



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Public Works and Government Services Canada
ATB Place North Tower
10025 Jasper Ave./10025 ave. Jasper
5th floor/5e étage
Edmonton
Alberta
T5J 1S6
Bid Fax: (780) 497-3510

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

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

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

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Public Works and Government Services Canada
ATB Place North Tower
10025 Jasper Ave./10025 ave Jasper
5th floor/5e étage
Edmonton
Alberta
T5J 1S6

Title - Sujet GOCB Flooring & Fire Separations	
Solicitation No. - N° de l'invitation EW038-190845/A	Amendment No. - N° modif. 007
Client Reference No. - N° de référence du client PSPC	Date 2018-08-30
GETS Reference No. - N° de référence de SEAG PW-\$PWU-066-11410	
File No. - N° de dossier PWU-8-41059 (066)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-09-05	Time Zone Fuseau horaire Mountain Daylight Saving Time MDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Lee, Mony	Buyer Id - Id de l'acheteur pwu066
Telephone No. - N° de téléphone (780) 224-6675 ()	FAX No. - N° de FAX (780) 497-3510
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

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

Solicitation No. - N° de l'invitation
EW038-190845/A

Amd. No. - N° de la modif.
007

Buyer ID - Id de l'acheteur
PWU066

Client Ref. No. - N° de réf. du client
EW038-190845

File No. - N° du dossier
PWU-8-41059

CCC No./N° CCC - FMS No./N° VME

MODIFICATION DE L'INVITATION No. 007

VOIR LE DOCUMENT EN ANGLAIS POUR RÉPONSES AUX QUESTIONS DEMANDÉ.

Toutes les autres modalités et conditions de l'Appel d'offres restent inchangées.

Addendum 002:Aug, 27th, 2018

Fort Simpson GOCB Carpet Replacement & Fire Rating Upgrade

R.015992.489 (CARPET REPLACEMENT)

R.015992.626 (FIRE RATING CODE UPGRADE)

To all bidders

- This addendum shall be read in conjunction with the requirements, drawings and specifications provided for the previously-released tender of July 20th, 2018
- Where inconsistent with the above, Addendum 2 shall govern.
- Addendum 2 forms an integral part of the tender or proposal bid and contract and shall be included therein.

Addendum Instructions

Question 1.

Can we construct a bulkhead around the conduit coming into the electrical panel? We believe that this application will create substantially less disturbance of the asbestos.

Response

yes, as long you ensure a continuous 2 layers of 5/8 type x drywall on that wall.

Question 2.

There is no information on paint. Can we assume the same primer and clients paint preference will be required throughout?

Response

Painting is not mandatory in the boiler room but taping and mudding is.

Question 3.

Steps and landing outside call for metal railings installed into the existing concrete steps, existing steps and landing are wood structured. Can we assume concrete pour will be required?

Response

New railings are to be fastened to wood stair, no concrete is required

Question 4.

On report ceilings show fire stop drywall in mechanical room, existing has concrete board. Can we assume the concrete board is the same material as shown in report on the walls?

Response

Assume ceiling is the same material as on the walls

- a. No GWB to be installed on ceiling.
- b. Contractor to ensure continuous 1 hour FRR above boiler room interior walls by installing 2-ply type x 16mm gypsum wall board complete with required blocking in walls above interior rated boiler room walls,

Question 5

- a. Can you confirm if an abatement team is needed to deal with the asbestos on site?
- b. Is the 2003 asbestos report up to date?
- c. Removal of concrete board containing asbestos is needed to achieve the fire stop as per detailed drawing.
- d. Also all the screws will have to be removed that fasten the concrete board to the structure

Response

- a. An abatement team will be needed when dealing with asbestos on site. To be provided by the contractor. Refer to appended specs on hazardous materials and asbestos abatement
- b. The report is relevant for the scope of work, it is only to be used as a reference (refer to addendum 001 issued August 13th)

- c. The following areas require cement board to be removed
 - a. contractor to remove cement board where fire rated wall meets the exterior walls (refer to detail 3/A201,
 - i. Install framing complete with 2-ply 16mm type x GWB as per detail 3/A201
 - ii. contractor is to install new 2x4 framing @ 400 oc to cover this opening, to be clad in 12mm GWB
 - b. Contractor to remove the boiler room ceiling where it meets the rated boiler room walls,
 - i. Contractor to install blocking @ 400mm oc. above the rated walls to underside of roof deck/sheathing
 - ii. Contractor to install 2-layers of continuous type x GWB in ceiling space, along the rated walls on the new blocking.
 - iii. Contractor to fire caulk all joints between type x GWB and roof deck/sheathing for a continuous rating.
 - iv. Contractor to install new 2x4 framing @ 400mm oc. For new bulkhead along length of rated walls to cover opening, to be clad in 12mm GWB
- d. This may be required as it is fastened by round head screws. It is up to the contractor if they will keep the cement board wall board in place after removal of roundhead screws or to remove the affected cement board.

Notes:

- 1. Contractor to refer to specification section 02 81 00 for hazardous materials and section 02 82 00.02 for asbestos abatement, intermediate precautions.
- 2. Contractor to remove asbestos material from pipes in boiler room 19 and service room 15 (refer to specs)

Attachments: specification sections:

Hazardous Materials 02 81 00 (4 pages)

Asbestos Abatement 02 82 00.02 (10 Pages)

End of Addendum 002

Sincerely,

A handwritten signature in black ink, appearing to read "Peter D. Gillis".

Peter D. Gillis | Dipl. Arc. Technology
Architectural Tech, Guy Architects

1 GENERAL

1.01 . RELATED REQUIREMENTS

- .1 Section 02 82 00.02 – Asbestos Abatement – Intermediate Precautions

1.02 REFERENCES

- .1 Definitions:
- .1 Dangerous Goods: product, substance, or organism specifically listed or meets hazard criteria established in Transportation of Dangerous Goods Regulations.
 - .2 Hazardous Material: product, substance, or organism used for its original purpose; and is either dangerous goods or material that will cause adverse impact to environment or adversely affect health of persons (and therefore, which require precautions as outlined in the related requirements), animals, or plant life when released into the environment. The locations of known Hazardous Materials are indicated on the Drawings.
 - .3 Hazardous Waste: hazardous material no longer used for its original purpose and that has been characterized as a hazardous waste in accordance with the testing and acceptance requirements of the recycling, treatment or disposal facility.
- .2 Reference Standards:
- .1 Canadian Environmental Protection Act, 1999 (CEPA 1999)
 - .1 Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2005-149).
 - .2 Department of Justice Canada (Jus)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDG Act) 1992, (c. 34).
 - .2 Transportation of Dangerous Goods Regulations (T19.01-SOR/2001-286).
 - .3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
 - .4 National Research Council Canada Institute for Research in Construction (NRC-IRC)
 - .1 National Fire Code of Canada-2005.
 - .5 National Building Code of Canada (NBC), Part 8 - Safety Measures at Construction and Demolition Sites (2005).
 - .6 Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations, SOR/2005-149.
- .3 As identified in specification sections.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for hazardous materials intended to be brought on site and include intended use, product characteristics, performance criteria, physical size, finish and limitations. Submit two copies of WHMIS MSDS to the Departmental Representative for each hazardous material required prior to bringing hazardous material on site.
 - .2 Submit hazardous materials management plan to Departmental Representative that identifies hazardous materials, usage, location, personal protective equipment requirements, and disposal arrangements.

1.04 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Transport hazardous materials and wastes in accordance with Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable territorial regulations.
- .4 Storage and Handling Requirements:
 - .1 Co-ordinate storage of hazardous materials with Departmental Representative and abide by internal requirements for labeling and storage of materials and wastes.
 - .2 Store and handle hazardous materials and wastes in accordance with applicable federal and territorial laws, regulations, codes, and guidelines.
 - .3 Store and handle flammable and combustible materials in accordance with National Fire Code of Canada requirements.
 - .4 Keep no more than 45 liters of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use.
 - .1 Store flammable and combustible liquids in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval.
 - .2 Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Departmental Representative.
 - .5 Transfer of flammable and combustible liquids is prohibited within buildings.
 - .6 Transfer flammable and combustible liquids away from open flames or heat-producing devices.
 - .7 Solvents or cleaning agents must be non-flammable or have flash point above 38 degrees C.
 - .8 Store flammable and combustible waste liquids for disposal in approved containers located in safe, ventilated area. Keep quantities to minimum.

- .9 Observe smoking regulations, smoking is prohibited in areas where hazardous materials are stored, used, or handled.
- .10 Storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:
 - .1 Store hazardous materials and wastes in closed and sealed containers.
 - .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
 - .3 Store hazardous materials and wastes in containers compatible with that material or waste.
 - .4 Segregate incompatible materials and wastes.
 - .5 Ensure that different hazardous materials or hazardous wastes are stored in separate containers.
 - .6 Store hazardous materials and wastes in secure storage area with controlled access.
 - .7 Maintain clear egress from storage area.
 - .8 Store hazardous materials and wastes in location that will prevent them from spilling into environment.
 - .9 Have appropriate emergency spill response equipment available near storage area, including personal protective equipment.
 - .10 Maintain inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
 - .11 When hazardous waste is generated on site:
 - .1 Co-ordinate transportation and disposal with Departmental Representative.
 - .2 Comply with applicable federal, territorial and municipal laws and regulations for generators of hazardous waste.
 - .3 Use licensed carrier authorized by territorial authorities to accept subject material.
 - .4 Before shipping material obtain written notice from intended hazardous waste treatment or disposal facility it will accept material and it is licensed to accept this material.
 - .5 Label containers with legible, visible safety marks as prescribed by federal and territorial regulations.
 - .6 Only trained personnel is allowed to handle, offer for transport, or transport dangerous goods.
 - .7 Provide photocopy of shipping documents and waste manifests to Departmental Representative.
 - .8 Track receipt of completed manifest from consignee after shipping dangerous goods. Provide photocopy of completed manifest to Departmental Representative.
 - .9 Report discharge, emission, or escape of hazardous materials immediately to Departmental Representative and appropriate territorial authority. Take reasonable measures to control release.
 - .12 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.

- .13 Report spills or accidents immediately to Departmental Representative and territorial authorities. Submit a written spill report to Departmental Representative within 24 hours of incident.

1 PRODUCTS

1.01 MATERIALS

- .1 Description:
 - .1 Bring on site only quantities hazardous material required to perform Work.
 - .2 Maintain MSDS in proximity to where materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

2 EXECUTION

2.01 Cleaning

- .1 Progress Cleaning:
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .3 Waste Management: separate waste materials for disposal.
 - .1 Dispose of hazardous waste materials in accordance with applicable federal and territorial acts, regulations, and guidelines.
 - .2 Recycle hazardous wastes for which there is approved, cost effective recycling process available.
 - .3 Send hazardous wastes to authorized hazardous waste disposal or treatment facilities.
 - .4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.
 - .5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.
 - .6 Dispose of hazardous wastes in timely fashion in accordance with applicable territorial regulations.
 - .7 Minimize generation of hazardous waste to maximum extent practicable. Take necessary precautions to avoid mixing clean and contaminated wastes.
- .8 Identify and evaluate recycling and reclamation options as alternatives to land disposal, such as:
 - .1 Hazardous wastes recycled in manner constituting disposal.
 - .2 Hazardous waste burned for energy recovery.
 - .3 Lead-acid battery recycling.
 - .4 Hazardous wastes with economically recoverable precious metals.

END OF SECTION

1 GENERAL

1.01 Summary

- .1 Comply with requirements of this Section when performing following Work:
 - .1 Enclosure of friable asbestos containing material as indicated.
 - .2 Application of tape or sealant or other covering to pipe insulation containing asbestos.
 - .3 Removing non-friable asbestos containing materials by breaking, cutting, drilling, abrading, grounding, sanding or vibrating at locations indicated on drawings and addendums if the work is done by means of power tools that are attached to dust-collecting devices equipped with HEPA filters.
 - .4 Removing of asbestos containing material from a pipe, duct or similar structure using a glove bag on all pipes located in service room 15 and the boiler room.

1.02 References

- .1 Department of Justice Canada (Jus).
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Transport Canada (TC).
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .3 Government of Northwest Territories
 - .1 Occupational Health & Safety Regulations, DRAFT September 2010

1.03 Definitions

- .1 Airlock: system for permitting ingress or egress without permitting air movement between contaminated area and uncontaminated area, typically consisting of two curtained doorways at least 2 m apart.
- .2 Amended Water: water with a non-ionic surfactant wetting agent added to reduce water tension to allow wetting of fibres.
- .3 Asbestos-Containing Building Materials (ACBMs): materials that contain 0.1 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust.
- .4 Asbestos Work Areas: area where work takes place which will, or may disturb ACMs.
- .5 Authorized Visitors: WSCC Representative, Department Representative, or other designated representatives, and representatives of regulatory agencies.
- .6 Competent worker: in relation to specific work, means a worker who:
 - .7 Is qualified because of knowledge, training and experience to perform the work.
 - .8 Is familiar with the Territorial laws and with the provisions of the regulations that apply to the work.
 - .9 Has knowledge of all potential or actual danger to health or safety in the work.

.10

Curtained doorway: arrangement of closures to allow ingress and egress from one room to another while permitting minimal air movement between rooms, typically constructed as follows:

- .1 Place two overlapping sheets of polyethylene over existing or temporarily framed doorway, secure each along top of doorway, secure vertical edge of one sheet along one vertical side of doorway, and secure vertical edge of other sheet along opposite vertical side of doorway.
- .2 Reinforce free edges of polyethylene with duct tape and weight bottom edge to ensure proper closing.
- .3 Overlap each polyethylene sheet at openings not less than 1.5 m on each side.

.11

DOP Test: testing method used to determine integrity of Negative Pressure unit using dioctyl phthalate (DOP) HEPA-filter leak test.

.12

Friable Materials: material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized or powdered.

.13

HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with a filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.

.14

Negative pressure: system that extracts air directly from work area, filters such extracted air through High Efficiency Particulate Air filtering system, and discharges this air directly outside work area to exterior of building.

.15

System to maintain minimum pressure differential of 5 Pa relative to adjacent areas outside of work areas, be equipped with alarm to warn of system breakdown, and be equipped with instrument to continuously monitor and automatically record pressure differences.

.16

Non-Friable Materials: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.

.17

Occupied Areas: any area of building or work site that is outside Asbestos Work Area.

.18

Polyethylene sheeting sealed with tape: polyethylene sheeting of type and thickness specified sealed with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide continuous polyethylene membrane to protect underlying surfaces from water damage or damage by sealants, and to prevent escape of asbestos fibres through sheeting into clean area

.19

Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must be appropriate capacity for scope of work.

1.04 Action and Informational Submittals

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Before beginning work:
 - .1 Obtain from appropriate agency necessary permits for transportation and disposal of asbestos waste and submit to the Department Representative five (5) days before work commences. Ensure that dump operator is fully aware of hazardous nature of material being dumped and proper methods of disposal. Submit proof satisfactory to the Department Representative that suitable arrangements have been made to receive and properly dispose of asbestos waste.
 - .2 Submit proof satisfactory to the Department Representative that all asbestos workers have received appropriate training and education by a competent person on hazards of asbestos exposure, good personal hygiene, entry and exit from Asbestos Work Area, aspects of work procedures and protective measures while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing. Submit proof of attendance in form of certificate.
 - .3 Ensure supervisory personnel have attended asbestos abatement course, of not less than two days duration, approved by the Department Representative. Submit proof of attendance in form of certificate. Minimum of one Supervisor for every ten workers.
 - .4 Submit layout of proposed enclosures and decontamination facilities to the Department Representative for review.
 - .5 Submit documentation including test results for sealer proposed for use.
 - .6 Submit Provincial/Territorial and/or local requirements for Notice of Project form.
 - .7 Submit proof satisfactory to the Department Representative that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with respirator that is personally issued.
 - .8 Submit documentation including test results, fire and flammability data, and Material Safety Data Sheets (MSDS) for chemicals or materials including but not limited to following:
 - .1 Encapsulants.
 - .2 Amended water.
 - .3 Slow drying sealer.
 - .9 Ensure all HEPA-filtered equipment has been tested before the job commences.
 - .10 Procedures to deal with emergencies such as fire or injury must be developed and in place prior to work starting.

1.05 Quality Assurance

- .1 Regulatory Requirements: comply with Federal, Provincial/Territorial and local requirements pertaining to asbestos, provided that in case of conflict among those requirements or with these specifications more stringent requirement applies. Comply with regulations in effect at time work is performed.
- .2 Health and Safety:
 - .1 Do construction occupational health and safety in accordance with Section 1.4.

- .3 Safety Requirements: worker and visitor protection.
 - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area includes:
 - .1 Air purifying full face-mask respirator Powered air purifying respirator (PAPR) or better, with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.
 - .2 Disposable type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker who enters the work area, and the protective clothing to consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing. It includes suitable footwear, and it to be repaired or replaced if torn.
- .4 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
- .5 Before leaving Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container to be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.
- .6 Ensure workers wash hands and face when leaving Asbestos Work Area. Facilities for washing are located in the washroom closest to the boiler room
- .7 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.
- .8 Visitor Protection:
 - .1 Provide protective clothing and approved respirators to Authorized Visitors to work areas.

- .2 Instruct Authorized Visitors in the use of protective clothing, respirators and procedures.
- .3 Instruct Authorized Visitors in proper procedures to be followed in entering into and exiting from Asbestos Work Area.

1.06 Waste Management and Disposal

- .1 Waste asbestos cannot be reused or recycled.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Separate for recycling and place in designated steel waste containers in accordance with Waste Management Plan
- .5 Place materials defined as hazardous or toxic in designated containers.
- .6 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional, Territorial, and Municipal regulations.
- .7 Fold up metal banding, flatten and place in designated area for recycling.
- .8 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of asbestos waste in sealed double thickness 6 ml bags or leak proof drums. Label containers with appropriate warning labels.
- .9 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.
- .10 Friable waste asbestos is classified as a Class 9 Miscellaneous Waste by the Transportation of Dangerous Goods Act. The classification, packaging, labeling and placarding of this waste must conform to the federal and territorial Transportation of Dangerous Goods Act and Regulations. Schedule I of the Regulations classifies waste asbestos as follows:
 - .1 Shipping Name: WASTE Asbestos White (chrysotile, actinolite, anthophyllite, tremolite)
 - .2 Classification: 9
 - .3 Product Identification Number: UN2590 Packing Group: III
- .11 Asbestos waste must be stored, transported and disposed of in sealed containers that are impervious to asbestos and asbestos waste.
- .12 Removal is a necessary pre-requisite for demolition of a building containing asbestos-containing materials (ACM) or when planned renovations will disturb the asbestos. Obtain written approval from the Departmental Representative following abatement and removal of ACM and prior to the initiation of demolition.

.13

Waste asbestos is not recycled. All friable waste asbestos generated through this abatement project shall be disposed of at a licensed landfill. Non-friable waste asbestos will most likely become friable material once disturbed during the abatement process.

1.07 Existing Condition

.1 Test results of asbestos containing materials to be handled, removed, or otherwise disturbed and disposed of during this Project are summarized in the Asbestos Survey, Government of Canada Building. These are for general information only and are not necessarily representative of asbestos containing materials covered within scope of this Project.

.2

Notify the Department Representative of suspect asbestos containing material discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material until instructed by the Department Representative.

1.08 Scheduling

.1 Notify all agencies with involvement in asbestos abatement.

.2

Not later than seven (7) days before beginning Work on this Project notify following in writing:

- .1 Regional Office of Labour Canada.
- .2 Territorial Authority having jurisdiction.
- .3 Disposal Authority.
- .4 WSCC Prevention Services

.3

Inform sub-trades of presence of asbestos containing materials identified in Existing Conditions.

.4

Submit to the Department Representative copy of notifications prior to start of Work.

.5

Hours of Work: perform work involving asbestos abatement located at the Site during normal working hours where possible, contact Departmental Representative when not possible to discuss scheduling

.6

The ACM abatement work shall be completed on an agreed schedule between the Department Representative and abatement contractor.

1.09 Personnel Training

.1 Before beginning Work, provide to the Department Representative satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene including dress and showers, in entry and exit from Asbestos Work Area, in aspects of work procedures including glove bag procedures, and in use, cleaning, and disposal of respirators and protective clothing.

.2

Instruction and training related to respirators includes, at minimum:

- .1 Proper fitting of equipment.
- .2 Inspection and maintenance of equipment.
- .3 Disinfecting of equipment.
- .4 Limitations of equipment.

.3

Instruction and training must be provided by competent, qualified person.

- .4 Supervisory personnel to complete required training.

2 PRODUCTS

2.01 Materials

- .1 Drop and Enclosure Sheets:

- .1 Polyethylene: minimum 0.15 mm thick unless otherwise specified; in sheet size to minimize joints.

- .2 FR polyethylene: minimum 0.15 mm thick, woven fibre reinforced fabric bonded both sides with polyethylene.

- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in concentration to provide thorough wetting of asbestos containing material.

- .3 Waste Containers: contain waste in two separate containers.

- .1 Inner container: 0.15 mm thick sealable polyethylene bag or where glove bag method is used, glove bag itself.

- .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.

- .3 Labelling requirements: affix preprinted cautionary asbestos warning, in both official languages, that is visible when ready for removal to disposal site.

- .4 Glove bag

- .1 Acceptable materials: safe-T-Strip products in configuration suitable for Work, or Alternative material approved by addendum during tendering period in accordance with Instructions to Tenderers.

- .2 The glove bag to be equipped with:

- .1 Sleeves and gloves that are permanently sealed to the body of the bag to allow the worker to access and deal with the insulation and maintain a sealed enclosure throughout the work period.
 - .2 Valves or openings to allow insertion of a vacuum hose and the nozzle of a water sprayer while maintaining the seal to the pipe, duct or similar structure.
 - .3 A tool pouch with a drain.
 - .4 A seamless bottom and a means of sealing off the lower portion of the bag
 - .5 A high strength double throw zipper and removable straps, if the bag is to be moved during the removal operation.

- .5 Tape: tape suitable for sealing polyethylene to surfaces under both dry and wet conditions using amended water.
- .6 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.
 - .1 flame spread and smoke developed rating less than 50
- .7 Encapsulant: Surface film forming type conforming to CAN/CGSB-1.205

3 EXECUTION

3.01 Procedures

- .1 Before beginning Work, at each access to Asbestos Work Area, install warning signs in both official languages in upper case 'Helvetica Medium' letters reading as follows, where number in parentheses indicates font size to be used: 'CAUTION ASBESTOS HAZARD AREA (25 mm) / NO UNAUTHORIZED ENTRY (19 mm) / WEAR ASSIGNED PROTECTIVE EQUIPMENT (19 mm) / BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM (7 mm)'
- .2 Before beginning Work remove visible dust from surfaces in work area where dust is likely to be disturbed during course of work.
 - .1 Use HEPA vacuum or damp cloths where damp cleaning does not create hazard and is otherwise appropriate.
 - .2 Do not use compressed air to clean up or remove dust from any surface.
- .3 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
 - .1 Use FR polyethylene drop sheets over flooring such as carpeting that absorbs dust and over flooring in work areas where dust or contamination cannot otherwise be safely contained.
 - .2 When [removing suspended ceilings and walls themselves do not enclose work area] [and when] [removing asbestos containing material from piping or equipment and "glove bag" method is not used] erect enclosure of polyethylene sheeting around work area, shut off mechanical ventilation system serving work area and seal ventilation ducts to and from work area
- .4 Remove loose material by HEPA vacuum; thoroughly wet friable material containing asbestos to be removed or disturbed before and during Work unless wetting creates hazard or causes damage
 - .1 Use garden reservoir type low - velocity sprayer or airless spray equipment capable of producing mist or fine spray.
 - .2 Perform Work in a manner to reduce dust creation to lowest levels practicable.
- .5 Pipe Insulation Removal Using Glove Bag:
 - .1 A glove bag not to be used to remove insulation from a pipe, duct or similar structure if:
 - .1 It may not be possible to maintain a proper seal for any reason including, without limitation:
 - .1 The condition of the insulation
 - .2 The temperature of the pipe, duct or similar structure.

- .2 The bag could become damaged for any reason including, without limitation.
 - .1 The type of jacketing.
 - .2 The temperature of the pipe, duct or similar structure.
- .2 . Upon installation of the glove bag, inspect bag for any damage or defects. If any damage or defects are found, the glove bag is to be repaired or replaced. The glove bag to be inspected at regular intervals for damage and defects, and repair or replaced, as appropriately. The asbestos containing contents of the damaged or defective glove bag found during removal are to be wetted and the glove bag and its contents are to be removed and disposed of in an appropriate waste disposal container. Any damaged or defective glove bags are not be reused.
- .3 Place tools necessary to remove insulation in tool pouch. Wrap bag around pipe and close zippers. Seal bag to pipe with cloth straps.
- .4 Place hands in gloves and use necessary tools to remove insulation. Arrange insulation in bag to obtain full capacity of bag.
- .5 Insert nozzle of garden reservoir type sprayer into bag through valve and wash down pipe and interior of bag thoroughly. Wet surface of insulation in lower section of bag.
- .6 To remove bag after completion of stripping, wash top section and tools thoroughly. Remove air from top section through elasticized valve using a HEPA vacuum. Pull polyethylene waste container over glove bag before removing from pipe. Release one strap and remove freshly washed tools. Place tools in water. Remove second strap and zipper. Fold over into waste container and seal.
- .7 After removal of bag ensure that pipe is free of residue. Remove residue using HEPA vacuum or wet cloths. Ensure that surfaces are free of sludge which after drying could release asbestos dust into atmosphere. Seal exposed surfaces of pipe and ends of insulation with slow drying sealer to seal in any residual fibres.
- .8 Upon completion of Work shift, cover exposed ends of remaining pipe insulation with polyethylene taped in place.
 - .4 A seamless bottom and a means of sealing off the lower portion of the bag
 - .5 A high strength double throw zipper and removable straps, if the bag is to be moved during the removal operation.
- .6 Work is subject to visual inspection and air monitoring. Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
- .7 Cleanup:
 - .1 Frequently during Work and immediately after completion of work, clean up dust and asbestos containing waste using HEPA vacuum or by damp mopping.
Place dust and asbestos containing waste in sealed dust tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste and wet and fold to contain dust and then place in waste bags.
 - .2

- .3 Immediately before their removal from Asbestos Work Area and disposal, clean each filled waste bag using damp cloths or HEPA vacuum and place in second clean waste bag
- .4 Seal and remove double bagged waste from site. Dispose of in accordance with requirements of Provincial/Territorial and Federal authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that guidelines and regulations for asbestos disposal are followed.
- .5 Perform final thorough clean-up of Asbestos Work Areas and adjacent areas affected by Work using HEPA vacuum.

3.02 Supervision

- .1 Minimum of one Supervisor for every ten workers is required.
- .2 Approved Supervisor must remain within Asbestos Work Area during disturbance, removal, or other handling of asbestos containing materials.

3.03 Air Monitoring

- .1 From beginning of Work until completion of cleaning operations, Departmental Representative to take air samples on daily basis outside of Asbestos Work Area enclosure in accordance with Provincial/Territorial Occupational Health and Safety Regulations
 - .1 Contractor will be responsible for monitoring inside enclosure in accordance with applicable Provincial/Territorial Occupational Health and Safety Regulations.
- .2 If air monitoring shows that areas outside Asbestos Work Area enclosure[s] are contaminated, enclose, maintain and clean these areas in same manner as that applicable to Asbestos Work Area
- .3 Ensure that respiratory safety factors are not exceeded.
- .4 During the course of Work, Departmental Representative to measure fibre content of air outside Work areas by means of air samples analyzed by Phase Contrast Microscopy
 - .1 Stop Work when PCM measurements exceed 0.05 f/cc and correct procedures.

END OF SECTION