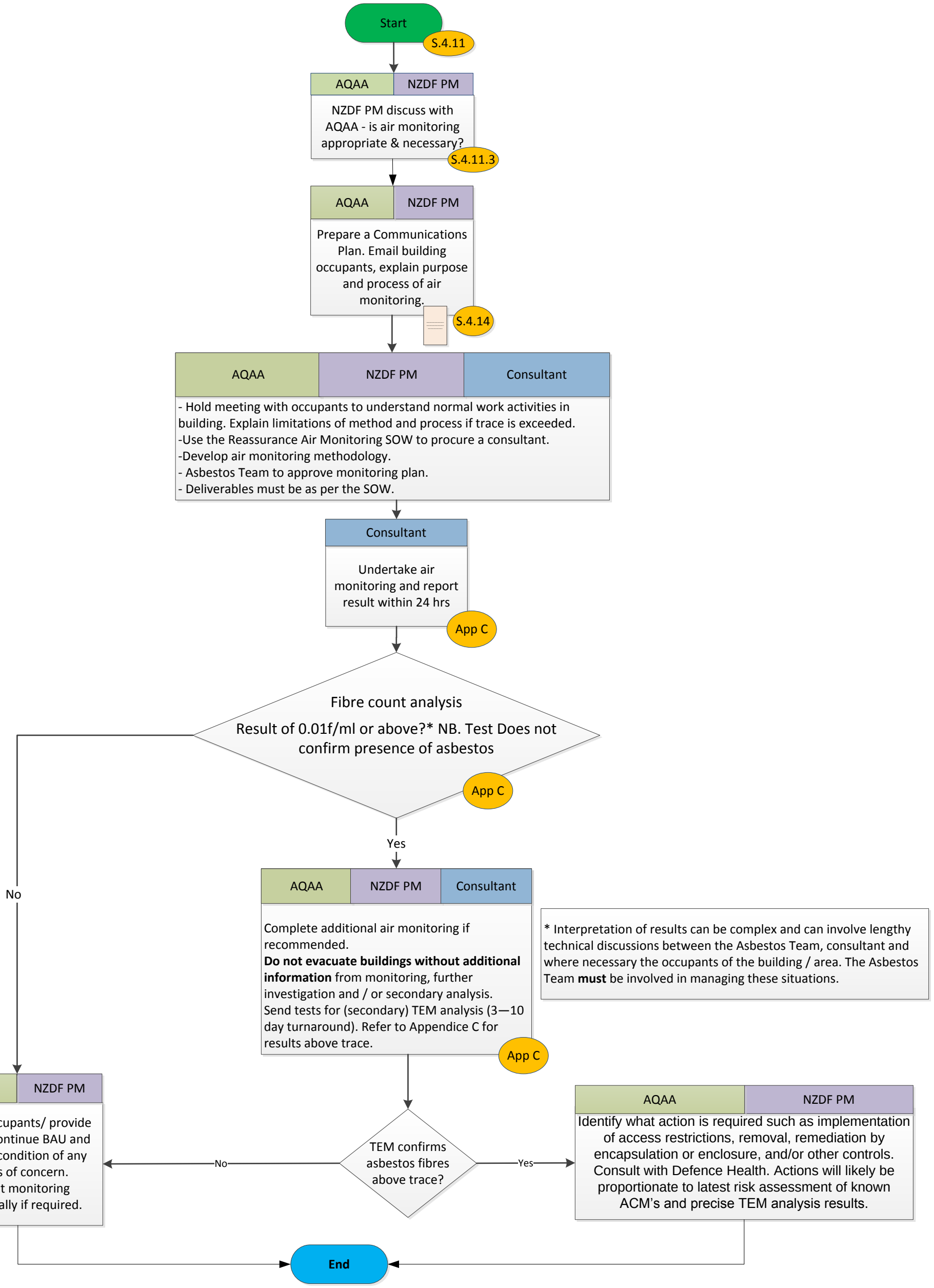
- S.4.8.1 — Refers to relevant section of Defence Estate Asbestos Management Plan
- WF 1 — Refer to other workflow for more info
- Supporting document / template available

RELATIONSHIP CHART



NZDF Asbestos Management Plan – Appendix A.1

Workflow 5 - Workplace Air Monitoring



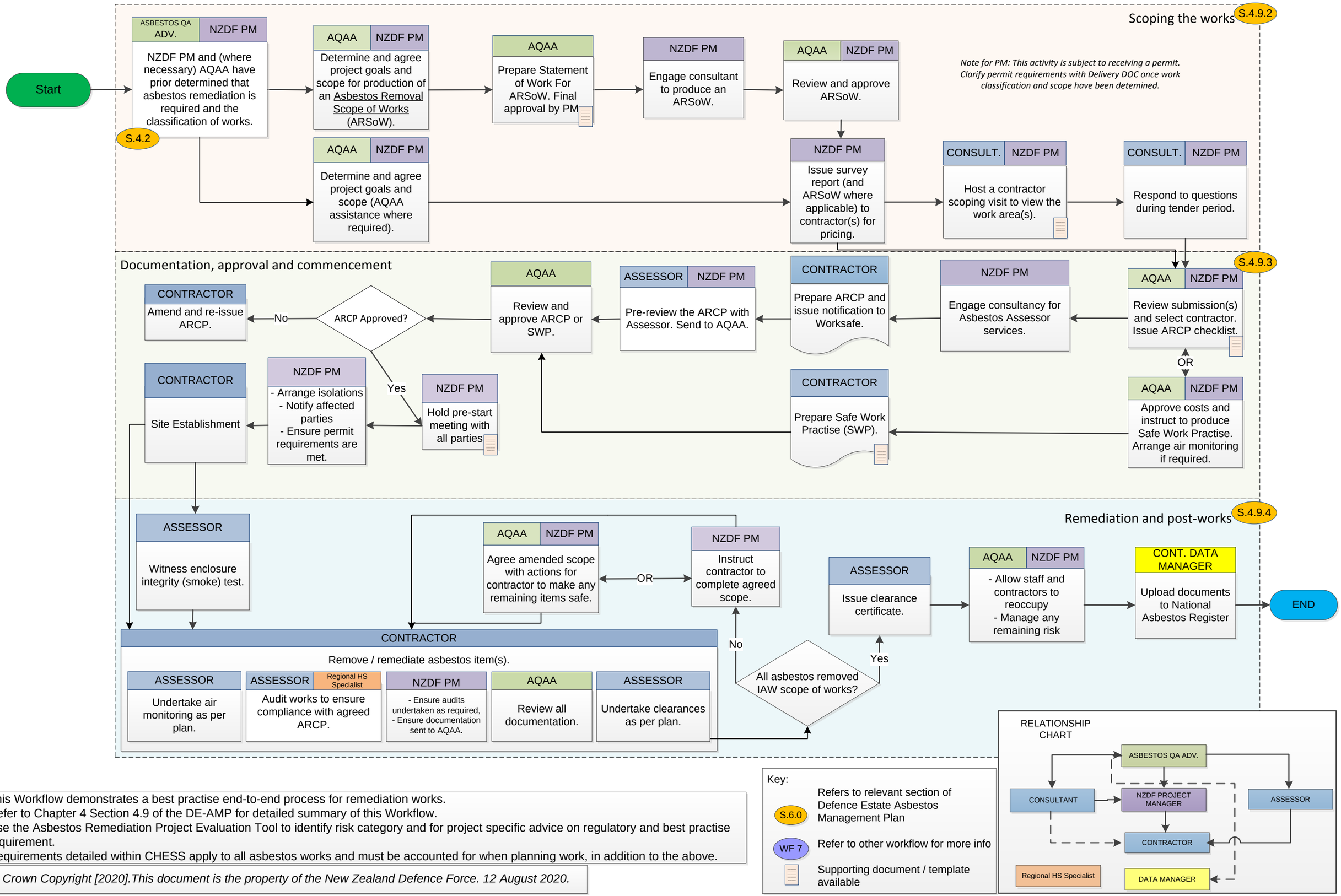
Workplace Air Monitoring is typically carried out where an asbestos item has been identified in poor condition and poses an airborne exposure risk above trace (<0.01 fibres/mL) to workers/occupants.

Refer to Section 4.10 of the AMP for a detailed summary of this Workflow.
Air monitoring during removal is excluded from this Workflow.

S.4.9 — Refers to relevant section of Defence Estate Asbestos Management Plan

Supporting document / template available

NZDF Asbestos Management Plan – Appendix A.1
Workflow 6 – Asbestos Removal



This Workflow demonstrates a best practise end-to-end process for remediation works.
Refer to Chapter 4 Section 4.9 of the DE-AMP for detailed summary of this Workflow.
Use the Asbestos Remediation Project Evaluation Tool to identify risk category and for project specific advice on regulatory and best practise requirement.
Requirements detailed within CHESS apply to all asbestos works and must be accounted for when planning work, in addition to the above.

Key:

- S.6.0 — Refers to relevant section of Defence Estate Asbestos Management Plan
- WF 7 — Refer to other workflow for more info
- Supporting document / template available

A.2. PROCUREMENT TEMPLATE – STATEMENT OF WORK

1. Combined Asbestos Consultancy Services Statement of Work Template:

http://ddms-r/ds/D4-0350/03/Asbestos%20Consultancy%20Services%20SOW.pdf?Web=1

(Please note that previous Statement of Work (SOW) templates have been superseded and combined into one smart PDF SOW; this now includes asbestos surveys, asbestos removal scopes of work, and reassurance air monitoring).

APPENDIX B – Stakeholder Consultation Templates

Document	Number	Description
Asbestos removal notification to occupants and neighbours	B.1.	Advanced notification of asbestos removal commencement to 'everyday' occupants or neighbours of a building (or area) to include relevant details of works, contractor details and dates.
Residential tenants letter	B.2.	Notification of the intention to undertake an asbestos survey within a residential property.
Survey findings letters	B.3.	Three versions of a survey findings notification letter to highlight the outcome of a recent asbestos survey (residential or operational) covering three scenarios; no asbestos detected, asbestos detected (lower risk items); and asbestos detected (higher risk items).

B.1. CONSULTATION TEMPLATE 1 – ASBESTOS REMOVAL NOTIFICATION TO OCCUPANTS AND NEIGHBOURS

http://ddms-r/ds/D4-0350/03/TEMPLATE%20%20NOTIFICATION%20OF%20ASBESTOS%20REMOVAL.docx?Web=1

B.2. RESIDENTIAL TENANTS LETTER – ASBESTOS SURVEYING

http://ddms-r/ds/D4-0350/06/Appendix%20B.4%20Residential%20Tenants%20letter%20-%20asbestos%20surveying.docx

B.3. SURVEY FINDINGS NOTIFICATIONS

No asbestos detected? Use template here – http://ddms-r/ds/D4-0350/06/App%20B.3%20Asbestos%20Survey%20Summary%20-%20No%20asbestos%20detected.docx

Asbestos detected but no requirement for immediate actions / an access restriction / remediation? Use template here – http://ddms-r/ds/D4-0350/06/App%20B.3%20Asbestos%20Survey%20Summary%20-%20Asbestos%20Present%20-%20Lower%20Risk%20Items.docx

Asbestos detected and immediate actions are required to minimise risk of exposure to airborne asbestos? Use template here - http://ddms-r/ds/D4-0350/06/App%20B.3%20Asbestos%20Survey%20Summary%20-%20Remediation%20or%20Access%20Restriction.docx

APPENDIX C – Asbestos Air Monitoring Response Procedures

Document	Number	Description
Reassurance or Suspected Disturbance Air Monitoring For Occupied Buildings	C.1	Outlines the trigger levels for asbestos fibre air monitoring and the actions required for reassurance, suspected disturbance, and general risk assessment purposes of occupied buildings or areas only.
Air Monitoring Results During **Asbestos Related Work Or Unlicensed Removal Activities**	C.2.	Outlines the trigger levels for asbestos fibre air monitoring and the actions required for Asbestos Related Works or Unlicensed Removal Work activities only.
Air Monitoring Results During **Licensed Asbestos Removal– Class A and Class B**	C.3.	Outlines the trigger levels for asbestos fibre air monitoring and the actions required for Class A and Class B Licensed Asbestos Removal activities only

C.1 REASSURANCE AIR MONITORING FOR OCCUPIED BUILDINGS

Table C.1 on the pages below outlines the trigger levels for asbestos air monitoring and the actions required following reassurance air monitoring, which may be a regular routine process as part of the management of a building, or may be undertaken in response to a minor or suspected disturbance to asbestos in the vicinity.

The PM must communicate all air monitoring results to the Asbestos Team immediately if any calculated concentrations exceed trace level (<0.01f/ml).

The below process cannot be applied to any form of exposure air monitoring which is generally undertaken inside asbestos work areas where the risk of exposure is greater but where RPE is in use.

Table C.1: Reassurance Air Monitoring For Occupied Buildings

Trigger Level (fibres/ml)	Control / Action	Responsibility
< 0.01f/ml Trace Level	1. No Action. Continue with routine occupation and existing control measures. Communicate results to relevant stakeholders.	**Consultant and PM**
	2. If deemed necessary routine air monitoring may continue as an ongoing cycle. Seek advice on monitoring frequency from the Asbestos Team and / or Consultant.	**PM and Asbestos Team**
≥0.01 f/ml but <0.1 f/ml	1. Inform Asbestos Team and RHSS of result as soon as practicable. (The sample can be sent for Transmission Electron Microscopy (TEM) secondary analysis. In urgent cases DEI will accept the more efficient option of PLM analysis as secondary evidence, however this must be reinforced by observational evidence as part of the investigation.)	**Consultant and PM**
	2. Review results to investigate cause of elevated airborne fibres and confirm whether asbestos source is likely to be present. Consider undertaking further monitoring and analysis before decisions are made, if there is remaining uncertainty or evidence to suggest that the source of the fibres is non-asbestos. Consider restricting access to area if deemed appropriate (please note this is not a requirement unless there is a clear indication that the fibres are asbestos).	**PM, Consultant and Asbestos Team**
	3. In the event of an exposure incident involving NZDF personnel, contact Defence Health to obtain assistance in communicating risk.	**PM**
	4. Communicate results and next actions to relevant stakeholders as soon as possible.	**PM**
	5. Undertake additional air monitoring or manage the area and stakeholder expectations until further monitoring results are received. It may be possible to retrieve personal items in consultation with the Consultant.	**PM, Consultant and Asbestos Team**
	6. Consultant to inform PM and Asbestos Team of secondary analysis or repeat monitoring results as soon as possible after receipt of laboratory results.	**Consultant**
	7. If secondary analysis confirms no asbestos fibres are present, or that asbestos fibres are present below trace, the area can be occupied. If deemed necessary routine air monitoring may continue as an ongoing cycle, with monitoring frequencies to be determined on a case-by case basis.	**PM, Consultant and Asbestos Team**

Trigger Level (fibres/ml)	Control / Action	Responsibility
	8. If secondary analysis confirms asbestos fibres are present in concentrations above trace, PM to discuss results with the consultant and Asbestos Team to identify what actions are required eliminate or minimise exposure risk.	**PM, Consultant and Asbestos Team**
	9. Complete agreed actions and implement any ongoing management if required.	**PM**
≥0.1f/ml	**THIS IS A NOTIFIABLE INCIDENT**	
	1. Inform Asbestos Team and RHSS of result immediately. (Where the airborne contamination standard is exceeded, the sample should be sent for Transmission Electron Microscopy (TEM) secondary analysis. In urgent cases DEI will accept the more efficient option of PLM analysis as secondary evidence, however this must be reinforced by observational evidence as part of the investigation.)	**Consultant and PM**
	2. In the event of an exposure incident involving NZDF personnel, contact Defence Health to obtain assistance in communicating risk.	**PM**
	3. Remove occupants from affected areas, restrict access with physical barriers and / or locks, and warning signage.	**PM**
	4. PM to notify Worksafe and RHSS to notify the DEI Leadership Team of the breach of the airborne contamination standard.	**PM and RHSS**
	5. Consultant to provide advice to the PM and Asbestos Team on further monitoring, inspections, isolations and / or other controls to reduce any ongoing exposure risks as far as reasonably practicable. Consider ongoing monitoring if the situation is unlikely to be dealt with for some time.	**PM, Consultant and Asbestos Team**
	6. Undertake additional air monitoring or manage the area and stakeholder expectations until further monitoring results are received. It may be possible to retrieve personal items in consultation with the Consultant.	**PM, Consultant and Asbestos Team**
	7. Consultant to inform PM and Asbestos Team of secondary analysis or repeat monitoring results as soon as possible after receipt of laboratory results.	**Consultant**
	8. If secondary analysis confirms asbestos is present at significant levels, identify all personnel that may have been exposed. Defence Health to provide any advice on health impacts and or referrals to other health practitioners.	**PM and Defence Health**
	9. If secondary analysis confirms asbestos fibres are present in concentrations above trace but below the airborne contamination standard, see actions in orange trigger level (above) for guidance.	**PM, Consultant and Asbestos Team**
	10. If secondary analysis confirms no asbestos fibres are present, or that asbestos fibres are present below trace, the area can be occupied. If deemed necessary routine air monitoring may continue as an ongoing cycle, with monitoring frequencies to be determined on a case-by case basis.	**PM, Consultant and Asbestos Team**
	11. Complete agreed actions and implement any ongoing management, if required.	**PM**

C.2 AIR MONITORING DURING ASBESTOS RELATED WORKS OR UNLICENSED REMOVAL WORKS

Table C.2 on the pages below outlines the trigger levels for asbestos air monitoring and the actions required for Asbestos Related Works or Unlicensed Removal Work activities only.

The PM must communicate all air monitoring results to the Asbestos Team immediately if any calculated concentrations exceed trace level (<0.01f/ml).

The below process cannot be applied to any form of exposure air monitoring which is generally undertaken inside asbestos work areas where the risk of exposure is greater but where RPE is in use.

Table C.2 Air Monitoring Results during Asbestos Related Work or Unlicensed Removal

Trigger Level (fibres/ml)	Control / Action	Responsibility
< 0.01f/ml Trace Level	1. No Action. Continue with existing control measures. Communicate results to relevant stakeholders.	**Consultant and PM**
≥0.01 f/ml but <0.1 f/ml	2. Inform Asbestos Team and RHSS of result as soon as practicable. Discuss reporting requirements with RHSS.	**Consultant and PM**
	3. Inform relevant workers and stakeholders, review results and investigate cause of elevated airborne fibres (e.g. workers not using safe work practices or controls are insufficient) and confirm whether asbestos source is likely to be present. Consider secondary analysis for certainty. (The sample can be sent for Transmission Electron Microscopy (TEM) secondary analysis. In urgent cases DEI will accept the more efficient option of PLM analysis as secondary evidence, however this must be reinforced by observational evidence as part of the investigation.)	**Consultant, Contractor, RHSS and PM**
	4. Manage access. Unless the investigation finds that no asbestos risk is present, increase the size of the work area to effectively restrict access to the area where the elevated fibre count was detected, before works continue.	**Consultant, Contractor and PM**
	5. Review safe work practice and implement any other corrective actions identified by the investigation. Any fundamental changes to the safe work practise must be approved by the Asbestos Team.	**Consultant, Contractor, PM and Asbestos Team**
	6. Continue works with further air monitoring to review the effectiveness of new controls until results are <0.01 fibres/ml. If results remain elevated, secondary analysis is strongly recommended to confirm asbestos presence.	**Consultant, Contractor and PM**
	7. At any point the PM could confirm asbestos presence via secondary analysis. If secondary analysis confirms asbestos fibres are present in concentrations above trace, PM to discuss results with the consultant and Asbestos Team to identify what actions are required eliminate or minimise exposure risk.	**PM, Consultant and Asbestos Team**
≥0.1 f/ml	**THIS IS A NOTIFIABLE INCIDENT**	

Trigger Level (fibres/ml)	Control / Action	Responsibility
	1. Inform Asbestos Team and RHSS of the result immediately. (Where the airborne contamination standard is exceeded, the sample should be sent for Transmission Electron Microscopy (TEM) secondary analysis. In urgent cases DEI will accept the more efficient option of PLM analysis as secondary evidence, however this must be reinforced by observational evidence as part of the investigation.)	**Consultant and PM**
	2. In the event of an exposure incident involving NZDF personnel, contact Defence Health to obtain assistance in communicating risk.	**PM**
	3. Remove occupants from affected areas, restrict access with physical barriers and / or locks, and warning signage.	**PM**
	4. PM to notify Worksafe and RHSS to notify the DEI Leadership Team of the breach of the airborne contamination standard (notifiable event).	**PM and RHSS**
	5. Consultant to provide advice to the PM and Asbestos Team on further monitoring, inspections, isolations and / or other controls to reduce any ongoing exposure risks as far as reasonably practicable. Consider ongoing monitoring if the situation is unlikely to be dealt with for some time.	**PM, Consultant and Asbestos Team**
	6. Undertake additional air monitoring or manage the area and stakeholder expectations until further monitoring results are received. It may be possible to retrieve personal items in consultation with the Consultant.	**PM, Consultant and Asbestos Team**
	7. Consultant to inform PM and Asbestos Team of secondary analysis or repeat monitoring results as soon as possible after receipt of laboratory results.	**Consultant**
	8. If secondary analysis confirms asbestos is present at significant levels, identify all personnel that may have been exposed. Defence Health to provide any advice on health impacts for NZDDF personnel and or referrals to other health practitioners.	**PM and Defence Health**
	9. If secondary analysis confirms asbestos fibres are present in concentrations above trace but below the airborne contamination standard, see actions in orange trigger level (above) for guidance.	**PM, Consultant and Asbestos Team**
	10. If secondary analysis confirms no asbestos fibres are present, or that asbestos fibres are present below trace, the area can be occupied. If deemed necessary routine air monitoring may continue as an ongoing cycle, with monitoring frequencies to be determined on a case-by case basis.	**PM, Consultant and Asbestos Team**
	11. Complete agreed actions and implement any ongoing management, if required.	**PM**

C.3 AIR MONITORING RESULTS DURING LICENSED ASBESTOS REMOVAL

Table C.3 on the pages below outlines the trigger levels for asbestos fibre air monitoring and the actions required for Class A and Class B Licensed Asbestos Removal activities only. **Class A licensed asbestos removal is subject to an additional action level (≥0.02 f/ml is a notifiable incident). It is strongly recommended that PMs become familiar with action levels when managing these works.**

The PM must communicate all air monitoring results to the Asbestos Team immediately if any calculated concentrations exceed trace level (<0.01f/ml).

The below process cannot be applied to any form of exposure air monitoring which is generally undertaken inside asbestos work areas where the risk of exposure is greater but where RPE is in use.

Table C.3 Air Monitoring Results during Licensed Asbestos Removal

Trigger Level (fibres/ml)	Control / Action	Responsibility
< 0.01f/ml Trace Level	1. No Action. Continue with existing control measures. Communicate results to relevant stakeholders.	**Consultant and PM**
Class A: **≥0.01 f/ml but <0.02 f/ml** **Class B:** **≥0.01 f/ml but <0.1 f/ml**	2. Inform Asbestos Team and RHSS of result as soon as practicable. Discuss reporting requirements with RHSS.	**Consultant, Licensed contractor and PM**
	3. Inform relevant workers and stakeholders, review results and investigate cause of elevated airborne fibres (e.g. workers not using safe work practices or controls are insufficient) and confirm whether asbestos source is likely to be present. Consider secondary analysis for certainty. (The sample can be sent for Transmission Electron Microscopy (TEM) secondary analysis. In urgent cases DEI will accept the more efficient option of PLM analysis as secondary evidence, however this must be reinforced by observational evidence as part of the investigation.)	**Consultant, Contractor, RHSS and PM**
	4. Review safe work practice and implement any other corrective actions identified by the investigation. Any fundamental changes to the safe work practise must be approved by the Asbestos Team.	**Consultant, Contractor, PM and Asbestos Team**
	8. Continue works with further air monitoring to review the effectiveness of new controls until results are <0.01 fibres/ml. If results remain elevated, secondary analysis is strongly recommended to confirm asbestos presence.	**Consultant, Contractor and PM**
	9. At any point the PM could confirm asbestos presence via secondary analysis. If secondary analysis confirms asbestos fibres are present in concentrations above trace, PM to discuss results with the consultant and Asbestos Team to identify what actions are required eliminate or minimise exposure risk.	**PM, Consultant and Asbestos Team**
	THIS IS A NOTIFIABLE INCIDENT	

Trigger Level (fibres/ml)	Control / Action	Responsibility
Class A: **≥0.02 f/ml** **Class B:** **≥0.1 f/ml**	**Note: An elevated fibre concentration during removal of non-friable asbestos (only) under a Class A notification may not be notifiable, but requires interpretation. Contact the Asbestos Team.**	
	1. Inform Asbestos Team and RHSS of the result immediately. (Where a notifiable level is exceeded, the sample should be sent for Transmission Electron Microscopy (TEM) secondary analysis. In urgent cases DEI will accept the more efficient option of PLM analysis as secondary evidence, however this must be reinforced by observational evidence as part of the investigation.)	**Consultant and PM**
	2. In the event of an exposure incident involving NZDF personnel, contact Defence Health to obtain assistance in communicating risk.	**PM**
	3. Stop work immediately, and restrict access to affected area, with physical barriers and / or locks, and warning signage where necessary.	**Licensed contractor**
	4. For Class A - Licensed contractor to notify Worksafe and RHSS to notify the DEI Leadership Team of the breach of the Class A notification trigger level. 5. For Class B - Licensed contractor to notify Worksafe and RHSS to notify the DEI Leadership Team of the breach of the airborne contamination standard.	**Licensed contractor and RHSS**
	6. Investigate controls including an inspection of the work area or enclosure, and a review of the ARCP including methodology, site set up and equipment. If an enclosure is being used, it must be re-sealed and an additional integrity test undertaken. Additional monitoring is recommended to verify if the risk is ongoing, and must be undertaken if entering the work area or enclosure.	**Licensed contractor and consultant**
	7. Implement additional controls and revise ARCP to reduce the risk of further fibre release and exposure. Any changes to the ARCP must also be approved by the Asbestos Team. Worksafe will likely request evidence of investigations, additional controls and / or secondary analysis results prior to authorising works to continue.	**All involved**
	8. Contractors can return to work after corrective actions have been implemented, when results of additional air monitoring are all <0.01f/ml and with Worksafe approval to do so.	**All involved**
	9. If secondary analysis confirms asbestos is present at significant levels, identify all personnel that may have been exposed. Defence Health to provide any advice on health impacts for NZDDF personnel and or referrals to other health practitioners.	**PM and Defence Health**
	10. PM to communicate results and next actions to relevant stakeholders within 24 hours of laboratory result receipt.	**PM**

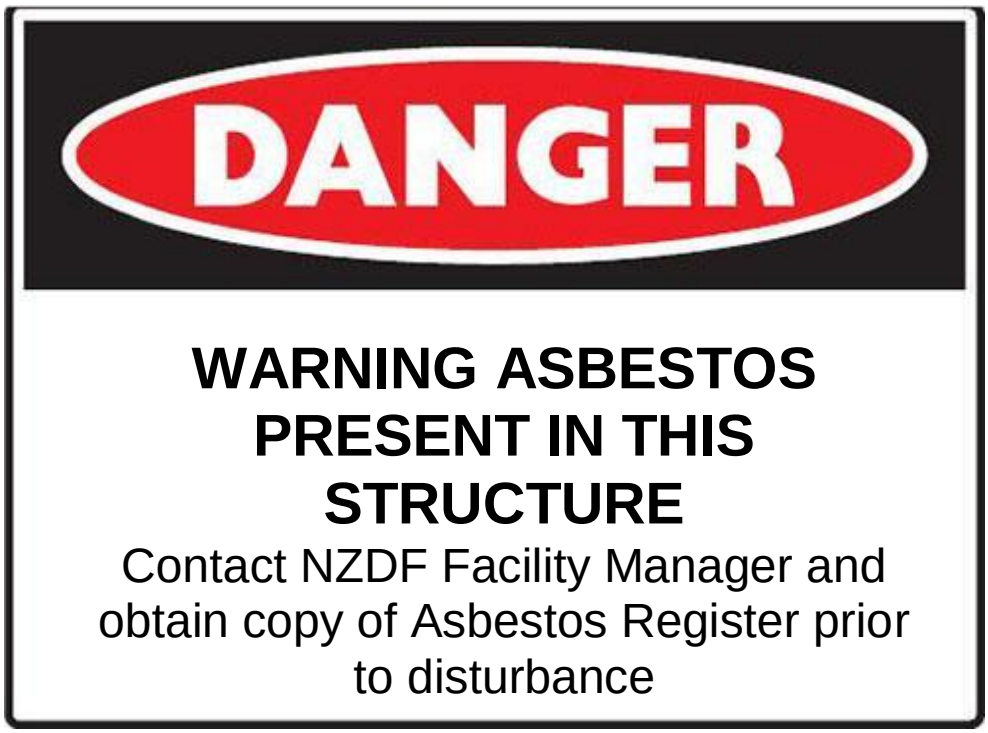
APPENDIX D – Labelling Templates

Document	Number	Description
Labelling Template 1 – 'A' Label	D.1	Label for use on individual items of asbestos where they may be able to be disturbed under normal occupation of an area.
Labelling Template 2 – Exterior Warning Signage	D.2.	Sign for the exterior of buildings/structures known or presumed to contain ACM items and which are not typically occupied day to day but are occasionally entered. Sign can also be used for residential properties (see Section 4.12.1).
Labelling Template 3 – Multi-Hazard Zones	D.3.	The sign acts as a direct order from the Officer in Charge of the applicable Defence Area, acting as the legal representative of NZDF as a PCBU (IAW DFO 04/16).

D.1. LABELLING TEMPLATE 1 – ASBESTOS 'A' LABEL

Template also available here.

D.2. LABELLING TEMPLATE 2 – ASBESTOS BUILDING 'WARNING' LABEL



Editable template also available here.

D.3. LABELLING TEMPLATE 3 – DEFENCE AREA SPECIFIC – 'MULTI-HAZARD' SIGNAGE

Example only – view all variations here.

APPENDIX E – Additional Information for Project Managers

Table E.1. below provides a summary of considerations and specifications when planning any kind of maintenance, refurbishment or demolition work on pre-2000 buildings.

Table E.1: Undertakings in/on Pre-2000 buildings that trigger consideration of asbestos

	Lane 1 - Maintenance	Lane 2 - Refurbishment	Lane 3 - Demolition
Definition	Maintenance works are defined as **'care and/or upkeep that is planned, routine or urgent that keeps the building or structure in a proper condition or working order'.** Maintenance includes servicing, and minor intrusive work **if the sole focus is the installation, reconfiguration, or repair of a service.**	Refurbishment works are defined as **'carrying out work in a building or structure with the purpose of changing and/or upgrading it.** Refurbishment works can include the total removal of a building element as long as the works do not affect the physical integrity of the building.	Demolition works are defined as **the 'total or part destruction of a building or structure'**. This includes the total or partial destruction of any load bearing element forming the buildings physical integrity.
Examples	Repairing of a rotten window frame using a new frame with different materials, but the same dimensions. The installation of new metal vinyl floor trim. Drilling a few holes into a cement sheet to attach a fitting. Cutting a small hole into an eave or ceiling tile to install cables. Installing a small quantity of down lights, light switches or power points.	Removal of part of a building for renovation, as long as it is not related to the physical integrity of the building. Removal of joinery and installing a larger window of different dimensions. Removal and replacement of the floor coverings such as carpet or vinyl. Reconfiguration of a kitchen or bathroom to remove partitions or cabinetry. Partial dismantling of a boiler for cleaning and repair.	Total or part destruction of a building that is load bearing or otherwise related to the physical integrity of the structure is considered demolition. The complete destruction of a building, house, or auxiliary structures such as garages or sheds is considered demolition. Dismantling of large plant, or Equipment such as a furnace or boiler unit for disposal is considered demolition.

	Lane 1 - Maintenance	Lane 2 - Refurbishment	Lane 3 - Demolition
Requirements for works within Pre-2000 buildings	**If asbestos has been confirmed or assumed during previous surveys and the works will disturb the asbestos, the work must be conducted as asbestos-related work unless the asbestos has been removed before works commence.** Work involving any amount of friable asbestos cannot be considered maintenance.	Before refurbishment commences **all ACM that is within the proposed work area must be identified and then removed prior to works, or carefully managed.**	Before demolition commences, **all ACM within the proposed work area must be identified and removed,** so far as reasonably practicable.
Survey Type	For all non-intrusive maintenance work continue on Lane 1. For intrusive maintenance either; - utilise additional controls to account for the potential for hidden asbestos, or; - move to Lane 2 to identify all asbestos risks.	An 'Asbestos Refurbishment Survey' (ARS) will be required.	A 'Asbestos Demolition Survey (ADS) will be required.

	Lane 1 - Asbestos Management Survey (AMS)	Lane 2 - Asbestos Refurbishment Survey (ARS)	Lane 3 - Asbestos Demolition Survey (ADS)
Description	An asbestos management survey is a report on the **presence and extent of asbestos containing materials (ACM) at a property which could be damaged or disturbed during normal occupancy, including foreseeable (non-intrusive) maintenance and installation.** Management survey reports include a register of the location and condition of all confirmed and assumed ACM's, with risk assessments and recommendations for management.	An asbestos refurbishment survey is a targeted intrusive inspection of a defined area prior to undertaking planned refurbishment (or some intrusive maintenance) works. The purpose of a pre-refurbishment survey is to find **all ACM within the areas where refurbishment works will be conducted,** so that asbestos risks can be eliminated or minimised before the refurbishment work is carried out**.**	An asbestos demolition survey is a destructive inspection for the purpose of identifying all asbestos containing materials within areas of a building, or structure that is subject to demolition. The purpose of a pre-demolition survey is to locate and describe **all ACM in the area where the demolition will take place,** so that all asbestos can be removed before the demolition work commences. Demolition surveys require a highly intrusive survey methodology to inspect all concealed areas. Destructive inspection techniques are used extensively to ensure all areas are accessed.

Lane 1 - Asbestos Management Survey (AMS)	Lane 2 - Asbestos Refurbishment Survey (ARS)	Lane 3 - Asbestos Demolition Survey (ADS)

Description	A management survey includes visual assessment and sampling of materials within the areas of a building that are accessed during normal building occupancy, or which may be accessed during foreseeable maintenance tasks. Surveying may involve some minor intrusive work, such as accessing behind riser panels, ceiling tiles and other superficial materials. However, **management surveys do not assess areas that require destructive techniques to inspect**, including concealed areas of structure behind fixed linings such as under floorboards, under fitted floor coverings, above set ceilings, or within wall cavities. Any areas not accessed must be assumed to contain asbestos until further inspection confirms otherwise.	Asbestos refurbishment surveys must assess all building elements and areas that will be replaced, modified, or accessed for the refurbishment works including any supporting services such as cabling, penetrations, and ducting. The level of inspection required is generally directly related to the size and complexity of the structure, and the level of disturbance the proposed refurbishment works create. Refurbishment surveys require an intrusive survey methodology to inspect concealed areas of the building which are not typically included during management surveys. Destructive inspection techniques are used to lift carpets and tiles, break through walls, ceilings, cladding, and partitions, and open up floors. A refurbishment survey should only be conducted in unoccupied areas. Access equipment and assistance from trades for service isolations may be necessary so that suspected asbestos materials can be sampled safely. Findings of refurbishment surveys are limited to specified building elements and areas affected by the impending refurbishment; all other areas of the building will not be inspected and will be excluded from the report. The report must clearly detail the scope and extent of the survey.	A demolition survey should only be conducted in unoccupied areas and the areas cannot typically be reoccupied after due to the extent of damage. Access equipment will be necessary, and services must be isolated so that suspected asbestos materials can be sampled safely. Surveys may require completion in stages to so that access to hidden areas is made possible during the demolition process. Where a staged approach is adopted, the initial report must clearly detail all areas that remain unassessed and must be updated once access becomes possible. Even with ‘complete’ access during demolition surveys, all asbestos and ACM may not be identified and this may only become apparent during demolition itself. Demolition contractors must be prepared for asbestos discoveries during works.

APPENDIX F – NZDF Guidance for Assessment of ACDust

Key Points

With consideration to historic results and updated industry guidance NZDF have decided to restrict the collection of dust samples during asbestos surveys to limited specific circumstances only.

Currently available analytical methods are not sufficient to reliably relate an instance of asbestos containing dust to a quantifiable exposure risk. Therefore, consultants are expected to provide adequate information to fully assess quantifiable risk by continuing to undertake thorough surveys of all accessible areas within the specific survey scope, assessing all risk through visual observations and bulk sampling, and recording any necessary limitations. **All consultants undertaking asbestos surveys across the NZDF Estate that include ACDust sampling are to adopt a new approach emphasizing the requirement for a thorough visual and bulk sampling (only) strategy with immediate effect.**

This guidance supersedes Section 3.3 within the *NZDF Nationwide Asbestos Survey Project – publication Surveyor Manual*, as of the date of publication.

Background

Settled dust results cannot be used to accurately predict airborne fibre concentrations. Asbestos fibres are expected to be found in low levels within settled dust in any building where asbestos containing materials form part of the construction. In the absence of other information, the detection of a few individual asbestos fibres within an area of surface dust does not provide a reliable measure of risk.

When applying the material assessment score to dust samples collected for 'presence / absence' analysis, the detection of a single or low number of asbestos fibres can cause a 'positive' result and may lead to an unnecessarily high-risk classification that does not reflect the actual potential for exposure. Interpretation of results is further complicated due to the non-homogenous nature of dust deposits and high potential for surface deposit variability (i.e. representativeness) across locations within a building or area. In many instances a high risk value is often prescribed to account for the 'unknown' factors which can result in further unnecessary testing, access restrictions and / or costly remediation work. Conversely, asbestos risk can be missed if the surveyor is overly reliant on dust sample results.

The limitations of current surface testing methods are reflected briefly within the *Management and Removal of Asbestos ACOP* ('The ACOP'), which strongly indicates that the presence of settled asbestos fibres in low quantities does not mean an area is unsafe to occupy. This understanding has since been adopted widely in New Zealand when issuing clearance certificates.

The ACOP references guidance from the UK HSE which has recently been updated and republished as *HSG 248 Asbestos: The analysts' guide* (2nd edition) and now contains guidance information specifically for asbestos dust assessment. Selected text is outlined below:

> *"Sampling and analysis of asbestos in settled surface dust is not recommended except in specific circumstances where the spread of asbestos from a substantial recent release incident is being investigated. Dust sampling should not be routine or part of a bulk sampling or survey programme. Sampling is not advised due to the technical difficulties (eg efficiency of collection methods) and surface deposit/settled dust variability (ie representativeness) as well as uncertainties in the statistical relevance and in the assessment and evaluation of risk that arises from the detection of low numbers of fibres.*
>
> *Surfaces with low numbers of microscopic fibres in dusts often occur in buildings and the fibres may have been present for many years, particularly on high-level surfaces. The use of surface samples to trigger extensive 'environmental cleaning' or abatement works*

requires careful evaluation and 'clean-up' will not usually be necessary in the absence of any visible suspicious asbestos debris and fragments. The fibres may not even be asbestos. Assessment of such material requires the use of standardised methods both to identify the fibres and to collect representative quantitative samples for analysis.

Where dust sampling for asbestos is carried out, results should be interpreted with caution. It is important that valid and reasonable conclusions are reached. The implications of small numbers of asbestos fibres in dust are quite different from the presence of visible asbestos debris and fragments. Occasional random asbestos fibres in settled dust cannot be considered to represent 'widespread or significant' contamination and should not be reported as such. Overstated claims and imprecise reporting may lead to undue anxiety for the client and occupants."[4]

Expectations for surveyors

Surveyors should not undertake settled dust sampling without prior consultation with the NZDF Asbestos Team at asbestos@nzdf.mil.nz. There are exceptions where settled dust sampling may be considered appropriate and these are outlined below. Where situation arise that may call for settled dust sampling during a survey the surveyors must get in touch with the Asbestos Team urgently to seek clarification, or hold off from submitting the samples before the team has been consulted. Where approached as a separate exercise, the team must be consulted as part of the planning process.

Surveyors are expected to have the technical knowledge and understanding of the limitations described within this document to be able to explain this to other NZDF stakeholders if settled dust sampling is suggested. All requests for asbestos work across the NZDF Estate must only be made through consultation with the Asbestos Team.

With consideration of the above limitations, there are exceptions for limited circumstances where dust sampling may provide a benefit, these scenarios are defined (as far as possible) below:

- **Investigation of a recent and significant disturbance event**. In this scenario the 'source ACM' is already identified and the material type, condition and surface treatment are used to inform of the likelihood of it having released a significant quantity of asbestos fibres to the surrounding area(s). Dust samples may therefore provide (indicative) results on how far the asbestos has spread, and how extensive any required access restrictions should be to mitigate risk. The consultant should design a sampling strategy based on exposure risk (not random sampling), agree this with the Asbestos Team, and provide recommendations based on careful interpretation of sample results as well as visual observations made of the area (for example, how much dust is present in general).
- **For scoping of asbestos remediation works**. In the absence of physical barriers such as walls and partitions that can be used to clearly delineate the extent of a remediation activity, dust sampling can provide a limited insight into delineating the remediation areas. Again, results must be carefully interpreted and may require input from others with intimate knowledge of the building / area, and its history.
- **TEM analysis to determine the actual risk of previous dust sampling**. It may be possible to further investigate the risk presented by areas already under close management by the NZDF due to previous presence / absence dust sampling. Where this type of investigations go ahead, a strategy must be developed and agreed with the NZDF for both sampling and interpretation of results, and sample analysis must be based on ASTM-D6480. We encourage the use of Millette and Hays (1994)5 for interpretation of results, but other guideline values may also be developed to account for differing occupational settings and degrees of tolerance.

[4] Health and Safety Executive (UK), HSG248 Asbestos The Analysts' Guide 2nd Edition, 2021

[5] Hays, S and Millette, J; Settled Dust Sampling and Analysis 1st Edition, 1994

In either scenario, where possible the surveyor should take bulk dust (minimum approx. 1tbs) samples for analysis by identifying surfaces where dust has been allowed to accumulate over a longer time period or to more significant quantities. The increased likelihood of identifying asbestos using this method translates to an increase in representativeness of the results to the whole area under investigation.

It is important to note that during surveys and inspections adequate precautions must be taken to prevent the surveyors from exposure to asbestos. This includes minimising the amount of time taken – and number of samples needed - to investigate asbestos in dust which may present a risk of becoming airborne when disturbed. Exposure monitoring should be considered during this type of activity.

NZDF recognise that there is a broad interpretation of dust sampling strategies within the industry currently, and has prescribed various approaches in the past to standardise our approach. **In the absence of equivalent formally recognised guidance in New Zealand, settled dust sampling is no longer recognised by NZDF as a standard part of an asbestos survey.**

APPENDIX G – Particular Asbestos Risk Notification Form

Latest version available here.