CARLETON CONDOMINIUM CORPORATION 12

Asbestos Management Plan

ASBESTOS MANAGEMENT PLAN
TOWER "A" - 158 MCARTHUR AVENUE, OTTAWA, ONTARIO

Prepared By:

KANELLOS CONSULTING INC
www.kanellosconsulting.com

582 Somerset St West, Ottawa, ON, K1R 5K2

For:

Carleton Condominium Corporation #12
Chateau Vanier – 158 McArthur Avenue,
Ottawa, ON, Canada K1Z 5L5

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KANELLOS CONSULTING INC
www.kanellosconsulting.com

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FOREWORD

This Asbestos Management Program (AMP) is developed to meet the legal obligation of Carleton Condominium Corporation #12 under the Occupational Health and Safety Act, Ontario Regulation 278/05 "Designated Substance-Asbestos on Construction Projects and in Buildings and Repair Operations". This AMP has been prepared to ensure the safety and health of occupants, staff and contractors at the property. Future work undertaken at Tower A - 158 McArthur Ave, Ottawa, Ontario may be in an asbestos containing environment and may involve asbestos removal. The work must be carried out according to protocols and procedures set forth in O. Reg 278/05. The AMP is to be utilized in conjunction with the existing Designated Substance Report (DSR) prepared by Kanellos Consulting Inc (KCI) in December 2012, as well as any other DSR's that have been prepared for this property.

The main objectives of the AMP are:

- ***Maintain ACM in a safe condition****:* This is accomplished through routine inspection of ACM, and use of qualified contractors to conduct clean up of asbestos-containing debris and repair of damaged ACM.

- ***Prevent accidental disturbance of ACM****:* This is accomplished by providing awareness training to maintenance staff to alert them to possible locations of ACM in buildings and teach them how to avoid accidental disturbance and what to do in the event of an emergency.

- ***Respond safely to emergencies involving disturbance of ACM***: This is accomplished by providing procedures for responding to emergencies resulting from the accidental disturbance of ACM.

- ***Satisfy regulatory requirements related to handling or disturbing ACM:*** This is accomplished by adhering to the regulatory requirements as detailed within Ontario Regulation 278/05, Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations, made under the Occupational Health and Safety Act (OH&S Act) and using only qualified workers or contractors to perform asbestos related work.

1.0 BACKGROUND

1.1 Asbestos

Asbestos is a generic term describing a group of highly fibrous minerals with separable long and thin fibres. Separated asbestos fibres have the strength and flexibility to be spun and woven. Asbestos is suitable for use as non-combustible, non-conducting and chemically resistant materials. Two types of asbestos exist: Serpentines and Amphiboles. Serpentine fibres are flexible and curly. Amphibole fibres are straight with a fine fibre density that increases the likelihood of becoming and remaining airborne when disturbed. Chrysotile is a Serpentine and Amosite, Crocidolite, Tremolite, Actinolite, and Anthrophylite are Amphiboles.

1.2 Asbestos Products

The physical characteristics and chemical properties of asbestos made it very useful for a wide variety of products to strengthen them, provide heat or electrical insulation, offer fire or chemical resistance, and/or to absorb sound. Typical applications of asbestos include:

- Thermal insulation;
- Spray-on coating to protect steel beams from buckling in the event of fire;
- Fire-resistant textiles;
- Cement products including cement sheets and pipes for construction, casing for water and electrical/telecommunication services;
- Plaster, joint compound filler, low density insulation board, acoustical ceiling tiles and panels;
- Roofing felts and shingles;
- Vinyl floor tiles, sheeting, adhesives, filler in resins, plastics, caulking, sealants; and
- Friction products such as brake pads, brake shoes and clutch plates.

An Asbestos Inventory Table is provided in **Appendix A.**

1.3 Asbestos Disturbances

In many cases, asbestos is present in materials in a "bound" form, meaning the product does not have the tendency to release fibres unless physically or mechanically disturbed. Such materials are referred to as "non-friable" materials. Examples of non-friable asbestos containing materials (ACMs) include floor tiles, asbestos cement products and gaskets. In other cases, the asbestos is friable, meaning the material, when dry, can be crumbled, pulverized or powdered by hand pressure and can readily release asbestos fibres. Examples of friable ACMs' include ceiling stipple/texture, and fibre backing of sheet vinyl flooring. Deterioration, accidental damage, or general maintenance activities such as cutting, sawing, breaking and rubbing of ACMs, can expose asbestos fibres, which can then become airborne and respirable. Fibre generation may occur as a result of any of the following actions on ACM:

- Contractors such as electricians, plumbers, carpenters performing work in a building;
- Water coming in contact with ACM resulting in damage;
- Friable asbestos being present within a plenum or air current;
- Storing materials and products on or adjacent to ACM that could cause damage;
- Uncontrolled asbestos abatement work;
- Routine maintenance activities;

- Renovation and demolition activities;
- Vandalism; and
- Building occupant damage.

1.4 Health Risk Related to Asbestos Exposure

Asbestos poses health risks when fibres are present in the air and are inhaled. Affects of asbestos exposure depend on the concentration of asbestos fibres, length of exposure, frequency of exposure, size of asbestos fibres inhaled, and amount of time since initial exposure. When inhaled in significant quantities, asbestos can cause asbestosis, mesothelioma, and lung cancer. Also, smoking combined with inhaled asbestos, greatly increases the risk of lung cancer.[1]

1.5 Medical Assessment

Ontario Regulation 278/05 requires a medical surveillance program for all workers who are exposed to asbestos on Type 2 or Type 3 operations (see section 8.1 Asbestos Work Classification). Under this program, employers are required to report the number of hours each employee works on each Type 2 or Type 3 operation to the Provincial Physician of the Ministry of Labour's Occupational Health Medical Service. The Provincial Physician keeps track of each worker's accumulated exposure and decides when a medical examination is required. The medical examination consists of a medical questionnaire, chest X-rays and pulmonary function tests.

2.0 LEGISLATION

Health hazard concerns have prompted the development of federal and provincial legislation to restrict the use of asbestos to protect the health and safety of workers and building occupants. Regulatory requirements include exposure limits to airborne asbestos, worker protection and personal hygiene, work-site controls to prevent the spread of contamination, worker training and medical programs, and disposal requirements.

2.1 Provincial Regulations

2.1.1 Ontario Regulation 278/05

In Ontario, Regulation 278/05 "Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations" made under the Occupational Health and Safety Act (OH&S Act) outlines specific procedures regarding maintenance, renovations and/or demolition work where ACMs are or may be disturbed. This regulation requires that an asbestos management program (AMP) be implemented in any building where the owner of a building is aware or ought reasonably to know that friable (and non-friable) ACMs are present in the building. If ACM is suspected to be present, locations of the materials must be documented and re-inspected at regular intervals to determine their condition.

Prior to a construction project or demolition project, a document detailing the presence of all asbestos materials must be available to contractors and subcontractors requesting tenders. The main requirements of the asbestos management program for the building owner include:

[1] Health Canada, http://www.hc-sc.gc.ca/cps-spc/house-domes/decor/construct_asbestos-amiante-eng.php

- Preparation and maintenance of a record of locations of ACMs in the building, the record has to be updated at least once in each 12 month period;

- Determination if the ACM is friable or non-friable;

- Notification of the building's occupants of the locations of such materials;

- Notification of workers who may do work that involves the material or is to be carried out in close proximity to the material and may disturb it;

- Establishment of a training program for those employees who may perform work involving ACMs or may perform work in close proximity to, and may disturb ACMs;

- Periodic re-inspections of ACM in order to determine its condition; and,

- Remedial action on material that has deteriorated and/or remedial actions prior to renovations/demolition of ACMs, following the precautions and procedures prescribed in the regulation.

2.1.2 Ontario Regulation 490/09

Ontario Regulation 490/09 "Designated Substances" made under Occupational Health and Safety Act provides special requirements for protection of workers who are engaged in activities that are likely to expose them to asbestos. This regulation specifies that "every employer shall take all necessary measures and procedures by means of engineering controls, work practices, hygiene practices and facilities to ensure that the time-weighted average exposure of a worker to any of the forms of airborne asbestos, individually or collectively, is reduced to the lowest practical level and in any case shall not exceed 0.1 fibers per cubic centimetre of air".

Regulation 490/09 replaces former Ontario Regulation 837, and consolidates 11 separate designated substance regulations into one regulation. Ontario Regulation 278/05 was not consolidated.

2.1.3 Ontario Regulation 347

Ontario Regulation 347 "General – Waste Management" under the Environmental Protection Act is intended to provides requirements for general waste management including asbestos and ACMs. The Ministry defines "asbestos waste" as the following: "solid or liquid waste that results from the removal of asbestos-containing construction or insulation materials or the manufacture of asbestos-containing products and contains asbestos in more than a trivial amount or proportion". Under this regulation, responsibilities of the building owner include:

- To ensure that the waste is properly packaged and labelled;

- To ensure that asbestos waste is transported by a carrier operating under a certificate of approval that authorizes transportation of asbestos waste and the transport vehicle is appropriately placarded;

- To ensure that asbestos waste is transported to the waste disposal site (operator of which has agreed to accept it) and has been advised on its anticipated time of arrival and that the asbestos waste is transported on the same day as received by the landfill site; and

- To ensure that the route of travel is the most direct.

2.2 Federal Regulations

2.2.1 Transportation of Dangerous Goods Regulations

The transportation of asbestos-containing wastes is governed by Transportation of Dangerous Goods Regulations (SOR/2001-286) made under the Transportation of Dangerous Goods Act, 1992, which outlines the requirements for storage, handling, and transportation of such waste. These regulations govern the transport labelling, placard and documentation of asbestos waste while in transport. The major requirement for the building owner is to ensure the waste meets the packaging requirements and that a bill of lading accompanies the shipment.

3.0 ELEMENTS OF THE AMP

Management of ACMs in a building requires that all employees know their role and responsibilities and follow appropriate control procedures. The main elements of the AMP are:

- Responsibilities of program participants;

- Communication of asbestos awareness and training of employees involved in the program;

- Written inventory of ACMs;

- Regular inspection program of all ACMs to evaluate its condition and the need for remedial action;

- Risk assessment guidelines to assist in evaluating the potential for exposure to ACM during general maintenance, renovation and construction work;

- Maintenance of ACM in good condition;

- The prompt remediation of damaged or deteriorating ACM;

- classification of all asbestos-related work as Type 1, 2 or 3 according to O. Reg. 278/05, and the provision of appropriate safe work procedures, including emergency procedures, in keeping with this classification of work;

- Maintenance of records of all asbestos-related work; and,

- Maintenance of Asbestos Work Report for each worker who works in a Type 2 or Type 3 operation. The details of the requirements of each element are presented below.

4.0 RESPONSIBILITIES

4.1 Facilities Management

The Director of Facilities Management is responsible for:

- Notifying employees and building occupants of the presence of ACM in their respective areas;
- Notifying employees and building occupants of any planned or emergency asbestos-related work to be completed in their respective areas;
- Notifying contractors of the presence of ACM on the property and assessing whether the ACM will be disturbed in the course of work to be performed;
- If no disturbance of ACM is anticipated, the work can commence but the employee and/or contractor should be informed of the presence of asbestos and cautioned to avoid disturbance of the ACM.
- If disturbance of ACM is anticipated, the scope of work must be assessed and arrangements must be made to have the affected ACM properly and effectively removed. A contractor notification form is attached in **Appendix B.**
- Ensuring the Ministry of Labour is notified of all Type 3 asbestos work;
- Ensuring ACM in buildings is reassessed at least annually or as otherwise deemed appropriate. The assessment should precede any planned renovations/demolition which may impact these materials;
- Providing the resources necessary to maintain the AMP;
- Informing the Occupational Health & Safety Department or Health and Safety Representative of all incidents, potential disturbances or asbestos related work to be performed;
- Informing the Occupational Health & Safety Office/Health and Safety Representative of incidents;
- Ensuring Facilities Management employees are aware of ACM in their work area(s); and
- Ensuring employees performing asbestos related work are properly trained and Asbestos Work Reports are completed for employees performing Type 2 or Type 3 work. Asbestos Work Reports must be completed annually and submitted to the Occupational Health & Safety Office. Asbestos Work Reports are available on the Ministry of Labour website: http://www.labour.gov.on.ca/

4.2 Asbestos Consultant

A Consultant specializing in asbestos may be retained to provide assistance with specific tasks required under the AMP. Based on the experience and specific expertise, the Consultant may provide assistance with the following:

- Identification of all visible ACM in the building, (a copy of the Designated Substance Report – December 2012 has been completed and is included in Appendix C of the AMP);
- Development of low, moderate and high-risk work procedures (Type 1, 2, or 3) for planned renovation or removal of ACM;
- Development and implementation of Type 2 procedures to facilitate emergency clean up and control of disturbed or damaged ACM;
- Assisting with all matters concerning the AMP including performing annual reassessments and updating the lists of remaining ACM in the buildings;
- Inspecting asbestos contractor containment and work procedures before, during, and after work has commenced to ensure negative pressure and prevent exposures to asbestos fibers for non-asbestos workers or other building occupants during Type 2 or Type 3 operations;
- Conducting air monitoring once the asbestos work has commenced to monitor dust control and decontamination procedures for Type 3 operations; and
- Conducting air clearance testing following Type 3 abatement activities. Reviewing and approving test results (where asbestos fibres have been disturbed) to ensure the area is safe for occupancy.

4.3 Occupational Health and Safety Department

Occupational Health & Safety Department is responsible for:

- Coordinating the development and review of the AMP;
- Maintaining and updating all written elements of the AMP including new codes or regulations as well as keeping a current record of the remaining ACM within the building after asbestos removal projects;
- Providing copies of records, drawings and inventories as required;
- Maintaining copies of training records;
- Consulting on asbestos projects, related issues and investigate incidents involving asbestos; and

- Notifying the Joint Health and Safety Committee (JHSC) of asbestos related work and incidents as required.

4.4 Asbestos Contractor

A contractor specializing in asbestos abatement would be required to complete maintenance, clean-ups, repairs and abatement work. Workers must be properly trained in the hazards of asbestos exposure, personal hygiene and work practice and the use, cleaning and disposal of respirators and protective clothing. Effective Nov. 01, 2007 workers performing Type 3 must have successfully completed an Asbestos Abatement Worker Training Program approved by the Ministry of Training, Colleges and Universities, and every supervisor of a worker involved in a Type 3 operation must have successfully completed an Asbestos Abatement Supervisor Training Program approved by the Ministry of Training, Colleges and Universities (O. Reg. 278/05, s. 20 (1)). The Asbestos Contractor shall be responsible for the following:

- The provision of asbestos abatement services, authorized by the AMP Project Manager and/or his authorized representative, for planned or emergency abatement;

- Notification of asbestos abatement projects, orally and in writing, to an inspector at the nearest office of the Ontario Ministry of Labour, prior to commencing any Type 3 operation (O. Reg. 278/05, s. 11 (1)) and Type 2 operations if 1 square meter or more of insulation to be removed using glove bag procedures (O. Reg. 278/05, s. 11 (2));

- Abiding by Ontario Ministry of Labour Regulations during planned or emergency abatement;

- Posting warning signs and erecting barricades at the work site, prior to commencing work;

- Providing and protecting all manpower, tools and equipment to conduct the work. As well, ensuring all utilities such as necessary power and water are connected properly and isolated to the work area;

- Ensuring that all abatement workers wear the appropriate personal protective equipment (PPE) required to comply with applicable Ontario Ministry of Labour regulatory requirements and guidelines appropriate for the type of work procedures to be conducted;

- Cleaning and decontaminating equipment, work area and workers;

- Inspecting work area upon completion and ensuring there are no visible signs of dust on surfaces;

- Providing a certificate of authorization for transferring and disposing of asbestos waste by an authorized carrier to an accepted landfill;

- Ensuring all asbestos waste generated is disposed of by the last day of the abatement work. Should temporary storage be required on site, asbestos waste must be packaged in 6 mil polyethylene bags or wrapped in polyethylene sheeting and sealed with duct tape. Store waste materials awaiting disposal in designated area within the work area. Asbestos waste must be stored in a labelled and locked storage container; and

- Maintain Workers' Compensation insurance in accordance with the statutory requirements of Ontario and comply with all applicable statutory and regulatory requirements.

5.0 COMMUNICATION OF ASBESTOS AWARENESS

5.1 Employee Training

An asbestos communication and awareness strategy primarily includes the training of supervisors, maintenance personnel, and contractors pertaining to the presence of asbestos at the site. The objective of the awareness training is to inform site personnel of the presence of asbestos with the objective that informed personnel are less likely to disturb or impact ACM. It also serves to provide site specific information of the potential hazards of asbestos.

All employees who participate in the AMP should receive asbestos awareness training. The training should provide a general awareness of the hazard of ACM and general understanding of asbestos abatement work activities, and how they are to be conducted or managed in accordance with the requirements of O. Reg. 278/05.

In some cases, an emergency situation may arise where ACMs' require immediate attention (isolation of the area, and dust suppression). Maintenance staff may be selected to perform these emergency procedures, which require asbestos awareness training. The objective of this training is to ensure workers can distinguish between emergency Type 1 and emergency Type 2 operations, understand the exposure hazard associated with the work and be able to carry out the work according to the procedures prescribed in O. Reg. 278/05. Under no circumstances should building employees complete Type 3 operations, only a qualified asbestos abatement contractor should perform Type 3 work.

Training records should be kept and maintained by the Occupational Health & Safety Department.

5.2 Notification

Once ACMs have been identified, all maintenance staff and building occupants must be informed of the presence of asbestos. This awareness serves to provide basic information of the potential hazards of asbestos within the buildings. Once site personnel are informed, it is less likely that disturbances will occur. Building occupants should be notified of the presence of ACMs in the area they are occupying. Notification should be done using a standard form letter. New occupants should also be notified prior to occupancy.

Outside contracted personnel who need to enter buildings to perform maintenance and may work with or around ACM should also be notified (see section 7.1 Contractor Notification Form). Notification should include the following information:

- The exact location of the areas found to contain asbestos;
- The condition of the asbestos;
- Health hazards associated with asbestos exposures; and
- Reporting procedures in the event of an uncontrolled release.

6.0 INSPECTIONS

6.1 Inventory of ACM

The AMP begins with locating all ACMs within a building. A non-destructive asbestos surveys has been completed and a copy of survey report is included in **Appendix C**. An asbestos inventory table is presented in **Appendix A**.

The survey report documents all accessible and suspect ACMs within the buildings. In order to determine the type and extent of ACMs in the buildings, a thorough inspection of the buildings and building systems was undertaken. Substantial efforts were made to identify and inspect all accessible areas for the content of asbestos within each building. However, ACMs may be present within concealed locations such as wall cavities and solid ceilings. Further investigation of inaccessible areas would be required if renovation or demolition activities are planned.

6.2 Periodic Inspections

Periodic inspections are an integral part of the AMP. Inspections consist of routine checks completed by trained maintenance personnel or an outside qualified Consultant and are conducted in order to monitor the condition of the materials and the need for cleanup or abatement measures.

6.3 Annual Inspections

Inspections of all identified ACM must be conducted on an annual basis to identify damaged or deteriorated materials so corrective actions can be implemented. Inspection personnel must be aware of the correct procedures to be utilized to reduce any hazard. Asbestos surveillance, assessment and Inspection reports are attached to this AMP in **Appendix D.**

Periodically, the inspection may uncover a building product that may require sampling to determine the presence of asbestos. Bulk samples shall be taken in accordance Ontario Regulation 278/05 and industry best practices. Sampling can only be conducted by a person who has been properly trained in the procedure. Sample analysis must be performed by independent accredited laboratories.

7.0 GENERAL MAINTENANCE, RENOVATION AND CONSTRUCTION

During routine work activities, maintenance personnel may be potentially exposed to asbestos fibres. The Facilities Management representative is responsible for reviewing all maintenance work for the possibility of disturbance of asbestos materials. The objective is to identify hazards associated with asbestos before the commencement of the maintenance work.

The Facilities Management representative should determine if there is ACM in the area of maintenance activities. Upon review of the Asbestos Inventory Table presented in **Appendix A**, if it is determined that

ACM would not likely be disturbed by the maintenance work, caution the maintenance staff of the presence of ACM.

If there is friable or non-friable asbestos materials in the area of maintenance, and this will be disturbed by the intended work, the Facilities Management representative must determine the appropriate course of action. At the completion of any work which involves asbestos removal or repair, a report must be provided to the Occupational Health & Safety office. Record of Asbestos Work are available on the Ministry of Labour website.

If there are friable or non-friable asbestos materials in the renovation area, but the materials will not be disturbed by the contracted work, the contractor must be notified, in writing, of the presence of the asbestos materials.

7.1 Contractor Notification Form

The objective of the Contractor Notification Form is to serve as a record that contracted personnel have reviewed the potential asbestos hazards for a specific work area. The notification should also identify asbestos hazards in the work area, limitations, type and location of ACM, as well as address any factors that could affect the health and safety of the workers involved with the project. A template of the Contractor Notification and Acknowledgement Form is provided in **Appendix B.**

8.0 IDENTIFICATION AND CONTROL OF ASBESTOS- RELATED WORK

8.1 Asbestos Work Classifications

Any activities that involve disturbance of ACMs are strictly regulated. O. Reg. 278/05 defines three classification of asbestos work, Types 1, 2 and 3, based on the asbestos hazard they present. The airborne concentration of asbestos generated by the work and the duration of exposure are the two main factors used to evaluate the hazard.

Type 1 Operations

The following are examples of Type 1 Operations:

- Removing non-friable ACM, such as vinyl floor tiles, transite products, roofing materials, if the material is removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.

- Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable ACM if the material is wetted to control the spread of dust or fibres, and the work is done only by means of non-powered hand-held tools.

- Installing or removing ceiling tiles that are ACM, if the tiles cover an area less than 7.5 square metres and are installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.

- Removing less than one square metre of drywall in which joint-filling compounds that are asbestos-containing material have been used.

Type 2 Operations
The following are examples of Type 2 Operations:

- Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable ACM if the material is not wetted to control the spread of dust or fibres, and the work is done only by means of non-powered hand-held tools or if the work is done by means of power tools that are attached to dust-collecting devices equipped with HEPA filters.

- The removal or disturbance of one square metre or less of friable ACM during the repair, alteration, maintenance or demolition.

- Repairs of friable ACM including enclosing or applying tape, sealant or other covering to pipe / boiler insulation that is asbestos-containing material.

- Removing asbestos-containing thermal mechanical insulations from a pipe, duct or similar structure using a glove bag.

- Removing all or part of a false ceiling to obtain access to a work area, if ACM is likely to be lying on the surface of the false ceiling.

- Installing or removing ceiling tiles that are ACM, if the tiles cover an area of 7.5 square metres or more and are installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.

- Removing one square metre or more of drywall in which joint filling compounds that are ACM have been used.

- Cleaning or removing filters used in air handling equipment in a building that has sprayed fireproofing that is ACM.

Type 3 Operations
The following are examples of Type 3 Operations:

- The removal or disturbance of more than one square metre of friable ACM during the repair, alteration, maintenance or demolition.

- Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable ACM, if the work is done by means of power tools that are not attached to dust collecting devices equipped with HEPA filters.

- The spray application of a sealant to friable ACM.

- Cleaning or removing air handling equipment, including rigid ducting but not including filters, in a building that has sprayed fireproofing that is ACM.

- Repairing, altering or demolishing all or part of a kiln, metallurgical furnace or similar structure that is made in part of refractory materials that are ACM.

For a more explicit definition of the three types of asbestos operations, refer to the O. Reg 278/05 s.12.

8.2 Repair and Maintenance of ACM

In general, asbestos related work at will be performed by qualified Asbestos Abatement Contractors. Employees will not, under any circumstances, perform Type 3 asbestos work. All Type 3 work will be performed in accordance with the work specification prepared by an Asbestos Consultant.

The involvement of employees with ACM is generally limited to the operation and regular maintenance of the buildings. Employees may be required to perform limited Type 1 or Type 2 work (such as an emergency response or repair) and should be trained accordingly. Type 2 emergency procedures refer to situation which if not attended immediately, could negatively affect the building and its occupants.

Emergency work procedures have been prepared for reference purposes only (**Appendix E** - Asbestos Emergency Response Procedures and Forms). These recommended work procedures are tailored to the likelihood and severity of asbestos disturbance and the potential or exposure of workers and other building occupants to airborne asbestos fibres. Forms for emergency record keeping are also included as part of **Appendix E** (Asbestos Emergency Response Record, and Asbestos Exposure Record).

8.3 Emergency Procedures

An emergency situation is defined as an unplanned event that may result in an uncontrollable release of airborne contaminants that can result in worker/occupant exposure. Disturbance can occur during normal degradation, routine maintenance and renovation activities and acts of nature. When damage to ACM has resulted in a potential fibre release, the damage must be repaired and the affected area decontaminated. Facilities Management and the Occupational Health & Safety Department must be notified of the emergency and must respond immediately. Emergency response procedures and emergency record keeping forms are provided in **Appendix E.**

Emergency procedures classified as Type 1/Type 2 operations may be handled by Building Maintenance Personnel who have completed training as detailed in section 5.1 of this AMP, or by a qualified asbestos contractor.

8.4 Work to be Performed by Asbestos Abatement Contractor

Qualified Asbestos Abatement Contractors may perform Type 1, Type 2 and Type 3 asbestos abatement work as outlined in section 8.1 "Asbestos Work Classifications". All asbestos abatement work is to completed in accordance with O. Reg 278/05.

9.0 RECORD KEEPING

All written records will be maintained as part of the record keeping process as appropriate. These include:

- The AMP itself;
- Asbestos Inventory Table (Appendix A);

- Designated Substance Report (Appendix C);
- Record of Asbestos Work -documentation of maintenance, repairs, and emergency actions (available on Ministry of Labour website);
- Records of Waste Disposal – a bill of lading or waste manifest with a weigh bill ticket from the landfill site;
- Contractor Notification & Acknowledgement Form (template enclosed in Appendix B);
- Asbestos Emergency Response Procedures and Record Keeping Forms (template enclosed in Appendix E); and,
- Employee Training Records.

10.0 AIR MONITORING

10.1 Air Monitoring Regulatory Requirements

O. Reg. 278/05 specifies clearance air sampling requirement for all Type 3 asbestos operations except for exterior demolition projects. The regulation states that the work area inside the enclosure passes the clearance air test only if every air sample collected has a concentration of fibres that does not exceed 0.01 fibres per cubic centimeter of air (f/cc) (O. Reg. 278/05, s.18 (6)).

10.2 Air Monitoring General Considerations

Air monitoring is required for all Type 3 asbestos abatement projects and will be performed by a qualified person (typically the Consultant). Air samples will be obtained using calibrated sampling pumps and mixed cellulose ester filters for analysis utilizing Phase Contrast Microscopy (PCM) techniques in accordance with the U.S. National Institute of Occupational Safety and Health (NIOSH) Manual of Analytical Methods, Method 7400, Issue 2: Asbestos and other Fibres by PCM (August 15, 1994). This is adopted as a standard protocol by the Ontario Ministry of Labour for clearance air testing, using Phase Contrast Microscopy (O.Reg. 278/05 s18 (6)). The method gives an index of airborne fibres and it does not differentiate between asbestos and other fibres. Fibres that are less than 5 micrometers in length and thinner than about 0.2 micrometers are not reported.

The typical air monitoring program for asbestos abatement projects includes clearance air sampling as well as background, personal, and area sampling.

Background Sampling – before the start of the abatement activities, samples may be collected for documentation and comparative purposes.

Personal Sampling – during the abatement process, samples can be taken in the breathing zone of the worker in order to check for the effectiveness of dust suppression techniques being utilized and to ensure that proper respiratory protection has been selected. Samples should be collected from a worker in the work area completing the dirtiest work activity. The air sample pump must be hung on a belt around the worker's waist and the filter holder is to be attached to the workers coverall collar. The filter must be pointed downward.

Area Sampling – during the abatement process, area samples are collected around potential leakage points within the containment barrier, downstream from exhausts of negative air units, near the waste load out area and in the clean room of the decontamination facility. Samples and visual assessments of the work areas should be undertaken during each shift. The Consultant should point out observed deficiencies and give written instructions to the Facilities' Management designate to instigate the

necessary changes. Ambient air samples may be collected outside the Type 3 enclosures. Samples shall be collected from areas adjacent to the work enclosure. The objective is to assess potential fibre migration from the asbestos abatement work area into non-work areas.

Clearance Sampling – upon the completion of all Type 3 work, the area shall be visually reviewed by the Consultant. Final air clearance sampling will be collected after at least 8-12 hours of drying time, following washing of all surfaces inside the containment. The purpose is to capture any remaining fibres and to determine air quality prior to re-occupancy of the space.

Considering limitations of the PCM method, air monitoring inside an occupied building where ACM may have been disturbed, or a need to establish fibre level has been requested, may be conducted using Transmission Electron Microscopy (TEM) method. This technique incorporates fibre identification so only asbestos fibres are reported. In addition, instrumental resolution of TEM is adequate to allow detection of fine asbestos fibres. However, since no standards for asbestos air quality monitoring inside the general occupancy building have been established, comparison outdoor samples may have to be collected for evaluation of asbestos concentrations inside the general occupancy buildings.

11.0 WORKER ASBESTOS WORK REPORT

Facilities Management is responsible for preparing Employee Asbestos Work Reports (available on Ministry of Labour website) for each employee who works in a Type 2 or Type 3 operation. This report shall be completed annually or immediately upon termination of the employment of the worker. The report shall be submitted to the Provincial Physician, Ministry of Labour, and a copy given to the worker. The Provincial Physician, Ministry of Labour maintains an Asbestos Workers Register listing the name of each worker for whom an employer submits an asbestos work report. On the recommendation of the Provincial Physician, a worker who is listed in the Register may volunteer to undergo the medical examination consisting of a medical questionnaire, chest x-rays and pulmonary function tests.

12.0 STATEMENT OF LIMITATIONS

This report has been prepared for the sole benefit of Carleton Condominium Corporation #12 and their authorized agents. The contents of this report may not be reproduced in whole or in part, or used or relied upon in whole or in part by any other party for any purpose whatsoever without the express written consent of Kanellos Consulting Inc. Kanellos Consulting Inc. makes no representation or warranty to any other person with regard to this report and the work referred to in it. Any use which a third party makes of this report, or any part thereof, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Kanellos Consulting Inc. accepts no responsibility or duty of care for damages, if any, suffered by any third party as a result of decisions made or actions taken, based on this report.

Professional judgment was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professional persons rendering advice, we do not act as absolute insurers of the conclusions reached but commit ourselves to a level of care. This document has been prepared in accordance with generally accepted building science and industrial hygiene principles and or designated substance survey techniques in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Nothing in this report is intended to constitute or provide a legal opinion. No other warranties, either expressed or implied, are made as to the professional services provided.

This document is based on an authorized scope of work. The information provided in this report is based on information provided by others, visual observations, non-destructive testing and analysis as identified herein. The data, although comprehensive with respect to scope, does not complete an exhaustive sampling of the structure. The findings cannot be extended to include: previous or future site conditions; portions of the site which were unavailable for direct investigation (including wall, floor and ceiling assemblies); chemical/biological parameters; building materials that have been modified through renovations/maintenance and materials or analysis which were not addressed. Kanellos Consulting Inc. expresses no warranty with respect to the accuracy of the laboratory analyses, methodologies used or the presentation of analytical results by the laboratory. The purpose of this assessment is to screen the affected areas for designated substances, mould growth and/or water damaged building materials. This information is specific to the time of the assessment and therefore could change with time.

Achieving the objectives stated in this document has required us to arrive at conclusions based upon the best information presently known to us. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to a reasonable level. Therefore, the results and conclusions of this report should be in no way construed as a warranty that all of the designated substances, mould growth and/or water damaged building materials have been identified. This report should be used for informational purposes only and should absolutely not be construed as a comprehensive chemical or biological characterization of the site. Should additional information become available, Kanellos Consulting Inc. requests that the information be brought to our attention so that we may reassess the information.

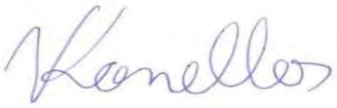
CLOSURE

We trust that the above is satisfactory for your purposes at this time. If we can be of any additional assistance with this matter, please feel free to contact the undersigned.

Yours truly,
KANELLOS CONSULTING, INC.

Andrew Dalby, Ph.D.
Environmental Scientist

Candice Rodger, P. Eng
Project Engineer



Vas Kanellos, B.E.S.
Senior Reviewer

APPENDIX A – ASBESTOS INVENTORY TABLE

ASBESTOS INVENTORY TABLE

Location	Building Component / System	Material	Condition			Action	Analytical	Friable or Non-Friable	Comments
Room or Homogenous Area			Good	Fair	Poor		Results	(F/NF)	
Tower "A", 158 McArthur Ave., Ottawa, ON									
Tenant Units and Common Areas	Floor	Floor Tile				4	5% Chrysotile	NF	Asbestos-containing vinyl composition tiles (VCT) were confirmed to be present throughout the complex. Details of location and which VCTs contain asbestos can be found in APPENDIX C (Designated Substance Report). Based on observations and experience it is likely that suspect asbestos-containing flooring is present in other tenant units. Furthermore, it is possible that these materials are concealed beneath Non-ACM surfaces. It is recommended that all suspect flooring be sampled on a project by project basis.
	Wall	Drywall Joint Compound				4	2% Chrysotile	NF	All drywall joint compound in building is assumed to be asbestos containing. Routine surveillance of ACM.
	Wall	Texture				4	2% Chrysotile	NF	Asbestos-containing wall texture was confirmed to be present in Unit 609. This texture may be present in other units. It is recommended that any suspect wall texture be sampled on a project by project basis. Routine surveillance of ACM.
	Ceiling	Stipple				4	2% Chrysotile	F	All ceiling stipple in building is assumed to be asbestos containing. Routine surveillance of ACM.
	Exterior Windows	Caulking				4	1% Chrysotile	NF	All window caulking in building is assumed to be asbestos containing. Routine surveillance of ACM.
Basement	Basement Floor	Floor Tile				4	5% Chrysotile	NF	Asbestos-containing vinyl composition tile (VCT) was confirmed to be present in the Basement Level Bicycle Storage Room. Based on observations and experience it is likely that suspect asbestos-containing flooring is present in other areas of the building.

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 management of this condition.
ACTION 2 - ACM Removal Required for Compliance
Remove ACM for compliance with regulatory requirements. Utilize asbestos procedures appropriate to the scope of the removal work.
ACTION 3 - 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 4**. If ACM is likely to be damaged or disturbed, during normal use of the area or room, implement
ACTION 4 - Routine Surveillance
Institute routine surveillance of the ACM. Trained workers or contractors must use appropriate asbestos precautions (Type 1, Type 2 or Type 3) during disturbance of the remaining ACM.

APPENDIX B – CONTRACTOR NOTIFICATION & ACKNOWLEDGEMENT FORM

CONTRACTOR NOTIFICATION & ACKNOWLEDGEMENT FORM

The following asbestos containing materials (ACM) are present in Tower "A", 158 McArthur Ave., Ottawa, Ontario:

- Drywall Joint Compound;
- Ceiling Stipple;
- Wall Texture (Unit 609);
- Vinyl Composition Tile (Floor Tile);
- Window Caulking.

A review of the Asbestos Inventory (Appendix A of the Asbestos Management Plan) and/or other relevant reports (Designated Substance Report) should be completed prior to the commencement of work.

1) Description of Work:_____

2) Is disturbance to ACM likely? Yes____ No___
   If Yes, then describe the abatement measures and procedures that will be use to perform the work:

3) List the Personal Protective Equipment (PPE) to be worn:_____

I hereby acknowledge that I have been notified of and am aware that asbestos containing materials are present in the facility and that proper procedures must be followed while working with this material or in this area. I understand that specialized safety equipment and training of workers may be required depending on the scope of work, and that I have the appropriate training for the work outlined above. All work on asbestos containing materials will be completed in accordance with Ontario Regulation 278/05.

Name(Print):_____
Signature:_____
Date:_____

Signed:_____ Date:_____
Asbestos Program Manager/Facility Manager

APPENDIX C – DESIGNATED SUBSTANCE REPORT

PROJECT SPECIFIC DESIGNATED SUBSTANCE SURVEY
TOWER "A" - 158 MCARTHUR AVENUE, OTTAWA, ONTARIO

Prepared By:

KANELLOS CONSULTING INC
www.kanellosconsulting.com

582 Somerset St West, Ottawa, ON, K1R 5K2

For:

Carleton Condominium Corporation #12
Chateau Vanier – 158 McArthur Avenue,
Ottawa, ON, Canada K1Z 5L5

December 2012

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1.0 INTRODUCTION

The above noted site is a 19 storey condominium complex and is the northernmost of one of three buildings reportedly constructed between 1971 and 1975. Considering the age of construction, Kanellos Consulting Inc (KCI) was retained by the Carleton Condominium Corporation #12 (CCC#12) to complete a Project Specific Designated Substance Survey (DSS) at the above noted site. A DSS is required under Section 30 of the Ontario Occupational Health and Safety Act (OHSA). Section 30 states: "Before beginning a project, the owner shall determine whether any designated substances are present at the project site and shall prepare a list of all designated substances that are present at the site". This project specific designated substance report (DSR) has been prepared using the information provided to KCI by CCC#12, information obtained during the site reconnaissance, and analytical laboratory data.

The following are designated substances regulated by Ontario Regulation 490/09 – Designated Substances:

- Acrylonitrile;
- Arsenic;
- Asbestos;
- Benzene;
- Coke Oven Emissions;
- Ethylene Oxide;
- Isocyanates;
- Lead;
- Mercury;
- Silica;
- Vinyl Chloride.

Asbestos is also regulated by Ontario Regulation 278/05 "Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations".

Additionally, the following hazardous building materials are not designated substances regulated by O. Reg. 490/09, but could pose a significant risk to health and safety of workers, occupants, and the environment:

- Ozone Depleting Substances (ODSs) - Federal Halocarbon Regulation 2003
- Polychlorinated Biphenyls (PCBs) - SOR/2008-273

The above two mentioned hazardous building materials do not have dedicated regulations associated with Section 30 or the OHSA. However, the Ministry of Labour (MOL) recognizes them as workplace hazards and enforces worker protection under the General Duty Clause 25(2)(h) of the OHSA. Clause 25(2)(h) states that the employers are required to "take every precaution reasonable in the circumstances for the protection of a worker". In such cases the MOL will refer to industry standards and guidelines for the safe handling and management of such materials.

2.0 SUBJECT SITE

The subject site is the north-facing, northernmost structure ("Tower A") of a group of three buildings collectively referred to as the Chateau Vanier, located at 158 McArthur Avenue, in Ottawa, Ontario. The condominium complex was reportedly constructed between 1971 and 1975 and is 19 storeys tall. There is a rooftop mechanical room above the penthouse level. A below-grade basement includes a bicycle storage room, a mechanical room containing the hot water boilers, as well as an underground parking garage. The general floor plan for the apartment unit levels consists of multiple units per floor around the perimeter of the building with central hallways.

Considering the above information, the target areas for potential asbestos containing materials (ACMs) and lead paint were: the taped joints of the paper faced gypsum (drywall joint compound), ceiling stipple, wall textures, acoustic ceiling tiles, sheet vinyl flooring, vinyl floor tiles, window caulking, heat wrap, and the various painted surfaces.

3.0 SCOPE OF WORK

Field work was completed by KCI staff by November 29th, 2012. KCI also completed previous site visits on July 25th, 27th, and August 8th, 2012. The field data and analytical results from the previous site visits were incorporated into this report. Non-destructive survey techniques were employed during the site reconnaissance and the integrity (physical, structural, thermal/moisture properties) of building materials was not compromised. The visual inspection and sampling was limited to readily accessible areas, and samples were collected from discrete locations. A total of fifty-five (55) samples of suspect ACMs were collected and submitted for analysis to Steve Moody Micro Services (SMMS) in Farmers Branch, Texas, and nine (9) paint samples were submitted for lead analysis to Paracel Laboratories of Ottawa.

KCI was accompanied by the building superintendant during the site survey. The following areas were accessed during the survey: the rooftop mechanical room and roof; the entirety of the basement including the parking garage; the ground floor; and apartment units 101, 104, 108, 109, 202, 209, 309, 409, 508, 509, 608, 609, 708, 709, 803, 806, 809, 909, 1404, and 1507. The designated substances mentioned above may be present in areas not accessed during the survey, and/or in concealed spaces (i.e. wall and ceiling cavities). In addition, KCI would extrapolate quantities based on quantities observed in fully accessible locations.

4.0 FINDINGS AND RECOMMENDATIONS

4.0.1 Asbestos

Asbestos was historically added to many commonly used construction materials such as pipe insulation, fireproofing, plaster, drywall joint compound, flooring material and textured finishes. Suspect materials were observed, documented and sampled during the site inspections. In Ontario, an ACM is identified as any material with more than 0.5% of asbestos. The analytical standard U.S. Environmental Protection Agency (EPA) 600/R-93/116, which is specified by O. Reg 278/05, has detection limit of 0.5% asbestos.

ACMs are categorized as friable or non-friable. A material that is **friable** is one which can be crumbled, pulverized or powdered by hand pressure. If damaged or disturbed, friable ACM's pose a greater health and safety risk, as asbestos fibres are more easily released into the air. Examples of friable materials

include sprayed fireproofing on structural steelwork, thermal insulative materials, ceiling stipple, or other textured finishes. A **non-friable** ACM contains asbestos fibres that are bound into the material, and fibres are not readily released into the air. Such a product would present a risk for fibre release only when it is subject to significant abrasion through activities such as sanding or cutting with electric power tools. Examples of non-friable asbestos products include vinyl composite tiles, acoustic ceiling tiles, roofing shingles, and asbestos cement products.

Suspect ACMs were primarily assessed by visual inspection. On the basis of this inspection, select samples were collected from discrete locations using industry-accepted sampling techniques. The number of samples collected was based on the sampling criteria outlined in Table 1 "Bulk Materials Samples" of O. Reg 278/05. All samples were submitted to SMMS on a regular turnaround basis. A total of fifty-five (55) samples of suspect ACMs were collected from discrete, random locations throughout the building and submitted for analysis on a positive stop basis.

4.0.1.1 Interior Wall/Ceiling Finishes

On the ground floor and the apartment units, the walls consist of painted paper faced gypsum wall boards, while the walls of the rooftop mechanical room and the basement are either painted cinder block or painted concrete. The ceilings are generally stippled ceilings on gypsum wallboard throughout most of the building, unfinished in the mechanical room and painted concrete, stippled ceiling, ceiling tile, or unfinished in the basement.

Drywall joint compound samples were taken from five (5) different units 409, 609, 709, 809, and 909. Five (5) ceiling stipple samples were taken from units 409, 609, 709, 806, and 809. Three (3) samples of acoustic drop ceiling tile were taken from the ground floor. According to the analytical results, the acoustic ceiling tile samples from the ground floor are **NON DETECT** for asbestos.

The drywall joint compound, wall texture (Fig. 1), and ceiling stipple (Fig. 1), are **ASBESTOS CONTAINING.** The following samples confirm the presence of asbestos:

Figure 1 – Asbestos containing ceiling stipple (top of photo) and wall texture (Unit 609)

Samples Collected July 25th, 2012:

- **SA-1 – Drywall Joint Compound – Unit 909 – 2% Chrysotile**
- **SA-3 – Ceiling Stipple – Unit 809 – 2% Chrysotile**
- **SA-5 – Drywall Joint Compound – Unit 709 – 2% Chrysotile**
- **SA-6 – Ceiling Stipple – Unit 709 – 2% Chrysotile**
- **SA-7 – Drywall Joint Compound – Unit 609 – 2% Chrysotile**
- **SA-8 – Ceiling Stipple – Unit 609 – 2% Chrysotile**
- **SA-9 – Wall Texture – Unit 609, East Wall – 2% Chrysotile**
- **SA-12 – Ceiling Stipple – Unit 409 – 2% Chrysotile**
- **SA-13 – Drywall Joint Compound – Unit 409 – 2% Chrysotile**

Analytical results and sample locations are attached in **Appendix A.**

4.0.1.2 Interior Floor Finishes

There are various types of flooring throughout the building. In the rooftop mechanical room, the floors are painted concrete. In the basement, there are new floor tiles in the central hallways (light tan beige), older floor tiles in the bicycle room (red, green, beige, and yellow), unpainted concrete in the boiler/mechanical room, and asphalt surfacing in the garage. There are ceramic tiles throughout the ground floor. In the residential units, flooring mainly consists of hardwood flooring, hardwood parquet tiles, and various ceramic and vinyl floor tiles, as well as sheet vinyl flooring in kitchens, bathrooms, and closets.

According to the analytical results, the following flooring building materials are **NON DETECT** for asbestos: the sheet vinyl flooring in units 109 and 1507; and the 12" x 12" vinyl floor tiles in Unit 101 and 708 (Fig. 2)**.**

Figure 2 – Vinyl Floor Tiles, ***non-detect*** for asbestos. Left: grey with brown speckles, from Unit 708. Right: white pattern, from Unit 101.

Various vinyl floor tiles found throughout the building are **ASBESTOS CONTAINING** (Fig. 3): the basement bicycle room floor tiles (red, green, beige, and yellow); the green "patterned" floor tiles in Unit 608; the rock pattern floor tiles in Unit 104, and the white speckled tiles found in Unit 1507. These floor tiles may be found in other units and can be also assumed to be asbestos containing based on homogeneity. The following samples confirm the presence of asbestos in these materials:

Samples Collected November 29th, 2012 (Fig. 3):

- **SA-20 – Floor Tile (green) – Basement Bicycle Room – 5% Chrysotile**
- **SA-23 – Floor Tile (red) – Basement Bicycle Room – 5% Chrysotile**
- **SA-26 – Floor Tile (beige) – Basement Bicycle Room – 5% Chrysotile**
- **SA-29 – Floor Tile (yellow) – Basement Bicycle Room – 5% Chrysotile**
- **SA-41 – Floor Tile (green pattern) – Unit 608 Kitchen – 5% Chrysotile**
- **SA-44 – Floor Tile (rock pattern) – Unit 104 Hallway – 5% Chrysotile**
- **SA-53 – Floor Tile (white speckled) – Unit 1507 Hallway Closet – 5% Chrysotile**

Analytical results and sample locations are attached in **Appendix A.**

Figure 3 – **ASBESTOS CONTAINING** Vinyl Floor Tiles. Top left: red, green, beige, and yellow tiles from the basement bicycle room. Top right: rock pattern tiles from Unit 104. Bottom left: green pattern tiles from Unit 608. Bottom right: white speckled floor tiles from Unit 1507.

NOTE: Other floor tiles and/or sheet vinyl flooring not depicted in this report may be asbestos containing. Therefore, flooring materials in question should be sampled for asbestos on a project specific basis.

4.0.1.3 Mechanical Systems, Air Handling Units and Ductwork

The complex is heated with electric baseboard heaters. The boilers and hot water supply lines are fibreglass wrapped and with pre-fabricated polyvinyl chloride (PVC) elbows. Three (3) samples of the insulating wrap were collected from a section that was partially removed for maintenance and repairs to the boiler. According to the analytical results, the heat wrap insulation was **NON-DETECT** for asbestos.

4.0.1.4 Exterior Finishes

The exterior façade of the complex is primarily concrete and the window frames are sealed with caulking. In order to maintain the integrity of the building envelope, three (3) discrete samples of caulking were collected from one balcony only, as part of this investigation. According to the analytical results, the window caulking is **ASBESTOS CONTAINING**. The following sample confirms the presence of asbestos in the caulking:

- **SA-35 – Window Caulking – Unit 608 Exterior – 1% Chrysotile**

4.0.1.5 Roofing Materials

In order to maintain the integrity of the roof membrane, the membrane and flashing was not disturbed. As these were not sampled, these materials are considered to be potentially asbestos containing. If these materials are to be disturbed and/or removed, it is recommended that project specific sampling be completed to determine if asbestos is present.

The laboratory analytical reports are presented in **APPENDIX A**.

4.0.1.6 Recommendations

Prior to renovation or demolition, the project owner must ensure that if ACMs are disturbed and/or removed, asbestos abatement measures and procedures must be followed according to O. Reg 278/05. Workers conducting these procedures must be adequately trained and supplied with sufficient personal protective equipment, as per O. Reg 278/05. In addition, the maximum allowable airborne fibre concentration for asbestos should not be exceeded.

Considering the above information, it is recommended:

- **CEILING STIPPLE** and **WALL TEXTURE** – Due to the friable nature of the ceiling stipple and wall texture, Type 3 asbestos abatement measures and procedures are recommended for the removal of $1m^2$ or more of ceiling stipple/wall texture. However, if less than $1m^2$ is likely to be disturbed, Type 2 asbestos abatement measures and procedures may be in implemented with the use of non-powered hand tools.
- **DRYWALL JOINT COMPOUND –** If greater than $1m^2$ of drywall finishes are likely to be disturbed then Type 2 asbestos abatement measures and procedures should be implemented. If less than $1m^2$ of drywall finishes are likely to be disturbed then Type 1 procedures may be implemented.
- **VINYL FLOOR TILES** –Type 1 asbestos abatement measures and procedures are sufficient for the removal of vinyl floor tiles. However, no power tools may be used. If power tools are required, Type 3 measures and procedures should be implemented, as per O.Reg. 278/05.
- **WINDOW CAULKING** – Type 1 asbestos abatement measures and procedures are sufficient for the removal of window caulking, however no power tools may be used. If power tools are required, Type 3 measures and procedures should be implemented, as per O. Reg 278/05.

4.0.2 Lead

Lead is a naturally occurring metal that was primarily used in the manufacturing of electric storage batteries, ammunition, solder, radiation shields, pipes and sheaths for electric cables. The most common organic lead compounds are tetraethyl (TEL) and tetramethyl (TML) lead were used as anti-knock agents in gasoline. Inorganic lead compounds such as lead oxides, chromates, carbonates and nitrates are commonly found in insecticides, pigments, paints, frits, glasses, plastics and rubber compounds. A paint sample must exhibit a concentration **that exceeds 90 parts per million** (ppm) in order to be considered lead-based (Surface Coating Materials Regulation SOR/2005-109).

In 1976, the amount of lead that could be added to interior paint was limited by law in Canada, but exterior paint could still contain high amounts of lead provided it carried a warning label. Under the *Surface Coating Materials Regulations*, which came into force in 2005, the lead limit was reduced to its background level for both interior and exterior paints sold to consumers. Canadian paint manufacturers have been conforming to this background level in their interior and exterior consumer paints since 1991 (Health Canada – Lead and Health, 2007).

Considering the building was constructed between 1971 and 1975, KCI collected nine (9) paint samples from discrete locations in the rooftop mechanical room, basement mechanical rooms and hallways, unit 608, as well as from the parking garage, where exterior paint may have been used.

In the rooftop mechanical room, two (2) paint samples were collected, one from the floor (grey) and one from the wall (white). According to the analytical results, the white paint sample from the wall was less than 90 parts per million (ppm), **therefore the white paint sample is <u>not</u> considered to be lead-based**. The grey paint sample from the floor exceeded 90 parts per million (ppm), **therefore the grey paint on the floor is considered to be lead-based**. The following sample confirms the presence of lead-based paint in the mechanical room:

- **Pb-1 (B12-30679-1) – Grey Paint Rooftop Mechanical Room Floor B12-30679-1 – 422 ppm**

In the basement mechanical room (boiler room), two (2) paint samples were collected, one from the floor (grey) and one from the wall (white). According to the analytical results, both samples exceeded 90 parts per million (ppm), **therefore both paint samples are considered to be lead-based**. The following samples confirm the presence of a lead-based paint in the basement mechanical room:

- **Pb-3 (B12-30679-3) – Grey Paint Basement Mechanical Room Floor – 1940 ppm**
- **Pb-4 (B12-30679-4) – White Paint Basement Mechanical Room Wall – 90.1 ppm**

In the basement hallway and parking garage, two (2) paint samples were collected, one from the wall of the garage (white) and one from the wall of the hallway (yellow). According to the analytical results, both samples were less than 90 parts per million (ppm), **therefore both paint samples are <u>not</u> considered to be lead-based**

In the stairwell, one (1) paint sample was collected from the wall (yellow). According to the analytical results, the paint sample exceeded 90 parts per million (ppm), **therefore the paint sample is considered to be lead-based**. The following sample confirms the presence of a lead-based paint in the stairwell:

- **Pb-6 (B12-30679-6) – Yellow Paint Stairwell Wall – 136 ppm**

In Unit 608, two (2) paint samples were collected, one from the door frame (white) and one from the exterior window frame (red). According to the analytical results, both samples exceeded 90 parts per million (ppm), **therefore both paint samples are considered to be lead-based**. The following samples confirm the presence of a lead-based paint in unit 608:

- **Pb-8 (B12-30679-8) – White Paint Unit 608 Door Frame – 111 ppm**
- **Pb-9 (B12-30679-9) – Red Paint Unit 608 Exterior Window Frame – 424 ppm**

The laboratory analytical reports are presented in **APPENDIX A**.

4.0.2.1 Recommendations

Considering a confirmed presence of lead-based paints were detected in multiple locations in the building, and multiple layers of paint may be present, prior to any disturbance of painted surfaces, it is recommended the paint be sampled and analyzed for lead on a project specific basis.

If work on lead containing materials is likely to produce lead dust or fumes, for example during welding, torch cutting, grinding, sanding or sandblasting, then proper precautions should be followed. Work must be completed in accordance with O. Reg 490/09. It is also recommended the Ministry of Labour "Guideline for Lead on Construction Projects" be followed when working with potential lead hazards. The Time-Weighted Average Exposure Limits (TWAEL) of a worker to lead is to be maintained at the lowest practical level and not exceed an eight hour average concentration of 0.05 mg/m³ of air for non tetraethyl lead and 0.10 mg/m³ of air in the case of tetraethyl lead. Disposal of lead waste must be completed in accordance with Ontario Regulation 347 "General – Waste Management".

4.0.3 Mercury

Mercury may be commonly found in thermostats, fluorescent lamp tubes and High Intensity Discharge (HID) light bulbs. The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to mercury compounds is to be maintained at the lowest practical level and not to exceed an eight hour average concentration of 0.025 mg/m³ of air for all mercury except alkyl mercury oxide for which a concentration of 0.01 mg/m³ of air should not be exceeded.

During the site reconnaissance, it was reported that linear and compact florescent lamps have been replaced in the last few years. Generally most non-digital thermostats contain mercury. No mercury containing thermostats were observed. High Intensity Discharge (HID) bulbs may be present in the building, and are assumed to contain mercury.

4.0.3.1 Recommendations

If mercury is removed or relocated, work must be completed in accordance with the Ontario Regulation 490/09. Mercury containing items should be treated as hazardous waste. Mercury containing waste must be disposed of/recycled in accordance with Ontario Regulation 347 "General – Waste Management".

4.0.4 Silica

Silica occurs naturally as crystalline or amorphous material. It is normally found in concrete, cement, mortar, stucco finishes, ceilings tiles, asphalt (containing rock or stone) and fiberglass/mineral wool insulation.

4.0.4.1 Recommendations

If silica containing building materials are to be disturbed/removed, it is recommended the Ministry of Labour "Guideline for Silica on Construction Projects" be followed when working with potential silica hazards.

The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to silica dust is to be maintained at the lowest practical level with a view to achieving an ambient air concentration lower than 0.10 mg/m³ of air for quartz & tripoli and 0.05 mg/m³ of air for cristobalite & tridynite.

4.0.5 Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCB's) can be found in equipment such as transformers, capacitors, electromagnets, heat transfer unit, hydraulic engine and fluorescent lamp ballasts. The PCB Regulations (SOR/2008-273) outlines the requirements for the storage, labeling, reporting and disposal of PCB containing equipment. The use and manufacture of PCB's was banned in North America in 1977. The electrical vault could not be accessed. However considering the building was constructed between 1971 and 1975, therefore PCB's may be present. It is recommended that a qualified PCB contractor handle all PCB containing equipment.

4.0.6 Ozone Depleting Substances

Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) have been widely used in many industrial, commercial and residential applications. They can be found in applications such as refrigerants in heat pumps, refrigerators, freezers and air conditioners (A/C); blowing agents for plastics, foam product and insulation; cleaning agents for metals, electronic equipment and components; aerosol spray propellants, fire extinguishing agents and chemical reactants; and as dry-cleaning fluids.

CFCs located within the subject building included refrigerators and air conditioners.

4.0.6.1 Recommendations

The removal, discharge, handling, and/or disposal of the refrigerants is regulated by Ontario's Ozone-Depleting Substances and Other Halocarbon Regulation (O. Reg 463/10) and must be performed by a certified technician.

4.0.7 Other Designated Substances

All other designated substances are generally not found in most buildings, and are usually exclusive to industrial processes. A summary of all other designated substances is provided in **Appendix B.**

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Professional judgment was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professional persons rendering advice, we do not act as absolute insurers of the conclusions reached but commit ourselves to a level of care. This document has been prepared in accordance with generally accepted building science and industrial hygiene principles and or designated substance survey techniques in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Nothing in this report is intended to constitute or provide a legal opinion. No other warranties, either expressed or implied, are made as to the professional services provided.

This document is based on an authorized scope of work. The information provided in this report is based on information provided by others, visual observations, non-destructive testing and analysis as identified herein. The data, although comprehensive with respect to scope, does not complete an exhaustive sampling of the structure. The findings cannot be extended to include: previous or future site conditions; portions of the site which were unavailable for direct investigation (including wall, floor and ceiling assemblies); chemical/biological parameters; building materials that have been modified through renovations/maintenance and materials or analysis which were not addressed. Kanellos Consulting Inc. expresses no warranty with respect to the accuracy of the laboratory analyses, methodologies used or the presentation of analytical results by the laboratory. The purpose of this assessment is to screen the affected areas for designated substances, mould growth and/or water damaged building materials. This information is specific to the time of the assessment and therefore could change with time.

Achieving the objectives stated in this document has required us to arrive at conclusions based upon the best information presently known to us. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to a reasonable level. Therefore, the results and conclusions of this report should be in no way construed as a warranty that all of the designated substances, mould growth and/or water damaged building materials have been identified. This report should be used for informational purposes only and should absolutely not be construed as a comprehensive chemical or biological characterization of the site. Should additional information become available, Kanellos Consulting Inc. requests that the information be brought to our attention so that we may reassess the information.

CLOSURE

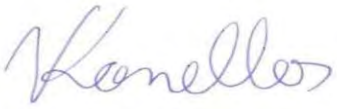
We trust that the above is satisfactory for your purposes at this time. If we can be of any additional assistance with this matter, please feel free to contact the undersigned.

Yours truly,

KANELLOS CONSULTING, INC.

Andrew Dalby, Ph.D.
Environmental Scientist

Candice Rodger, P. Eng
Project Engineer



Vas Kanellos, B.E.S.
Senior Reviewer

APPENDIX A – ANALYTICAL LABORATORY RESULTS

PLM Summary Report

Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

NVLAP Lab No. 102056
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Vanier, Ontario, Tower A
Project # : A12071119 Sample Date : 07/25/2012
Identification : Asbestos, Bulk Sample Analysis
Test Method : Polarized Light Microscopy / Dispersion Staining (PLM/DS)
EPA Method 600 / R-93 / 116

Lab Job No. : 12B-09042
Report Date : 07/26/2012

On 7/26/2012, sixteen (16) bulk material samples were submitted by a representative of Kanellos Consulting Inc. - Ottawa, ON for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
SA1	Drywall Joint Compound, Unit 909, Storage Closet, by Front Entrance, Northwest Corner	None Detected - Drywall Material 2% Chrysotile - Joint Compound
SA2	Drywall Joint Compound, Unit 809, Hallway Closet, by Entrance, Northeast Corner	Not Analyzed - Positive Stop
SA3	Ceiling Stipple, Unit 809, Storage Closet, by Front Entrance	2% Chrysotile - Old Texture None Detected - New Texture
SA4	Ceiling Stipple, 8th Floor, Corridor by Unit 806	Not Analyzed - Positive Stop
SA5	Drywall Joint Compound, Unit 709, Living Room, Southeast Corner	2% Chrysotile - Old Joint Compound None Detected - New Joint Compound
SA6	Ceiling Stipple, Unit 709, Living Room	2% Chrysotile - Old Texture None Detected - New Texture
SA7	Drywall Joint Compound, Unit 609, Bathroom, Southwest Corner	None Detected - Drywall Material 2% Chrysotile - Joint Compound
SA8	Ceiling Stipple, Unit 609, Storage Closet, by Front Entrance	2% Chrysotile - Old Texture None Detected - New Texture
SA9	Texture, Unit 609, Living Room, East Wall	2% Chrysotile - Texture
SA10	Texture, Unit 609, Living Room, East Wall	Not Analyzed - Positive Stop
SA11	Texture, Unit 609, Living Room, East Wall	Not Analyzed - Positive Stop
SA12	Ceiling Stipple, Unit 409, Living Room	2% Chrysotile - Old Texture None Detected - New Texture
SA13	Drywall Joint Compound, Unit 409, Kitchen, West Wall	2% Chrysotile - Joint Compound
SA14	Vinyl Sheet Flooring, Unit 109, Kitchen	None Detected - Sheet Flooring None Detected - Fiber Backing None Detected - Yellow Mastic
SA15	Vinyl Sheet Flooring, Unit 109, Kitchen	None Detected - Sheet Flooring None Detected - Fiber Backing None Detected - Yellow Mastic

PLM Summary Report

Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

NVLAP Lab No. 102056
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Vanier, Ontario, Tower A
Project # : A12071119 Sample Date : 07/25/2012
Identification : Asbestos, Bulk Sample Analysis
Test Method : Polarized Light Microscopy / Dispersion Staining (PLM/DS)
EPA Method 600 / R-93 / 116

Lab Job No. : 12B-09042
Report Date : 07/26/2012

On 7/26/2012, sixteen (16) bulk material samples were submitted by a representative of Kanellos Consulting Inc. - Ottawa, ON for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
SA16	Vinyl Sheet Flooring, Unit 109, Kitchen	None Detected - Sheet Flooring None Detected - Fiber Backing None Detected - Yellow Mastic

These samples were analyzed by layers. Quantification, unless otherwise noted, is performed by calibrated visual estimate. Results may not be reproduced except in full. This test report relates only to the samples tested. These test results do not imply endorsement by NVLAP or any agency of the U.S. Government. Accredited by the National Voluntary Laboratory Accreditation Program for Bulk Asbestos Fiber Analysis under Lab Code 102056.

NVLAP® LAB #102056

Analyst(s): Jose Ortiz

Lab Manager : Bruce Crabb Approved Signatory : Bruce Crabb

Lab Director : Steve Moody Approved Signatory : Steve Moody

Thank you for choosing Steve Moody Micro Services

Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

PLM Detail Report

Supplement to PLM Summary Report

NVLAP Lab No. 102056
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Vanier, Ontario, Tower A
Project # : A12071119

Lab Job No. : 12B-09042
Report Date : 07/26/2012

Sample Number	Layer	% Of Sample	Components	% of Layer	Analysis Date	Analyst
SA1	Drywall Material (White)	20%	Cellulose Fibers	5%	07/26	JO
			Gypsum / Binders	95%		
	DW Paper / Tape (Tan / White)	25%	Cellulose Fibers	100%		
	Joint Compound (White)	55%	Chrysotile	2%		
			Calcite / Talc / Binders	98%		
SA2	Not Analyzed - Positive Stop	100%			07/26	JO
SA3	Old Texture (White)	<1%	Chrysotile	2%	07/26	JO
			Calcite / Talc / Binders	98%		
	New Texture (White)	100%	Perlite	60%		
			Calcite / Binders	40%		
SA4	Not Analyzed - Positive Stop	100%			07/26	JO
SA5	Old Joint Compound (White)	85%	Chrysotile	2%	07/26	JO
			Calcite / Talc / Binders	98%		
	New Joint Compound (White)	15%	Calcite / Gypsum Binders	100%		
SA6	Old Texture (White)	2%	Chrysotile	2%	07/26	JO
			Calcite / Talc / Binders	98%		
	New Texture (White)	98%	Perlite	60%		
			Calcite / Binders	40%		
SA7	Drywall Material (White)	20%	Cellulose Fibers	5%	07/26	JO
			Gypsum / Binders	95%		
	DW Paper / Tape (Tan / White)	25%	Cellulose Fibers	100%		
	Joint Compound (White)	55%	Chrysotile	2%		
			Calcite / Talc / Binders	98%		
SA8	Old Texture (White)	2%	Chrysotile	2%	07/26	JO
			Calcite / Talc / Binders	98%		
	New Texture (White)	98%	Perlite	60%		
			Calcite / Binders	40%		
SA9	Texture (White)	100%	Chrysotile	2%	07/26	JO
			Calcite / Talc / Binders	98%		

Steve Moody Micro Services, LLC
2051 Valley View Lane
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PLM Detail Report

Supplement to PLM Summary Report

NVLAP Lab No. 102056
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Vanier, Ontario, Tower A
Project # : A12071119

Lab Job No. : 12B-09042
Report Date : 07/26/2012

Sample Number	Layer	% Of Sample	Components	% of Layer	Analysis Date	Analyst
SA10	Not Analyzed - Positive Stop	100%			07/26	JO
SA11	Not Analyzed - Positive Stop	100%			07/26	JO
SA12	Old Texture (White)	2%	Chrysotile	2%	07/26	JO
			Calcite / Talc / Binders	98%		
	New Texture (White)	98%	Perlite	60%		
			Calcite / Binders	40%		
SA13	Joint Compound (White)	100%	Chrysotile	2%	07/26	JO
			Calcite / Talc / Binders	98%		
SA14	Sheet Flooring (Off-White)	50%	Synthetic Foam	70%	07/26	JO
			Vinyl Binders	30%		
	Fiber Backing (Light Grey)	40%	Cellulose Fibers	50%		
			Glass Wool Fibers	5%		
			Calcite / Binders	45%		
	Yellow Mastic (Yellow)	10%	Glue Binders	100%		
SA15	Sheet Flooring (Off-White)	50%	Synthetic Foam	70%	07/26	JO
			Vinyl Binders	30%		
	Fiber Backing (Light Grey)	40%	Cellulose Fibers	50%		
			Glass Wool Fibers	5%		
			Calcite / Binders	45%		
	Yellow Mastic (Yellow)	10%	Glue Binders	100%		
SA16	Sheet Flooring (Off-White)	50%	Synthetic Foam	70%	07/26	JO
			Vinyl Binders	30%		
	Fiber Backing (Light Grey)	40%	Cellulose Fibers	50%		
			Glass Wool Fibers	5%		
			Calcite / Binders	45%		
	Yellow Mastic (Yellow)	10%	Glue Binders	100%		

PLM Summary Report

Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

NVLAP Lab No. 102056
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : Tower A, 158 McArthur Avenue, Vanier
Project # : A1207119 Sample Date : 08/08/2012
Identification : Asbestos, Bulk Sample Analysis
Test Method : Polarized Light Microscopy / Dispersion Staining (PLM/DS)
EPA Method 600 / R-93 / 116

Lab Job No. : 12B-09681
Report Date : 08/09/2012

On 8/9/2012, three (3) bulk material samples were submitted by a representative of Kanellos Consulting Inc. - Ottawa, ON for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
Sa17	12" x 12" Floor Tile, Unit 708, Kitchen	None Detected - Floor Tile None Detected - Clear Mastic
Sa18	12" x 12" Floor Tile, Unit 708, Kitchen	None Detected - Floor Tile None Detected - Clear Mastic
Sa19	12" x 12" Floor Tile, Unit 708, Kitchen	None Detected - Floor Tile None Detected - Clear Mastic

These samples were analyzed by layers. Quantification, unless otherwise noted, is performed by calibrated visual estimate. Results may not be reproduced except in full. This test report relates only to the samples tested. These test results do not imply endorsement by NVLAP or any agency of the U.S. Government. Accredited by the National Voluntary Laboratory Accreditation Program for Bulk Asbestos Fiber Analysis under Lab Code 102056.

NVLAP LAB #102056

Analyst(s): Shaun Wilkerson

Lab Manager : Bruce Crabb Approved Signatory :

Lab Director : Steve Moody Approved Signatory :

Thank you for choosing Steve Moody Micro Services

Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

PLM Detail Report

Supplement to PLM Summary Report

NVLAP Lab No. 102056
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : Tower A, 158 McArthur Avenue, Vanier
Project # : A1207119

Lab Job No. : 12B-09681
Report Date : 08/09/2012

Sample Number	Layer	% Of Sample	Components	% of Layer	Analysis Date	Analyst
Sa17	Floor Tile (White)	99%	Calcite / Vinyl Binders	100%	08/09	SW
	Clear Mastic (Clear)	1%	Glue Binders	100%		
Sa18	Floor Tile (White)	99%	Calcite / Vinyl Binders	100%	08/09	SW
	Clear Mastic (Clear)	1%	Glue Binders	100%		
Sa19	Floor Tile (White)	99%	Calcite / Vinyl Binders	100%	08/09	SW
	Clear Mastic (Clear)	1%	Glue Binders	100%		

PLM Summary Report

Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

NVLAP Lab Code 102056-0
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Tower "A", Ottawa, Ontario
Project # : A12111249 Sample Date : 11/29/2012
Identification : Asbestos, Bulk Sample Analysis
Test Method : Polarized Light Microscopy / Dispersion Staining (PLM/DS)
EPA Method 600 / R-93 / 116

Lab Job No. : 12B-13859 002
Report Date : 12/05/2012

On 11/30/2012, thirty six (36) bulk material samples were submitted by a representative of Kanellos Consulting Inc. - Ottawa, ON for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
SA-20	12" x 12" Floor Tile (Green), Basement, Bicycle Room	5% Chrysotile - Floor Tile None Detected - Black Mastic
SA-21	12" x 12" Floor Tile (Green), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-22	12" x 12" Floor Tile (Green), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-23	12" x 12" Floor Tile (Red), Basement, Bicycle Room	5% Chrysotile - Floor Tile None Detected - Black Mastic
SA-24	12" x 12" Floor Tile (Red), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-25	12" x 12" Floor Tile (Red), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-26	12" x 12" Floor Tile (Beige), Basement, Bicycle Room	5% Chrysotile - Floor Tile None Detected - Black Mastic
SA-27	12" x 12" Floor Tile (Beige), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-28	12" x 12" Floor Tile (Beige), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-29	12" x 12" Floor Tile (Yellow), Basement, Bicycle Room	5% Chrysotile - Floor Tile None Detected - Black Mastic
SA-30	12" x 12" Floor Tile (Yellow), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-31	12" x 12" Floor Tile (Yellow), Basement, Bicycle Room	Not Analyzed - Positive Stop
SA-32	Acoustic Tile, Ground Floor, Ceiling	None Detected - Acoustic Tile
SA-33	Acoustic Tile, Ground Floor, Ceiling	None Detected - Acoustic Tile
SA-34	Acoustic Tile, Ground Floor, Ceiling	None Detected - Acoustic Tile
SA-35	Window Caulking, Unit 608, Exterior	1% Chrysotile - Caulking
SA-36	Window Caulking, Unit 608, Exterior	Not Analyzed - Positive Stop
SA-37	Window Caulking, Unit 608, Exterior	Not Analyzed - Positive Stop
SA-38	Heat Wrap, Basement, Mechanical Room, Boiler	None Detected - Cotton Wrap None Detected - White Mastic

PLM Summary Report

Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

NVLAP Lab Code 102056-0
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Tower "A", Ottawa, Ontario
Project # : A12111249 Sample Date : 11/29/2012
Identification : Asbestos, Bulk Sample Analysis
Test Method : Polarized Light Microscopy / Dispersion Staining (PLM/DS)
EPA Method 600 / R-93 / 116

Lab Job No. : 12B-13859 002
Report Date : 12/05/2012

On 11/30/2012, thirty six (36) bulk material samples were submitted by a representative of Kanellos Consulting Inc. - Ottawa, ON for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
SA-39	Heat Wrap, Basement, Mechanical Room, Boiler	None Detected - Cotton Wrap None Detected - White Mastic
SA-40	Heat Wrap, Basement, Mechanical Room, Boiler	None Detected - Cotton Wrap None Detected - White Mastic
SA-41	12" x 12" Floor Tile (Green Pattern), Unit 608, Kitchen	5% Chrysotile - Floor Tile Insufficient Mastic
SA-42	12" x 12" Floor Tile (Green Pattern), Unit 608, Kitchen	Not Analyzed - Positive Stop
SA-43	12" x 12" Floor Tile (Green Pattern), Unit 608, Kitchen	Not Analyzed - Positive Stop
SA-44	12" x 12" Floor Tile (Rock Pattern), Unit 104, Hallway Closet	5% Chrysotile - Floor Tile No Mastic
SA-45	12" x 12" Floor Tile (Rock Pattern), Unit 104, Hallway Closet	Not Analyzed - Positive Stop
SA-46	12" x 12" Floor Tile (Rock Pattern), Unit 104, Hallway Closet	Not Analyzed - Positive Stop
SA-47	Vinyl Sheet Flooring (Brown), Unit 1507, Kitchen	None Detected - Sheet Flooring None Detected - Fiber Backing
SA-48	Vinyl Sheet Flooring (Brown), Unit 1507, Kitchen	None Detected - Sheet Flooring None Detected - Fiber Backing
SA-49	Vinyl Sheet Flooring (Brown), Unit 1507, Kitchen	None Detected - Sheet Flooring None Detected - Fiber Backing
SA-50	12" x 12" Floor Tile (White Pattern), Unit 101, Kitchen	None Detected - Floor Tile None Detected - Yellow Mastic
SA-51	12" x 12" Floor Tile (White Pattern), Unit 101, Kitchen	None Detected - Floor Tile None Detected - Yellow Mastic
SA-52	12" x 12" Floor Tile (White Pattern), Unit 101, Kitchen	None Detected - Floor Tile None Detected - Yellow Mastic
SA-53	12" x 12" Floor Tile (White Speckled), Unit 1507, Hallway Closet	5% Chrysotile - Floor Tile No Mastic

PLM Summary Report

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NVLAP Lab Code 102056-0
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Tower "A", Ottawa, Ontario
Project # : A12111249 Sample Date : 11/29/2012
Identification : Asbestos, Bulk Sample Analysis
Test Method : Polarized Light Microscopy / Dispersion Staining (PLM/DS)
EPA Method 600 / R-93 / 116

Lab Job No. : 12B-13859 002
Report Date : 12/05/2012

On 11/30/2012, thirty six (36) bulk material samples were submitted by a representative of Kanellos Consulting Inc. - Ottawa, ON for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
SA-54	12" x 12" Floor Tile (White Speckled), Unit 1507, Hallway Closet	Not Analyzed - Positive Stop
SA-55	12" x 12" Floor Tile (White Speckled), Unit 1507, Hallway Closet	Not Analyzed - Positive Stop

These samples were analyzed by layers. Quantification, unless otherwise noted, is performed by calibrated visual estimate. Results may not be reproduced except in full. This test report relates only to the samples tested. These test results do not imply endorsement by NVLAP or any agency of the U.S. Government. Accredited by the National Voluntary Laboratory Accreditation Program for Bulk Asbestos Fiber Analysis under Lab Code 102056.

NVLAP LAB #102056

Analyst(s): Jose Ortiz

Lab Manager : Bruce Crabb Approved Signatory :

Lab Director : Steve Moody Approved Signatory :

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Steve Moody Micro Services, LLC
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

PLM Detail Report

Supplement to PLM Summary Report

NVLAP Lab Code 102056-0
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Tower "A", Ottawa, Ontario
Project # : A12111249

Lab Job No. : 12B-13859
Report Date : 12/05/2012

002

Sample Number	Layer	% Of Sample	Components	% of Layer	Analysis Date	Analyst
SA-20	Floor Tile (Green)	95%	Chrysotile	5%	11/30	JO
			Calcite / Vinyl Binders	95%		
	Black Mastic (Black)	5%	Tar Binders	100%		
SA-21	Not Analyzed - Positive Stop	100%			11/30	JO
SA-22	Not Analyzed - Positive Stop	100%			11/30	JO
SA-23	Floor Tile (Red)	95%	Chrysotile	5%	11/30	JO
			Calcite / Vinyl Binders	95%		
	Black Mastic (Black)	5%	Tar Binders	100%		
SA-24	Not Analyzed - Positive Stop	100%			11/30	JO
SA-25	Not Analyzed - Positive Stop	100%			11/30	JO
SA-26	Floor Tile (Beige)	98%	Chrysotile	5%	12/03	JO
			Calcite / Vinyl Binders	95%		
	Black Mastic (Black)	2%	Tar Binders	100%		
SA-27	Not Analyzed - Positive Stop	100%			12/03	JO
SA-28	Not Analyzed - Positive Stop	100%			12/03	JO
SA-29	Floor Tile (Yellow)	100%	Chrysotile	5%	12/03	JO
			Calcite / Vinyl Binders	95%		
	Black Mastic (Black)	<1%	Tar Binders	100%		
SA-30	Not Analyzed - Positive Stop	100%			12/03	JO
SA-31	Not Analyzed - Positive Stop	100%			12/03	JO
SA-32	Acoustic Tile (Light Grey)	100%	Cellulose Fibers	80%	12/03	JO
			Perlite	20%		
SA-33	Acoustic Tile (Light Grey)	100%	Cellulose Fibers	80%	12/03	JO
			Perlite	20%		
SA-34	Acoustic Tile (Light Grey)	100%	Cellulose Fibers	80%	12/03	JO
			Perlite	20%		
SA-35	Caulking (Grey)	100%	Chrysotile	1%	12/03	JO
			Binders / Fillers	99%		

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PLM Detail Report

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Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Tower "A", Ottawa, Ontario
Project # : A12111249

Lab Job No. : 12B-13859
Report Date : 12/05/2012

002

Sample Number	Layer	% Of Sample	Components	% of Layer	Analysis Date	Analyst
SA-36	Not Analyzed - Positive Stop	100%			12/03	JO
SA-37	Not Analyzed - Positive Stop	100%			12/03	JO
SA-38	Cotton Wrap (Off-White)	85%	Cotton Fibers	100%	12/03	JO
	White Mastic (White)	15%	Calcite	50%		
			Binders / Fillers	50%		
SA-39	Cotton Wrap (Off-White)	85%	Cotton Fibers	100%	12/03	JO
	White Mastic (White)	15%	Calcite	50%		
			Binders / Fillers	50%		
SA-40	Cotton Wrap (Off-White)	85%	Cotton Fibers	100%	12/03	JO
	White Mastic (White)	15%	Calcite	50%		
			Binders / Fillers	50%		
SA-41	Floor Tile (Green)	100%	Chrysotile	5%	12/03	JO
			Calcite / Vinyl Binders	95%		
	Insufficient Mastic					
SA-42	Not Analyzed - Positive Stop	100%			12/03	JO
SA-43	Not Analyzed - Positive Stop	100%			12/03	JO
SA-44	Floor Tile (Grey)	100%	Chrysotile	5%	12/03	JO
			Calcite / Vinyl Binders	95%		
	No Mastic					
SA-45	Not Analyzed - Positive Stop	100%			12/03	JO
SA-46	Not Analyzed - Positive Stop	100%			12/03	JO
SA-47	Sheet Flooring (Brown)	50%	Synthetic Foam	70%	12/03	JO
			Vinyl Binders	30%		
	Fiber Backing (Light Grey)	50%	Cellulose Fibers	50%		
			Glass Wool Fibers	5%		
			Calcite / Binders	45%		

Steve Moody Micro Services, LLC
2051 Valley View Lane
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PLM Detail Report

Supplement to PLM Summary Report

NVLAP Lab Code 102056-0
TDSHS License No. 30-0084

Client : Kanellos Consulting Inc. - Ottawa, ON
Project : 158 McArthur Avenue, Tower "A", Ottawa, Ontario
Project # : A12111249

Lab Job No. : 12B-13859
Report Date : 12/05/2012

002

Sample Number	Layer	% Of Sample	Components	% of Layer	Analysis Date	Analyst
SA-48	Sheet Flooring (Brown)	50%	Synthetic Foam	70%	12/03	JO
			Vinyl Binders	30%		
	Fiber Backing (Light Grey)	50%	Cellulose Fibers	50%		
			Glass Wool Fibers	5%		
			Calcite / Binders	45%		
SA-49	Sheet Flooring (Brown)	50%	Synthetic Foam	70%	12/03	JO
			Vinyl Binders	30%		
	Fiber Backing (Light Grey)	50%	Cellulose Fibers	50%		
			Glass Wool Fibers	5%		
			Calcite / Binders	45%		
SA-50	Floor Tile (Off-White)	99%	Cellulose Fibers	3%	12/03	JO
			Calcite / Vinyl Binders	97%		
	Yellow Mastic (Yellow)	1%	Glue Binders	100%		
SA-51	Floor Tile (Off-White)	99%	Cellulose Fibers	3%	12/03	JO
			Calcite / Vinyl Binders	97%		
	Yellow Mastic (Yellow)	1%	Glue Binders	100%		
SA-52	Floor Tile (Off-White)	99%	Cellulose Fibers	3%	12/03	JO
			Calcite / Vinyl Binders	97%		
	Yellow Mastic (Yellow)	1%	Glue Binders	100%		
SA-53	Floor Tile (Off-White)	100%	Chrysotile	5%	12/03	JO
			Calcite / Vinyl Binders	95%		
	No Mastic					
SA-54	Not Analyzed - Positive Stop	100%			12/03	JO
SA-55	Not Analyzed - Positive Stop	100%			12/03	JO

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e: paracel@paracellabs.com
www.paracellabs.com

Subcontracted Analysis

Kanellos Consulting Inc.
582 Somerset St. West
Ottawa, ON K1R 5K2
Attn: Candice Rodger

Tel: (613) 894-6698
Fax: (613) 894-6698

Paracel Report No.: **1248282**
Client Project(s): **A12111249**
Client PO: **158 McArthur Ave., Tower A**
Reference:
CoC Number: **4863**

Order Date: 30-Nov-12
Report Date: 5-Dec-12

Sample(s) from this project were subcontracted for the listed parameters. A copy of the subcontractor's report is attached

Paracel ID	Client ID	Analysis
1248282-01	Pb-1 Rooftop Mechanical Room (Grey)	Lead by ICP-MS
1248282-02	Pb-2 Rooftop Mechanical Rm (White)	Lead by ICP-MS
1248282-03	Pb-3 Basement Mech Rm (Grey)	Lead by ICP-MS
1248282-04	Pb-4 Basement Mech Rm (White)	Lead by ICP-MS
1248282-05	Pb-5 Garage (White)	Lead by ICP-MS
1248282-06	Pb-6 Stairwell (Yellow)	Lead by ICP-MS
1248282-07	Pb-7 BSMT Hallway White-Yellow	Lead by ICP-MS
1248282-08	Pb-8 Unit 608, Door Frame (White)	Lead by ICP-MS
1248282-09	Pb-9 Unit 608, Ext Window Frame, (Red)	Lead by ICP-MS

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B12-30679

Report To:

Paracel Laboratories Ltd.
2319 St. Laurent Blvd., Unit 300
Ottawa ON K1G 4J8 Canada
Attention: Dale Robertson

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 04-Dec-12
DATE REPORTED: 05-Dec-12
SAMPLE MATRIX: Paint Chips

JOB/PROJECT NO.: 1248282
P.O. NUMBER:
WATERWORKS NO.

	Parameter		Lead				
	Units		ppm				
	M.D.L.		0.01				
	Reference Method		EPA 6020				
	Date Analyzed/Site		05-Dec-12/O				
Client I.D.	**Sample I.D.**	**Date Collected**					
Pb-1 Rooftop Mechanical Room (Grey)	B12-30679-1	29-Nov-12	422				
Pb-2 Rooftop Mechanical Rm (White)	B12-30679-2	29-Nov-12	22.0				
Pb-3 Basement Mech Rm (Grey)	B12-30679-3	29-Nov-12	1940				
Pb-4 Basement Mech Rm (White)	B12-30679-4	29-Nov-12	90.1				
Pb-5 Garage (White)	B12-30679-5	29-Nov-12	22.4				
Pb-6 Stairwell (Yellow)	B12-30679-6	29-Nov-12	136				
Pb-7 BSMT Hallway White-Yellow	B12-30679-7	29-Nov-12	33.4				
Pb-8 Unit 608, Door Frame (White)	B12-30679-8	29-Nov-12	111				
Pb-9 Unit 608, Ext Window Frame, (Red)	B12-30679-9	29-Nov-12	424				

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

M.D.L. = Method Detection Limit
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

APPENDIX B – OTHER DESIGNATED SUBSTANCES

Acrylonitrile O. Reg. 835/90 as amended by O. Reg. 101/04

Acrylonitrile is used to produce polymers such as acrylonitrile-butadiene-styrene (ABS) resins. These polymers are used in the manufacturing of a wide range of commercial products (i.e., automotive parts, clothing, carpets, etc.). The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to airborne acrylonitrile is to be maintained at the lowest practical level and not exceed an eight hour average concentration of 4.3 mg/m³ of air (2 ppmv).

In its hardened polymer form, acrylonitrile is not expected to release emissions that would exceed the allowable limits. Pure acrylonitrile was not identified at the subject property.

Arsenic O. Reg. 836/90 as amended by O. Reg. 102/04

Arsenic can be found in paint on roofing flashings, floors, walls and on the underside of the concrete ground floor structures in old buildings. The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to airborne arsenic is to be maintained at the lowest practical level and not exceed an eight hour average concentration of 10 μg/m³ of air.

Considering the age of the building, arsenic could be present in the above listed materials. However, there is a low probability of finding arsenic-based coatings and minor amounts of this metal did not justify that the sampling be performed in the present assessment.

Benzene O. Reg. 839/90 as amended by O. Reg. 105/04

Benzene is typically found in petroleum based products such as gasoline and diesel fuels, asphalt and other hydrocarbon based products. The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to airborne benzene is to be maintained at the lowest practical level with a view to achieving an ambient air concentration lower than 3.2 mg/m³ of air (1 ppmv) and not exceed an eight hour average concentration of 16 mg/m³ of air (5 ppmv).

Direct sources of benzene emissions were not identified at the subject property.

Coke Oven Emissions O. Reg. 840/90 as amended by O. Reg. 106/04

Coke Oven Emissions result from burning of coke. The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to coke oven emissions are to be maintained at the lowest practical level and not to exceed an eight hour average concentration of 0.15 mg/m³ of air.

Direct sources of coke oven emissions were not identified at the subject property.

Ethylene Oxide O. Reg. 841/90 as amended by O. Reg. 107/04

Ethylene Oxide is a common by-product of fumigation or sterilization procedures. The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to airborne ethylene oxide is to be maintained at the lowest practical level and not exceed an eight hour average concentration of 1.8 mg/m³ of air (1 ppmv).

Materials or processes that may release ethylene oxide to ambient air were not identified at the subject property.

Isocyanates O. Reg. 842/90 as amended by O. Reg. 108/04

Isocyanates are mainly used in the manufacture of plastics, foams and coatings. The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed is isocyanate dust is to be maintained at the lowest practical level and not exceed an eight hour average concentration of 0.2 µmoles/m³ of air (0.005 ppmv).

Manufactured products under normal conditions do not typically pose a health risk. However, sawing or scraping uncured polyurethane that still contains some unreacted-NCO groups will release isocyanate dust. Uncured polyurethanes were not identified at the subject property.

Vinyl Chloride O. Reg. 846/90 as amended by O. Reg. 112/04

Vinyl Chloride is found in many applications such as PVC pipes and fittings. The Time-Weighted Average Exposure Limits (TWAEL) of a worker exposed to vinyl chloride emission is to be maintained at the lowest practical level and not exceed and eight hour average concentration of 5.2 mg/m³ of air (1 ppmv).

Vinyl chloride in the PVC compound is bound in a solid matrix that is unlikely to become airborne. Vinyl chloride emissions are not likely to exceed the prescribed limits at the subject property.

APPENDIX D – ASBESTOS CONTAINING MATERIALS & INSPECTION REPORTS

ASBESTOS INSPECTION REPORT

Date:

Name of Inspector:

Location	Material	Condition	Action Required

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 management of this condition.
ACTION 2 - ACM Removal Required for Compliance
Remove ACM for compliance with regulatory requirements. Utilize asbestos procedures appropriate to the scope of the removal work.
ACTION 3 - 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 4**. If ACM is likely to be damaged or disturbed, during normal use of the area or room, implement **ACTION 2**.
ACTION 4 - Routine Surveillance
Institute routine surveillance of the ACM. Trained workers or contractors must use appropriate asbestos precautions (Type 1, Type 2 or Type 3) during disturbance of the remaining ACM.

APPENDIX E – ASBESTOS EMERGENCY RESPONSE PROCEDURES AND FORMS

ASBESTOS EMERGENCY RESPONSE PROCEDURES

This procedure describes arrangements to ensure that the risk to health posed by accidental or malicious fibre release from Asbestos Containing Materials (ACMs) in our day-to-day business is minimised and controlled.

Implementation of CCC #12's Policy for the management of ACMs ensures they are effectively managed in a manner that will prevent risk of harm to health. However, from time to time, accidental damage to ACMs (i.e. building finishes) may occur and this may result in a risk of the release of asbestos fibres. Damage to previously 'safe' ACMs may also be caused indirectly by fire, flood, vandalism or severe weather. ACMs may also on occasion be encountered by building and services maintenance personnel in areas of our buildings that were up until then 'hidden' (e.g. wall cavities, pipe chases, voids) and may suffer some damage during that initial discovery.

Although this Procedure may contain information of relevance to such incidents, it is not intended to be directly applied to incidents of a more 'catastrophic' or serious nature, such as large fires or structural collapse.

Contractors – what to do in an Emergency

In the event of any contractor inadvertently damaging a product thought to contain asbestos, or discovering damaged asbestos, the following procedure will apply:

1) Where suspected asbestos is discovered once work has commenced and the material is undamaged, no further work should be undertaken that could cause the deterioration of the asbestos. Contact your supervisor immediately. If the asbestos is damaged, the area should be evacuated and sealed as effectively as possible by closing windows and doors, and switching off any ventilation equipment.

2) Contact the Property Manager. Follow instructions given and co-operate with Bay Laurier Place personnel, authorised contractors and consultants so as to ensure mutual safety.

3) **Do not** attempt to sweep, vacuum or remove any debris if the nature of the material is not known. Where there is no electrical hazard, damaged areas may be damped down with a fine mist water spray, to which a little detergent has been added. Apply so as to allow the spray to "fall" onto the affected area. Wet paper towels may also be used to prevent any fibres being released to the air. Remember to post "Wet Floor" notices.

4) **Follow your own in-house procedures for personal decontamination**. Any contaminated clothing or footwear should be removed as close as possible to the contaminated area, thus avoiding further contamination of adjoining areas. Clothing should be removed by turning inside out so as to avoid liberating any attached fibres. All contaminated items of clothing should be sealed in

polythene bags for disposal. Wash thoroughly at the nearest facility. Have a shower where the facility exists. Ensure that the wash facility is thoroughly rinsed after use.

5) All debris and suspect material shall be treated as positive (i.e. containing asbestos) unless previously tested and found to be negative, or otherwise known to be a non-asbestos containing material. Where the material is confirmed as containing asbestos and asbestos fibre release has occurred or is likely, the Bay Laurier Place representative will make further arrangements with a competent contractor to have remedial work carried out.

6) Where exposure to asbestos fibres has been confirmed, or cannot be discounted, a record shall be made. This record shall be completed by an authorised individual and a copy given to the employee (employees should retain their copy of this record indefinitely). Located in the Appendix E of the Asbestos Management Plan

CCC #12 Employees – what to do in an Emergency

In the event of any member staff or tenant inadvertently damages an ACM or a product thought to contain asbestos, or discovering damaged asbestos, the following procedure will apply:

1) Leave the room, or if not in a defined room, the immediate area, closing the door (and any interconnecting doors) and switching off all ventilation equipment. Close all windows where this can be done without risk. Evacuate all personnel from the room or affected area.

2) Report to the Property Manager and make arrangements to keep the area secure.

3) **<u>Do not</u> attempt to sweep, vacuum or remove any debris.** Where there is no electrical hazard, damaged areas may be damped down with a fine mist water spray, to which a little detergent has been added. Apply so as to allow the spray to “fall” onto the affected area. Wet paper towels may also be used to prevent any fibres being released to the air. Remember to post “Wet Floor” notices.

4) The Property Manager will make necessary arrangements to ensure the continued safe operation of the building or facility pending remedial action (e.g. this may involve a temporary re-appraisal of fire emergency evacuation routes).

5) The Property Manager will contact the asbestos consultant who will provide responsible recommendations for the course of action. An asbestos abatement contractor may be arranged to remediate the area.

6) Where there is evidence to suggest that you may have been contaminated with asbestos fibres, any contaminated clothing or footwear should be removed as close as possible to the contaminated area, thus avoiding further contamination of adjoining areas. Clothing should be removed by turning inside out so as to avoid liberating any attached fibres. All contaminated items of clothing.

ASBESTOS EMERGENCY RESPONSE RECORD

1) Building or Area Description were episode occurred:_____
_____
_____

2) The episode was reported by_____ on _____(date).

3) Describe the incident:_____
_____
_____
_____
_____

4) The ACM was_____/was not_____ cleaned up according to approved procedures. Describe the cleanup:_____
_____
_____
_____
_____

5) Who conducted the work: _____
_____
Supervisor name:_____
Workers name:_____

6) Were air samples collected? If yes, what were the results?

Location / Description	Sample Volume (L)	Results (fibres/cc)

7) Are additional remedial actions required? Yes_____No____If yes, outline below:_____
_____
_____
_____
_____
_____

Signed:_____Date:_____
Asbestos Program Manager/Facilities Manager

ASBESTOS EXPOSURE RECORD

A copy of this Form shall be given to and should be retained by the affected employee(s) on completion. The original shall be retained indefinitely by CCC #12.

Person details (please print) Name_____Date of Birth_____

Home address_____Job title_____

Statement

During the course of your authorised work with CCC #12 on_____date) you were* /may have been* exposed to airborne asbestos fibres. The details being as follows:

Name and address of work establishment: Location of suspected* exposure

_____

_____

_____

_____

_____

The relevant incident report, investigation report, works line/work instruction, and copies of all relevant, contemporaneous and available analytical air sampling and material analysis reports are attached. In addition, the following details are agreed:

Duration of exposure	
Asbestos content type (e.g. chrysotile)	
Material type (e.g. cement sheet)	
Activity in area (e.g. painting, drilling)	

I also hereby give my consent for this record to be forwarded to CCC #12's Occupational Health Service provider. Such record will be maintained indefinitely.

(please print) Individual with exposure _____

Signature:_____ dated:_____

Asbestos Program Manager/Facilities Manager