

**PUBLIC SERVICES AND
PROCUREMENT CANADA**

**Specifications for Lead and Asbestos Abatement
Indoor Firing Range and Office
50 George Street - Swift Current, Saskatchewan**

Prepared for:

Public Services and Procurement Canada
Suite 310 - 269 Main Street
Winnipeg, Manitoba
R3C 1B2

Prepared by:

EGE Engineering Ltd.
100-399 Pembina Hwy.
Winnipeg, Manitoba
R3L 2E6

<u>Section Number</u>	<u>Section Title</u>	<u>No. of Pages</u>
00 01 10	Table of Contents	1
01 11 00	Summary of Work	31

Supporting Documentation

Figure 01	Location Plan
Figure 02	Site Plan
Figure 03	Abatement - Garage - Basement
Figure 04	Abatement - Garage - Main Floor
Figure 05	Abatement - Garage - Roof / Exterior
Figure 06	Abatement - Office - Basement
Figure 07	Abatement - Office - Main Floor
Figure 08	Abatement - Office - Second Floor
Attachment A	Lead Dust and Surface Soils Assessment - Indoor Firing Range - Swift Current, Saskatchewan (Dillon-Outcome, January 2020)

END OF SECTION

Part 1 General

1.1 SCOPE OF WORK

.1 Lead Dust Abatement

- .1 The scope of Work includes the abatement of lead dust throughout the Garage basement, including the firing range and associated rooms, the main floor freezer room, the main floor north garage bay and the exterior roof and west walls of the facility, as outlined below and on the attached Contract Drawings.

.1 Basement

- .1 Floor – clean and seal the concrete floor throughout the basement including the firing range, observation area, washroom, mechanical room and stairwell.
- .2 Walls – clean and seal wall surfaces throughout the basement including the firing range, observation area, washroom, mechanical room and stairwell. Where walls have been covered with fibrous acoustic tiles, remove and dispose of tiles as lead waste and clean surfaces behind the tiles.
- .3 Ceiling – clean and seal ceiling surfaces throughout the basement including the firing range, observation area, washroom, mechanical room and stairwell.
- .4 Exterior of fixtures, baffles and pipes – clean and seal all surfaces associated with these materials.
- .5 Exterior and interior ducting – clean and seal all ducting within the firing range.
- .6 Firing Positions – clean and seal the firing position partition walls for removal from the site.
- .7 Backstop and bullet trap - clean and remove as lead waste or recycle.
- .8 Horizontal surfaces – clean all counters, shelves, tables, desks and horizontal surfaces in the areas.

.2 Freezer Room

- .1 Floor – clean and seal the vinyl floor tile area.

.3 North Garage Bay

- .1 Floor – clean and seal the concrete floor area.
- .2 Walls – clean the wall surfaces (drywall) throughout the garage bay.
- .3 Horizontal surfaces – clean all tables, shelves, counters and horizontal surfaces in the area.

.4 Exterior

- .1 Roof – clean roof-top HVAC units associated with the indoor firing range (interior and exterior surfaces).

- .2 Roof - clean and seal metal duct work associated with the indoor firing range (interior and exterior surfaces).
 - .3 West wall – clean and seal metal duct work along wall (interior and exterior surfaces). Fibreglass insulation materials within the duct work to be removed and disposed as lead waste.
- .2 Asbestos Abatement
 - .1 The scope of Work includes the abatement of specified asbestos-containing materials in the Garage and Office facilities as outlined below and on the attached Contract Drawings.
 - .1 Office (minimum precautions)
 - .1 Vinyl sheet flooring and mastic: grey flooring in Room 200B (second floor) and beige flooring (sub-layer) in Room 100D (main floor).
 - .2 Vinyl floor tile and black mastic: white 9” x 9” in Room 004 (basement).
 - .2 Garage (intermediate and/or maximum precautions)
 - .1 Straight pipe insulation (Aircell) where located in all basement rooms.
 - .2 Pipe fitting insulating cement where located in all basement rooms.
 - .3 The work is to be completed by an experienced Lead and Asbestos Remediation Contractor.
 - .4 The Contractor shall provide all labour, materials, supplies and equipment, including worker protection and decontamination area, necessary to isolate and clean all impacted areas and rooms, and to remove and decommission all noted materials and equipment.
 - .5 At the completion of the final lead abatement activities, post remediation confirmatory surface sampling will be conducted by the Departmental Representative to ensure compliance with the specifications.
 - .6 At the completion of abatement activities, the existing HVAC system (including metal duct work) must be restored to operating condition in such a way as to provide sufficient heat to all areas of the building in order to prevent freezing conditions.

1.2 DEFINITIONS

- .1 Action level: a health criterion for a substance in air set at 50% of the Occupational Exposure Limit (OEL) for that substance.
- .2 Airlock: ingress or egress system without permitting air movement between contaminated area and uncontaminated area. Consisting of two curtained doorways at least 2 m apart.
- .3 Amended Water: water with non-ionic surfactant wetting agent added to reduce water tension to allow thorough wetting of fibres.
- .4 Asbestos Containing Materials (ACMs): materials with detectable fibres (either at a quantified concentration above 1% for non-friable materials and 0.5% for friable materials or an unquantified concentration less than 1%), including fallen materials and settled dust.

- .5 Asbestos Waste: means removed contaminant and contaminated materials or products.
- .6 Asbestos Work Area: area where work takes place which will or may, disturb ACMs.
- .7 Authorized Visitors: Departmental Representative or designated representatives of regulatory agencies.
- .8 Containment System: includes the cover panels, screens, tarps, scaffolds, supports and shrouds used to enclose an entire work area. The purpose is to minimize or prevent the debris generated during surface preparation from entering into the environment, and to facilitate the controlled collection of debris for disposal. Containment systems may also employ the use of ground covers.
- .9 Contaminant: means lead particulate or asbestos-containing material.
- .10 Contaminated: describes products, by-products or materials containing or affected by lead particulate or asbestos abatement thereof.
- .11 Contractor: firm responsible for completing the scope of Work and complying with the requirement of the project, as per this Specification.
- .12 Competent worker: in relation to specific work, means a worker who:
 - .1 Is qualified because of knowledge, training and experience to perform the work.
 - .2 Is familiar with the provincial and federal laws and with the provisions of the regulations that apply to the work.
 - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .13 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 (2) 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 add weight to bottom edge to ensure proper closing.
- .14 Departmental Representative: an organization or individual designated in the Contract or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract.
- .15 Dioctyl Phthalate (DOP) / Poly Alpha Olefin (PAO) Test: testing method used to evaluate particle penetration and air flow resistance properties of filtration materials - HEPA filter leak test.
- .16 DOP Test: testing method used to determine integrity of Negative Pressure unit using dioctyl phthalate (DOP) HEPA-filter leak test.
- .17 Emissions: emissions from the containment that require control, including airborne plumes of material, as well as spills or leaks of water, abrasives, dust, fibres and debris.
- .18 Friable material: means material that when dry, can be crumbled, pulverized or powdered by hand pressure, or is crumbled, pulverized or powdered.

- .19 Glove Bag: prefabricated glove bag as follows:
 - .1 Minimum thickness 0.25 mm (10 mil) polyvinyl-chloride bag.
 - .2 Integral 0.25 mm (10 mil) thick polyvinyl-chloride gloves and elastic ports.
 - .3 Equipped with reversible double pull double throw zipper on top and at approximately mid-section of the bag.
 - .4 Straps for sealing ends around pipe.
- .20 HEPA Filter: high efficiency particulate air filter, removing not less than 99.97% of particulates measuring 0.3 microns or larger, for powered air purifying respirators, vacuums, vacuum trucks and negative air units.
- .21 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.
- .22 HVAC: heating, ventilation and air conditioning.
- .23 Impenetrable: impervious to dust and wind.
- .24 Impermeable: impervious to water.
- .25 Lead Control Area: means space in which lead particulate control work is being performed and to which general access is prohibited.
- .26 Lead Control Work: means lead particulate abatement procedures, and disposal of lead or materials containing lead, as specified.
- .27 Lead in Dust: wipe sampling on the vertical and/or horizontal surfaces, dust and debris is considered to be lead contaminated if it contains more than 100 micrograms of lead in dust per square foot.
- .28 Lead Waste: means removed contaminant and contaminated materials or products.
- .29 MUC: maximum use concentration.
- .30 Negative Air Pressure Machine: extracts air directly from work area and filters extracted air through a HEPA filter, discharge air to exterior of building:
 - .1 Maintain pressure differential of 5 to 7 Pa relative to adjacent areas outside of work areas. Machine to be equipped with alarm to warn of system breakdown, and equipped with instrument to continuously monitor and automatically record pressure differences.
- .31 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .32 Occupied Area: any area of the building or work site that is outside the Lead or Asbestos Work Area.
- .33 Overlap each polyethylene sheet at openings 1.5 m on each side.
- .34 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.

- .35 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Appropriate capacity for scope of work.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Title and description of Work: Lead and Asbestos Abatement – 50 George Street W, Swift Current, Saskatchewan.
- .2 The Work comprises all activities associated with the remediation of lead dust located within all rooms in the basement, the north bay and freezer room on the main floor, the roof and the west exterior wall of the Garage, the remediation of asbestos-containing materials located within the basement of the Garage and the remediation of asbestos-containing materials in the basement, main floor and second floor of the Office.
- .3 Mobilization and demobilization consists of preparatory work and operations, including but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to and from the project site.
- .4 Work by Others: confirmatory sampling and air sampling by Departmental Representative.
- .5 The scope of work contained in this specification will be conducted in accordance and in conjunction with directions from the Departmental Representative at the site.
- .6 Schedule construction activities to ensure the scope of work is conducted in a timely manner and within the Contract duration.

1.4 CONTRACT METHOD

- .1 Complete Work under lump sum contract.

1.5 SITE EXAMINATION

- .1 Before submitting a tender, the Contractor shall: examine the job site, building construction, waste and storage areas; compare plans and specifications with existing conditions; and fully satisfy himself as to all data and matters required for the completion of the contract.
- .2 Failure to acquaint himself fully with all available information concerning conditions affecting the work shall not relieve the Contractor of the responsibility for estimating the difficulties and costs of satisfactorily performing the work.
- .3 Commencement of mobilization shall constitute acceptance of existing conditions, and verification of dimensions.
- .4 Claims for additional costs will not be entertained with respect to conditions which would reasonably have been ascertained by an inspection of the site prior to tender closing time.

1.6 WORKER QUALIFICATIONS

- .1 Workers used for handling, abatement and packaging for disposal of lead and asbestos waste, shall have been trained in the hazards associated with lead and asbestos, acceptable to the Saskatchewan Occupational Health and Safety Division.
- .2 Before beginning Work, provide Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of lead and asbestos exposure, in

personal hygiene and work practices, and in the use, cleaning, and disposal of respirators and protective clothing.

- .3 Instruction and training related to respirators includes, following minimum requirements:
 - .1 Fitting of equipment.
 - .2 Inspection and maintenance of equipment.
 - .3 Disinfecting of equipment.
 - .4 Limitations of equipment.
- .4 Instruction and training must be provided by a competent, qualified person.
- .5 At least one employee who will be performing the work shall have completed a first aid course. The Contractor is required to provide proof of worker First Aid, which will be reviewed by the Departmental Representative. Documentation must be received by the Departmental Representative one week prior to requesting authorization to proceed with the lead abatement activities. Proof of First Aid training must also be made available on site during the lead and asbestos abatement activities.

1.7 CONSTRUCTION ORGANIZATION AND START UP

- .1 Within 7 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Departmental Representative, Owner, Contractor, major Subcontractors, field inspectors and supervisors to be in attendance.
- .3 Agenda to include:
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of Work.
 - .3 Requirements for temporary facilities.
 - .4 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
 - .5 Health and safety requirements.
 - .6 Environmental protection requirements.
 - .7 Close out procedures and submittals.
 - .8 Other Business.
- .4 During construction, coordinate use of site and facilities through Departmental Representative.

1.8 SUBMITTALS

- .1 Comply with requirements of this Section. Provide submittals prior to start of Work. A table of required submittals and submission dates is provided below.
- .2 Provide proof satisfactory to Departmental Representative that suitable arrangements have been made to dispose of lead and asbestos containing wastes in accordance with requirements of authority having jurisdiction and provide proof that lead and asbestos-containing wastes have been received and properly disposed.

- .3 Submit Provincial and/or Local requirements for Notice of Project Form.
- .4 Submit proof of Contractor's Lead and Asbestos Liability Insurance and the Contractor's General and Environmental Liability Insurance.
- .5 Submit to the Departmental Representative a Lead and Asbestos Exposure Control Plan at least one week prior to the anticipated lead and asbestos abatement start date in accordance with the Saskatchewan Occupational Health and Safety Regulations. The Lead and Asbestos Exposure Control Plan is to include but not limited to the following information
 - .1 The location of the following:
 - .1 Lead and asbestos control areas.
 - .2 Change Area.
 - .3 Barrier tape areas.
 - .4 Decontamination area.
 - .2 Detailed sequencing of the lead and asbestos abatement related work.
- .6 Submit an abatement schedule outlining the project phasing and the critical path of milestone events, including work area preparation, clean up, disposal, final cleaning, testing and air monitoring.
- .7 Submit to the Departmental Representative proof that all workers have instruction on the hazards of lead and asbestos exposure, respirator use, dress, entry and exit from Work Area, and aspects of work procedures and protective measures.
- .8 Submit to the Departmental Representative proof that the supervisory personnel have attended lead and asbestos abatement course, of not less than two days duration, approved by Departmental Representative. Minimum of one supervisor for every ten workers to be provided.
- .9 Submit proof satisfactory to Departmental Representative that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with respirator that is personally issued.
- .10 Submit to the Departmental Representative copies of test results documenting manufacturer's leak test for HEPA-filtered negative air units and vacuums. Testing to be arranged by the Contractor once equipment is delivered to site and documentation to be made available at the time of the pre-construction start-up meeting on site.
- .11 Submit to the Departmental Representative at least one week prior to the anticipated lead and asbestos abatement start date certification that HEPA-filtered vacuums required for this contract meet specified HEPA filter designation for component filter assemblies.
- .12 Submit layout of proposed enclosures and decontamination facilities to Departmental Representative for review.
- .13 Submit to the Departmental Representative at least one week prior to the anticipated lead and asbestos abatement start date disposal procedures for contaminant and contaminated waste handling/management.
- .14 Submit to the Departmental Representative at least one week prior to the anticipated lead and asbestos abatement start date worker decontamination procedures and a project-

specific Health and Safety Plan. The Health and Safety Plan must include procedures for addressing incidents and injuries on site.

- .1 COVID-19 risks and mitigations (pertaining to employees, contractors and/or the public) must be included within the Health and Safety Plan. It is the responsibility of the Contractor to be aware of the restrictions of the Provincial/Territorial regulator concerning public health emergencies declared within the jurisdiction or any specific restrictions within municipal or provincial jurisdictions.
- .15 Product data:
 - .1 Provide documentation including test results, fire and flammability data, and WHMIS Safety Data Sheets (SDS) for chemicals or materials including:
 - .1 Amended water.
 - .2 Lead encapsulant.
 - .3 Lead sealant.

Table 1: Breakdown of Required Project Submittals and Submission Dates

Submittal Required	Submission Date
<ul style="list-style-type: none"> Section 1.6.2 - Evidence of Worker First Aid Training 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date Made Available on Site During Remediation Activities
<ul style="list-style-type: none"> Section 1.8.5 - Lead and Asbestos Exposure Control Plan 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date
<ul style="list-style-type: none"> Section 1.8.6 - Project Schedule 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date
<ul style="list-style-type: none"> Section 1.8.7 and 1.8.8 - Proof of Worker Training Pertaining to Tasks, 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date Made Available on Site During Remediation Activities
<ul style="list-style-type: none"> Section 1.8.9 - Respirator Fit Test Records 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date Made Available on Site During Remediation Activities
<ul style="list-style-type: none"> Section 1.8.10 - Filter Performance Documentation 	<ul style="list-style-type: none"> Made Available on Site at the Time of the Pre-Construction Start-up Meeting
<ul style="list-style-type: none"> Section 1.8.11 - HEPA Filter Information 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date Made Available on Site During Remediation Activities

Submittal Required	Submission Date
<ul style="list-style-type: none"> Section 1.8.12 - Layout of Enclosure and Decontamination Facilities 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date
<ul style="list-style-type: none"> Section 1.8.13 - Waste Disposal Procedures 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date
<ul style="list-style-type: none"> Section 1.8.14 - Health and Safety Plan Including Worker Decontamination Procedures and COVID-19 Risks and Mitigations 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date
<ul style="list-style-type: none"> Section 1.8.15 - Product Data 	<ul style="list-style-type: none"> One Week Prior to Anticipated Remediation Start Date

1.9 CONTRACTOR USE OF PREMISES

- .1 The Contractors use of the site shall be restricted to the designated work area. There shall be no access to other areas of the site or other buildings unless directed by the Departmental Representative.
- .2 Work area access and egress shall be at the designated location shown on the Contract Drawings, unless otherwise specified by the Departmental Representative.
- .3 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .4 The Contractor shall not unreasonably encumber site with materials or equipment or move stored products or equipment which interferes with operations at the site.
- .5 Contractor will provide sanitary facilities for use by Contractor's personnel. Keep facilities clean.
- .6 At completion of construction operations, condition of existing work shall be equal to or better than that which existed before new work started.

1.10 SECURITY

- .1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.
- .2 All Contractor's personnel employed on this project will be subject to Royal Canadian Mounted Police (RCMP) security check and must have a valid and satisfactory screening document in order to complete Work in the premises and on site. Contractor staff shall apply for security clearances directly with the RCMP immediately following contract award. The information required to complete the RCMP security screening for this project will include but is not limited to full name, date of birth, address and a copy (both the front and back) of government issued signature bearing photo identification (e.g. driver's license). Security clearances can take approximately 1 to 3 weeks to process.
- .3 Obtain clearance, as instructed, for each individual who will require entry to the premises.

- .4 Personnel may check in daily at the start of work shift and may be provided with a security pass which must be worn at all times. Personnel must check out at the end of each work shift and return the security pass.
- .5 The Contractor will require a security escort (to be provided by the Owner) for access to the Office in order to complete the Work. The Contractor is to follow all directions provided by the security escort.

1.11 DEPARTMENT REPRESENTATIVES REPRESENTATIVE

- .1 PSPC will be represented at the site by a Departmental Representative.
- .2 The Contractor will maintain regular contact with the Departmental Representative.

1.12 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to site operations, occupants and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.13 PREPARATION

- .1 The Contractor must ensure that all employees involved in the project pre-planning have thoroughly reviewed the regulations regarding the requirements in the areas of air monitoring, worker protection, disposal of hazardous waste and removal of lead and asbestos waste.
- .2 The Contractor must confirm that all project security, health and safety and first aid requirements have been discussed, reviewed and complied with. The Contractor must ensure the required number of trained first-aid personnel and the proper first-aid equipment is available on site at all times.
- .3 An emergency phone list containing the phone numbers (office, cell, home) of the entire project management team will be prepared, posted on site, and distributed accordingly by the Contractor. The phone list must also contain the police, ambulance and fire emergency numbers. The emergency phone list shall be incorporated into the health and safety plan, to be submitted to the Departmental Representative, and must be made available at the first aid station on site at all times during lead and asbestos abatement activities.
- .4 The Contractor must ensure all workers fully understand the health hazards associated with lead and asbestos abatement. The Contractor shall instruct all the lead and asbestos abatement workers on the necessary safety procedures and protective measures to be used on a lead and asbestos clean-up project. The Contractor shall instruct each worker how to correctly use all of the necessary equipment (HEPA vacuums, wash station, etc.) that will be made available at all times. Work area supervisors will monitor the workers to ensure their comprehension and ability to safely use this equipment. Evidence of the discussion will be recorded in daily 'tailgate' safety meetings which must be signed by each of the workers present on site.
- .5 The Contractor will review and discuss with all workers on site, the personal protective equipment and respiratory protection requirements for this lead and asbestos abatement project. The Contractor will introduce and implement the written respiratory protection program developed by the abatement contractor. Each worker must be qualitatively fit

tested using irritant smoke or quantitatively fit tested and be assigned a respirator that will provide the worker with a proper face to mask seal (Fit Test Form). Proof of worker fit-testing will be submitted to the Departmental Representative at least one week prior to the anticipated start of lead remediation activities and will be made available on site.

- .6 Ensure all equipment equipped with HEPA filters has been in-place filter tested prior to project commencement and all documentation has been obtained.

1.14 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse or recycling.
- .2 Place materials defined as hazardous or toxic in designated containers.
- .3 Handle and dispose of lead and asbestos waste generated by abatement activities in compliance with Federal, Provincial and/or Municipal regulations. Dispose of lead and asbestos waste in sealed double thickness 6 mil bags or leak proof drums. Label containers with appropriate warning labels.
- .4 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

1.15 WASTE DISPOSAL QUANTITIES

- .1 Contractor to provide summary of all wastes disposed including quantities, disposal locations, and original scale tickets, as applicable.

1.16 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders.
 - .5 Other Modifications to Contract.
 - .6 Field Test Reports.
 - .7 Copy of Approved Work Schedule.
 - .8 Health and Safety Plan and Other Safety Related Documents.
 - .9 Other documents as specified.

1.17 REFERENCE STANDARDS

- .1 Regulatory Requirements: comply with Federal, Provincial and local requirements pertaining to lead and asbestos, in case of conflict among those requirements or with these specifications the more stringent requirement applies. Comply with regulations in effect at time work is performed.
- .2 Referenced regulations, standards and methods include the following:
 - .1 Department of Justice Canada
 - .1 Canadian Environmental Protection Act (CEPA), 1999, c.33.

- .2 Impact Assessment Act (IAA), S.C. 2019, c. 28, s. 1 (replaces Canadian Environmental Assessment Act, 2012, repealed).
- .3 Prohibition of Asbestos and Products Containing Asbestos Regulations, SOR/2018-196.
- .2 Employment and Social Development Canada
 - .1 Canada Labour Code - Part II - Occupational Health and Safety (R.S.C. 1985, c.L-2).
 - .2 Canadian Occupational Health and Safety Regulations, SOR/86-304.
- .3 CSA Group (CSA)
 - .1 CAN/CSA Z180.1-[00 (R2005)], Compressed Breathing Air and Systems.
- .4 Department of National Defence (DND), Decontamination Protocol for Indoor Firing Ranges, January 2003.
- .5 Health Canada / Workplace Hazardous Materials Information System (WHMIS).
 - .1 Safety Data Sheets (SDS).
- .6 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
 - .2 Transportation of Dangerous Goods Regulation (SOR/2001-286).
- .7 United States Environmental Protection Agency (EPA)
 - .1 EPA 747-R-95-007-[1995], Sampling House Dust for Lead.
- .8 U.S. Department of Health and Human Services/Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH)
 - .1 NIOSH 94-113 - NIOSH Manual of Analytical Methods (NMAM), 5th Edition (February 2020).
- .9 U.S. Department of Labour - Occupational Safety and Health Administration (OSHA) - Toxic and Hazardous Substances
 - .1 Lead in Construction Regulation - 29 CFR 1926.62-[1993].
- .10 Underwriters' Laboratories of Canada (ULC)
- .11 Province of Saskatchewan
 - .1 Occupational Health and Safety Act, 1993, S.S. - Updated [2012]
 - .2 Occupational Health and Safety Regulations, 1996 (Chapter O-1.1 Reg 1).
 - .3 Workers Compensation Act, 2013.
 - .4 Work Safe Saskatchewan, Saskatchewan Asbestos Abatement Manual - Guidelines for Asbestos Processes in Building Demolition and Renovation, 2017.
 - .5 Saskatchewan Employment Act S.S. 2013, c. S-15.1
 - .6 Environmental Management and Protection Act 2010, S.S. 2010, c. E-10.22
 - .7 Fire Safety Act, S.S. c. F-15.11
 - .8 City of Swift Current, Bylaw 17-2001 "The Water and Wastewater Utility Bylaw"

- .9 The Municipal Refuse Management Regulations (Chapter E-10.2 Reg 4).
- .10 The Dangerous Goods Transportation Regulations (Chapter D-1.2 Reg 1).
- .3 Referenced background reports and information include:
 - .1 Dillon-Outcome, Lead Dust and Surface Soils Assessment Report, Indoor Firing Range, Swift Current, Saskatchewan, January 2020.

1.18 QUALITY ASSURANCE

- .1 Regulatory Requirements: comply with Federal, Provincial and local requirements pertaining to lead and 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 Require construction work to be in compliance with the Provincial occupational health and safety regulations.
 - .2 Safety Requirements: worker and visitor protection.
 - .1 Protective equipment and clothing to be worn by workers while in Lead and Asbestos Work Areas include:
 - .1 Air purifying half-mask respirator 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 Abrasive blasting of lead contaminated areas: NIOSH approved and equipped with filter cartridges with assigned protection factor of one thousand (1000), acceptable to Authority having jurisdiction. Suitable for type of lead and level of lead dust exposure in Lead Work Area. Respirator to be equivalent Type CE abrasive blast supplied air respirator operated in a pressure demand or positive pressure mode with a tight-fitting full-face-piece. Compressed air used to supply supplied air respirators to

meet breathing air purity requirements of CAN/CSA Z180.1.
Where an oil-lubricated compressor is used to supply breathing air, a continuous carbon monoxide monitor/alarm to be provided.

- .3 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 shall consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent lead dust and asbestos fibres from reaching the garments and skin under the protective clothing. To include suitable footwear, and to be repaired or replaced if torn. Requirements for workers:
 - .1 Remove street clothes in clean change room and put on respirator with new filters or reusable filters, clean coveralls and head covers before entering Equipment and Access Rooms or Work Area. Store street clothes, uncontaminated footwear, towels, and similar uncontaminated articles in clean change room.
 - .2 Remove gross contamination from clothing before leaving work area. Place contaminated work suits in receptacles for disposal with other lead contaminated materials. Leave reusable items except respirator in Equipment and Access Room. When not in use in work area, store work footwear in Equipment and Access Room. Upon completion of lead abatement, dispose of footwear as contaminated waste or clean thoroughly inside and out using soap and water before removing from work area or from Equipment and Access Room.
 - .3 Enter unloading room from outside dressed in clean coveralls to remove waste containers and equipment from Holding Room of Container and Equipment Decontamination Enclosure system. Workers shall not use this system as a means to leave or enter Work Area.
- .2 Eating, drinking, chewing, and smoking are not permitted in Work Area.
- .3 Ensure workers are fully protected with respirators and protective clothing during preparation of system of enclosures prior to commencing actual lead and asbestos abatement.
- .4 Ensure workers wash hands and face when leaving Lead and Asbestos Work Area. The locations for facilities for washing are to be provided to the Department Representative in the Lead and Asbestos Exposure Control Plan as part of the project submissions.
- .5 Provide and post in Clean Change Room and in Equipment and Access Room the procedures described in this Section, in both official languages.
- .6 Ensure no person required to enter Work Area has facial hair that affects seal between respirator and face.

- .7 Visitor Protection:
 - .1 Provide protective clothing and approved respirators to Authorized Visitors to work areas.
 - .2 Instruct Authorized Visitors in use of protective clothing, respirators and procedures.
 - .3 Instruct Authorized Visitors in proper procedures to be followed in entering into and exiting from Work Area.
- .8 The Contractor is responsible for following all travel guidelines related to COVID-19 and public health authorities in all applicable jurisdictions.
- .9 The Contractor will be notified if PSPC becomes aware of potential COVID-19 cases within federal buildings or facilities included in this scope of work that may pose a risk of exposure to the Contractor staff. Similarly, the Contractor shall notify PSPC if they become aware of any COVID-19 cases that may pose an exposure risk. For privacy reasons, the Contractor shall not provide the name(s) of staff testing positive for COVID-19 but will provide the date tested and/or onset of symptoms and the last day working on the project site.

1.19 EXISTING CONDITIONS

- .1 Reports and information pertaining to lead dust and contaminated materials to be handled, removed, or otherwise disturbed and disposed of during this Project are provided in the Dillon-Outcome report "Lead Dust and Surface Soils Assessment Report, Indoor Firing Range, Swift Current, Saskatchewan" dated January 2020 (Attachment A).
- .2 Notify Departmental Representative of lead and asbestos contaminated materials discovered during Work and not apparent from drawings, specifications, or reports pertaining to Work. Do not disturb such material until instructed by Departmental Representative.

1.20 SCHEDULING

- .1 Not later than ten (10) days before beginning Work on this Project notify following in writing:
 - .1 Appropriate Regional or Zone Director of Medical Services Branch, Health Canada.
 - .2 Regional Office of Labour Canada.
 - .3 Provincial Department of Labour.
 - .4 Disposal Authority.
- .2 Inform sub trades of presence of lead and asbestos materials identified in Existing Conditions.
- .3 Provide Departmental Representative copy of notifications prior to start of Work.
- .4 Hours of Work: perform work involving lead and asbestos abatement during normal working hours. Include in Contract Sum additional costs due to this requirement. Be available to work continuously from beginning to end of project.

Part 2 Products

2.1 MATERIALS AND EQUIPMENT

- .1 Vacuums: HEPA-filtered wet/dry type, with accessories adequate to perform lead and asbestos abatement work.
- .2 Hand Tools and Supplies: scrapers, wire brushes, wiping rags, etc., of adequate quality to perform lead and asbestos abatement work.
- .3 Lead Paint Cleaning Agent: TSP cleaning powder or similar, diluted with water as per manufacturer's instructions.
- .4 Lead Sealant: slow-drying non-staining, clear, water-dispersible type that remains tacky on surface for at least eight (8) hours and designed for trapping residual lead residue. The type of sealant to be used must be submitted in writing to the Departmental Representative for review.
- .5 Asbestos Sealant: "lockdown" sealing treatment for microscopic residual fibres present after removal of asbestos-containing materials. Water-dispersible type, fire-rated, provides flexible barrier. The type of sealant to be used must be submitted in writing to the Departmental Representative for review.
- .6 Drop and Enclosure Sheets
 - .1 Polyethylene: 0.15 mm unless otherwise specified; in sheet size to minimize joints.
 - .2 FR polyethylene: 0.15 mm woven fibre reinforced fabric bonded both sides with polyethylene.
- .7 Sprayer: garden reservoir type, low velocity, capable of producing a mist or fine spray.
- .8 Tape: fibreglass-reinforced duct tape suitable for sealing polyethylene under dry conditions and wet conditions using amended water.
- .9 Lead waste containers:
 - .1 Metal type acceptable to dump operator with tightly fitting covers and 0.15 mm sealable polyethylene liners.
 - .2 Labeling requirements: affix pre-printed cautionary lead warning, in both official languages, that is visible when ready for removal to disposal site.
- .10 Asbestos 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.
- .11 Negative Air Unit: Portable air handling system which extracts air directly from lead work area and discharges air outside building. Unit shall be fitted with pre-filter and HEPA final filter. Air shall pass through a HEPA filter before discharge. Unit shall have pressure

differential gauge to monitor filter loading. Unit shall have auto shut-off and warning system for HEPA filter failure. HEPA filter shall have separate hold down clamps to retain filter in place. Unit shall be equipped with a smoke detector auto shut-off.

- .12 Wetting agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether, or other material approved by the Departmental Representative, mixed with water in concentration to provide adequate penetration and wetting of asbestos containing material.
- .13 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.

2.2 WARNING SIGNS

- .1 Provide warning signs and banner tape which state:
 - .1 Lead and Asbestos Abatement Area;
 - .2 Access to area is prohibited, except to authorized personnel; and
 - .3 Drinking, eating and smoking are prohibited in the building.
- .2 Obtain approval from Departmental Representative of warning sign and banner tape wording, legibility and location.

Part 3 Execution

3.1 SUPERVISION

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

3.2 PREPARATION - LEAD AND ASBESTOS (INTERMEDIATE AND HIGH PRECUATION) - GARAGE

- .1 Lead and asbestos abatement work may commence only after the following have been completed by the Contractor:
 - .1 Work Areas:
 - .1 Shut off and isolate HVAC system to prevent lead dust, asbestos fibre and particulate dispersal into other building areas. Conduct smoke tests to ensure duct work is airtight. Seal and caulk joints and seams of active return air ducts within Lead and Asbestos Work Area.
 - .2 Pre-clean moveable furniture within proposed work area(s) using HEPA vacuum and remove from work area(s) to temporary location approved by Departmental Representative.
 - .3 Pre-clean fixed casework, and equipment within work area(s), using HEPA vacuum and cover with polyethylene sheeting sealed with tape.
 - .4 Clean work areas using HEPA vacuum. If not practicable, use wet cleaning method. Do not use methods that raise dust, such as dry sweeping, or vacuuming using other than HEPA vacuum.
 - .5 The spread of dust from the work area(s) to be prevented by:
 - .1 Using enclosures of polyethylene or other suitable material that is impervious to lead and asbestos (if the enclosure material is opaque, one or more transparent window areas to allow observation of the entire work area from outside the enclosure), if the work area(s) are not enclosed by walls.
 - .2 Using curtains of polyethylene sheeting or other suitable material that is impervious to lead and asbestos, fitted on each side of each entrance or exit from the work area(s).
 - .6 Put negative pressure system in operation and operate continuously from time first polyethylene is installed to seal openings until final completion of work including final cleanup. Provide continuous monitoring of pressure difference using automatic recording instrument. The system to maintain a negative air pressure of 0.02 inches [5 Pa] of water, relative to the area outside the enclosed area. The system to be inspected and maintained by a competent person prior each use to ensure that there is no air leakage, and if the filter is found to be damaged or defective, it to be replaced before the ventilation system is used.
 - .7 Seal off openings such as corridors, doorways, windows, skylights, ducts, grilles, and diffusers, with polyethylene sheeting sealed with tape.

- .8 Cover floor and wall surfaces with polyethylene sheeting sealed with tape. Cover floors first so that polyethylene extends at least 300 mm up walls then cover walls to overlap floor sheeting.
- .9 Build airlocks at entrances to and exits from work area(s) so that work area(s) are always closed off by one curtained doorway when workers enter or exit.
- .10 At point of access to work areas install warning signs in upper case "Helvetica Medium" letters reading as follows where number in parentheses indicates font size to be used:
 - .1 CAUTION: LEAD AND ASBESTOS HAZARD AREA (25 mm).
 - .2 NO UNAUTHORIZED ENTRY (19 mm)
 - .3 WEAR ASSIGNED PROTECTIVE EQUIPMENT AND RESPIRATOR (19 mm).
 - .4 BREATHING LEAD AND ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM (7 mm).
- .11 Maintain emergency and fire exits from work area(s), or establish alternative exits satisfactory to Authority having jurisdiction.
- .12 Where application of water is required for wetting asbestos containing materials, shut off electrical power, provide 24 volt safety lighting and ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard. Ensure safe installation of electrical lines and equipment.
- .2 Worker Decontamination Enclosure System:
 - .1 Worker Decontamination Enclosure System includes Equipment and Access Room and Clean Room, as follows:
 - .1 Equipment and Access Room: construct between exit and work areas, with two curtained doorways, one to the rest of the suite, and one to work area. Install waste receptor and storage facilities for workers' shoes and protective clothing to be re-worn in work areas. Build large enough to accommodate specified facilities, equipment needed, and at least one worker allowing sufficient space to change comfortably.
 - .2 Shower Room: build Shower Room between Clean Room and Equipment and Access Room, with two curtained doorways, one to Clean Room and one to Equipment and Access Room. Provide one shower for every five workers. Provide constant supply of hot and cold or warm water. Provide piping and connect to water sources and drains. Pump waste water through 5 micrometre filter system acceptable to Departmental Representative before directing into drains. Provide soap, clean towels, and appropriate containers for disposal of used respirator filters.
 - .3 Clean Room: construct with curtained doorway to outside of enclosures. Provide lockers or hangers and hooks for workers'

street clothes and personal belongings. Provide storage for clean protective clothing and respiratory equipment. Install mirror to permit workers to fit respiratory equipment properly.

.3 Container and Equipment Decontamination Enclosure System:

.1 Container and Equipment Decontamination Enclosure System consists of Staging Area within work area, Washroom, Holding Room, and Unloading Room. Purpose of system is to provide means to decontaminate waste containers, scaffolding, waste and material containers, vacuum and spray equipment, and other tools and equipment for which Worker Decontamination Enclosure System is not suitable.

.1 Staging Area: designate Staging Area in work area for gross removal of dust and debris from waste containers and equipment, labelling and sealing of waste containers, and temporary storage pending removal to Washroom. Equip Staging Area with curtained doorway to Washroom.

.2 Washroom: build Washroom between Staging Area and Holding Room with two curtained doorways, one to Staging Area and one to Holding Room. Provide high - pressure low - volume sprays for washing of waste containers and equipment. Pump waste water through 5 micrometre filter system before directing into drains. Provide piping and connect to water sources and drains.

.3 Holding Room: build Holding Room between Washroom and Unloading Room, with two curtained doorways, one to Washroom and one to Unloading Room. Build Holding Room sized to accommodate at least two waste containers and largest item of equipment used.

.4 Unloading Room: build Unloading Room between Holding Room and outside, with two curtained doorways, one to Holding Room and one to outside.

.4 Construction of Decontamination Enclosures:

.1 Build suitable framing for enclosures or use existing rooms where convenient, and line with polyethylene sheeting sealed with tape.

.2 Build curtained doorways between enclosures so that when people move through or when waste containers and equipment are moved through doorway, one of two closures comprising doorway always remains closed.

.3 Prior to each shift in which a decontamination facility is being used, a competent person should inspect the facility to ensure that there are no defects that would allow lead-containing dust to escape. Defects should be repaired before the facility is used. The decontamination facility should be maintained in a clean and sanitary condition.

.5 Separation of Work Areas from Occupied Areas:

.1 Separate parts of building required to remain in use [as indicated] from parts of building used for lead and asbestos abatement by means of airtight barrier system constructed as follows:

- .1 Build suitable floor to ceiling lumber or metal stud framing, cover with polyethylene sheeting sealed with tape, and apply 9 mm minimum thick plywood. Seal joints between plywood sheets and between plywood and adjacent materials with surface film forming type sealer, to create airtight barrier.
 - .2 Cover plywood barrier with polyethylene sealed with tape, as specified for work areas.
- .6 Maintenance of Enclosures:
 - .1 Maintain enclosures in tidy condition.
 - .2 Ensure that barriers and polyethylene linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.
 - .3 Visually inspect enclosures at beginning of each working period.
 - .4 Use smoke methods to test effectiveness of barriers when directed by Departmental Representative.
- .7 Do not begin Lead and Asbestos Abatement work until:
 - .1 Arrangements have been made for disposal of waste.
 - .2 For wet stripping techniques, arrangements have been made for containing, filtering, and disposal of wastewater.
 - .3 Work area[s] and decontamination enclosures and parts of building required to remain in use are effectively segregated.
 - .4 Tools, equipment, and materials waste containers are on hand.
 - .5 Arrangements have been made for building security.
 - .6 Warning signs are displayed where access to contaminated areas is possible.
 - .7 Notifications have been completed and other preparatory steps have been taken.

3.3 PROCEDURES - LEAD DUST ABATEMENT - GARAGE

- .1 Prior to the start of the cleaning procedures, the air handling system (where present) within the designated lead abatement work areas must be shut down and isolated using appropriate lockout procedures.
- .2 All electrical systems within the work areas that can be isolated will be locked out and properly isolated by a certified electrician. All power requirements within the work area shall be controlled with GFI receptacles.
- .3 Install and erect barriers at all entrances to the work areas of the building. Signs shall be posted where access to the work areas is possible. The signs shall delineate entry and protective equipment requirements and provide warning of potential health consequences.
- .4 Provide an area to be used for decontamination. A wash station and receptacle for contaminated clothing must be provided. Ensure the decontamination area is of adequate size to provide proper storage of workers clothes and personal protective equipment. In the wash station, provide warm water and soap, disposable towels and disposal containers for contaminated and non-contaminated waste.

- .5 Negative air units used shall be exhausted to the outside at an approved location.
- .6 Following the pre-job set up work, arrange for the Departmental Representative to perform a pre-construction assessment of the work area. A work area supervisor is to accompany the Departmental Representative on the assessment of the work areas and must have any deficiencies fixed immediately.
- .7 All workers entering the contaminated work area shall then don full body disposable coveralls, booties and approved respirators. Other personal protective equipment will include safety glasses, hard hats (if required), and nitrile gloves.
- .8 A half-mask respirator complete with HEPA filters shall constitute the minimum respiratory protection for this type of lead abatement project. All workers must be familiar with the correct use and limitations of the respirators assigned to them. Respirators must be properly fitted and maintained (Fit Test Forms). Facial hair which interferes with the respirator fit is not permitted.
- .9 Lead Abatement Activities shall consist of the following:
 - .1 Cleaning:
 - .1 All affected surfaces inside the work area, including, but not limited to the walls, floors, ceilings, horizontal surfaces, HVAC supply/exhaust ducting, shall be cleaned by HEPA vacuuming, washing of all surfaces with a lead-specific cleaning agent, and rinsing of all surfaces with clean water, followed by a final pass with the HEPA vacuum.
 - .2 Vacuuming will begin on the ceiling and end on the floor, sequenced to avoid passing through areas already cleaned, with the entryway cleaned last.
 - .3 Seal exposed concrete floors using concrete sealant in accordance with manufacturer's instructions.
 - .4 Where specified, clean interior and exterior surfaces of the HVAC equipment supplying the area, Apply lead-specific detergent to all internal surfaces, components, condensate collectors and drains using garden reservoir-type sprayer(s). Wipe with a clean rag. Wipe again with a clean rinse water rag. Dispose of dirty rags in appropriate waste containers.
 - .5 All rags and waste liquids used in the cleaning of the Rooms shall be properly disposed of as lead waste in appropriate waste containers. The waste containers shall then be taken to a designated storage area for disposal.
 - .6 Air monitoring in the lead control area and a visual assessment by the Departmental Representative shall be completed prior to acceptance of the work and completion of final surface testing.
 - .2 Equipment Decommissioning
 - .1 Where specified, clean exterior surfaces of items identified for removal and disposal by HEPA vacuuming, followed by a surface wipe with a lead-specific cleaning agent. Dispose of dirty rags in appropriate waste containers.

- .2 Items identified for removal and disposal shall not be subject to clearance sampling.
 - .3 Items identified for removal and disposal shall not be salvaged.
 - .4 Provide waste summary report, including items removed, disposal location and hauler. Include all original weigh scale tickets and original certificate of destruction/disposal.
- .10 Remove building materials impacted with lead dust (that cannot be cleaned or re-used) in small sections and pack as it is being removed in sealable 0.15 mm plastic bags and place in labelled containers for transport.
- .11 Wet method to be used to reduce dust generation. Examples of wet methods include wetting surfaces, wet scraping, and wet shovelling. Wet method not be used if it creates a hazard or cause damage to equipment or to project. Power tools to be equipped with a shroud, and to be kept flush with surface.
- .12 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove immediate from working area to staging area. Clean external surfaces thoroughly again by wet sponging before moving containers to decontamination Washroom. Wash containers thoroughly in decontamination Washroom, and store in Holding Room pending removal to Unloading Room and outside. Ensure containers are removed from Holding Room by workers who have entered from uncontaminated areas dressed in clean coveralls.
- .13 After completion of stripping work, wire brush and wet sponge surface to remove visible material. During this work keep surfaces wet. After wire brushing and wet sponging, wet clean and HEPA vacuum entire work area including Equipment and Access Room. Compressed air or dry sweeping not be used to clean up lead-containing dust or waste. After inspection and approval by Departmental Representative apply continuous coat of slow drying sealer to surfaces. Do not disturb work area for eight (8) hours, no entry, activity, or ventilation other than operation negative air machine during this period.
- .14 After enclosing lead impacted surfaces, wet clean work area and equipment and access room. During settling period no entry, activity, or ventilation will be permitted.

3.4 PROCEDURES - ASBESTOS REMOVAL (MINIMUM PRECAUTIONS)

- .1 Before beginning Work, isolate Asbestos Work Area using, minimum, preprinted cautionary asbestos warning signs in both official languages that are visible at access routes to Asbestos Work Area.
 - .1 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.
 - .2 Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.
 - .3 Do not use compressed air to clean up or remove dust from any surface.
- .2 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 Asbestos Work Area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.

- .3 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled or otherwise disturbed unless wetting creates hazard or causes damage.
 - .1 Use garden reservoir type low - velocity fine - mist sprayer.
 - .2 Perform Work to reduce dust creation to lowest levels practicable.
 - .3 Work will be subject to visual inspection and air monitoring.
 - .4 Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
- .4 Frequently and at regular intervals during Work and immediately on completion of work:
 - .1 Dust and waste to be cleaned up and removed using a vacuum equipped with a HEPA filter or by damp mopping or wet sweeping, and placed in a waste container.
 - .2 Drop sheets to be wetted and placed in a waste container as soon as practicable.
- .5 Cleanup:
 - .1 Place dust and asbestos containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, and then place in plastic bags.
 - .2 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from Asbestos Work Area.
 - .3 Seal waste bags and remove from site. Dispose of in accordance with requirements of Provincial 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 the appropriate guidelines and regulations for asbestos disposal are followed.
 - .4 Perform final thorough clean-up of Work areas and adjacent areas affected by Work using HEPA vacuum.

3.5 PROCEDURES - ASBESTOS REMOVAL (INTERMEDIATE PRECAUTIONS) - OFFICE

- .1 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.
- .2 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 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.

- .3 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.
- .4 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.
- .5 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.
- .6 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.
 - .2 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.
 - .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 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.

3.6 PROCEDURES - ASBESTOS REMOVAL (MAXIMUM PRECAUTIONS) - GARAGE

- .1 Before removing asbestos:
 - .1 Prepare site.
 - .2 Spray asbestos material with water containing specified wetting agent, using airless spray equipment capable of providing "mist" application to prevent release of fibres. Saturate asbestos material sufficiently to wet it to substrate without causing excess dripping. Spray asbestos material repeatedly during work process to maintain saturation and to minimize asbestos fibre dispersion.
- .2 Remove saturated asbestos material in small sections. Do not allow saturated asbestos to dry out. As it is being removed pack material in sealable plastic bags 0.15 mm minimum thick and place in labelled containers for transport.
- .3 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to Staging Area. Clean external surfaces thoroughly again by wet sponging before moving containers to decontamination Washroom. Wash containers thoroughly in decontamination Washroom, and store in Holding Room pending removal to Unloading Room and outside. Ensure that containers are removed from Holding Room by workers who have entered from uncontaminated areas dressed in clean coveralls.
- .4 After completion of stripping work, wire brushed and wet sponged surfaces from which asbestos has been removed to remove visible material. During this work keep surfaces wet.

- .5 Where Departmental Representative decides complete removal of asbestos containing material is impossible due to obstructions such as structural members or major service elements, and provides written direction, encapsulate material as follows:
 - .1 Apply surface film forming type sealer to provide 0.635 mm minimum dry film thickness over sprayed asbestos surfaces. Apply using airless spray equipment to avoid blowing off fibres. Use different colour for each coat. Apply penetrating type sealer to penetrate existing sprayed asbestos surfaces. Apply penetrating type sealer to penetrate existing sprayed asbestos surfaces uniformly to substrate.
- .6 After wire brushing and wet sponging to remove visible asbestos, and after encapsulating asbestos containing material impossible to remove, wet clean entire work area including Equipment and Access Room, and equipment used in process. After 24 hour period to allow for dust settling, wet clean these areas and objects again. During this settling period no entry, activity, or ventilation will be permitted. After second 24 hour period under same conditions, clean these areas and objects again using HEPA vacuum followed by wet cleaning.
- .7 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.
- .8 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.
 - .2 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.
 - .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 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.

3.7 METHODS OF COLLECTING DEBRIS

- .1 Progressively containerize contaminated materials as abatement work progresses. Do not permit lead or asbestos waste to accumulate.
- .2 Keep contaminated material damp to minimize generation of airborne lead dust or asbestos fibres.
- .3 Remove lead and asbestos waste from control area at least once per day, and check, clean and replace filters at least once per day.

3.8 WORKER DECONTAMINATION

- .1 All abatement workers shall be fully trained in the proper decontamination methods to be used on this project. A copy of the written worker decontamination procedures shall be submitted to the Departmental Representative and posted in the wash station.
- .2 Before leaving the abatement work area and entering the decontamination area, the worker shall remove any gross contamination from his/her disposable coveralls using a HEPA vacuum. The worker shall then remove his/her boot covers and place them into the waste receptacle provided.
- .3 The worker shall then proceed into the wash area and remove the disposable coveralls and place them into the disposal receptacle provided.
- .4 The worker shall then proceed to the wash station and wash the outer surfaces of his/her respirator and his/her exposed facial areas and hair. Once the respirator has been properly cleaned, the HEPA cartridges can be taped over or disposed as contaminated waste. After a thorough wetting, the respirator can then be removed from the worker's face. The worker shall then thoroughly wash his face, neck and head with the soap and water provided.
- .5 The worker can then don his/her street clothes and exit from the DCU. The worker must recheck and properly store his/her respirator.
- .6 Cleaning of Reusable Equipment and Materials: Loose surface dust shall be removed from equipment, and other reusable items prior to transportation off-site.

3.9 WASTE STORAGE, TRANSPORT AND DISPOSAL

- .1 The Contractor shall segregate industrial waste from dispersible waste. The Contractor shall submit to the Departmental Representative a waste disposal procedure for review. The Contractor shall ensure the Departmental Representative approves the segregation and storage procedures. Dispersible waste shall including contaminated plastic sheeting, rags and other consumable items, disposal coveralls, filters, waste water, detergent solutions and other dust and debris collected during the abatement process.
- .2 As work progresses, and to prevent exceeding available storage capacity on site, remove sealed and labelled containers containing asbestos waste and dispose of to an authorized disposal area in accordance with requirements of disposal authority. Ensure that each shipment of containers transported to dump is accompanied by Contractor's representative to ensure that dumping is done in accordance with governing regulations.
- .3 The Contractor shall contact Saskatchewan Environment and obtain a Generator Registration Number and shall transport hazardous waste in accordance with the TDG Act.
- .4 The Contractor shall dispose of hazardous waste and industrial waste in accordance with the requirements of the Saskatchewan Municipal Refuse Management Regulations and authorities having jurisdiction.
- .5 The Contractor shall submit landfill permits and waste manifest documentation to the Departmental Representative in a timely fashion to allow compliance with the TDG Act and the Saskatchewan Municipal Refuse Management Regulations.

3.10 INSPECTION

- .1 Perform inspection of Lead and Asbestos Work Areas to confirm compliance with specification and governing authority requirements. Deviation from these requirements that have not been approved in writing by Departmental Representative may result in Work stoppage, at no cost to Owner.
- .2 Departmental Representative will inspect Work for:
 - .1 Adherence to specific procedures and materials.
 - .2 Final cleanliness and completion.
 - .3 No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.
- .3 When lead dust or asbestos leakage from Work Area has occurred or is likely to occur Departmental Representative may order Work shutdown.
 - .1 No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.

3.11 LEAD SURFACE SAMPLING - WORK AREAS

- .1 Final lead surface sampling conducted as follows:
 - .1 After Work Area has passed a visual inspection for cleanliness approved by Departmental Representative and acceptable coat of lock-down agent has been applied to surfaces within enclosure, and appropriate setting period of eight (8) hours has passed, Departmental Representative will perform lead wipe sampling in Work Area.
 - .1 Final lead wipe sampling results from horizontal and vertical surfaces must show lead levels of less than 100 micrograms of lead in dust per square foot (10 micrograms per 100 cm²). Samples collected and analyzed in accordance with EPA 747-R-95-007 or NIOSH Method 9100.
 - .2 If wipe sampling results show levels of lead dust in excess of 100 micrograms per square foot, re-clean work area at contractor's expense and apply another acceptable coat of lock-down agent to surfaces.
 - .3 Repeat as necessary until lead dust levels are less than 100 micrograms per square foot.

3.12 AIR MONITORING

- .1 From beginning of Work until completion of cleaning operations, Departmental Representative to take air samples on daily basis outside of work area enclosure in accordance with Provincial Occupational Health and Safety Regulations and Health Canada recommendations.
 - .1 Contractor will be responsible for making one abatement worker per shift available to wear a personal air monitor designed to collect an exposure sample near the breathing zone from inside the enclosure in accordance with applicable Provincial Occupational Health and Safety Regulations.

- .2 Use results of air monitoring inside work area to establish type of respirators to be used. Workers may be required to wear sample pumps for up to full-shift periods.
 - .1 If fibre levels are above safety factor of respirators in use (maximum use concentration), stop abatement, apply means of dust suppression, and use higher safety factor in respiratory protection for persons inside enclosure.
 - .2 If air monitoring shows that areas outside work area enclosures exceed the Action Level (set at 50% of the Occupational Exposure Level for the substance), the Contractor will be required to investigate all enclosure structures, negative air units, decontamination facilities and perform repairs as directed by the Departmental Representative.
 - .3 If air monitoring shows that areas outside work area enclosures are contaminated, enclose, maintain and clean these areas, in same manner as that applicable to work areas.
- .3 Final air monitoring to be conducted as follows: After Lead and Asbestos Work Area has passed visual inspection Departmental Representative will perform air monitoring within Lead and Asbestos Work Area.
 - .1 Final air monitoring results must show asbestos fibre levels of less than 0.01 f/cc and lead dust levels of less than 0.05 mg/m³.
 - .2 If air monitoring results show asbestos fibre levels in excess of 0.01 f/cc and/or lead dust levels in excess of 0.05 mg/m³, re-clean work area and apply another acceptable coat of lockdown agent and/or sealant to surfaces.
 - .3 Repeat as necessary until asbestos fibre levels are less than 0.01 f/cc and lead dust levels are less than 0.05 mg/m³.

3.13 FINAL CLEANUP

- .1 Following specified cleaning procedures, and when lead wipe and lead and asbestos air sampling is below acceptable concentrations and Departmental Representative has provided authorization, proceed with final cleanup.
 - .1 When air sampling shows that asbestos levels on both sides of seals do not exceed 0.01 fibres/cc as described in NIOSH Method 7400 or equivalent, proceed with final cleanup.
 - .2 When air sampling shows that lead dust levels on both sides of seals do not exceed 0.05 mg/m³/ as described in NIOSH Method 7082 or equivalent, proceed with final cleanup.
- .2 Remove polyethylene sheet by rolling it away from walls to centre of work area. Vacuum visible lead and asbestos containing particles observed during cleanup, immediately, using HEPA vacuum.
- .3 Place polyethylene seals, tape, cleaning material, clothing, and other contaminated waste in plastic bags and sealed labelled waste containers for transport.
- .4 Include in clean-up Work areas, Equipment and Access Room, Washroom, Shower Room, and other contaminated enclosures.

- .5 Include in clean-up sealed waste containers and equipment used in Work and remove from work areas, via Container and Equipment Decontamination Enclosure System, at appropriate time in cleaning sequence.
- .6 Conduct final check to ensure that no dust or debris remains on surfaces as result of dismantling operations and carry out air monitoring again to ensure that asbestos levels in building do not exceed 0.01 fibres/cc and lead levels do not exceed 0.05 mg/m³. Repeat cleaning using HEPA vacuum equipment, or wet cleaning methods where feasible, in conjunction with sampling until levels meet this criteria.

3.14 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

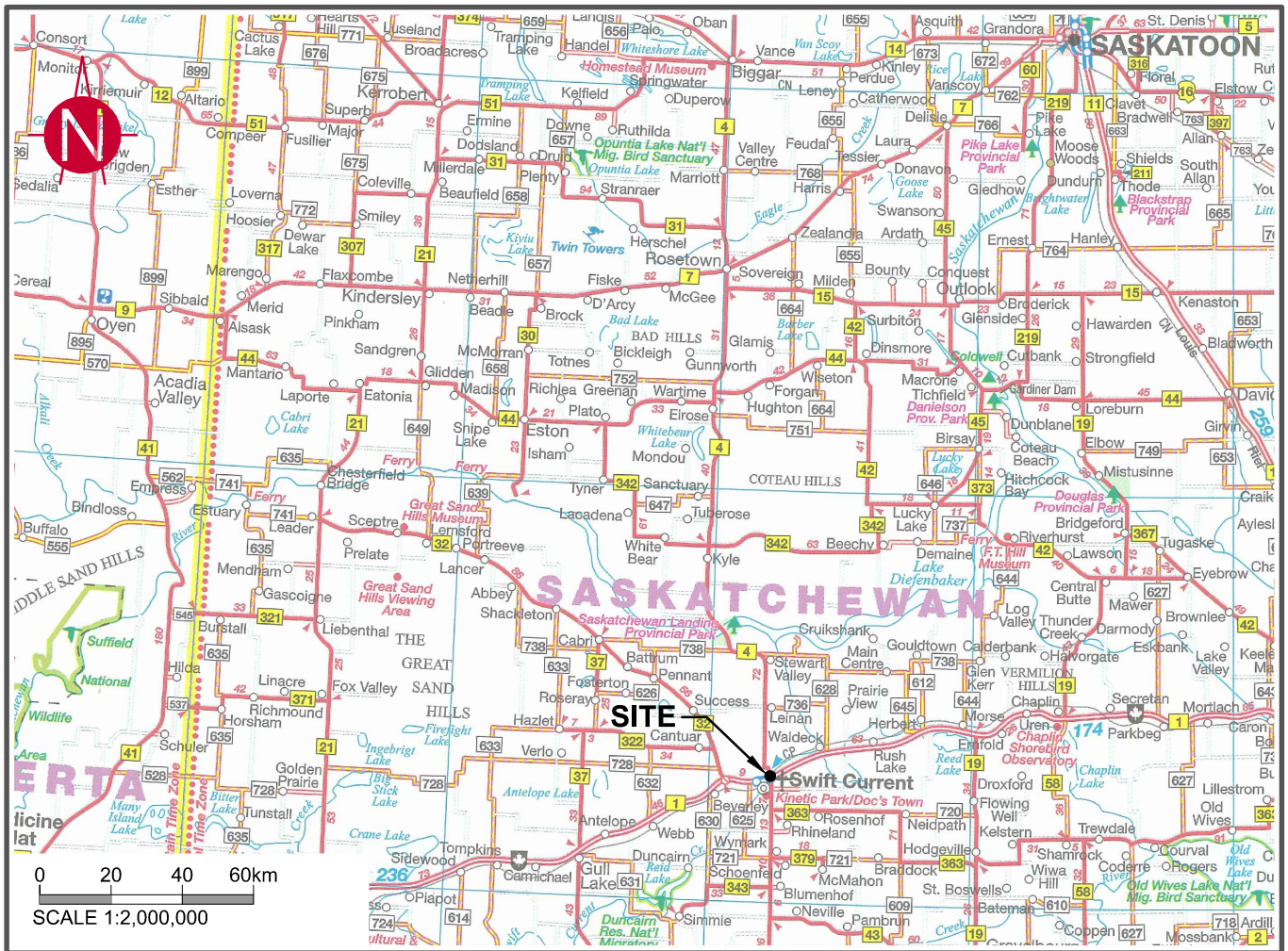
- .1 When cleanup is complete:
 - .1 Re-establish objects and furniture moved to temporary locations in course of Work, in their proper positions.
 - .2 Re-secure mounted objects removed in course of Work in their former positions.
 - .3 Re-establish mechanical and electrical systems in proper working order. Install new filters.
 - .4 Repair or replace objects damaged in the course of Work, as directed by Departmental Representative.
 - .5 Re-establish the existing HVAC system (including metal duct work) to operating condition in such a way as to provide sufficient heat to all areas of the building in order to prevent freezing conditions.

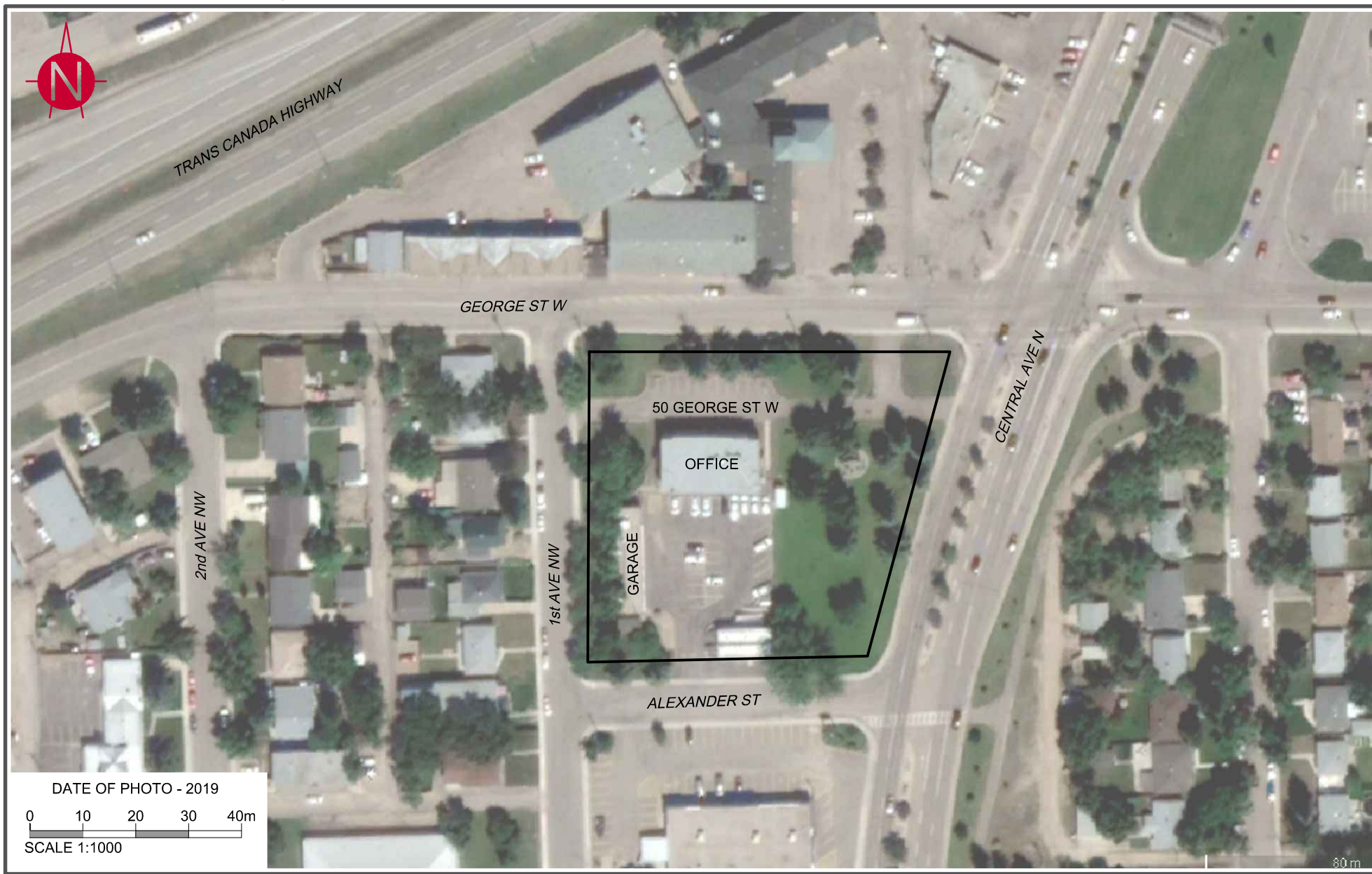
END OF SECTION

8.5" x 11"

PLOT: 8/30/2020 10:44:48 PM

EGE FILE NAME: 0125-SC-01_01_X.dwg





EGE

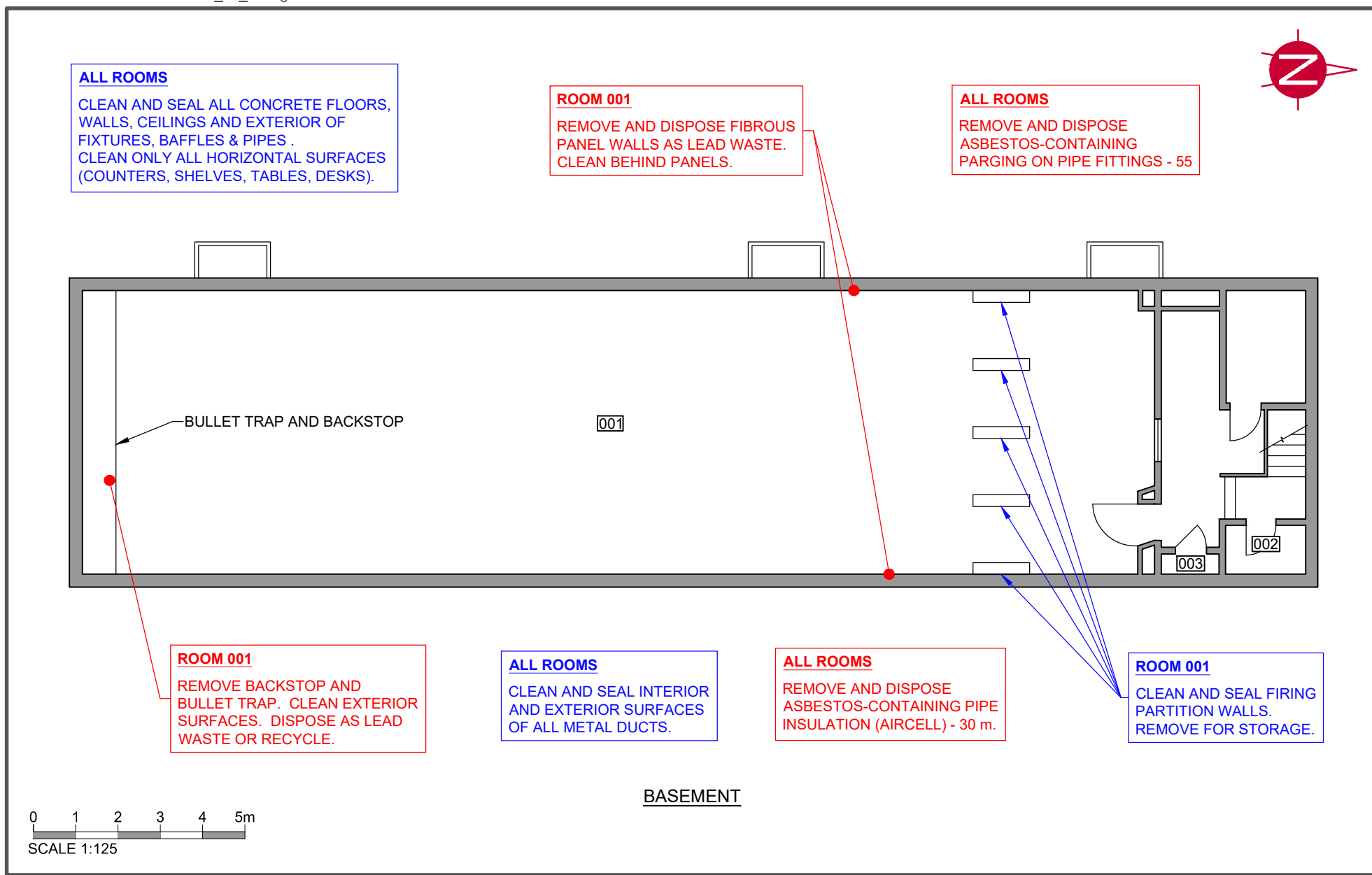
Public Services and Procurement Canada

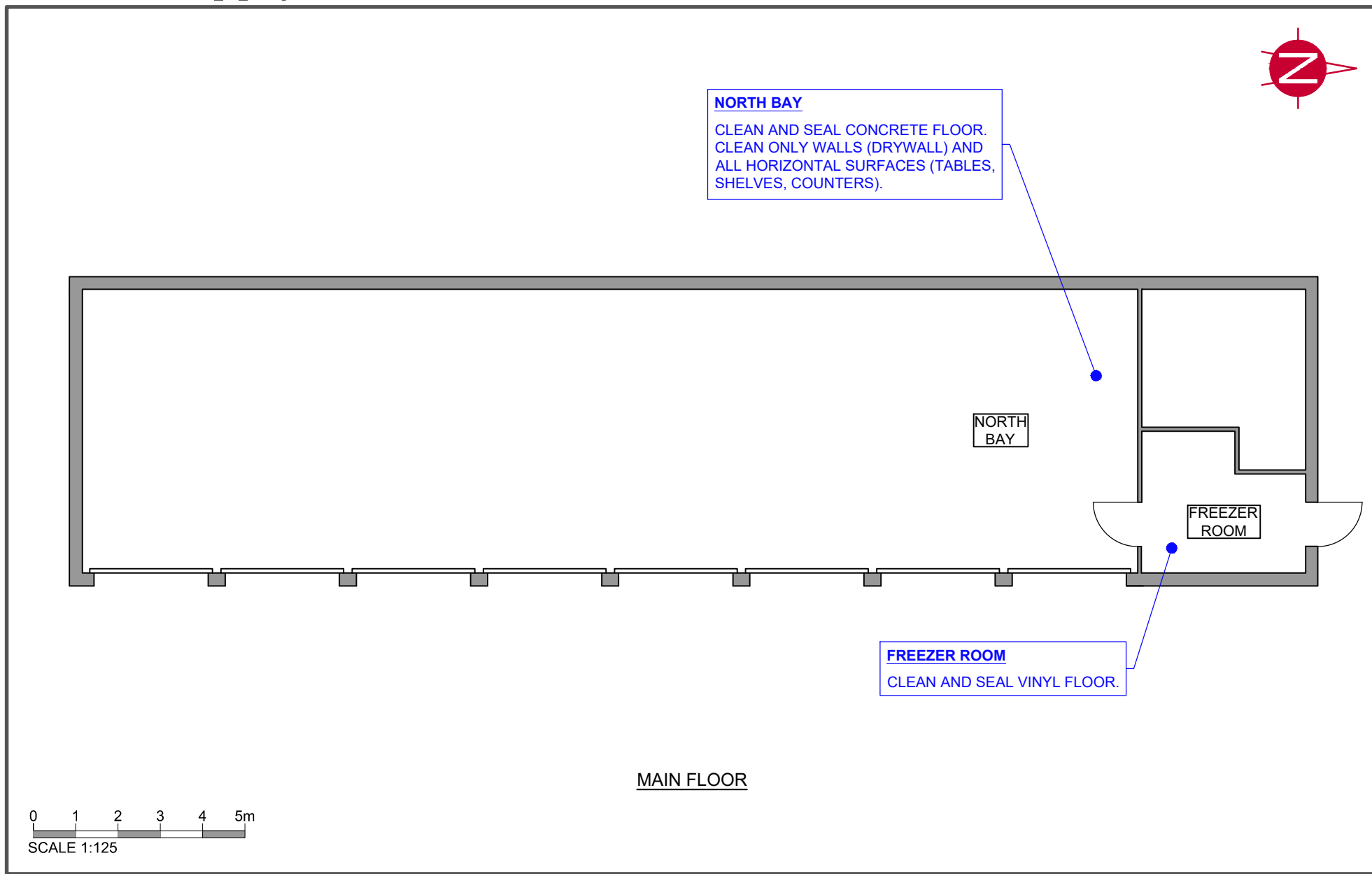
50 George St W - Swift Current, SK

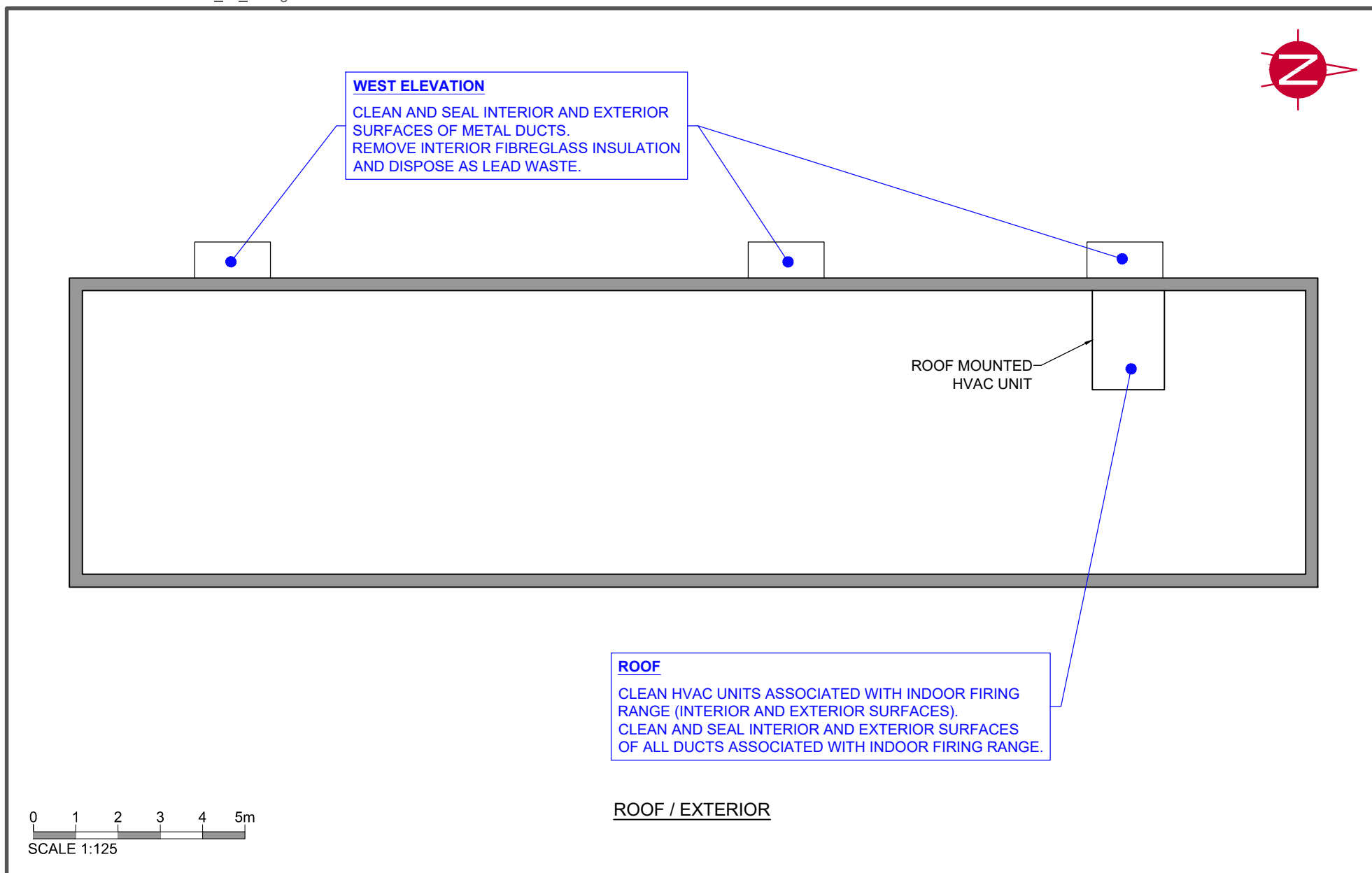
Lead and Asbestos Abatement

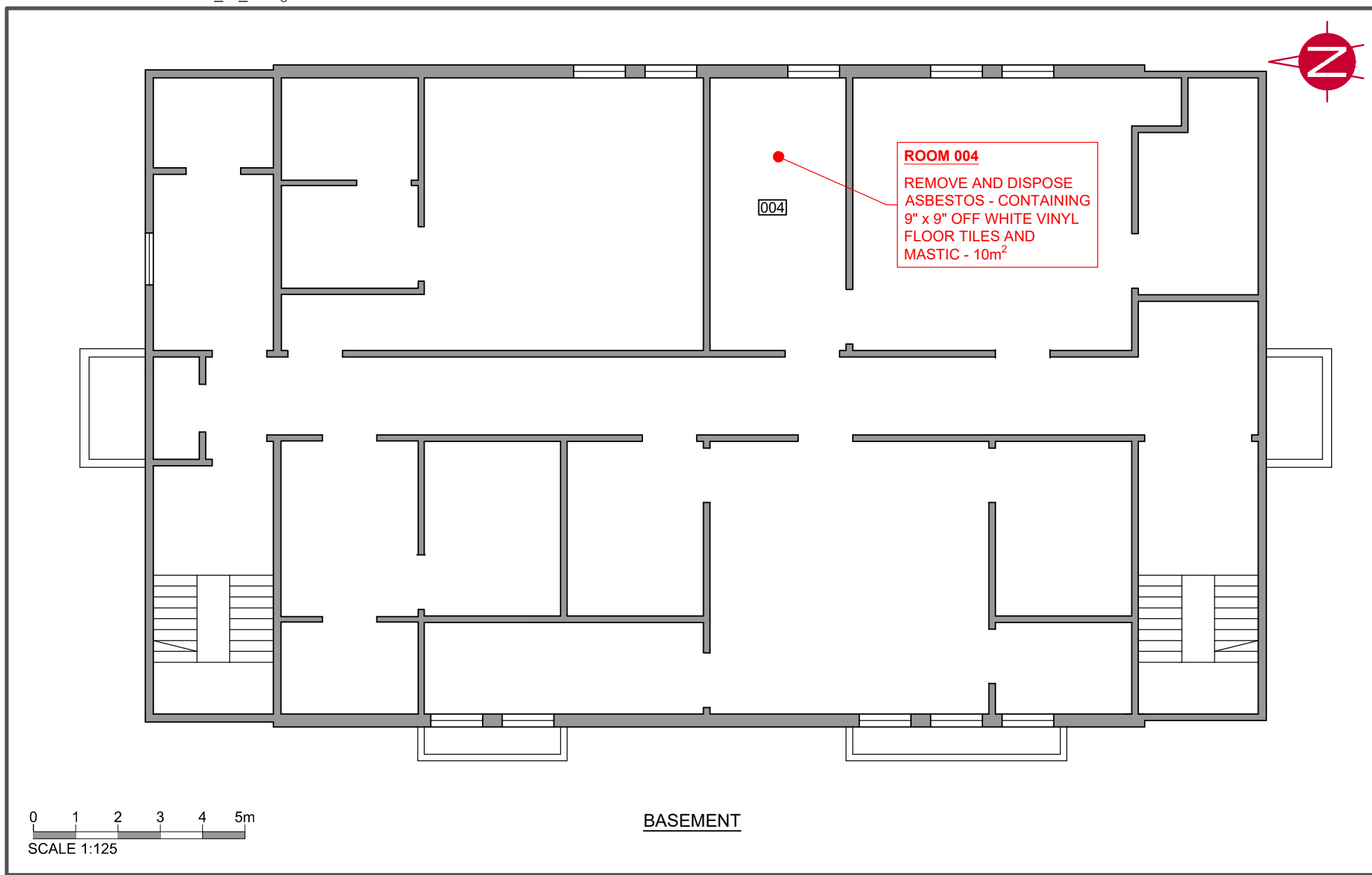
Site Plan

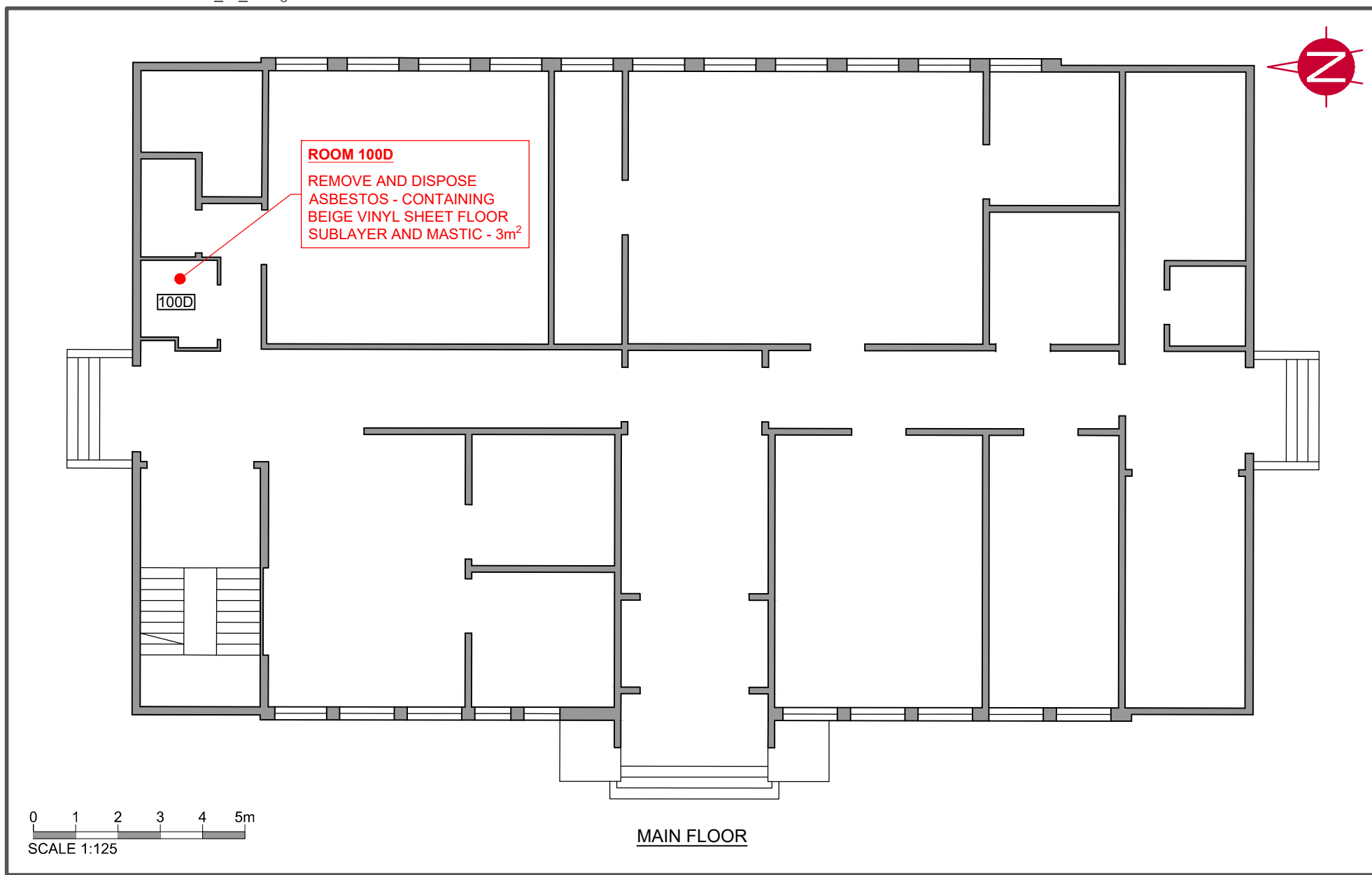
Figure 02

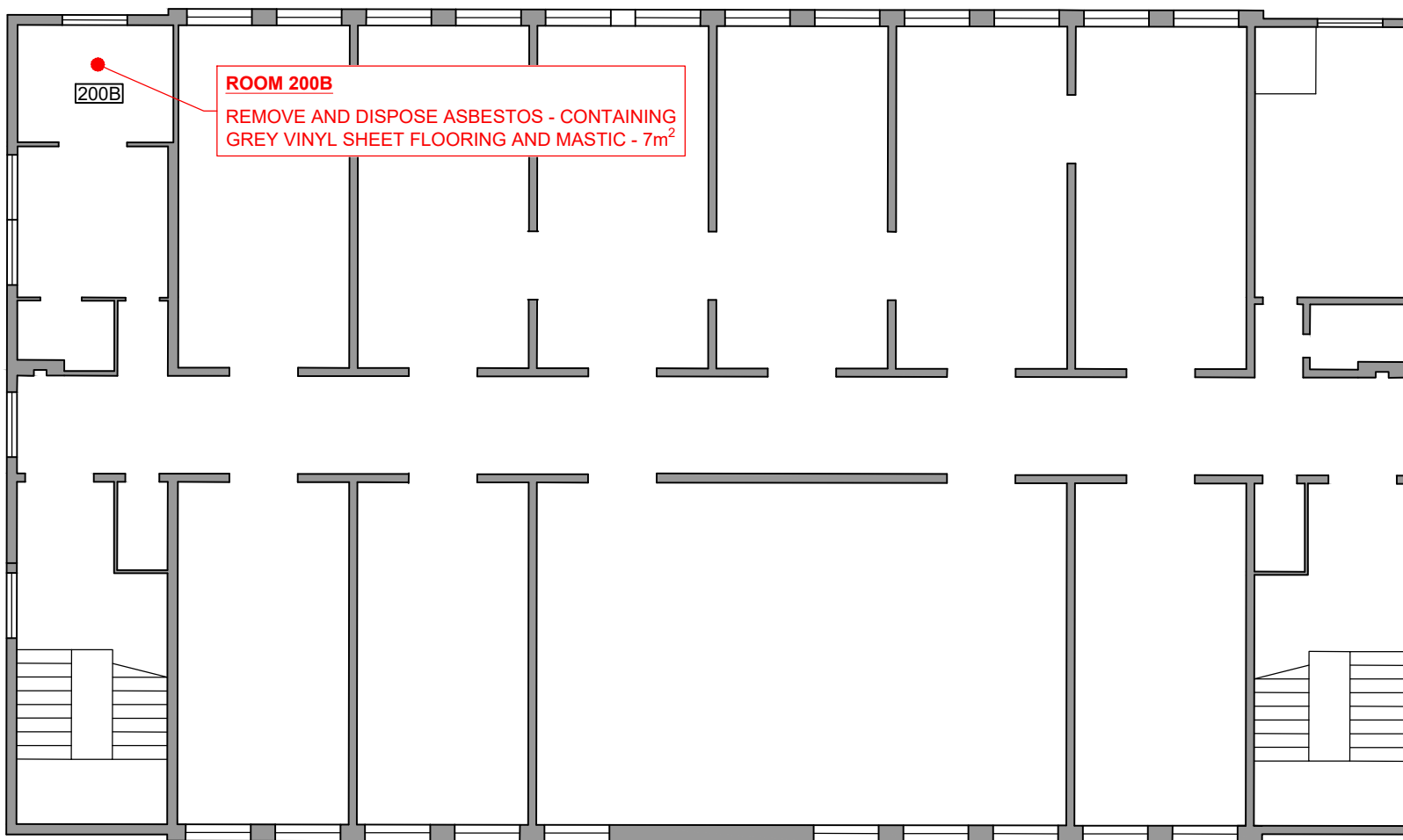












SECOND FLOOR

0 1 2 3 4 5m
SCALE 1:125

Public Services and Procurement Canada
50 George Street W, Swift Current, SK
Project # R.106426.001.

ATTACHMENT A

ATTACHMENT A

Lead Dust and Surface Soils Assessment Report
Indoor Firing Range - Swift Current, Saskatchewan (Dillon-Outcome, January 2020)



Lead Dust and Surface Soils Assessment Report

Indoor Firing Range – Swift Current, Saskatchewan

R.106426.001
19-170521-1796
EW699-170521/002/NCS
700467473

Prepared by:
Rob Hochkovich
Environmental Scientist

Reviewed by:
Paul Paulin
Senior Technical Reviewer

January 2020 – 19-1435

January 22, 2020



Public Services and Procurement Canada
310 – 269 Main Street
Winnipeg Manitoba
R3C 1B3

Attention: Matthew Irvine, B.Env.St., C.E.T.
Environmental Specialist

Lead Dust and Surface Soil Assessment – [REDACTED] Indoor Firing Range, Swift Current

Dear Mr. Irvine:

Dillon Consulting Limited and Outcome Consultants in joint venture (Dillon-Outcome) are pleased to provide Public Services and Procurement Canada (PSPC) with the attached final Lead Dust and Soil Assessment report at the [REDACTED] Indoor Firing Range located at 50 George Street West in Swift Current, Saskatchewan.

If you have any questions or concerns, please contact the undersigned at (204) 453-2353, ext. 4035, or via email at rhochkievich@dillon.ca.

Sincerely,

DILLON CONSULTING LIMITED
AND OUTCOME CONSULTANTS IN JOINT VENTURE
(DILLON OUTCOME)

Rob Hochkievich, C.E.T.
Project Manager

RPH:lw

Our file: 19-1435

1558 Willson Place
Winnipeg, Manitoba
Canada
R3T 0Y4
Telephone
204.453.2301
Fax
204.452.4412

Executive Summary

Dillon Consulting Limited and Outcome Consultants in joint venture (Dillon-Outcome) were retained by Public Services and Procurement Canada (PSPC) on behalf of [REDACTED] to conduct a lead dust and surface soil assessment of the indoor firing range located at 50 George Street West in the community of Swift Current, Saskatchewan (SK), herein referred to as the "Subject Site" or "Site".

The work was conducted under the Terms of Reference for Lead Assessment, Abatement Specifications, Site Inspection and Closure Report for the Swift Current [REDACTED] Indoor Firing Range (Project # R.106426.001). The Scope of Work for the project presented in this report was to conduct a lead dust and soil assessment at the Swift Current [REDACTED] Indoor Firing Range located at 50 George Street West in Swift Current, SK. Dillon-Outcome completed baseline air sampling and developed abatement specifications to be provided under a separate cover. The assessment was restricted to accessible locations within the Site. Inaccessible areas, such as fixed ceiling spaces and behind fixed walls, were not investigated at the time of the assessment.

The assessment was conducted August 29, 2019, by Robert Hochkievich of Dillon-Outcome

Lead dust swipe sample concentrations were encountered above the maximum acceptable lead dust concentrations as provided in the Department of National Defence Decontamination Protocol for Indoor Firing Ranges. Dillon-Outcome recovered a total of 34 surface swipe samples from various surfaces including floors, walls, ceilings, fixtures and air handling ducts (both within the ducts and on exterior surfaces). There were 33 surface swipe samples were determined to have lead dust concentrations above the selected criteria (10 micrograms per 100 cm square) on surfaces throughout the building. All surface swipe samples within the basement area (indoor firing range and adjacent observation room) were determined to have concentrations above the criteria.

Based on the findings, Dillon-Outcome recommends lead abatement procedures be followed to abate lead dust from within the structure and air handling units associated with the indoor firing range. All surfaces (floors, walls, and ceilings) within the basement are to be abated for lead dust. Lead dust abatement procedures are to be conducted on the walls and floors within the north garage bay and the floor of the freezer room on the main floor. Where access to clean surfaces is difficult due to site conditions (i.e. duct interior walls) consideration should be made to remove, clean, and dispose or to recycle the materials.

Based on the findings of the lead surface soil assessment by Dillon-Outcome, lead concentrations were not detected in the soil samples analyzed at concentrations exceeding the applicable guidelines. Therefore, no further action with regards to surface soils is recommended at the site.

This report was prepared by Dillon-Outcome for the sole benefit of PSPC and [REDACTED]. The conclusions reflect Dillon-Outcome's judgment in light of the information available to us at the time of preparation. Any use which a third-party makes of this report or any reliance on, or decisions made based on it are the responsibilities of such third parties. Dillon-Outcome accepts no responsibilities for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Table of Contents

Executive Summary

1.0	Introduction	1
1.1	Purpose	1
1.2	Scope of Work	1
2.0	Background and Description	2
3.0	Regulations and Guidelines	3
4.0	Methodology	4
4.1	Health and Safety Plan	4
4.2	Utility Locates and Site Access	4
4.3	Soil Sampling	4
4.4	Lead Swipe Sampling	5
5.0	Results	6
5.1	Lead Swipe Samples	6
5.2	Soil Samples	8
6.0	Conclusions and Recommendations	10
7.0	Closure	11

Tables

Table 5-1: Summary of Lead Swipe Samples at [REDACTED] Firing Range in Swift Current, SK	6
Table 5-2: Summary of Lead Soil Samples at [REDACTED] Firing Range in Swift Current, SK	8

Appendices

A	Photographic Log
B	Sample Location Plans
C	Laboratory Certificates of Analysis

References

1.0 Introduction

1.1 Purpose

Dillon Consulting Limited and Outcome Consultants in joint venture (Dillon-Outcome) were retained by Public Services and Procurement Canada (PSPC) on behalf of [REDACTED] to conduct a lead dust and surface soil assessment of the Swift Current Indoor Firing Range located at 50 George Street West in the community of Swift Current, Saskatchewan (SK) herein referred to as the "Subject Site" or "Site".

Fieldwork for the assessment was conducted on August 29, 2019, by Robert Hochkievich, C.E.T. of Dillon-Outcome.

1.2 Scope of Work

The work was conducted under the Terms of Reference for Lead Assessment, Abatement Specifications, Site Inspection and Closure Report for the Swift Current [REDACTED] Indoor Firing Range (Project # R.106426.001, Reference #: 19-170521-1796, Call Up #: 700467473, Order date: August 13, 2019, Proposal acceptance date: August 13, 2019). The Scope of Work for the project presented in this report was to conduct a lead dust and lead in shallow soil assessment at the Swift Current [REDACTED] Indoor Firing Range located at 50 George Street West in Swift Current, SK. Dillon-Outcome also completed a baseline lead air sampling event and developed lead abatement specifications which were provided under separate cover.

The lead dust assessment was restricted to accessible locations within the Site. Inaccessible areas, such as fixed ceiling spaces and behind fixed walls, were not investigated at the time of the assessment as per the Terms of Reference.

2.0 Background and Description

The Site is located in the basement of the on-site garage [REDACTED] at 50 George Street West in Swift Current, SK. The facility was constructed in 1957 and has an area of approximately 214 m². The firing range is reportedly no longer in use; however no information was available regarding the decommissioning of the facility prior to closure.

The basement can be accessed through an exterior door on the north side of the structure. There is no apparent connection between the main floor and the basement. The roof top air handling units associated with the basement appear to have duct work along the exterior of the structure. The indoor firing range generally contained painted concrete floors, textured concrete walls covered with fibrous acoustic tiles and fibrous ceiling tiles with metal baffles.

The main floor consisted of garage bays that were being used for equipment storage. The northern section of the main floor consisted of a freezer room. The floor within the garage bays were generally painted concrete. Vinyl sheet flooring was observed in the freezer room. The walls and ceilings throughout the main floor were painted drywall.

Dillon-Outcome did not observe perforations or utilities that ran from the main floor through to the basement. It appeared that these two areas were completely separated.

Regulations and Guidelines

Regulatory requirements for the work described in the above sections are dependent on the site specific assessment, not limited to the following:

- Health Canada Workplace and Public Safety Programme Guidelines on Lead in Paint, Dust and Soil (August 2006);
- Department of National Defence Chapter 42 Annex A, Decontamination Protocol for Indoor Firing Ranges;
- National Institute for Occupational Safety and Health (NIOSH) Method 9100, Lead in Surface Wipe Samples;
- Phase II Environmental Site Assessment: CSA Standard Z769-00 (R2013);
- CCME. 2016. Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment;
- CCME. 1999. A Federal Approach to Contaminated Sites (CSMWG-1999); and,
- Soil sample results will be compared to the applicable federal guidelines including:
 - Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health 1999, updated 2016;
 - Guidance Document on the Management of Contaminated Sites in Canada. 1999; and,
 - In the absence of federal guidelines, acceptable provincial criteria will be discussed with the PSPC PM.

A Tier 2 approach for selecting the applicable soil quality guidelines (i.e., pathway elimination) was conducted if site characteristics differed to generic assumptions or if exceedances to the applicable federal guidelines were identified. If pathways described in the generic (Tier 1) guidelines were not applicable an assessment was conducted to determine if they could be removed.

4.0 Methodology

4.1 Health and Safety Plan

Dillon-Outcome developed a Health and Safety (H&S) Plan for on-site activities. A H&S meeting was held at the beginning of the day of fieldwork on-site, and the H&S requirements for site work were reviewed with members of the field team including sub-contractors. Field personnel reviewed the H&S Plan and signed off prior to the start of the program. The H&S Plan included:

- Identification and mitigation of potential hazards based on-site activities;
- Description of safe work practices and procedures;
- Description of personal protective equipment (PPE);
- Identification of safety and first aid requirements; and,
- Identification of emergency response procedures.

4.2 Utility Locates and Site Access

Prior to commencing any field activities, Dillon-Outcome contacted SASK 1st CALL for information on the location of buried utilities and requested the lines to be marked. Aboveground/ underground utilities within the vicinity of the proposed drilling locations were identified and located by representatives from the respective utility owners. A private utility locator, Line Finders Ltd., met with Dillon-Outcome on-site to mark private utilities and verify the public utility line markings.

The Site was accessed from George Street West located on the west side of the property and Dillon-Outcome notified local [REDACTED] personnel upon arrival to the Site.

4.3 Soil Sampling

The surface soil sampling field work was conducted by Dillon-Outcome on August 29, 2019. Three test pits (i.e., TH01, TH02, and TH03) were advanced using manual shovel and hand auger techniques. The test pits were advanced to approximately 0.6 metres below ground surface (mbgs).

Two soil samples were collected at each test pit at approximate 0.3 m and 0.6 m depths using a hand auger. The soils were recovered and placed in sampling jars for submittal to the laboratory.

Decontamination of the shovel and hand auger took place before and after collection using water and a mild detergent solution. The test pit locations are presented on Figure 4 (appended).

The CCME Canadian Environmental Quality Guidelines (CEQGs) include soil quality guidelines derived specifically for the protection of ecological receptors in the environmental and for the protection of human health associated with four land uses: agricultural, residential/parkland, commercial, and industrial. These guidelines are further divided based on soil texture (i.e., coarse or fine-grained), depth

(i.e., surface soil and subsoil) and exposure pathways. For the purpose of this report, the CCME CEQGs were used to obtain guidelines for lead parameters.

For the purpose of this report a Tier 1 assessment was applied. Based on the Site land use and surrounding properties, the land use was considered residential/parkland. For the purpose of this assessment, all soil samples collected were considered fine-grained surface soil samples.

4.4 Lead Swipe Sampling

Lead dust sampling fieldwork was conducted by Dillon-Outcome on August 29, 2019. Lead swipe samples were recovered from 29 unique locations with a total of 34 samples recovered including duplicates. Samples locations were determined based on observed site conditions, and in general conformance with protocols for sampling within firing ranges as detailed in the Health Canada document "*WHPSP Guidelines on Lead in Paint, Dust & Soil*" (August 2006) and the *Department of National Defence General Safety Standard Chapter 42, Annex A "Decontamination Protocol for Indoor Firing Ranges"* (C-02-040-009/AG-001).

Lead swipe samples were recovered in general accordance with NIOSH Method 9100 – Lead in Surface Wipe Samples. Sampling media was provided by the Bureau Vistas laboratory in Winnipeg, Manitoba (MB). A disposable paper template measuring 10 cm by 10 cm was placed in the sampling location. Unused nitrile gloves were worn by the sampler at each sample location to prevent cross contamination. A sterile gauze pad (Ghost Wipe) was removed from its packaging, unfolded and re-folded into fourths. The wipe was used to horizontally wipe the surface within the template with firm pressure. The exposed size of the wipe was folded in and the sample area was wiped vertically. The wipe was folded a final time and the sample surface area was wiped horizontally.

5.0

Results

5.1

Lead Swipe Samples

A total of 34 surface swipe samples were recovered from various surfaces within the Site. The laboratory results indicate that lead dust concentrations in 33 surface swipe samples exceeded the Department of National Defence Decontamination Protocol for Indoor Firing Ranges of 0.01 mg/100 cm² (10 µg/100 cm²). The sample collected from the north wall in the freezer room on the main floor of the structure was determined to be below the select criteria. The sample recovered from the north wall of the north garage bay was determined to have a total lead concentration slightly above criteria. All surface wipe samples within the basement indoor firing range contained total lead concentrations that exceeded the selected criteria.

Laboratory certificates of analysis have been provided in Appendix C. Building plans indicating sample locations are provided in Appendix B. Photographs are provided in Appendix A. The laboratory analytical results are summarized in the tables below.

Table 5-1: Summary of Lead Swipe Samples at [REDACTED] Firing Range in Swift Current, SK

Sample #	Sample Location	Sample Description	Total Lead (Pb) µg/100 cm ²
LW-01	Roof - North Air Handling Unit	Base of Metal Duct	1240
LW-02	Roof - North Air Handling Unit	Wall of Duct, Insulation	542
LW-03	Exterior - South Air Handling Unit	Wall of Duct, Insulation	22,000
LW-04	North Garage Bay	West Wall, Painted Gypsum Board	10.6
LW-05	North Garage Bay	Northwest Corner, Concrete Floor	16.2
LW-06	Freezer Room	West Wall, Painted Gypsum Board	5.96
LW-07	Freezer Room	Floor, Vinyl Sheet Flooring	39.8
LW-08	Firing Range - South Air Handling Duct	Base of Metal Duct	19,900
LW-09	Firing Range - South Air Handling Duct	Wall of Metal Duct	13,800
LW-10	Firing Range	Southeast Corner, Concrete Floor	21,100
LW-11	Firing Range	Central, Concrete Floor	6,890
LW-12	Firing Range	Northwest Corner, Concrete Floor	2360
LW-13	Firing Range	Observation Window Ledge	409
LW-14	Firing Range	North Wall, Perforated Fibre Wallboard	308

Sample #	Sample Location	Sample Description	Total Lead (Pb) $\mu\text{g}/100\text{ cm}^2$
LW-15	Firing Range	East Wall, Fibrous Wall Tile at Firing Positions	20.0
LW-16	Firing Range	West Wall, Fibrous Wall Tile at Firing Positions	43.9
LW-17	Firing Range	Wall, East Firing Position	23.7
LW-18	Firing Range	Wall, West Firing Position	107
LW-19	Firing Range	Table, East Firing Position	853
LW-20	Firing Range	Table, West Firing Position	109
LW-21	Firing Range	South Wall, Firing Range Trap	2,840
LW-22	Firing Range	East Wall, Down Range	1,110
LW-23	Firing Range	West Wall, Down Range	3,400
LW-24	Observation Room	North Wall, Painted Gypsum Board	35.1
LW-25	Observation Room	Floor, Concrete Beneath Desk	1,130
LW-26	Firing Range	Water Pipe along South Duct	12,800
LW-27 (duplicate)	Firing Range	Central, Concrete Floor	7,820
LW-28	Firing Range	Central Ceiling, Metal Baffle	1,230
LW-29 (duplicate)	Firing Range	Central Ceiling, Metal Baffle	1,270
LW-30	Firing Range	Ceiling, Exterior South Duct	1,490
LW-31	Firing Range	Ceiling, Fibrous Tile above Centre Firing Position	124
LW-32 (duplicate)	Firing Range	West Wall, Fibrous Wall Tile at Firing Positions	148
LW-33	Firing Range	East Wall Centre of Range, Fibrous Tiles	55.6
LW-34	Firing Range	Base of Metal Firing Range Trap	14,100

Notes:

$\mu\text{g}/100\text{ cm}^2$ – milligrams of lead per 100 centimetres square as reported by Bureau Vistas laboratory

Bold – indicates surface lead concentration exceeded DND Safety Standards Manual Chapter 42 criteria of $0.01\text{ mg}/100\text{ cm}^2$ ($10\mu\text{g}/100\text{ cm}^2$).

5.2 Soil Samples

A total of six soil samples were recovered from test pits at the Site. Surface samples (collected at depths 0 to 0.3 m) from each test pit were submitted for laboratory analysis. Samples recovered from depths 0.3 to 0.6 m were submitted to the laboratory as hold samples for future analysis, should exceedances be encountered.

Laboratory certificates of analysis have been provided in Appendix C. Site plans indicating sample locations are provided in Appendix B. Photographs are provided in Appendix A. The laboratory analytical results are summarized in the table below:

Table 5-2: Summary of Lead Soil Samples at [REDACTED] Firing Range in Swift Current, SK

Sample #	Total Lead (Pb)mg/kg
TH1-A North Duct 5-15cm bgl	22
TH1-A North Duct 5-15cm bgl(duplicate)	28
TH2-A Centre Duct 5-15cm bgl	19
TH3-A South Duct 5-15cm bgl	22

Notes:

mg/kg – milligrams per kilogram

Bold – indicates total lead concentration exceeded CCME Tier 1 guidelines for agricultural land use (>70 mg/kg lead).

The air handling units for the building vented to the roof of the structure and not directly to the surface soil along the west side of the structure. Laboratory analysis results for the three submitted fine-grained surface soil samples were below the residential/parkland guideline (140 mg/kg), as such, laboratory analysis was not conducted for samples at greater depths within the test pits.

5.3 Quality Assurance / Quality Control

Dillon-Outcome collected and submitted a total of three duplicate lead swipe samples to Bureau Vistas laboratory in Winnipeg, MB. The duplicate samples were LW-27 (Firing Range – central concrete floor), LW-29 (Firing Range – central ceiling metal baffle), and LW-32 (Firing Range – west wall, fibrous wall tile at firing positions).

Results of Dillon-Outcome's quality assurance/quality control (QA/QC) field lead swipe sampling program were reviewed. Relative percentage differences (RPD) were calculated between the parent samples concentration and the field duplicate sample concentrations. The calculated RPD ranged from 0.8% (LW-29) to 8.0% (LW-32) and is considered acceptable. The variation in results for sample LW-32 may be contributed to the fibrous nature of the acoustic wall tile.

Bureau Vistas laboratory conducted duplicate analyses on sample TH1-A North Duct 5-15 cm bgl. Internal laboratory QA/QC analyses performed by Bureau Vistas laboratory were within acceptable

ranges. Results of laboratory QA/QC analyses are included in the laboratory certificates of analysis in Appendix C. Specific QA/QC notes related to the sample analyses are provided in the Certificate of Analysis. Laboratory QA/QC results satisfied laboratory acceptance criteria. Thus, the analytical data are considered valid and reliable for the purposes of this report.

6.0 Conclusions and Recommendations

Laboratory analysis determined that all surfaces within the basement firing range and observation room contained lead dust concentrations exceeding acceptable criteria in accordance with the DND Decontamination Protocol for Indoor Firing Ranges. Surfaces where lead swipes were recovered included floors, walls, ceilings, piping, firing positioning tables and from the interior and exterior of air handling duct work. Laboratory analysis determined the floors within the north garage bay and freezer room on the main floor contained lead dust concentrations exceeding the acceptable criteria. The lead dust concentration on the north wall in the north garage bay was also determined to be slightly greater than the acceptable criteria.

Based on the findings, Dillon-Outcome recommends lead abatement procedures be followed to abate lead dust from within the structure and air handling units associated with the indoor firing range. All surfaces (floors, walls, and ceilings) within the basement are to be abated for lead dust. Lead dust abatement procedures are to be conducted on the walls and floors within the north garage bay and the floor of the freezer room on the main floor.

Where surfaces are fibrous, such as acoustic tiles, removal of the materials is required prior to the cleaning of the walls and ceilings. Where access to clean surfaces is difficult due to site conditions (i.e. duct interior walls) consideration should be made to remove, clean, and dispose or to recycle the materials.

The lead dust abatement should be completed under maximum precautions to protect the abatement workers and occupants of the Site.

Laboratory analysis determined that surface soil samples contained total lead concentrations below the most stringent (agricultural) guidelines. No abatement or remediation of soils is recommended based on Dillon-Outcomes findings.

Dillon-Outcome has provided lead abatement specifications under separate cover for the abatement activities required at the Site.

Closure

This report was prepared exclusively for the purposes, project, and Site location outlined in the report. The report is based on information provided to, or obtained by Dillon-Outcome as indicated in the report, and applies solely to Site conditions existing at the time of the site investigation. Although a reasonable investigation was conducted by Dillon-Outcome, Dillon-Outcome's investigation was by no means exhaustive and cannot be construed as a certification of the absence of any contaminants from the Site. Rather, Dillon-Outcome's report represents a reasonable review of available information within an agreed work scope, schedule and budget. It is therefore possible that currently unrecognized contamination or potentially hazardous materials may exist at the Site, and that the levels of contamination or hazardous materials may vary across the Site. Further review and updating of the report may be required as local and site conditions, and the regulatory and planning frameworks, change over time.

This report was prepared by Dillon-Outcome for the sole benefit of our Client, Public Services and Procurement Canada, on behalf of [REDACTED]. The material in it reflects Dillon-Outcome's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Dillon-Outcome accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

If you have any questions regarding the information presented within this report, please contact the undersigned.

Respectfully submitted,

DILLON CONSULTING LIMITED
AND OUTCOME CONSULTANTS IN JOINT VENTURE
(DILLON-OUTCOME)



Robert Hochkievich, CRSP, C.E.T.
Report Author



Paul Paulin, P.Eng.
Senior Technical Review

Appendix A

Photographic Log



Sample LW-01 swipe from the base of the metal duct in the north rooftop air handling unit was determined to have a total lead concentration of $1240\mu\text{g}/100\text{cm}^2$.

Photo 1



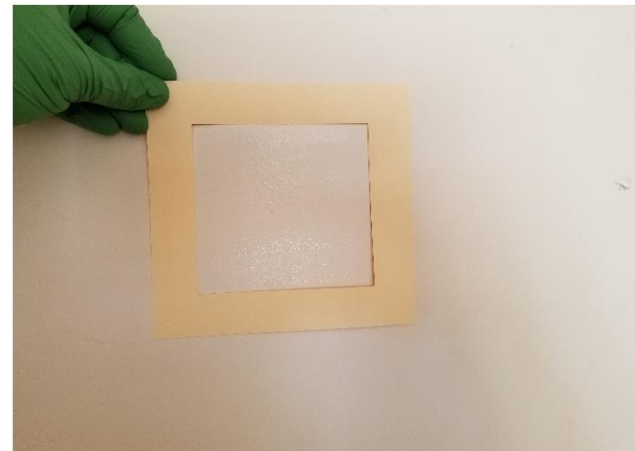
Sample LW-02 swipe from the wall of the duct in the north rooftop air handling unit was determined to have a total lead concentration of $542\mu\text{g}/100\text{cm}^2$.

Photo 2




Sample LW-03 swipe from the interior wall (fibreglass insulation) of the south exterior duct was determined to have a total lead concentration of $22,000\mu\text{g}/100\text{cm}^2$.

Photo 3



Sample LW-04 swipe from west gypsum board wall in the north garage bay was determined to have a total lead concentration of $10.6\mu\text{g}/100\text{cm}^2$.

Photo 4

 August 2019	SITE PHOTOGRAPHS		PROJECT NO. 19-1435
	Lead Dust and Soil Assessment [REDACTED] Firing Range, Swift Current, SK		PHOTO NO. 1,2,3,4



Sample LW-05 swipe from concrete floor in the northwest corner of the north garage bay was determined to have a total lead concentration of $16.2\mu\text{g}/100\text{cm}^2$.

Photo 5



Sample LW-06 swipe from west gypsum board wall in the freezer room was determined to have a total lead concentration of $5.96\mu\text{g}/100\text{cm}^2$.

Photo 6




Sample LW-07 swipe on the vinyl sheet flooring in the freezer room was determined to have a total lead concentration of $39.8\mu\text{g}/100\text{cm}^2$.

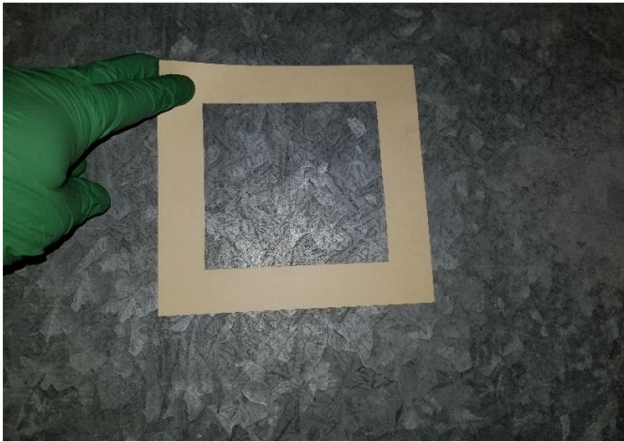
Photo 7



Sample LW-08 swipe from base of the metal air handling duct located in the south side of the firing range was determined to have a total lead concentration of $19,900\mu\text{g}/100\text{cm}^2$.

Photo 8

 August 2019	SITE PHOTOGRAPHS		PROJECT NO. 19-1435
	Lead Dust and Soil Assessment ██████ Firing Range, Swift Current, SK		PHOTO NO. 5,6,7,8



Sample LW-09 swipe from wall within the metal air handling duct located in the south side of the firing range was determined to have a total lead concentration of $13,800\mu\text{g}/100\text{cm}^2$.

Photo 9

Sample LW-10 swipe from concrete floor in the southeast corner of the firing range was determined to have a total lead concentration of $21,100\mu\text{g}/100\text{cm}^2$.

Photo 10



Samples LW-11 and LW-27 swipes from concrete floor in the centre of the firing range were determined to have total lead concentrations of $6,890\mu\text{g}/100\text{cm}^2$ and $7,820\mu\text{g}/100\text{cm}^2$ respectively.

Photo 11



Sample LW-12 swipe from the concrete floor near the west firing position in the firing range was determined to have a total lead concentration of $2,360\mu\text{g}/100\text{cm}^2$.

Photo 12



August 2019

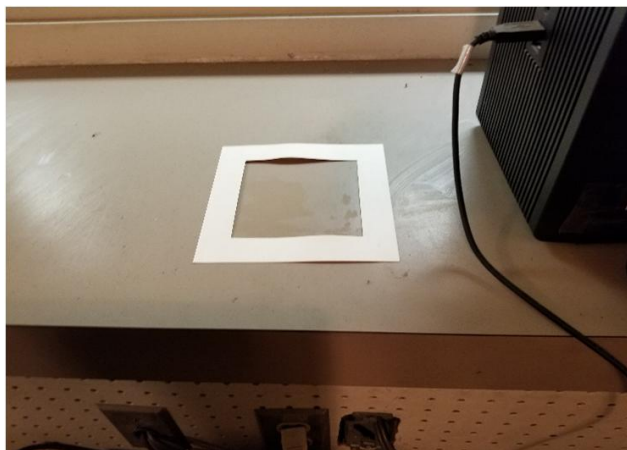
SITE PHOTOGRAPHS

Lead Dust and Soil Assessment

██████ Firing Range, Swift Current, SK

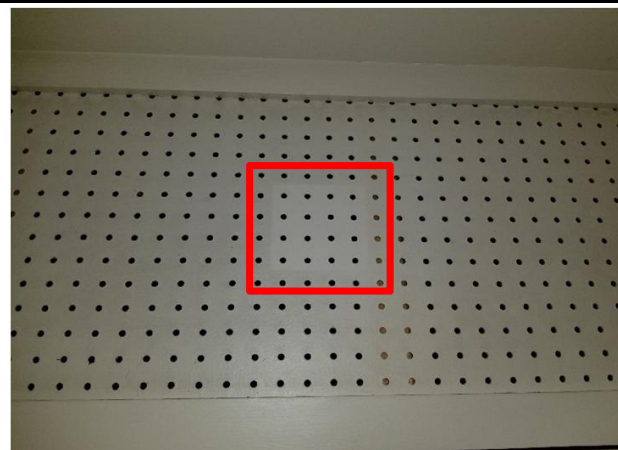
PROJECT NO.
19-1435

PHOTO NO.
9,10,11,12



Sample LW-13 swipe from window ledge behind the firing position in the firing range was determined to have a total lead concentration of $409\mu\text{g}/100\text{cm}^2$.

Photo 13



Sample LW-14 swipe from wallboard along the north side of the firing range was determined to have a total lead concentration of $308\mu\text{g}/100\text{cm}^2$.

Photo 14



Sample LW-15 swipe from the wall beside the west firing position in the firing range was determined to have a total lead concentration of $20.0\mu\text{g}/100\text{cm}^2$.

Photo 15



Samples LW-16 and LW-32 swipes from the wall beside the east firing position in the firing range were determined to have total lead concentrations of $43.9\mu\text{g}/100\text{cm}^2$ and $148\mu\text{g}/100\text{cm}^2$ respectively.

Photo 16



August 2019

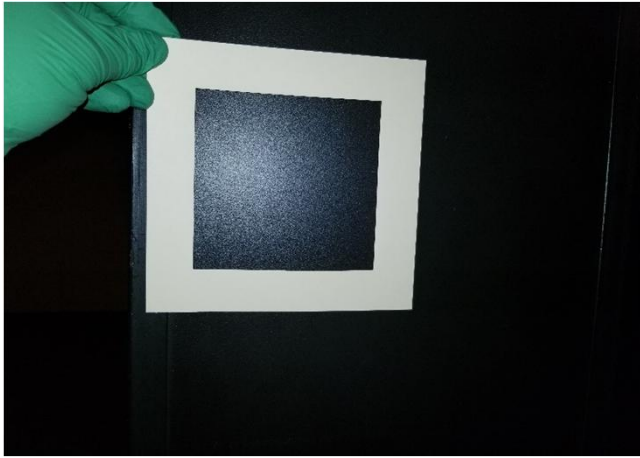
SITE PHOTOGRAPHS

Lead Dust and Soil Assessment

██████ Firing Range, Swift Current, SK

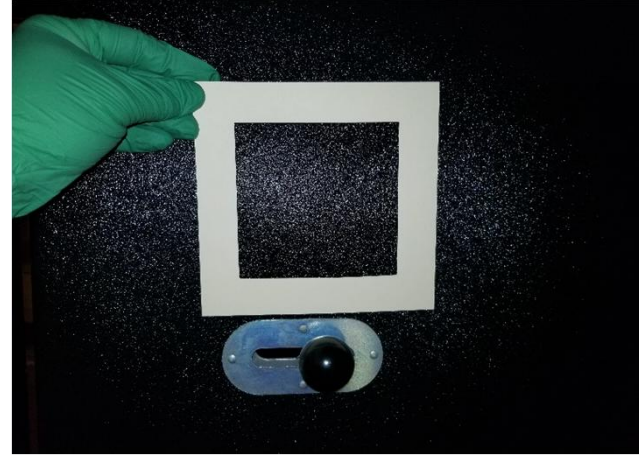
PROJECT NO.
19-1435

PHOTO NO.
13,14,15,16



Sample LW-17 swipe from the wall of the east firing position in the firing range was determined to have a total lead concentration of $23.7\mu\text{g}/100\text{cm}^2$.

Photo 17



Sample LW-18 swipe from the wall of the west firing position in the firing range was determined to have a total lead concentration of $107\mu\text{g}/100\text{cm}^2$.

Photo 18




Sample LW-19 swipe from the table top of the east firing position in the firing range was determined to have a total lead concentration of $853\mu\text{g}/100\text{cm}^2$.

Photo 19



Sample LW-20 swipe from the table top of the west firing position in the firing range was determined to have a total lead concentration of $109\mu\text{g}/100\text{cm}^2$.

Photo 20

 August 2019	SITE PHOTOGRAPHS		PROJECT NO. 19-1435
	Lead Dust and Soil Assessment Firing Range, Swift Current, SK		PHOTO NO. 17,18,19,20



Sample LW-21 swipe from the wall of the bullet trap in the firing range was determined to have a total lead concentration of $2,840\mu\text{g}/100\text{cm}^2$.

Photo 21



Sample LW-22 swipe from the east wall down range in the firing range was determined to have a total lead concentration of $1,110\mu\text{g}/100\text{cm}^2$.

Photo 22




Sample LW-23 swipe from the west wall down range in the firing range was determined to have a total lead concentration of $3,400\mu\text{g}/100\text{cm}^2$.

Photo 23



Sample LW-25 swipe from the concrete floor in the observation room north of the firing range was determined to have a total lead concentration of $1,130\mu\text{g}/100\text{cm}^2$.

Photo 24

 August 2019	SITE PHOTOGRAPHS		PROJECT NO. 19-1435
	Lead Dust and Soil Assessment [REDACTED] Firing Range, Swift Current, SK		PHOTO NO. 21,22,23,24



Sample LW-26 swipe from the top of the pipe along the ceiling at the south end of the firing range was determined to have a total lead concentration of $12,800\mu\text{g}/100\text{cm}^2$.

Photo 25



Samples LW-28 and LW-29 swipes from the centre ceiling baffle in the firing range were determined to have total lead concentrations of $1,230\mu\text{g}/100\text{cm}^2$ and $1,270\mu\text{g}/100\text{cm}^2$ respectively.

Photo 26




Sample LW-30 swipe from the side of the ceiling mounted duct located along the centre of the firing range was determined to have a total lead concentration of $1,490\mu\text{g}/100\text{cm}^2$.

Photo 27



Sample LW-31 swipe from the ceiling above the centre firing position in the firing range was determined to have a total lead concentration of $124\mu\text{g}/100\text{cm}^2$.

Photo 28

 August 2019	SITE PHOTOGRAPHS		PROJECT NO. 19-1435
	Lead Dust and Soil Assessment ██████ Firing Range, Swift Current, SK		PHOTO NO. 25,26,27,28



Sample LW-33 swipe from the east wall near the centre of the firing range was determined to have a total lead concentration of 55.6µg/100cm².

Photo 29



Sample LW-34 swipe from the base of the bullet trap in the firing range was determined to have a total lead concentration of 14,100µg/100cm².

Photo 30




Location of soil sample TH1-A depth 5 to 15 cm below grade. Soil sample was determined to have a total lead concentration of 22 mg/kg.

Photo 31



Location of soil sample TH2-A, depth 5 to 15 cm below grade. Soil sample was determined to have a total lead concentration of 19 mg/kg.

Photo 32

 August 2019	SITE PHOTOGRAPHS		PROJECT NO. 19-1435
	Lead Dust and Soil Assessment [REDACTED] Firing Range, Swift Current, SK		PHOTO NO. 29,30,31,32



Location of soil sample TH2-A, depth 5 to 15 cm below grade. Soil sample was determined to have a total lead concentration of 19 mg/kg.

Photo 33



View of the west side of the firing range building.

Photo 34



View of the access point of the south exterior duct on the west side of the firing range building.

Photo 35



View of the access point of the south interior duct in the firing range.

Photo 36



August 2019

SITE PHOTOGRAPHS

Lead Dust and Soil Assessment

██████ Firing Range, Swift Current, SK

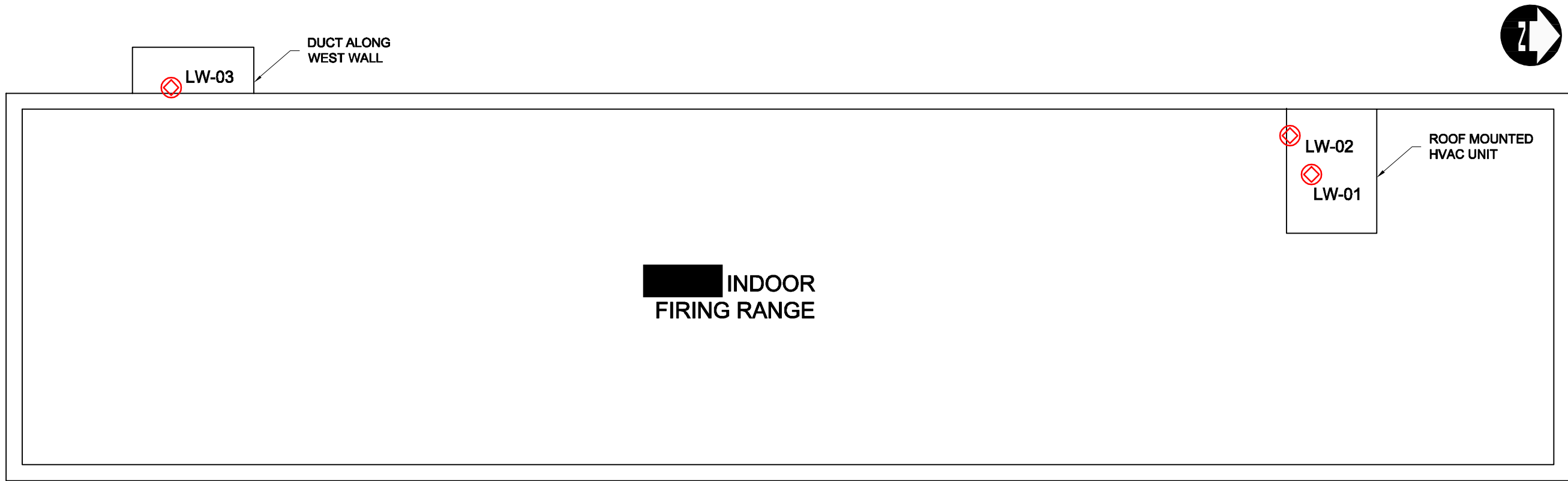
PROJECT NO.
19-1435

PHOTO NO.
33,34,35,36

Appendix B

Sample Location Plans

File\\Name\\c:\\projects\\working directory\\projects 2019\\40pm\\dms391711\\191435 swift current [redacted] lead abatement.dwg



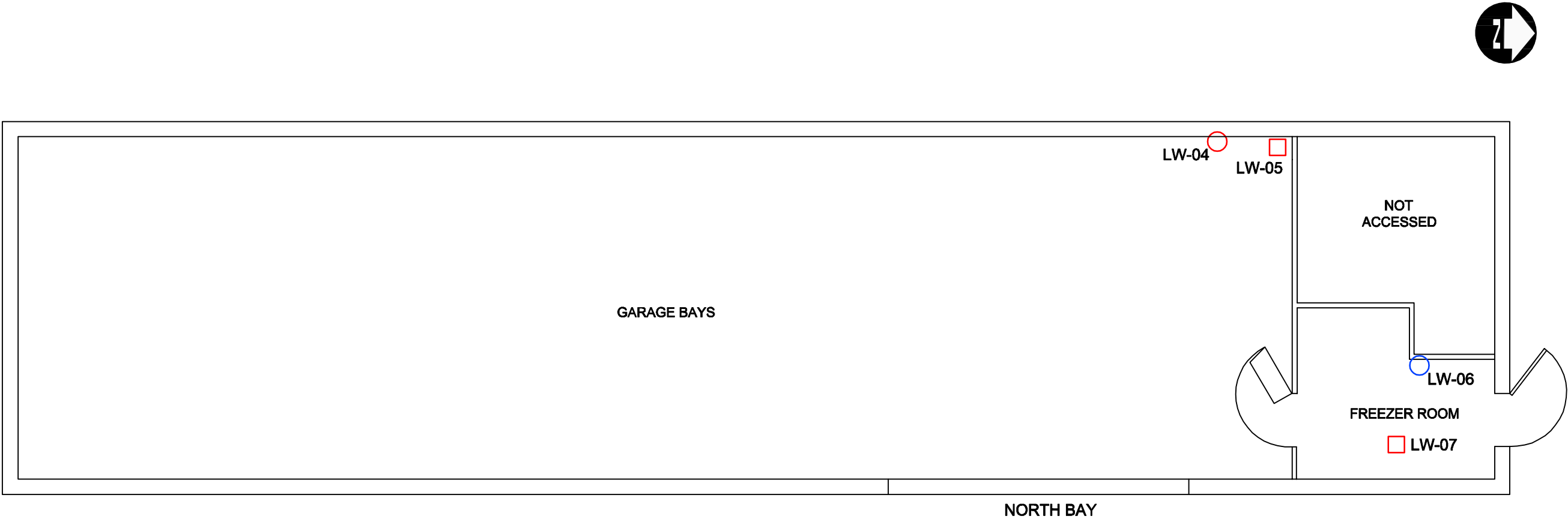
NOTE:
INFRASTRUCTURE LOCATIONS ARE APPROXIMATE ONLY.
DRAWING IS NOT TO SCALE.

LEGEND

- LEAD CONCENTRATION BELOW CRITERIA
- LEAD CONCENTRATION ABOVE 10 UG / 100 cm
- DUCT WALL - LEAD SWIPE SAMPLE LOCATION





	PROJECT	LEAD DUST AND SOIL ASSESSMENT [redacted] SWIFT CURRENT INDOOR FIRING RANGE	PROJECT NO. 191435
	TITLE	EXTERIOR / ROOF LEAD SWIPE SAMPLE LOCATIONS	FIGURE NO. 1
DATE	November 2019		

File\\Name\\c:\\projects\\working directory\\projects 2019\\40pm\\dms391711\\191435 swift current lead abatement.dwg





MAIN FLOOR

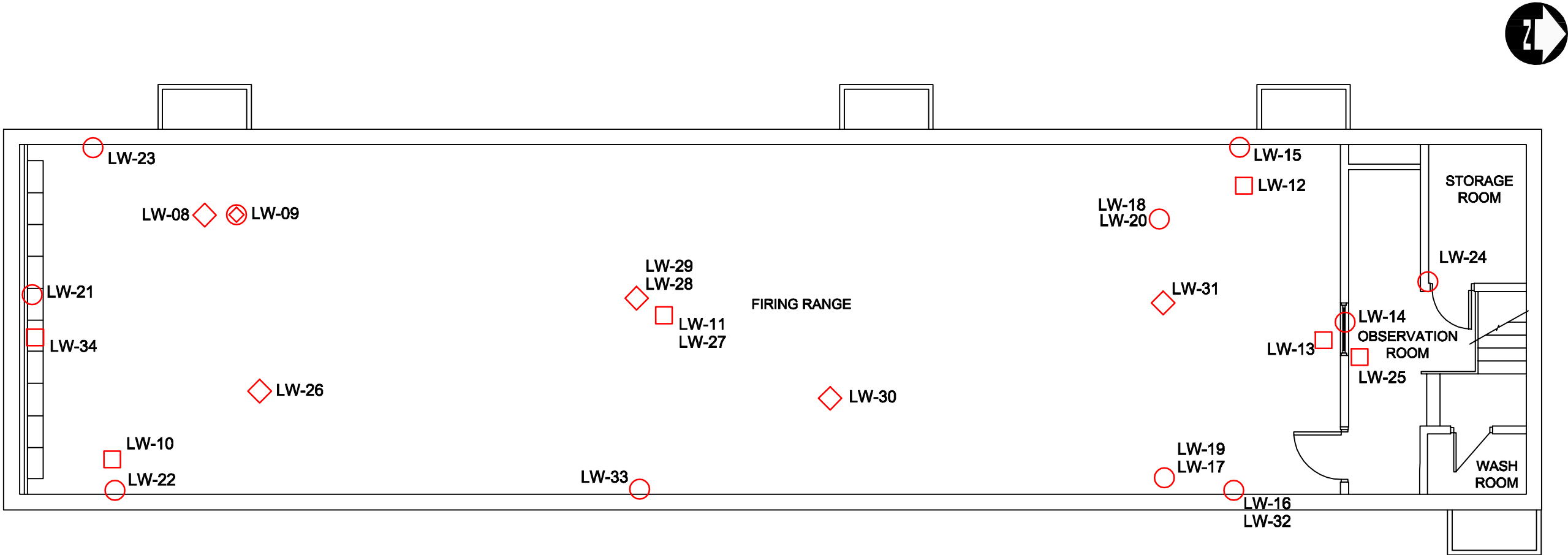
LEGEND

-  LEAD CONCENTRATION BELOW CRITERIA
-  LEAD CONCENTRATION ABOVE 10µG / 100 cm
-  FLOOR - LEAD SWIPE SAMPLE LOCATION
-  WALL - LEAD SWIPE SAMPLE LOCATION

NOTE:
INFRASTRUCTURE LOCATIONS ARE APPROXIMATE ONLY.
DRAWING IS NOT TO SCALE.

 	PROJECT	LEAD DUST AND SOIL ASSESSMENT [REDACTED] SWIFT CURRENT INDOOR FIRING RANGE	PROJECT NO. 191435
	TITLE	MAIN FLOOR LEAD SWIPE SAMPLE LOCATIONS	FIGURE NO. 2
DATE	November 2019		

File\\Name\\c:\\projects\\working directory\\projects 2019\\40pm\\dms391711\\191435 swift current lead abatement.dwg



BASEMENT

LEGEND

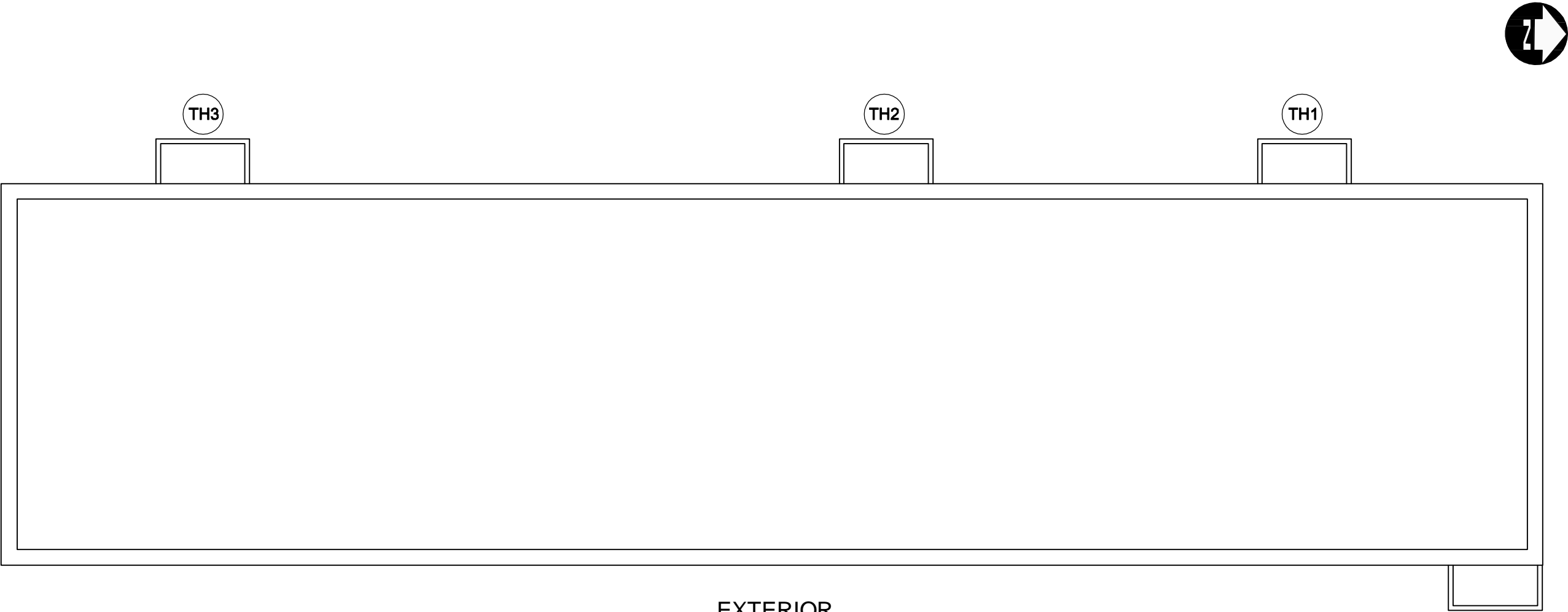
LEAD CONCENTRATION BELOW CRITERIA

LEAD CONCENTRATION ABOVE 10 UG / 100 cm

NOTE:
INFRASTRUCTURE LOCATIONS ARE APPROXIMATE ONLY.
DRAWING IS NOT TO SCALE.

<div><div><div></div><div>DILLON CONSULTING</div></div><div><div>outcome</div><div>CONSULTANTS</div></div></div>	PROJECT	LEAD DUST AND SOIL ASSESSMENT [REDACTED] SWIFT CURRENT INDOOR FIRING RANGE	PROJECT NO. 191435
	DATE	November 2019	FIGURE NO. 3
TITLE		BASEMENT LEAD SWIPE SAMPLE LOCATIONS	

File\\Name\\c:\\projects\\working directory\\projects 2019\\40pm\\dms39171\\191435 swift current [redacted] lead abatement.dwg





EXTERIOR

LEGEND

TH# 1 m FROM DUCT

NOTE:
INFRASTRUCTURE LOCATIONS ARE APPROXIMATE ONLY.
DRAWING IS NOT TO SCALE.

 	PROJECT	LEAD DUST AND SOIL ASSESSMENT [redacted] SWIFT CURRENT INDOOR FIRING RANGE	PROJECT NO. 191435
	TITLE	TEST HOLES SOIL SAMPLE LOCATIONS	FIGURE NO. 4
DATE	November 2019		

Appendix C

Laboratory Certificates of Analysis



Your P.O. #: 19-1435 PHASE 2000
Your Project #: 19-1435
Site Location: SWIFT CURRENT

Attention: ROB HOCHKIEVICH

DILLON CONSULTING LTD.
1558 Willson Place
Winnipeg, MB
CANADA R3T 0Y4

Your C.O.C. #: 593302-02-01, 593302-03-01, 593302-04-01, 593302-05-01

Report Date: 2019/09/11
Report #: R2779878
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B974653

Received: 2019/09/04, 16:27

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Lead (1)	3	2019/09/10	2019/09/10	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m

Sample Matrix: Wipe
Samples Received: 34

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
ICPMS Metals on Swabs (2)	34	N/A	2019/09/11	BBY7SOP-00004 / BBY7SOP-00001	EPA 6020b R2 m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by BV Labs Calgary Environmental



Your P.O. #: 19-1435 PHASE 2000
Your Project #: 19-1435
Site Location: SWIFT CURRENT

Attention: ROB HOCHKIEVICH

DILLON CONSULTING LTD.
1558 Willson Place
Winnipeg, MB
CANADA R3T 0Y4

Your C.O.C. #: 593302-02-01, 593302-03-01, 593302-04-01, 593302-05-01

Report Date: 2019/09/11
Report #: R2779878
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B974653

Received: 2019/09/04, 16:27

(2) This test was performed by BV Labs Vancouver

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Ioana Stoica, Key Account Specialist

Email: Ioana.Stoica@bvlabs.com

Phone# (403)735-2227

=====

This report has been generated and distributed using a secure automated process.

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: B974653
Report Date: 2019/09/11

DILLON CONSULTING LTD.
Client Project #: 19-1435
Site Location: SWIFT CURRENT
Your P.O. #: 19-1435 PHASE 2000
Sampler Initials: RH

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		WL1007	WL1007	WL1009	WL1011		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-05-01	593302-05-01	593302-05-01	593302-05-01		
	UNITS	TH1-A NORTH DUCT 5-15CM	TH1-A NORTH DUCT 5-15CM Lab-Dup	TH2-A CENTRE DUCT 5-15CM	TH3-A SOUTH DUCT 5-15CM	RDL	QC Batch

Elements

Total Lead (Pb)	mg/kg	22	28	19	22	0.50	9582106
-----------------	-------	----	----	----	----	------	---------

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

BUREAU
VERITASBV Labs Job #: B974653
Report Date: 2019/09/11DILLON CONSULTING LTD.
Client Project #: 19-1435
Site Location: SWIFT CURRENT
Your P.O. #: 19-1435 PHASE 2000
Sampler Initials: RH**ELEMENTS BY ATOMIC SPECTROSCOPY (WIPE)**

BV Labs ID		WL0956	WL0957	WL0958	WL0959		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-02-01	593302-02-01	593302-02-01	593302-02-01		
	UNITS	LW-01 (219497) FLOOR NORTH VENT	LW-02 (219494) WALL NORTH VENT	LW-03 (219498) WALL SOUTH VENT	LW-04 (219500) WALL NORTH GARAGE BAY	RDL	QC Batch

Total Metals by ICPMS

Total Lead (Pb)	ug	1240	542	22000	10.6	0.10	9583735
-----------------	----	------	-----	-------	------	------	---------

RDL = Reportable Detection Limit

BV Labs ID		WL0960	WL0961	WL0962	WL0963		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-02-01	593302-02-01	593302-02-01	593302-02-01		
	UNITS	LW-05 (219495) FLOOR NORTH GARAGE BAY	LW-06 (219499) WALL FREEZER ROOM	LW-07 (219492) FLOOR FREEZER ROOM	LW-08 (219493) BASE SOUTH VENT	RDL	QC Batch

Total Metals by ICPMS

Total Lead (Pb)	ug	16.2	5.96	39.8	19900	0.10	9583735
-----------------	----	------	------	------	-------	------	---------

RDL = Reportable Detection Limit

BV Labs ID		WL0964	WL0965	WL0975	WL0976		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-02-01	593302-02-01	593302-03-01	593302-03-01		
	UNITS	LW-09 (219501) WALL SOUTH VENT	LW-10 (219474) FLOOR SE RANGE	LW-11 (219472) FLOOR CENTRE RANGE	LW-12 (219470) FLOOR W. FIRING POSITION	RDL	QC Batch

Total Metals by ICPMS

Total Lead (Pb)	ug	13800	21100	6890	2360	0.10	9583735
-----------------	----	-------	-------	------	------	------	---------

RDL = Reportable Detection Limit

BV Labs ID		WL0977	WL0978	WL0979	WL0980		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-03-01	593302-03-01	593302-03-01	593302-03-01		
	UNITS	LW-13 (219467) LEDGE WINDOW	LW-14 (219480) WALL NORTH RANGE	LW-15 (219469) WALL W. FIRING POSTION	LW-16 (219478) WALL E. FIRING POSITION	RDL	QC Batch

Total Metals by ICPMS

Total Lead (Pb)	ug	409	308	20.0	43.9	0.10	9583735
-----------------	----	-----	-----	------	------	------	---------

RDL = Reportable Detection Limit



BUREAU
VERITAS

BV Labs Job #: B974653
Report Date: 2019/09/11

DILLON CONSULTING LTD.
Client Project #: 19-1435
Site Location: SWIFT CURRENT
Your P.O. #: 19-1435 PHASE 2000
Sampler Initials: RH

ELEMENTS BY ATOMIC SPECTROSCOPY (WIPE)

BV Labs ID		WL0981	WL0982	WL0983	WL0984		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-03-01	593302-03-01	593302-03-01	593302-03-01		
	UNITS	LW-17 (219468) WALL EAST POSITION	LW-18 (219490) WALL WEST POSITION	LW-19 (219482) TABLE EAST POSITION	LW-20 (219475) TABLE WEST POSITION	RDL	QC Batch

Total Metals by ICPMS							
Total Lead (Pb)	ug	23.7	107	853	109	0.10	9583735
RDL = Reportable Detection Limit							

BV Labs ID		WL0985	WL0986	WL0987	WL0988		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-04-01	593302-04-01	593302-04-01	593302-04-01		
	UNITS	LW-21 (219471) WALL BULLET TRAP	LW-22 (219489) WALL E. DOWN RANGE	LW-23 (219473) WALL W. DOWN RANGE	LW-24 (219491) WALL N. ROOM	RDL	QC Batch

Total Metals by ICPMS							
Total Lead (Pb)	ug	2840	1110	3400	35.1	0.10	9583740
RDL = Reportable Detection Limit							

BV Labs ID		WL0989	WL0990	WL0991	WL0992		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-04-01	593302-04-01	593302-04-01	593302-04-01		
	UNITS	LW-25 (219487) FLOOR N. ROOM	LW-26 (219479) PIPE ALONG CEILING	LW-27 (219496) FLOOR CENTRE RANGE	LW-28 (219488) CEILING BAFFLE CENTRE	RDL	QC Batch

Total Metals by ICPMS							
Total Lead (Pb)	ug	1130	12800	7820	1230	0.10	9583740
RDL = Reportable Detection Limit							

BV Labs ID		WL0993	WL0994	WL1003	WL1004		
Sampling Date		2019/08/29	2019/08/29	2019/08/29	2019/08/29		
COC Number		593302-04-01	593302-04-01	593302-05-01	593302-05-01		
	UNITS	LW-29 (219476) CEILING BAFFLE CENTRE	LW-30 (219484) DUCT ENTERING CENTRE	LW-31 (219485) CEILING CENTRE POSITION	LW-32 (219477) WALL E. POSITION	RDL	QC Batch

Total Metals by ICPMS							
Total Lead (Pb)	ug	1270	1490	124	148	0.10	9583740
RDL = Reportable Detection Limit							



BUREAU
VERITAS

BV Labs Job #: B974653
Report Date: 2019/09/11

DILLON CONSULTING LTD.
Client Project #: 19-1435
Site Location: SWIFT CURRENT
Your P.O. #: 19-1435 PHASE 2000
Sampler Initials: RH

ELEMENTS BY ATOMIC SPECTROSCOPY (WIPE)

BV Labs ID		WL1005	WL1006		
Sampling Date		2019/08/29	2019/08/29		
COC Number		593302-05-01	593302-05-01		
	UNITS	LW-33 (219483) WALL E. CENTRE RANGE	LW-34 (219486) BASE BULLET TRAP	RDL	QC Batch
Total Metals by ICPMS					
Total Lead (Pb)	ug	55.6	14100	0.10	9583740
RDL = Reportable Detection Limit					



BUREAU
VERITAS

BV Labs Job #: B974653
Report Date: 2019/09/11

DILLON CONSULTING LTD.
Client Project #: 19-1435
Site Location: SWIFT CURRENT
Your P.O. #: 19-1435 PHASE 2000
Sampler Initials: RH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	24.3°C
-----------	--------

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: B974653
Report Date: 2019/09/11

DILLON CONSULTING LTD.
Client Project #: 19-1435
Site Location: SWIFT CURRENT
Your P.O. #: 19-1435 PHASE 2000
Sampler Initials: RH

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9582106	ANE	Matrix Spike [WL1007-01]	Total Lead (Pb)	2019/09/10		105	%	75 - 125
9582106	ANE	QC Standard	Total Lead (Pb)	2019/09/10		106	%	79 - 121
9582106	ANE	Spiked Blank	Total Lead (Pb)	2019/09/10		97	%	80 - 120
9582106	ANE	Method Blank	Total Lead (Pb)	2019/09/10	<0.50		mg/kg	
9582106	ANE	RPD [WL1007-01]	Total Lead (Pb)	2019/09/10	24		%	35
9583735	GS9	Spiked Blank	Total Lead (Pb)	2019/09/11		109	%	75 - 125
9583735	GS9	Method Blank	Total Lead (Pb)	2019/09/11	0.85, RDL=0.10 (1)		ug	
9583740	GS9	Spiked Blank	Total Lead (Pb)	2019/09/11		101	%	75 - 125
9583740	GS9	Method Blank	Total Lead (Pb)	2019/09/11	3.02, RDL=0.10 (1)		ug	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

(1) Method Blank exceeds acceptance limits for Lead. Sample values for Pb are >10x the concentration of the method blank and the contamination is considered irrelevant.



BUREAU
VERITAS

BV Labs Job #: B974653
Report Date: 2019/09/11

DILLON CONSULTING LTD.
Client Project #: 19-1435
Site Location: SWIFT CURRENT
Your P.O. #: 19-1435 PHASE 2000
Sampler Initials: RH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Ph.D., P.Chem., Scientific Specialist

Harry (Peng) Liang, Senior Analyst

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories
D-675 Berry Street, Winnipeg, Manitoba Canada R3H 1A7 Tel: (204) 772-7276 Toll-free: 800-563-6286 Fax: (204) 772-2386 www.bvlabs.com

Chain Of Custody Record

Page 1 of 4

INVOICE TO:		Report Information		Project Information		Laboratory Use Only							
Company Name	#8815 DILLON CONSULTING LTD.	Company Name	Rob Hochkiewicz	Quotation #	B90968	BV Labs Job #	Bottle Order #:						
Contact Name	ACCOUNTS PAYABLE	Contact Name	Rob Hochkiewicz	P.O. #	19-1435 phase 2000								
Address	1558 Willson Place	Address		Project #	19-1435								
	Winnipeg MB R3T 0Y4			Project Name	SWIFT CURRENT	Chain Of Custody Record	Project Manager						
Phone	(204) 453-2301	Phone	(204) 294-5051	Site #			Ioana Stoica						
Email	apwinnipeg@dillon.ca	Email	rhochkievich@dillon.ca	Sampled By	R. HOCHKIEVICH								
Regulatory Criteria		Special Instructions		Analysis Requested		Turnaround Time (TAT) Required							
						Please provide advance notice for rush projects							
						<input checked="" type="checkbox"/> Regular (Standard) TAT (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.							
						Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number _____ (call lab for #)							
Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form													
Samples must be kept cool (< 10°C) from time of sampling until delivery to BV Labs													
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Lead in soil	Lead in Air by ICPMS	Lead in Swab by ICPMS	Analysis Requested	# of Bottles	Comments	
1 LW-01 (219497)	NEAR FLOOR NORTH VENT	29/19		WIPE					X		1		
2 LW-02 (219494)	WALL NORTH VENT								X		1		
3 LW-03 (219498)	WALL SOUTH VENT								X		1		
4 LW-04 (219500)	WALL NORTH GARAGE BAY								X		1		
5 LW-05 (219495)	FLOOR NORTH GARAGE BAY								X		1		
6 LW-06 (219499)	WALL FREEZER ROOM								X		1		
7 LW-07 (219492)	FLOOR FREEZER ROOM								X		1		
8 LW-08 (219493)	BASE SOUTH VENT								X		1		
9 LW-09 (219501)	WALL SOUTH VENT								X		1		
10 LW-10 (219474)	FLOOR SE RANGE								X		1		
RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted		Lab Use Only			
E. HOCHKIEVICH		19/09/04	15:00	Tina L. W. H. H.		2019/09/04	16:27	0		Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?	
										<input type="checkbox"/>	25.6 23.7 23.7	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.												White: BV Labs	Yellow: Client
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.													



Bureau Veritas Laboratories
D-675 Berry Street, Winnipeg, Manitoba Canada R3H 1A7 Tel: (204) 772-7276 Toll-free: 800-563-6266 Fax: (204) 772-2386 www.bvlabs.com

Chain Of Custody Record

Page 2 of 4

INVOICE TO:			Report Information			Project Information			Laboratory Use Only			
Company Name #8815 DILLON CONSULTING LTD.			Company Name Rob Hochkiewicz			Quotation # B90968			BV Labs Job #			
Contact Name ACCOUNTS PAYABLE			Contact Name			P.O. # 19-1435 PHASE 2000			Bottle Order #			
Address 1558 Willson Place			Address			Project # 19-1435			593302			
Winnipeg MB R3T 0Y4						Project Name SWIFT CURRENT			Chain Of Custody Record			
Phone (204) 453-2301 Fax: (204) 452-4412			Phone (204) 294-5051 Fax:			Site #			Project Manager			
Email apwinnipeg@dillon.ca			Email rhochkiewicz@dillon.ca			Sampled By R. HOCHKIEWICH			Ioana Stoica			
Regulatory Criteria			Special Instructions			Analysis Requested			Turnaround Time (TAT) Required			
									Please provide advance notice for rush projects			
									<input checked="" type="checkbox"/> Regular (Standard) TAT (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.			
									Job Specific Rush TAT (if applies to entire submission)			
									Date Required: Time Required:			
									Rush Confirmation Number (call lab for #)			
Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form												
Samples must be kept cool (< 10°C) from time of sampling until delivery to BV Labs												
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Lead in soil	Lead in Air by ICPMS	Lead in Swab by ICPMS	Analysis Requested	# of Bottles	Comments
1 LW-11 (219472)	FLOOR CENTRE RANGE	AUG 29/19		WIRE					X		1	
2 LW-12 (219470)	FLOOR W. FIRING POSITION								X		1	
3 LW-13 (219467)	LEDGE WINDOW								X		1	
4 LW-14 (219480)	WALL NORTH RANGE								X		1	
5 LW-15 (219469)	WALL W. FIRING POSITION								X		1	
6 LW-16 (219478)	WALL E. FIRING POSITION								X		1	
7 LW-17 (219468)	WALL EAST POSITION								X		1	
8 LW-18 (219490)	WALL WEST POSITION								X		1	
9 LW-19 (219482)	TABLE EAST POSITION								X		1	
20 LW-20 (219475)	TABLE WEST POSITION								X		1	
RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted		Lab Use Only		
[Signature]		19/09/03	15:00	[Signature] Megan Hanwell		20/09/06	16:27			Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
				[Signature] TINA LUPTON		20/09/06	08:20			<input type="checkbox"/>	25.6 23.7 23.7	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.												
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.												




Bureau Veritas Laboratories
D-675 Berry Street, Winnipeg, Manitoba Canada R3H 1A7 Tel: (204) 772-7276 Toll-free: 800-563-6266 Fax: (204) 772-2386 www.bvlabs.com

Chain Of Custody Record

Page 34

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#8815 DILLON CONSULTING LTD.	Company Name		Quotation #	B90968	BV Labs Job #	Bottle Order #:
Contact Name	ACCOUNTS PAYABLE	Contact Name	Rob Hochkiewicz	P.O. #	19-1435 PH. 2000	8974653	593302
Address	1558 Willson Place	Address		Project #	19-1435	Chain Of Custody Record	Project Manager
	Winnipeg MB R3T 0Y4			Project Name	SWIFT CURRENT		
Phone	(204) 453-2301	Phone	(204) 294-5051	Site #			Ioana Stoica
Fax	(204) 452-4412	Fax		Sampled By	R. HOCHKIEWICH		
Email	apwinnipeg@dillon.ca	Email	rhochkiewicz@dillon.ca				
Regulatory Criteria		Special Instructions		Analysis Requested		Turnaround Time (TAT) Required	
						Please provide advance notice for rush projects	
						<input checked="" type="checkbox"/> Regular (Standard) TAT (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.	
						Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number _____ (call lab for #)	
Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form							
Samples must be kept cool (< 10°C) from time of sampling until delivery to BV Labs							
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Lead in soil
21 LW-21 (219471)	WALL BULLET TRAP	Sept 29/19		WIPE			
22 LW-22 (219489)	WALL E. DOWN RANGE						
23 LW-23 (219473)	WALL W. DOWN RANGE						
24 LW-24 (219491)	WALL N. ROOM						
25 LW-25 (219487)	FLOOR N. ROOM						
26 LW-26 (219479)	PIPE ALONG CEILING						
27 LW-27 (219496)	FLOOR CENTRE RANGE						
28 LW-28 (219488)	CEILING BAFFLE CENTRE						
29 LW-29 (219470)	CEILING BAFFLE CENTRE						
30 LW-30 (219484)	DUCT EXTERIOR CENTRE						
RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time
R. HOCHKIEWICH		19/09/04	15:00	Tegan Hanwell		20/09/04	14:27
				TINA UWITJE		20/09/06	08:00
# Jars used and not submitted		Time Sensitive		Temperature (°C) on Receipt		Custody Seal Intact on Cooler?	
		<input type="checkbox"/>		25.6 23.7 23.7		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.				White: BV Labs Yellow: Client			
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.				5,5,6 ICF-9			



Bureau Veritas Laboratories
D-675 Berry Street, Winnipeg, Manitoba Canada R3H 1A7 Tel: (204) 772-7276 Toll-free: 800-563-6266 Fax: (204) 772-2386 www.bvlabs.com

122

Chain Of Custody Record

Page 4 of 4

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name #8815 DILLON CONSULTING LTD.		Company Name Rob Hochkiewicz		Quotation # B90968		BV Labs Job #	
Contact Name ACCOUNTS PAYABLE		Contact Name		P.O. # 19-1435 PHASE 2000		Bottle Order #	
Address 1558 Willson Place		Address		Project # 19-1435		593302	
Winnipeg MB R3T 0Y4				Project Name SWIFT CURRENT		Chain Of Custody Record	
Phone (204) 453-2301 Fax: (204) 452-4412		Phone (204) 294-5051 Fax:		Site #		Project Manager	
Email apwinnipeg@dillon.ca		Email rhochkiewicz@dillon.ca		Sampled By R. HOCHKIEWICH		loana Stoica	
Regulatory Criteria		Special Instructions		Analysis Requested		Turnaround Time (TAT) Required	
						Please provide advance notice for rush projects	
						Regular (Standard) TAT (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.	
						Job Specific Rush TAT (if applies to entire submission) Date Required: Time Required:	
						Rush Confirmation Number (call lab for #)	
Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form							
Samples must be kept cool (< 10°C) from time of sampling until delivery to BV Labs							
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	
B1 LW-31 (219485)	CEILING CENTRE POSITION	SEP 29/19		WIPE			
B2 LW-32 (219477)	WALL E. POSITION			WIPE			
B3 LW-33 (219483)	WALL E. CENTRE RANGE			WIPE			
B4 LW-34 (219486)	BASE BULLET TRAP			WIPE			
B5 TH1-A	NORTH DUCT 5-15cm			SOIL			
B6 TH1-B	NORTH DUCT 15-30cm			SOIL			
B7 TH2-A	CENTRE DUCT 5-15cm			SOIL			
B8 TH2-B	CENTRE DUCT 15-30cm			SOIL			
B9 TH3-A	SOUTH DUCT 5-15cm			SOIL			
B10 TH3-B	SOUTH DUCT 15-30cm			SOIL			
RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)		Time		RECEIVED BY: (Signature/Print)	
R. HOCHKIEWICH		19/09/04		15:00		Tina Hawwell	
						Date: (YY/MM/DD)	
						20/09/04	
						Time	
						16:27	
						# jars used and not submitted	
						2	
						Time Sensitive	
						Temperature (°C) on Receipt	
						25.6 23.7 23.7	
						Custody Seal Intact on Cooler?	
						Yes No	
						White: BV Labs Yellow: Client	
						5, 5, 6 ICE	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BY LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

References

WHPSP Guidelines on Lead in Paint, Dust & Soil" (August 2006)

National Defence General Safety Standard Chapter 42, Annex A "Decontamination Protocol for Indoor Firing Ranges"(C-02-040-009/AG-001)