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V6Z 0B9  
Bid Fax: (604) 775-9381

## SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address  
Raison sociale et adresse du  
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Issuing Office - Bureau de distribution  
Public Works and Government Services Canada -  
Pacific Region  
800 Burrard Street, Room 219  
800, rue Burrard, pièce 219  
Vancouver  
British C  
V6Z 0B9

<b>Title - Sujet</b> Cultus Lake Lab HVAC Upgrade	
<b>Solicitation No. - N° de l'invitation</b> F1700-166206/A	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> F1700-166206	<b>Date</b> 2017-01-26
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWY-033-7957	
<b>File No. - N° de dossier</b> PWY-6-39262 (033)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2017-02-02</b>	
<b>Time Zone</b> Fuseau horaire Pacific Standard Time PST	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Siopongco, Philip PWY	<b>Buyer Id - Id de l'acheteur</b> pwy033
<b>Telephone No. - N° de téléphone</b> (604) 351-6139 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DFO - Cultus Lake Laboratory - Cultus Lake, BC	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

N° de l'invitation - Sollicitation No.  
F1700-166206/A  
N° de réf. du client - Client Ref. No.  
F1700-166206

N° de la modif - Amd. No.  
001  
N° du dossier - File No  
PWY-6-39262

Id de l'acheteur - Buyer ID  
PWY033  
CCC - FMS No./N°VME - CCC No./N°

---

**Les documents français seront disponibles sur demande.**

Amendment 001 has been raised to:

**A. Publish the sign-up sheet for the site visit held on January 23, 2017, at Cultus Lake Labs, BC.**

List of Contractors Present:

<b><u>Company Name</u></b>	<b><u>Location</u></b>
ESC Automation Controls	Surrey, British Columbia (BC)
John Mulder Heating	Chilliwack, BC
Schubert Plumbing and Heating	Mission, BC
0994960 BC Ltd	Aldergrove, BC

**B. Extend the bid closing date**

---

**Extension of Time**

**HVAC Upgrade  
DFO Cultus Lake Laboratory  
Cultus Lake, BC**

**Solicitation No: F1700-166206/A**

Notice is hereby given that the time for reception of tenders previously due at  
2:00 p.m. on January 31, 2017, local time is hereby extended to  
**2:00 p.m. on February 2, 2017 local time.**

---

**C. Provide responses to questions received to date**

- 1) **Question:** Is the contractor or the owner going to remove the lab equipment and materials in the experimental Lab area?

**Answer:** No, the lab equipment and materials in the experimental Lab area are to remain in the room during the construction. The Contractor is expected to properly protect the equipment from vibration, damage and dust during the construction. The contractor will be required to erect suitable, temporary hoarding (to the owners satisfaction) to protect the equipment and materials. Work shall be coordinated with the Owner to minimize disturbance and hoarding.

- 2) **Question:** Is there asbestos containing materials in the building that will be disturbed by the work included in this contract?

]

N° de l'invitation - Solicitation No.  
F1700-166206/A  
N° de réf. du client - Client Ref. No.  
F1700-166206

N° de la modif - Amd. No.  
001  
N° du dossier - File No  
PWY-6-39262

Id de l'acheteur - Buyer ID  
PWY033  
CCC - FMS No./N°VME - CCC No./N°

---

**Answer:** Some asbestos remediation work has been done at the facility and it is expected that the Work will NOT result in the disturbance of any existing asbestos containing material. While an Asbestos Inventory Report has been prepared for several areas in the facility, there is still the possibility that there could be some remaining asbestos material in the areas of work included in this contract. See "Asbestos Management Plan" document.

- 3) **Question:** What will be done if the contractor comes across something that they think may contain asbestos?

**Answer:** The contractor will inform the owner's representative and check the existing asbestos inventory report to see if the material has already been tested. If it has not, work in that area shall stop and the Owner shall have the material tested. The asbestos inventory report will be given to the contractor and if asbestos containing material needs to be disturbed to complete the Work, the Owner shall issue a Contemplated Change Notice directing the contractor to make changes to the work and/or undertake remediation measures to ensure the work area is safe for the contractor to complete the Work.

- 4) **Question:** Do the contract drawings show the exact location of piping and other mechanical services?

**Answer:** No, the contract drawings are not exactly to scale and are meant to show the scope and intent of the Work. The existing building services may not be exactly as shown. This is one of the reasons the contractors were provided with an opportunity to see the site conditions first hand.

- D. Incorporate the Asbestos Management Plan, Cultus Lake Laboratory (see attached)

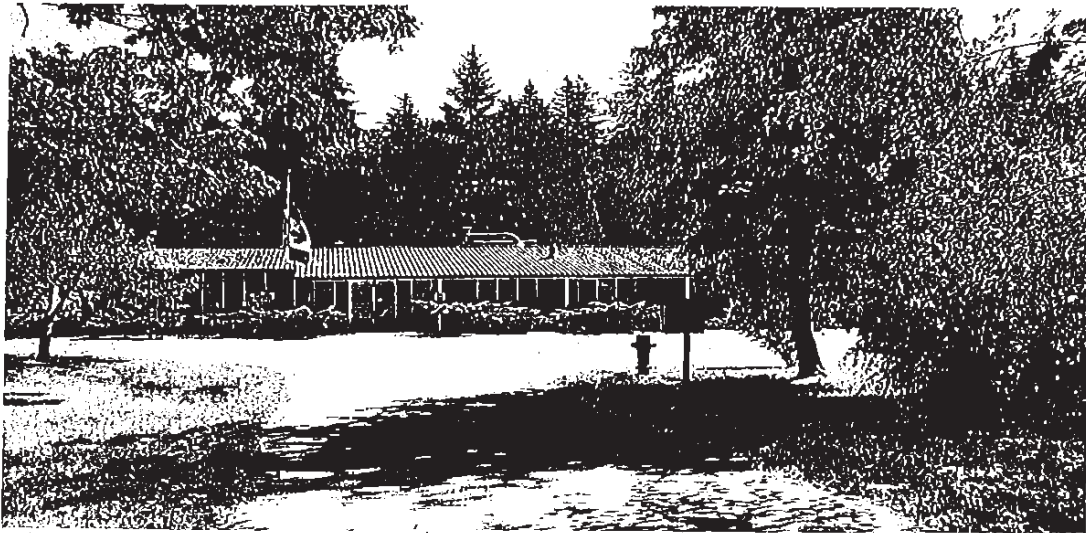
**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED**

# ASBESTOS MANAGEMENT PLAN

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## DEPARTMENT OF FISHERIES & OCEANS

### ASBESTOS MANAGEMENT PLAN



### CULTUS LAKE LABORATORY

4222 COLUMBIA HIGHWAY,  
CULTUS LAKE, BC

PREPARED BY:  
JACQUES WHITFORD ENVIRONMENT LIMITED  
Unit 1 – 3771 North Fraser Way  
Burnaby, British Columbia  
V5J 5G5

September 20, 2002

# ASBESTOS MANAGEMENT PLAN

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# ASBESTOS MANAGEMENT PLAN

## APPENDICES

<b>Appendix A</b>	Evaluation and Recommendation Criteria for Control of Asbestos Containing Materials (ACM)
<b>Appendix B</b>	Low Risk Work Procedures
<b>Appendix C</b>	Moderate Work Procedures
<b>Appendix D</b>	Glove Bag Work Procedures
<b>Appendix E</b>	Respirator Fitting, Inspection, Cleaning and Disinfecting
<b>Appendix F</b>	Procedures for Emergency Asbestos Work
<b>Appendix G</b>	Asbestos-Related Work Record
<b>Appendix H</b>	Certificate of Training for Asbestos-Related Work
<b>Appendix I</b>	Contractor Notification and Acknowledgement
<b>Appendix J</b>	Bulk Sample Collection Procedures
<b>Appendix K</b>	Roles and Responsibilities
<b>Appendix L</b>	Log Book



# ASBESTOS MANAGEMENT PLAN

## PREFACE

The Asbestos Management Plan is required in order to comply with Canada Labour Code and provincial regulations governing the safe work environment for employees, public and contractor visiting or working in buildings containing asbestos.

**NOTE:** (Provincial Regulation – Part 6 of Regulation 185/99 – as prescribed under the British Columbia Occupational Health and Safety Act).

The Asbestos Management Plan (AMP) will perform several functions:

- ♦ To act as a common term of reference for safe operation and management of asbestos-containing building materials;
- ♦ To be a central depository of information for each facility;
- ♦ To act as a control mechanism to ensure compliance;
- ♦ To communicate roles and responsibilities of those required to work with or around asbestos materials; and,
- ♦ To communicate the accepted departmental procedures for working with asbestos materials.

This document provides information, procedures, and work practices necessary to the establishment of an Asbestos Management Plan (AMP). The AMP sets guidelines for all facility maintenance, alteration, repair or other activities that may disturb asbestos; and provides ongoing re-assessment of asbestos materials. If continuing disturbance or severe deterioration of asbestos is indicated, the material will be removed. Major renovations will be preceded by total removal of friable asbestos materials in the project area.

The AMP describes work practices for minor disturbance of friable asbestos materials (plaster and mechanical insulation), and non-friable materials (Low Risk and Moderate Risk work). This document is divided so that specific sections can be copied and provided to the worker or contractor performing the work. The AMP includes policies for inspection of work, air monitoring, and worker training.

The AMP does not describe work procedures for major asbestos removal. Such removals are classified as High Risk. These procedures generally require experienced contractor to execute and therefore are not detailed within this AMP document. This type of work usually requires “project specific approach” and therefore should be coordinated and monitored by Regional Asbestos Coordinator.





# ASBESTOS MANAGEMENT PLAN

## DEFINITIONS

**Abatement** - control or attend to.

**Amended Water** - water that has been treated with a chemical agent to enhance the wetting of asbestos material prior to removal.

**Amosite** - "brown asbestos" is from the amphibole family.

**Area by area survey** - survey of large areas where each plane within the area is sampled visually and scientifically tested for the presence of asbestos containing materials, i.e., corridors, assembly areas, total basement boiler rooms.

**Asbestos** - naturally occurring mineral silicates which are capable of being separated into fibres. Asbestos comes from the Greek word indestructible.

**Chrosidilite** - "blue asbestos" is from the amphibole family.

**Chrysotile** - "white asbestos" is from the serpentine family.

**Friable** - can be crushed, crumbled, or reduced to a powder by hand pressure when dry.

**Generic survey** - spot check type survey where a small number of random samples are done at different locations of similar or non similar materials to get a localized perspective as to where asbestos containing materials are located. This type of survey would be good in areas such as boiler rooms where high concentrations of most materials are suspect to contain asbestos in localized areas such as boiler jacketing, pipe lagging, and exhaust breaching.

**PCM** - Phase contrast microscopy approved Treasury Board method for measurement of airborne particulate matter.

**PLM** - Polarized light microscopy method of detection for small amounts of asbestos in bulk samples.

**Room by room survey** - survey of individual rooms where each plane within the room is sampled visually and scientifically tested for the presence of asbestos containing material.

**Serpentine and amphiboles** - rock types.

**TEM** - method of detection used for positive identification of airborne asbestos fibres via the use of an electron microscope.

# ASBESTOS MANAGEMENT PLAN

## CONTACT LIST

(Building Name)		
Name	Address	Number
PWGSC, Asset Manager: Mary Ellen VanDusan	1230 Government Street, Victoria, BC V8W 3X4	Phone (250) 363-6435 Cell N/A Fax (250) 363-3263
PWGSC, Property Manager: Daryl Amos	3190 Hammond Bay Road Nanaimo, BC V9R 5K6	Phone (250) 363-0412 Cell (250) 714-5944 Fax (250) 756-7053
PWGSC, CSU Leader: David Naphtheli	641-800 Burrard Street Vancouver, BC V6Z 2V8	Phone (604) 775-6899 Cell N/A Fax N/A
PWGSC, Asbestos Coordinator: Bill Fleming	641-800 Burrard Street Vancouver, BC V6Z 2V8	Phone (604) 666-7454 Cell (604) 617-5255 Fax ((604) 775-9380
PWGSC, Safety and Security Manager: Bruce Cuddihay	641-800 Burrard Street Vancouver, BC V6Z 2V8	Phone (604) 775-6610 Cell N/A Fax (604) 775-9380
Standing Offer Asbestos Consultant: Lance A. Pizzariello	Jacques Whitford Environment Limited Unit 1 – 3771 North Fraser Way, Burnaby, BC V5J 5G5	Phone (604) 436-3014 Cell (604) 319-3657 Fax (604) 436-3752
Standing Offer Asbestos Contractor: Steve Parks	Enviro-Vac 12216 – 86 <sup>th</sup> Avenue Surrey, BC V3W 3H7	Phone (604) 594-7490 Cell (604) 841-7691 Fax (604) 594-7782

# ASBESTOS MANAGEMENT PLAN

## EMERGENCY PROCEDURES

If Moderate Risk procedures cannot be strictly observed due to the urgency, some judgement will be required of the person responsible for the work, and other staff or contractors responding to the emergency. The general principle of emergency response work is to protect the workers performing the repair and to minimize the exposure of others to airborne asbestos. The procedures given below should be followed to the extent possible in the circumstances of the emergency.

**VACATE** the area of unnecessary personnel.

**CONTACT** the Regional Asbestos Coordinator for guidance on contamination; or, in the absence of same, the Property Manager, or the Asset Manager, the standing offer asbestos consultant or the standing offer asbestos contractor.

**LIMIT** the asbestos contamination.

Construct enclosure around area if time permits.

Shut down ventilation system serving area.

Use drop sheet under work to minimize clean-up if possible.

Worker performing repair shall wear protective respirator and disposable suit. If normal work clothes are worn they must be disposed of if visibly contaminated.

Perform emergency repair with minimum disturbance of asbestos.

Obtain asbestos equipment and perform clean-up of visible material before allowing unprotected personnel to enter area. Use HEPA filtered vacuum or wet cleaning. Dispose of all cleaning supplies as contaminated waste.

The worker should wipe off or vacuum disposable clothing and footwear. Proceed to washroom to wash face and hands.

Notify the Property Manager regarding the asbestos disturbance. The Property Manager will contact the Regional Asbestos Coordinator to arrange for removal, clean-up or repair of the asbestos material.

**INFORM** the following of the emergency:

- ♦ Occupational & Environmental Health Services, Health Canada (OEMs HC);
- ♦ Human Resources Development Canada - Labour Program, Occupational Safety;
- ♦ PWGSC Regional Asbestos Coordinator;
- ♦ PWGSC CSU Leader;
- ♦ All clients in the building; and,
- ♦ Workers Compensation Board (when private sector Clients/contractors present).

## ASBESTOS MANAGEMENT PLAN

Before removing an enclosure, monitor the air to confirm acceptable levels and document readings. **OBTAIN** verification from OEMs (HC) on air monitoring requirements. If the regulatory bodies do not perform the monitoring, hire a qualified consultant. (Use the standing offer consultant, if available.)

Arrange for a Property Manager to **INSPECT** the work as soon as possible and, in conjunction with the regulatory bodies, to **OVERSEE** the work and **APPROVE** the corrective work required.

**DOCUMENT** the disposal of the asbestos and the procedures used.

# ASBESTOS MANAGEMENT PLAN

## EMERGENCIES - GENERAL INFORMATION

Examples of possible emergencies: an asbestos clad boiler explodes; heating main breaks and floods the building.

Most asbestos emergencies are unique, but basic procedures apply in all cases:

- Handle emergencies as quickly as possible;
- Follow standard PWGSC procedures; and,
- Notify regulatory agencies (Worker's Compensation Board of British Columbia) and the Property Manager at once.

The main goal is to limit contamination; decontaminate and/or enclose problem areas with polyethylene. Shut off air-handling units to affected areas; post warning signs.

In a minor emergency, decontamination may be handled by *trained* in-house personnel or by a reputable asbestos contractor.

The asbestos emergency situation is under control when the asbestos relating to the emergency is enclosed.

Before removing an enclosure, monitor the air to confirm acceptable levels and document readings. If the regulatory bodies do not perform the monitoring, hire a qualified consultant.

# **ASBESTOS MANAGEMENT PLAN**

## **PART 1**

### **BUILDING SPECIFIC INFORMATION**

# ASBESTOS MANAGEMENT PLAN

## Building Specific Information:

Department of Fisheries & Oceans – Cultus Lake Laboratory, 4222 Columbia Highway, Cultus Lake, British Columbia:

### Facility Management:

The subject facility is currently under the management of the Client Services Unit of Public Works and Government Services Canada.

### Facility:

The subject facility consists of several buildings comprised of wood stud and truss construction finished with either a metal and/or wood siding. The Department of Fisheries and Oceans are currently utilizing the buildings as administration office space, laboratory space, storage space and associated mechanical rooms (including a water pump house and boiler room).

### Mechanical Systems:

A radiant hot water heating system, compensated with electrical radiant heat provides heating throughout the facility. Additionally, the facility has domestic hot water, domestic cold water, and domestic waste water mechanical systems.

# **ASBESTOS MANAGEMENT PLAN**

## **PART 2**

### **ASBESTOS INVENTORY**



## ASBESTOS MANAGEMENT PLAN

### Department of Fisheries and Oceans Cultus Lake Laboratory – Asbestos Inventory:

Asbestos-containing wall cladding was confirmed to be present in the fume hoods within the laboratories in the Administration Building.

Asbestos-containing wall cladding was confirmed to be present on walls within the laboratories in the Administration Building.

Asbestos-containing wall cladding was confirmed to be present on walls within the boiler mechanical room in the Administration Building.

Accessible asbestos-containing mechanical pipe insulation within the Administration Building has been removed. However, insulation on mechanical pipe runs that are concealed within wall cavities, beneath foundations, within ceiling cavities, etc. is presumed to be present.

The following building materials have not been tested for asbestos-content and are therefore considered suspect asbestos-containing building materials:

- Drywall joint compound throughout the subject facility (all buildings);
- Hard plaster finishes throughout the subject facility (all buildings);
- Caulking on windows throughout the subject facility (all buildings); *- Window Replacement 2004*
- Refractory linings in the boiler within the Administration Building; *- Boiler Replacement 2008*
- Acoustic ceiling tiles throughout the subject facility (all buildings); *- Removed 2005*
- Vinyl floor tiles and vinyl sheet flooring throughout the subject facility (all buildings); and, *- Flooring Replaced multiple years*
- Roofing membranes and felts (on all buildings). *- All Roofing Replaced since 2002*

The above-noted suspect asbestos-containing materials must be analyzed for asbestos content prior to any demolition, alteration or activity any activity that would generate airborne fibres. If suspect materials are not analyzed, they must be considered asbestos-containing.

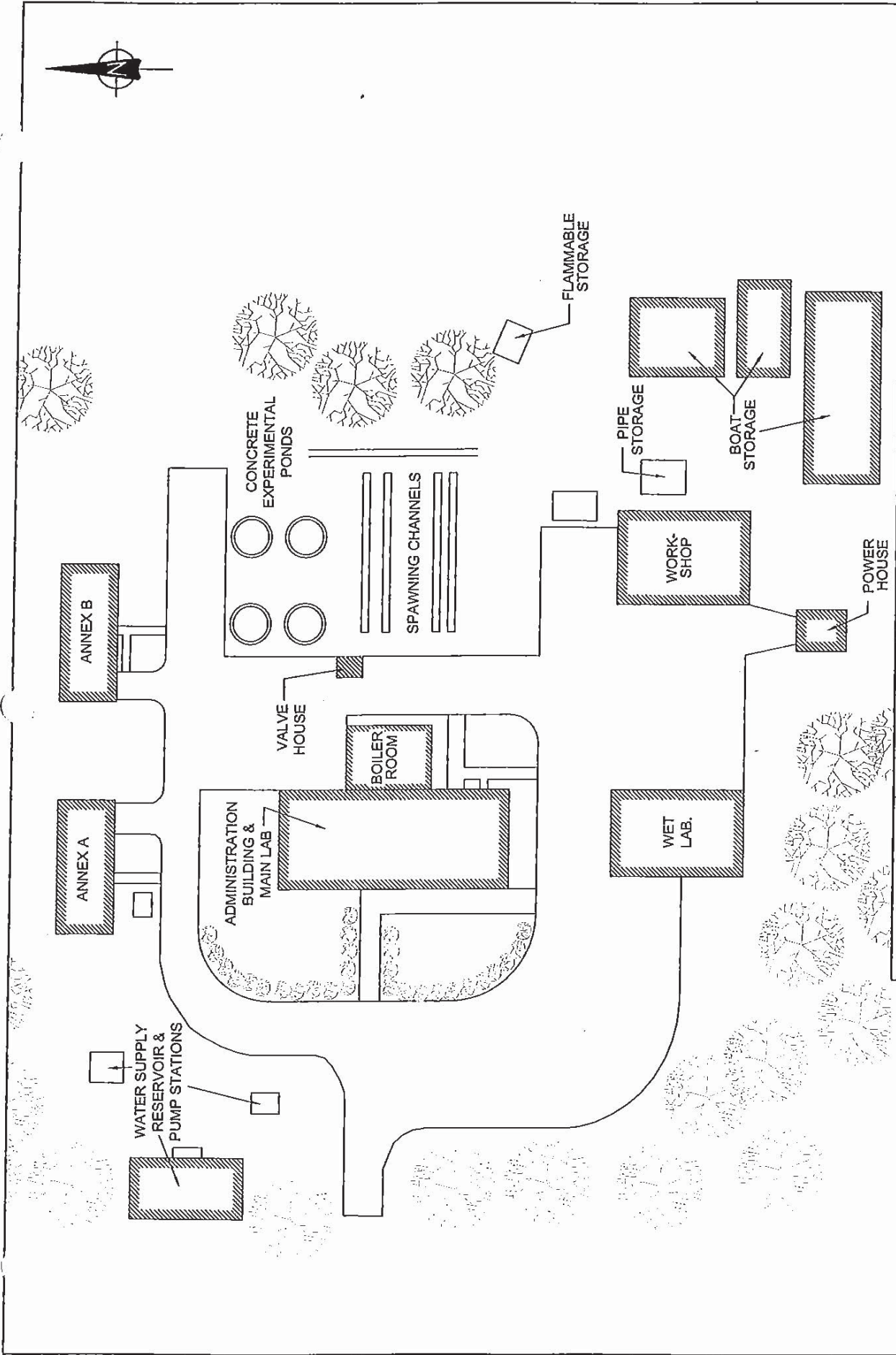
**NOTE:** Asbestos-containing materials as identified above have been classified by the Government of Canada – Occupational Health Unit. Copies of the reports confirming these materials as being asbestos-containing are provided in Part 4 of this Asbestos Management Plan.


# **ASBESTOS MANAGEMENT PLAN**

## **PART 3**

### **PLANS AND DRAWINGS**

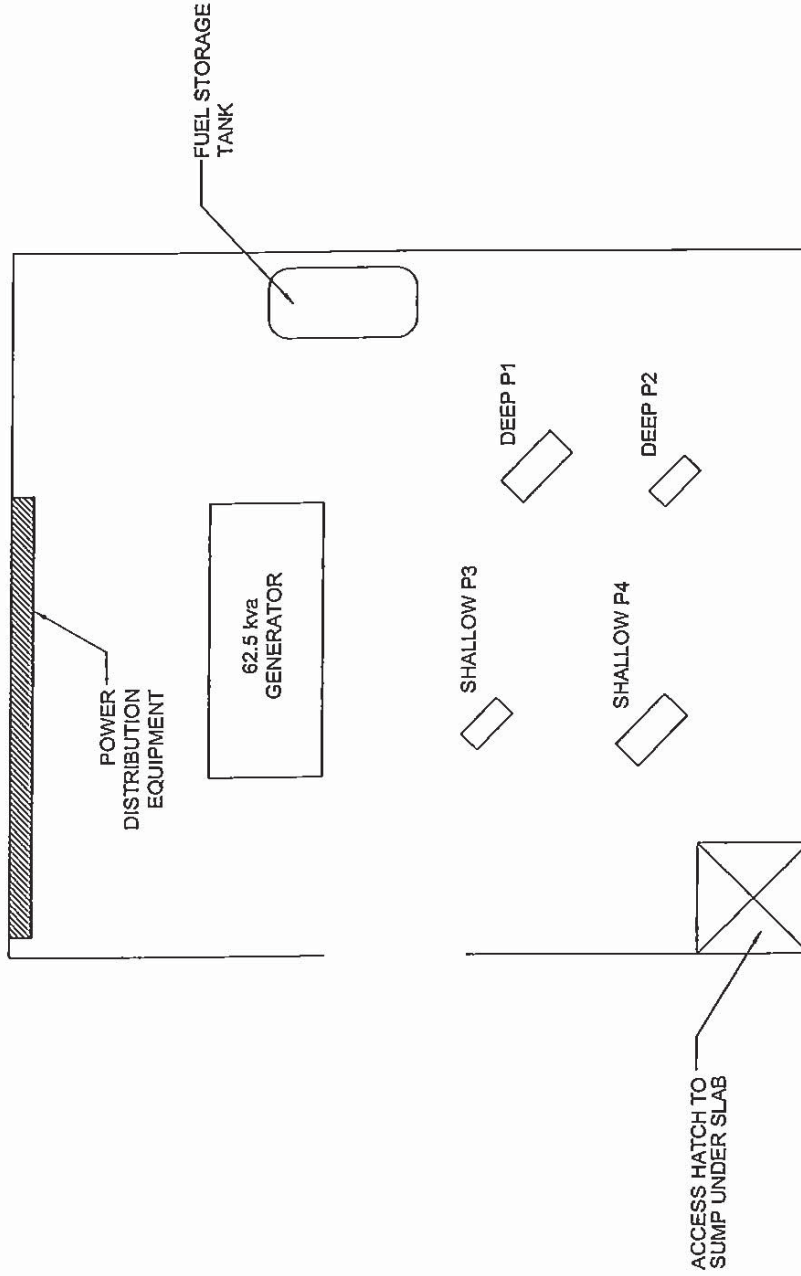





		<b>CLIENT: FISHERIES &amp; OCEANS</b>		DWG No:
PROJECT No: BCV61501	DATE: 18-Sep-02	<b>SITE PLAN</b> ASBESTOS MANAGEMENT PLAN CULTUS LAKE LABORATORY, CHILLIWACK, BC		<b>1</b>
DRAWN BY: NP	CHECKED BY:			

THIS DRAWING WAS ORIGINALLY PRODUCED IN COLOUR

THIS DRAWING WAS ORIGINALLY PRODUCED IN COLOUR



	CLIENT: FISHERIES & OCEANS		DWG No: 2
	PROJECT No: BCV61501	DATE: 18-Sep-02	SITE PLAN PUMP HOUSE ASBESTOS MANAGEMENT PLAN CULTUS LAKE LABORATORY, CHILLIWACK, BC
	DRAWN BY: NP	CHECKED BY:	

# **ASBESTOS MANAGEMENT PLAN**

## **PART 4**

### **VARIOUS REPORTS**



Mar-05-02 10:22am From-

T-112 P.08/10 F-553



Health and Welfare  
Canada

Santé et Bien-être social  
Canada

South Mainland Zone  
Medical Services Branch  
515-757 West Hastings Street  
Vancouver, B.C. V6C 1A1

July 16, 1987

Your file Your reference

Our file Note reference

153-5-2  
Fisheries  
& Oceans

Mr. J. Kirkwood  
Chief, Analytical Services  
Occupational Health Unit  
Du Chroudon at Sorrel Street  
Tunney's Pasture  
Ottawa, Ontario  
K1A 0L3

Dear Sir:

RE: SUSPECTED ASBESTOS INSULATION - F & O LAB,  
CULTUS LAKE, B. C.

Please find enclosed 4 (four) vials containing samples of  
suspected asbestos. I have also attached a copy of the  
assessment survey form completed at the time of inspection.

I would appreciate an analysis of the samples and confirmation  
of the type of asbestos. The following list details the  
samples and location of the sample site:-

Sample No.

Origin

1

Ceiling insulation, boiler room roof,  
above heat exchanger.

2

Fisheries and Oceans  
4222 Columbia Highway  
Cultus Lake, B. C.

3

Wall board cladding, boiler room.  
(same address)

4

Heat exchanger, insulation jacket.  
(same address)

Administration building, roof void  
by access cover.  
(same address)

.....2

Canada



Mar-05-02 10:22am

From-

Health and Welfare  
Canada

sante et bien-être social  
Canada

T-112 P.07/10 F-553

South Mainland Zone  
Medical Services Branch  
Suite 515, 757 W. Hastings St.  
Vancouver, B.C. V6C 1A1

For the use of the recipient

Our file number

August 25, 1987

153:5:2:F60

Dr. James Servizio  
Program Head  
Biological Sciences Branch  
Department of Fisheries and Oceans  
4222, Columbia Highway  
Cultus Lake, B.C.  
VOX 1H0

Dear Sir:

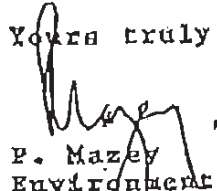
Re: Occupational Environment Survey July 15, 1987

This letter will confirm the walkthru survey carried out at your facilities on July 15, 1987. The survey is part of our Public Service Health Surveillance program. As part of this survey I took 4 (Four) samples of suspected asbestos material. A report is attached confirming the asbestos type and content. Since the material was confirmed as containing asbestos fibre material, a decision must be made whether or not to proceed with removal, etc.

Also, at the time of our meeting we had discussed lab procedures and equipment. As part of my follow up visit I will be testing the fume hood air flows and also discussing chemical storage.

Perhaps you can contact me at (604) 666-3514 to make an appointment.

Yours truly

  
P. Mazey  
Environmental Health Officer  
For P. Fyck  
A/Zone Director

c.c. PSH Dist. List

Labour Canada

PM/hw

Canada



Mar-05-02 10:23am From-

T-112 P.10/10 F-553

Government of Canada  
Gouvernement du Canada

MEMORANDUM NOTE DE SERVICE

TO  
A

Dr. Colin Levings, Section Head  
West Vancouver Laboratory

FROM  
DE

James A. Servizi, Program Head  
Cultus Lake Laboratory

SECURITY CLASSIFICATION - DE SÉCURITÉ

OUR FILE - N / RÉFÉRENCE  
VEO-1MS

YOUR FILE - V / RÉFÉRENCE

DATE  
September 9, 1987

SUBJECT  
OBJET

Asbestos

Health and Welfare Canada (Peter Mazay) inspected and sampled asbestos insulation in the building. Two types of asbestos were identified as noted below.

Location	Type
1. Ceiling insulation, Boiler room roof	Amosite
2. Wallboard cladding, Boiler room	Chrysotile
3. Insulation jacket, Heat exchanger	Chrysotile
4. Underside of roof (attic of laboratory)	Amosite

Amosite is of moderate concern, while chrysotile is even less hazardous. Crocidolite is the most hazardous form of asbestos but it is not present at the Cultus Lake Laboratory. Mr. Mazay concluded that the asbestos was in good condition and only posed a hazard if disturbed. Since the attic is separated from the rooms below by a tight ceiling, asbestos would not fall through if dislodged. Mr. Mazay declined to test air for asbestos at the laboratory since he concluded none would be present. Even though the surface is sound, Mr. Mazay recommended removal of amosite from the boiler room roof as a precaution. The heat exchanger insulation jacket was replaced when the unit was serviced.

Mr. R. G. Marryatt, Workers' Compensation Board, advised that if a worker enters the attic or drills or saws the chrysotile wallcladding a mask and disposable coveralls should be worn. These supplies are being purchased.

Economy Installations Ltd., specialists in asbestos removal, estimated \$22,000 to remove amosite from the boiler room roof and reinsulate. This amount has been included in the 1988/89 budget.

cc. John Stockner  
Jeremy Hume

/veo

*Roof of boiler room replaced and  
re-insulated in Aug/88. JSH*



7540-21-75818938





Mar-05-02 10:21am From:

Government Services  
Canada

Services gouvernementaux  
Canada

# MEMORANDUM

T-112 P.03/10 F-553  
NOTE DE SERVICE

Jack Seto

Real Property Services Branch  
Vancouver

Ken Pederson

Supervisor, Mechanical Maintenance  
Property and Facilities Management Services,  
Real Property Services Branch

Security Classification - Classification de sécurité

Our File - Notre référence

629221-P7

Your File - Votre référence

Date

June 3, 1997

Subject  
Object

Cultus Lake Asbestos Project

Jack,

A quick walk through inspection of the Cultus Lake Lab was carried out by Jim Coldwell, Mary Ellen Van Dusen and myself on May 27/97.

Re project 629221-P7 "Identify, Encapsulate and Mark Asbestos"

What was observed:

1) Chrysotile wall board cladding in the labs which is sealed with a paint coating (Administration Building) —?

2) The interior of the fume hoods (new) that are lined with chrysotile wall board that has a seal paint coat (Administration Building) —?

3) The whole underside of the roof, in the attic, I understand is sprayed on asbestos insulation. (amosite) The area is only accessible via 2 access covers. (Administration Building) *Removed Enlèvement*

4) The walls in the wet lab in the administration building also are chrysotile wall board (Painted?) *Removed*

5) The walls in the boiler room at the administration building are also chrysotile wall board. (unpainted or sealed) —?

6) The pipe lagging in the boiler room is in various degrees of conditions. Some elbows and pipe insulation are removed, some is wrapped in duct tape and some is in a friable state. *Removed: 97*

As I see the scope of work:

1) Label

2) Label

3) Label and obtain quote for removal costs.

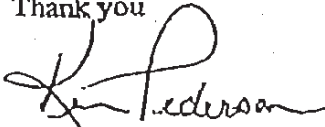
Canada



- ( 4) Label (Identify out of bounds / enter only with respirator)
- 5) Label (Possibly seal)
- 6) Remove all pipe lagging and insulate

Attached are some documents that are relevant to this project.

Thank you



Ken Pederson



Environnement Canada



Tel. (613) 957-8550

## ATTN/REFERENCE

87-982

REPORT No. / NO DU RAPPORT

87-3-46

ISSUE DATE/DATE D'ÉMISSION

July 22, 1987

REVIEWED/REVISE PAR

C. Gillette-Welling

APPROVED/APPROVE

Dr. S. Hall Sub

SAMPLE NO./ N° D'ECHANTILLON	IDENTIFICATION	ASBESTOS TYPE TYPE D'AMIANTE	QUANTITY* QUANTITÉ
2859	1-Ceiling Insulation, Boiler Room Roof above Heat Exchange	Amosite	Major Component
2860	2-Wall Board Cladding, Boiler Room	Chrysotile	Major Component
2861	3-Insulation Jacket, Heat Exchanger	Chrysotile	Major Component
2862	4-Roof Void, by Access Cover, Administration Building	Amosite	Major Component

The above samples were obtained from the Fisheries and Oceans Laboratory, 4222 Columbia Highway, Cultus Lake, British Columbia.



**Jacques, Whitford  
and Associates Limited**

Consulting Engineers  
Environmental Scientists  
Risk Consultants

Unit 1, 3771 North Fraser Way, Burnaby, BC V5J 5G5  
Tel 604 436 3014 Fax 604 436 3752

World Wide Web: [www.jacqueswhitford.com](http://www.jacqueswhitford.com)  
E-mail: [info@jacqueswhitford.com](mailto:info@jacqueswhitford.com)

British Columbia • Alberta • Saskatchewan • Northwest Territories • Ontario • Quebec • New Brunswick • Nova Scotia • Prince Edward Island • Newfoundland & Labrador  
Maine • New Hampshire • Vermont • New York • Trinidad • Russia • Argentina

Project No. BCV61500

September 6, 2002

Mr. Bryan Smith  
Public Works and Government Services Canada  
Facility Manager  
4222 Columbia Highway  
Cultus Lake, BC V2R 4B6

**Re: Asbestos Testing – Vermiculite Wall Insulation**  
**Department of Fisheries and Oceans**  
**Cultus Lake Laboratory, Cultus Lake, BC**

## INTRODUCTION

Jacques Whitford Environment Limited (JWEL) was retained by Public Works and Government Services Canada (PWGSC) to obtain a bulk sample of vermiculite exterior wall insulation from the above-noted site, and to subsequently have it tested for asbestos content. This letter report provides the analytical methodology of the sample acquisition and analysis and presents the results of the sampling event.

## METHODOLOGY

The suspect asbestos-containing material (vermiculite wall insulation) was sampled in accordance with the requirements of Part 6 of British Columbia Occupational Health and Safety Regulation 296/97, as amended by British Columbia Occupational Health and Safety Regulation 185/99 (BC Reg. 185/99).

The sample was submitted to WES-HAR Asbestos Analysis (WAA), for analysis using Polarized Light Microscopy (PLM) with dispersion staining. WAA Laboratory (Glenn Nawrocki, BSc.



Geotechnical Engineering • Materials Engineering • Mining Engineering • Petroleum Engineering  
Air Quality • Environmental Sciences • Environmental Engineering • Hydrogeology  
Environmental Management Systems • Integrated Risk Management Services



(Hons.)) conducted the asbestos bulk sample analysis using Analytical Method 0205 in accordance with the requirements of the WCB of British Columbia. The certificate of analysis for the suspect asbestos-containing material is presented in **Appendix 1**.

## FINDINGS

A bulk sample of vermiculite wall insulation was obtained from the south wall of the Pump House located at the subject site. **Table 1**, below, summarizes the results for the asbestos content determination.

Asbestos Sample Analysis Results				
Date	Sample ID	Material Description	Location	Result (%mass/mass)
August 27, 2002	S-001	Vermiculite Insulation	South Wall – Pump House	Non-Detect

## CONCLUSIONS

Based on the analytical results, JWEL concludes the vermiculite insulation materials located in the exterior walls of the Pump House to be non-asbestos containing.

## CLOSURE

This report has been prepared on behalf of, and for the exclusive use of PWGSC. Any use of this report by a third party is strictly prohibited without the expressed written consent of both PWGSC and JWEL.

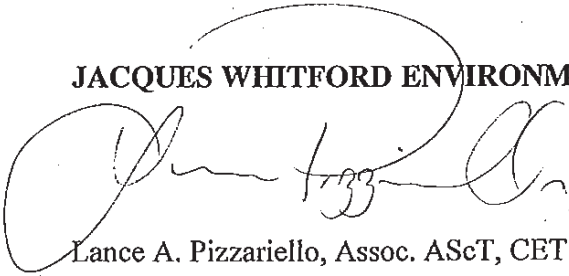
The conclusions presented herein represent the best judgement of the assessor based on current health and safety and environmental standards. Any use that a third party makes of this report is the responsibility of third parties. JWEL accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report. JWEL certifies that to the best of our knowledge, the information presented is accurate.



We trust that the above is satisfactory for your purposes at this time. If you have any questions please contact us at your earliest convenience.

Yours truly,

**JACQUES WHITFORD ENVIRONMENT LIMITED**



Lance A. Pizzariello, Assoc. ASCT, CET  
Group Manager, Hazardous Materials  
& Indoor Environments

BCV61500\Bulk

Sample

RPT.doc

**APPENDIX 1**

**COPY OF ANALYTICAL  
LABORATORY RESULTS**

**Wes-Har** Asbestos Analysis & Consulting Ltd.**Bulk Asbestos Report****For Jaques Whitford Environment Ltd.**Unit 1 3771 North Fraser Way  
Burnaby, British Columbia V5J 5G5

Location : PROJECT BCV 02364

5371	02364	Sample Location / Description	Result(s)	Analyzed	Analyst ACM
1	S001	Side Wall Insulation Lake Shore Maintenance Shed	Asbestos Fibres Not Detected Less Than 1 % Fibrous Glass Less Than 1 % Spider's Silk Less Than 1 % Cellulose Fibres 90 - 100 % Non-fibrous	Aug 27 2002	GN ---

\* Sample Subjected To An Asking Procedure

**Comments**

Samples Analyzed In Accordance With The WCB Laboratory Method 0205


Quantitation Limit For Asbestos Analysis Is 1 %

ACM Means Asbestos Containing Material; T - Present

Samples Submitted Will Be Retained For 30 Days After Receipt And Will Be Disposed Of Thereafter Unless Otherwise Notified In Writing

Sample Submitted By Jaques Whitford Environment Ltd.

August 27, 2002

  
Analyst  
Reviewed ByLab File 5371  
Client Id : 02364

7025 Brewster Drive West Delta British Columbia V4E 1T9 (604) - 294 - 3811

American Industrial Hygiene Association BAATP Lab, Id. No. 149340

Client Reference Id: BCV02364



# **ASBESTOS MANAGEMENT PLAN**

## **PART 5**

### **GENERAL INFORMATION AND REQUIREMENTS**



# ASBESTOS MANAGEMENT PLAN

## 1.0 INTRODUCTION TO THE PROGRAM

### 1.1 Objectives

The Asbestos Management Plan is formulated to meet the following objectives:

- To identify all asbestos-containing materials. Asbestos-containing materials are defined in the Program;
- To maintain all accessible friable asbestos materials in good condition;
- To prevent unintended asbestos exposures to client staff and visitors, contractors, and PWGSC staff;
- To manage all construction and maintenance activities that might disturb asbestos materials; and,
- To comply with all federal, provincial, territorial, and municipal requirements for occupational health and safety, and environmental control.

### 1.2 Response to Policy Directives

The PWGSC Asbestos Management Plan has been developed to meet federal and provincial regulatory requirements and to comply with the pledge of the Environmental Management Plan for Public Works Canada, December, 1992:

**"PWC will maintain an asbestos management program for all PWC owned facilities and will ensure that all asbestos, as a toxic material, is managed and disposed of in accordance with the Canadian Environmental Protection Act."**

The Asbestos Management Plan meets the requirements for employee health protection set in Treasury Board Manual, Human Resources Management, Procedures for Occupational Exposure to Asbestos, Chapter 4-03, 1994 and in the Deputy Minister's Directive, Asbestos Management, and Code of Practice (DM 057).

### 1.3 Regional Asbestos Coordinator

A position of Regional Asbestos Coordinator will exist to provide services for asbestos control. Name and telephone number of the Regional Asbestos Coordinator is the following:

Regional Asbestos Coordinator

Name:

Tel:

Fax:

Technical Services, Regional Asbestos Coordinator (non-mandatory)

Name:

Tel:

Fax:

# ASBESTOS MANAGEMENT PLAN

## 1.4 Regulatory Requirements

PWGSC has responsibilities as building owner, tenant, landlord, and employer, under the following regulations and statutes:

- Canada Labour Code, Part II;
- Canadian Environmental Protection Act;
- Provincial and territorial occupational health and safety legislation (Part 6 of Regulation 185/99 – as prescribed under the British Columbia Occupational Health and Safety Act); and,
- Provincial and territorial environmental protection legislation (British Columbia Ministry of Environment – *Waste Management Branch*).

## 2.0 DEPARTMENTAL POLICIES

### 2.1 Friable Asbestos Products in Leased Premises

When PWGSC is considering leasing space in a building built before 1983, PWGSC shall be provided with an asbestos survey that addresses and includes analysis of all friable materials as defined in the PWGSC Asbestos Management Plan. The survey shall be signed by and conducted under the direction of a person competent in asbestos control, such as a Professional Engineer, a Certified Industrial Hygienist, or a Registered Occupational Hygienist.

PWGSC will not lease space where there is friable asbestos material (other than properly encapsulated or enclosed asbestos containing insulation on mechanical systems) within the space to be occupied.

The Department may lease space in buildings where friable asbestos products are present elsewhere in the building, provided there is an asbestos management plan in place that meets the minimum requirements of the PWGSC Asbestos Management Plan.

A copy of the lease building asbestos management plan shall be submitted to PWGSC as a condition of issuance of the lease.

### 2.2 Definition of Friable Asbestos Products

For the purposes of the AMP, a friable asbestos material is a material that when dry can be crumbled, pulverized or powdered by hand pressure, and includes dust or debris arising from non-friable materials that is or will become crumbled, pulverized or powdered (such as asbestos-containing plaster disturbed by demolition). Friable asbestos-suspect products include, but are not limited to:

- Sprayed asbestos products (fireproofing, thermal insulation, acoustic insulation, or decorative products) applied in 1974 or earlier;
- Acoustic or texture plaster applied in 1983 or earlier;
- Mechanical insulation installed in 1983 or earlier, whether or not jacketed; and/or,



## ASBESTOS MANAGEMENT PLAN

- Compressed mineral fibre ceiling tiles installed in 1983 or earlier.

### 2.3 Detection Limit of Bulk Analysis

Asbestos-containing material is defined as any material found to contain asbestos at or above the detection limit of asbestos fibres set provincially, as determined by the standard Polarized Light Microscopy method for the analysis of bulk samples. The provincial detection limits are as follows:

RECOGNIZED LIMITS FOR PLM METHOD	
<u>Province (Region)</u>	<u>Detection Limit</u>
Newfoundland	1.0%
Nova Scotia	
Prince Edward Island	
New Brunswick	
Alberta	
British Columbia	
Ontario (includes part of National Capital Area)	0.5%
Saskatchewan	
Quebec (includes part of National Capital Area)	0.1%
Manitoba	

PWGSC will adopt the above Provincial regulated limits.

### 3.0 ASBESTOS INVENTORY AND ASSESSMENT

The Regional Asbestos Coordinator will arrange for a complete survey and assessment of asbestos materials.

The initial survey to provide the Asbestos Inventory and Assessment will be performed on a building-by-building and room-by-room basis. The inventory information will be held in a regional database. This database should allow for easy retrieval for reports to be submitted as and when required.

The survey will address all of the friable asbestos materials, as defined in the Asbestos Management Plan (AMP), plus applications of non-friable asbestos-containing materials (i.e., flooring materials, asbestos cement sheeting and piping).

The evaluation of friable asbestos materials will follow the criteria given in Appendix A.

## ASBESTOS MANAGEMENT PLAN

The analysis of bulk samples will be performed to the detection limits given in Section 2.3, and by laboratories accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) of the U.S. National Institute of Science and Technology (NIST) for Polarized Light Microscopy analysis of asbestos materials. Health Canada laboratory and Labour Canada laboratory are acceptable.

The survey will be conducted under the direction, and signed by a person competent in asbestos control, such as a Professional Engineer, a Certified Industrial Hygienist, or a Registered Occupational Hygienist.

The Regional Asbestos Coordinator will arrange for copies of the completed Asbestos Inventory and Assessment reports and annual re-assessments to be held by the following persons and locations:

- Technical Services;
- Property Manager; and,
- A location in each building, accessible to maintenance staff and contractors.

Copies will also be retained by the Regional Asbestos Coordinator.

The Property Manager will utilize the services of the Regional Asbestos Coordinator to arrange for removal or repair of damaged or deteriorated friable asbestos materials identified by the Asbestos Inventory and Assessment.

### 4.0 RE-ASSESSMENT

The Regional Asbestos Coordinator will arrange for a yearly re-assessment of all friable asbestos materials in exposed accessible locations.

Copies of the re-assessment reports will be distributed to holders of the Asbestos Inventory and Assessment reports.

The Property Manager will utilize the services of the Regional Asbestos Coordinator to arrange for removal or repair of damaged or deteriorated asbestos materials identified by the yearly re-assessments and when High Risk removal and repairs are required.

### 5.0 NOTIFICATION

#### 5.1 General Notification

Under the Canada Labour Code, government employees have to be informed of any asbestos in facilities they work in. To this, the Regional Asbestos Coordinator will provide a written interim notice of the presence of friable asbestos materials, as known at the time the Asbestos Management Plan (AMP) comes into effect, to the Property Manager, who will ensure written notice is provided to the following groups:

## ASBESTOS MANAGEMENT PLAN

- The building's Health and Safety Committees representatives (PWGSC and Clients);
- Maintenance employees; and,
- Contractors with standing agreements who may enter parts of the building where friable asbestos materials may be present, i.e., telecommunications firms, boiler maintenance contractors. Refer to **Appendix I** for a contractor notification and acknowledgement form.

The Property Manager will provide copies of these notices to the Regional Asbestos Coordinator, who will maintain them.

### 5.2 Notification Updates

After receipt of the Asbestos Inventory and Assessment reports, the Regional Asbestos Coordinator and Property Manager will provide an updated written notification to the groups listed in Section 5.1.

### 5.3 Notification Requirements For Planned Asbestos Work

DO NOT START an asbestos removal project, testing and/or maintenance without notifying the clients and appropriate authorities.

#### *Client Notification*

The clients should be informed by the Property Manager or his/her representative.

For CPC occupied building the National Asbestos Advisory Committee (NAAC) and CPC should be contacted 30 days prior to starting the work (see **Section 5.4**).

#### *Notification of Authorities*

The following authorities should be contacted;

- (a) Labour Canada;
- (b) Occupational and Environmental Health Services (Health Canada); and,
- (c) Workers' Compensation Board of British Columbia.

## 6.0 TRAINING

All PWGSC personnel, who have responsibilities under the Asbestos Management Program, must be trained on Asbestos. The training is available in modules, so that staff can receive the training necessary for their particular duties. This is also to prevent duplication with previous training. The Department Training Coordinator and the Regional Asbestos Coordinator will maintain records of training. Record of such training will be kept on the employee's file.



# ASBESTOS MANAGEMENT PLAN

## 6.1 ASBESTOS MANAGEMENT TRAINING

Asbestos Management Training will be provided to the Regional Asbestos Coordinators, Property Managers, and Project Managers to ensure that all staff who have responsibilities under the Asbestos Management Plan are properly trained and possess the required knowledge to work in an asbestos environment. The training will include an introduction to the Asbestos Inventory and Assessment reports, health hazards of asbestos exposure, regulations, the Asbestos Management Plan, classification of asbestos work, asbestos project control, and emergency procedures.

## 6.2 ASBESTOS PROCEDURES TRAINING

Training will be provided to maintenance workers who will perform Low Risk or Moderate Risk disturbance of asbestos products. The training will include an introduction to the Asbestos Inventory and Assessment reports, health hazards of asbestos exposure, regulations, the Asbestos Management Plan, Low Risk and Moderate Risk work practices, and disposal procedures.

Respirator training will be provided to all those who will perform Low Risk or Moderate Risk work. The training will cover limitations of use, facial hair, fitting, and maintenance of respirators. Persons provided with a respirator will be fit-tested with the assigned respirator, using the CSA irritant smoke method. Appendix E gives notes on respirator fitting and maintenance. Persons who will wear tight-fitting respirators will be required to be clean-shaven where the respirator seals to the face. Depending on the extent of asbestos work to be undertaken and case-by-case evaluation, PWGSC may provide workers with facial hair alternate respirators that do not require a facial seal. Reference should be made to the new CSA Z94.4, Selection, Care and Use of Respirators.

## 6.3 ASBESTOS AWARENESS TRAINING

Training will be provided to all maintenance and operations personnel who may work around asbestos materials, or who supervise workers or contractors. The training will introduce the Asbestos Inventory and Assessment reports, health hazards of asbestos exposure, the Asbestos Management Plan, and emergency procedures.

This training will be made available to the Safety and Health Committee members of the client Department and the committee representing PWGSC employees.



# ASBESTOS MANAGEMENT PLAN

## 7.0 CLASSIFICATION OF ASBESTOS WORK

Asbestos work will be classified as Low Risk, Moderate Risk, or High Risk according to the following criteria:

### LOW RISK WORK

- Low Risk work activities include moving cleaned, sealed bags of asbestos materials in a covered container through a work area, and working near disturbed friable asbestos-containing materials.



# ASBESTOS MANAGEMENT PLAN

## MODERATE RISK WORK

- Removal or replacement of asbestos-containing compressed mineral fibre type ceiling tiles.
- Entry into ceiling spaces, crawl spaces, pipe tunnels, etc., where friable asbestos debris is present.
- Using hand tools to cut, shape, drill, grind, or remove non-friable asbestos-containing products.
- Minor removal of friable asbestos materials. Moderate Risk removal is limited to a maximum of 0.3 m<sup>2</sup>.
- Repair of asbestos mechanical insulation. Any amount of repair is permitted under Moderate conditions.
- Drilling (with wetting agents or with local exhaust ventilation) through non-friable asbestos-containing materials.
- Backing mounting screws out of asbestos cement products and removing the boards or tiles intact.
- Buffing floor tiles with a coarse disc.
- Collecting asbestos samples for laboratory analysis.
- Analyzing samples of asbestos or asbestos-containing materials in the laboratory.
- Handling asbestos-containing materials in sealed containers at the worksite.
- Removing any part of a false ceiling to gain access to a work area when friable asbestos-containing materials are, or are likely to be, lying on the surface of the false ceiling.
- Removing drywall materials where joint-filling materials containing asbestos have been used.
- Removing vinyl-asbestos floor coverings or other non-friable materials where the procedures do not create any friable waste.
- Removing an entire piece of equipment or pipe with the asbestos-containing material remaining effectively intact.
- Demolishing a block wall that has asbestos debris in its cavity.
- Dismantling a treated enclosure at completion of an asbestos removal project.
- Moving bags of asbestos-containing materials by hand.
- Setting up and removing a glove-bag apparatus for the removal of pipe insulation when the insulation is in good condition.
- Using a "single" glove-bag method to remove asbestos insulation from piping systems.
- Using a HEPA vacuum to clean ceiling tiles or light fixtures with light to moderate contamination.
- Using a HEPA vacuum to clean an area before setting up a High Risk an enclosure.

# ASBESTOS MANAGEMENT PLAN

## HIGH RISK WORK

- Work not permitted under Low Risk and Moderate Risk work.
- Removing, encapsulating, or enclosing friable asbestos-containing materials.
- Cleaning, maintaining, or removing air-handling equipment in buildings where sprayed fireproofing materials containing asbestos have been applied to the airways or ventilation ducts or have been used as spray-on insulation.
- Repairing, altering, or dismantling any part of a boiler, furnace, kiln, or similar device in which insulating materials containing asbestos have been used or applied.
- Demolishing, dismantling, altering, or repairing any part of a building or structure in which insulating materials containing asbestos were used, or in which asbestos-containing products were manufactured.
- Removing non-friable materials in circumstances where the materials will be damaged, resulting in friable asbestos waste or a significant release of fibres.
- Carrying out multiple moderate-risk work activities in a limited area, i.e., multiple glove bag operations.

## 8.0 IDENTIFICATION AND CONTROL OF ASBESTOS-RELATED WORK

### 8.1 Maintenance Work

The Property Manager or a designate is responsible to review all maintenance work for the possibility of disturbance of asbestos materials.

If there is friable asbestos materials in the area of maintenance, but the Property Manager or a designate judges that the friable materials will not likely be disturbed by the maintenance work, the Property Manager must caution the maintenance staff or the contractor of the presence of friable asbestos materials.

If there is friable or non-friable asbestos materials in the area of maintenance, and this will be disturbed by the intended work, the Property Manager or designate will classify the work as Low Risk, Moderate Risk, or High Risk.

The Regional Asbestos Coordinator will be responsible to review or direct all maintenance work that will require High Risk asbestos work.

At the completion of any maintenance work that involves asbestos removal or repair, a report will be provided to the Regional Asbestos Coordinator.

# ASBESTOS MANAGEMENT PLAN

## 8.2 Asbestos-Related Work Record

The supervisors of PWGSC staff performing Low Risk, Moderate Risk or High Risk work will be responsible to ensure that a record is completed for each period of work. These records shall be copied to the employee's employment file, and a copy forwarded to the Regional Asbestos Coordinator. Appendix G gives an example of an Asbestos-Related Work Record.

All PWGSC employees who will perform asbestos related work shall be medically examined through the facilities of Health Canada. The examinations shall be carried out in accordance with the Treasury Board Occupational Health evaluation standard.

Documentation should also be placed on the employees medical file that they are asbestos workers.

## 8.3 Renovations And Construction Work

The Project Manager or the Regional Asbestos Coordinator will review the asbestos survey reports prior to all renovation and construction work for the possible impact on asbestos materials.

Prior to projects that include the demolition of plaster, testing of the plaster for asbestos will be undertaken unless previous comprehensive testing in the building has shown this plaster to be asbestos-free. Records of plaster test results will be maintained by the Regional Asbestos Coordinator and the Property Manager with the asbestos surveys of the building.

If there is friable asbestos materials in the renovation area, but the Project Manager or the Regional Asbestos Coordinator judges that the friable materials will not likely be disturbed by the maintenance work, the Project Manager or the Regional Asbestos Coordinator must notify, in writing, the maintenance staff or the contractor of the presence of friable asbestos materials.

The Project Manager or the Regional Asbestos Coordinator will provide a Hazardous Materials report (a prescribed listing of asbestos, lead, and other hazardous materials) prior to tendering the work.

The Regional Asbestos Coordinator on behalf of the Project Manager, will classify the disturbance of asbestos materials as Low Risk, Moderate Risk or High Risk.

The Regional Asbestos Coordinator on behalf of the Project Manager, will arrange for specifications to be prepared for asbestos work, following the National Master Specification, with alterations for special provincial requirements, where needed.

At the completion of project work which alters the amount or condition of asbestos materials, the Asbestos Coordinator will alter the Asbestos Survey and Assessment report

## ASBESTOS MANAGEMENT PLAN

to reflect the changes. This alteration will be noted in the building survey and distributed to holders of the Asbestos Inventory and Assessment reports.

### 8.4 Low Risk, Moderate Risk, And Glove Bag Procedures

Appendices B, C, and D, give standard practices for performing Low Risk, Moderate Risk, and glove bag asbestos work, respectively.

### 8.5 Project Inspection And Air Monitoring

Low Risk and Moderate Risk work will be subject to the normal maintenance or project inspection provided to non-asbestos work by PWGSC. Asbestos specific air monitoring or inspection may not be mandatory.

In British Columbia, to ensure that work areas are properly inspected and monitored, the following must be done:

- i) Inspect the containment and all decontamination facilities for gaps and breaks at least daily. Complete a visual check as well as a smoke-tube test to ensure that air flows from the clean areas into the contaminated areas. Measuring the air pressure differential between clean and contaminated areas is also recommended. **Keep a record of such inspections for at least 10 years;**
- ii) Take air samples to determine asbestos fibre concentration, both during the asbestos work and before the containment is removed. The minimum sampling requirements are as follows:
  - On a daily basis, take samples outside the containment when there are unprotected persons in the immediate vicinity of the containment.
  - During every shift, sample the air in the clean room during removal and clean-up operations. Sampling must cover at least half of the total duration of the work shift and at least one decontamination sequence at the end of the work shift. Analyze filters and notify workers of the results within 24 hours.
  - Take "occupational" air samples to determine or assess the adequacy of work procedures and controls, or when changes to the work procedures occur.

High Risk removal projects will be subject to final clearance air testing. The clearance criteria will be a maximum fibre concentration of 0.01 fibre/ml of air, as determined by the standard PCM method. The clearance may be performed by Health Canada or a third party contractor. The NIOSH method 7400 will be used. One clearance air sample shall be obtained for every 110 m<sup>2</sup> of containment.

## ASBESTOS MANAGEMENT PLAN

### 8.6 Emergency Asbestos Work

Procedures for immediate response to floods, pipe breaks, ceiling collapses, or other emergencies that affect asbestos materials, are given in **Appendix F**. The general principles of emergency asbestos work are to protect the responder and prevent tenants and visitors from having an asbestos exposure.

### 9.0 AIR MONITORING AND BULK ANALYSIS

#### 9.1 Air Monitoring for Hazard Assessment

Air monitoring will not be used as the primary resource for the assessment of hazard from asbestos materials. If the Regional Asbestos Coordinator is requested to perform air monitoring under normal conditions of building use (i.e., away from asbestos work) the measurements will be made by the Transmission Electron Microscopy (TEM) analytical method.

#### 9.2 Air Monitoring During Asbestos Work Procedures

The Regional Asbestos Coordinator may arrange for air monitoring during asbestos abatement work, to confirm the safety of work practices and the effectiveness of work area isolation. These measurements would be made by the Phase Contrast Microscope (PCM) method recognized by Labour Canada and provincial occupational health and safety authorities. Health Canada monitors the air outside the removal area to protect the federal employees.

PCM measurements will be made by NIOSH method 7400.

Analysis of PCM samples will be performed by Health Canada or individuals or organizations successfully participating in a recognized external quality control program.

#### 9.3 Bulk Sample Collection and Analysis

**Appendix J** gives procedures for collection and labeling of bulk samples for asbestos analysis.

Analyses of materials to determine asbestos content will be performed by Health Canada or by private laboratories accredited by the National Voluntary Laboratory Accreditation Program of the U.S. National Institute of Science and Technology. The laboratories shall report to the limits of detection given in **Section 2.3**.

## **ASBESTOS MANAGEMENT PLAN**

### **10.0 FACILITIES AND WASTE DISPOSAL**

#### **10.1 Equipment and Supplies**

The Property Manager will maintain a stock of the necessary asbestos-related equipment, as required for Low Risk and Moderate Risk asbestos work, for those facilities where PWGSC staff will perform asbestos work.

#### **10.2 Waste Disposal**

Where PWGSC staff will perform asbestos work, asbestos debris will be packaged in double-bagged containers or other suitable containers, by staff completing the project. These containers will be held at a secure location in the building. The Property Manager will arrange for periodic collection.

# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX A**

### **EVALUATION AND RECOMMENDATION CRITERIA FOR CONTROL OF ASBESTOS CONTAINING MATERIALS (ACM)**



# ASBESTOS MANAGEMENT PLAN

## ASSESSMENT OF CONDITION

### *Spray Applied Fireproofing, Insulation and Texture Finishes*

To evaluate the condition of ACM spray applied as fireproofing, thermal insulation, or texture, decorative or acoustic finishes, the following criteria are applied:

#### **GOOD**

Surface of material shows no significant signs of damage, deterioration or delamination. Up to 1 percent visible damage to surface is allowed within range of **GOOD**. Evaluation of sprayed fireproofing requires the surveyor to be familiar with the irregular surface texture typical of sprayed asbestos products. **GOOD** condition includes unencapsulated or unpainted fireproofing or texture finishes, where no delamination or damage is observed, and encapsulated fireproofing or texture finishes where the encapsulation has been applied after the damage or fallout occurred.

#### **POOR**

Sprayed materials show signs of damage, delamination or deterioration. More than 1 percent damage to surface of ACM spray.

In observation areas where damage exists in isolated locations, both **GOOD** and **POOR** condition may be reported. The extent or percentage of each condition will be recorded on the survey or re-assessment form. **FAIR** condition is not utilized in the evaluation of the sprayed fireproofing, sprayed insulation, or texture coat finishes.

The evaluation of ACM spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative or acoustic finishes which are present above ceilings, may be limited by the number of observations made, and by building components such as ducts or full height walls that obstruct the above ceiling observations. Persons entering the ceiling are advised to be watchful for ACM **DEBRIS** prior to accessing or working above ceilings in areas of buildings with ACM regardless of the reported condition.

### *Mechanical Insulation*

The evaluation of the condition of mechanical insulation (on boilers, breaching, ductwork, piping, tanks, equipment etc.) utilizes the following criteria:

#### **GOOD**

Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration. No insulation is exposed. Includes conditions where the jacketing has minor surface damage (i.e., scuffs or stains), but the jacketing is not penetrated.





## ASBESTOS MANAGEMENT PLAN

### FAIR

Minor penetrating damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination) or undamaged insulation that has never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation ranges should be minor to none.

### POOR

Original insulation jacket is missing, damaged, deteriorated or delaminated. Insulation is exposed and significant areas have been dislodged. Damage cannot be readily repaired.

The evaluation of mechanical insulation may be limited by the number of observations made and building components such as ducts or full height walls that obstruct observations. It is not possible to observe each foot of mechanical insulation from all angles.

### *Non-friable and Potentially Friable Materials*

Non-friable materials generally have little potential to release airborne fibres, even when damaged by mechanical breakage. However, some non-friable materials, i.e., exterior asbestos cement products, may have deteriorated so that the binder no longer effectively contains the asbestos fibres. In such cases of significantly deteriorated non-friable material, the material should be treated as a friable product.

### EVALUATION OF ACCESSIBILITY

The accessibility of building materials known or suspected of being ACM is rated according to the following criteria:

#### ACCESS (A)

Areas of the building within reach (from floor level) of all building users. Includes areas such as gymnasiums, workshops, and storage areas where activities of the building users may result in disturbance of ACM not normally within reach from floor level.

#### ACCESS (B)

Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder. Includes:

- Areas within reach from a fixed ladder or catwalk, i.e., tops of equipment, mezzanines; and,
- Frequently entered pipe chases, tunnels and service areas.

## ASBESTOS MANAGEMENT PLAN

### ACCESS (C) EXPOSED

Areas of the building above 8'-0" where use of a ladder is required to reach the ACM. Only refers to ACM that is exposed to view, from the floor or ladder, without the removal or opening of other building components such as ceiling tiles, or service access door or hatch. Does not include infrequently accessed service areas of the building.

### ACCESS (C) CONCEALED

Areas of the building which require the removal of a building component, including lay-in ceilings and access panels into solid ceiling systems. Includes rarely entered crawl spaces, attic spaces, etc. Observations will be limited to the extent visible from the access points.

### ACCESS (D)

Areas of the building behind inaccessible solid ceiling systems, walls or mechanical equipment, etc. where demolition of the ceiling, wall or equipment, etc. is required to reach the ACM. Evaluation of condition and extent of ACM is limited or impossible, depending on the surveyor's ability to visually examine materials in ACCESS D.

### ACM DEBRIS

#### *DEBRIS from Friable ACM*

The presence of fallen ACM is noted separately from the presumed friable ACM source (sprayed fireproofing, thermal insulation, texture, decorative or acoustic finishes or mechanical insulation) and is referred to as **DEBRIS**.

#### *DEBRIS from Damaged Non-Friable ACM*

The presence of fallen ACM from damaged non-friable ACM is also reported separately from the non-friable ACM source. Only fallen non-friable ACM that has become friable is reported as **DEBRIS**.

The identification of the exact location or presence of **DEBRIS** on the top of ceiling tiles is limited by the number of observations made and the presence of building components such as ducts or full height walls that obstruct observations. Workers are advised to be watchful for the presence of **DEBRIS** prior to accessing or working in proximity to mechanical insulation or above ceilings in areas of buildings with ACM regardless of the reported presence or absence of **DEBRIS**.

# ASBESTOS MANAGEMENT PLAN

## ACTION MATRIX AND DEFINITIONS

The Asbestos Management Plan requires the following responses:

- Immediately clean-up **DEBRIS** that is likely to be disturbed; and,
- Remove, repair or enclose friable ACM in **POOR** or **FAIR** condition whose continued deterioration will result in **DEBRIS** that is likely to be disturbed.

The following factors are also considered in making site-specific recommendations for compliance with the regulation and the practical implementation of the Asbestos Management Plan:

- i) ACM in **POOR** condition is not routinely repairable.

If an abatement action is necessary, removal is the recommended action (enclosure is a viable option in unusual circumstances).

- ii) Mechanical insulation in **FAIR** condition can be repaired or removed based on the following general recommendations applied on a case by case basis (Note: Either repair or removal are legally acceptable options for the treatment of ACM found in **FAIR** condition):

- Repair ACM mechanical insulation found in **FAIR** condition in **ACCESS (B)** or **ACCESS (C EXPOSED)** areas;
- Remove ACM mechanical insulation found in **FAIR** condition in **ACCESS (B)** and **ACCESS (C EXPOSED)** areas, where future damage to the ACM is likely to occur; and,
- Remove ACM mechanical insulation found in **FAIR** condition with **ACCESS (A)** to eliminate the potential for re-damaging ACM by all building users.

- iii) ACM in **GOOD** condition present in **ACCESS (A)** can be managed by surveillance, as long as it is not disturbed by future renovation, maintenance or demolition. However, pro-active removal of the ACM in **ACCESS (A)** should be considered where damage is possible by ongoing occupant activity (accidental or intentional).

- iv) Non-friable or manufactured products are considered in the action matrix as follows:

Non-friable or manufactured products reported in **POOR** condition or friable **DEBRIS** resulting from the deterioration of non-friable ACM are treated as friable materials and the appropriate Action, depending on accessibility, is determined from the Action Matrix for friable ACM.

For non-friable or manufactured products reported in **GOOD** condition, Action 7 (surveillance) is recommended regardless of Accessibility.

## ASBESTOS MANAGEMENT PLAN

- v) Remove all ACM from a particular area where small quantities of asbestos are present and removal will negate the need for the use of the Asbestos Management Plan in that area.

With these principles in mind the following Action Matrix Tables establish the recommended asbestos control action. Note that factors not included in the above discussion, such as an owner's policy decision to remove material, knowledge of upcoming maintenance, etc., may result in a recommendation that differs from this table. The **ACTIONS** are described in full following the tables.

### ACTION MATRIX TABLE

#### FRIABLE ACM

ACCESS	CONDITION			DEBRIS
	GOOD	FAIR	POOR	
(A)	ACTION 5/7 <sup>1</sup>	ACTION 5/6 <sup>2</sup>	ACTION 3	ACTION 1
(B)	ACTION 7	ACTION 6/5 <sup>3</sup>	ACTION 3	ACTION 1
(C) EXPOSED	ACTION 7	ACTION 6	ACTION 4	ACTION 2
(C) CONCEALED	ACTION 7	ACTION 7	ACTION 4	ACTION 2
(D)	ACTION 7	ACTION 7	ACTION 7	ACTION 7

<sup>1</sup> If material in **ACCESS (A)/GOOD** condition is not removed **ACTION 7** is required.

<sup>2</sup> If material in **ACCESS(A)/FAIR** condition is not removed **ACTION 6** is required.

<sup>3</sup> Remove ACM in **ACCESS (B)/FAIR** condition if ACM is likely to be disturbed.

#### *Action Definitions*

##### **ACTION 1 - Immediate Clean-Up of DEBRIS that is Likely to Be Disturbed**

Restrict access that is likely to cause a disturbance of the ACM **DEBRIS** and clean up ACM **DEBRIS** immediately. Utilize correct asbestos procedures. This action is required for compliance with regulatory requirements. The surveyor should immediately notify the Asbestos Coordinator of this condition.

##### **ACTION 2 - Type 2 Precautions for Entry into Areas with ACM DEBRIS**

At locations where ACM **DEBRIS** can be isolated in lieu of removal or cleaned up, use appropriate means to limit entry to the area. Restrict access to the area to persons utilizing Moderate Risk asbestos precautions. The precautions will be required until the



## ASBESTOS MANAGEMENT PLAN

ACM **DEBRIS** has been cleaned up, and the source of the **DEBRIS** has been stabilized or removed.

### **ACTION 3 - ACM Removal Required for Compliance**

Remove ACM for compliance with regulatory requirements. Utilize asbestos procedures appropriate to the scope of the removal work.

### **ACTION 4 – Moderate Risk Precautions for Access into Areas Where ACM is Present and Likely to be Disturbed by Access**

Use Moderate Risk asbestos precautions when entry or access into an area is likely to disturb the ACM. **ACTION 4** must be used until the ACM is removed (Use **ACTION 1** or **2** if **DEBRIS** is present).

### **ACTION 5 - Proactive ACM Removal**

Remove ACM in lieu of repair, or at locations where the presence of asbestos in **GOOD** condition is not desirable.

### **ACTION 6 - ACM Repair**

Repair ACM found in **FAIR** condition, and not likely to be damaged again or disturbed by normal use of the area or room. Upon completion of the repair work treat ACM as material in **GOOD** condition and implement **ACTION 7**. If ACM is likely to be damaged or disturbed, during normal use of the area or room, implement **ACTION 5**.

### **ACTION 7 - Routine Surveillance**

Institute routine surveillance of the ACM. Trained workers or contractors must use appropriate asbestos precautions (Low Risk, Moderate Risk, and High Risk) during disturbance of the remaining ACM.

# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX B**

### **LOW RISK WORK PROCEDURES**



# ASBESTOS MANAGEMENT PLAN

## LOW RISK WORK PROCEDURES

For locations of non-friable asbestos materials, refer to the current version of the Asbestos Inventory and Assessment Report.

**NOTE:** Low Risk procedures assume the non-friable material can be removed with relatively little loose dry dust released. Generation of debris is permissible as long as the debris can be well wetted before being removed. If the work will release more than a trivial amount of dry loose dust, do not proceed. The Regional Asbestos Coordinator will determine which of Low Risk, Moderate Risk or High Risk procedures are appropriate.

## EQUIPMENT

All equipment must be on site before proceeding.

### *Vacuum*

Use of a vacuum is optional. Wet cleaning methods may be used in place of a vacuum. If a vacuum is used it must be equipped with a high efficiency particulate (HEPA) filter and all brushes, fittings, etc. The vacuum must only be opened in an enclosure following Moderate Risk procedures, or in a laboratory exhaust hood. The vacuum exterior should be carefully wet cleaned after emptying.

### *Respirators*

Use of a respirator is optional. However, a respirator is strongly advised for work on sheet flooring, any type of ceiling tile, any other work performed overhead. PWGSC will supply a half face respirator with HEPA filters, with training on use and qualitative fit-testing. Respirator must be used according to written use procedures provided to worker as per training procedures. Filters must be changed after 24 hours of wear or sooner if breathing resistance increases. No person using respirator shall wear facial hair which affects the seal between respirator and face.

### *Protective Clothing*

Reusable or disposable clothing may be used. Non-disposable clothing with visible asbestos contamination shall be cleaned with a HEPA vacuum and laundered as asbestos contaminated. Disposable clothing and respirator filters to be disposed of as asbestos waste.

### *Other Equipment*

- Plastic sheet (6 mil polyethylene) - to serve as a drop sheet;



## **ASBESTOS MANAGEMENT PLAN**

- Pump sprayer with mister nozzle or alternative method to wet material;
- Labeled yellow asbestos waste bags (6 mil) - for all asbestos waste, disposable equipment, plastic, etc.; and,
- Small tools and cleaning supplies - e.g., scouring pads, sponges, brushes, buckets, etc.

### **OTHER PROTECTIVE MEASURES**

Do not eat, drink or smoke in the work area.

On leaving work area, proceed to washroom and wash all exposed skin on hands and face.

### **WASTE TRANSPORT AND DISPOSAL**

Place waste into asbestos labelled disposal bag, seal with tape, clean the exterior of the bag with a clean cloth, and place into a second clean bag, also to be sealed with tape. Use a barrel, fibre drum, or cardboard or wooden box in place of the second bag when the asbestos waste material is likely to tear the inner bag. Seal the outer container.

Provide storage area for holding minor amounts of asbestos waste in sealed containers. Garbage containers shall be labeled and assigned exclusively for asbestos waste.

Dispose of the waste in compliance with provincial regulations. The Property Manager will arrange for disposal.



# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX C**

### **MODERATE RISK WORK PROCEDURES**



# ASBESTOS MANAGEMENT PLAN

## MODERATE RISK WORK PROCEDURES

For locations of asbestos materials, refer to the current version of the Asbestos Inventory and Assessment Report.

## EQUIPMENT

Equipment required for the work must be on-site before proceeding.

### *Vacuum*

An asbestos-approved vacuum (HEPA filtered), equipped with brushes, fittings, etc. Vacuum must not be opened except by a fully protected worker within a Moderate Risk enclosure.

### *Respirators*

Workers within the work area shall wear approved respirator. Respirators and filters will be provided by the employer, and individually assigned to workers. Respirator shall be a half-face piece respirator with high efficiency filters. Respirators must be kept in position throughout the entire time the worker is in the area of the work from first disturbance of the ceiling tile or asbestos material until the final cleaning of the area and bagging of waste is complete. Change filters after 24 hours of wear or sooner if breathing resistance increases. No person using respirator shall wear facial hair which affects seal between respirator and face.

### *Protective Clothing*

All workers shall wear disposable coveralls with attached elasticized hood. Coveralls should be worn with the hood in place at all times. Coveralls may be vacuumed or wet wiped clean for re-use, for a maximum of 8 hours cumulative wear. Suit and head cover shall remain in place until worker leaves work area or the enclosure is dismantled. Boot covers or dedicated boots are recommended.

### *Other Equipment*

- Plastic sheet (6 mil polyethylene) - to erect a total enclosure or to serve as drop sheet;
- Wood framing or clips to support polyethylene sheeting, as appropriate to work area;
- Tape - to fasten plastic enclosure to ceiling or to tape drop sheet to floor; 3/4" double-sided tape recommended for attaching polyethylene to T-bar ceiling;
- Labeled asbestos waste bag (6 mil) - for all asbestos waste, disposable suit, plastic for disposal, etc.;
- Pump sprayer containing water with wetting agent to wet asbestos as necessary; dilute wetting agent 2 oz per gallon of water;
- Asbestos warning signs;

## **ASBESTOS MANAGEMENT PLAN**

- Cleaning supplies - e.g., scouring pads, sponges, brushes, buckets, etc.;
- Insulation repair supplies (lagging compound, cloth, PVC covers); and,
- Encapsulating sealer, for brush or airless spray application

### **OTHER PROTECTIVE MEASURES**

Do not eat, drink or smoke in the work area.

On completing clean-up of work area, use vacuum or wet cloth to clean hands, face, respirator and boots. Remove protective equipment and proceed to nearest washroom to wash exposed skin on hands and face.

### **SCHEDULING OF WORK**

Schedule work when occupants are absent. If persons are present, do not start work.

If work above ceiling is required on an emergency basis when area is occupied, have the Client Department advise occupants to vacate area until work is complete and clearance is given to return.

### **PREPARATION**

Shut down ventilation systems to and from the work area. Seal over all ventilation openings, diffusers, grilles, etc., with plastic and tape.

Where practical, clear areas of movable furnishings or equipment. This should include anything which occupants may wish to use during work period. Any furnishings or equipment not removed shall be adequately covered and sealed using 6 mil polyethylene and tape. The intent of the protection is to provide an airtight envelope to protect the articles from airborne dust or splashed debris.

Post signs or barrier tape to indicate asbestos hazard and requirement for protective clothing for anyone entering the space.

For small rooms, cover walls with plastic such that the complete room becomes the work area. For larger rooms, erect enclosure of 6 mil polyethylene of suitable dimensions to enclose the work area and scaffolds and ladders required to gain access. If a suspended ceiling is present, the enclosure shall extend to the ceiling line. The enclosure shall be as airtight as conditions permit including the provision of a double overlapping flap at the entrance. The floor of the work area shall be a layer of 6 mil polyethylene sealed to the plastic walls of the enclosure.



## ASBESTOS MANAGEMENT PLAN

Don protective clothing and respirator prior to removing ceiling tile or disturbing pipe jacketing or sprayed fireproofing.

### EXECUTION

To remove fireproofing or texture plaster, saturate using amended water solution, by use of a pump sprayer. Do not remove the asbestos material until the material is thoroughly wetted to the substrate. **Do not use water where electrical hazard exists.**

To remove pipe insulation, first wet any area of damage, then carefully cut jacket. Keep insulation surface wetted by mist of water with wetting agent. Remove insulation in large sections and place immediately in disposal bag. After large pieces have been removed, saturate debris on mechanical equipment and clean all exposed surfaces with abrasive pads, sponges, cloths, etc.

To repair pipe insulation, use drop sheet under area of work to aid clean-up of any dislodged material. **Plastic enclosure is not required.** Mist any exposed insulation to wet surface and apply lagging paint and canvas or PVC jacketing as required.

For removal of suspended ceiling tiles (where asbestos debris is present on top of tiles or equipment to be accessed), remove the first tile carefully and vacuum all surfaces. Vacuum the upper surface of each subsequent tile prior to removal. Store tiles in the work area.

Remove dust and loose friable material likely to be disturbed in the process of doing the work, with a HEPA vacuum or by damp wiping.

When asbestos material is removed, all pieces should be placed directly into 6 mil polyethylene bags as they are removed. Avoid dropping material to floor wherever possible. After bulk removal is complete, wet wash the exposed surface.

Frequently, and at regular intervals during the work, clean up dust and waste in the work area by wet mopping, placing in disposal bags, or by HEPA vacuuming.

After completion of removal, seal exposed ends of fireproofing, texture plaster, or mechanical insulation with heavy layer of encapsulating sealer. Apply sealer coat to surfaces from which asbestos material was removed.

At completion of work, decontaminate equipment, tools and materials used in the work area by wet cleaning or HEPA vacuum.

Dispose of drop sheets and enclosures by wetting the polyethylene, then folding into disposal bags. Do not reuse drop sheets or enclosures.

## **ASBESTOS MANAGEMENT PLAN**

Before leaving work area, decontaminate shoes and protective clothing by using HEPA vacuum or damp wiping. When protective clothing is to be disposed of, it shall be decontaminated as above and placed in labelled disposal bags. Workers shall vacuum all exposed skin, suit and respirator, and proceed to nearest washroom to wash hands and face.

### **WASTE TRANSPORT AND DISPOSAL**

Place waste into asbestos labelled disposal bag, seal with tape, clean the bag, and place into a second clean bag, also to be sealed with tape. Use a barrel, fibre drum, or cardboard or wooden box in place of the second bag when the asbestos waste material is likely to tear the inner bag. Seal the rigid outer container.

Provide storage area for holding minor amounts of asbestos waste in sealed containers. Containers shall be labelled and assigned exclusively for asbestos waste.

Dispose of waste in compliance with provincial regulations. The Property Manager will arrange for disposal.

# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX D**

### **GLOVE BAG WORK PROCEDURES**



# ASBESTOS MANAGEMENT PLAN

## GLOVE BAG WORK PROCEDURES

### EQUIPMENT

All equipment must be on site before proceeding with the work. Note that these procedures are primarily based on the use of Safe-T-Strip polyvinyl chloride movable glove bags. Only the Safe-T-Strip glove bag are allowed.

#### *Glove Bag*

Prefabricated, 0.25 mm (10 mil) minimum thickness polyvinyl-chloride bag with integral 0.25 mm (10 mil) thick polyvinyl-chloride gloves and elasticized port. Bag shall be equipped with reversible double-pull double throw zipper on top. Bag must incorporate internal closure strip if it is to be removed from pipe for re-use elsewhere.

Prefabricated polyethylene glove bag, single use, not movable.

Provide size and configuration appropriate for insulation to be removed. Once filled bag must be disposed of. Bag shall not be emptied and reused.

#### *Securing Straps*

Reusable nylon straps at least 1" wide with metal buckle for sealing ends of bags around pipe and/or insulation.

#### *Water Sprayer*

Garden reservoir type, low velocity, capable of producing mist or fine spray with water containing wetting agent. Wetting agent shall be diluted 2 oz. per gallon of water.

#### *Respirators*

Workers using glove bag must wear approved respiratory protection. Respiratory protection must be equal to or exceed protection of half-face respirator with high efficiency filters. Respirators must be kept in position from the time the worker attaches the glove bag to the pipe until final cleaning of the pipe and bagging of waste is completed. Filters shall be changed after 24 hours of wear or sooner if breathing resistance increases. No person using respirator shall wear facial hair which affects the seal between respirator and face.

#### *Protective Clothing*

Workers shall wear disposable suit with attached head cover. Suit and head cover shall remain in place until worker completes cleaning of pipe. Suit may be cleaned for re-use or disposed of as asbestos waste.



# ASBESTOS MANAGEMENT PLAN

## *Other Equipment*

- Labeled asbestos waste bags (6 mil) - for all asbestos waste in glove bag, disposable suit, cleaning materials, etc.;
- Asbestos warning signs;
- Wire saw - saw with flexible serrated wire blade and handles to allow use inside glove bag;
- Knife with fully retractable blade for use inside glove bag;
- Plastic sheet (4 mil polyethylene) to cover exposed or damaged section of pipe prior to attaching glove bag;
- Tape - to fasten plastic to pipe if required;
- Cleaning supplies, e.g., scouring pads, sponges, brushes, buckets, etc.; and,
- HEPA vacuum, for evacuating air from bag prior to removing bag from pipe.

## OTHER PROTECTIVE MEASURES

Do not eat, drink or smoke in the work area.

On completing clean-up of work area, use HEPA vacuum or wet cloth to clean hands, face, respirator and boots. Remove protective equipment and proceed to nearest washroom to wash all exposed skin on hands and face.

## SCHEDULING OF WORK

Schedule work when occupants are absent. If persons are present, do not start work.

## PREPARATION

Where practical, clear area below pipe of moveable furnishing or equipment. Provide scaffold as required to reach pipe.

Post an asbestos warning sign at all entrances to room in which the procedure is being used. Use rope or tape barriers to separate work area.

Segregate the area of asbestos work from other parts of the building required to remain in use using polyethylene walls or barrier tape.

Shut off and seal all diffusers, vents and other openings to ventilation and exhaust systems in the room with polyethylene secured with tape.

Cover all items or equipment located in the designated work area with polyethylene if the items or equipment cannot be cleaned in the case of a spill. Tape the polyethylene in



## ASBESTOS MANAGEMENT PLAN

place. The polyethylene should cover a width equal to the height of the pipe from the floor, with a minimum width of 12 feet, where required.

Seal all openings or voids in the vicinity of the glove bag operation with one layer of polyethylene secured with tape.

Check condition of pipe insulation where work will be performed. If the pipe insulation has minor isolated damage, mist surface and patch with tape. If damage is more extensive, wrap pipe with plastic and "candy stripe" it with duct tape first. If pipe insulation is severely damaged and cannot be simply repaired, glove bag is not appropriate (See **Moderate Risk Procedures**).

Pre-clean with HEPA vacuum or wet methods any loose material on surface of pipe or any material on the floor. If significant amount of material is on floor, Moderate Risk procedures may be required for clean-up (See **Moderate Risk Procedures**).

Place necessary tools in bottom of glove bag.

### EXECUTION

Zip the bag onto the pipe and seal each end to the pipe with the securing straps. Do not pull the bag tightly to the ends - a small amount of slack allows better room to work within the bag. If a vertical bag is in use, ensure lower strap passes through plastic grommet and cloth tab on zipper.

Place hands into gloves and use necessary tools (wire saw, utility knife, wire cutters) to remove insulation from pipe. Arrange insulation in bottom of bag to obtain full capacity of bag. Roll jacketing carefully to minimize the possibility of ripping or puncturing the bag.

Insert nozzle of spray pump into bag through valve and wash pipe and interior of upper section of bag thoroughly. Use one hand to aid washing process. Wet surface of insulation in lower section of bag and any exposed ends of asbestos insulation remaining on pipe.

Prior to removing the bag from the pipe, wash the top section of the bag and tools thoroughly. Insert nozzle of HEPA filtered vacuum into bag through elasticized valve and evacuate air from bag. Seal the closure strip, remove the vacuum nozzle and straps, and remove the bag. Re-install and seal in new location before reopening closure.

If bag is to be moved along the same pipe, loosen securing straps, move bag, re-seal to pipe using double-pull zipper to pass hangers. Repeat insulation removal operation.

## ASBESTOS MANAGEMENT PLAN

If during use the glove bag is ripped, cut or opened in any way, cease work and repair opening before continuing work. All spilled material must be cleaned up and removed with a HEPA vacuum or wet cleaning.

To remove tools after completion of insulation removal, thoroughly wash top section of bag and tools. Place tools in one glove, pull hand out inverted, twist to create a separate pouch, tape inside-out glove at two separate locations 1" apart to seal pouch. Remove inside-out glove and tools by cutting between the tape seals.

Place glove pouch and tools into the next clean glove bag to be used. Alternately, place the tool pouch into water bucket, open pouch underwater and clean tools, then allow to dry.

Prior to disposal of bag, evacuate the bag with a HEPA vacuum. Pull a 6 mil polyethylene bag over glove bag before removing from pipe. Remove securing straps. Unfasten zipper. Seal glove bag and seal 6 mil polyethylene bag.

After removal of bag ensure pipe is clean of all residue. If necessary, after removal of each section of asbestos, vacuum all surfaces of pipe, using HEPA filtered vacuum equipment or wipe with wet cloth.

Seal all surfaces of freshly-exposed pipe with encapsulating sealer to tack-down any residual dust. Cover exposed ends of any remaining asbestos insulation with lagging cloth or tape.

Before leaving work area, decontaminate shoes and protective clothing by using HEPA vacuum or damp wiping. When protective clothing is to be disposed of, it shall be decontaminated as above and placed in labelled disposal bags. Workers shall vacuum all exposed skin, suit, respirator and hair (after removing hood) and proceed to nearest washroom to wash hands and face.

### *WASTE TRANSPORT AND DISPOSAL*

Provide storage area for holding minor amounts of asbestos waste in sealed containers. Containers shall be labelled and assigned exclusively for asbestos waste.

Dispose of waste in compliance with provincial regulations. The Property Manager will arrange for disposal.



# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX E**

### **RESPIRATOR FITTING, INSPECTION, CLEANING AND DISINFECTION**



# ASBESTOS MANAGEMENT PLAN

## NOTES FOR AIR PURIFYING HALF FACEPIECE RESPIRATORS

**WARNING:** This respirator does not supply oxygen. It must not be used in oxygen deficient atmospheres (less than 19.5%); in poorly ventilated areas or enclosed spaces such as tanks or small rooms; for abrasive blasting or firefighting; or for protection against contaminants excluded or not covered by the applicable Approval Label.

Respirators must be approved for protection against asbestos. Check for NIOSH certification. Please refer to the new CSA Z94.4, Selection, Care and Use of Respirators. Federal employees must comply with Z94.4.

## RESPIRATOR FITTING

Persons required to wear respirators must first pass a qualitative fit-test administered according to the current version of CSA standard Z-94.4. The fit-test should be repeated yearly.

The respirator wearer must be clean-shaven along all the seal points for proper protection. Even stubble growth may be sufficient to reduce the seal of the facepiece, and therefore the protection. The respirator approval is voided for users with facial hair which interferes with the seal.

## INSPECTION ITEMS PRIOR TO EACH USE:

1. Examine facepiece for:
  - Dirt;
  - Cracks, tears or holes;
  - Distortion and inflexibility; and,
  - Crack or breaks in filter holders, worn threads and missing gaskets.
2. Examine head straps for:
  - Breaks or tears;
  - Loss of elasticity; and,
  - Broken or malfunctioning buckles and attachments.
3. Examine valves for:
  - Detergent residue, dust or other material on valves or valve seats;
  - Cracks, tears or distortion in the valve material; and,
  - Missing or defective valves or valve covers.



## ASBESTOS MANAGEMENT PLAN

4. Examine filter for:
  - Proper filter for protection against asbestos (High Efficiency Particulate);
  - Incorrect installation, loose connections, missing or worn gaskets or cross threading; and,
  - Cracks or dents in filter housing
5. Leak-checks:

Perform the following tests on each donning:

  - Negative pressure test: cover inlets to filters, breathe in and hold breath; respirator should be drawn to face for minimum of 10 seconds (if not, check exhalation valve and fit); and,
  - Positive pressure test: cover exhalation valve cover and puff out slightly and hold breath; respirator should slightly pressurize and still hold seal (if not, check inhalation valves and fit).

### RESPIRATOR CLEANING AND DISINFECTION

1. Remove filters and disassemble facepiece. Discard or repair defective parts.
2. Wash components in warm water (50°C - 60°C) with mild detergent, using a brush. Cleaning and disinfectant solutions are available from respirator manufacturers.
3. Thoroughly rinse components in clean, warm water.
4. Air dry or hand dry components with a clean, lint-free cloth.
5. Reassemble respirator and test to ensure that all components are working properly (see above). Be careful to check that valves are not lost in the cleaning.

### FILTER CARTRIDGE HANDLING AND REPLACEMENT

1. Filter cartridges should be sealed on the inlet side with tape once used.
2. Filters can be re-used until an increase in breathing resistance is noted. Under typical Type 2 conditions, filter cartridges should last a minimum of 24 hours.

# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX F**

### **PROCEDURES FOR EMERGENCY ASBESTOS WORK**



## ASBESTOS MANAGEMENT PLAN

If Moderate Risk procedures cannot be strictly observed due to the urgency, some judgement will be required of the person responsible for the work, and other staff or contractors responding to the emergency. The general principle of emergency response work is to protect the workers performing the repair and to minimize the exposure of others to airborne asbestos. The procedures given below should be followed to the extent possible in the circumstances of the emergency.

1. Clear area of all occupants.
2. Construct enclosure around area if time permits.
3. Shut down ventilation system serving area.
4. Worker performing repair shall wear protective respirator and disposable suit. If normal work clothes are worn they must be disposed of if visibly contaminated.
5. Use drop sheet under work to minimize clean-up if possible.
6. Perform emergency repair with minimum disturbance of asbestos.
7. Obtain asbestos equipment and perform clean-up of visible material before allowing unprotected personnel to enter area. Use HEPA filtered vacuum or wet cleaning. Dispose of all cleaning supplies as contaminated waste.
8. The worker should wipe off or vacuum disposable clothing and footwear. Proceed to washroom to wash face and hands.
9. Notify the Property Manager regarding the asbestos disturbance. The Property Manager will contact the Regional Asbestos Coordinator to arrange for removal, clean-up or repair of the asbestos material.



# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX G**

### **ASBESTOS-RELATED WORK RECORD**







## ASBESTOS-RELATED WORK RECORD FICHE DE TRAVAIL - TRAVAUX COMPORTANT UNE EXPOSITION À L'AMIANTE

Room - Pièce	Description of work - Description du travail							
Date work requested Date de la demande d'exécution des travaux								
Manager in Charge of Worksite or Supervisor Chef de chantier ou surveillant								
Classification of work - Type de travaux								
<table border="0"><tr><td><input type="checkbox"/> Type 2 Ceiling Entry Type 2 - Accès au vide de plafond</td><td><input type="checkbox"/> Type 2 Asbestos Clean-up Type 2 - Nettoyage d'amiante</td></tr><tr><td><input type="checkbox"/> Type 2 Repair Type 2 - Réparation</td><td></td></tr><tr><td><input type="checkbox"/> Type 2 Insulation Removal Type 2 - Enlèvement de matériaux isolants</td><td><input type="checkbox"/> Type 3 Removal Type 3 - Enlèvement d'amiante</td></tr></table>			<input type="checkbox"/> Type 2 Ceiling Entry Type 2 - Accès au vide de plafond	<input type="checkbox"/> Type 2 Asbestos Clean-up Type 2 - Nettoyage d'amiante	<input type="checkbox"/> Type 2 Repair Type 2 - Réparation		<input type="checkbox"/> Type 2 Insulation Removal Type 2 - Enlèvement de matériaux isolants	<input type="checkbox"/> Type 3 Removal Type 3 - Enlèvement d'amiante
<input type="checkbox"/> Type 2 Ceiling Entry Type 2 - Accès au vide de plafond	<input type="checkbox"/> Type 2 Asbestos Clean-up Type 2 - Nettoyage d'amiante							
<input type="checkbox"/> Type 2 Repair Type 2 - Réparation								
<input type="checkbox"/> Type 2 Insulation Removal Type 2 - Enlèvement de matériaux isolants	<input type="checkbox"/> Type 3 Removal Type 3 - Enlèvement d'amiante							
Start (date and time) - Début (date et heure)		Completion (date and time) - Fin (date et heure)						
Department (Indicate PWGSC or if a Contractor indicate Company Name) Ministère (TPSGC ou, dans le cas de travaux confiés à un entrepreneur, raison sociale de l'entreprise)		Person in Charge - Personne responsable						
Asbestos workers (Indicate all names in full. Please print) Travailleurs affectés au travail de l'amiante (inscrivez leur nom au long en lettres moulées)								

Asbestos work record to be initiated by Manager in Charge of the Worksite or Supervisor.

Il incombe au chef du chantier ou au surveillant de voir à faire remplir la fiche de travail concernant des travaux comportant une exposition à l'amiante.

To be completed by the Person in Charge and submitted to the Manager in Charge of the Worksite or Supervisor, upon completion of the work.

Le contremaître remplit la fiche de travail et la remet au chef de chantier ou au surveillant à la fin des travaux.

A copy of this record shall be placed on each employee's employment file and a copy shall be forwarded to the Regional Asbestos Co-ordinator.

Un exemplaire de la fiche est versé au dossier de chaque employé et un exemplaire est transmis au coordonnateur régional des travaux d'amiante.

A separate record must be prepared for each Type 2 or Type 3 Work Order or Project.

Une fiche distincte doit être établie pour chaque demande d'exécution de travaux ou chaque projet de type 2 et de type 3.



# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX H**

### **CERTIFICATE OF TRAINING FOR ASBESTOS-RELATED WORK**





## CERTIFICATE OF TRAINING FOR ASBESTOS-RELATED WORK CERTIFICAT DE FORMATION SUR LE TRAVAIL COMPORTANT UNE EXPOSITION À L'AMIANTE

Working with asbestos can be dangerous unless appropriate work practices and personal protective equipment are utilized. Inhaling asbestos fibres can cause various types of lung disease including cancer. Smoking increases the risk of lung cancer from asbestos exposure.

**RESPIRATOR PROTECTION:** I have been supplied with a respirator and received training for its proper use including qualitative fit testing (irritant smoke).

**MEDICAL EXAMINATION:** Medical examinations may be required for workers performing asbestos-related work. I acknowledge that I may be required to undergo medical testing.

**TRAINING COURSE:** I have been trained in the dangers inherent in handling asbestos and breathing asbestos dust, in proper work procedures and in personal and area protective measures. The topics covered in the course included the following:

- Physical characteristics of asbestos materials
- Health hazards associated with asbestos
- Respiratory protection
- Use of protective equipment
- PWGSC Asbestos Code of Practice
- Personal decontamination procedures
- Work practices including hands-on or on-job training

Le travail de l'amiante présente des dangers pour la santé des travailleurs, à moins que ceux-ci utilisent des méthodes de travail et un équipement de protection individuelle appropriés. L'inhalation de fibres d'amiante peut causer diverses maladies pulmonaires, dont le cancer du poumon. Le tabagisme aggrave le risque d'être atteint d'un cancer du poumon par suite d'une exposition à l'amiante.

**PROTECTION RESPIRATOIRE :** On m'a fourni un respirateur et j'ai reçu la formation sur la manière de m'en servir, y compris sur l'Essai d'ajustement qualitatif de l'appareil respiratoire (essai à la fumée irritante).

**EXAMEN MÉDICAL :** Les personnes exposées à l'amiante peuvent être tenues de subir des examens médicaux. Je reconnais que l'on peut exiger que je me soumette aux examens jugés nécessaires.

**COURS DE FORMATION :** J'ai reçu une formation sur les dangers inhérents à la manipulation de l'amiante et à l'inhalation de poussières d'amiante, sur les méthodes de travail appropriées et sur les mesures de protection individuelle et matérielle. Les thèmes suivants ont été abordés au cours de ma formation :

- Caractéristiques physiques des matériaux contenant de l'amiante
- Dangers pour la santé associés à l'amiante
- Protection respiratoire
- Utilisation de l'équipement de protection
- Code de pratique de gestion de l'amiante de TPSGC
- Procédures de décontamination individuelle
- Méthodes de travail, dont une formation pratique ou en cours d'emploi sur :

Indicate with a check mark the training that has been provided - Indiquez à l'aide d'un crochet la formation que vous avez reçue

☐ Type 1 Procedures  
Procédures - Travaux de type 1

☐ Type 2 Procedures  
Procédures - Travaux de type 2

☐ Glovebag Procedures  
Procédures - Sacs à gants

By signing this certificate, I acknowledge that I have received the above training and agree to follow these procedures for work assigned to me.

En signant ce certificat, j'atteste que j'ai reçu la formation sur les procédures indiquées ci-dessus et j'accepte de me conformer à ces procédures pour tous les travaux qui me seront confiés.

Employee name - Nom de l'employé

Employee signature - Signature de l'employé

Date

Respirator manufacturer - Fabricant du respirateur

Size - Taille

Trainer - Formateur

Date



# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX I**

### **CONTRACTOR NOTIFICATION AND ACKNOWLEDGEMENT**





## CONTRACTOR NOTIFICATION AND ACKNOWLEDGEMENT NOTIFICATION ET CONSENTEMENT DE L'ENTREPRENEUR

Working with asbestos can be dangerous unless appropriate work practices and personal protective equipment are utilized. Inhaling asbestos fibres can cause various types of lung disease including cancer. Smoking increases the risk of lung cancer from asbestos exposure.

Le travail de l'amiante présente des dangers pour la santé des travailleurs, à moins que ceux-ci utilisent des méthodes de travail et un équipement de protection individuelle appropriés. L'inhalation de fibres d'amiante peut causer diverses maladies pulmonaires, dont le cancer du poumon. Le tabagisme aggrave le risque d'être atteint d'un cancer du poumon par suite d'une exposition à l'amiante.

PWGSC has identified the presence of various friable and nonfriable asbestos containing materials at:

TPSGC a décelé la présence de divers matériaux friables et non friables contenant de l'amiante à l'endroit suivant :

Address - Adresse

An asbestos inventory report showing the locations and amounts of these materials is available for viewing from:

On peut prendre connaissance d'un relevé indiquant les emplacements et les quantités de matériaux contenant de l'amiante auprès de :

Name - Nom

Location - Lieu

Telephone no.  
N° du téléphone

The PWGSC Asbestos Management Code of Practice applies to all maintenance and renovation work that may disturb asbestos materials. The disturbance of asbestos building materials may only be undertaken by contractors who have received training in asbestos-related precautions.

Le code de pratique de gestion de l'amiante de TPSGC s'applique à tous les travaux d'entretien ou de rénovation susceptibles d'exposer les travailleurs à des matériaux contenant de l'amiante. Seuls les entrepreneurs qui ont reçu une formation sur les précautions à prendre face à l'amiante peuvent être autorisés à entreprendre des travaux comportant une exposition à des matériaux contenant de l'amiante.

As a condition of our contract to provide services and materials to PWGSC, this company will not disturb asbestos-containing materials without prior notification to:

Aux termes du contrat de fourniture de services et de matériaux conclu entre TPSGC et l'entreprise soussignée, cette dernière s'est engagée à ne pas entreprendre de travaux entraînant une exposition à l'amiante sans en informer d'abord :

Name - Nom

Location - Lieu

Telephone no.  
N° du téléphone

This firm and the employees of this firm will follow all procedures as specified by the PWGSC Asbestos Management Code of Practice, while working in:

L'entreprise et son personnel sont tenus de respecter toutes les procédures prescrites par le Code de pratique de gestion de l'amiante de TPSGC, pendant toute la durée des travaux effectués à l'endroit suivant :

Address - Adresse

Company name - Nom de la compagnie

Name - Nom

Title - Titre

Signature

Date

# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX J**

### **BULK SAMPLE COLLECTION PROCEDURES**



# ASBESTOS MANAGEMENT PLAN

## BULK SAMPLE COLLECTION PROCEDURES

1. Sample the material when the area is not in use. Only those persons needed for sampling should be present in the immediate area.
2. Spray the material with a light mist of water to prevent fibre release during sampling. Do not disturb the material any more than necessary.
3. Materials of different appearance should be sampled separately. Mechanical insulation must be sampled separately on all systems, tanks, vessels, etc. Sample both the straight sections of pre-formed insulation and the insulating cement typically present at elbows, fittings, etc. (unless visually identified as fibreglass).
4. Collect the sample by penetrating the entire depth of the material, as the insulation may have been applied in more than one layer or covered with paint or other protective coating.
5. Depending on the condition of the material, significant amounts of airborne fibres can be generated during sampling. The use of a respirator is recommended for all sampling.
6. If pieces of material break off during sampling, the contaminated area must be cleaned up with a HEPA vacuum cleaner or by wet cleaning. Any debris generated must be placed in plastic bags, labelled, sealed and disposed of as asbestos waste.
7. Place samples in labelled plastic bags with a zip-lock closure or in sealed plastic vials. Samples shall be identified with the following information:
  - Sample Number
  - Building
  - Room Number
  - Date of Sampling
  - Name of Sampler
  - Source of sample, e.g., Cold Water Pipe, Cold Water Fitting, etc.
8. Temporarily seal any openings created to collect the sample, for example, with metal foil tape wrapped completely around the pipe. Advise the Property Manager or Regional Asbestos Coordinator.
9. Analysis must be performed by a laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). Contact the Regional Asbestos Coordinator for a list of acceptable laboratories.



# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX K**

### **ROLES AND RESPONSIBILITIES**





# ASBESTOS MANAGEMENT PLAN

## ROLES AND RESPONSIBILITIES

### **Regional Asbestos Technical Coordinator (Non-Mandatory)**

The Regional Asbestos Technical Coordinator's roles and responsibilities are:

- To maintain a technical competency within Environmental Services;
- To provide technical training to RPS staff;
- Working with the Regional Asbestos Coordinator to develop training packages for various groups of staff involved with asbestos;
- Provide asbestos audit and survey when requested;
- To provide advisory support to the Regional Asbestos Coordinator;
- To provide communication on technical issues;
- Develop and maintain standing offer contracts for asbestos related services;
- Provide technical support and advice to all of RPS;
- Conduct the quality assurance evaluations of survey reports performed by others; and,
- Conduct the quality assurance evaluations of removal and repair work being performed by others, when requested.

### **Regional Asbestos Coordinator (Mandatory)**

The Regional Asbestos Coordinator's roles and responsibilities are:

- To develop and maintain a liaison with Maintenance Management in the NCOE for day-to-day reporting and communication;
- To liaise with Maintenance Management in the CSU for day-to-day communication and support;
- To arrange for a complete survey and assessment of asbestos materials;
- Will decide the degree/detail of surveys required to meet Departmental Policy. (This is to be done in concert with Regional Asbestos Technical Advisor);
- Will decide the degree/detail of reassessment of all friable asbestos materials in exposed locations. (This is to be done in concert with Regional Asbestos Technical Advisor);
- To maintain and manage a regional inventory of asbestos. Inventory to include all test results, positive and negative;
- To establish a system of keeping the reports to ensure ready access to COE, CSU, and field staff;
- To establish an acceptable paper trail to deal with removal and repair of asbestos;
- To establish an acceptable system of notifying Property Managers of new findings of asbestos;
- To maintain a regional inventory of trained personnel and the level of training given.
- To maintain a consistency standard within the region;
- To provide communication on management issues to the CSUs; and,
- To develop a standard reporting form to be used to report on maintenance repair and removal work.

## ASBESTOS MANAGEMENT PLAN

### All contractors

This includes anyone contracted to do work on the interior or exterior of PWGSC owned buildings.

Their responsibilities are:

- To review the asbestos survey reports prior to all renovation and construction work for the possible impact on asbestos;
- To complete "Contractor Notification and Acknowledgement" form;
- Not to disturb asbestos materials as part of their doing their work. The disturbance of asbestos building materials may only be undertaken by contractors who have received training in asbestos-related precautions; and,
- As a condition of their contract to provide services and materials to PWGSC, their company will not disturb asbestos-containing materials without prior notification to the "Asbestos Control Officer". This firm and its workers, while working in this "location of work", will follow all procedures specified by the PWGSC Asbestos Management Program.

### All Contractors, doing work involving Asbestos

This includes any work on the interior or exterior of PWGSC owned buildings involving asbestos.

Their responsibilities are:

- To ensure they follow all procedures specified by the PWGSC Asbestos Management Program; and,
- To ensure that they complete all the required documentation required by the PWGSC Asbestos Management Program.

# **ASBESTOS MANAGEMENT PLAN**

## **APPENDIX L**

## **LOG BOOK**



### ASBESTOS CONTAINING MATERIAL DISTURBANCE LOG:

[illegible]